CPEC

Community College Enrollment Demand Projections, 2009–2019

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READY OR NOT, HERE THEY COME

CPEC conducts policy research and analysis to support long-range planning and student success. In 1995, CPEC estimated correctly that more than 455,000 additional students would seek enrollment at California public colleges and universities by 2005. During the following seven consecutive years of economic expansion, the state made good on its commitment of providing educational opportunity to all qualified prospective students, most of whom enrolled in a community college.

Today, California is confronting unprecedented economic and fiscal challenges, and the state's Master Plan commitment of educational opportunity is being tested again. In this report, CPEC estimates that the state should prepare for 313,000 additional community college students by 2019. Community colleges currently serve nearly 3 million students annually. Beginning in fall 2011, the system will be asked for the first time to serve more than 2 million students each fall term. If the system finds it necessary to reduce enrollments because of reduced funding, over 365,000 prospective students might be denied access to community college education by fall 2010.

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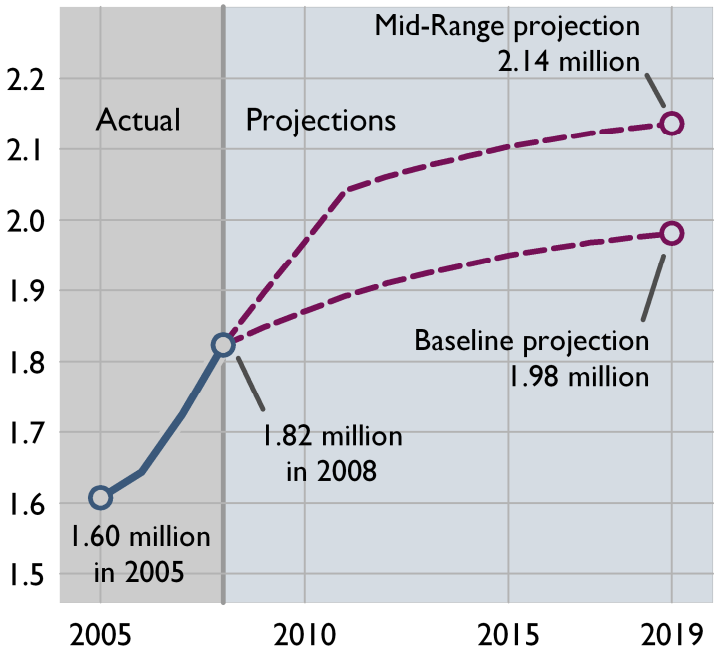
MAJOR FINDINGS

- Community college enrollment demand is expected to increase from 92 students per 1,000 Californians ages 14 to 49 in 2008, to 102 students per 1,000 Californians in 2019.
- The state should prepare for 313,253 additional community college students by 2019 above the fall 2008 peak enrollment level.
- Community colleges serve nearly 3 million students annually (fall and spring terms combined). Beginning in fall 2011, the system will be asked for the first time to serve more than 2 million students during each fall term.
- The 2009–10 budget does not provide enrollment growth funding, which is likely to result in significant pent-up demand. If the system finds it necessary to reduce enrollments by 4%, consistent with the 4% decline in overall funding, the number of prospective students not served could top 365,000 by fall 2010. This latter figure is referred to in this report as net loss in college opportunity. To catch up, community colleges will need at least 3.8% enrollment growth funding annually until college opportunity is restored.
- 57 of the 72 (79%) community college districts are facing capacity pressures, in that they are serving more full-time equivalent students (FTES) than recommended by state classroom utilization standards. The current capacity deficit on a statewide basis is 192,347 FTES, which could grow to 425,163 FTES. The capacity problem could be addressed best through a combination of new capital projects, improved efficiencies, shared facility use, expanded distributed learning arrangements, including online courses, and expanded evening and weekend course offerings.

COMMUNITY COLLEGE FORECAST SUMMARY

Figure 1 CPEC Mid-Range and Baseline Enrollment Demand, 2009–2019



The Mid-Range Forecast continues upward trends in participation for some age groups for the first three projection years and then holds rates constant for the remaining years. The Commission believes that this forecast is the most likely projection.

The Baseline Forecast holds participation rates constant at 2008 levels for the entire projection period.

Community college enrollments have been increasing dramatically over the past four years. As shown in Figure 1 above, fall enrollments increased 14.0%, from 1.60 million in 2005 to 1.82 million in 2008. The 215,793 additional students represent a full recovery from the decline in enrollments that occurred in 2003, when state higher education support declined following the 2001–02 recession and community colleges found it necessary to increase student fees and drastically reduce course offerings.

The Mid-Range Forecast (see Figure 1) shows that community college enrollment demand is expected to increase from 1.82 million in 2008 to 2.14 million in 2019. The state should prepare for a minimum 17.2% increase in community enrollment demand above the peak fall 2008 enrollment level, or 313,000 additional students. Community colleges serve nearly 3 million students annually (fall, winter and spring terms combined). Beginning in fall 2011, the system will be asked for the first time to serve more than 2 million students during each fall term.

