PRELIMINARY REPORT

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Chancellor's Office
California Community Colleges: *The Way California Works.* Thomas J. Nussbaum, Chancellor
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CONTENTS

1. COMMUNITY COLLEGE FINANCE IN PERSPECTIVE

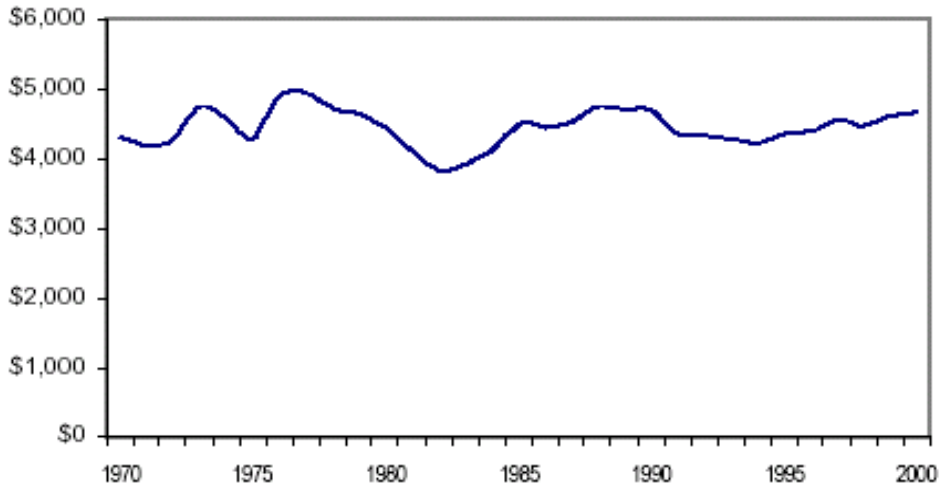
When Governor Reagan signed the 1973 Budget Act, each student at the California Community Colleges was to be educated for the total cost of $4,750.[1] Governor Brown's 1977 Budget Act raised the bar to $4,950 for each student.

During the subsequent administration of Governor Deukmejian, funding per student peaked at $4,750 (identical to the Reagan era level), and then declined during the tenure of Governor Wilson until rebounding at the end of his term to $4,650 in the 2000 Budget Act.

Despite massive expansion of the mission for the California Community Colleges since its evolution into an independent statewide system nearly four decades ago, the level of resources provided to educate each student has not

Figure 1

Funding per Student



Source: California Postsecondary Education Commission

Figures in 2001 constant dollars.

[1] All figures in this report are in 2001 dollars.

changed at all. The scope of the colleges' responsibilities hasbeen broadened from lower division instruction for associate and baccalaureate degrees so that the colleges now have the core state responsibility for economic and workforce development. The state and its economy depend upon community colleges for basic skills education, training and career ladders, and small business development. No longer an adjunct to secondary schools, today the California Community Colleges is the state's largest and most dynamic workforce development engine, opening the doors of economic and social opportunity and increasing the skills competitiveness of the California workforce in the global economy.

The student body has changed, too. What once was a homogeneous group of young students who had just completed high school is now astonishingly diverse in every dimension. The California Community Colleges was among the first in the nation to anticipate the educational and workforce potential of every state resident, and to adapt its scheduling, facility usage, student services, curriculum, and instructional strategies to meet the need. Many students require basic skills education to remedy significant gaps in secondary school education. Californians who speak little English or have no computational or arithmetic proficiency rely upon community colleges as a gateway to employability.

These quantum changes in the scope and service of the California Community Colleges pay immense dividends in the state's social and economic success, but they are not costless at the college level. The complexity of California's people and its economic opportunities drive substantial investment requirements for the California Community Colleges. Faculty must have the training, access, and development time to stay ahead, or California employers will face workforce constraints that make them less productive and less competitive. Courses and programs require continuous redesign, as well as new equipment and technology, to keep pace with rapid changes in jobs and skill needs. Colleges must secure and operate the most

