2003-2004

Budget for Capital Improvements

UNIVERSITY OF CALIFORNIA
Office of the President
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OVERVIEW

UNIVERSITY OF CALIFORNIA
CAPITAL IMPROVEMENT PROGRAM

Based on current estimates, the University projects enrollment growth of 8,000 full time equivalent (FTE) students in 2003-04, including planned growth and support for over-enrollment in the current year of about 4,000 FTE. The University's long-term enrollment plan, last revised in 1999, called for enrollment growth of about 5,000 FTE per year over this decade; by 2010-11, the University would reach its planned target of 210,000 FTE students. This target was revised upward by 1,000 students when the opening date for the Merced campus was accelerated by one year and was further revised upward to account for State-supported summer enrollment; the revised target for 2010-11 totals 217,500 FTE. The University is experiencing more rapid growth projected—enrollment is currently more than 8,000 undergraduate FTE over the level envisioned for 2002-03. Therefore, the University is undertaking a review of the 1999 plan to revise the 2010-11 enrollment projections upward. Such dramatic growth over a sustained period of time presents the University with a major challenge. Adequate resources are critical to the University's ability to meet this challenge.

The total capital need for State-supportable functions—including academic programs, academic support, student services and administration, and campus operational support—is estimated at more than $600 million per year over the next five years for the existing nine campuses. Of the total annual need, $350-$400 million is related to development of new facilities and expansion of campus infrastructure to accommodate enrollment growth. Approximately $250 million is related to the renewal and modernization of existing facilities and correction of seismic hazards. These figures include the cost of completing development of the new Merced campus; approximately $78 million of State funds will be needed over the five-year period to complete the first phase of development (6,000 FTE students), supplemented by University funding for student housing and support functions. However, the figures do not include funding for deferred maintenance (currently provided through the support budget) that is proposed at a level of approximately $70 million per year for the next few years.

In contrast with this estimated need of over $600 million per year for academic programs and essential supporting functions, the 1998 general obligation bond issue provided approximately $210 million per year during the four-year period 1998-99 through the 2001-02 budget. CPEC has suggested that a bond measure of $1 billion per year is needed to support the State's three segments of public higher education, divided equally between the three segments.

Legislation passed in the 2001-02 fiscal year has placed a new general obligation bond measure on the November 2002 election ballot for voter action that, if approved by the electorate, would provide $1.65 billion for California's public institutions of higher education to fund capital appropriations in the 2002-03 and 2003-04 fiscal years. The University of California would receive $90 million from this bond measure in 2002-03 (with additional funding provided from lease revenue bond sources) and approximately $316 million in the forthcoming 2003-04 capital budget. A second bond measure, authorized by the same legislation for the 2004 ballot, would provide the University with $345 million per year for an additional two years if approved by the voters.

It is critical that the public approve these new bond measures if the University is to support the great surge of student enrollment that is currently underway and address essential seismic life-safety corrections and the renewal of aging and obsolete facilities at our older campuses. Without those funds, campuses will not have the space to support the hiring of new faculty and expansion of programs that are necessary to provide a quality education to the new students of the State.

Even with this anticipated funding, there is still a funding gap of over $200 million per year. The University has committed itself to pursue gift and other potential fund sources to supplement State resources. We can meet possibly as much as half of this shortfall, but not all. The outcome of this shortfall is similar to what was experienced during the growth period of the 1980s—in the short term, the availability of core academic facilities did not keep up with the pace of enrollment growth. Many of the new facilities funded by the State based on enrollment growth in the mid-80s did not come on-line until after enrollment growth had leveled off during the early 1990s. The degree of impact and lag may be greater in the current case because the University's rate of enrollment growth is larger. The current problem is particularly acute at the University's heavily impacted growth campuses—Davis, Irvine, Riverside, San Diego, and Santa Cruz—which are

currently operating at a significant space deficiency. We expect that the State will help the University minimize a shortfall, and will provide continued funding after 2010-11 to allow correction of the remaining deficiencies. If there is confidence that the necessary State funding will be provided, individual campuses can deal with reasonable levels of short-term deficiencies. If adequate funding is not provided, the University's ability to support increased enrollment and maintain program quality will be seriously harmed. The financial challenge faced by the State and University at this time is critical.

