

## **Case Study of Differential Costs of Career Technical Education Programs (CTE) at California Community Colleges**

### **Report of the CCCT CTE Taskforce on Differential Funding for CTE Programs**

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Coast Community College District**

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### **Background**

As we are all painfully aware, the budget reductions our system experienced since 2008 have led to a significant decrease in course offerings across all of our colleges. As the economy has changed, education has become even more critical to California's competitiveness and future prosperity. Career technical education (CTE) represents the core of a larger workforce development system in California, comprising K-12 and postsecondary education, public and private sector training programs, and economic development and employment expansion programs. Current state funding places CTE programs in jeopardy.

Due to industry and specific accreditation standards, the cost of providing CTE programs greatly exceeds funding provided by the state, even when including the federal Perkins funds and state grants targeted to support and enhance CTE programs such as the SB70 grants. CTE programs are more costly than other instructional programs. They are heavily dependent on equipment, many have class size restrictions due to access to equipment or specialized accreditation requirements, and they involve more frequent curriculum change as well as structured engagement with the employer community. As a result of class size restrictions, these programs lose revenue compared to programs that have larger class sizes and thus lower costs per full-time equivalent student. The state funding formula does not accommodate these higher costs (even after accounting for federal Perkins funds received for CTE programs) and CTE program administrators must seek external funding for what many would consider core instructional costs.

California Community Colleges have offered many needed CTE programs, most are highly impacted with waiting lists exceeding the number of available seats. Students unable to enroll into community college programs leave for higher cost, lower quality programs, questionable job placement and industry links and massive personal debt.

Many CTE programs at our colleges have been started by industry partnerships and/or grants, due to workforce needs. Because many programs have been grown or established by grants, sustainability is questionable as grants sunset. In addition, the severe cuts in state funding for community colleges over the past four year forced California Community Colleges to cut classes and programs. CTE programs have been particularly affected by cuts given that our colleges have had to reduce expensive class offerings. While the passage of Proposition 30 in November 2012 has, at least

temporarily, stopped additional funding cuts to community colleges and some level of restoration of funding is expected as a result over the next four years, most of the challenges to the sustainability of CTE programs mentioned in this report will continue.

As noted in various studies conducted to date, the key funding challenges for CTE programs offered by California Community Colleges and the students enrolled in these programs are as follows:

- No differential funding for high cost, high demand programs
- No differential tuition for students in high cost programs
- Limits on charging materials fees
- Dependence on competitive grants
- Constraints on combining different funding sources
- Cal Grant not designed for CTE

If our CTE programs are to survive and thrive such that California Community Colleges can continue to be the core engine for workforce development and specialized training in our state, it is imperative that the state legislature considers resolving these funding obstacles and challenges.

### **Approaches Used by Other States for CTE Programs**

Below are highlights of ways other states have implemented in order to enhance the CTE programs offered in community colleges, including differential funding and targeted scholarships.

#### ***Types of CTE degrees and certificates***

Kentucky

- AA and AS are designed specifically for transfer students
- AAS are designed for entry-level employment and require fewer GE credits
- AAS degrees also carry some credits that will transfer towards baccalaureate programs

Washington

- Applied baccalaureates (AB) fill specific skill gaps in fields with limited availability at four-year colleges
- 10 AB degrees at eight colleges, e.g., Hospitality Management, Applied Design, Applied Management

The applied baccalaureate is not offered in California, which limits course transfer and pathways.

#### ***Funding***

Other states have recognized the necessity to fund CTE programs at a higher rate to compensate for both higher direct costs and revenue limitations. These states include Kansas, Mississippi, Arkansas, Nebraska, Pennsylvania, Massachusetts, and Texas.

Arkansas funds:

- CTE at 1.5 times the rate of GE
- Basic Skills at 2 times the rate of GE

– Courses in health-related occupational fields at 2.4 times the rate of GE

#### Florida

– the Public Postsecondary Career Education Student Assistance Grant Program, created for students in CTE; available to students enrolled in a certificate program and attending at least half-time (6 credits)

#### Kansas

- The Vocational Education Scholarship is provided to meet student and state demands for financial assistance to prepare individuals for employment in critical industry positions. This is a program available to students enrolled in technical education programs at community or technical colleges and some two year programs at four year institutions. In 2012, the scholarship became the Career Technical Workforce Grant.