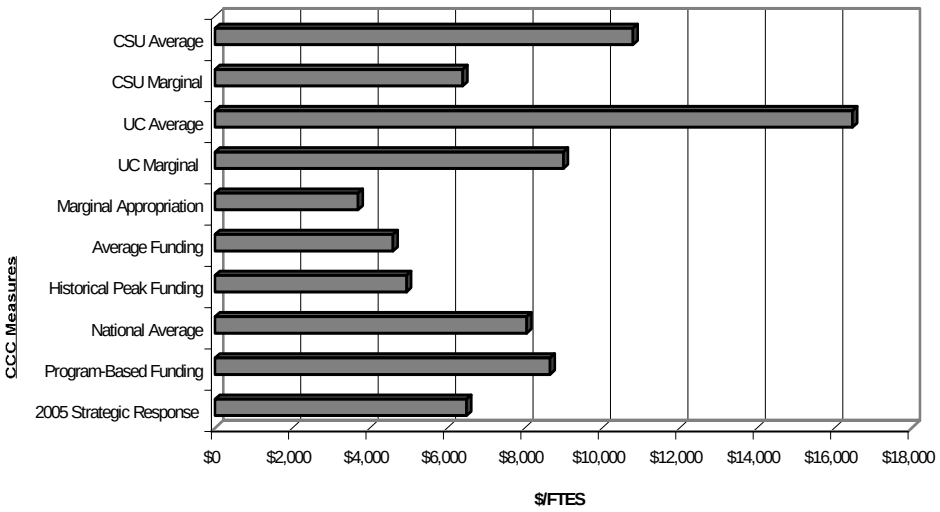
current technology so that students learn using the equipment that they will use in the economy.

Unfortunately, as Figure 1 demonstrates, funding formulas and levels have not kept pace with the real cost. Indeed, funding for the California Community Colleges has not improved over the past 30 years (Figure 1).

What is the real cost of providing quality educational services to meet California's modern social and economic needs? The system and others have attempted to address this question in the past by reference to funding levels at other institutions or at the California Community Colleges in some other era. Comparisons are typically made to the national average for community colleges or to the other public postsecondary institutions in California. Figure 2 displays these per-student figures in comparison to various measures of current, historical, and proposed funding for the California Community Colleges.

The simple comparison approach is inadequate as a proxy for estimating the real cost. Comparisons with other institutions assume that (1) those institutions are delivering an appropriate level of quality and (2) their mission and student characteristics are reasonably similar.

Figure 2
Funding Benchmarks



But the University of California, for example, faces a much simpler cost structure for undergraduate education. Its student body is homogenous across many relevant dimensions, including language proficiency, study skills, and academic preparation; indeed, its students are selected because they are highly likely to succeed in any collegiate environment. With a student body that is largely constrained to a traditional college-age cohort that devotes fulltime attention to study, the cost of delivering the same quality of lower division education at UC should be substantially lower than at the California Community Colleges.

The California State University looks more like the California Community Colleges in its student characteristics. Nevertheless, CSU and UC both occupy much narrower and much more stable mission niches than the community colleges. Most of the expansion of the community college mission over the past three decades has been in resource-intensive areas, as opposed to traditional lower division general education, including nursing and other health occupations, onsite training and workforce development programs tailored to specific targeted industries, and high-skill technology and managerial vocational programs. Most of these high-growth, high-demand, and high-cost programs do not have direct cognates at UC, CSU, or even most community colleges in other states.

And the typical comparison figures range from $6,400 to more than $16,471 per full-time equivalent student. Such a range is too broad to provide a meaningful estimate for the real cost at the California Community Colleges.

The Chancellor's Office undertook the Real Cost Project to provide a more direct and credible basis for understanding the level of funding necessary to meet the real cost. This preliminary report presents the results of the Project's technical work.

2. BUILDING A MODEL

Purpose of the Model

The purpose of the Real Cost Project has been to give the Chancellor and the Board of Governors, the Legislature and the Governor, and the people of California a credible and robust estimate of the real cost of assuring a quality education for every student, in order to provide a foundation for investment and budgetary action.

There is no national benchmark for the level of resources necessary to assure a quality education for community college students—nothing similar to an industry standard or even an analyst's rule of thumb. So the task of the Project has been to define such a benchmark in a manner that is relevant to California.

The Real Cost Project model is neither intended nor designed for determining district- or college-level funding allocations within the California Community College system. The model necessarily abstracts the essential and typical features and demands of a typical college, and it does not account for consequential differences between actual colleges, such as the characteristics, preparation, and aspirations of their students or the structure and dynamics of their local economy. As will be discussed later in this report, the model is derived for a prototype college with a particular enrollment size and composition, and therefore does not reflect important scale economies and other factors distinguishing the real cost at very large and very small colleges.