The Mid-Range Forecast extends upward trends in participation for the next three years for various age groups, and holds rates constant for the remaining seven years of the projection period. Because community college participation varies by ethnicity, age-group participation rates were calculated and projected separately for each racial/ethnic category. The Commission believes the state should plan based on the mid-range forecast for reasons outlined in this report, two of which are mentioned here:

- Many residents are returning to community colleges in greater numbers to train for new careers and occupations as a result of significant job losses occurring in the state, which suggests a continuation of increased enrollment demand. The number of returning community college students has increased by nearly 40%, from 227,139 in fall 2002 to 316,580 in fall 2008.

- UC and CSU are finding it necessary to increase fees, furlough faculty, and limit future enrollments, which suggests that many students may have to complete their first two years of instruction at community colleges before transferring to four-year institutions.

The greatest challenge will be in the near term, when enrollments are expected to increase by 3.8% annually, before tapering off significantly during the latter projection period. If economic conditions were more favorable, then funding this level of enrollment growth would be manageable. Because the community college system is scheduled to receive a 4% decline in funding, the loss in community college opportunity and access could be substantial if the system finds it necessary to reduce enrollment by a like percentage. Reducing enrollments by 4% results in a net decline of college opportunity of 364,000 students by fall 2010. However, preliminary fall 2009 data indicate that district enrollments generally exceeded budgeted FTE enrollment allocations, which means that the loss in college opportunity will not be as large as estimated here.

The Baseline Forecast should be regarded as a low alternative because it holds participation rates constant at 2008 levels. It estimates the increase in community college enrollment demand due solely to population growth. The forecast shows community college demand increasing from 1.82 million students in 2008 to 1.98 million in 2019. The growth represents an 8.7% increase in enrollment demand, or 157,981 additional students.

Analyses of lecture and laboratory capacity indicate that 57 of 72 (79%) community college districts are experiencing physical capacity pressures by serving more full-time equivalent students (FTES) than implied by state-adopted utilization standards. statewide, the system is experiencing a net capacity deficit of 192,000 FTES. If the system is unable to increase classroom capacity, the net capacity deficit would grow to 425,163 FTES in 2019. This report includes strategies for enhancing institutional capacity.

IMPETUS FOR THE REPORT

The community college enrollment projection is the first in the *Ready or Not, Here They Come* series that will be developed over the next six months. Community college projections were derived first because the system is the largest in the state, and it accounts for about 75% of undergraduate demand in any given year.

The complete series will update CPEC's statewide enrollment demand and institutional capacity reports published in 1995 and 2000. It is intended to support higher education long-range planning and assist the Governor and the Legislature during budgetary and policy deliberations. It will provide informed and valid projections of the demand for public undergraduate higher education over the next ten years and estimates of classroom lecture and laboratory capacity needed to maximize student success.

More specifically, enrollment and capacity data will be used to address the following questions:

- What level of public investment is required to fully fund undergraduate enrollment demand over the next ten years?
- What level of capital outlay investment is needed to expand the physical capacity of institutions to meet enrollment demand?

- What cost-cutting efficiencies should be explored as viable alternatives to constructing new classroom facilities?
- What is the magnitude of the educational opportunity gap that might result if the state is unable or unwilling to fully fund undergraduate enrollment demand in the near term? The implications associated with reduced access will be fully explored as CPEC staff continue with this series of reports.
- If the University of California and California State University implement plans to reduce first-time freshman enrollment in the near term, what additional funding would the community college system need to accommodate redirected students?

The next several planning years will be challenging for both the state and public colleges and universities. To say that California's public higher education systems will find it difficult to meet student demand in the near term while faced with reduced state support could be considered an understatement. Although preliminary signs indicate that the national economy is poised to grow again, albeit slowly, those signs are not yet as pronounced in the Golden State, and higher education institutions are being asked to stretch dollars to compensate for reduced public funding.

The October 2009 budget update released by the Legislative Analyst's Office indicates that the $10.4 billion in state higher education support for 2009–10 is approximately $1.3 billion less than provided in 2007–08. Because of the decline, and because of uncertainties in funds forthcoming from the federal American Recovery and Reinvestment Act, student fees were increased 9.3% at UC, 32% at CSU, and 30% at the community colleges. The fee revenue is expected to generate $166 million for UC, $64 million for CSU, and $80 million for the community colleges. The UC Board of Regents recently authorized an additional 15% mid-year increase in fees that will generate $117.3 million.

Unlike UC and CSU, the community colleges receive substantial revenue from other sources, including local property tax funds. According to LAO, when all sources are considered, 2009–10 funding is about $287 million (4.2%) less than provided in 2008–09 and $189 million (2.8%) less than provided in 2007–08. The budget package also defers $163 million owed to 2010–11. Because community colleges have yet to receive funds deferred in previous budget years, the total amount now owed the system exceeds $700 million. According to LAO, it is unclear when, if ever, this money will be made available.

Given current economic conditions, the public higher education systems are raising student fees, furloughing faculty and staff, reducing course offerings, accepting fewer students in the near future, and reducing overhead costs by eliminating or consolidating staff positions. While the challenges are enormous, they are not entirely new. Higher education institutions faced similar challenges and circumstances during the recessions of the early 1990s and 2000s. CPEC believes that attention to the enrollment and capacity questions outlined above is the best way to promote student success as California recovers from the current recession.