#### Minnesota

- Higher tuition fees charged for high cost CTE programs in community colleges. The tuition rates for 2012-13 are:

#### **Tuition Academic Year 2012-2013**

Internet Delivery	\$ 199.00/credit
Non-Resident	\$ 160.80/credit
PSEO (Contract w/School Dist.)	\$ 160.80/credit
PSEO (Dept. of Education)	Dept. of Education determines rate
Resident	\$ 160.80/credit

#### **Special Program Tuition Academic Year 2012-2013**

ADRN Courses - All NURS courses	\$ 199.75/credit
Dental Hygiene and Dental Assistant	\$ 199.75/credit
Lineworker	\$ 190.80/credit
Nurse Assistant	\$ 170.80/credit
Practical Nursing - All courses	\$ 199.75/credit
Radiology Technician	\$ 190.80/credit

#### **Accountability**

##### Arkansas

- Programs – required to track for students who earn a certificate or degree
  - o Transition Employment Assistance (TEA) enrollment
  - o Employment rates
  - o Employment retention rates

##### Wisconsin

- Three-level assessment process:

- Indirect/Local Assessment Standards based on internal measures such as completion rate, GPA or non-external exams
- • External Assessment Standards look at external licensure
- Summative Assessments test the skills obtained

### ***High School-to-Community College Pathways***

#### Florida

- High school students are required to take courses in a “major area”
- High school students given Information showing the pathways from secondary CTE to post-secondary CTE

#### Kentucky

- Every year secondary students complete an Individual Graduation Plan, a four-year career and class plan
- During process, students given information on career pathways running from secondary to post-secondary
- Most pathways have statewide articulation between colleges and between secondary and postsecondary

### ***Program Offerings***

#### Arkansas

- Multiple layers of checks to ensure programs are useful
- Arkansas Department of Workforce Service provides colleges with labor market information
- Arkansas Department of Higher Education requires proof before a pathway is established that it matches with high demand, high-wage
- State requires follow-up information
- An outside consultant produces local employment reports for colleges to help evaluate CTE programs
- Active advisory councils meet at least twice a year

### ***Faculty Policies***

#### Ohio

- Allows teachers in CTE to join faculty with different qualifications that focus on work experience
- Recently expanded supports and development for new faculty
- Provide every new teacher with 4 years of mentoring, up from 1

### ***Curriculum Structure and Delivery***

#### Tennessee

- At Tennessee Technology Centers, students:
  - Enroll in the programs
  - Attend in cohorts
  - Attend full-time, approximately 30 hours per week.
  - Programs based on ‘clock hours’ not credits
  - Students are given limited set of course choices
  - To receive a credential, students must display mastery of the competences prescribed for each program

## **The CCCT CTE Taskforce**

In September 2012, the CCCT Board formed a taskforce to conduct a case study of differential costs of high costs CTE programs. The taskforce was composed of the following:

Jim Moreno, Chair, Trustee, Coast Community College District  
Mary Figueroa, Trustee, Riverside Community College District  
Ann Ransford, Trustee, Glendale Community College District  
Robert Jones, Trustee, Los Rios Community College District  
Cy Gulassa, Trustee, Peralta Community College District  
Laura Casas Frier, Trustee, Foothill DeAnza Community College District  
Chris Stampolis, Trustee, West Valley Mission Community College District  
Paul Gomez, Trustee, Chaffey Community College District

The taskforce conducted three telephone conference calls in October during which established the approach for its charge as follows:

- Defined and agreed on the methodology for collection of information regarding differential costs for a sample of selected CTE programs in their respective districts
- Identified contact staff at the participating districts to work in this project and provide the needed information
- Established a time frame for the delivery of its report to the CCCT Board

## **Community College District Leads for the Case Study**

The following individuals provided input and information for the California Community College CTE programs included in this case study. We would like to thank them for their collaboration and support for this project as well as for their work internally within their respective districts to prepare the information.