Related Efforts and Alternative Approaches

To craft a methodology for determining the Real Cost, we examined a variety of similar initiatives outside of California and other alternatives. These fall into five general methodological categories: national benchmarks; professional judgment; successful institutions; research-based best practices; and program-based funding.

National Benchmarks

One straightforward way for determining the Real Cost would be to apply national benchmarks for community college expenditures at various levels of analysis.

The federal government maintains the Integrated Postsecondary Education Data System (IPEDS), which includes financial and staffing information for all of the nation's public community colleges. The National Association of College and University Business Officers (NACUBO) periodically publishes comparative financial statistics for the nation's public two-year colleges, based on IPEDS data and a supplemental survey.

While the national data are one important input into a Real Cost model, they alone are not a satisfactory basis for the overall approach. The scope of national data is severely limited. IPEDS and NACUBO data are not sufficiently detailed at the program level to link spending, staffing, and quality indicators. National data on finances and staffing is not linked to any information on outcomes.

And, as discussed in the prior section, the students of the California Community Colleges, and the economic and social expectations of the state, are unique.

Successful Institutions

The Real Cost model could specify quantitative criteria that characterize colleges that provide a quality education, identify those colleges that meet the criteria, and then assume that the level of per-student or per college funding received by those institutions is sufficient for any typical college to provide quality education.

This approach has been used in Mississippi, New Hampshire, and Ohio. The California Legislative Analyst's Office has called it "promising" for K-12 funding adequacy purposes. It is easy to understand, in part because it gives the "quality education" concept a tangible, real-world referent.

On the other hand, identifying exemplar colleges requires comprehensive and measurable state performance standards, which are not employed at the postsecondary level in California or most other states. And because the successful institutions method is self-referential with respect to both performance and funding levels, it has been more useful in states like Ohio in determining appropriate school-level funding allocations rather than overall funding adequacy levels. The magnitude and universality of funding inadequacy in the California Community Colleges precluded our identification of "best practices" exemplars.

For the California Community Colleges, the successful institutions method is made more problematic by the diversity of local conditions and institutional emphases among the 108 colleges. The method would require identifying a set of colleges that both (1) provide the desired level of educational quality and (2) are representative of the range of local conditions and demographics that other colleges face. The system's experience in meeting the legislative mandate to assess transfer performance on the basis of a relative scale of "low transfer colleges" suggests that a successful institutions method would not be an effective means of establishing quality or funding adequacy benchmarks.

Research-Based Best Practices

Alternatively, the model could rely upon the body of academic research, both quantitative and qualitative, on those factors and policy choices that statistically explain differences in outcomes or expenditures.

Although its implied cause-and-effect objectivity makes it intuitively attractive, this approach has not been used as the sole or primary method anywhere in the country, in part because a statistical approach requires substantial data to be available at the student level. This is less of an obstacle for the California Community Colleges, because we have an unusually rich and robust management information system.

Even with the CCC dataset, however, very little research has been conducted into the systematic relationships between funding levels or expenditures choices, on the one hand, and quality or student outcomes, on the other, for community college or for postsecondary education generally. The Chancellor's Office, the Center for Student Success, and many others are dramatically expanding the body of research that can inform a funding adequacy model on specific elements and benchmarks, but research alone cannot frame the model.

Professional Judgment

An increasingly popular approach for constructing real cost models is using the professional judgment of expert practitioners and researchers as to what features and inputs are most associated with high student achievement. Oregon, South Carolina, and Wyoming are among the states employing this approach for K-12 real cost determination.

Taken in isolation, the professional judgment may present problems of external credibility because the standards are subjective. However, most states rely heavily upon data and research as the basis for professional judgment and then calibrate it using the best quantitative information available.

Program-Based Funding

Finally, the Real Cost Project could use the program-based funding framework as a definitive estimate. Legislation enacted in 1986 established a task force on community college financing. The report of that task force became the basis, in AB 1725 (1988), for transforming state allocations for the California Community Colleges from a K-12 model to a postsecondary approach that differentiates among major programs, based on criteria and standards. Program-based funding and its standards are a means for both (1) establishing the level of funding necessary to operate major college programs and (2) allocating appropriated funds among districts by the Board of Governors.