COMMUNITY COLLEGE ENROLLMENT DEMAND ANALYSIS

The California Community Colleges is the nation's largest higher education system, serving 1.82 million adults and high school seniors. In the 1950s, the community college mission began to evolve to meet California's changing educational, workforce, and economic needs. Presently, the community colleges are responsible for lower-division academic instruction, occupational and career technical training, adult education, remedial and basic skills education, and community service and vocational programs. The system has fully recovered from the decline in enrollments that occurred in 2003, when state support for higher education declined following the 2001–02 recession and community colleges had to increase student fees and drastically reduce course offerings.

Community college enrollments have been increasing dramatically for the past five years. Between 2005 and 2008, fall enrollments grew 14.0%, from 1.6 million in 2005 to 1.82 million in 2008. The Mid-Range Forecast indicates that demand will increase from 1.82 million to 2.14 million in 2019. This means that the state should prepare at a minimum for 313,000 additional students above the fall 2008 peak enrollment level. Although the community colleges serve nearly 3 million students annually (fall, winter and spring terms combined), beginning in 2011 campuses will be asked collectively to serve more than 2 million students during each fall term.

Display 1 Mid-Range Forecast of Community College Enrollment Demand, 2008–2019 by Ethnicity

Fall	American Indian	Asian	Black	Latino	White, Other	Total Demand
2008	17,045	317,639	146,976	610,403	731,453	1,823,516
2009	17,711	327,918	154,263	648,941	748,365	1,897,197
2010	18,301	338,047	161,129	688,087	763,579	1,969,143
2011	18,914	348,694	167,778	729,434	776,845	2,041,666
2012	19,249	351,454	167,661	749,642	772,949	2,060,953
2013	19,547	353,465	167,078	768,479	767,990	2,076,558
2014	19,797	355,403	166,051	786,478	762,422	2,090,152
2015	19,781	358,757	164,496	804,535	756,251	2,103,820
2016	19,757	361,682	162,750	819,669	749,826	2,113,684
2017	19,716	365,128	161,015	832,943	744,111	2,122,914
2018	19,645	368,254	159,149	844,461	738,664	2,130,174
2019	19,572	371,272	157,262	855,939	732,734	2,136,779
Percent Change	14.8%	16.9%	7.0%	40.2%	0.2%	17.2%

Asian includes Filipinos and Pacific Islanders.

Display 2 Population Projections by Ethnic Group, 2008–2019, Ages 14 and over

Year	American Indian	Asian	Black	Latino	White, Other	Total Population
2008	201,920	3,951,485	1,878,218	10,267,817	14,346,309	30,645,749
2009	207,499	4,027,977	1,891,411	10,581,666	14,372,162	31,080,715
2010	213,006	4,102,993	1,902,337	10,889,220	14,392,506	31,500,062
2011	218,998	4,180,558	1,912,857	11,198,262	14,402,814	31,913,489
2012	224,784	4,255,200	1,921,857	11,499,340	14,407,857	32,309,038
2013	230,537	4,327,721	1,930,131	11,798,468	14,411,787	32,698,644
2014	236,005	4,400,874	1,937,069	12,102,188	14,414,909	33,091,045
2015	240,150	4,478,556	1,942,891	12,429,809	14,419,601	33,511,007
2016	244,196	4,553,643	1,947,078	12,753,067	14,420,514	33,918,498
2017	248,117	4,630,379	1,950,702	13,076,203	14,423,208	34,328,609
2018	251,921	4,706,259	1,953,254	13,397,687	14,424,111	34,733,232
2019	255,658	4,781,897	1,955,603	13,724,708	14,420,596	35,138,462
Percent Change	26.6%	21.0%	4.1%	33.7%	0.5%	14.7%

Source: California Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 2000–2050.*

Display 3 Population Projections by Ethnic Group, 2008–2019, Ages 14 to 49

Year	American Indian	Asian	Black	Latino	White, Other	Total
2008	130,147	2,543,467	1,285,708	8,003,754	7,939,910	19,902,986
2009	131,981	2,560,935	1,281,983	8,192,008	7,851,723	20,018,630
2010	133,591	2,574,931	1,273,653	8,361,375	7,746,944	20,090,494
2011	135,645	2,593,017	1,266,498	8,534,853	7,642,985	20,172,998
2012	137,480	2,608,653	1,258,730	8,696,117	7,539,472	20,240,452
2013	139,350	2,619,373	1,251,252	8,850,103	7,443,277	20,303,355
2014	140,984	2,630,491	1,242,750	9,001,174	7,351,618	20,367,017
2015	141,442	2,646,585	1,232,828	9,170,265	7,271,349	20,462,469
2016	142,022	2,663,054	1,224,823	9,338,407	7,212,155	20,580,461
2017	142,633	2,682,685	1,218,305	9,506,176	7,162,359	20,712,158
2018	143,171	2,699,179	1,211,958	9,668,988	7,113,510	20,836,806
2019	143,670	2,712,961	1,204,914	9,834,654	7,056,182	20,952,381
Percent Change	10.4%	6.7%	-6.3%	22.9%	-11.1%	5.3%