Capacity for Enrollment Growth

Each campus has a Long Range Development Plan (LRDP) that defines the maximum anticipated enrollment of the campus, reflecting the mandated environmental reviews and approvals necessary for campus development. The existing campus LRDPs were approved between 1989 and 1994, and anticipate a total universitywide increase of 34,000 additional students above the levels in 1998-99. Work is rapidly proceeding on development of the new UC campus at Merced; it is scheduled to open in the fall of 2004 and reach an enrollment of 6,000 FTE students in six years, by 2010-11. The total enrollment capacity of the existing nine campuses as defined by their current LRDPs, plus UC Merced, was approximately 24,000 FTE less than the enrollment demand that was forecast for 2010-11 in the 1999 enrollment plan, and the short-fall in University capacity is significantly more critical with the current estimates of higher enrollment growth.

All campuses are actively pursuing programmatic and physical options for accommodating the increase in students. At several campuses, this is dependent upon the lengthy process of amending their present LRDPs, addressing applicable environmental concerns and engaging in the necessary public review. Establishment of new off-campus centers is under active consideration by Santa Cruz and other campuses, as is the expansion of off-campus study programs in general. Of particular importance is the objective of making more efficient use of existing campus facilities, particularly during the summer.

The University has agreed with the Governor and Legislature to pursue the expansion of instructional programs during the summer with the target of a universitywide summer and qualifying off-campus enrollment equivalent to about 40 percent of the average fall/winter/spring quarter academic workload. This presents a serious challenge, not simply in terms of

ingrained student summer work and vacation patterns, but also for efficient scheduling of courses, cost-effective class sizes, appropriate staffing to provide the quality essential to a University of California education, and the requisite funding. The University's summer programs in the past were self-funded, but the state has agreed to provide additional funds to place those existing enrollments on the same financial basis as the regular fall/winter/spring terms. At this time, funds have been provided for conversion of only the Berkeley, Davis, Los Angeles, and Santa Barbara campus summer terms. The University's 2003-04 budget plan includes the phase-in of State support for the remaining four campuses; however, the extent to which this request is funded will depend upon the State's fiscal condition. It is clear that the University must exert every effort to make this program succeed and exploit all other opportunities to accommodate increased enrollment if the projected enrollment demand is to be met.

Maintenance of the quality of University of California academic programs and the education received by its students is critical. Under the Master Plan for Higher Education of the State of California, each of the three segments of public higher education has a focused role. The University of California is designated by the Plan as California's graduate and research institution, providing a distinct character of education for both undergraduates and graduate students that prepares them to take leadership positions in industry and the community, and supporting the rapid advance of California's economy through research and public service. Maintaining the high quality of UC programs requires that the University continue to hire new faculty who are working at the leading edge of their fields, and effectively support their efforts. The rapid growth experienced by the University during the 1980s demonstrated the serious strains created in heavily impacted academic programs; the level of growth being experienced now is even greater.

Appropriate facilities are an essential part of this effort. This is most clearly seen for science and engineering programs which are heavily targeted by students in this surge of enrollment growth. Beginning in 1998-99, the University initiated an eight-year plan to expand enrollment in engineering and computer and information sciences by 50 percent, an increase of about 8,000 students by 2005-06. This plan has been so successful that the University has already met its goal in 2001-02, four years ahead of schedule. Those programs are of particular concern because of their dependence on highly sophisticated laboratories and technologies to support "cutting-edge" teaching and research.

Much of the student learning process at institutions of the level of the University of California, for undergraduates as well as graduates, occurs in participatory research and related settings rather than the more traditional didactic classes. The faculty members who are most effective with their students—the first-rank faculty essential to producing the graduates and breakthroughs that drive the California economy—will not come to the University of California unless the facilities are available to allow them to be successful in their teaching and research efforts. Such facilities include state-of-the-art laboratories for teaching and research; modern computation, information, and communication resources and technologies; and a satisfactory campus utility infrastructure necessary to support these facilities.

However, the campus must have a balanced array of many categories of facilities and services to function effectively and meet its education, research, and public service goals. A shortfall of one impacts the functional success of the campus as a whole. These facilities include not only core academic buildings but also libraries and instructional/research support facilities, student services, housing and auxiliary enterprises, health science centers, utility plants and infrastructure, and remote centers for educational outreach, research, and public service.