In practice, however, program-based funding is used only for allocations, and does not drive the level of state support for the college system or even the system's annual budget requests. Allocations are based upon the broadest of program categories, as opposed to the standards-based elements upon which the framework was constructed. Because they are not used in practice, the standards for most program-based funding elements have not been updated since their establishment 13 years ago.

The Master Plan

Several of these alternative approaches were considered by the Joint Legislative Committee to Develop a Master Plan for Education—Kindergarten through University. Prior to the commencement of the Real Cost Project, an expert working group convened by the Joint Committee recommended a "Quality Education" approach, based on the Oregon effort, for K-12 education funding. The Legislative Analyst's Office and the Public Policy Institute of California provided supporting research on behalf of the recommendation.

As work on the Real Cost Project progressed, the Joint Committee endorsed a nearly identical Quality Education approach:

"This Master Plan envisions a fundamental change from a traditional focus of California's K-12 financing system on equality of funding. . . to one of adequacy, in which the essential components necessary for an exemplary education are identified and provided."

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—Joint Legislative Committee

The models in other states upon which the new Master Plan bases the Quality Education approach have all been limited in scope to K-12 education. No state has seriously attempted an adequacy-oriented Quality Education approach to postsecondary funding. There are several explanations for this. First, many adequacy efforts have been driven by court order, because state constitutions typically declare the state's obligation to provide quality education to every pupil; no state constitutionally guarantees quality postsecondary education or mandates attendance. Second, states with

adequacy models have statewide K-12 standards and assessment instruments, while no state has uniform and universal postsecondary assessment and standards.

The Joint Committee endorsed the extension of the Quality Education approach to community colleges and/or all public postsecondary education, but declined to specifically recommend it in the new Master Plan, as had been suggested by the Board of Governors. In the final report, the Joint Committee observed that:

> "This suggestion is consistent with our vision of developing a coherent system of education and would substantiate the recognition that education institutions serving greater proportions of students for whom additional services are necessary for them to reach common expectations require additional resources beyond the adequate base provided to every campus within each respective system. Such an undertaking would be substantially more complex than that required for developing a new funding model for public schools. These alternative approaches to financing postsecondary education may be appropriate for consideration, since they come closer to identifying the education components essential to quality education at the postsecondary level; but the financial implications of these approaches require that they be studied carefully before action is taken to implement any one of them."

As the new Master Plan was being finalized, the Governor signed legislation creating a Quality Education Commission to develop what is essentially a Real Cost model for K-12 schools. Enactment of that legislation may signal the willingness of the Legislature and Governor to consider the Real Cost approach as a long-term strategy, and to take steps toward ultimate implementation even under current state fiscal limitations. The Quality Education Commission is authorized to begin its work after July 1 of this year.

The Approach

The Real Cost Project uses a framework that blends prior efforts in other states and the alternative approaches discussed in the prior sections. The focus of the approach is on standards, or *quality indicators*.

The standards are derived from a variety of sources. Where the Legislature and Governor have established standards as a matter of law, they are incorporated directly into the model. Similarly, benchmarks set forth in

regulations adopted by the Board of Governors are a rich source of standards for the model. Perhaps the best examples are the program-based funding regulations and the supporting analytical work and reports.

National and regional accrediting agencies devote a great deal of study and empirical evaluation to the development of their minimum standards, and those standards are used where no legal minimum or objective exists. In addition, Chancellor's Office staff reviewed relevant peer-reviewed research, comparative data from IPEDS and NACUBO, and internal MIS and fiscal systems data on current practices within the system.

Figure 3 presents the selection algorithm for the Real Cost model standards. By definition, a model abstracts and simplifies the unit of analysis, and the work group focused its attention and professional judgment on critical parameters—defined as those standard or benchmark areas that are both (1) significant drivers of quality and (2) significant drivers of cost. Parameters not meeting both of these criteria were transformed into benchmarks using a linear decision hierarchy that looks serially to statutory, regulatory, research, comparison, and current practice metrics. For critical parameters, these metrics are the principal inputs into the process of professional judgment, centered in the work group but also drawing upon perspectives and advice from other sources internal and external to the California Community Colleges.

