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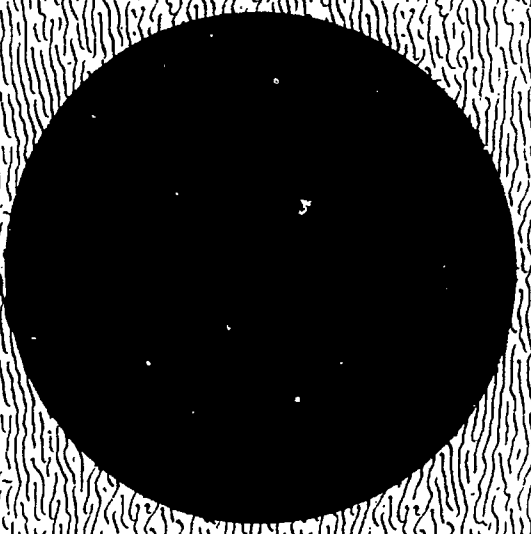
ABSTRACT

The Commission on Innovation (CI) was an independent citizens' panel formed by the California Community Colleges (CCC) to investigate the improvement of college services without relying on increased funding. This report presents 13 specific strategies and 73 action steps developed by the CI, organized into three broad areas of improvement. First, the enhancement of learning opportunities is discussed, proposing the creation of a permanent, system-level fund from existing monies to stimulate research in new instructional approaches; the introduction of an articulated system of degrees; a pilot system for assessing student competence; and a review of adult basic education and English-as-a-Second-Language programs to improve quality. The next section proposes expanding the economic development role of the CCC, suggesting the inclusion of state and local economic development in the CCC mission; developing a state investment strategy for expanding college services to businesses; eliminating barriers to the delivery of training to businesses; and supporting the development of Workforce Transition Centers to provide education, training and employment services. Next, methods of modernizing operations are described, including the implementation of collaborative planning and management processes at CCC institutions; developing a technological infrastructure at and between colleges; enhancing local autonomy in college governance; and implementing cost-effective faculty policies. The final section summarizes potential savings and student increases that could result from CI recommendations. Appendixes include a glossary; an extensive list of community college task force members and others who assisted in producing this agenda; and an annotated bibliography listing 10 other Commission documents. (MAB)

Choosing the Future



An Action Agenda For Community Colleges

Commission on Innovation

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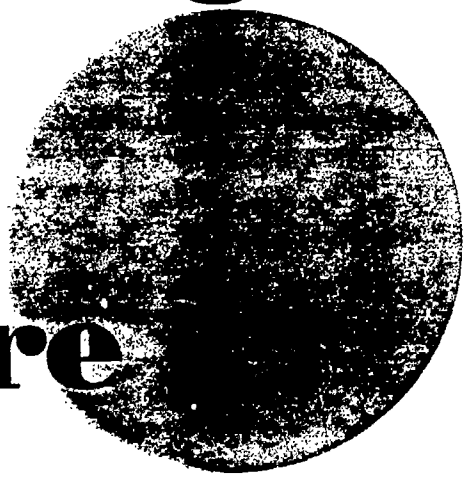


An Action Agenda for Community Colleges

October 1993

Report of
the Commission on Innovation
to the Board of Governors
of the
California Community Colleges

Staff: BW Associates
Executive Directors: Paul Berman and Daniel Weiler

To the Board of Governors:

California has led the nation and the world with its investment in community colleges and its commitment to serving all adults who could benefit from higher education. Thanks to a farsighted policy of open access at nominal cost, the colleges have become the gateway to higher education and successful employment for millions of our state's citizens, and the only bridge to educational and employment opportunities for many low income and minority students. The colleges' success has made them a model for emulation around the world.

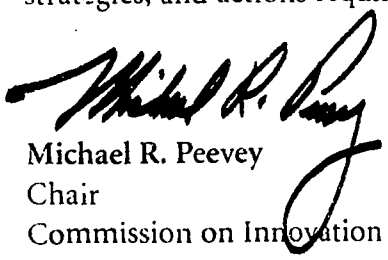
The continuation of this success is now threatened. California's economy is in a prolonged economic slump and must be restructured. The colleges' open door is slowly closing as state budgets are squeezed and the number of Californians needing community college education increases every year. Thousands of Californians are no longer assured of higher education at a price they can afford.

This fiscal crisis comes just as our increasingly diverse society must adapt to the competitive forces of a global, information-based economy. The passport to economic security and personal fulfillment in this new world is more advanced education and higher skills. Therefore, despite tightening budgets, the colleges must raise their level of education for all students and become even more effective in reaching those disadvantaged students for whom the colleges represent the best path to a full and productive life.

The Board of Governors formed the Commission on Innovation in November 1991 to recommend new ways to tackle this crisis. As an independent citizens' panel, we were asked to see how the colleges could accommodate student growth in an era of scarcity and changing demographics, and at the same time ensure that more students could either transfer to bachelor's degree programs or obtain the higher levels of knowledge and skills they will need as citizens and workers in the 21st Century. In short, our charge was to recommend how a better job could be done for more students—without relying on more funding. Rather than propose fee increases or additional state revenue allocations, we were directed to investigate exemplary practices in California and other states, ascertain how these practices could improve effectiveness and efficiency so that the colleges could adapt to society's changing needs, and determine whether the remarkable productivity gains occurring in business could be applied to the colleges.

In order to develop its recommendations, the Commission held seven public meetings to hear testimony and presentations from community college and other experts. Commission staff convened focus group meetings and technology symposia involving over 100 experts from around the state to provide information on facility use, governance, technology, and the colleges' role in the economy. The Commission also reviewed policy discussion papers prepared by staff and commented on by professionals in the field, and received reports from three task forces of community college faculty, administrators, and trustees. We learned a great deal from the Task Forces and have incor-

porated many of their proposals into our recommendations. Their reports have been forwarded to the Board of Governors as a rich source of additional ideas. Commission working committees have met numerous times over the last two years to consider a range of policy options and work on the language of the Report. A section at the end of this Report acknowledges the contributions of the hundreds of individuals who assisted us. We have discovered a wealth of good ideas and outstanding practices at the colleges which could be scaled up to involve the entire system in a renewal and restructuring that can meet the needs of California's increasingly diverse population, maintain the colleges' historic commitment as a gateway to opportunity for minority and low-income Californians, and help California rebuild its economic strength. This Report describes the goals, strategies, and actions required to put the colleges on this innovative path to the 21st Century.



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This section reviews the challenges facing California in these difficult times and recommends that the community colleges can and should play a central role in the state's efforts to regain its prosperity, further a pluralistic society, and provide access to a full and productive life for all citizens in the demanding environment of the 21st Century. This section identifies the issues community colleges must resolve and summarizes an action agenda that can enable the colleges to fulfill this role.

THE CHALLENGE AND THE OPPORTUNITY

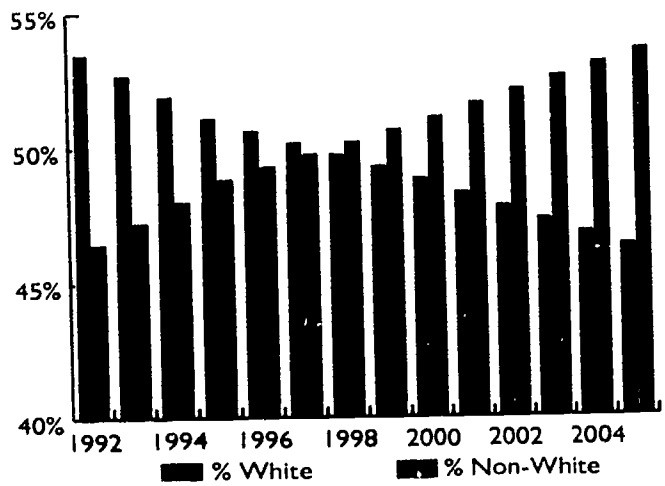
California faces challenges in this decade as severe as any in its history, but the Commission fully believes that our state's basic strengths will enable California to rise above its current problems and realize a bright future. We further strongly believe the community colleges must and will play a central role in creating a new, vigorous California.

Economic Restructuring. First, however, we must squarely recognize the magnitude of the challenges confronting our state. California is in a deep and prolonged economic slump, with its unemployment rate about one-third higher than the national average. This is more than a cyclical recession. The state's economy has deep structural problems, and the old engines that drove California's prosperity—defense production, population growth, property inflation—can no longer fuel a sustained recovery. Our economic future lies in being competitive in a global economy. To prosper, the state must rely increasingly on its human resources—the skills and creativity of its multicultural population—and create an information-based, high value-added economy based on high skills and high wages.

Our economic future lies in being competitive in a global economy. To prosper, the state must rely increasingly on its human resources.

Pluralism. Economic restructuring cannot be separated from other issues, nor can it be allowed to dominate. Change in the economy must be managed in ways consistent with broader social and cultural goals that also define California's destiny. Figure 1 shows that by the turn of the century, the state will no longer have

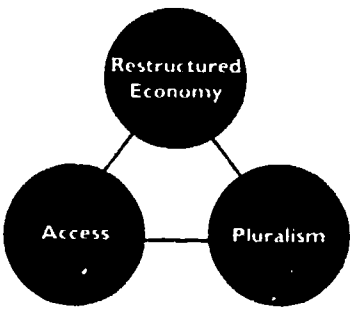
Figure 1



Sources: Chancellor's office, California Community Colleges, California Department of Finance

The Increasing Student Ethnic Diversity at the Community Colleges

The Three-Fold Challenge



a single ethnic or racial majority; already our governance and social stability depend on balancing the perspectives and interests of people of widely diverse backgrounds. Capitalizing on our differences and shaping our multicultural reality into a harmonious and vital pluralistic society will be a continuing endeavor made more difficult by the severity of the state's economic downturn.

Access. A workable pluralism in California requires that all citizens obtain equal access to economic and social opportunities and have political voice. Though access has always been a volatile and unresolved issue in California, it has taken on fresh meaning in the 1990s. As employers introduce new technologies and seek workers with higher skills, our economy—and our society—can become polarized into those with the skills needed to be successful and productive, and those without them. The ticket to a full and productive life in the coming age will be a high level of literacy and technical competence, grounded in a finely-honed ability to think critically, solve problems, and work creatively with others. The same skills are an essential foundation for responsible citizenship, informed consumer choices, and meaningful political participation. California must urgently find ways to provide more people than ever before with much higher education and skill levels.

A workable pluralism in California requires that all citizens obtain equal access to economic and social opportunities and have political voice.

But the state's financial ability to provide more students with higher education is limited because of our weak economy. With California's population growing in numbers and diversity, rising fees at the State's public universities, and an economy that increasingly needs well educated and highly skilled workers, the community colleges are under intense and increasing pressure to accept more students, educate all students at much higher levels, and expand basic skills education for students who are not ready for college-level work or not adequately prepared for employment.

The Fiscal Crisis. With 1.4 million students, the California Community Colleges now constitute the largest postsecondary system in the world; yet, enrollment demand is expected to grow by at least one-third over the next decade. At a current cost of approximately $3,200 for each full-time equivalent student, the challenge of meeting this demand—much less of expanding basic skills education and providing higher levels of education for all

students—has created a serious crisis. If the colleges continue to spend the same amount per student, their current expenditures of about $3 billion would rise by approximately one-third just to keep pace with expected enrollment growth, and new facilities costing another $4 billion would have to be built to house these additional students. Substantial additional resources also would be required in order to strengthen college educational programs. In order to support this expansion, California's economy would have to grow at a much higher rate than projected by most forecasts and state funding priorities would have to shift dramatically.

In light of this serious fiscal issue, the community colleges—along with other major State institutions—will have to choose between retrenchment and the introduction of innovations that will enable them to increase efficiency and thereby expand their services. The Commission rejects the path of retrenchment. We are confident in the ability of the community colleges to meet the demands that will be made on them. We choose to look beyond immediate budget crises to ask a more far-reaching question: What should the colleges' role be in dealing with the fundamental challenges facing California through the turn of the century and beyond, and how should the colleges accomplish this role?

What should the colleges' role be in dealing with the fundamental challenges facing California through the turn of the century and beyond, and how should the colleges accomplish this role?

Charting a New Course. The community colleges have an outstanding record of responding to society's needs. In the 1960s and 70s, the colleges grew rapidly to meet the literacy, university-

California's Growing Need for Second Chance Education

California currently has four to five million functionally illiterate citizens. Between 20 and 30 percent of California's high school students do not graduate. The majority of applicants are unable to pass entry level exams at major California companies. Among nearly two million immigrants who have recently become legal citizens, the median education level is less than seven years. With these critical problems of inadequate education, a youth unemployment rate exceeding 20 percent, and the pressing need to retrain and relocate defense workers, California must urgently find ways to provide more people than ever before with much higher education and skill levels.

preparation, and employment training demands of an expanding population. Californians sought access to the State's four-year university system and up-to-date training for jobs in the expanding economy. Transfer and vocational programs grew to meet both needs. Today, the colleges serve 68 out of 1,000 California adults—almost four times the national average. California's community colleges have demonstrated that they are responsive and flexible institutions.

The community colleges are at the nexus of California's efforts to restructure its economy, create a workable pluralism, and provide access to four-year institutions and a high skills future for all citizens.

Just as the community colleges were the right instrument at the time for helping to meet the social and economic needs of the 1960s and 70s, they are perfectly positioned to respond to the challenges of the next century.

First, the colleges remain the most accessible and responsive place for the state's diverse socioeconomic, multi-lingual, multi-ethnic, and multicultural population to receive quality higher education leading to transfer or high skill employment. Whether as a gateway to baccalaureate and higher degrees or as a cornerstone of high skill employment training and retraining, the colleges can continue to provide the educational leverage in California for a healthy pluralistic social structure and economic success in the 21st Century. To do so, the colleges will have to create innovative instructional approaches and alternative curricula that can better help students with different backgrounds and capabilities realize their potential.

Second, the colleges can address the access issue, not by restricting enrollment—a step that would inevitably deny opportunity to the poorest and most disadvantaged citizens—but by becoming even more productive and efficient so that more students can be served at current state funding levels. New ways will have to be found to deliver instruction, operate more cost-effectively, and use facilities more efficiently.

Third, many community colleges are now actively supporting the economic development of their communities by providing employee training or technical assistance to small and large businesses. These activities, if expanded, could enable the colleges to be a major lever for economic revitalization, as community col-

leges have become in other states. But the State Legislature and administration, as well as many more faculty, must first recognize the legitimacy and efficacy of the colleges' contribution to economic development, and the colleges must overcome a number of organizational and financial obstacles that have prevented them from expanding these services.

The Commission concludes that the community colleges can play a more crucial role than ever in helping the state meet the challenges it must confront, for they are at the nexus of California's efforts to restructure its economy, create a workable pluralism, and provide access to four-year institutions and a high skills future for all citizens.

We believe the challenge of diversity can only be met if all students are enabled to meet high standards set at a world-class level.

The Proposed Agenda. For the colleges to succeed in playing this central role, the Board of Governors must adopt a focused agenda that can direct the creative energies within the system toward the changes that are needed to further strengthen the colleges. The Commission recommends that the community colleges focus on three broad directions:

- **Enhance Learning Opportunities.** As premier teaching institutions, the community colleges should find innovative ways to provide each and every student, regardless of economic or educational background, with the opportunity to transfer and/or attain the high skills necessary to lead a full and productive life in the 21st Century. We believe the challenge of diversity can only be met if all students are enabled to meet high standards set at a world-class level.

- **Expand Economic Development Role.** As decentralized institutions located in communities across the state, the community colleges should play a more active, even entrepreneurial, role in the economic development of local businesses and communities. The State should capitalize on its investment in the community colleges and use them more fully as a catalyst and lever for California's economic restructuring.

The State should capitalize on its investment in the community colleges and use them more fully as a catalyst and lever for California's economic restructuring.

- **Modernize Operations.** As public institutions in a time of scarcity, the community colleges must develop ways of operat-

ing even more efficiently in order to provide access to additional students and meet the enormous need for solid education and high skills training. We believe the management of the colleges can be modernized by adapting organizational techniques pioneered in high performance businesses, that the governance of the system can be considerably strengthened to enhance the colleges' vitality and capacity, that facility planning, use, and construction can be more efficient, and that technology can greatly increase productivity. In these ways, the colleges should be able to serve more students, even while they are adjusting to the demands of diversity and rising educational standards.

The rapid demographic, economic, and technological changes of the last five years give special urgency to going beyond the 1988 reforms and committing to the priorities offered here.

These recommendations propose a demanding agenda for the community colleges. The colleges began an era of reform with the passage in 1988 of AB1725, which established the faculty's primary responsibility for curriculum and academic standards, instituted an active role in college governance for faculty, staff, and students, and moved the 107 colleges toward becoming a coherent statewide system. The Commission's recommendations build on this momentum and on the many outstanding practices already occurring at community colleges across the state. The rapid demographic, economic, and technological changes of the last five years give special urgency to going beyond the 1988 reforms and committing to the priorities offered here.

The Proposed Strategies. The Commission has developed 13 specific strategies and 73 action steps that could be taken by the colleges, the Board of Governors, the Legislature, and others to implement the recommendations over the next five to ten years. The main thrust of these strategies is summarized below. The strategies and action steps are presented in a detailed action agenda in the next section.

I. Enhance Learning Opportunities. Launch a sustained program of systemic innovations to restructure instruction, curriculum, and degree certificates in order to increase transfer and enable all students to develop the high levels of skills and knowledge needed for the 21st Century.

Strategy 1. Create a permanent, system-level fund to stimulate innovations and professional development throughout the system. The Legislature would establish a set-aside from community college general purpose funding to provide the essential seed money for colleges to revamp their instruction and curriculum, provide better student services, and improve college efficiency and productivity. The fund would become a fixed component of community college funding to allow for continual renewal.

Strategy 2. Develop new instructional approaches and student services that match the varied learning styles of a diverse student population. Faculty would be supported to develop and disseminate models of active learning that could gradually replace the colleges' reliance on lecture-based instruction. Funds would also be provided for sustained professional development to enable all faculty to use the new methods, and for the development of innovative approaches to student services.

Strategy 3. Introduce an articulated system of degrees and certificates that sets clear milestones for academic accomplishments, progress toward transfer to four-year universities, and advancement on professional career ladders. The colleges, in cooperation with the K-12 schools, the four-year institutions, and industry would define a series of certificates and degrees, analogous to career ladders developed in other countries, that provide a road map for students to progress from low levels of education and skills to advanced levels. This system could reduce the time students take to complete meaningful programs and transfer to four-year institutions or progress to careers.

Strategy 4. Pilot a system of assessments for students to demonstrate their competence to obtain community college degrees or certificates and to transfer to four-year colleges or universities. Based on recommendations from the state-wide Academic Senate, an assess-

ment panel would set student performance standards and develop assessments that would measure the extent to which these standards have been met. These assessments would be conducted on a pilot basis to determine their value for full-scale application.

Strategy 5. Undertake a major review of the State's Adult Basic Education and ESL programs. The Legislature would establish a commission charged with developing a new approach to Adult Basic Education.

II. Expand Economic Development Role. Expand the community colleges' role in state and local economic development to make them central to the state's economic renewal.

Strategy 1. Define the colleges' mission to include state and local economic development focused on providing training and technical assistance to business and industry. The Legislature would broaden the community colleges' mission to legitimize a more active role for colleges to work with businesses, state agencies, and local communities in support of California's economic restructuring.

Strategy 2. Develop a State investment strategy for expanding the colleges' services to business. The Legislature, in coordination with the executive branch and the Board of Governors, would develop plans to expand community college services to business. These plans would build on and extend the existing and cost-effective network of services developed by the Chancellor's Office, enlarge the scope of district-based services, and strengthen links between college data systems and state employment data.

Strategy 3. Eliminate barriers to the colleges delivering training to business. To provide the major economic impact needed for the state's recovery and long-run prosperity, the Board of Governors and Legislature would lift existing regulatory and statutory restrictions on the colleges playing an entrepreneurial role in stimulating business and public sector activity.

Strategy 4. Support community colleges to collaborate with other agencies to develop Workforce Transition Centers which provide one-stop education, training, and employment services. The State would emulate activities of other states, as well as adopt successful models in California, in which community colleges are central to the formation of one-stop centers for assessment, education, training and retraining, and employment screening and referral services for workers in transition.

III. Modernize Operations. Modernize management, governance, facilities utilization and technology use to promote cost-effectiveness and increase the community colleges' capacity to serve more students.

Strategy 1. Adopt collaborative planning and management processes at each college to assure continuous improvements in quality and efficiency. Community colleges would implement comprehensive organizational changes that will further improve their efficiency and productivity so that more students can be served and educational quality enhanced. They would adapt the principles of the total quality movement in business to the college context, relying heavily on the faculty and administrators to incorporate efficiency and client concerns into all operational decisions.