### *Chaffey Community College District*

Sidney Burks, Chaffey Community College, Dean Career Technical Education

### *Coast Community College District*

Dr. Andreea Serban, Vice Chancellor Educational Services and Technology, Overall Project Lead

Kevin Ballinger, Orange Coast College, Dean Consumer & Health Sciences Division and School of Sailing & Seamanship

Dr. Claudia Lee, Golden West College, Acting Dean, Career Technical Education

Ron Lowenberg, Golden West College, Dean, Criminal Justice Training Center and School of Nursing

### *Glendale Community College District*

Dr. Mary Mirch, Vice President, Instructional Services, Glendale Community College

*Los Rios Community College District*  
Dr. Sue Lorimer, Vice Chancellor of Education and Technology

*Riverside Community College District*  
Chris Carlson, Chief of Staff

## **Purpose of the Study**

In order to better understand the cost/revenue issues involved in offering high cost CTE programs, a case study was conducted using a number of California Community Colleges who volunteered to participate. The purpose of the study was to gather relevant information regarding the differential costs of a sample of high cost CTE programs and, using a common data collection protocol, determine the differential cost per credit unit. An analysis of this information was conducted and a number of recommendations were developed for discussion and consideration by the CCCT Board.

## **Methodology**

The methodology employed for the case study built on the approach used in 2011 by Riverside Community College District to determine differential costs per credit unit for high cost CTE programs. Recognizing that all instructional programs have various costs, 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 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.

In addition, in order to have a better sense of the true differential cost per unit, CTE programs in which students enter and exit as a cohort and have a high job placement in the region were preferred for this study. For CTE programs in which a large number of students take only a few courses and do not enroll full-time throughout the duration of the program, the differential cost per unit is artificially lower thus not providing a true picture of the actual higher cost of the program.

The criteria for selecting high cost CTE programs included:

- Perkins eligible
- Has required lab space
- Requires specialized equipment
- Requires maintenance of specialized equipment
- Requires consumable supplies
- Requires instructional support staff
- May have specific accreditation requirements for the program

## Findings

Based on the information received for the CTE programs highlighted in this case study, the findings are largely consistent with the results of the analysis conducted by Riverside Community College District in fall 2011. It should be also noted that the academic years used as examples in this study – 2010-11 and 2011-12 – were years in which all programs experienced significant budget cuts which led not only to lower general fund allocations to these programs but also reduced funding available from Perkins funds. Thus the differential cost per unit was lower than it would be in years when the programs would have had higher level of funding and the ability to invest more in necessary equipment and other resources needed by these programs. Those were years when all programs were forced to function on a leaner mode and make due with less.

Table 1 provides a summary of the differential cost per unit in 2011-12 for the 15 CTE programs included in the case study. Tables 2 to 16 provide detail of the information included in the calculation of the differential cost per unit for each of the programs.

As expected, most allied health programs have a significant higher differential cost per unit than the \$46/unit currently paid by California resident students. For example, the differential cost per unit for the Dental Assisting Program at Orange Coast College was \$225.86 in 2011-12, it was \$662.76 per unit for the Dental Hygiene Program at Sacramento City College and \$434 for the Registered Nursing Program at Glendale Community College (see Table 1). Other programs such as the Police Academy at Golden West College, Fire Academy/Fire Technology at Glendale Community College and Automotive Technology at Chaffey Community College also have fairly high differential costs per unit.

**Table 1**

### Differential Cost Per Unit

College/Program	2011-12
Orange Coast College - Dental Assisting	\$225.86
Orange Coast College - Radiologic Technology	\$244.45
Orange Coast College- Diagnostic Medical Sonography	\$134.17
Golden West College - Basic Police Academy	\$216.37
Golden West College - Cosmetology	\$42.00
Sacramento City College - Dental Hygiene	\$662.76
Glendale Community College - Fire Academy/Fire Technology	\$125.00
Glendale Community College - Emergency Medical Technician	\$25.23
Glendale Community College - Machine Technology	\$88.00
Glendale Community College - Registered Nursing	\$434.00
Chaffey Community College - Aviation Maintenance	\$77.00
Chaffey Community College - Automotive Technology	\$116.00
Chaffey Community College - Radiologic Technology	\$166.00
Chaffey Community College - Dental Assisting	\$57.00
Chaffey Community College - Associate Degree Nursing	\$317.00