Adapted from California Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 2000–2050.*

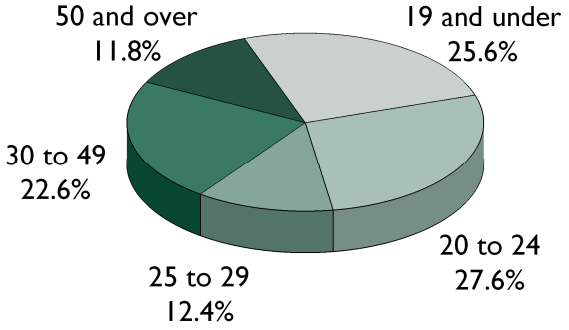
CPEC's community college demand model is a demographic model and uses observed changes in population and other relevant factors and assumptions to project changes in enrollment demand. Enrollment Demand is an estimate of the total number of qualified prospective and continuing students that would enroll in the community college system in a given year at a prevailing student fee level if enrollments were not constrained by State funding. In contrast, an enrollment projection is an estimate of enrollment the State is able and willing to fund based on budgetary, economic, and fiscal circumstances. When circumstances are favorable, enrollment demand and enrollment projection estimates will yield very similar results. When circumstances are less favorable, as during economic recessions, demand estimates will be higher than projection estimates, because by definition, state resources are insufficient to fully meet demand.

The Demographic Research Unit of the Department of Finance and the Legislative Analyst's Office use similar demographic models. Displays 2 and 3 on the opposite page show population projections by ethnicity and age. About 88% of people who enroll in community college are in the 14–49 age group, which is expected to grow at a much slower pace than the population as a whole, because it excludes the baby boom generation.

CPEC staff analyzed historical college enrollments and participation rates by age group and ethnicity. Participation rates represent the proportion of Californians of a particular age group and ethnicity enrolled at a community college. The distribution of community college enrollments by age is shown in the pie chart. Age-group participation was disaggregated by ethnicity because college enrollments vary by ethnicity. Including ethnicity in the enrollment model helps state planners to assess the extent to which college opportunity is equitable across ethnicity.

The historical analysis showed that upward trends in college participation over the past eight years were most pronounced for the 14–19, 20–24, and 25–29 age groups. Staff used regression analysis to derive reasonable rates of changes in participation for those age categories. The change rates (slope of the regression line) were continued over the first three years of the projection period and then held constant for the remaining years. As shown in Appendix A, participation rates for the older age group were held constant through the projection period, with few exceptions.

Figure 2 Community College Enrollment by Age Group, 2008



The Mid-Range Projection indicates that the percent change in enrollment demand of 17.2% will be a few percentage points higher than the projected change of 14.7% in California's population for persons age 14 and over. The higher rate occurs in part because annual changes in community college enrollments for the past five years have been several percentage points above annual changes in the population ages 14–49. This trend is accounted for in the first three projection years of CPEC's Mid-Range forecast. Participation rates are held constant thereafter.

The Mid-Range Projection shows a small decline of White and Black students because the number of White residents ages 14–49 is expected to decline over the next ten years by 883,728 and Black

residents by 80,794. The decline is due principally to lower birth rates and migration patterns. While CPEC projects increased participation rates for all ethnic groups, increases for Whites and Blacks will be partially offset by declines in the general population.

CPEC believes that it is reasonable to expect college participation rates to continue to increase at least for the next three years for reasons outlined here.

- An increasing number of residents are returning to the community colleges to train for new careers and occupations as a result of significant job losses occurring in the state, which suggests a continuation of increased enrollment demand.
- Expansion of California's green economy will spur growth in community college training programs that will prepare prospective workers for green jobs.
- According to many economists, a gradual job recovery beginning in 2010 that will foster enrollment growth in occupational training programs for which the community colleges are a major provider.
- UC and CSU are finding it necessary to increase fees, furlough faculty, and limit future enrollments, which suggests that many students may have to complete their first two years of instruction at a community college before transferring to a university campus.
- The Obama Administration has made higher education a priority and is in the process of implementing federal programs to boost college participation.

If economic conditions were more favorable, funding the level of enrollment demand estimated by the Mid-Range Forecast would be manageable. Because the community college system is scheduled to receive a 4% decline in funding in 2010–11, the loss in community college opportunity and access could be substantial if the system finds it necessary to reduce enrollment by a like percentage. This would mean a net decline in college opportunity of 365,000 students by fall 2010, as shown by the worksheet in Figure 3. However, preliminary fall 2009 data indicate that district enrollments generally exceeded budgeted FTE enrollment allocations, which means that the loss in college opportunity will not be as large as estimated here. Even so, the greatest funding challenge will be in the near term, when enrollments are expected to increase at an annual rate of about 3.7%, before tapering off substantially during the latter projection period.