Strategy 2. Develop a pervasive technological infrastructure at and between colleges to equip them to increase productivity, enhance management efficiency, and become premier institutions for the application of technology to learning. The State and the community colleges would invest, as a matter of high priority, in the installation of new technologies, the expansion of telecourses and other instruction that can be delivered at a distance, and the development of information networks. By becoming a premier institution for the application of technology to teaching and learning, the colleges would both reduce the cost of education per student and help all students become better prepared for the information age.

Strategy 3. Restructure community college governance to enhance local autonomy, strengthen system-level capacity to provide overall direction, and reinforce accountability. The governance of the system would be restructured to provide both more state-wide coherence and greater local autonomy. Responsiveness is a strength of California's community colleges, but tomorrow's colleges must be able to adapt even more rapidly and flexibly to changing world and local community conditions. This responsiveness can be accomplished by phasing out laws and regulations that interfere with local autonomy, strengthening the technical assistance and system-wide coordination capabilities of the Chancellor's Office, and establishing fair accountability based on results.

Strategy 4. Implement more cost-effective facility policies that reduce the need for new facilities, support innovations, and streamline the construction approval process. The Board of Governors would focus immediately on creating incentives and establishing more streamlined procedures that lead to better utilization of existing facilities and reduce the need for new facilities.

The Cost and the Savings. These strategies, and the Action Agenda presented shortly, constitute bold yet practical steps. As the next section discusses, some recommendations require initial investment capital, but these investments are more than compensated for by savings that can be realized if the Commission's recommendations are implemented. Moreover, the long-run savings can be large enough to allow the colleges to accommodate the expected growth in enrollment demand over the next decade.

Specifically, Figure 2 shows the estimated expenditures (in constant dollars) of the community college system over the decade between 1994 and 2005. The top line is calculated assuming that expenditures per student in the future are the same as they are now; these expenditures rise over time due to projected increases

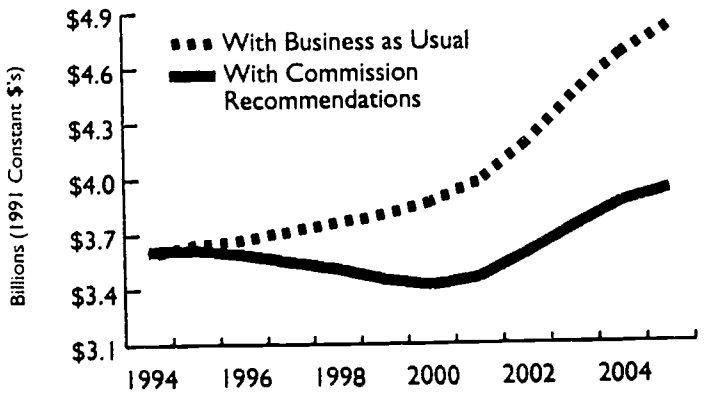
in enrollment. In other words, if business is conducted as usual, expenditures would increase by about one-third in constant dollars just to keep pace with enrollment demand.

The bottom line in the figure represents estimated expenditures if the Commission's recommendations are implemented. Though these numbers are calculations based on estimates, they suggest that great savings could be realized. Indeed, with the agenda proposed here, the colleges could save enough money to absorb the expected increase of one-third more students at only a slightly higher level of funding than the colleges receive today. And they could do so at the same time as they increase their educational standards to respond to the demands of the 21st Century.

* * *

Conclusion. Our diverse state can only benefit from an educated and informed public that understands the virtues of a pluralistic society and knows how to participate constructively in state and community affairs. Moreover, today's failing economy has both social and economic consequences that cannot be ignored in choosing our future. We risk a division of our peoples along racial and class lines if jobs are sharply split between high skill, high wage and low skill, low wage employment. Both California's economy and its continued social health require that its citizens have full access to quality education to support industry's shift to high

Figure 2



Projected System-wide Expenditures

skill jobs. The community colleges can provide much of the glue that binds our pluralistic system as the state's economy, society, and educational institutions realign toward a new California. Accordingly, the Commission proposes that the State and the community colleges commit to a course of evolutionary change, not retrenchment and restriction of educational opportunities.

ACTION AGENDA

The Commission proposes that the colleges focus on three major directions as they respond to the needs of the 21st Century—I. Enhance Learning Opportunities, II. Expand Economic Development Role, and III. Modernize Operations. This section presents the Commission recommendations for specific strategies to implement this agenda. The recommendations are presented in detail for each area in turn, with the strategies discussed first followed by action steps for the colleges, faculty, Board of Governors, the Legislature, and others. Though the actions are detailed and concrete, they have not been incorporated into a full-scale implementation plan, exact legislation, or revisions to the California Administrative Code; nor do the actions always identify processes, procedures, or actors who might carry out the proposed steps. The Commission's charter has been to advance an agenda; its implementation will have to be more fully designed after thorough debate.

To allow the reader easy access to the material, the next few pages indicate where each strategy is discussed in the Report and list the figures, tables, and boxes used in the text. The boxes provide details or illustrations that provide supporting information about the strategies and actions; some boxes in particular summarize some of the outstanding practices already existing in the community colleges that can be used as models. The Appendix includes a glossary of terms and an index to the Action Agenda.

For each recommendation discussed in this section, the Commission estimated the costs that could be incurred and the level of saving that could be realized. These estimates are summarized in this Report; the detailed bases for the estimates are provided in a separate document entitled *Technical and Cost Assumptions for the Implementation of the Commission on Innovation's Action Agenda* (referred to in the following pages as *Technical and Cost Assumptions*). Estimated costs and savings are shown in constant 1991 dollars throughout the Report.

LOCATIONS OF RECOMMENDATIONS

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I.

ENHANCE LEARNING OPPORTUNITIES

As premier teaching institutions, the community colleges should find innovative ways to provide each and every student, regardless of economic or educational background, with the opportunity to transfer and/or attain the high skills necessary to lead a full and productive life in the 21st Century. The Commission believes the challenge of diversity can only be met if *all* students are enabled to meet high standards set at a world-class level. This Recommendation details the strategies and action steps that can set a community college agenda for capitalizing on diversity and raising educational standards.

ENHANCE LEARNING OPPORTUNITIES

The Goal: *Launch a sustained program of systemic innovations to restructure instruction, curriculum, and degrees and certificates in order to increase transfer and enable all students to develop the high levels of skills and knowledge needed for the 21st Century.*

By 1998, the majority of community college students will be people of color, almost half will be older than thirty, and most will have jobs. The community colleges have often succeeded in providing these students with an academic road to success. However, increasing diversity, the need for higher levels of accomplishment in our information age, and limited budgets have combined to make the challenge of providing solid education for all students more difficult than ever before. Faculty are being asked to respond to the different learning styles of non-traditional students while raising all students' intellectual horizons, and they—as well as the entire education enterprise—must cope with increasing numbers of students and curtailed financial support.

To meet the more demanding needs of an increasingly diverse student population, the colleges must create new pedagogical approaches that actively engage students in the learning process.

The Commission sees no higher priority for the community colleges than squarely addressing these concerns. Without fundamental breakthroughs in the delivery of instruction, we fear that many students will not develop the academic rigor and intellectual confidence they must have to transfer to four-year universities or complete the solid educational foundation essential for high skill jobs. With a new era of instructional innovation, the Commission believes the community colleges can raise postsecondary education to a higher level of excellence and increase the number of students transferring or completing a transition to high skills employment.

At the heart of the matter is how community colleges can adapt their teaching, curricula, and student services to these new realities.

The Commission believes the following issues must be addressed in making this adaptation. They will be discussed more fully in this section and strategies will be proposed for each concern.

Alternative Instructional and Student Services Approaches Are Needed. In order to meet the more demanding needs of an increasingly diverse student population, the colleges must create

new pedagogical approaches that actively engage students in the learning process; treat learning as a collaboration between student and instructor; draw from a repertoire of instructional strategies that can accommodate the range of student learning styles; and develop more effective student services.

Resources for professional development and innovation are essential to create alternative instructional approaches.

Long-term Investment in Learning and Professional Development Must be Made. Resources for professional development and innovation are essential to create alternative instructional approaches. Such investments are equivalent to research and development (R&D), a cardinal characteristic of an adaptive organization. Yet, in times of tight budgets, the colleges are pressed to place a lower priority on innovation and professional development. The Commission believes the State must invest in the colleges' R&D and that the colleges must find ways to further increase their productivity so that these investments do not jeopardize their capacity to accept more students. This Recommendation suggests a major undertaking in instructional innovation and professional development. Recommendations for increasing productivity are proposed in Recommendation III, Modernize Operations, and our general approach to funding R&D is discussed in Strategy 1 of this Recommendation and in the Report's last section, *Savings to Increase Access.*

Clear Career Paths Must Be Created. Three out of four students now attend community colleges on a part-time basis, balancing the demands of school and work. For many, a big hurdle to transferring to four-year institutions and advancing to high skill careers is the lack of immediate income coupled with uncertainty about their future prospects. They need to work and support families, making it difficult to see how deferring current income to continue their education will result in an improved quality of life in the long run. One result is that too few students transfer to four-year universities or commit to a professional or technical program requiring extended time. Another result is that some students spend much too long in taking unconnected courses over four, five, or more years. These problems cannot be remedied by small-scale efforts, for they arise from a dissonance between how colleges offer courses, programs, and degrees and the reality of an

increasing number of students. The Commission believes this issue merits a systemic change. We believe the colleges can formulate a degree-granting structure that will enable more students to transfer to four-year universities or high skill jobs and fewer students to be delayed or lost in an extended pipeline.

The scale and magnitude of these problems cannot be addressed without a sustained effort to redesign the learning environment and the delivery of instruction at the colleges.

Success for Students in Need of Basic Skills Education Requires a New Focus. The community colleges enroll many students who are not adequately prepared for college level studies, some of whom are functionally illiterate. The colleges do so because they are trying to address a pressing need of their communities. Approximately ten percent of all instruction in community colleges is remedial (including Adult Basic Education for literacy and ESL—English as a second language) though nearly three times this many students need at least one remedial, Adult Basic Education, or ESL course. The need for these courses has grown as increasing numbers of underprepared and limited English proficient students come to the colleges for help. With limited budgets, colleges are having to make increasingly difficult choices on how to limit services. Inevitably, many Adult Basic Education students are falling through the cracks—at a time when California's society and economy depend on virtually all citizens becoming literate and developing higher skills. The State has an enormous stake in this issue, which also concerns literacy and adult education in high school and community settings.

The issues outlined above present the community colleges with an unprecedented array of difficult challenges. The scale and magnitude of these problems cannot be addressed without a sustained effort to redesign the learning environment and the delivery of instruction at the colleges. All other recommendations in this Report will be of scant consequence unless the faculty and the colleges can create clear paths to transfer and high skill careers for all students, adopt new approaches to maximizing student learning, and hold themselves accountable on the basis of student performance, and unless the State develops new structures for meeting the special needs of students requiring basic skills education. Systemic innovations must be undertaken to meet the challenges posed by increased diversity and economic uncertainty.

Systemic innovations must be undertaken to meet the challenges posed by increased diversity and economic uncertainty.

The Commission recommends the following strategies as means for launching this era of systemic innovation. The strategies will be discussed in detail in this section, with each discussion followed by specific action steps:

1. **Create a permanent, system-level fund to stimulate innovations and professional development throughout the system.**

2. **Develop new instructional approaches and student services that match the varied learning styles of a diverse student population.**

3. **Introduce an articulated system of degrees and certificates that sets clear milestones for academic accomplishments, progress toward transfer to four-year universities, and advancement on professional career ladders.**

4. **Pilot a system of assessments for students to demonstrate their competence to obtain community college degrees or certificates and to transfer to four-year colleges or universities.**

5. **Undertake a major review of the State's Adult Basic Education and ESL programs.**

Discussion of the Strategies and Action Steps

RATEGY 1

Create a permanent, system-level fund to stimulate innovations and professional development throughout the system.

Investment in innovation is the hallmark of successful business enterprises and public organizations around the world. A survey of 900 of the largest U.S. companies showed that in 1992 they returned an average of almost four percent of their sales income to investment in R&D. At top companies in Japan—which has outperformed the United States economically for many years—these

investments averaged 5.5 percent. Companies invest in R&D in order to stay on the cutting edge in their field and maintain the ability to continuously adapt to changing circumstances. The leading American companies, increasingly aware of the value of such investments in a global economy, raised their investments in R&D by seven percent in 1992 from the previous year.

The community colleges must also adapt to changing circumstances; like the private sector, they can do so only by investing in innovation. The colleges already recognize this imperative by setting aside funds for faculty development and for faculty efforts to improve instruction and curriculum. But the level of funding for both these essential areas is still quite low (amounting together to only some $6 million per year) and there is little other support for R&D in the system. Thus, while there are many outstanding practices at the colleges, there is at present no permanent source of funds that could enable the system-wide adoption of the best practices or the development of innovative new approaches to instruction, student services, community service, or college management. Yet, the colleges will be able to maintain access and enhance educational quality in an era of limited budgets only by investing in instructional and productivity innovations through a significant R&D effort. If the colleges were to invest in R&D at the same level as the leading American companies, they would set aside approximately $120 million per year (about four percent of their total funding) for this purpose. As discussed below, the Commission believes that a somewhat more modest R&D investment—though still significant by historical standards—could yield high payoffs.

The colleges will be able to maintain access and enhance educational quality in an era of limited budgets only by investing in instructional and productivity innovations through a significant R&D effort.

Actions for Strategy I

Investment Fund for Innovation

Action 1. Establish Investment Fund for Innovation. An ongoing Investment Fund for Innovation should be established to stimulate instructional innovations and pay for the professional development of faculty in learning new instructional approaches for diverse student populations. The Investment Fund should be based primarily on a set-aside from the State's general purpose support for the community colleges. Existing resources devoted to

instructional improvement and professional development should become part of the Fund, which should come under the direction of the Board of Governors.

It is imperative that funds be earmarked for investments in innovations that will yield increased instructional effectiveness, productivity improvements, and cost savings in the long run.

Insofar as the set-aside removes resources from the support of college current operations, it may make it harder for a year or two for the colleges to accommodate as many students as might otherwise be able to enroll. Nonetheless, it is imperative that funds be earmarked for investments in innovations that will yield increased instructional effectiveness, productivity improvements, and cost savings in the long run, thereby providing access for many more students and higher levels of education and training for all students. The Fund should therefore become a fixed component of community college funding to allow for continuing investments in innovation and renewal. Though the Commission does not believe it should recommend the process by which the community college system might allocate monies from this Investment Fund, we propose throughout the Report specific programs that would be supported by this Fund for the above purposes. Table 1 shows these programs. The strategies and actions below discuss the development of new instructional approaches and comprehensive profes-

Table 1. Proposed Investments for the Innovation Fund

Investment	Action Number(s)	Page(s)
Instructional and Student Services Innovation Grants	I.2.1	32
Faculty Development Programs	I.2.2 and III.2.3.5	33 and 85
Faculty Development Centers	I.2.2.3 and III.2.3.6	33 and 86
Pilots of Assessments System	I.4.3	41
Enhancement of College Data Capabilities	II.2.3 and III.2.4	56 and 87
Grants for Demonstrating More Efficient Management Practices	III.1.2	71
High Performance Reward Program	III.1.4	72
Funding of INTECH	III.2.1.3	77
Grants to Implement Multimedia, ILS systems	III.2.3.2	84
Demonstration Grants for High Tech Centers	III.2.3.3	84
Strengthening of Chancellor's Office Capabilities	III.3.5	93
Planning Grants for Afternoon Instruction, Year-round Operations, Master Course Scheduling	III.4.3.-.5	98–101

sional development programs as well as other means to increase transfer and ensure that all students obtain high education and skill levels. Recommendation III discusses ways in which investments in the modernization of college operations could increase student access and further improve instructional effectiveness.

The last section of this Report *(Savings to Increase Access)* provides estimates of the investments needed to fund the start-up and continuing costs of all the programs shown in Table 1 and other Commission recommendations. In the scenarios formulated to estimate spending and savings levels, the funding for the Investment Fund for Innovation has been gradually phased in as savings from other recommendations on how to modernize operations could begin to take effect. We calculate that if the other recommendations are implemented, then the State could afford—without unduly restricting enrollment—a set-aside beginning at about $10 million and growing over a period of twelve years to about $80 million, in constant 1991 dollars. (This total does not include investment funds for capital costs in technology, which would be funded separately by bonds. See Recommendation III, Strategy 2; for details on the bases for these calculations, see *Technical and Cost Assumptions.*)

Endowment Fund

Action 2. Create a Private-State Endowment Fund to Support Community College Innovations. Private contributions should be solicited to create an Innovation Endowment Fund. Dollars contributed to the Endowment Fund by businesses and foundations would be used only to support college innovations—e.g., to improve instruction or, as discussed later in this Report, to enhance college efficiency and improve productivity. Contributions to the Endowment Fund would become part of the Investment Fund for Innovation. (For purposes of costing its recommendations, the Commission has conservatively assumed that only public funds would be used to support community college innovations.)

STRATEGY 2

Develop new instructional approaches and student services that match the varied learning styles of a diverse student population.

In order to maximize student learning—particularly for a diverse student population—instructional approaches other than lecture-based modes of teaching may be required for at least a large fraction of instruction. On average, instructors spend about 80 percent of their time lecturing to students and one week later students can recall less than one-fifth of the lecture material. Research has found that when instructional strategies and materials are tailored to the learning styles of different students, almost all students can master the material they are being asked to learn. Successful instruction may involve faculty as facilitators to guide students as they discover meanings from experience and materials, rather than relying on more passive form of learning where a student takes in knowledge communicated by teachers. These approaches, often called active learning, are being pursued in business and military training programs as well as in pioneering classes in K-12 education and in community colleges (see the box below for an example).

Some active learning environments use computers, telecommunications, or virtual reality; Recommendation III discusses the use of such technologies. Other active learning environments use peer

Some Faculty Are Pioneering Active Learning Approaches

Toni Forsyth, faculty member at DeAnza College, describes the contrast between traditional lecture instruction and the collaborative-based instruction used in her classrooms: "In the traditional system, the teacher is the source of all knowledge and students are passive, expected only to take in and give back information; the collaborative-based system is student centered and the teacher becomes a facilitator in the students' active quest to discover knowledge."

In order to help other faculty make the transition from traditional lecture instruction to collaborative-based instruction, a group of DeAnza faculty members organized the Collaborative Learning Core Group. This faculty-driven group conducts workshops and conferences to train other faculty in the principles of collaborative-based instruction.

instruction and rely on the instructor to play a facilitation role. While lecture methods are appropriate for the delivery of some kinds of information, they are largely incompatible with active learning models, for they generally do not approach instruction as a collaborative learning process between teacher and student—and among students.

Major adjustments by faculty will be required in order to shift from traditional instructional methods to new approaches that maximize student learning. Only one-third of the colleges reported in 1992 that their faculty included an expert on student learning styles. Historically, improvements in teaching skills—when not left to individual faculty members—have been the province of professional development programs. Though a few of these programs do tackle active learning issues (e.g. Instructional Skills Workshops, Great Teachers Seminars, Learning Styles Training, Student-Centered Instructional Practices), most support incremental improvements to traditional instructional skills. They are rarely designed to provide faculty with the knowledge and skills needed in order to develop and implement new approaches to teaching and learning. Current faculty development programs have long been underfunded and would not provide the level of support needed to sustain such a major shift in instructional approaches.

Major adjustments by faculty will be required in order to shift from traditional instructional methods to new approaches that maximize student learning.

Specifically, about $5 million across the 107 colleges is spent on professional development, from a budget of about $3 billion. These funds subsidize professional development for about 26,000 full-time equivalent faculty. Therefore, the cost per full-time equivalent faculty member averages less than $200 per year. Among other sources of support for innovation is a $1.2 million fund that provides small grants to faculty for exploring ways to improve instruction or curriculum. In addition, colleges can provide up to 15 days for professional development for the faculty, though the exact number of days provided at any particular college depends on local negotiations. These days are generally not used for the type of R&D efforts proposed here. Given the size of the community college system, the need for sustained innovation and professional development, and the importance of the

community colleges' missions, much more must be spent on well-conceived plans for R&D focused on a shift toward new learning approaches.

The Commission recommends that the Investment Fund for Innovation be used to provide incentives for the colleges to introduce new instructional approaches and supportive student services. The Commission further recommends that the Board of Governors and state and local academic senates design and establish a comprehensive system-wide program for professional development for new and current faculty in advanced approaches to teaching and learning. The plan should rely heavily on faculty at each college to develop locally appropriate programs consistent with system-wide goals. The plan should focus on enabling faculty to learn alternative approaches to active learning, including the use of new instructional technologies.

(This Recommendation does not discuss technology specifically, though all the recommendations referring to instructional innovations and professional development assume investments in and training for the use of technology. Recommendation III discusses technology in detail. For the recommendation of the community colleges' Instruction Task Force in the area of new instructional approaches, see *Commission on Innovation Instructional Task Force Final Report*, n.d.)