**Table 2**

District Name  
 College Name (for multi-college districts)  
 CTE Program  
 Note - 1 year program - max entry @ 28 students/year

Coast Community College  
 District  
**Orange Coast College**  
**Dental Assisting**

	2010-11	2011-12
CA Resident FTES	40	42
Non-CA Residents FTES	1	0
Duplicated student seat count in program	471	491
Unduplicated student headcount in the program	28	28
Number of units completed by a student in the program in one year	30	30
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic / Lab Supplies / Films)	\$17,501	\$18,129
Equipment / Replacement (new building online during 10/11 year)	\$383,184	\$250
Maintenance / Operations (equipment contracts)		\$1,800
Licenses / Accreditation / Memberships & Prof Associates	\$1,350	\$1,350
Faculty Professional Development Required Specifically for the Program	\$1,400	\$1,400
*Special Requirements for Running the Program (i.e., administrative support, director)	\$159,000	\$164,045
Student Resources Req (Std Exam, tutoring, and specific literature)	\$0	\$0
Other (radiation safety monitoring for students/faculty)	\$2,750	\$2,750
Total costs	\$565,185	\$189,724
<b>Total costs without the costs for moving into new building</b>	<b>\$182,001</b>	<b>\$189,724</b>

\*Includes clinical site mileage reimbursements, hourly lab support, full & part time faculty salaries for program coordination mandated by accreditation and 10% classified salary for accreditation support and clinical contract support.

Differential cost factor/student/year	\$6,500.04	\$6,775.86
Number of units per year	30	30
Differential cost per unit (excluding costs related to moving into new building)	\$216.67	\$225.86

**Table 3**

District Name  
 College Name (for multi-college districts)  
 CTE Program  
 Note - 2 year program - max entry @ 28 students/year

Coast Community College  
 District  
**Orange Coast College**  
**Radiologic Technology**

	2010-11	2011-12
CA Resident FTES	126	119
Non-CA Residents FTES	0	0
Duplicated student seat count in program	627	599
Unduplicated student headcount in the program	52	48
Number of units completed by a student in the program per year	29	29
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic / Lab Supplies / Films)	\$9,660	\$9,420
Equipment / Replacement (new building online in 10/11 year)	\$ 766,204.01	\$0
Maintenance / Operations (equipment contracts)	\$0	\$0
Licenses / Accreditation / Memberships & Prof Associates	\$3,270	\$3,270



Faculty Professional Development Required Specifically for the Program	\$2,800	\$2,800
*Special Requirements for Running the Program (i.e., administrative support, director, etc.)	\$331,498	\$321,289
Student Resources Req (Stnd Exam, tutoring, and specific literature)	\$0	\$0
Other (radiation monitoring badges)	\$3,500	\$3,500
Total costs	\$1,116,932	\$340,279
<b>Total costs without the costs for moving into new building</b>	\$350,728	\$340,279

\*Includes clinical site mileage reimbursements, hourly lab support, full and part time faculty salaries including program coordination mandated by accreditation, and 10% classified salaries for accreditation support and clinical contract support.

Differential cost factor/student/year	\$6,744.77	\$7,089.15
Number of units per year	29	29
Differential cost per unit (excluding costs related to moving into new building)	\$232.58	\$244.45

#### Table 4

District Name  
College Name (for multi-college districts)

Coast Community College  
**Orange Coast College**  
**Diagnostic Medical**  
**Sonography**