Figure 3 Loss in College Opportunity Worksheet

Fall 2008 Headcount Enrollment	1,823,516
2009–10 Net Percentage Decline in State Funding	4.0 %
Target Headcount Enrollment if Colleges Find it Necessary to Reduce Fall Enrollments by 4%	1,750,575
Fall 2009 Mid-Range Enrollment Demand Forecast	1,897,197
Loss in College Opportunity Fall 2009 (Mid-Range 2009 forecast minus Fall 2009 Target Enrollment)	-146,622
Fall 2010 Mid-Range Enrollment Demand Forecast	1,969,143
Loss in College Opportunity Fall 2010 (Mid-Range 2010 forecast minus Fall 2009 Target Enrollment)	-218,568
Combined Loss in College Opportunity Fall 2009–Fall 2010	-365,190

The Baseline Forecast, shown on the next page in Display 4, is provided as a low alternative demand forecast in that it holds all participation rates constant at fall 2008 observed levels for the en-

tire projection period. It offers a valid projection of increases in enrollment demand due solely to increases in the college-age population. Enrollment demand is shown to increase from 1.82 million students to 1.98 million.

Display 4 Baseline Forecast, 2008–2019 by Ethnicity

Fall	American Indian	Asian	Black	Latino	White, Other	Total Demand
2008	17,045	317,639	146,976	610,403	731,453	1,823,516
2009	17,476	320,682	147,875	629,914	732,616	1,848,564
2010	17,831	323,410	148,295	648,846	732,270	1,870,653
2011	18,205	326,594	148,490	668,574	730,300	1,892,163
2012	18,539	329,318	148,333	686,871	726,918	1,909,979
2013	18,834	331,329	147,844	703,907	722,525	1,924,438
2014	19,086	333,238	146,983	720,209	717,555	1,937,070
2015	19,096	336,420	145,678	736,675	712,004	1,949,873
2016	19,100	339,201	144,202	750,527	706,186	1,959,217
2017	19,089	342,432	142,731	762,767	700,982	1,968,001
2018	19,048	345,363	141,134	773,479	696,005	1,975,028
2019	19,005	348,191	139,505	784,211	690,585	1,981,497
Percent Change	11.5%	9.6%	-5.1%	28.5%	-5.6%	8.7%

COMMUNITY COLLEGE CLASSROOM CAPACITY ANALYSIS

Background

Questions regarding the amount of physical capacity needed to support student learning and instruction were originally thought to be answerable indirectly through state standards. This was because policymakers of the post-World War II era argued that enrollment capacity should be determined by the availability and usage of classrooms and teaching laboratories alone, and therefore, space standards needed to be crafted and adopted. Such thinking was guided by the assumption that virtually all instruction would take place in those facilities, and that other needs of the physical plant, such as space for administration and plant maintenance, would be built as circumstances dictated. The standards, last revised in the 1970s, entail certain assumptions on size, hourly usage, and occupancy levels for classrooms, teaching laboratories, and faculty offices.

Other types of facility space, termed non-capacity space, include museums, observatories, cultural centers, hospitals, theatres, student unions, auditoriums, dormitories, auto shops, and childcare centers. Because those facilities are varied, it is difficult to apply a common standard. An institution may have adequate classrooms and teaching laboratories, yet is unable to enroll additional students due to a lack of support facilities, unless good planning has produced a balanced physical plant.

Unlike the post-World War II era, learning, engagement, exploration, collaboration, and discovery now takes place wherever and whenever students can sign on to the Internet, be it in traditional classrooms, or in a cafeteria, library, or dorm room. It is quite common to walk into a local coffee

house and find students engaged in learning while sipping a café latté. Still, the classroom will always be a major component of higher education, and an analysis of classroom capacity is central to higher education planning.

State Classroom Space and Utilization Standards

Space and utilization standards are based on a desired occupancy. The standards require most lecture classrooms to be in use 53 hours per week, excluding Saturdays. The standards recommend that each student station average 15 Assignable Square Feet (ASF) and be occupied approximately 66% of the time. The term Weekly Student Contact Hours (WSCH) refers to the number of weekly hours of instruction a student would be engaged in per unit. A full-time student taking 15 semester units is engaged in 15 hours of instruction per week. Every 100 ASF of lecture space supports about 15.54 full-time equivalent students (FTES).

Laboratory capacity standards allow for various levels of ASF per station, depending on the discipline and course level (i.e., lower division, upper division, graduate). For example, the standards call for 115 ASF per student station for an agricultural laboratory, whereas 200 ASF per student station is allowed for an auto mechanics laboratory. Averaged over all disciplines, every 100 ASF of laboratory space will support about 1.5 FTES.

Display 5 State-Adopted Space and Utilization Standards for Lecture Classrooms

Weekly Room Hours	53 hours
Station Occupancy	66%
Weekly Station Hours	35 hours
ASF per Station	15 ASF
WSCH per ASF	2.331
WSCH per 100 ASF	233.1
FTES capacity per 100 ASF	15.54

As a first step in estimating the current physical capacity of the community colleges in meeting enrollment demand, CPEC obtained from the California Community Colleges Chancellor's Office the current total ASF of lecture and laboratory space by district. These data are shown in Display 6 on page 13. The state-adopted space and utilization standards were used to convert ASF physical capacity to FTES capacity. In Display 7 on page 15, FTES capacity is compared with 2008–09 FTES enrollments by district. As shown, 57 of the 72 (79%) community college districts are facing capacity pressures, in that they are serving more FTES than recommended by state classroom utilization standards. The current capacity deficit on a statewide basis is 192,000 FTES, which could grow to 425,163 FTES by 2019. It should be noted that the statewide deficit value understates the magnitude of the capacity problem, because a campus with capacity surplus is of little value to a campus with a capacity deficit, unless the two campuses are located close to one another, which might allow for joint facility partnerships.