Actions for Strategy 2

Innovation Grants

Action 1. Institute a Grants Program for Instructional Innovation and Student Services. A major innovation grant program should be instituted, using funds from the Investment Fund for Innovation, that would focus on developing models for active learning and other alternative instructional approaches, and student services designed to support new student learning environments. Unlike existing small-scale programs at the community colleges, the awards should be large enough to permit sustained work on advanced techniques for active learning, curriculum restructuring, and student support that would produce systemic improvements in learning for the diverse student population. The

grants should be awarded on a competitive basis and evaluated by an independent agency. The program also should engage in active dissemination of cost-effective instructional and student service models that meet the goals of increased learning for all students. In the assumptions described in *Technical and Cost Assumptions*, the Commission allocates up to $5 million per year for these grants.

Professional Development

Action 2. Establish In-depth Professional Development Programs. The Board of Governors should work with state and local academic senates to develop the intensive faculty professional development programs needed to support a shift to new instructional approaches.

Action 2.1. Set System-wide Goal. The Board and academic senates should establish the goal that one-third of all faculty should be trained in advanced teaching/learning techniques by the year 2000, and that all full-time and part-time faculty should be proficient in these techniques by 2010. A policy statement setting forth this objective for the system would fix a clear agenda and provide a benchmark against which to evaluate progress. In the assumptions described in *Technical and Cost Assumptions*, the Commission allocates $1 million for this system-wide planning activity.

Action 2.2. Initiate System-wide Professional Development Program. Using funds from the Investment Fund for Innovation, a faculty development program focusing on new teaching/learning techniques should be initiated. Faculty participating in professional development would be compensated or given release time. The Commission has assumed that the implementation of the program would take place over a ten-year period with funding reaching close to $50 million per year until all goals are met.

Action 2.3. Establish Permanent Professional Development Sites. Active learning colleges should be designated as permanent professional development sites

for faculty throughout the system, on the model of teaching hospitals. The sites could be drawn initially from among the colleges that win the initial grants for developing active learning techniques. The Commission assumes in *Technical and Cost Assumptions* that up to $2 million per year might be allocated to the implementation of these sites and to "Technology Demonstration Colleges" that would serve as centers for faculty development in instructional technology (see Recommendation III, Strategy 2, Action 3.6).

Active Learning Skills for Faculty

Action 3. Encourage New Faculty to Have Expertise in Active Learning Approaches. Beginning with the academic year 1996-97, all candidates for faculty positions should be evaluated on their knowledge about and skill in advanced techniques for teaching students with diverse learning styles.

STRATEGY 3

Introduce an articulated system of degrees and certificates that sets clear milestones for academic accomplishments, progress toward transfer to four-year universities, and advancement on professional career ladders.

In California, the transition from school to career is difficult for students at all levels, from high school to four-year institutions. In contrast, European countries have extensive apprenticeship programs in which educators and employers coordinate the training needed for jobs and provide smooth transitions from school to employment. Community colleges provide a major share of the state's vocational training, but their students must often figure out for themselves the connection between their academic work and career possibilities, and often get little help in finding their way to jobs. Some students who want to transfer to four-year colleges also get bogged down in a pipeline of many years, with an often uncertain result.

The Commission recommends that the community colleges work with business and with other providers of education and training to integrate college programs into a highly coordinated and articulated state-wide education and training system that

provides students and workers with progressively higher levels of education and technical expertise. This system should be accessible to students and workers seeking widely different levels of education and training, clear about the different curriculum it teaches at each level, and tied closely to employers to provide a clear path between education and employment. Such a system would enable the community colleges to provide life-long learning more carefully tailored to workplace needs and would smooth the transition from community college to advanced education or work.

A key element of this system should be a refined set of degrees and certificates that attest to the attainment of successively higher education and skill levels.

A key element of this system should be a refined set of degrees and certificates that attest to the attainment of successively higher education and skill levels. Aside from professions with licensure requirements, such certificates are rare. If properly developed by industry and the education segments, they would create, for the first time, a visible and accessible ladder enabling all citizens to break class barriers and climb as high as they want. Vocational students would benefit by enrolling in more liberal arts courses and by taking vocational courses with significantly more academic content (which is consistent with federal mandates to integrate vocational and academic curricula). Academic students would benefit by earning certificates attesting to specific milestones of academic achievement. The system would smooth the transition from college to work by encouraging the mastery of progressively higher skills and enabling workers to provide employers with clear evidence of their specific competencies. Such degrees and certificates would have more currency with employers than today's high school diploma or community college Associate degree. With such a system in place, community college career counseling staff would be able to provide students with a much clearer road map to high skill jobs through advanced education and training.

Such degrees and certificates would have more currency with employers than today's high school diploma or community college Associate degree.

Moreover, this system would deal with the transfer issue in a realistic manner. Many colleges in California have active and effective Transfer Centers, which help students plan for and transfer to four-year universities. These Centers are much needed, but their main success lies in facilitating the transfer of students with reasonably good educational preparation who come to college desiring transfer. In many colleges, a much larger pool of students are less well prepared and/or do not seriously consider themselves able

to obtain a bachelor's degree or perceive financial or other personal obstacles. The colleges face real challenges in reaching these students. Indeed, critics of the community colleges have long contended that they do not transfer a high enough number of their students in proportion to enrollment and that the main casualties of low transfer rates are students of color. Three-fourths of all people of color in California higher education institutions are enrolled at community colleges; yet, proportionately only about half as many African-American students as white students transfer to the University of California (UC) and California State University (CSU) systems, and about two-thirds as many Latino as white students transfer to these institutions.

A more pragmatic path could well be the slower but surer progression on a career ladder of increasingly higher skill jobs as stepping stones to more advanced academic degrees.

One barrier to transfer is the inability of traditional instruction and curriculum to reach students with diverse backgrounds and different learning styles. Strategy 2 addresses this concern through recommendations to implement active learning models and extensive faculty development programs. Another barrier is that most community college students must work while going to school. Many students who begin with a low level of knowledge and skill see their career options as a choice only between vocational training that will assure continued employment or academic studies that might lead to eventual transfer—at the risk of giving up essential income. Community college financial aid programs provide some help, but for too many of these students, the traditional road to transfer usually seems too risky. For them, a more pragmatic path could well be the slower but surer progression on a career ladder of increasingly higher skill jobs as stepping stones to more advanced academic degrees.

In short, the community colleges could help these students to transfer by developing much more flexible and varied paths that allow students to move toward higher skill employment as they pursue a longer-run plan for attending a four-year institution.

Actions for Strategy 3

Action 1. Develop Standards and Certification Procedures. The Board of Governors, with the participation of the colleges, should work with business, the K-12 system, and the four-year colleges and universities to develop a body of academic and skill standards, together with procedures for certifying student attainment of successive education and skill levels linked to a refined set of vertically integrated degrees and certificates.

Standards and Certification Procedures

Action 2. Establish California Standards and Certification Council to Develop Refined Degrees and Certificates, Academic and Skill Standards, and Certification Procedures. The Board of Governors and the state-wide Academic Senate should take the initiative to help create the California Standards and Certification Council—an intersegmental/private sector council that would be responsible for developing a refined set of degrees and certificates. These degrees and certificates would be agreed to by the education segments and linked to voluntary, industry-driven skill standards, with procedures for certifying student accomplishments. The Council's work would be coordinated with broader state-wide efforts to provide clear paths between education and training and employment.

Standards and Certification Council

Degrees and certificates would be agreed to by the education segments and linked to voluntary, industry-driven skill standards, with procedures for certifying student accomplishments.

The Council would be composed of representatives from the K-12 system, four-year colleges and universities, and business and industry, as well as the community colleges. Council staff would include faculty and assessment experts from each education segment and human resource experts from business and industry who have been concerned with setting standards for entry level and advanced employment. In developing a refined set of degrees and certificates, the Council would draw on existing models for school to work transition, such as apprenticeship programs and career academies, and on current state and national efforts by business and industry to specify industry-specific skill standards. The Council's work would be funded through contributions from each segment and from business and industry, using a portion of funds currently devoted to the development of assesments of students and job applicants.

The work of the California Standards and Certification Council would be highly germane to independent community college efforts to develop assessments of student competence; see Strategy 4 for a discussion of this issue.

STRATEGY 4

Pilot a system of assessments for students to demonstrate their competence to obtain community college degrees or certificates and to transfer to four-year colleges or universities.

The Commission recommended (in Strategy 3, Action 2) that the colleges establish a California Standards and Certification Council that would set system-wide standards for students who seek degrees or certificates from the community colleges. Such degrees and certificates will have currency in the labor market and in academic institutions if they are awarded on the basis of a valid and reliable system of assessments. Currently, the Associate degree is awarded on the basis of students receiving acceptable grades in a prescribed sequence of courses. The curricula of courses with identical titles vary greatly between colleges because course curriculum decisions are not guided by system-wide agreements on desired outcomes. Student achievement is measured by letter grades, but differences in the meaning of letter grades from instructor to instructor and course to course make it impossible to know what students have really achieved. Degrees or certificates awarded in this way lose portability if a student moves to another area. They also can be open to questions about the degree holder's skills and knowledge.

We believe appropriate measurements should consist of assessments designed to measure core academic and specialized program knowledge, provide interim feedback to students, and provide information for student placement and guidance.

The Commission therefore believes that the extent to which students meet standards should be measured and that this should be done in a manner that gives confidence to academic institutions and employers about the achievements of the students.

The subject of measurement is clouded by legitimate issues concerning the appropriateness and equity of tests. The Commission is aware of these controversies. We believe appropriate measurements should consist of assessments designed to measure core academic and specialized program knowledge, provide interim feedback to students, and provide information for student placement

and guidance. The assessments should measure "knowing and doing"—that is, they should reveal a student's knowledge or understanding, and they should indicate how well a student can perform a meaningful task.

Such assessments cover a wide spectrum of possibilities. The comprehensive examination—for example, the Bar Examination (for certification to practice law) or the Graduate Record Examination (for graduate school admission)—is a classic model that has the advantage of reliability because of the uniformity of examination conditions, administration, and grading. This model is subject to major disadvantages. It measures only selected aspects of a student's knowledge and abilities, and the aspects measured may not be valid indicators of a student's performance or chances for success in life; moreover, such examinations may have cultural or gender biases built into the questions asked, administration, or grading. At the other end of the spectrum are assessments that include portfolios containing representative samples of student work, records of in-class tests and course achievements, and specific performance tasks such as written work, simulations, hands-on activities, oral examinations, and presentations. These approaches have the great advantage of allowing a student to provide evidence about more dimensions of their knowledge, skills, and capabilities. They also minimize the bias due to test pressure and may reduce the risk of cultural and gender biases. On the negative side, it is harder for these approaches to demonstrate that their measurements are reliable and consistent.

Accountability for community colleges should rest primarily on how well their students perform, rather than on their record of student course completion and on college compliance with processes mandated by the State.

After reviewing the existing state of knowledge about measurements, the Commission recommends that the community colleges develop a system of student performance assessments and that this effort begin on a pilot basis in order to resolve the difficult issues of how measures should be made.

The importance of the colleges moving rapidly in this direction cannot be overstated. Accountability for community colleges should rest primarily on how well their students perform, rather than on their record of student course completion and on college compliance with processes mandated by the State (this issue is discussed at greater length in Recommendation III, Strategy 3, Action 6).

Accountability based on student performance, for example, could greatly strengthen the transfer function by providing hard evidence of the student's ability to perform advanced college-level work, and putting to rest four-year segment concerns that community college courses do not always assure adequate student preparation. At present, neither UC nor CSU—indeed, very few institutions of higher education—provide accountability to the public through assessments that measure student performance against explicit standards. The community colleges should take the lead in stating clearly what they expect their students to learn.

A valid and reliable system of assessments would also serve two other essential purposes. First, students need feedback on their performance so they can adjust their work loads or study habits. A system of assessments should be able to tell students whether they are mastering the material they will need to know in order to earn a degree or certificate. Second, the colleges' matriculation programs currently assess entering students for placement and counseling purposes, but employ over 100 different assessment instruments throughout the system. These instruments are of uneven quality and do not assess students on the basis of common standards. An improved system of assessments should be used for placement purposes to assist students by providing information to direct them to the appropriate educational pathway. This system of assessments would not limit a student's access to further education; it would ensure that all students have an opportunity to learn in a program designed to meet their needs.

Actions for Strategy 4

Assessment Panel

Action 1. Establish Assessment Panel. Community college members of the California Standards and Certification Council (see Strategy 3, Action 2), working with the state-wide Academic Senate, would serve as the core of an Assessment Panel responsible for establishing standards for end-of-program and other outcomes. The Assessment Panel would bring together subject-matter experts from the colleges to set standards and could validate the standards through a review and comment process with college faculty from across the state. The Panel would work in conjunction

with the full California Standards and Certification Council to ensure that standards are linked to the refined set of degrees and certificates being developed by that body.

Action 2. Develop Assessments. In order to ensure an equitable and sound assessment system, the Assessment Panel should follow a set of procedures similar to those currently employed by the Chancellor's Matriculation Advisory Committee. The Panel would review state and national assessment research, the community college's current standards and assessment policies developed in conjunction with outside experts, and similar work under way in other states. The Assessment Panel would supervise the development of broad comprehensive assessments for awarding certificates or degrees, interim program assessments for providing feedback to students, and diagnostic assessments pegged to common standards, to provide information for student placement. The Panel would ensure that the new assessment instruments incorporate improved assessment techniques including portfolios, performances, and other techniques discussed previously. In addition, the Panel would make sure that any assessment system is based on multiple indications of performance. The development period prior to pilot testing might be less than three years.

Assessment Development

Action 3. Pilot Assessments. The Panel should solicit colleges to volunteer as pilot sites for trying the three types of assessments—comprehensive assessments for awarding certificates or degrees, interim program assessments for providing feedback to students, and diagnostic assessments to provide information for student placement. The pilot programs should allow the Panel to determine the reliability and validity of the measurements as well as to investigate any cultural or gender biases. At the end of the pilot period (which might be two years), the Panel should report on its findings and recommendations.

Piloting of Assessments

Action 4. Implement a System of Assessments. The Commission is confident that the community colleges will find appropriate, reliable, and valid measurements to determine how well students meet system-wide standards. Consequently, this action step recommends eventual implementation of a system of assessments. The Commission costing assumptions provide for about $8 million

Implementation of Assessments

per year to cover initial implementation, beginning in the fourth or fifth year after the process has started. This cost, which would come from the Investment Fund for Innovation, is a small price to pay for the benefits to the colleges of having such a system in place.

STRATEGY 5

Undertake a major review of the State's Adult Basic Education and ESL programs.

Remedial and Adult Basic Education, including English as a Second Language (ESL), are described in statute as "essential and important functions" of the community colleges. In keeping with this charter, the colleges have developed a wide array of offerings to meet the needs of students who are not prepared for college-level work, from courses in elementary school-level English and mathematics to courses just below the level of collegiate studies. But the needs of this population are much greater than the colleges currently have the resources to serve.

The box below suggests the tip of an iceberg whose dimensions can only be surmised. Community colleges enroll students in both credit and non-credit courses. Among credit courses, the

How Large Is the Need for Remedial and Adult Basic Skills Education?

A Chancellor's Office study found that, in the 1989-90 school year, 52 percent of all community college students were assessed at the pre-collegiate level for reading, writing and computational skills. Almost two-thirds of all community college students were assessed at the pre-collegiate level for two of the three areas. Anecdotal evidence suggests that these percentages are not out of line with similar needs in states like Texas and Florida that have large, two-year open-door systems. The study estimates that only about 37 percent of the need for remediation was being met by the colleges. Further, the funds allocated for delivery of basic skills paid for less than half the basic skills instruction actually delivered. The California Workforce Literacy Task Force estimated that about 580,000 Adult Basic Education students were being served in 1990 at a state-wide cost of over $850 million. The community colleges were estimated to be serving about 85,000 FTES. This Task Force also estimated that seven million of California' s youth and adults age 15 and older have skills below the ninth grade level.

Chancellor's Office reports that pre-collegiate courses involve about 54,000 full-time equivalent students (FTES), which is about six percent of the total credit FTES. As the box on the previous page indicates, these numbers undoubtedly understate the actual need. Some credit students have easily remediable deficiencies in one or more areas; only a few courses are needed to bring them up to collegiate level, and their course work could be called transitional courses. Other students fall well below this transitional level and require an intensive program that may require years to complete. At the extreme, these students are not at a high school level in reading, writing, or mathematics. They are often said to be in need of Adult Basic Education (ABE), and most who are enrolled in community colleges are taking non-credit courses. Including ESL students, the Chancellor's Office estimates that these courses account for 23,000 FTES, which is 30 percent of the non-credit total.

Over a thousand literacy programs are operating in the state, but these programs are uncoordinated and reach only a fraction of the population in need.

One key problem reflected by these numbers is that the resources available fall short of the need. The colleges are compensated at the rate of about $3200 for each credit FTES, but only at about $1500 for each non-credit FTES. Those colleges that use full-time faculty to teach non-credit Adult Basic Education courses are subsidizing the classes—which ultimately means that either fewer or more crowded collegiate-level classes are taught. Therefore, offering more ABE or ESL courses may result in cutbacks on offerings to prospective transfer and vocational-technical students. Inevitably, the colleges' primary missions suffer—transfer and vocational-technical resources are strained and many remedial and adult basic education students are not adequately served.

From a state perspective, the need for Adult Basic Education goes far beyond the thousands of students in the community colleges. Adult education provided by high schools, community organizations, libraries, and prisons accounts for about 85 percent of these students. Over a thousand literacy programs are operating in the state, but these programs are uncoordinated and reach only a fraction of the population in need.

Quantity is not the only concern in Adult Basic Education. Though a handful of programs work exceptionally well, expe ts generally give low grades to most Adult Basic Education programs

and point to the extremely low proportion of such students achieving a high school, let alone a college, level of literacy. Indeed, the research consensus suggests that new ground must be broken in how Adult Basic Education is taught, with many analysts calling for the development of active learning models (such as those discussed under Strategy 2 of this Recommendation) where instruction is provided in the context of work sites. At the community colleges, very few part-time or full-time instructors are trained to teach basic skills to adults, so many of these courses are not as effective as they might be—and community colleges have some of the better ABE programs.

Unless they can obtain the basic skills they seek, these students will not be able to acquire the broader education and higher levels of skill they will need to participate fully in the political, social, and economic life of their communities.

In sum, the needs of Adult Basic Education students are not now adequately met—and there is no reason to expect significant improvement under current service delivery arrangements. Unless they can obtain the basic skills they seek, these students will not be able to acquire the broader education and higher levels of skill they will need to participate fully in the political, social, and economic life of their communities. They risk being part of a permanent underclass, frustrated in their desires to get ahead and a continuing source of weakness in California's efforts to build a highly skilled workforce and further a harmonious pluralistic society—and much human potential will fail to be realized.

A new, highly focused state-wide effort is needed to bring basic skills education to the enormous number of adults who need it, at greatly improved levels of effectiveness.

A new, highly focused state-wide effort is needed to bring basic skills education to the enormous number of adults who need it, at greatly improved levels of effectiveness. The Commission is convinced that only such an effort will succeed in bringing these students into the mainstream of California's economic and social structure. And only such an effort will make it possible for them to succeed at college-level work and acquire the advanced skills they will need for high-wage employment in the years ahead.

The Commission recommends that the Legislature develop a new state-wide strategy to better meet the needs of California's Adult Basic Education students. Since ABE services are provided by the K-12 system and other agencies in addition to community colleges, the Commission believes that specific policy recommendations in this area are beyond its charter and must await broader study on a state-wide basis. Nevertheless, we are convinced that

the inadequacy of services to this population is a profound problem for the economic and social well-being of California. We therefore recommend that new strategies go beyond mere coordination of current service delivery, to develop a much broader and bolder attack on this problem.

Actions for Strategy 5

Appointment of Commission

Action 1. Appoint Special Study Commission. The Legislature should appoint a special Adult Basic Education Study Commission to review the services currently provided throughout the state to Adult Basic Education students and develop alternative policies for state-wide efforts to serve this populatic . The Commission should be composed of distinguished citizens from outside the segments and agencies now providing ABE (including adult ESL) services.

Establishment of Charter

Action 2. Establish Commission Charter. The Commission should be charged with addressing a number of fundamental questions pertaining to the delivery of ABE services, including: Should funding for full-time equivalent ABE students be raised to the level currently provided for FTE credit students at the community colleges? Should all ABE in California come under the management of a single contracting agency? How effective are current approaches to instruction for ABE students and should new approaches be developed? How should ABE be linked to employers and employment services? How should ABE be articulated with community college courses?

II.