The ability to expand this system of people and facilities in a timely way is dependent upon the availability of funds, a serious challenge. However, the new tidal wave of students is moving through California's primary and secondary schools and into the University at this time. The University is committed to meeting their needs.

Other Capital Needs

Unfortunately, the need to expand facilities to support enrollment growth is only one of several categories of urgent issues that must be addressed and balanced in the capital program.

The condition of the University's existing physical plant is in itself a serious problem, resulting from the wear and decline associated with the age and intensive use. The importance of facility renewal is obvious at a campus of the age of Berkeley or Los Angeles, but even the "newest" of the existing campuses are now nearly four decades old and are experiencing many of the same problems. The University's backlog of deferred maintenance grew dramatically during the periods of budget reductions experienced in each of

the past three decades. Deficiencies in existing facilities remain a major constraint to academic program quality and innovation. Recent State action to increase permanent maintenance funding and the University-financed bonds for deferred maintenance address an essential first increment of this problem, but an adequate level of continued support through the deferred maintenance program and capital renewal is necessary to preserve the value of the University's physical assets.

A third category of need is that of change and obsolescence. As science, industry and commerce constantly evolve in response to new knowledge and opportunities, so must the academic programs that are responsible for preparing graduates entering those fields and for conducting the research that advances knowledge and creates opportunities. Instruction and research objectives evolve and change direction, as do the methods and equipment used. To prepare students properly, academic programs must themselves be at the frontiers of knowledge, developing and using innovative processes and technologies that support discovery, expand knowledge, and give competitive advantage to California. Unless academic facilities are renovated and updated to meet continually changing program needs, they become constraints to the capability of the programs and ultimately limit the abilities of the graduates entering the California economy.

This continued evolution is particularly strong in science and engineering fields. In many cases, the boundaries between science and engineering are dissolving, and similar changes are occurring in other academic disciplines as well. Witness the extraordinary expansion of "bioengineering" where research and education in a single laboratory (for example, development of diagnostic or medicine delivery devices using nanoscale technologies) may involve biology, chemistry, materials science, structures, fluid dynamics, and other fields of expertise. The laboratory technologies involved today are similar across disciplines and often involve sophisticated instrumentation and analysis at a cellular or molecular level, demanding equipment and controlled environments once common only in high-level physics and health science research. Many laboratories once satisfactory for entomology, botany, agriculture, or engineering are now completely obsolete for work at the forefront of their disciplines.

This is exacerbated by the fact that many of the University's older buildings were designed to meet building, fire, life-safety, and accessibility codes written 30, 50, or more years ago. Not only have regulatory and public understanding and expectations of appropriate design and essential safety

changed, but as noted above, the activities housed in the buildings (particularly science and engineering laboratory functions) also have become much more complex and demanding. The dramatic changes in laboratory methodologies and technologies, and particularly the great increase in chemical usage, present safety concerns significantly greater than normal in the past.

The University's capital program also is seriously impacted by issues of life safety, particularly the critical need to ensure that students, faculty, and staff are safe in an earthquake. A series of devastating earthquakes in California and abroad has amply demonstrated the hazards inherent in many buildings designed under earlier structural codes and practices. The University has had an aggressive program of seismic corrections over the last two decades, and over 80 percent of University buildings that had been rated before 1994 as being seismically "Poor" or "Very Poor" have now received or are now receiving structural correction. The University anticipated having almost all such corrections completed or at least started by the year 2000 if funding levels were maintained. However, the Northridge Earthquake of 1994 and the subsequent Kobe earthquake provided substantial new understanding of earthquake forces and building performance, and resulted in significant changes in structural design codes and practices. As a result, the University has re-evaluated many of its facilities, identifying a number of additional buildings that require action to protect the lives of occupants. The problem has been particularly serious at Berkeley, where the campus core is immediately adjacent to the Hayward Fault, because it is now understood that forces experienced close to such a fault can be much greater than previously estimated.

The Regents have continued to give high priority to completing the University's program of seismic and other life-safety corrections as rapidly as possible, and the new seismic projects have been incorporated into the capital program. This problem has had a significant impact on several campuses which also are anticipating a major increase in student enrollment. The requirement to rebuild the UCLA Center for Health Sciences and many other buildings on the general campus which were damaged in the 1994 Northridge Earthquake, and the massive seismic corrections program at the Berkeley campus, present special problems. State funds have been supplemented by major FEMA support at Los Angeles, but even there, and particularly at Berkeley, the level of additional funding necessary presents a serious challenge and will require extraordinary campus investment and donor support, stretching campus resources to their limit for the next two decades.