While public support for capital construction projects remains strong, building campuses and off-campus centers must be viewed as only part of the solution — although a significant part. CPEC is pleased that community colleges continue to explore alternative means of expanding capacity.

For example, the table on page 13 illustrates the use of technology as a means of enhancing institutional capacity. As shown, credit FTES accounted for by American River College, Cosumnes River College, Folsom Lake College, and Sacramento City College that involved various media formats and technology for the 2007–2008 academic year.

CPEC encourages community colleges to:

- Expand year-round operations and evening and weekend courses.
- Increase use of regional educational centers and joint facilities, mainly with local high schools.
- Expand technology-based instruction such as online courses that makes learning less dependent on classrooms, location, and time-of-day.
- Support institutional practices that help students to be more proficient learners. Institutional practices that foster student engagement and discovery, time on task, and self-paced learning make learners more proficient.

Types of Distributed Learning

College	Distance Education Type	Credit FTES	Non-Credit FTES
American River	Correspondence, e-mail, newspaper	4.54	0.00
	Internet asynchronous instruction	1,597.22	0.00
	Internet synchronous instruction	8.40	0.00
	On-demand TV broadcast; DVD	19.54	0.00
Cosumnes River	Internet asynchronous instruction	820.68	0.00
	TV broadcast with audio bridge	110.09	0.00
	Videoconference with audio bridge	26.98	0.00
Folsom Lake	Internet asynchronous instruction	440.83	0.00
	Videoconference with audio bridge	51.37	0.00
Sacramento City	Internet asynchronous instruction	866.00	0.00
	On-demand TV broadcast; DVD	35.81	0.00
	TV broadcast with audio bridge	30.36	0.00
	Videoconference with audio bridge	15.05	0.00

Display 6 Current Lecture and Laboratory ASF by District

District	Lecture ASF	Lab ASF	Total ASF
Allan Hancock	59,611	106,846	166,457
Antelope Valley	36,284	113,708	149,992
Barstow	9,709	10,074	19,783
Butte-Glenn	59,181	118,467	177,648
Cabrillo	46,680	64,795	111,475
Cerritos	83,405	177,161	260,566
Chabot-Las Positas	94,704	154,843	249,547
Chaffey	52,061	119,872	171,933
Citrus	58,360	131,943	190,303
Coast	138,395	345,476	483,871
Compton	24,030	59,529	83,559
Contra Costa	159,163	261,450	420,613
Copper Mountain	7,338	11,504	18,842
Desert	48,721	63,720	112,441
El Camino	127,556	197,079	324,635
Feather River	9,230	16,079	25,309
Foothill-DeAnza	134,607	304,535	439,142
Gavilan	26,674	56,700	83,374
Glendale	74,227	94,469	168,696
Grossmont-Cuyamaca	82,901	205,890	288,791
Hartnell Joint	21,125	66,624	87,749
Imperial Valle	32,990	33,836	66,826
Kern	100,889	151,246	252,135
Lake Tahoe	14,755	22,397	37,152
Lassen	16,033	38,632	54,665
Long Beach	78,458	197,948	276,406
Los Angeles	538,043	961,840	1,499,883
Los Rios	212,763	439,485	652,248
Marin	50,223	111,333	161,556
Mendocino-Lake	11,459	41,008	52,467
Merced	42,207	111,480	153,687
Mira Costa	62,957	78,082	141,039
Monterey Peninsula	35,928	63,207	99,135
Mt. San Antonio	180,093	246,357	426,450
Mt. San Jacinto	41,534	77,071	118,605
Napa Valley	28,951	70,816	99,767
North Orange County	217,674	316,196	533,870
Ohlone	52,445	84,234	136,679
Palo Verde	3,984	22,755	26,739