EXPAND ECONOMIC DEVELOPMENT ROLE

As decentralized institutions located in communities across the state, the community colleges should play a more active, even entrepreneurial, role in the economic development of local businesses and communities. The state should capitalize on its investment in the community colleges and use them more fully as a catalyst and lever for California's economic restructuring. This Recommendation details an action agenda for quickly and effectively expanding the community colleges' functions and activities in working with industry, other educational institutions, and state agencies to further the state's transition to a more competitive economy. Overall strategies are discussed first, followed by action steps.

EXPAND ECONOMIC DEVELOPMENT ROLE

The Goal: *Expand the community colleges' role in state and local economic development to make them central to the state's economic renewal.*

The key to California's economic restructuring is human capital: The state must develop its human resources in order to be competitive in a global, information-based economy. The community colleges must and will play a fundamental role in this economic revitalization. Simply put, we need a literate society in order to prosper, and community college students provide a major cornerstone of our educational foundation. To enable the colleges to respond to these demanding challenges, the Commission's preceding recommendations call for an era of systemic innovations that capitalize on diversity and realize higher standards for all students. We firmly believe that these innovations will increase student transfer and allow the colleges to educate more students to higher academic standards and higher skill levels. There can be no wiser investment in our economic, social, and political future.

Though strengthening the colleges' capacity to provide broad-based academic and technical education is the first priority, the colleges have an opportunity to make another contribution to the state's economic development.

The colleges are positioned to assist California business. Though strengthening the colleges' capacity to provide broad-based academic and technical education is the first priority, the colleges have an opportunity to make another contribution to the state's economic development. The 107 campuses spread around the state now provide a wide range of assistance to local businesses, often through contracts for the provision of education and training, fully paid for by the client. Some campuses have developed extraordinary networks of public-private partnerships that benefit both sides without requiring state resources; some districts collaborate with public agencies and the other educational segments to provide an educational bridge to new employment for displaced workers; some colleges are working with cutting-edge industries to foster new R&D departures. At the state level, the Economic Development Network (ED>Net)—an independent system-level agency based in Fresno—brokers community college training and other services to businesses across California (see box on page 54). The list of important contributions to the economic development of communities all around the state is long, but these activities do not fully tap into the enormous educational and intellectual resources contained at the colleges.

The colleges could move toward creating a much more profound interlinking of education and community interests.

Colleges can become more entrepreneurial. The Commission believes that the activities of several California community colleges—and a number in other states—provide sufficient evidence that the colleges can play an entrepreneurial role in assisting their communities' economic development without compromising the academic rigor of their primary missions of transfer and vocational-technical education. It is time to scale up these economic development activities. Within just a few years, each community college in the state could significantly expand its contributions to the economic development and continued economic health of its community. The 107 community colleges could become a much more vital force for training the existing workforce, new workers, and workers in transition for the jobs of the future, and for providing essential technical assistance to business and industry. In order to serve the community's education and training needs, colleges could work singly or in consortia, or enter into collaborative arrangements with other training providers such as Jobs Training Partnership Act (JTPA), Employment Training Panel (ETP), Regional Occupational Programs, and local employers. With these activities, the colleges could move toward creating a much more profound interlinking of education and community interests.

The idea of college support for economic development is not new, but there is concern among college professionals that it could detract from the colleges' primary instructional mission and siphon off resources from other college programs. From the cases studied by the Commission, this concern has not been supported by the facts. Quite the contrary, colleges with vigorous contract education programs often bring new financial and intellectual resources to the college and help instructors become more knowledgeable about their subject areas. Though these colleges show no indication of lower academic quality, it is important that academic standards be maintained as more colleges embrace the challenge of economic development.

State economic growth also helps the colleges. The community colleges today suffer from tight budgets that are a consequence of California's troubled economy. A major economic development effort is needed to turn that economy around; only if that effort succeeds can the colleges look forward to substantial

budget relief. Thus, together with other public institutions, the community colleges have much at stake in the state's struggle for economic recovery. The colleges have the experience, intellectual resources, knowledge, and traditions needed to support that recovery, and thereby contribute directly to the long-run solution to their own resource problem. In a very real sense, the colleges can in this way help to shape their own future.

The Commission recommends the following strategies for expanding the colleges' role in economic development. The strategies are discussed in detail below and action steps are presented for each strategy:

1. **Define the colleges' mission to include state and local economic development focused on providing training and technical assistance to business and industry.**

2. **Develop a State investment strategy for expanding the colleges' services to business.**

3. **Eliminate barriers to the colleges delivering training to business.**

4. **Support community colleges to collaborate with other agencies to develop Workforce Transition Centers which provide one-stop education, training, and employment services.**

Discussion of Strategies and Action Steps

STRATEGY 1

Define the colleges' mission to include state and local economic development focused on providing training and technical assistance to business and industry.

The primary mission of the community colleges is to provide lower division studies in arts and sciences to prepare students for Associate degrees and/or transfer to four-year institutions, and vocational-technical education to prepare students for work. The

focus in both functions is on education as the means to self-improvement and individual opportunity, with an educated and skilled population seen as a means for strengthening society and the economy.

Economic development should be seen, not as an extracurricular service divorced from the main purposes of the college, but as an essential element of those purposes.

The enormous resources of California's community college system can also contribute more directly to strengthening the state's economy. The colleges can be the key link between short-term job training and long-term education for higher skills. They can provide both the educated and trained graduates needed for private and public employment, and specialized training and lifelong learning opportunities for the existing workforce. And, they can employ their talents and specialized knowledge to provide technical assistance in support of economic development both to business and to public agencies. The State should now further legitimize and encourage these activities.

Action for Strategy 1

Economic Development Mission

Action 1. Amend Statutory Language to Broaden the Colleges' Mission. The Legislature should amend the California Education Code to include economic development as a component of the community colleges' primary mission. This change would supplement—not replace or minimize—the existing primary mission of lower division arts and sciences studies and vocational-technical education.

The community colleges—pre-eminently among higher education institutions—are dedicated to serving community needs. Those needs now often revolve around economic development, which translates into stable, high-wage employment. The quality of life in our communities—the health of their social and political structures—depends on their economic prosperity. Economic development should be seen, not as an extracurricular service divorced from the main purposes of the college, but as an essential element of those purposes.

This broadening of the colleges' primary mission would send a powerful signal to California businesses that the colleges will play

a central role in the state's economic revitalization; to college entrepreneurs that the state will support their activities; and to state agencies that the community colleges will be key players in concerted efforts to restructure the state's economy.

The following strategies discuss how the colleges could play a more central role in state economic development under a broadened mission.

Develop a State investment strategy for expanding the colleges' services to business.

STRATEGY 2

Many colleges have had a great deal of success in developing courses and providing assistance under contract to local businesses, but most of these services remain modest in scope. The colleges have the talent and experience needed to provide a range of training and technical services to business. Both services help to ensure a skilled workforce and keep business competitive and are essential to economic growth. Currently, however, the colleges are hampered in these efforts by a lack of incentives and limited resources; some colleges also need technical assistance to get these programs started.

The Commission recommends that the Board of Governors provide the colleges with the support and incentives they need to expand contract education and technical assistance to business. By making greater use of the colleges to support economic development, the State will increase the payoff on its ongoing investment in the community college system.

Actions for Strategy 2

Action 1. Expand Ed>Net's Role in Leading College Economic Development Efforts. ED>Net's role should be expanded to strengthen its system-wide leadership function in encouraging and coordinating college economic development activities. Ed>Net should seek funding for these activities, be responsible for system-level, long-range economic development planning, provide technical assistance to colleges in support of

ED>Net

economic development, and support greater collaboration and cooperation for this purpose across college and district boundaries. To enhance the coordination of economic development with other system-wide activities, ED>Net should become more fully integrated into the functions of the Chancellor's Office. (Recommendation III, Strategy 3, Action 5, calls for strengthening Chancellor's Office R&D and technical assistance capabilities.)

Ed>Net operations are currently supported from state economic development funds, other state training funds, and private industry. With a combined central and field staff of ten professionals and six support staff, the Network brokered state-wide training contracts worth some $11 million in 1991-92 and supported local contract education in excess of $50 million. This represents only a tiny fraction of the need for coordinated training by the community colleges in California's $800 billion economy. Ed>Net passes on to the colleges hundreds of leads to potential training contracts and responds to some 1,800 calls per month—mostly from employers seeking assistance—but does not have the resources to provide direct advice and technical assistance to all colleges wishing to begin or expand economic development activities in their communities. Support to expand Ed>Net's role should come from state economic development and training funds, from

ED>Net

California's Community College Economic Development Network (ED>Net) was designed to enhance California's economic growth and global competitiveness by coordinating and brokering the wide range of expertise available for training California's workforce that exists within the 107 community colleges. For example, ED>Net's eight college-based Centers for Applied Competitive Technologies have developed teams to facilitate the transfer of technology to small and medium-sized businesses. ED>Net's Centers for International Trade Development, located at eight colleges across the state, assist businesses in developing or expanding their opportunities abroad. The Centers provide courses and direct technical assistance, for example, to businesses preparing to implement quality standards adopted by the International Standards Organization. The Centers have provided technical assistance to more than 1,000 companies and offered classes and workshops to more than 3,000 individual workers.

private industry, and from finder's fees earned by ED>Net-brokered contracts between colleges and businesses.

The next two actions discuss specific steps that ED>Net could take to strengthen the colleges' economic development capabilities.

Action 2. Fund District-based Economic Development Centers. ED>Net should lead the way toward the creation of Economic Development Centers at community college districts. The Centers would be responsible for the full range of development activities for their districts; would join with other Centers in local or regional consortia; and, in multi-campus districts, could establish satellite Centers at the college level. The Centers should be phased in throughout the system over a five-year period; seed money for Center start-up should come from ED>Net finder's fees and from profits earned by colleges from training and technical assistance contracts.

Economic Development Centers

A number of districts and colleges already have solid, well-organized programs for providing customized training services and technical assistance to business. The Economic Development Centers would emulate and expand on these programs. They would initiate innovative entrepreneurial activities to expand college training and technical assistance for business; market and sign contracts for these services; recruit contract education faculty;

Washington's Community Colleges Combat Unemployment

Washington's community colleges are establishing themselves as the center for workforce training and economic development. Washington's new Workforce Training bill (HB 1988) allocates a portion of the money that employers contribute to the State unemployment compensation fund to support community college training and employment services for dislocated workers. The majority of the funding will be distributed based on the number of unemployed within college district boundaries; additional money will be distributed on an RFP basis. The fund has a $35 million budget for the first two years; the total Washington community college biannual budget is $677 million.

oversee the enhancement of relevant college data capabilities; coordinate college services with those of other agencies and educational institutions; and raise federal, corporate, and foundation funds to support college economic development activities. Each Center would have permanent staff and would be supported from these funding sources and from contracts with business and public agencies. (Other states have developed special funding mechanisms to support community college training services for the workforce, see box on previous page; consideration of state policy instruments in the area was beyond the Commission's charter.)

In order to help expand existing college economic development programs and develop new Economic Development Centers, Ed>Net should establish an Economic Development Center Advisory Council with substantial representation from experienced districts and colleges. The Advisory Council should assist other colleges to develop their own Centers and provide advice to Ed>Net staff on how to ensure the successful development and implementation of Centers at districts and colleges throughout the system.

District-based Economic Development Centers will not be able to function at full effectiveness without the ability to link college data to data on employment opportunities. The next action discusses the steps that will be needed to make this possible.

Enhanced Data Capabilities

Action 3. Enhance College Data Capabilities. Districts and the Chancellor's Office should develop the technical infrastructure for linking college data systems to labor market and employment data at the state, regional, and local levels.

An integrated state-wide system, including improved data collection and management capabilities, could provide relevant student data—within the limits of appropriate privacy safeguards—to employers and to other education and training providers. The data system should also be able to provide students with up-to-date information on labor market conditions and

employment opportunities in any locality within the state. Improvements to system-wide data networking capabilities are discussed in more detail in Recommendation III.

The Board of Governors should fund the development of enhanced data capabilities at five community college pilot sites. Funds for the pilot programs should come from the Investment Fund for Innovation. The funds should be awarded on a competitive basis to colleges that combine technical capability with an appropriate plan for securing the cooperation of state, regional, and local agencies, and key private employers. In its costing assumptions, the Commission has allocated more than $100 million through 2005 to enhance college data capabilities and develop a comprehensive community colleges information network (see Recommendation III, Strategy 2, Action 4).

Action 4. Expand Specialized Centers for Technical Assistance. Ed>Net should take the lead in seeking industry, federal, and foundation funding to expand existing specialized centers that have been developed by the colleges to provide technical assistance to businesses and public agencies, and in developing new specialized centers for this purpose.

Technical Assistance Centers

Ed>Net has helped to develop a number of Applied Competitive Technology Centers, Centers for International Trade Development, Small Business Development Centers, and Regional Health Occupational Resource Centers. These Centers could be expanded to handle more clients; additional Centers based on these proven models could be started; and new Centers could be designed to meet other economic development needs.

Eliminate barriers to colleges delivering training to business.

STRATEGY 3

As discussed previously, many community colleges contract with local businesses or public agencies to provide courses to employees; the courses are often located at the work site. Some

courses are identical to those offered to the general public; most are developed to suit the particular needs of the client. All courses are fully paid for by the clients, who compensate the colleges for the cost of faculty time and other expenses. However, the colleges find it difficult to expand these client-supported activities because they must conform to state policies on student fees and faculty employment that were developed to apply to State-supported educational programs.

By modifying these policies, the State would enable the community colleges to make a stronger contribution to state-wide economic development.

The Commission recommends that the Legislature enable colleges to treat courses provided under contract to businesses or other agencies on a different basis from those courses for which the colleges receive State support. Laws and regulations that currently constitute barriers to the expansion of these programs should be modified or eliminated.

Actions for Strategy 3

Modified Personnel Regulations

Action 1. Modify Personnel Statutes and Regulations to Permit Greater Local Flexibility in Staffing Contract Education Courses. The Legislature and the Board of Governors should revise personnel statutes and regulations that do not distinguish between State-supported and contract-supported education and therefore make it difficult for colleges to staff contract education courses.

Community college faculty rely heavily on the tenure system to ensure instructional quality. Full-time faculty in tenure-track positions are evaluated by their peers before tenure is awarded; tenured faculty are expected by their colleagues to adhere to professional norms of teaching excellence. Current statutes and regulations seek to move the community colleges in the direction of using tenured faculty. For example, current statutes stipulate that any temporary community college instructor who teaches

more than a 60 percent load for 75 percent of an academic year must be offered a tenure-track position, and the California Administrative Code requires that 75 percent of all hours of credit instruction be taught by tenured or tenure-track instructors.

These statutes and regulations should be modified as they apply to contract education courses that are not taught for credit. Colleges should be able to offer these courses without an obligation to offer tenure-track employment to contract education temporary faculty, regardless of their teaching load. Where temporary faculty teach both State-supported and contract education courses, courses taught under contract would not be counted towards the 60 percent load/75 percent time rule. And faculty time spent teaching contract education courses would not be included when assessing whether colleges meet the 75 percent requirement.

Decoupling the personnel rules that apply to State-supported college programs from those that apply to contract education would free colleges to use contract education faculty more efficiently and enable colleges to provide a wider selection of course offerings to local businesses.

Many contract education faculty are drawn directly from business and industry and have no other ties to the colleges. Decoupling the personnel rules that apply to State-supported college programs from those that apply to contract education would free colleges to use contract education faculty more efficiently and enable colleges to provide a wider selection of course offerings to local businesses (see the box below for an example of flexible personnel policies in another state).

Freedom from State Regulations Allows Illinois Colleges to Respond Quickly to Area Training Needs

Personnel policies are locally determined in Illinois, allowing colleges maximum hiring flexibility to quickly put together training programs to meet local needs. At the College of DuPage, for example, freedom from state mandated requirements allows the college to respond quickly to local business needs. According to the Director of the DuPage's Business and Professional Institute (BPI), "courses can turn around on a weekend here." In 1992-93, BPI served 21,183 people in credit and non-credit courses and in open training forums.

Modified Fee Structure

Action 2. Eliminate Student Fees for Contract Education. The Legislature should eliminate all fees for students in courses offered under contract and fully funded by the client.

Student fees at the community colleges have been rising and now include a fee of $50 per unit for students who already have bachelor's degrees. These fees currently apply to both State-supported and contract education students. The prospect of paying State-mandated student fees in addition to other course fees—or uncertainty about whether student fees will be required—is a deterrent to businesses seeking employee training from the colleges. A State policy that normal student fees do not apply to client-supported contract education courses would help the colleges to expand these services.

The strategies and actions discussed above would greatly strengthen the colleges' abilities to play a direct role in state and local economic development. In this effort, the colleges should collaborate with other agencies in providing essential information and training services. The next strategy addresses this issue.

STRATEGY 4

Support community colleges to collaborate with other agencies to develop workforce transition centers which provide one-stop education, training, and employment services.

Education, training, and job placement services are currently provided in every locality by a wide array of schools, colleges, and public and private agencies. Disparate programs frequently offer redundant and overlapping services while other needed services are not provided at all. From the perspective of the student or worker seeking skills assessment, employment training, counseling, or information about job opportunities, this system is confusing and riddled with gaps. Workforce Transition Centers would make a substantial difference in resolving the ongoing problem of overlapping and uncoordinated local programs. In addition to providing referrals to long-term education and job training, or to

employment programs, they could work directly with businesses to provide special training and placement services for employees facing layoffs; provide on-site training from community colleges and other providers; and conduct their own assessment, counseling, and short-term training programs (see the box below for an example).

The Commission recommends that the Board of Governors work with business, the K-12 schools, the Economic Development Department (EDD), the Employment Training Panel, and other training providers to establish one-stop Workforce Transition Centers. The Centers should be organized to provide all students, workers, and job-seekers with direct access to the range of assessment, training, counseling, job information, and other services needed to assure their successful transition to employment or their career advancement. The Centers would work closely with district-based Economic Development Centers (discussed previously), to ensure access to the full range of employment training services available from the colleges.

Actions for Strategy 4

Action 1. Establish the Centers at Central Community Locations. Workforce Transition Centers should be established at community locations that are visible and accessible to all who would benefit from their services.

Central Locations

Simplifying Job Placement

Current job-seekers and businesses seeking placement services must often find their way through a wide array of local job training and employment programs, labor exchange and placement services, and social service programs and agencies. The San Diego Career Planning and Assessment Center was created to cut through this morass. The Center, located in the San Diego Community College District and run as a joint venture between the District, state, and local agencies, provides one-stop career planning and counseling, career information, classes in jobs search skills, and custom assessment and outplacement workshops for private industry.

Diverse Staffing

Action 2. Provide Diverse Staffing. The Centers should be staffed with representatives from the community colleges, the K-12 schools, and other training providers.

Pooled Resources

Action 3. Fund the Centers from Pooled Resources. The community colleges should contribute to Center funding and work to ensure that funding is shared through contributions from all cooperating agencies, using federal and state funds earmarked for training.

Information Networks

Action 4. Link the Centers to Information. The Centers should be tied into information networks that provide data on training and employment opportunities, including services provided by EDD.

Community Colleges Help Laid Off Workers Find New Jobs

With workers across the state being laid off, some community colleges, working with employers, have developed outplacement services for workers seeking new careers. For example, City College of San Francisco, in conjunction with The Alliance for Employee Growth and Development—a consortium created by AT&T and its unions—developed a 12-hour job-placement curriculum, including a series of assessment tests to help identify employee skills, aptitudes, and interests. Staff at the college work individually with employees to help them prepare a career plan. According to staff at AT&T, community colleges have been used extensively because "The community college is economical, it's close, and they are willing to come on-site."

III.

MODERNIZE OPERATIONS

As public institutions in a time of scarcity, the community colleges should develop ways of operating more efficiently in order to provide access to additional students and meet the enormous need for solid education and high skills training. The Commission believes the management of the colleges can be modernized by adapting organizational techniques pioneered in high performance businesses, that technology can greatly increase productivity, that the governance of the system can be considerably strengthened to enhance the colleges' vitality and capacity, and that facilities can be utilized more efficiently. In these ways, the colleges should be able to serve more students, even while they are adjusting to the demands of diversity and rising educational standards. This Recommendation proposes an action agenda for modernizing operations, beginning with a discussion of four broad strategies followed by action step details.

MODERNIZE OPERATIONS

The Goal: *Modernize management, governance, facilities utilization, and technology use to promote cost-effectiveness and increase the community colleges' capacity to serve more students.*

Enrollment demand at the community colleges is expected to rise by one-third by the year 2005. The Commission, following the Board of Governors' charge, has accepted the task of proposing ways to accommodate this demand, largely within current spending levels. Figures 3 and 4 show the rise in expenditures that would be needed to accommodate expected enrollment demand, assuming current spending patterns. Clearly, either costs must be cut or the colleges will be forced to turn away many students who want to enroll. But cutting costs should not be done at the expense of educational quality. On the contrary, we believe the colleges should strive to educate all students at much higher levels. In order to achieve these goals, the colleges will have to become much more productive and efficient, as well as more effective. The colleges can realize significant increases in productivity, efficiency, and effectiveness only if they undertake a sensible but urgent program of modernization, building on initial steps taken by the reforms of AB1725.