The Process

In Fall 2001, the Chancellor established a work group to guide development of the Real Cost Project. The work group was composed of administrative, faculty, staff, and student representatives, and co-chaired by John Spevak, vice president of instruction at Merced College, and Hoke Simpson, president of the Academic Senate for California Community Colleges. The membership of the work group is listed in Appendix One.

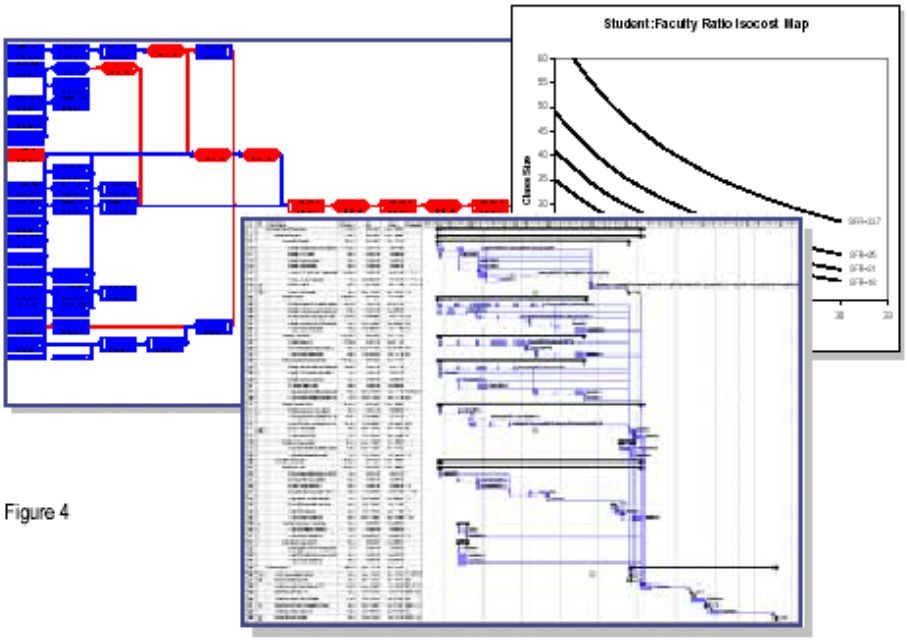


Figure 4

The development of similar models for elementary and secondary education in other states has typically taken two to four years, and some have required five to eight years. The new Master Plan anticipates devoting 12 months for the initial work of the Quality Education Commission, and the Legislature expects that the commission's work will require a supplemental appropriation of more than $150,000.

The Board of Governors assigned a high priority to this Project and did not wish to defer work indefinitely until such time as the Legislature specifically appropriates funds for the purpose. Therefore, in April 2002 the Chancellor reallocated resources in his executive office and assigned a Cabinetlevel staff member to complete the preliminary technical phase of the Real Cost Project.

The work group first reviewed the efforts in other states to determine K-12 adequacy/quality funding levels, and selected the approach set forth in this report. Individual members of the work group and staff then collected benchmarks and data, which were then compiled and calibrated together into an integrated model.

The work group has completed several significant tasks:

- Updated program-based funding standards.
- Specified new national norms and referents.
- Updated source references for accreditation.
- Operationalized and integrated faculty standards.
- Integrated noncredit, including basic skills, into the instruction and student services model.
- Initiated new focus on standards for innovation and learning assistance.
- Incorporated the Technology II Plan.
- Integrated categorical programs into framework.

At each stage of the process, guidance on policy matters and priorities for the Real Cost Project has been provided by the Consultation Council, with periodic overall review and direction by the Board of Governors.

Key Assumptions and Qualifications

- It is not appropriate to apply the model's results as a universal prescription because actual colleges will differ along several dimensions from the prototype. The model describes one approach for quality costing.
- The model does not distinguish funding sources (e.g., state apportionments, categorical appropriations, student fee revenues, or local property taxes).
- The model excludes capital outlay and self-supporting enterprises such as dormitories and parking.
- Resources are a necessary, but not sufficient, precondition to quality and student achievement. In a college that is not functioning effectively or efficiently, an increase in funds is not likely to result in comparable improvements in quality and student achievement.