CTE Program  
Note - 2 year program - max entry @ 24 students/year

	2010-11	2011-12
CA Resident FTES	86	92
Non-CA Residents FTES	0	0
Duplicated student seat count in program	394	430
Unduplicated student headcount in the program	41	39
Number of units completed by a student in the program per year	39	39
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic / Lab Supplies / Films)	\$2,112	\$2,187
Equipment / Replacement (new building online 10/11 year)	\$1,041,725	\$0
Maintenance / Operations (equipment contracts)	\$0	\$0
Licenses / Accreditation / Memberships & Prof Associates	\$5,835	\$1,650
Faculty Professional Development Required Specifically for the Program	\$1,400	\$1,400
*Special Requirements for Running the Program (i.e., administrative support, director, etc.)	\$195,500	\$198,842
Student Resources Req (Stnd Exam, tutoring, and specific literature)	\$0	\$0
Other (specify)	\$0	\$0
Total costs	\$1,246,572	\$204,079
<b>Total costs without costs due to new building</b>	\$204,847	\$204,079

\*Includes clinical site mileage reimbursements, hourly lab support, 10% faculty salary for program coordination mandated by accreditation and 10% classified salary for accreditation support and clinical contract support.

Differential cost factor/student/year	\$4,996.27	\$5,232.79
Number of units per year	39	39
Differential cost per unit (excluding costs related to moving into new building)	\$128.11	\$134.17

**Table 5**

District Name  
College Name (for multi-college districts)

Coast Community College  
District  
**Golden West College**  
**Criminal Justice-Regular**  
**Basic Police Academy**

CTE Program	2010-2011	2011-2012
CA Resident FTES	4	4
Non-CA Residents FTES		
Unduplicated student headcount in the program	70	70
Number of units completed by a student in the program per year	25	25
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic / Lab Supplies / Films)	\$4,400	\$4,180
Equipment / Replacement	\$10,050	\$9,548
Maintenance / Operations (equipment contracts)	\$15,062	\$14,309
Licenses / Accreditation / Memberships & Prof Associates	\$0	\$0
Faculty Professional Development Required Specifically for the Program	\$2,000	\$2,000
Special Requirements for Running the Program (i.e., administrative support, director, etc.)	\$188,000	\$178,600
Student Resources Req (Std Exam, tutoring, and specific literature)	\$8,000	\$8,000
Other (please specify): Faculty/Instructional Staff as mandated by POST	\$165,312	\$162,006
<b>Total Costs</b>	<b>\$392,824</b>	<b>\$378,643</b>
Differential cost factor/student/year	\$5,611.77	\$5,409.19
Number of units per year	25	25
Differential cost per unit	\$224.47	\$216.37

**Table 6**

District Name  
College Name (for multi-college districts)  
CTE Program

Coast Community College  
District  
**Golden West College**  
**Cosmetology**

CTE Program	2010-11	2011-12
CA Resident FTES	16	16
Non-CA Residents FTES	1	1
Unduplicated student headcount in the program (5 levels, 28 students each level)	140	140
Number of units completed by a student in the program per year	46	46
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic / Lab Supplies / Films) (cut in funding from college)	\$45,399	\$33,050
Equipment / Replacement	\$2,600	\$40,414
Maintenance / Operations (equipment contracts)	\$0	\$0
Licenses / Accreditation / Memberships & Prof Associates (Pivot Point Lease Fee)	\$3,400	\$3,400
Faculty Professional Development Required Specifically for the Program	\$0	\$0
Special Requirements for Running the Program (i.e., direct administrative support, director, etc.)	\$195,212	\$195,212

Student Resources Req (Stnd Exam, tutoring, and specific literature)	\$0	\$0
Other (please specify)		
<b>Total costs</b>	\$246,611	\$272,076
Differential cost factor/student/year	\$1,761.51	\$1,943.40
Number of units per year	46	46
Differential cost per unit	\$38	\$42