Cutting costs should not be done at the expense of educational quality. We believe the colleges should strive to educate all students at much higher levels.

Figure 3
Community College Demand Will Grow at a Rapid Rate

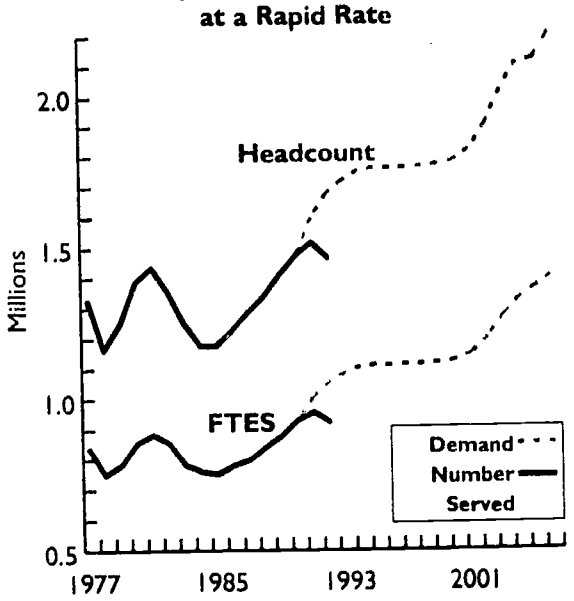
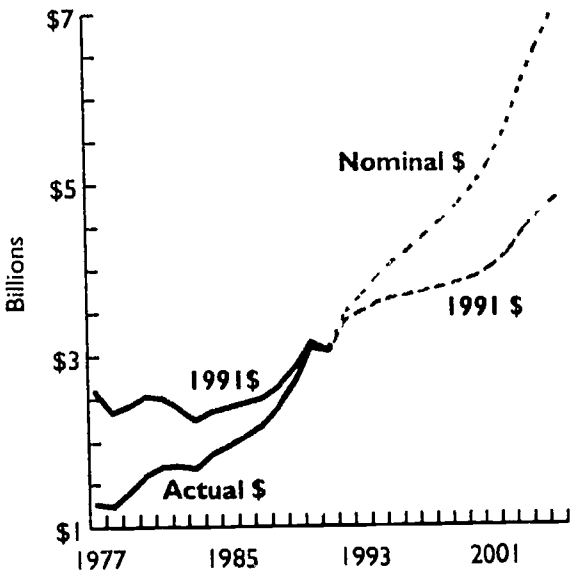


Figure 4
Current Expenditures Could Rise by One-Third



Computer and information-based technologies hold great promise for improving learning, increasing productivity and efficiency, and reducing facility needs.

More efficient management is both possible and necessary. Many public and private organizations across the country have increased their cost-effectiveness by adopting new management principles that give more responsibility to employees at all levels. These principles have demonstrated that data-based and decentralized decision making, teamwork, and continuous training for managers and employees can lead to substantial increases in productivity and significant cost reductions. Community colleges and other institutions of higher education are among those organizations that have profited from these new approaches. Their experience suggests that California's community colleges could realize substantial efficiencies by adopting these ideas and shaping them to suit their own unique needs.

Technology can improve productivity and effectiveness. Computer and information-based technologies hold great promise for improving learning, increasing productivity and efficiency, and reducing facility needs. Some colleges have outstanding programs that use technology as powerful teaching tools. On the whole, however, the community colleges must make more extensive use of available instructional technologies, and there is ample evidence of their effectiveness. The computer's growing capacity to store and manipulate vast quantities of information has made possible the development of new learning systems with in-depth programs that adjust to student needs, provide information in text, graphic, and audio form, keep detailed track of student progress, and provide instruction in multiple languages. An absence of a system-wide institutional focus, a lack of capital investment funds, regulatory barriers, and faculty inexperience with technology have prevented the colleges from keeping pace with the technological transformation occurring in other sectors.

The colleges will need a unified governance system that gives local authorities the freedom to institute significant improvements in productivity, efficiency, and effectiveness.

A unified governance system will enhance cost-effective-

In order to modernize management, introduce technology on a wide scale, and introduce other changes recommended by the Commission, the colleges will need a unified governance system that gives local authorities the freedom to institute significant improvements in productivity, efficiency, and effectiveness. Such a system would give state-level administrators the authority to

provide system-wide direction and support, and hold colleges accountable for results. At present, neither local nor state-level governing agencies have the authority and autonomy they need in order to meet the tripartite demands of enrollment growth, quality improvement, and operational economy. The Commission believes that a restructured governance system will enable the colleges to make the major adjustments this Report recommends in instruction, management, technology, and community service.

More cost-effective management and governance would also enable the community colleges to pursue more efficient facility policies. The Chancellor's Office has projected a need for almost $4 billion worth of new facilities over the next 12 years—three-fourths of them as additions to existing campuses and the remainder in new locations to accommodate new centers of population growth. However, since there is little likelihood that the colleges will be able to secure $4 billion in bonds for new capital construction, facilities will have to be planned, used, and built much more efficiently if the colleges hope to accommodate expected enrollment growth. Significant efficiencies could be realized if the colleges instituted new course scheduling and other innovative facility utilization practices and were freed from over-regulation by the State that complicates planning and increases costs.

Facilities will have to be planned, used, and built much more efficiently if the colleges hope to accommodate expected enrollment growth.

In light of these issues, the Commission recommends the following strategies for modernizing college operations. The strategies are discussed in detail below and action steps are presented for each strategy:

1. **Adopt collaborative planning and management processes at each college to assure continuous improvements in quality and efficiency.**

2. **Develop a pervasive technological infrastructure at and between colleges to equip them to increase productivity, enhance management efficiency, and become premier institutions for the application of technology to learning.**

3. **Restructure community college governance to enhance local autonomy, strengthen system-level capacity to provide overall direction, and reinforce accountability.**

4. **Implement more cost-effective facility policies that reduce the need for new facilities, support innovations, and streamline the construction approval process.**

Discussion of Strategies and Action Steps

STRATEGY 1

Adopt collaborative planning and management processes at each college to assure continuous improvements in quality and efficiency.

With important exceptions, community colleges largely follow the traditional management model of business organizations and public agencies, in which a detailed division of labor narrows the authority of individual managers and employees. Efficiency is usually measured in terms of how well each organizational unit performs its assigned tasks, opportunities for teamwork are limited, and potentially powerful management information tools are often underutilized.

Community colleges that have successfully adopted and implemented such modern management principles report both cost savings and substantial improvements in employee morale.

By way of contrast, America's cutting-edge companies now follow a different management philosophy that emphasizes teamwork and shared decision making, particularly at the lowest organizational level. Their policies are client/customer-driven, and their organizational cultures emphasize employee empowerment, responsibility, teamwork, and on-going training. These management principles, pioneered by W.E. Deming and successfully implemented in post-World War II Japan before being re-imported to the United States, are often collectively referred to as Total Quality Management (TQM), Continuous Quality Improvement (CQI), or organizational "re-engineering." Community colleges that have successfully adopted and implemented such modern management principles report both cost savings and substantial improvements in employee morale, as the box on the following page illustrates. Moreover, cost savings combined with more effi-

cient service to the public have led to increased community satisfaction with their local colleges and increased community support for college programs. (For a further discussion of the principles of Continuous Quality Improvement as they apply to community colleges, see Commission on Innovation, Policy Discussion Paper #1, *Discussion of Policies for Achieving Continuous Improvement in Community Colleges*, June 1992.)

With the passage of AB1725, California's community colleges have already taken a major step toward broad participation in decision-making through shared governance procedures, which ensure faculty, staff, and student participation in college governance decisions. The Commission believes the colleges should modify and extend these procedures to adapt the principles of the quality movement to community college management. The Commission recognizes that there are no panaceas and is not recommending rigid adherence to a specific recipe for management efficiency. But the principles of the quality movement, when adapted to suit an organization's unique needs and circumstances, provide broad guidelines for management modernization that have proved effective at many public and private organizations, including colleges and universities. These principles stress the importance of strategic planning to meet short- and long-term goals, and reliance on hard data to analyze tradeoffs between productivity, effectiveness, and efficiency. They feature a "flattening" of the decision-making process to give more autonomy to all workers; solving problems through self-managed teams that are accountable for their actions; and outcomes-based assessments to

CQI Produces Major College Savings

El Camino College, a leader in the Continuous Quality Improvement movement across the nation, is reaping the benefits of this new management direction. The college—which instituted work teams, shifted to a consumer-driven approach to its mission, and integrated more data into its decision making process—reports nearly a half-million dollars in savings due to its new way of doing business. The college has created a Quality Institute on its campus to advance these principles throughout the state.

A handful of community colleges around the country have taken the lead in changing their organizational cultures and management practices.

measure quality and efficiency. Organizations implementing these practices have replaced the traditional, hierarchical management model described above with a systems approach that redistributes and decentralizes employee responsibilities in order to cut costs, create more productive workplaces, and meet customer needs.

A number of California community colleges have already shown great interest in the potential advantages of these new management principles. They are learning from the experience of high performing organizations, particularly the handful of community colleges around the country that have taken the lead in changing their organizational cultures and management practices. These colleges can help lead the way to system-wide adoption of new management approaches; the Board of Governors can facilitate this transition by setting appropriate goals and providing needed direction and incentives for all colleges to move in these directions, as suggested in the action steps detailed below.

Actions for Strategy 1

System-wide Efficiency Goal

Action 1. Set System-wide Goal for Management Efficiency. The Board of Governors should set a system-wide goal for management efficiency that non-instructional costs must be reduced by ten percent by the year 2000 (after allowing for inflation). Information about the level of non-instructional costs should be widely publicized, and colleges achieving their target should be rewarded.

Non-instructional costs are currently about 47 percent of all operational costs; a ten percent reduction in non-instructional costs would reduce total operational costs by almost five percent over the next six years. A cost reduction of this magnitude would save up to $204 million per year by 2005; these savings could be used to accommodate approximately 20 percent of the growth in student enrollment demand (i.e., about 62,000 FTES) expected between 1992 and 2005 (see Figure 5). (Cost reduction would be facilitated if the colleges were to shift from having to document compliance with numerous State laws and regulations to a system of greater local autonomy with accountability for student outcomes, as recommended in Strategy 3.)

This action step establishes a system-wide imperative for colleges to become more efficient. The next steps provide incentives and models for them to meet this goal. In Strategy 2, Action 4, we recommend strengthening the technological infrastructure for college management in order to help improve efficiency.

Demonstration Grants

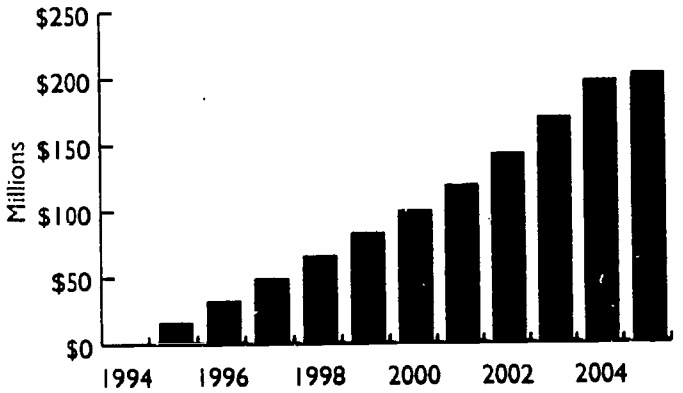
Action 2. Provide Grants for the Demonstration of Models of Management Efficiency. Grants should be awarded on a competitive basis to five colleges, using the Investment Fund for Innovation. The grants should be for five years and should include a responsibility for the winning colleges to disseminate their models and results.

The best encouragement for faculty and administrators to adopt the philosophy and practices of the quality movement may be seeing how their peers have adapted the principles to their college context and had real success. This action step is intended to promote system-wide diffusion by enabling a small number of colleges to implement their own management innovations and demonstrate a variety of approaches that could be adopted by other colleges throughout the state. The Commission has allocated $750,000 per year for five years for these grants (see *Technical and Cost Assumptions*).

Quality Partnerships

Action 3. Establish Quality Partnership. The colleges should establish a Community College Quality Partnership as a cooperative organization of college managers and faculty devoted to

Figure 5



Potential Savings from Continuous Quality Improvement

promoting the principles of the quality movement in community college management. The Partnership would study examples of successful high performance management in California and out of state, conduct workshops, and disseminate information. The Partnership expenses should be borne by participating colleges.

High Performance Reward Program

Action 4. Establish High Performance Reward Program. A high performance reward program should be established and managed by the colleges. The program would provide cash awards and recognition to colleges that were judged each year to have made the greatest gains in efficiency. It should be funded through the Investment Fund for Innovation.

This idea is modeled after the highly successful Baldridge National Quality Awards in industry, administered by the U.S. Commerce Department. Criteria for high performance rewards might be developed by representatives of the colleges working with quality experts from higher education and business. The program might provide award criteria and guidelines for the colleges, and emphasize feedback to the colleges that would enable them to assess their progress in implementing more effective management practices. The Commission has assumed that $500,000 per year would be allocated to this reward program, beginning in 1996.

STRATEGY 2

Develop a pervasive technological infrastructure at and between colleges to equip them to increase productivity, enhance management efficiency, and become premier institutions for the application of technology to learning.

California's community colleges have nationally outstanding experts in the application of technology to learning. At virtually every community college, some form of computer-assisted instruction is currently available in teaching laboratories where students work at their own pace with language and other tutorial materials. On a few campuses, major efforts are under way to introduce more sophisticated instructional technologies, but these programs are underfunded and—so far—small in number.

Key barriers prevent the widespread application of new learning technologies in the community colleges. First, because there has been no state-wide planning and coordination, the colleges have not developed a coherent system-wide approach to increasing their technological capacities. State-wide leadership is needed to plan and coordinate the expansion of distance education, identify promising technologies, chart an orderly technology investment program, negotiate the acquisition of equipment and services for the system, help design and implement faculty development programs, develop a system-wide information network, and manage other numerous tasks in order to greatly expand the colleges' technological capacities.

The technological revolution will ultimately enable community colleges to radically change how instruction is delivered.

Second, the use of new learning technologies reduces expenditures in the long-run, but most technologies require start-up capital investments in computers, associated equipment (e.g., CD-ROM), software and courseware, and wiring and facilities. These investments lose out in the competition for scarce resources.

Third, and perhaps the highest barrier to implementing a pervasive technological infrastructure in the community colleges, is insufficient faculty expertise. The majority of existing faculty have little experience in using technology as an instructional tool. Moreover, the scattered use of technology in the community colleges—and inadequate State support for faculty development—has afforded faculty few opportunities to develop their proficiency. As new faculty are hired, this picture could begin to change. These problems can be overcome, through carefully planned investments in programs designed to develop and maintain faculty expertise.

If these barriers can be overcome the technological revolution will ultimately enable community colleges to radically change how instruction is delivered.

Distance education has demonstrated that it can effectively supplement or replace some classroom courses by providing quality instruction to students at home, work, or community sites.

For example, providing classes to a student at home or at work using television or electronic networks is called distance education. Distance education has demonstrated that it can effectively supplement or replace some classroom courses by providing quality instruction to students at home, work, or community sites. Most distance education at the community colleges is delivered

today via television. An absence of state-level leadership, together with statutory and regulatory obstacles, has impeded the growth of distance education. In addition, State funding formulas provide no incentive for the colleges to offer additional telecourses and concerns about the effectiveness of such courses have made some faculty hesitant to encourage telecourse expansion. Yet, if high-quality distance education can reach a mass audience, it can be delivered for a lower per-student cost than traditional classroom instruction, with no reduction in educational effectiveness.

It would be possible, for example, to use advanced computer-based technologies on a large scale to help shift an entire campus to technology-intensive curricula and instruction.

Other technologies available now could also be used almost immediately to enhance the colleges' technological capabilities. It would be possible, for example, to use advanced computer-based technologies on a large scale to help shift an entire campus to technology-intensive curricula and instruction. Interactive multimedia systems that combine full motion video, audio, animation, graphics, and text with access to massive amounts of data have proven their effectiveness in ESL and selected vocational courses. And basic skills and remedial students have been shown to learn significantly faster by working with integrated learning systems that bring computer and video technology together in complete learning stations. In these systems, instruction is self-paced, competency-based, tailored to each student's individual needs, and available 24 hours a day.

The community colleges have made few efforts to implement these cutting edge technologies or demonstrate how they can be used to increase student learning and enhance productivity. Selected investments in the near term in proven technologies are needed to demonstrate the cost-effectiveness of technology-based learning systems, increase productivity and student learning in selected areas, and begin to build the technological capacity of all the colleges.

The power of advanced technologies does not reside exclusively in stand-alone, computer-based instructional systems. Technology can be used to enhance management efficiency (e.g., by streamlining accounting and purchasing, or optimizing course scheduling—see Strategy 4, Action 5 for a discussion of the latter issue). And information networks can serve as new pathways to improved

teaching and learning by connecting college to college, instructor to instructor, and instructors and students to state, national, and international databases. The community colleges have begun to lay the groundwork for such a system, but investment has been limited and the colleges have not yet focused on developing a comprehensive information network linked to other networks. As a result, the community colleges have lagged behind other education segments in creating an information network capability. Yet, the development of such a capability is essential if the colleges are to keep pace with the knowledge explosion, stay abreast of ongoing technological changes in the public and private sectors, and promote efficient college management. In the long run, the network could be expanded to handle the full range of voice, video, and data transmission needed to support distance education, teleconferencing, and telecomputing.

The development of such a capability is essential if the colleges are to keep pace with the knowledge explosion, stay abreast of ongoing technological changes in the public and private sectors, and promote efficient college management.

The Commission recommends that the colleges implement a state-wide approach to the development of a pervasive technological infrastructure, provide incentives to increase the use of telecourses and high-productivity instructional technology, and develop a system-wide information network linked to other state, national, and international networks.

Actions for Strategy 2

Establishment of INTECH

Action 1. Initiate an Institute for Technology and Distance Education. The colleges should establish a new system-level Institute for Technology and Distance Education (INTECH) to be the focal point for increasing the system's technology capacity.

INTECH would provide the institutionalized leadership the colleges need in order to expand their technological capacity. To ensure the rapid build-up of this capacity, the Institute should be empowered to make decisions regarding system-wide technology priorities and funding allocations. At the same time, its charter should ensure that it will be responsive to the colleges in conducting system-wide planning and other functions.

INTECH would also be the R&D center for system-wide support of technology, would seek federal, state, and private grants to explore the best ways to use technology to advance learning, and could enter into entrepreneurial arrangements with private firms seeking to invest in community college courseware development or other R&D capabilities. The Institute would help provide faculty development programs and would assist colleges on technical and procedural problems. It would also distribute computer-based courseware developed by college faculty. Courseware would be sold at greatly discounted rates to the colleges and also sold to non-California colleges or training institutions; some profits would be shared with faculty who develop the courseware, to provide incentives to work in this area; the remainder would be reinvested in the Investment Fund for Innovation.

Action 1.1. Establish INTECH Charter. INTECH should be established as an independent, system-level organization that plans, oversees, and coordinates the phasing in of a pervasive technological infrastructure for the community colleges. INTECH should develop five-year strategic plans for increasing the technological capacity of every college; oversee and coordinate the expansion of distance education and technology-based instruction; ensure college participation in a comprehensive information network; allocate funds for technology from the Investment Fund for Innovation; serve as the system's center for R&D and

Wisconsin Colleges Cooperate to Produce Quality High-Tech Curriculum

The Wisconsin Foundation for Vocational, Technical & Adult Education, Inc. operates a cooperative program through which community college districts collaborate to develop and acquire interactive computer courseware. The Foundation develops advanced computer-based course materials, and distributes them to the districts that contributed to the project; the products are also sold to non-participating districts, and the revenues are used to sustain the Foundation and are shared with districts that participated in product development.

staff development; monitor the colleges' use of technology; and represent the system in negotiations with technology equipment and service providers.

Action 1.2. Constitute INTECH Governance. INTECH should be governed by a council of representatives from the field including administrators, faculty, technical specialists, instructional design and production specialists, the state-wide Academic Senate, and the Chancellor's Office. INTECH should have permanent staff who are exempt from Civil Service requirements. Any community college faculty or administrators serving with INTECH should retain their district-based rights and benefits.

Action 1.3. Arrange INTECH Funding. INTECH should be funded through the Investment Fund for Innovation, and additional funding should be raised by INTECH from fees charged for services to the colleges, from foundation grants and state and federal contracts, and from sales of INTECH products, such as new courseware, guides to available technologies, or detailed guides or curricula for faculty development. In addition, INTECH would be responsible for the distribution of capital funds raised from special purpose technology bonds (see Action 3.1 under this Strategy). The Commission assumes that INTECH would be built up over a period of years, with an eventual funding level of $5 million per year.