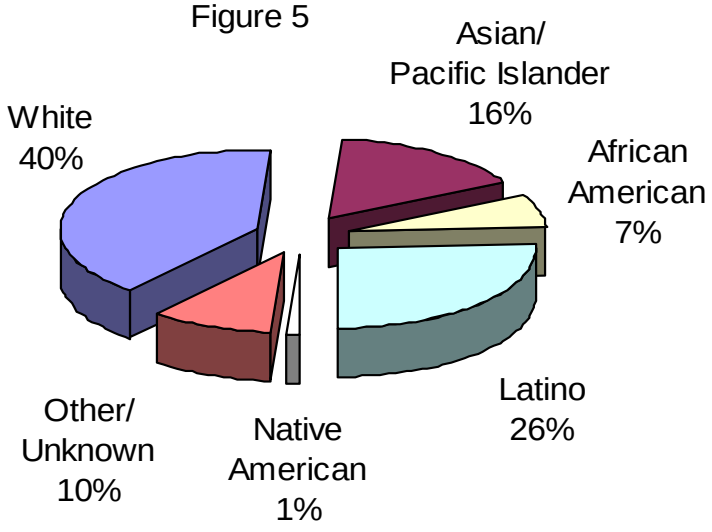
3. THE REAL COST MODEL

The Prototype College

As in Oregon, the Real Cost Project developed a *prototype college* for both analytical and explanatory purposes. The Project made assumptions about the demographics and the context of the prototype college so that it would be possible to understand the effects of various resource priorities and levels, and to estimate costs. By defining standards and characteristics for a college, rather than systemwide aggregate patterns, the results of the model will be comprehensible and vivid for policymakers.

The prototype is not the median college, but it is also not a baseline institution which has only those characteristics shared by all colleges. That approach would tend to understate the important local context of rural and urban colleges, and obscure one of the purposes of the Real Cost Project—to capture the unique cost structure associated with the diverse student population of the California Community Colleges. So while the prototype does not describe any actual college perfectly, it is a reasonable representation of typical demographics, generally as reflected in statewide enrollment patterns. As a result, the prototype college looks like California in its relative composition of academic preparation, ethnicity (Figure 5) and gender, disability, income status and public assistance, and part-time/full-time status.

Figure 5



The prototype college enrolls 25,000 headcount students, or a full-time equivalent (FTES) enrollment of 10,000. Many colleges fall in this general size category, although the system includes colleges from 1,400 to 35,000 in FTES enrollment.

The Quality Indicators

The model incorporates hundreds of standards and benchmarks in order to build a complete real cost budget for the prototype college. However, 14 parameters in eight categories are the major Quality Indicators for the Real Cost model:

Learning Assistance and Advising

1. Credit faculty teach 12 hours per week, and noncredit faculty teach 20 hours per week.
2. Average class size is 23.2 students.[2]

[2] This standard is 10% higher than class size at the California State University and approximately 30% higher than the national median for community colleges. It represents a reduction in average class size of 3.1 students; actual class size reduction would vary based on instructional and programmatic need.

"Group learning, team teaching, learning communities, intensive writing across the curriculum, and individualized interaction between faculty and students are possible at the prototype college because of the combination of smaller classes, a shift in faculty time allocation toward students, extensive professional development and training in pedagogical strategies, and a substantial change in the curriculum.

These are essential attributes of a quality education."

Student-Centered Innovation and Continuous Improvement

3. Five percent of the annual budget is invested in research and development, evaluation, program review, pilots and initiatives, institutional transformation, and other innovation and program improvement that internalizes efficiency and effectiveness.

High Quality Faculty and Staff

4. Of the total teaching hours, 75% is taught by full-time faculty, and 25% by part-time faculty.

5. Faculty and staff are compensated at competitive levels that allow recruitment and retention of talented personnel who are competent in both their field of specialization and student learning (at pro rata for part-time personnel). Compensation levels at the California State University for cognate positions are a measure of competitiveness.

6. Two percent of the operating budget is reserved for faculty and staff development, as required by the Education Code.

7. The college and its departments actively recruit a diverse pool of candidates for faculty and staff positions through broad searches.

Basic Skills

8. Noncredit courses and student services in support of basic skills development are funded at an appropriate level as part of the overall curriculum and student support program.

Counseling and Student Services

9. The counselor-student ratio is 1:370, and every student has access to advising, assessment, placement, tutoring, transfer assistance, psychological counseling, and career services.