**Table 7**

District Name	Los Rios Community College District	
College Name (for multi-college districts)	<b>Sacramento City College</b>	
CTE Program	<b>Dental Hygiene*</b>	
*NOTE: 2 yr program - max enrollment 24 students/year		
	<b>2010-11</b>	<b>2011-12</b>
CA Resident FTES	60.56	62.39
Non-CA Residents FTES	0	0
Unduplicated student headcount in the program	45	46
Duplicated student headcount in the program	981	1000.5
Number of units completed by a student in the program per year**	19.75	19.75
**NOT including GE graduation requirements		
Differential costs for the program		
Consumables (ie., Clinic / Lab Supplies/Films)	19,500	19,500
Equipment / Replacement	44,500	44,500
Maintenance/Operations (equipment contracts)	1580	1580
Licenses/Accreditation/Memberships & Prof Associates	4365	4365
Faculty Professional Development Required Specifically for the Program	3500	3500
Special Requirements for Running the Program (2 administrative support personnel, 1 - 40% coordinator, 3 FT faculty, Adjunct faculty)	500,237	500,237
Student Resources Req (Stnd Exam, tutoring, and specific literature)	1,200	1,200
Other (please specify)		
Patient record software	1,578	1,578
Supervising dentists	25,660	25,660
Total Costs	602,120	602,120
Differential cost factor/student/year	\$13,380.44	\$13,089.57
Number of units per year	19.75	19.75
Differential cost per unit	\$677.49	\$662.76

**Table 8**Glendale Community  
College**Fire Academy/Fire  
Technology**District Name  
College Name (for multi-college districts)

CTE Program

	2010-11	2011-12
CA Resident FTES	146	158
Non-CA Residents FTES	1	2
Duplicated student seat count in program	183	203
Unduplicated student headcount in the program	92	103
Number of units completed by a student in the program per year	42	42
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic / Lab Supplies / Films)	\$57,925	\$53,436
Equipment / Replacement	\$36,001	\$41,009
Maintenance / Operations (equipment contracts)	\$5,233	\$24,084
Licenses / Accreditation / Memberships & Prof Associates	\$1,500	
Faculty Professional Development Required Specifically for the Program	\$2,228	\$600
*Special Requirements for Running the Program (i.e., administrative support, director, etc.)	\$444,560	\$423,692
Student Resources Req (Stnd Exam, tutoring, and specific literature) - Note 1: Student fee split into three areas: tuition; lab at \$300/term and personal protectives		
Other (radiation safety monitoring for students/faculty)		
<b>Total costs</b>	<b>\$547,447</b>	<b>\$542,821</b>
Differential cost factor/student/year	\$5,950.51	\$5,270.11
Number of units per year	42	42
Differential cost per unit	\$142	\$125

**Table 9**Glendale Community  
CollegeDistrict Name  
College Name (for multi-college districts)**Emergency Medical  
Technician**

CTE Program

	2010-11	2011-12
CA Resident FTES	59	67
Non-CA Residents FTES	1	1
Duplicated student seat count in program	356	395
Unduplicated student headcount in the program	264	298
Number of units completed by a student in the program per year	10	10
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic / Lab Supplies / Films)	\$4,939	\$562
Equipment / Replacement		
Maintenance / Operations (equipment contracts)		

Licenses / Accreditation / Memberships & Prof Associates		
Faculty Professional Development Required Specifically for the Program		
*Special Requirements for Running the Program (i.e., administrative support, director, etc.)	\$81,688	\$74,616
Student Resources Req (Stnd Exam, tutoring, and specific literature)		
Other (radiation safety monitoring for students/faculty)		
Total costs	\$86,627	\$75,178

Differential cost factor/student/year	\$328	\$252
Number of units per year	10	10
Differential cost per unit	\$32.81	\$25.23

**Table 10**

**Glendale Community College**

District Name

College Name (for multi-college districts)

CTE Program

**Machine Technology**

	<b>2010-11</b>	<b>2011-12</b>
CA Resident FTES	31	36
Non-CA Residents FTES	1	0
Duplicated student seat count in program	122	142
Unduplicated student headcount in the program	86	90
Number of units completed by a student in the program per year	32	32
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic / Lab Supplies / Films)	\$12,562	\$25,959
Equipment / Replacement	\$115,095	\$74,714
Maintenance / Operations (equipment contracts)		
Licenses / Accreditation / Memberships & Prof Associates		\$4,578
Faculty Professional Development Required Specifically for the Program	\$4,358	\$595
*Special Requirements for Running the Program (i.e., administrative support, director, etc.)	\$125,515	\$138,079
Student Resources Req (Stnd Exam, tutoring, and specific literature)		\$10,379
Other (radiation safety monitoring for students/faculty)		
Total costs	\$257,530	\$254,304