INTECH should work with other education segments to save money and improve effectiveness by coordinating and sharing technology.

Action 1.4. Coordinate Technology Policy with Other Segments. INTECH should work with other education segments (and with other public agencies and industry) to save money and improve effectiveness by coordinating and sharing technology. CPEC should investigate possibilities for technology coordination and sharing among the higher education segments.

Expansion of Distance Education

Action 2. Dramatically Expand Distance Education. The colleges should capitalize on their current capabilities in order to provide distance education to a much larger proportion of their students.

With the proper incentives and with selected capital investments, a much higher percentage of courses or course sections could be delivered by television, eventually augmented by other technologies. With telecourse delivery to the home or to community sites, students could take one or more courses in a distance mode, or enroll in classes that use a mix of distance and classroom delivery. By establishing a state-wide approach to telecourse distance education as soon as possible, the colleges will position themselves to make a transition to more advanced uses of distance education and other educational technologies before the turn of the century.

By expanding distance education using telecourses, the community colleges would substantially reduce facilities needs and would be able to enroll more students for a given level of State support.

Distance education will eventually be much more sophisticated than telecourses because of the extraordinary distance interactive capabilities being developed with voice, video, and data. However, for the next three to five years, the community colleges can use their current capabilities to greatly expand their use of telecourses through a coordinated state-wide approach. This approach has the advantage of building on current capacity, so start-up investment costs would be limited (see the box on the following page). By expanding distance education using telecourses, the community colleges would substantially reduce facilities needs and would be able to enroll more students for a given level of State support. With experience and a policy framework for the use of distance education in place, the colleges will be able to move more quickly when the new telecommunications and interactive capabilities are available at lower cost. (For a further discussion of distance education, see Commission on Innovation, Policy Discussion Paper #5, *The Feasibility of Statewide Distance Education*, September 1992.)

Action 2.1. Set System-wide Goal for the Expansion of Distance Education. The colleges should set a system-wide goal to serve 20 percent of all enrollment demand through distance education by 2005.

Twenty percent of all enrollment demand in 2005 would come to approximately 272,000 FTES, which would equal nearly all the new enrollment demand expected by that year. Analyses performed for the Commission show that the level of savings achieved will depend on the number of students enrolled in distance education courses; the extent of faculty involvement (the mix of full-time instructors, part-time instructors, and teaching assistants); and the amount of time allocated for instructors to interact with students and grade examinations. The analyses indicate that savings could range from negligible amounts to as much as $1,700 per FTES. For purposes of estimating potential savings, the Commission chose a middle ground between the least and most expensive distance education models. Our estimates indicate that it should be possible to maintain a high level of quality in instructional delivery and save between $500 and $550 per FTES. These savings would come to approximately $135 million per year by

Positive Benefits from Telecourses

Coastline Community College enrolls around 25 percent of its students in telecourses. Each semester the College offers some 25 telecourses, all academically rigorous and fully transferable to UC and CSU. Students view telecourses in their own homes via the local cable station or the Coast District's PBS station (KOCE-TV, Channel 50), as well as by videocassettes at home and in training sites or learning centers. According to Coastline administrators, many students report that they never would have been able to take a course at a community college if it weren't for the flexibility of telecourses; they can watch the course at their own speed and find the best time to study, while remaining responsive to personal responsibilities. Because instructors are freed from curriculum development duties, students find their instructors are more readily available to help them when needed. While some students miss interaction with their peers, most take a combination of telecourses and traditional classroom courses; this way, students are able to retain the value of the campus community, but also have distance education courses that meet their work, home, and life situations.

2005 (see Figure 6). After taking investment costs into consideration, the net savings could be used to serve an additional 40,000 FTES per year under the traditional instructional delivery model (e.g., for students who need a high level of peer and instructor interaction) or 49,000 more FTES in a distance education mode. For additional details, see *Technical and Cost Assumptions.*

Extensive use of distance education should be required before existing campuses expand or new campuses are built.

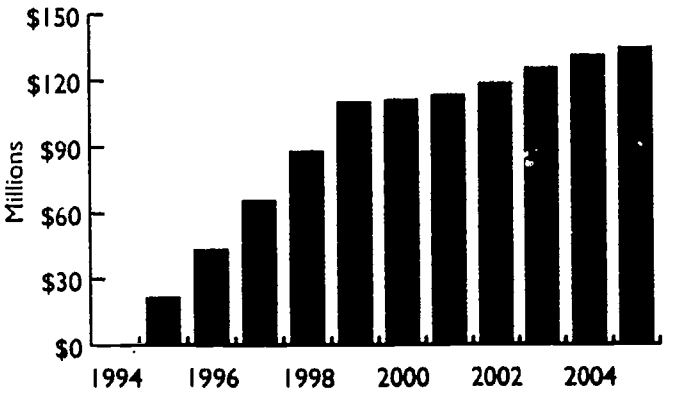
Action 2.2. Substitute Distance Education for New Facilities. Extensive use of distance education should be required before existing campuses expand or new campuses are built. (This recommendation is discussed in more detail in a later section on cost-effective facility utilization practices; see Strategy 4, Action 2.)

Action 2.3. Support Expansion of Community College Telecourse Consortia. INTECH should provide deferred interest loans to community college telecourse consortia for telecourse production and distribution in course areas that realize economies of scale. Funds for these loans should come from the Investment Fund for Innovation.

Action 2.4. Eliminate Regulatory Obstacles to the Expansion of Distance Education. The Board of Governors should repeal regulations that restrict the

Figure 6

Potential Savings from Distance Education*



*Does not include facilities savings

numbers of students who may enroll in a distance education course section and the types of distance education courses that may be offered.

Under current regulations, telecourses may only be employed for courses that are part of an Associate degree sequence and accepted for transfer by UC or CSU, and telecourse sections are limited to 125 students. These regulations should be repealed and all course content and enrollment decisions should be left to the discretion of the colleges. Colleges should be held accountable for competency-based performance results demonstrating that students in distance education courses learn to acceptable standards.

Colleges should be held accountable for competency-based performance results demonstrating that students in distance education courses learn to acceptable standards.

Action 2.5. Revise Funding Formula for Attendance in Distance Education Courses. The Legislature should modify the current college funding formula so as to compensate colleges for new enrollment (growth FTES) in distance education at a level half way between the cost per FTES for distance education and the full current FTES cost (i.e., if a college could serve distance education students at a cost of $2,000 per FTES, the college should be

Community Colleges Have Extensive Telecourse Capacity

Most community college telecourses are currently offered through two large college consortia—INTELECOM in Southern California (with 40 colleges) and the Northern California Telecourse Consortium (with 30 colleges)—as well as through separate college programs. Both consortia identify and purchase or lease telecourses for their member colleges; INTELECOM is also a leading national and international producer of college level telecourses. The system has considerable excess capacity; well under five percent of the colleges' FTES are served by distance education today.

compensated at a level of $2,600 per FTES—halfway between $2,000 and the full FTES cost of approximately $3,200—for every growth FTES served by distance education). The cost of this action has been taken into account in Commission estimates of savings that could be achieved by expanding telecourses, as discussed earlier.

Action 2.6 Permit Use of Capital Outlay Funds to Build or Equip Television Facilities. The Legislature should remove current statutory prohibitions on the use of capital outlay funds for television facility construction and equipment purchases.

Technology Investment

Action 3. Invest Now in Advanced Instructional Technology and Faculty Development. Working through INTECH, the colleges should invest now in proven advanced technologies and in faculty development programs designed to help faculty acquire technological skills.

Extensive use of technology will enable the colleges to increase their productivity and lower their per-student costs, improve learning, and reduce the need for new facilities.

In the long run, the extensive use of technology will enable the colleges to increase their productivity and lower their per-student costs, improve learning, and reduce the need for new facilities. But building the colleges' technological capacity will require up-front investment in order to realize long-term savings. With judicious funding decisions based on proven technologies, the Board need not wait for system-wide technology plans to be drawn up before taking this initiative. The investments would constitute a powerful signal about system priorities and would yield valuable information on technology use that INTECH could use in planning larger long-run expenditures.

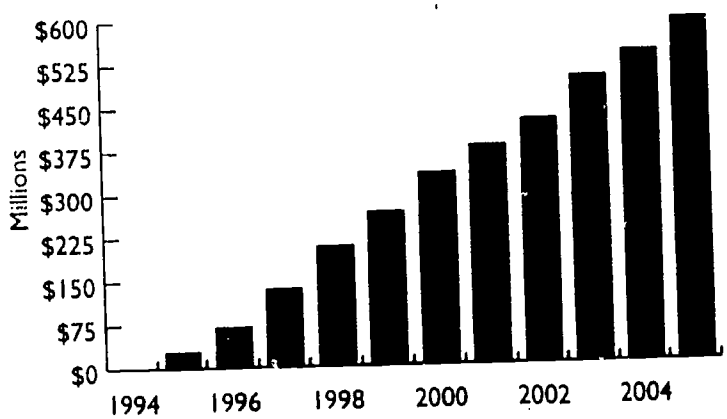
The Commission estimated potential cost savings from new technologies based on research data that have established the productivity of available advanced systems, and on the experience of community college technology users in California and other states. We assumed that by the year 2000, 30 percent of the FTES in basic skills, ESL, and vocational courses could be served by multi-media and interactive technologies and by integrated learning systems, and that computer and related hardware and software would be

replaced every five years. The Commission also assumed that High Tech Centers with at least 100 workstations each could be phased in at most campuses by the year 2005. With these assumptions, the Commission estimates that system-wide savings of approximately $335 million per year could be realized by the year 2000, and savings of approximately $594 million per year could be realized by 2005 (see Figure 7). Taking investment costs into consideration, yearly savings by 2005 could be used to serve an additional 117,000 FTES per year. Details of the Commission's cost assumptions can be found in *Technical and Cost Assumptions.*

Action 3.1. Use Technology Bonds to Invest Now in Key Cutting Edge Technologies. The Legislature should support the use of general obligation bonds to fund the capital cost of those state-of-the-art technology-based learning systems that can significantly increase productivity and enhance active student learning in key problem areas. Capital from the bonds would become part of the Investment Fund for Innovation.

Sophisticated technology is a capital investment, just as machinery is a capital investment for private industry. By using bonds rather than current revenues to invest in technology, the colleges could mount a significant technology investment program at a cost the State can afford.

Figure 7



Potential Savings from Advanced Technologies

Grants would be used to build college technological capacity in targeted priority areas.

Action 3.2. Provide Grants to Colleges to Implement Technological Approaches in Critical Areas. INTECH should provide a continuing series of grants to colleges (mostly based on a competitive bidding process) for the implementation of multi-media, interactive approaches to ESL and vocational skills and of integrated learning systems for basic skills. The grants would be used to build college technological capacity in targeted priority areas. Funds for the grants should come from the Investment Fund for Innovation; the size and timing of the grants should be decided by INTECH in consultation with faculty, administrators, and technical specialists.

Action 3.3. Provide Demonstration Grants for Comprehensive High Tech Centers. Using a competitive RFP process, INTECH should fund five-year demonstration grants for six colleges to develop models of High Technology Centers for technology-assisted learning. The Centers should offer advanced computer and multi-media applications for academic and vocational curriculum;

High-Tech Centers Improve Learning and Increase Access

At Glendale College in Phoenix, a High-Tech Center equipped with several computer networks and 300 computer stations serves 2,000 students each day who take classes or complete independent coursework at their own pace. In California, Rio Hondo College has developed a similar plan. Rio Hondo plans to create a High-Tech Learning Center equipped with four networks, 144 networked workstations, 156 independent computer workstations, and several classroom spaces. The Center will feature a large open room with multiple workstations, allowing faculty to lead a class while other students use lab space for self-directed, modularized classes. Rio Hondo has implemented a demonstration classroom, a Teaching Learning Center for faculty, and a networked lab; the college reports that faculty and student demand has already exceeded the prototype's capacity. Staff at Rio Hondo anticipate benefits such as improved student retention, an increase in the number of students served without comparable increases in staff costs, and more access to an alternative learning environment where students can work at their own pace with technologies carefully designed to meet their individual needs.

operate some courses on an open-entry, open-exit basis; and use competency-based assessments. The goal of the Centers should be to triple productivity compared to traditional courses at no loss in student learning as measured by competency assessments, and to demonstrate an increase in cost-effectiveness of 25 percent compared to current practices. Funds for the grants should come from the Investment Fund for Innovation; the size of the grants should be decided by INTECH in consultation with faculty, administrators, and technical specialists. The Commission assumes that $660,000 per year would be allocated for this purpose.

Courseware development for the High Tech Centers and for multimedia and other advanced technology stations would be undertaken in part by faculty specialists (see Action 3.7).

Today's powerful interactive computer technologies can provide sufficiently rich course materials to enable students to work on their own.

Action 3.4 Modify Regulations Requiring Direct Faculty Supervision of Students at All Times. Regulations requiring "line of sight" supervision of students at all times by a faculty member or instructional aide should be modified to allow students to undertake technology-assisted coursework without such supervision. Today's powerful interactive computer technologies can provide sufficiently rich course materials to enable students to work on their own. The High Tech Centers and other computer stations should be available to students during late night, weekend, and holiday hours when it would be difficult and expensive to provide faculty supervision; the full productivity benefits of these advanced systems would not be realized if students could not advance in their coursework unless faculty or instructional aides were present.

Action 3.5. Support Sustained Faculty Development for Technology. Working with the state-wide Academic Senate and with faculty and other experts in technology, the Board should create programs for faculty to develop technological expertise.

This expertise might include instruction using technology, the ability to use technology-based curriculum, and the ability to design technology-supported instruction that advances active learning techniques to address the learning styles of different students. These programs could be closely coordinated with faculty professional development to support a shift to new instructional approaches (see discussion of Investment Fund for Innovation, Recommendation I, Strategy 1, Action 1).

INTECH should fund several colleges to become "Technology Demonstration Colleges".

Action 3.6. Establish Faculty Development Centers. Using an RFP process, INTECH should fund several colleges to become "Technology Demonstration Colleges" that employ a wide range of technologies and can serve as centers for faculty development throughout the system (the Commission's estimates assume the establishment of six such centers). Funds for this purpose should come from the Investment Fund for Innovation. (As discussed earlier under Recommendation I, Strategy 2, Action 2.3, the Commission assumes that these centers and other college professional development sites would be funded at a level of up to $2 million per year.)

The colleges should encourage all new faculty to receive a Certificate of Technological Mastery from INTECH

Action 3.7. Encourage New Faculty to be Certified as Technologically Competent. Working with the statewide Academic Senate and technical experts, INTECH should establish guidelines on technological literacy for application in local decisions on faculty hiring and development. The colleges should encourage all new faculty to receive a Certificate of Technological Mastery from INTECH, or from a university program approved by INTECH; the certificate could recognize faculty expertise in technology-based instructional design, courseware development, and/or related areas.

Action 3.8. Remove Salary Disincentives for Teaching Technology-based Courses, and Create Technology Specialist Positions to Concentrate on Courseware Development. The Board of Governors and the colleges should remove salary disincentives for technology-based

teaching and create a new faculty category of Technology Specialist, to be supported half time for courseware development and faculty development and support.

Working hours spent by faculty in developing courseware or facilitating technology-based learning are now often counted as only partial equivalents of hours spent in traditional lecture classes; thus, faculty who want to focus on high-productivity, technology-based teaching are required to work more hours for equivalent salaries.

Action 4. Strengthen the Technological Infrastructure for College Management and Develop a Comprehensive Community Colleges Information Network Linked to Other State, National, and International Networks. Improvements in management efficiency (see Strategy 1, Action 1) will be easier to achieve if the colleges strengthen the technological infrastructure supporting their non-instructional operations. College management and information technologies should be upgraded and expanded; much of this technology could serve the dual purpose of supporting the development of a comprehensive information network. The colleges should expand their current efforts to increase electronic mail, bulletin board, and text retrieval capabilities, to develop a fully integrated information network that links all colleges, faculty, and students to each other and to extensive world-wide telecommunications networks and databases.

Information Network

A system-wide information network linked to other state, national, and international networks would ensure student and faculty access to a broad range of databases.

A system-wide information network linked to other state, national, and international networks would ensure student and faculty access to a broad range of databases and the sharing of library resources among the colleges and with other education segments and public libraries. It would also promote the efficient transmission among colleges—and between colleges and the Chancellor's Office—of electronic transcripts, enrollment and assessment data, and other information needed for college planning and management. In the long run, the network could be expanded to handle the full range of voice, video, and data transmission needed to support distance education, teleconferencing, and telecomputing. (As discussed above under Recommendation III, Strategy 2, Action 3, the Commission has allocated over $100

million through 2005 to enhance college data capabilities and develop a comprehensive information network.)

Action 4.1. Join CSUNet to Create System-wide Data and Information Network. The California State University operates a comprehensive data and information network—CSUNet—that links all its campuses and connects to other networks. INTECH should take the lead in working with CSU to plan an expansion of CSUNet to the community colleges. The CSUNet carrying capacity could be expanded to provide full networking capabilities for the community colleges; CSU has indicated that it is willing to work with the Chancellor's Office to see how this might best be done. Expansion of CSUNet to embrace the community colleges would make it unnecessary for the colleges to develop a duplicate parallel network, though substantial college infrastructure investments (wiring, computers, software) would still be needed. INTECH's planning goal should be the implementation of a system-wide data and information network that would be fully operational by 1997.

Action 4.2. Join Current Knowledge Highway Efforts and Link Network to Other Segments. Led by INTECH, the community colleges should link to other key public, private, and non-profit information networks (e.g., *Internet, BARRNet, CERFNet,* and Pacific Bell, AT&T, GTE, Sprint, IBM, and other data and information services) and

Community College to Join Pacific Bell Knowledge Network Gateway

LA Harbor College has been selected to participate in the Pacific Bell Knowledge Network Gateway, joining five other educational entities in the state. The Gateway gives students and faculty high-speed computer access to university libraries, databases, electronic mail, and computer bulletin boards via a CSU network and the National Science Foundation's Internet. The Gateway also enables students and faculty to hold electronic discussions with their counterparts worldwide.

to state economic and employment databases (e.g., at the Employment Development Department) to provide access to a full range of public and private data sources. The community colleges should also work with the other California education segments to develop a full inter-networking capability. With appropriate privacy safeguards, this capability should eventually enable all education segments to share information on student progress and achievement as students move from elementary education to lifelong learning as adults.

For the recommendations of the community colleges' Instruction Task Force in the area of instructional technology, see *Commission on Innovation Instruction Task Force Final Report*, n.d.

STRATEGY 3

Restructure community college governance to enhance local autonomy, strengthen system-level capacity to provide overall direction, and reinforce accountability.

Discussions of community college governance often pose a choice between a centralized and decentralized system. Indeed, many of the experts who testified before the Commission on this topic defined the governance issue in just this way. But this is a misleading dichotomy. Though it seems paradoxical, the colleges need a system that is *both* decentralized *and* centralized. Variation in local needs and conditions requires governance that provides a substantial degree of local autonomy. At the same time, strong system-level governance is desirable in order to provide leadership and make policy on state-wide and regional issues, and to represent system-wide interests.

Though it seems paradoxical, the colleges need a system that is both *decentralized* and *centralized.*

In theory, the current governance system provides a balance of authority that preserves the colleges' traditional local control without sacrificing state-wide leadership and coordination. In practice, neither local autonomy nor system-level authority is adequate. At the local level, college abilities to pursue more productive and cost-effective practices are impeded by a tangle of some 2,000 laws and regulations that tie the hands of local managers. In other sec-

tors of our society and economy, deregulation has fueled creativity and innovation. In the community colleges, however, decisions that should be left to professionals on the spot are often pre-empted by State law or regulation. The result has been an erosion of college independence and flexibility. Colleges spend scarce time and money reporting on their compliance with State laws and regulations and must pick their way through a thicket of requirements before they can try out innovative programs. At the system level, the Board of Governors cannot allocate funds to high priority areas that could pay off for all colleges, cannot establish system-wide technical standards, and cannot hold colleges accountable for student outcomes. And the Chancellor's Office is able to provide only limited technical help or R&D support to the colleges.

Colleges spend scarce time and money reporting on their compliance with State laws and regulations and must pick their way through a thicket of requirements before they can try out innovative programs.

The community colleges need a restructured governance system in which broad legislative policy direction would replace multiple and sometimes conflicting statutes. In such a system, the Legislature would hold an empowered system-wide governing agency accountable for results, without giving up ultimate authority. (Additional discussion of governance issues can be found in Commission on Innovation, Policy Discussion Paper #6, *Coordinated Decentralization: Restructured Governance for the New Community Colleges*, December 1992, and *Towards a More Sensible Governance Structure for the California Community Colleges*, Report to the Commission on Innovation from the Task Force on Management, May 1993.)