10. Health services and student financial aid outreach, application, and processing keep pace with student need.

Cost-Intensive Programs

11. Average class size and resources for equipment are sufficient so that the college and its departments can afford a complete mix of instructional programs that meet the demand of students and the regional economy.

Equipment and Technology

12. One computer for every 20 students, one for each full-time faculty member, one for every four full-time equivalent parttime faculty, and four for every five staff.

13. Computers purchased, operated, and replaced on a Total Cost of Ownership basis, at $3,506 each per year.

Library and Instructional Resources

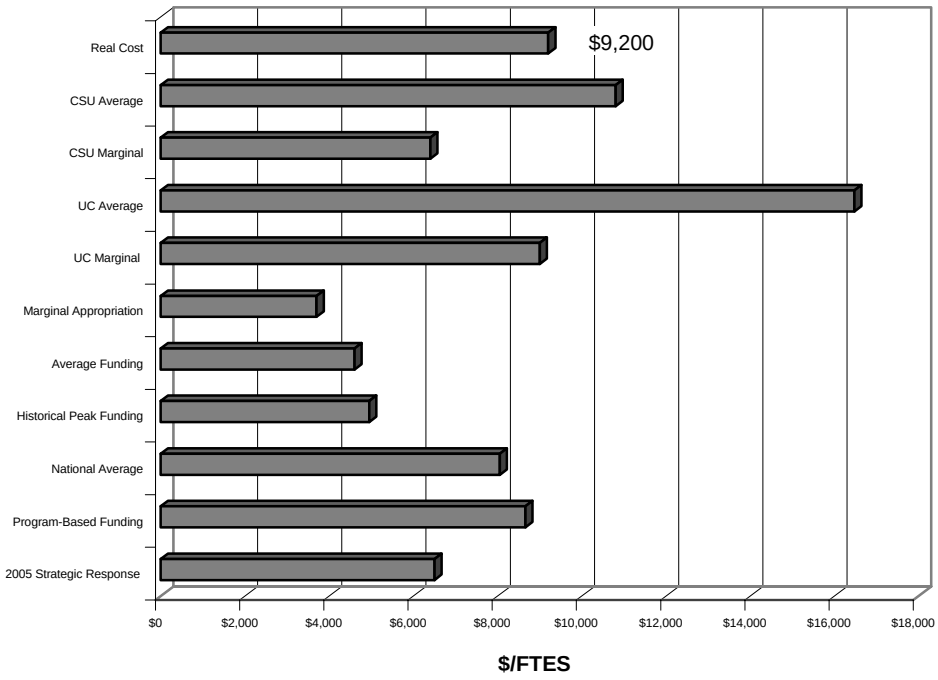
14. Achieve modern accreditation standards for excellence as developed by the American Library Association, including acquisition, maintenance, renewal, and support of 166,000 library volumes, 1,600 periodical subscriptions, and 29,300 videos, films, and other multimedia materials, so that students and faculty have access to the most current information, research, and scholarship.

These Quality Indicators represent an integrated approach to quality student learning and achievement. Group learning, team teaching, learning communities, intensive writing across the curriculum, and individualized interaction between faculty and students are possible at the prototype college because of the combination of smaller classes, a shift in faculty time allocation toward students, extensive professional development and training in pedagogical strategies, and a substantial change in the curriculum. Every student desiring to transfer to a baccalaureate university would have a meaningful transfer and educational plan—more than merely a ministerial signature on a form. These are essential attributes of a quality education for the broad diversity of students at the California Community Colleges.

The Real Cost

The estimated real cost of achieving the Quality Indicators for a 10,000 FTES prototype college is $9,200 per student. Figure 6 places this estimate in

Figure 6
Real Cost in Context



context. At an average of $9,200 per full-time equivalent student, the real cost is at the same magnitude as the national average for community colleges and the program-based funding standard. The level is roughly twice the average funding per FTES provided to the California Community Colleges in 2000-01.

It is not possible to derive a precise comparison between current, actual expenditures and those in the prototype model. The system does not collect comparable data on spending in many of these subcategories, and so cannot establish a baseline that corresponds directly to the elaborated standards-based model. The program-based funding framework excludes categoricals and, for all practical purposes, noncredit instruction and student services; and we do not collect program-level data even for those elements that are specified within the PBF framework. Nevertheless, the Project attempted to identify the major areas of incremental cost change using reported financial data and internal budget information.