Differential cost factor/student/year	\$2,994.53	\$2,825.60
Number of units per year	32	32
Differential cost per unit	\$94	\$88

**Table 11**

District Name  
 College Name (for multi-college districts)  
 CTE Program

**Glendale Community  
 College**

**Registered Nursing**

	<b>2010-11</b>	<b>2011-12</b>
CA Resident FTES	245	234
Non-CA Residents FTES	0	2
Duplicated student seat count in program	1321	1312
Unduplicated student headcount in the program	233	210
Number of units completed by a student in the program per year	21	21
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic / Lab Supplies / Films)	\$5,970	\$7,899
Equipment / Replacement		\$9,489
Maintenance / Operations (equipment contracts)	\$1,840	\$5,143
Licenses / Accreditation / Memberships & Prof Associates	\$11,008	\$13,856
Faculty Professional Development Required Specifically for the Program	\$6,858	\$9,299
*Special Requirements for Running the Program (i.e., administrative support, director, etc.)	\$2,229,037	\$1,866,302
Student Resources Req (Stnd Exam, tutoring, and specific literature)	\$13,612	\$1,135
Other (radiation safety monitoring for students/faculty)		
<b>Total costs</b>	<b>\$2,268,325</b>	<b>\$1,913,123</b>
Differential cost factor/student/year	\$9,735.30	\$9,110.11
Number of units per year	21	21
Differential cost per unit	\$475	\$434

**Notes**

1. The number of units for the Registered Nursing certificate is 68.5 to 69.5.

**Table 12**

District Name  
 College Name (for multi-college districts)  
 CTE Program

**Chaffey Community College**

**Associate Degree Nursing**

	<b>2010-11</b>	<b>2011-12</b>
CA Residents FTES	136.69	119.02
Non-CA Resident FTEF	2.95	0.57
Duplicate Student Seat Count	511	526
Unduplicated student headcount in the program	38	31
Number of units completed by a student in the program per year	20	21.5
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic/Lab Supplies/Films)	9561	9563
Equipment/Replacement		1283

Maintenance/Operations (equipment contracts)		
Licenses/Accreditation/Memberships& Prof Associations	3395	3450
Faculty Professional Development Required Specifically for the Program		
*Special Requirements for Running the Program (i.e., administrative support, director, etc.)	195976	195844
Student Resources Req (Stnd Exam, tutoring, and specific literature)		
Other	623	831
Total costs	\$209,555	\$210,971
Differential cost factor/student/year	\$5,514.61	\$6,805.52
Number of units per year	20	21.5
Differential cost per unit	\$276	\$317

**Table 13**

District Name

Chaffey Community College

College Name (for multi-college districts)

CTE Program

**Dental Assisting**

	2010-11	2011-12
CA Resident FTES	49.61	41.06
Non-CA Resident FTES	1.77	1.19
Duplicate Student Seat Count	129	102
Unduplicated student headcount in the program	36	36
Number of units completed by a student in the program per year	24	24
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic/Lab Supplies/Films)	29,826	27,537
Equipment/Replacement		
Maintenance/Operations (equipment contracts)	674	1,119
Licenses/Accreditation/Memberships& Prof Associations	3,680	3,320
Faculty Professional Development Required Specifically for the Program		
*Special Requirements for Running the Program (i.e., administrative support, director, etc.)	8,745	17,227
Student Resources Req (Stnd Exam, tutoring, and specific literature)		
Other	213	226
Total costs	\$43,138	\$49,429
Differential cost factor/student/year	\$1,198.28	\$1,373.03
Number of units per year	24	24
Differential cost per unit	\$50	\$57