Actions for Strategy 3

Deregulation

Action 1. Deregulate Governance to Provide More Local Autonomy and System-level Authority. Over a period of two years, the Legislature should repeal all laws that interfere with the autonomy of local districts or the authority of the Board of Governors as the system-level governing agency. As laws that interfere with district autonomy or Board authority are phased out, the Board should also phase out Board regulations that interfere with district autonomy.

Action 2. Decentralize Authority to the District Level. Over this two-year phase-in time, the Legislature should gradually delegate authority to districts that expands their freedom to make all decisions pertaining to their education programs, with the exception of key decisions reserved to the Legislature, and certain decisions delegated to the Board of Governors (see Action 3).

Decentralization

In a deregulated and decentralized system, districts would choose their own paths to the achievement of student performance outcomes and would be held accountable for results rather than processes (see the discussion under Action 6). Though the Board of Governors could require district cooperation to eliminate redundant programs, install technology, or plan facilities (see Strategy 4, Action 6), districts would no longer need Board approval to initiate educational programs or courses. Local faculty and administrators would decide who is qualified to teach and what the ratio of part-time to full-time faculty should be for each program. They would continue to serve students now served by categorical programs, but would be freed from State direction in deciding how best to use those program funds, which would become part of the district's general funding. The Legislature would continue to establish the colleges' mission, approve appropriations, and set policy on student fees and residency requirements, student privacy, the creation of new colleges, contracting and competitive bidding procedures, and collective bargaining rules.

Districts would choose their own paths to the achievement of student performance outcomes and would be held accountable for results rather than processes.

Districts now write and implement separate plans for a host of special programs (e.g., matriculation, DSPS, EOPS, faculty and staff diversity, student equity, transfer centers, etc.). From the perspective of districts with scarce resources, the detailed process and reporting requirements of multiple—and in many ways—redundant special program laws or regulations are a drain on staff energies and on scarce time and money. At the same time, each program serves laudable goals that districts should be enabled to pursue in ways they deem most efficient.

Action 3. Strengthen System-level Governance. The Legislature should give the Board of Governors authority to establish and support system-wide priorities, establish state-wide academic standards for student performance, establish technical stan-

Strengthened Board of Governors

dards, and facilitate system-wide cooperation and coordination. In particular, the Board should have the authority to establish funding guidelines and allocate funds to districts for instruction and other services, and support system-wide priorities by allocating supplemental funds from the Investment Fund for Innovation.

The Board would set system-wide academic standards in consultation with the state-wide Academic Senate; this authority is essential to the establishment of a system in which colleges are held accountable for outcomes rather than processes. System-wide technical standards would make it possible to save money through common purchases of new technology and would improve the effectiveness and efficiency of the colleges' Management Information System. And authority to expedite inter-district cooperation could lower the cost of distance education and save money through joint facility planning (see Strategy 4, Action 6). With authority to allocate base and supplemental funds, the Board could strengthen system-level research and development capabilities and focus resources on areas that would have high payoff for students and/or improve productivity (e.g., instructional technology).

State-wide Collective Bargaining

Action 4. Establish State-wide Collective Bargaining. The Legislature should empower the Board of Governors to set state-wide salary schedules, fringe benefits, and broad working conditions after bargaining with faculty representatives. In setting a state-wide salary schedule, the Board should establish grandfathering provisions that protect existing salaries and account for regional cost of living differences.

The Commission has recommended that local faculty should have more freedom and support to implement innovative instructional approaches, including access to comprehensive programs of professional development. Greater local flexibility and freedom must be balanced against the need to establish system-wide priorities and allocate system resources. Under the Commission's recommendations, the Board of Governors would be directly accountable to the Legislature for achieving expected savings and ensuring that these savings are used to accommodate additional students and enhance instructional effectiveness. State-wide collective bargaining would help the Board meet this obligation.

There are also other benefits to be gained by moving collective bargaining to the system level. District-level collective bargaining over salaries, fringe benefits, and working conditions has been described to the Commission as a principal source of friction between faculty and local governing boards and administrators, and a procedure that costs a considerable amount of money system-wide, as well as scarce staff time and energy. System-level collective bargaining would remove this source of conflict between faculty and administration at the district level, freeing all parties to focus more of their attention on educational programs and facilitating collegial decision-making. It would also reduce district costs by eliminating 71 separate sets of negotiations, and could facilitate career flexibility by allowing faculty and administrators to move between districts (or between a district and the Chancellor's Office) without giving up their years-of-service seniority or salary level.

Strengthened Chancellor's Office

Action 5. Strengthen Chancellor's Office Capabilities. The Legislature should submit to the voters a constitutional amendment to remove the Chancellor's Office from the State Civil Service System. Chancellor's Office staff would become employees of the California Community Colleges—subject to personnel and employment rules established by the Board of Governors—rather than State employees under the laws of the State Civil Service system. In addition, the Chancellor's Office should be given the capacity to perform R&D functions for the system, provide technical assistance to colleges, and meet expanded responsibilities for facilitating inter-district cooperation and managing system-wide accountability functions. The Investment Fund for Innovation should be used to strengthen Chancellor's Office staff and computer support; the Commission's investment assumptions allocate up to $2.8 million per year for these purposes.

As a State agency subject to decisions of the State Personnel Board (as well as the Department of Finance and Department of Personnel Administration), the Chancellor's Office finds it very difficult to fill staff positions with experienced and expert professionals from the colleges. The shift away from Civil Service to community college system employment would make it possible for the Chancellor to employ staff who had served at a district or college and were acquainted with local issues, and Chancellor's Office

staff could work on temporary assignment in districts without giving up employment rights or benefits.

Accountability

Action 6. Strengthen System-wide Accountability. Existing accountability efforts should be strengthened and expanded into a reliable policy instrument that could be used to hold colleges responsible for meeting student performance standards.

The community colleges have taken preliminary steps toward developing a variety of ways to measure the results of college programs. These accountability measures could be greatly strengthened if they included assessments of student performance tied to system-wide standards. An earlier recommendation (see Recommendation I, Strategy 4) proposed that the system adopt such assessments; this recommendation proposes that the assessment results become the centerpiece of a strengthened accountability system. After the system is phased in, colleges whose students do well on these measures should be publicly acknowledged for excellence.

Shared Governance

Action 7. Maintain Shared Governance. Legislation delegating authority to districts and the Board of Governors should retain the requirements known as "shared governance," so that faculty senates assume primary responsibility for making recommendations in the areas of curriculum and academic standards, and faculty, staff, and students continue to participate in district and college governance.

Role of Local Trustees

Action 8. Review Role of Local Trustees. The Legislature should review the role of local boards of trustees in light of a restructured governance system. The review should develop recommendations on how local boards should be constituted, board powers and responsibilities, board member remuneration, and related issues. The review should be conducted by independent experts who would consult with representatives of the trustees, administrators, faculty, and Chancellor's Office.

A number of faculty and administrators told the Commission that they were uncomfortable with the role played by local boards of trustees. Some deplored what they saw as a weakening of the

tradition of lay citizens' boards and an increasing tendency for boards to become stepping stones to higher political office, with attendant politicization of board elections and decisions. Others pointed to problems of local board "micro-management" of college affairs. Still others described instances where, despite tight budgets, trustees had voted themselves substantial remuneration, including, on occasion, benefits packages more generous than those they had approved for district employees. A number of administrators expressed concern that low voter turnouts allowed employee interest groups to elect "hand picked" board members who could not be counted on to be impartial in contract negotiations and other personnel-related issues, whereas some faculty complained that low voter turnouts were at least as likely to favor candidates preferred by administrators. Some of these concerns are reflected in the report to the Commission of the community colleges' Management Task Force (*Towards a More Sensible Governance Structure for the California Community Colleges.* Report to the Commission on Innovation from the Task Force on Management, May 1993). These issues deserve wider debate, and more careful study than the Commission could undertake under the terms of its charter.

STRATEGY 4

Implement more cost-effective facility policies that reduce the need for new facilities, support innovations, and streamline the construction approval process.

The community colleges are expecting some 500,000 additional students to seek enrollment by the year 2005. The Commission has recommended ways in which the colleges could improve productivity and efficiency in order to accommodate these students without significant new costs. But if the system's enrollment grows by a third, the colleges will have to build many new classrooms and other facilities to handle the influx—unless they make much better use of their existing facilities. The issue, moreover, is not just one of growth. The colleges must ensure that the manner in which facilities are utilized supports new instructional approaches that maximize student involvement in learning.

The colleges must ensure that the manner in which facilities are utilized supports new instructional approaches that maximize student involvement in learning.

At present, few courses are offered using distance education techniques and the colleges follow a traditional academic calendar that restricts facility use to a 35-week academic year plus summer school. Most classes are held in the mornings and course scheduling is rarely coordinated at the campus level in order to meet the needs of the greatest number of students. By changing course delivery, academic year, and course scheduling practices, the colleges could greatly reduce the need for new facilities and create a more flexible instructional environment suited to the needs of a diverse student population.

New facilities would cost less if the colleges pursued innovative joint-use strategies and were freed from over-regulation by the State.

No matter how efficient the colleges become in utilizing their existing facilities, however, some new construction will be needed to accommodate student growth and modernize physical plants. New facilities would cost less if the colleges pursued innovative joint-use strategies and were freed from over-regulation by the State, which complicates district planning and increases the cost of new construction. State regulations also make it very difficult for colleges to buy or lease existing buildings off campus, though this can be a cost-effective alternative to new construction.

The Commission recommends that the Board of Governors require the community colleges to greatly improve their utilization of available facilities, that the Board and the Legislature encourage joint facility use, and that the Legislature deregulate the process for approving the construction and purchase of new facilities.

Current Regulations Hinder Colleges' Ability to Acquire New Facilities

In a story shared by many administrators at expanding colleges across California, Jack Scott, President of Pasadena City College, recounts having an opportunity to purchase a commercial building for 50 percent less per square foot than the construction cost of a new building. The college had been operating a Community Skills Center for short-term vocational education in a rented facility for ten years and was interested in finding a permanent site. A building was found at below-market value in an accessible location. The building was larger than needed, though the college anticipated filling it eventually. State regulations and the complicated, bureaucratic process involved made it too difficult for the college to purchase this building since the space exceeded college needs at the time.

Compared to other states, California's community colleges already use their facilities very efficiently. However, there are steps the colleges can still take—spelled out in the actions discussed below—that would enable them to become even more efficient. These steps do not contemplate any change in state standards for space allocated to students in classrooms or laboratories, and could be accomplished without over-stressing the management of the system or jeopardizing the quality of instruction.

Actions for Strategy 4

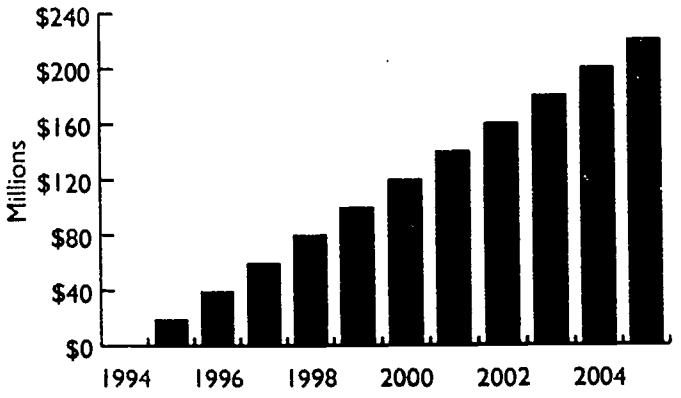
Action 1. Set System Goal for Accommodating New Students without Building New Facilities. The Board should establish the goal that at least 75 percent of new students who enroll over the next 12 years will be accommodated without having to build new facilities.

System-wide Goal

Action 2. Require Distance Education Before New Facilities Are Approved. The Commission has recommended that the Board set a system-wide goal that 20 percent of all FTES be taught through distance education by 2005 (see Strategy 2, Action 1). Colleges should be required to meet this goal before the Board approves college requests to add facilities at existing campuses to accommodate additional students. The same criterion should be applied to Board approval for construction of new centers or campuses, which should be reduced in scale accordingly.

Distance Learning Requirement

Figure 8



Potential Facilities Cost Savings (Bond Retirement) from Distance Education

Without distance education, most additional FTES would have to be served by new facilities whose funding is now planned for the period 1994-95 to 2005-06. By expanding distance education, the colleges could save approximately $1.6 billion in capital outlay costs that would otherwise have to be incurred at existing campuses and approximately $1.1 billion at new centers and campuses. Start-up investment costs for an expansion of distance education would be limited, so capital outlay savings would not be significantly offset by other costs. Actual bond retirement savings to the State might be some $1.3 billion over the eleven years from 1995 to 2005; over the total life of the capital construction bonds that would otherwise be needed, the savings would come to approximately $4.4 billion.

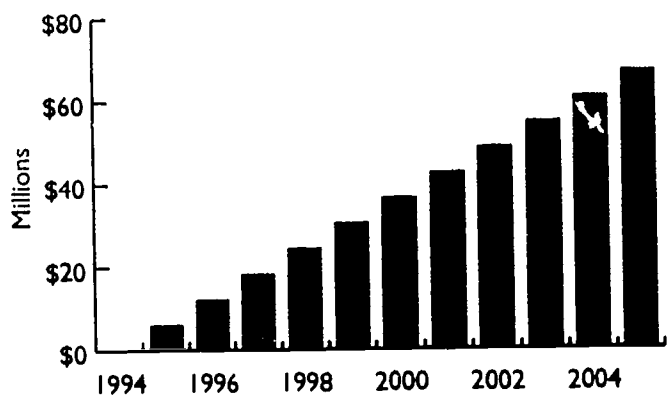
Self-Contained Afternoon Schedule

Action 3. Require Afternoon Instruction Before New Facilities Are Approved. Colleges should be required to offer instructional programs during afternoon hours before the Board approves college requests to build additional classrooms at existing campuses. Plans for new centers or campuses should also assume that afternoon classes will be held at those facilities, which should then be reduced in scale.

While afternoon classes have often not been well attended in the past, colleges have found that they tend to be more heavily subscribed when demand is high and morning classes are filled. Demand for afternoon classes is also higher when they are not

Figure 9

Potential Savings (Bond Retirement) from Afternoon Scheduling



treated as an extension of the morning class schedule, making it necessary for students and faculty to be on campus most of the day. When colleges switch to afternoon schedules that are self-contained (e.g., like evening programs), students and faculty can choose to come either in the morning or the afternoon and facility utilization goes up. This change in course scheduling would also provide more attendance options for students with substantial employment and family responsibilities. For a college that does not presently schedule classes between the hours of 2:00 p.m. and 5:00 p.m., full utilization of those three hours for five days per week would increase classroom capacity by 27 percent. The Commission assumed that the afternoon period would be fully utilized four days per week (excepting Fridays), for a net increase in classroom capacity of 22 percent (four-fifths of 27 percent), and that 50 percent of the potential savings from this increase in capacity would not be realized because some colleges are already holding afternoon classes or would be unable to do so successfully. This would yield, on average, an eleven percent increase in system capacity. This increased capacity would allow the colleges to accommodate an additional 115,000 FTES and realize capital outlay savings of approximately $826 million at both existing campuses and new centers and campuses. Bond retirement savings to the State over the eleven years between 1995 and 2005 might be some $404 million; over the total life of the capital construction bonds that would otherwise be needed, the savings would come to approximately $1.4 billion.

Year-round Operation

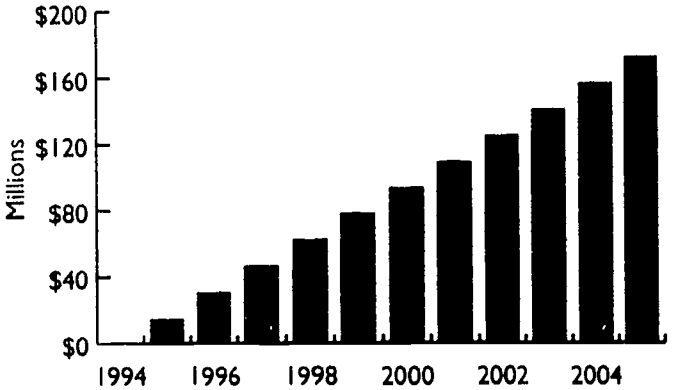
Action 4. Require Year-round Operations Before New Facilities Are Approved. Colleges should be required to shift to year-round operations before the Board of Governors approves college requests to build new facilities at existing campuses. Plans for new centers or campuses should also proceed on the assumption that they will operate on a year-round basis, and these facilities should be reduced in scale as more students are accommodated in this manner. This change in academic year scheduling could support the expansion of open-entry, open-exit courses that allow students to learn at their own pace, and provide additional options for students with substantial off-campus responsibilities.

In principle, the shift from a 35 week to a 52 week academic year (e.g., two semesters to three semesters) could increase college capacity (after accounting for students already taught in summer sessions) by as much as 35 percent. The Commission assumed that only half of this potential increase in capacity would be realized in practice, i.e., a capacity increase of 17.5 percent. A 17.5 percent increase in capacity at existing campuses could accommodate approximately 134,000 additional FTES and reduce the need for new facilities at those campuses by approximately $1.2 billion between 1995 and 2005. By ensuring that new centers and campuses also operated on a year-round basis, the cost of those facilities could be reduced by approximately $850 million. Thus, over the eleven year period, dollar savings to the State (of construction bond retirement costs) would be approximately $1 billion. Over the total life of the construction bonds that would otherwise be needed, the savings would come to approximately $3.5 billion.

The Commission recognizes that there are wide differences in circumstances among the 107 community colleges and that year-round operations (or afternoon classes, or distance education for 20 percent of FTES) may not be feasible in all cases. We assume that exceptions to the requirements recommended above could be permitted by the Board of Governors in cases of undue hardship, and, as discussed above, our analyses of potential savings assume that some exceptions would be made.

Figure 10

Potential Savings (Bond Retirement) from Year Round Operations



Action 5. Support Master Course Scheduling. Colleges should be encouraged to introduce master course scheduling, which arranges course offerings and class times so as to optimize course availability for the greatest possible number of students.

Master Course Scheduling

At most community colleges, class scheduling begins with faculty and departments specifying the schedules they prefer. It is unusual for these preferred schedules to be analyzed at the campus level in order to provide class times that are optimally convenient for the greatest possible number of students. If scheduling were optimized in this way, space could be used more efficiently and students would be more likely to find the classes they need—and thus complete their studies more quickly. The colleges should therefore be encouraged to acquire computer software for scheduling optimization and the Chancellor's Office should provide technical assistance to colleges where needed, to help them implement new scheduling techniques. (For an example of successful master course scheduling, see the box below.)

The Commission assumed that approximately $100,000 per college would be allocated to support planning for afternoon instruction, year-round operations, and master course scheduling. For a further discussion of these ideas, see Commission on Innovation, Policy Discussion Paper #4, *Reducing the Need for New Facilities through Fuller Use of Existing Facilities*, September 1992.

Midwestern University Maximizes Facility Utilization

Purdue University in Indiana has grown from 14,000 students in 1949 to 36,000 students in 1992 without building any new classrooms. Purdue has an administrative strand dedicated to space management and academic scheduling that constantly reevaluates their use of facilities to make them more efficient. Purdue has found that instruction in the afternoons and on Fridays must be become part of the regular schedule and that class scheduling cannot be determined solely by faculty and student preferences.

Incentives for Joint-Use Facilities

Action 6. Encourage Joint Use Planning. The Board should encourage colleges to engage in cooperative planning for joint facility use with other community colleges, other education segments, and other public or private entities.

Community colleges have had little incentive either to work together or to join others outside of the community college system in sharing the costs and use of new facilities. In tight fiscal times, however, the colleges cannot afford the luxury of acting alone. The colleges already hold many classes at off-campus sites belonging to high schools, community groups, or other agencies, but should become more active in increasing joint-use facility arrangements with neighboring colleges, other education segments, public or private agencies, and business. (For a further discussion of joint facility use, see Commission on Innovation, Policy Discussion Paper #2, *Cutting the Cost of New Community College Facilities: Joint Use Strategies*, June 1992.)

Action 6.1. Set Aside Capital Outlay Funds for Joint Use Facilities. The Legislature should set aside a portion of State capital outlay funds for education to support the construction of facilities that would be used jointly by two or more community colleges or by community colleges and other education segments, public agencies, or business.

Los Rios CCD and City of Folsom Share Outreach Center

Los Rios Community College District and the City of Folsom have collaborated to create an outreach center on the site of the district's proposed new Folsom Lake College. The District provided $800,000 in temporary buildings, the City put in $1.2 million for a track, tennis courts, a baseball diamond, and parking lots, and a local developer funded the enhancement of a wetlands area on District property that became a biological science laboratory. According to a Los Rios staffer, "Constrained State resources mean people have to get more creative; this just shows that a community college can successfully partner with Fish and Game, the City, and a local developer to benefit the environment and local citizens, and create a great teaching lab."