Figure 7

Significant Drivers (>$400/FTES)

- Learning Assistance
- Innovation and Organizational Development
- Compensation Competitiveness
- Noncredit and Basic Skills Integration
- Counselor:Student Ratio=1:370

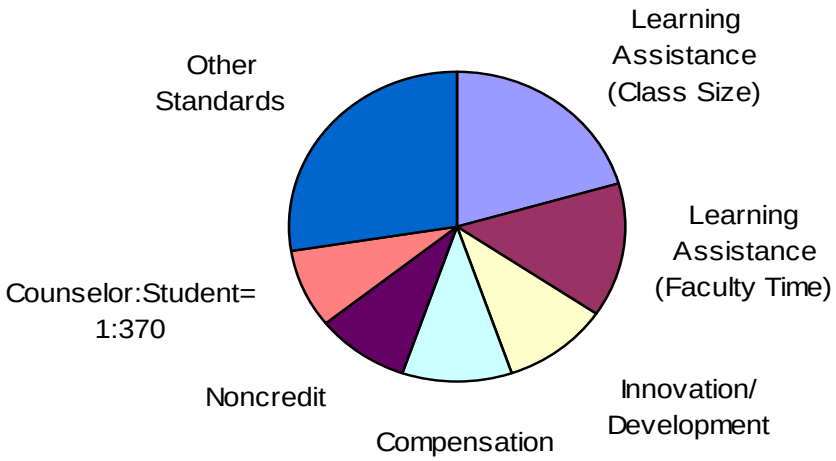
Other Drivers (<$200/FTES)

- Tech II
- Library and Learning Resources
- Noncounseling Matriculation
- Financial Aid
- Health Services
- Instructional Support/ Administration

There are five components of the model that are significant cost drivers—those elements where the standards produced a preliminary perstudent cost change of at least $200.[3] There is a natural break between the significant drivers and all others, with the significant drivers all contributing at least $400 per student in additional costs in the model (Figure 7). Some of the other cost increments represent substantial improvement in quality or standard achievement, such as libraries and Technology II, but not a significant share of the total cost per student. Figure 8 displays the relative cost shares of the major standards.

[3] In this section, all cost driver estimates are rounded to the nearest $100 per student.

Figure 8



This section has provided an overview of the cost model. Additional technical background is available from the Chancellor's Office.

4. CONCLUSION

The Real Cost of $9,200 per student represents a paradigm shift in the way that students interact with faculty, counselors, staff, and their colleges as institutions. It is based upon direct indicators of quality, derived for the particular needs of the uniquely diverse student body of the California Community Colleges and the broad and critical mission of the colleges in support of the economic and social success of the state and its communities.

Although ambitious, the Real Cost Project is not an unachievable ideal. Oregon and Ohio, for example, are phasing their implementation of their real cost recommendations for K-12 education.

Implementation of the Master Plan's Quality Education financing framework for K-12 funding adequacy will require increases in state appropriations significantly beyond the Proposition 98 minimum guarantee. Similar efforts in other states produced funding targets between 8% and 50% higher than budgeted levels.

It is not possible to recast the K-12 financial commitment in the profound way envisioned in the Master Plan without making parallel changes for community colleges. Implementing the Quality Education Model for K-12 will, by simple operation of the constitutional minimum funding guarantee and the 10.93 percent share allocation for community colleges (which was reinforced as state policy in the Master Plan), result in a significant expansion in the state's financial commitment to community colleges. The Real Cost Project provides a complementary template for that outcome.

APPENDIX: WORK GROUP MEMBERS

John Spevak, Co-Chair
Chief Instructional Officers

Hoke Simpson, Co-Chair
Academic Senate

Allan Grimsby
Chief Student Services Officers

Steve Kinsella
Chief Business Officers

Tanna Thomas
Classified Staff

Rocky Young
Chief Executive Officers

Tracie Marquez
Student Senate

Chancellor
Tom Nussbaum

Executive Vice Chancellor
Victoria Morrow

Vice Chancellor for Fiscal Policy
Robert Turnage

Vice Chancellor for Technology, Research & Information Systems
Patrick Perry

Vice Chancellor for Educational Services & Economic Development
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Christopher Cabaldon