**Table 14**

District Name  
 College Name (for multi-college districts)  
 CTE Program

Chaffey Community College  
**Radiologic Technology**

	2010-11	2011-12
CA Resident FTES	136.69	119.02
Non-CA Resident FTES	2.95	0.57
Duplicate Seat Count	511	526
Unduplicated student headcount in the program	28	28
Number of units completed by a student in the program per year	36	36
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic/Lab Supplies/Films)	13,360	12,905
Equipment/Replacement		2,258
Maintenance/Operations (equipment contracts)	2,450	5,218
Licenses/Accreditation/Memberships& Prof Associations	4,310	8,111
Faculty Professional Development Required Specifically for the Program	320	
*Special Requirements for Running the Program (i.e., administrative support, director, etc.)	114,897	136,936
Student Resources Req (Stnd Exam, tutoring, and specific literature)		
Other	1,835	1,957
Total costs	\$137,172	\$167,385
Differential cost factor/student/year	\$4,899.00	\$5,978.04
Number of units per year	36	36
Differential cost per unit	\$136	\$166

**Table 15**

District Name  
 College Name (for multi-college districts)  
 CTE Program

Chaffey Community College  
**Automotive Technology**

	2010-11	2011-12
CA Resident FTES	28.2	27.6
Non-CA Resident FTES	0.6	0
Duplicate Student Seat Count		
Unduplicated student headcount in the program	28	28
Number of units completed by a student in the program per year	24	24
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic/Lab Supplies/Films)	5,901	5,993
Equipment/Replacement	38,024	27,540
Maintenance/Operations (equipment contracts)	5,375	4,988
Licenses/Accreditation/Memberships& Prof Associations	558	772
Faculty Professional Development Required Specifically for the Program	365	225
*Special Requirements for Running the Program (i.e., administrative support, director, etc.)	38,385	38,385
Student Resources Req (Stnd Exam, tutoring, and specific literature)		



Other		
Total costs	\$88,608	\$77,903
Differential cost factor/student/year	\$3,164.57	\$2,782.25
Number of units per year	24	24
Differential cost per unit	\$132	\$116

**Table 16**

District Name Chaffey Community College  
College Name (for multi-college districts)  
CTE Program **Aviation Maintenance**

	2010-11	2011-12
CA resident FTES	85.29	91.09
Non-CA Resident FTES	8.73	6.46
Unduplicated student headcount in the program	75	75
Number of units completed by a student in the program per year	32	32
<b>Differential costs for the program</b>		
Consumables (i.e., Clinic/Lab Supplies/Films)	13,604	15,536
Equipment/Replacement	79,147	117,141
Maintenance/Operations (equipment contracts)		39,500
Licenses/Accreditation/Memberships& Prof Associations	440	320
Faculty Professional Development Required Specifically for the Program		
*Special Requirements for Running the Program (i.e., administrative support, director, etc.)	12,899	11,324
Student Resources Req (Std Exam, tutoring, and specific literature)		
Other	395	495
Total costs	\$106,485	\$184,316
Differential cost factor/student/year	\$1,419.80	\$2,457.55
Number of units per year	32	32
Differential cost per unit	\$44	\$77

## Conclusions and Recommendations

The programs included in this case study provided additional evidence of the reality that community colleges in California face in terms of absorbing higher expenses for CTE programs that are vital for the workforce and economic development of the state. While this was not intended to be and is not a comprehensive study of the differential costs associated with high costs of CTE programs, several recommendations are provided as a base for discussion and consideration for the CCCT Board which initiated the work of the CCCT CTE Taskforce in September 2012.

1. Work with the California Community College Chancellor's Office and other organizations in the state to conduct a comprehensive study of the differential costs of high cost CTE programs.
2. Explore the possibility of a revision of the funding method for California Community Colleges to include an average differential reimbursement factor for high cost CTE programs; the definition

and criteria for determining high cost CTE programs could include the criteria employed in this study or others.

3. The financial aid system in California is more generous than in most states. The low income students, through the Board of Governors' Fee Waiver, are guaranteed coverage of enrollment fees for all courses in which they enroll. Students who are not low income also have opportunities to obtain other forms of federal and state financial aid. The option of differential fees for high cost CTE programs that would cover the additional cost per unit that these programs incur should be also explored.
4. Work with the Foundation for California Community Colleges to explore the possibility of establishing an endowed fund to support high cost CTE programs in the California Community Colleges.
5. Explore the possibility of working with elected officials to introduce legislation to address the higher costs of high demand CTE programs vital for the workforce and economic vitality of the state.