Action 6.2. Develop Guidelines for Joint Facility Use. CPEC should develop joint facility use guidelines for use by all higher education segments.

Action 7. Provide Block Grants for Capital Expenditures. The Legislature should provide the community colleges with capital expenditure block grants, together with authority for approval and funding of district capital outlay expenditures. Provision of the block grants should be predicated on community college development of long-range (three- to five-year) system-wide capital outlay plans approved by the Department of Finance (and CPEC for new centers and campuses), with yearly updates. The Legislature would decide how much money to allocate for all community college capital spending, but individual district plans would be reviewed by state agencies only at reasonable intervals in order to monitor for compliance with economical planning and construction standards.

Block Grants for Capital Expenditures

Districts seeking to expand existing campuses must now secure the approval, at various planning stages, of five different state agencies—a process that takes at least three years, usually longer. By deregulating these procedures, the time needed for approval and funding could be cut by as much as one-half, which would reduce the cost of new facilities and make them available sooner. (The approval process for new centers and campuses takes longer because more detailed analyses are necessary, but once overall plans are approved by CPEC, deregulated procedures for plan approval and construction funding would also save time and money.)

Action 8. Remove Community Colleges from Field Act Requirements. The Legislature should remove the community colleges from the requirements of the Field Act (state school facility earthquake safety requirements).

Removal from Field Act

Districts may not purchase off-campus buildings—or lease them for more than three years—if they do not meet Field Act requirements, which cover elementary/secondary schools and community colleges, but not CSU or UC. Removing the community colleges from Field Act requirements would make it possible

for them to save money by negotiating long-term leases or purchasing inexpensive commercial or industrial space for off-campus facilities.

Off-campus Facilities

Action 9. Support the Purchase of Off-campus Facilities. The Legislature should allow the Board of Governors to waive current restrictions, embodied in state facility utilization rules, that make it difficult for districts to purchase off-campus facilities. The Board of Governors should set aside a capital outlay reserve fund to help districts secure options to buy facilities whose purchase has been approved.

At present, districts are not allowed to purchase existing buildings if they contain more space than the district needs (as defined by state facility utilization rules) in order to satisfy enrollment demand. This restriction applies even where such a purchase would be less expensive than building a new structure containing less space (for an example of this problem, see the box on page 96). Where money could be saved, however, state facility utilization rules should be waived to enable districts to purchase existing facilities.

For a further discussion of capital expenditure block grants, Field Act requirements, and the purchase of off-campus facilities, see Commission on Innovation, Policy Discussion Paper #3, *Cutting the Cost of New Community College Facilities: Streamlining the Facilities Approval Process*, June 1992.

For the recommendations of the community colleges' Facilities Task Force on these and related topics, see *Community College Capital Outlay Issues of the Future*, September 1993.

SAVINGS TO INCREASE ACCESS

This section summarizes the savings which could be realized and the increased number of students who could be served if the Commission's recommendations are adopted.

SAVINGS TO INCREASE ACCESS

The Commission's charge was to recommend ways that the community colleges could respond to the challenges faced by the state and accommodate increased enrollment without asking for substantial increases beyond their current funding level. The Commission knew this could only be done if the colleges adopted a series of changes in the way they operate and deliver services, that reduce costs without sacrificing quality. Of the many items in the Action Agenda, six recommendations in particular would produce dramatic savings. These recommendations are summarized below:

1. **Telecourses**—remove regulatory obstacles to, and provide incentives for, the use of sophisticated telecourse instruction methods to increase productivity and reduce the need to build additional classroom facilities (Recommendation III, Strategy 2, Action 2).

2. **Afternoon Scheduling**—maximize use of facilities by scheduling self-contained programs during the 2 to 5 p.m. time frame (Recommendation III, Strategy 4, Action 3).

3. **Year-round Operations**—maximize use of facilities by scheduling three semesters during the year (Recommendation III, Strategy 4, Action 4).

4. **Technology Centers**—implement advanced computer- and multi-media-based instruction in High Technology Centers to reduce facilities needs and increase instructional productivity (Recommendation III, Strategy 2, Action 3.3).

5. **New Learning Technologies**—invest in the expansion of cutting edge learning technologies that provide English language, vocational, and basic skills instruction via interactive multi-media approaches (Recommendation III, Strategy 2, Action 3.2).

6. **Continuous Quality Improvement**—establish college-level efficiency goals for the non-instructional

component of the budget and adopt collaborative planning and management processes that focus on efficiency (Recommendation III, Strategy 1, Actions 1-3).

Table 2 shows the savings that could be realized over time (in constant 1991 dollars) if these proposals are implemented. The numbers are estimates based on detailed cost simulations that the Commission staff created with the advice of experts largely within the community colleges. The details of these simulations and related cost estimates—including year-by-year estimated costs and savings for every Commission recommendation—will be found in Commission on Innovation, *Technical and Cost Assumptions.*

To make the calculations shown in this table, a baseline had to be established. An appropriate baseline is the projected total expenditures of community colleges assuming that growth in enrollment is accommodated but that the colleges operate as they now do—that is, that both the facilities cost for additional students and the expenditures per student are at the same level as they are now. The first line in Table 2, labeled **Expenditures Assuming Business as Usual,** shows projections for this baseline of

Table 2
Estimated Savings
(millions of 1991 Constant $'s)

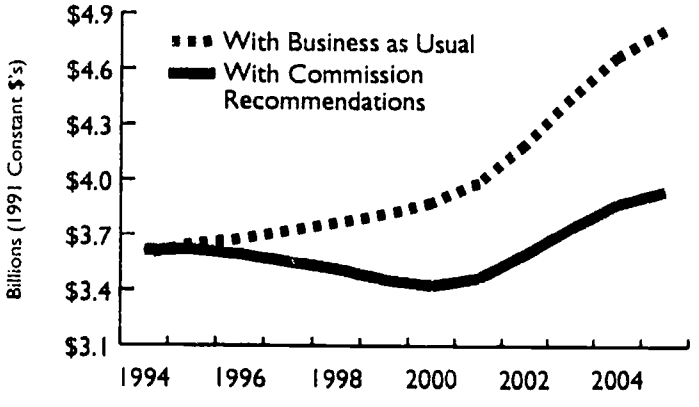
	1994	1995	2000	2005
EXPENDITURES ASSUMING BUSINESS AS USUAL	$3,594	$3,653	$3,882	$4,824
1. Savings from Telecourses	$0	$42	$232	$357
2. Savings from Afternoon Scheduling	$0	$2	$11	$20
3. Savings from Year-round Operations	$0	$1	$4	$7
4. Savings from Technology Centers	$0	$0	$195	$455
5. Savings from New Learning Technologies	$0	$30	$139	$139
6. Savings from Continuous Quality Improvement	$0	$17	$101	$204
Gross Savings	$0	$92	$683	$1,182
Investment Fund for Innovation	($9)	($25)	($84)	($82)
Technology Bond Retirement	($14)	($35)	($135)	($214)
Total Investments	($23)	($60)	($220)	($296)
Net Savings	($23)	$31	$463	$886
EXPENDITURES WITH RECOMMENDATIONS	$3,617	$3,621	$3,419	$3,938

growth with "business as usual" for four years 1994, 1995, 2000, and 2005. Figure 11 shows the same data in graphic form for each year starting in 1994. The total of $3.6 billion (in 1994) includes an estimated state general purpose apportionment of $2.1 billion, local funds of $1.3 billion, federal funds of $137 million, and bond debt retirement bonds of $83 million. By using all these figures, we have taken a State perspective instead of a narrower one of dealing only with State general purpose apportionments.

Table 2 also lists the potential savings from introducing the main cost-reducing innovations listed above. For example, the line for **Savings from Telecourses** shows how much money would be saved if the colleges implemented expanded use of telecourses according to the schedule suggested in the Commission's recommendations (Recommendation III, Strategy 2, Action 2). The savings arise because more students could be served at a lower cost per student and because the need for building additional facilities to serve more students would be reduced. The other five numbered lines in the table arise from similar calculations. The line marked **Gross Savings** is the sum of the savings from these items.

However, some innovations require initial investments and start-up capital before they produce savings. This is a familiar dilemma for organizations that seek to increase productivity. The recommendations propose such initial investments, particularly the **Investment Fund For Innovation** (which proposes a

Figure 11



Projected System-wide Expenditures

permanent source of funds, set aside from general operating funds, to pay start-up costs of innovative instructional changes and productivity improvements; see Recommendation I, Strategy 1, Action 1) and the **Technology Bonds** (which proposes that state-wide bonds pay for capital expenditures in technology areas; see Recommendation III, Strategy 2, Action 3.1). These short-run investments produce long-run savings. In addition, some expenditures—for example, professional development for the faculty (Recommendation I, Strategy 1, Action 3) or steps to strengthen the Chancellor's Office (Recommendation III, Strategy 3, Action 5)—are necessary to accomplish goals that are not directly linked to increased savings, but nonetheless are essential. The calculations shown in Table 2 combine all these expenditures into one line item called **Total Investments**, which shows the investments needed to pay for the recommendations. The retirement of the technology bonds accounts for about three-fourths of these investments in 2005.

The next to last line of the table is labeled **Net Savings**, which is the Gross Savings minus the Investments. Please notice that the investments exceed the savings in the first year. This is so because the recommended programs have to be started and in operation before they can realize savings. Since the investments are initially greater than the savings, the initial investment funds will have to come from the state general purpose funding for the community colleges.

The bottom line of Table 2 is the difference between the baseline for **Expenditures Assuming Business as Usual** minus the **Net Savings** from implementing the Commission's full range of recommendations. This bottom line is also shown in Figure 11.

These numbers are estimates, based on expert advice and detailed assumptions. Though they are fallible and should not be taken as precise predictions, the estimates provide reasonable approximations to answer one of the Commission's key questions: Can innovations be proposed that will enable the community colleges to serve the expected number of additional students within approximately the current funding level? The simple answer is yes.

The more complicated answer is: These numbers suggest that the community colleges can embark on the demanding agenda proposed here with reasonable belief that they will evolve a more efficient and effective system capable of serving many more students and contributing to the development of pluralism and a vital economy providing access to higher education and high skills employment.

APPENDIX

Glossary

Acknowledgments

Other Commission Documents

Index to Action Agenda

About the Staff

GLOSSARY

Active Learning: Instructional approaches that tailor instruction to the learning styles of different students and emphasize active student participation in the learning process. The approaches involve faculty as facilitators of student learning experiences rather than as one-way providers of information.

Contract Education: Courses offered by the colleges under contract to businesses—typically for employees of the company. All course costs are borne by the contracting company and there are no costs to the State. Courses can be offered on college campuses or at business sites.

Distance Education: A non-traditional form of education in which the main body of education occurs at a distance—that is, the teacher and student are not located in the same physical space. Telecourses represent one delivery system for distance education; other methods include computer-based instruction, communication over telephones or modems connected to an electronic network, and other telecommunication media.

DSPS: The Community Colleges' Disabled Students Programs and Services—the program provides financial aid and support services to students with disabling conditions.

ED>Net: A program established in 1988 by the Chancellor's Office to be a resource to employers in the state and to enhance the economic development activities of the colleges. Based in Fresno, ED>Net employs a small staff of professionals, brokers contracts, and coordinates the activities of substantive centers including Environmental and Hazardous Materials Centers, Small Business Development Centers, Workplace Learning Resource Centers, Regional Health Occupational Resource Centers, and Applied Competitive Technology Centers.

EOPS: The Community Colleges' Equal Opportunity Programs and Services—the program provides financial aid and support services to low-income and traditionally underrepresented students.

ETP: California's Employment and Training Panel—an agency responsible for training workers to meet the changing needs of industry in the state. ETP is funded through the Unemployment Insurance (UI) system—one-tenth of UI premium paid by employers goes to support the ETP.

FTES: Full-time Equivalent Students—a measure of community college workload that consists of total enrollment in course units divided by the number of units deemed to equal the load of a full-time student.

INTECH: This Report recommends the creation of an Institute for Technology and Distance Education that will be the focal point for increasing the system's technology capacity. The Institute would provide leadership and support in the colleges' efforts to expand their use of technology, set system-wide priorities, and make technology funding allocation decisions.

Joint Use Facilities: The concept that a single facility could meet the needs of a variety of users—examples include community colleges that offer classes in the evenings at high schools, or university classes and programs offered on the campus of a community college. Other examples involve community colleges offering classes at business sites both for employees of the firm as well as for other students.

JTPA: Jobs Training Partnership Act—federal legislation that provides specialized training and job placement services for hard-to-employ populations.

Matriculation: A process for helping students attain their educational objectives by providing information and guidance concerning a college's available program choices. Matriculation services are provided to students enrolling for credit and include an orientation to college programs and services, pre-enrollment assessment, and counseling and advising for course selection and completion of an educational plan. Most first-time credit students are required to participate in orientation, assessment, and advisement services in order to register for classes. Advisement services are available to continuing students on an as-needed basis.

ROP: Regional Occupation Programs—one arm of the State's vocational education system. ROPs provide regionally-based vocational education to both high school students and adults.

Telecourses: A type of distance education that is sent to homes, workplaces, community sites, etc. This system combines video and print components meant to be used under an instructor's direction but without classroom instruction. Professionally produced video materials (usually composed of 26 half-hour programs), textbooks, study guides, quizzes, study materials, and examinations make up the complete telecourse package.

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The Commission was also greatly aided in its work by three community college Task Forces—on Management, Instruction, and Facilities—each composed of a mix of some 20 college administrators, faculty, and local trustees. Each Task Force met at least six times to exchange and debate ideas, gathered suggestions from their colleagues at colleges across the state, and submitted reports to the Commission on their findings and recommendations. Many Task Force suggestions have been incorporated in the Commission's recommendations.

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OTHER COMMISSION DOCUMENTS

The Commission issued a series of Policy Discussion Papers to provide background information and preliminary policy options for Commission consideration, and to stimulate discussion and debate of issues before the Commission. Those are described below, together with the paper that provides the technical and cost assumptions supporting the Commission's recommendations. The Commission also received reports from three task forces of community college faculty, administrators, and trustees, who made recommendations to the Commission in the areas of instruction, management, and facilities. These are also described below.

Policy Discussion Paper #1. *Discussion of Policies for Achieving Continuous Improvement in Community Colleges.* June 1992, 24 pp. (Available from BW Associates, Berkeley, CA, as WP# 110)

A revolution in business management known as Total Quality Management (TQM) has enabled many American companies and public agencies to become much more efficient. This paper discusses the history and principles of TQM in both the private and public sectors, including higher education. The paper suggests that the Commission may wish to recommend community college adoption of TQM principles and discusses a number of potential policy options for this purpose.

Policy Discussion Paper #2. *Cutting the Cost of New Community College Facilities: Joint Use Strategies.* June 1992, 21 pp. (Available from BW Associates, Berkeley, CA, as WP# 111)

Experience in California and other states suggests that when community colleges and other public or private agencies share facilities, all participants can save money. Community colleges offer many courses at high schools, four-year campuses, and other sites, but much more could be done to take advantage of prospective cost savings from joint facility planning, building, and use. This paper proposes that the Commission consider recommending new efforts in this area and suggests a variety of policy options for this purpose.

Policy Discussion Paper #3. *Cutting the Cost of New Community College Facilities: Streamlining the Facilities Approval Process.* June 1992, 14 pp. (Available from BW Associates, Berkeley, CA, as WP# 112)

The current state process for approving and funding new facilities involves redundant reviews by many State agencies and takes at least three years. This lengthy process complicates district planning and increases the cost of building new facilities. This paper identifies policy options for simplifying and shortening this process and instituting other changes in State laws and procedures that could save money when new college facilities are built, leased, or purchased.

Policy Discussion Paper #4. *Reducing the Need for New Facilities through Fuller Use of Existing Facilities.* September 1992, 34 pp. (Available from BW Associates, Berkeley, CA, as WP# 113)

The community colleges will have to fund the construction of almost $4 billion worth of new facilities over the next decade if they cannot use their facilities more efficiently. This paper describes the complex rules that now form the basis for State approval of new facilities and explores ways in which the colleges could make better use of existing facilities before building new space. The paper analyzes the advantages and costs of shifting to year-round operations and making better use of afternoon hours for instruction, and discusses policies that could be instituted to promote these practices.

Policy Discussion Paper #5. *The Feasibility of Statewide Distance Education.* September 1992, 60 pp. (Available from BW Associates, Berkeley, CA, as WP# 114)

Distance education has been used widely around the world and in the United States for many years. At the community colleges, distance education today relies primarily on telecourses. This paper discusses the current national and California uses of distance education, reviews the pros and cons of this form of instruction, and explores the cost and practical feasibility of delivering community college instruction at a distance using pre-recorded television broadcasts. The paper suggests that the community colleges implement a state-wide approach to the expansion of distance education and discusses policies that might be pursued to achieve such an objective.

Policy Discussion Paper #6. *Coordinated Decentralization: Restructured Governance for the New Community Colleges.* December 1992, 34 pp. (Available from BW Associates, Berkeley, CA, as WP# 115)

Today's system of community college governance has been in place for 25 years. The system is one in which the central governing role is played by the Legislature, while other governing bodies at the state and local levels have been assigned specific and limited authority that is often shared or overlapping. This paper summarizes the historical background of today's governance system, depicts both the formal system and the way governance works in practice, and describes an alternative governance model that would emphasize deregulation and decentralization.

Technical and Cost Assumptions for the Implementation of the Commission on Innovation's Action Agenda. October 1993. (Available from BW Associates, Berkeley, CA, as WP# 117)

This document details the cost simulations and other analyses conducted by Commission staff to estimate the costs and savings that might be associated with Commission recom-

mendations. The analyses treat only those recommendations where costs and/or savings were anticipated; other recommendations were judged to be cost neutral, e.g., by redirecting existing expenditures, or to have no impact on savings. The simulations consist of macro models that list the broad policy assumptions underlying each relevant recommendation; within these policy parameters, micro models specify the technical details associated with potential costs and cost savings. The output of the models is shown in a series of tables and summarized in a table of total estimated costs and savings by year for each recommendation.

Commission on Innovation Instruction Task Force Final Report. n.d., 19 pp. plus appendices. (Available from the Chancellor's Office of the California Community Colleges)

The report to the Commission from the community college Instruction Task Force provides an overview of the historical and demographic context for its recommendations, lists the key pedagogical assumptions made by the Task Force in developing its recommendations, and recommends a number of new directions for the community colleges. The Task Force endorses the use of technology, discusses means for strengthening partnerships between the colleges and the business community, reviews steps for enhancing college cooperation with other segments, and recommends that steps be taken to accommodate different student learning styles.

Towards a More Sensible Governance Structure for the California Community Colleges. Report to the Commission on Innovation from the Management Task Force, May 1993, 9 pp. (Available from the Chancellor's Office of the California Community Colleges)

Following a brief discussion of the public policy background for its recommendations, the Management Task Force recommends governance reform as essential to instructional, management, and facilities improvements. Changes discussed by the Task Force include deregulation of the current system and additional empowerment of the Board of Governors, strengthening of the Chancellor's Office, and stronger accountability based on student outcomes.

Community College Capital Outlay Issues of the Future. Report to the Commission on Innovation from the Facilities Task Force, September 1993, 39 pp. (Available from the Chancellor's Office of the California Community Colleges)

The Facilities Task Force report discusses the changing demographic and technological context for facilities planning and makes a wide range of recommendations regarding the need for better growth projection models, the importance of environmental and social factors in facility planning, and the need to plan facilities to accommodate advanced technologies. The paper goes on to discuss ways in which new facilities might be funded and makes a number of recommendations for streamlining the State facilities approval process.

INDEX TO ACTION AGENDA

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Staff support to the Commission was provided by BW Associates, a private policy research firm that conducts research, evaluation, and policy analyses on state and national education and training issues. BW Associates has performed major research on community colleges, including a comprehensive analysis (in the mid-1980s) of the strengths and weaknesses of the California community college system; research and policy recommendations on personnel policies; a state-wide evaluation of community college Transfer Centers; a program of research on transfer issues for the National Effective Transfer Consortium (including 15 colleges in California); a methodological study of transfer rate issues involving 65 community colleges across California; research (for CPEC) on professional development issues in California public higher education; and state and national research on issues of employment training and the transition from education to work.

Paul Berman and Daniel Weiler directed the Commission staff effort. The following BW staff members contributed to this work: Jennifer Curry, Kimberly Kunz, Nicole Maestas, Beryl Nelson, Eric Premack, David Ramirez, Sanjay Santhanam, Jennifer Wallace, and Katrina Woodworth. John Dicker, Janis Cox Jones (Pheasant Hill Associates), Margaret Thompson, and Robert Wyman (The Wyman Group) served as consultants to BW Associates on its work for the Commission. Administrative support was provided by JoAnne Jordan and Jennifer Moran.

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