District	Lecture ASF	Lab ASF	Total ASF
Palomar	67,867	169,698	237,565
Peralta	104,327	276,906	381,233
Rancho Santiago	163,776	158,750	322,526
Redwoods	37,613	96,851	134,464
Rio Hondo	51,346	96,573	147,919
Riverside	139,363	166,219	305,582
San Bernardino	86,515	172,030	258,545
San Diego	271,998	352,924	624,922
San Francisco	228,735	308,418	537,153
San Joaquin Delta	71,735	161,899	233,634
San Jose-Evergreen	87,190	184,133	271,323
San Luis Obispo County	48,403	99,486	147,889
San Mateo County	143,898	243,265	387,163
Santa Barbara	100,643	122,230	222,873
Santa Clarita	64,253	126,663	190,916
Santa Monica	147,327	128,082	275,409
Sequoias	47,796	84,356	132,152
Shasta-Tehama-Trinity Joint	45,130	86,566	131,696
Sierra Joint	82,429	127,120	209,549
Siskiyou Joint	13,521	30,556	44,077
Solano	63,147	88,940	152,087
Sonoma County Junior	103,107	142,960	246,067
South Orange County	120,807	159,891	280,698
Southwestern	90,306	130,912	221,218
State Center	128,594	319,571	448,165
Ventura County	161,643	254,027	415,670
Victor Valley	17,271	119,832	137,103
West Hills	21,303	45,255	66,558
West Kern	11,569	20,123	31,692
West Valley-Mission	94,498	145,090	239,588
Yosemite	57,818	220,700	278,518
Yuba	77,139	86,153	163,292
Systemwide Totals	6,131,381	10,872,320	17,003,701

Display 7 Community College Capacity Analysis Based on 2008–09 Data

District	2008–09 FTES Data		
	FTES Enrollment	FTES Capacity	FTES Surplus/Deficit
Allan Hancock	11,063	10,841	-222
Antelope Valley	11,989	7,319	-4,670
Barstow	3,394	1,657	-1,737
Butte-Glenn	13,608	10,946	-2,662
Cabrillo	12,017	8,210	-3,807
Cerritos	20,596	15,578	-5,019
Chabot-Las Positas	16,135	17,002	868
Chaffey	15,630	9,861	-5,769
Citrus	12,943	11,018	-1,925
Coast	39,084	26,610	-12,473
Compton	4,742	4,614	-128
Contra Costa	33,207	28,593	-4,614
Copper Mountain	2,111	1,310	-801
Desert	8,581	8,511	-70
El Camino	22,261	22,730	469
Feather River	2,191	1,672	-519
Foothill-DeAnza	38,365	25,416	-12,949
Gavilan	5,748	4,983	-766
Glendale	17,535	12,928	-4,607
Grossmont-Cuyamaca	19,848	15,924	-3,923
Hartnell Joint	7,858	4,267	-3,591
Imperial Valle	9,465	5,625	-3,839
Kern	21,992	17,910	-4,083
Lake Tahoe	2,000	2,623	623
Lassen	2,014	3,062	1,048
Long Beach	22,944	15,117	-7,828
Los Angeles	111,444	97,811	-13,633
Los Rios	62,840	39,554	-23,286
Marin	2,383	9,449	7,066
Mendocino-Lake	3,121	2,387	-734
Merced	10,961	8,206	-2,755
Mira Costa	7,584	10,935	3,351
Monterey Peninsula	7,915	6,516	-1,399
Mt. San Antonio	33,271	31,621	-1,651
Mt. San Jacinto	12,585	7,592	-4,993
Napa Valley	6,572	5,545	-1,027
North Orange County	36,784	38,492	1,708

District	2008–09 FTES Data		
	FTES Enrollment	FTES Capacity	FTES Surplus/Deficit
Ohlone	9,301	9,393	92
Palo Verde	2,025	956	-1,069
Palomar	21,596	13,054	-8,543
Pasadena	26,455	19,227	-7,228
Peralta	22,342	20,304	-2,039
Rancho Santiago	35,956	27,789	-8,167
Redwoods	5,473	7,276	1,803
Rio Hondo	16,068	9,405	-6,663
Riverside	31,364	24,108	-7,256
San Bernardino	16,074	15,985	-89
San Diego	44,664	47,474	2,809
San Francisco	42,935	40,095	-2,840
San Joaquin Delta	17,681	13,539	-4,142
San Jose-Evergreen	16,384	16,269	-115
San Luis Obispo County	10,390	8,991	-1,399
San Mateo County	20,729	25,952	5,223
Santa Barbara	17,462	17,442	-19
Santa Clarita	15,750	11,855	-3,894
Santa Monica	28,050	24,780	-3,270
Sequoias	9,652	8,673	-980
Shasta-Tehama-Trinity Joint	8,525	8,291	-234
Sierra Joint	15,234	14,685	-549
Siskiyou Joint	2,781	2,552	-228
Solano	4,887	11,125	6,238
Sonoma County Junior	22,748	18,132	-4,617
South Orange County	24,785	21,132	-3,653
Southwestern	15,859	15,965	106
State Center	31,890	24,705	-7,185
Ventura County	30,935	28,868	-2,066
Victor Valley	10,613	4,456	-6,157
West Hills	6,602	3,979	-2,623
West Kern	778	2,095	1,317
West Valley-Mission	18,886	16,826	-2,060
Yosemite	18,839	12,247	-6,592
Yuba	9,170	13,257	4,088
Systemwide Totals	1,305,665	1,113,318	-192,347

APPENDIX A

Mid-Range Enrollment Demand Forecast, Community College Participation per 1,000 Persons

	American Indian	Asian	Black	Latino	White/ Other	Average
Age 14–19						
2008	171	203	142	107	133	129
2009	181	211	147	110	138	133
2010	188	219	153	112	142	137
2011	195	227	159	115	147	140
2012	195	227	159	115	147	140
2013	195	227	159	115	147	140
2014	195	227	159	115	147	140
2015	195	227	159	115	147	140
2016	195	227	159	115	147	140
2017	195	227	159	115	147	140
2018	195	227	159	115	147	140
2019	195	227	159	115	147	140
Age 20–24						
2008	220	296	193	159	173	184
2009	220	303	204	165	177	189
2010	220	310	215	171	182	194
2011	220	317	226	177	186	200
2012	220	317	226	177	186	200
2013	220	317	226	177	186	199
2014	220	317	226	177	186	199
2015	220	317	226	177	186	199
2016	220	317	226	177	186	199
2017	220	317	226	177	186	199
2018	220	317	226	177	186	199
2019	220	317	226	177	186	199
Age 25–29						
2008	128	122	110	74	89	89
2009	131	127	113	78	91	92
2010	134	132	117	81	93	95
2011	137	138	120	84	95	97
2012	137	138	121	84	95	97
2013	137	138	121	84	95	97
2014	137	138	121	84	95	97
2015	137	138	121	84	95	97
2016	137	138	121	84	95	97
2017	137	138	121	84	95	96
2018	137	138	121	84	95	96
2019	137	138	121	84	95	96

	American Indian	Asian	Black	Latino	White/ Other	Average
Age 30–49						
2008	66	46	61	33	34	37
2009	66	46	63	34	35	38
2010	66	46	66	35	36	39
2011	66	46	69	36	37	40
2012	66	46	69	36	37	40
2013	66	46	69	36	37	40
2014	66	46	69	36	37	40
2015	66	46	69	36	37	40
2016	66	46	69	36	37	40
2017	66	46	69	36	37	40
2018	66	46	69	36	37	40
2019	66	46	69	36	37	40
Age 50 +						
2008	27	24	24	14	21	20
2009	27	24	25	14	21	20
2010	27	24	26	14	21	20
2011	27	24	26	14	21	20
2012	27	24	26	14	21	20
2013	27	24	26	14	21	20
2014	27	24	26	14	21	20
2015	27	24	26	14	21	20
2016	27	24	26	14	21	20
2017	27	24	26	14	21	20
2018	27	24	26	14	21	20
2019	27	24	26	14	21	20

The Mid-Range Forecast continues upward trends in participation for some age groups for the first three projection years and then holds rates constant for the remaining years.

The Baseline Forecast holds participation rates constant at 2008 levels for the entire projection period.

Overall, community college enrollment demand is expected to increase from 92 students per 1,000 Californians ages 14 to 49 in 2008 to 102 students per 1,000 Californians ages 14 to 49 in 2019.

APPENDIX B

Enrollment Demand Method

Enrollment demand is an estimate of the total number of qualified prospective and continuing students that would enroll in the community college system in a given year at a prevailing student fee level if enrollments were not constrained by state funding. In contrast, an *enrollment projection* is an estimate of enrollment the state is able and willing to fund based on budgetary, economic, and fiscal circumstances. When circumstances are favorable, enrollment demand and enrollment projection estimates will yield very similar results. When circumstances are less favorable, as during economic recessions, demand estimates will be higher than projection estimates, because by definition state resources are insufficient to fully meet demand.

To estimate enrollment demand, staff used historical fall headcount enrollments by age group and ethnicity. Cases with an unknown ethnicity were prorated proportionately. Within ethnicity, cases with an unknown age group were prorated proportionately. Historical participation rates were derived by dividing community college fall enrollments by the corresponding California population estimates prepared by the Demographic Research Unit of the Department of Finance.

The historical data showed that upward trends in college participation over the past eight years were most pronounced for the 14–19, 20–24, and 25–29 age groups. Staff used regression analysis to derive a mean rate of change in participation for those age categories. The regression slope represents a linear average change rate and is defined symbolically as:

$$b_{yx} = n \sum xy - (\sum x)(\sum y) / n \sum x^2 - (\sum x)^2$$

where n = number of cases x = year y = participation rate

The change rates for the age groups stated above were continued over the first three years of the projection period and then held constant for the remaining years (see Appendix A). With few exceptions, participation rates for the older age groups were held constant through the projection period. Enrollment demand headcounts were derived by multiplying the participation rates by the population estimates.

Classroom Capacity Method

To estimate the current physical capacity of the community colleges, CPEC obtained from the California Community Colleges Chancellor's Office the current total assignable square feet (ASF) of lecture and laboratory space by district. State-adopted space and utilization standards, described on page 12, were used to convert ASF classroom capacity to FTES capacity. A capacity deficit/surplus value was obtained by subtracting FTES capacity from fall 2008 FTES enrollment. A positive value indicates a surplus and a negative indicates a deficit. District values were summed to derive a statewide net value. The current statewide capacity deficit is 192,347 FTES. It should be noted that the statewide deficit value understates the magnitude of the capacity problem, because a campus with capacity surplus is of little value to a campus with a capacity deficit, unless the two campuses are located close to one another, which might allow for joint facility partnerships. Based on the CPEC fall 2019 demand estimates, a 425,163 FTES capacity deficit would result in the absence of corrective actions outlined in the report.