Capital Funding Strategies

The University has a Capital Needs and Funding Strategies Task Force at work, comprised of senior management staff from all the campuses. The objectives are to assess long-term capital needs for the next ten years in all categories, including those programs normally not considered State-supportable, and to assess the adequacy of funding sources to meet the University's long-term capital needs and the development of new funding strategies. A preliminary estimate of capital needs for the period 2003-04 through 2007-08 has been shared with the State Department of Finance and the University will continue to work closely with Finance and the Legislature to secure increased support to address the University's most pressing problems.

The definition of funding need is based on the application of common space planning standards across the campuses (avoiding the workload and subjective factors that are involved in development of individual project lists, often challenged as "wish lists"). For core academic facilities, these include the space standards developed by the California Postsecondary Education Commission (CPEC) and legislatively approved utilization standards. The CPEC standards were published in 1990 following an intensive two-year process to review and revise space standards that had been developed in the 1950s, and recognize the major changes in teaching and research methods that had occurred in the previous three decades. It should be noted that such standards estimate the quantity of space required, but do not deal with the quality of available space that continues to be a problem for our older campuses.

This estimate of capital need is based on the 1999 enrollment plan including summer term students that results in a planning target of 217,500 FTE general campus students by 2010-11, and recognizes our agreement to expand summer and qualifying off-campus academic enrollments to approximately 40 percent of the average fall/winter/spring quarter assuming funding is provided.

It is important to note that the definition of our five-year need is different and greater than the five-year capital budget for State funds that is presented in this document. The five-year budget request is based on reasonable assumptions concerning the level of State capital funding that we estimate will be available during this period, and presents specific projects in

priority order based on that estimate of available funding. The budget request does not display our total funding need.

The Capital Planning Process

Each campus routinely prepares a five-year capital program based both on a practical assessment of facility needs and on realistic expectations of the amount of capital funding that can be expected. This allows detailed planning efforts to be focused on those projects which are most important for the campuses and thereby avoids wasting resources in preparing unsuccessful funding requests. Projects proposed for State funding in the current capital improvement budget year are based on intensive, detailed planning and pre-design analysis that typically starts three years before initial State funding. This process supports effective internal decision-making, ensures that the commitments that are made can be met, enables the University to explain the proposed projects effectively during State review, and improves project management during design and construction.

Organization of the Regents Budget For Capital Improvements

This budget document focuses on projects for which State funding is requested in 2003-04. In addition, the document includes the five-year capital improvement program for State-funded projects, reflecting anticipated funding requests through 2007-08, and a summary of other unfunded campus capital needs (including both State and non-State-supportable facilities).

As in previous years, the non-State-funded capital improvement program is addressed separately. A new Five-year Non-State Capital Program report is provided parallel to this State-funded Capital Improvement Program document. However, the non-State program is managed as a continuing process, amended as required to include new projects when funding is obtained or financing plans are developed. In contrast, the State-funded capital improvement program reflects the once-per-year funding cycle of the State Budget process.

This State-funded capital budget document is organized as follows:

1. 2003-04 Budget for Capital Improvements: State Funds

The request for State capital outlay funds in 2003-04 totals $315.9 million, with all but one small project to be funded from the

2002 general obligation bond measure on the November 2002 ballot for electoral approval. It includes $299.2 million for the nine existing campuses and Division of Agriculture, and $16.7 million for the next step of site development and infrastructure work and construction of buildings for the new UC Merced campus. The request is presented in summary form for the University as a whole in the following Overview section of this document. That Overview lists only those projects for which State funding is requested in 2003-04.

2. Campus Five-year Capital Improvement Programs

The five-year capital improvement program planned for State funding, covering the years 2003-04 through 2007-08, is presented in more detail in individual sections for each campus (including UC Merced), the Division of Agriculture and Natural Resources, and universitywide facilities and programs. Each campus section begins with an introduction that outlines the goals and problems which drive the capital program for the campus. It is followed by a table presenting the five-year program for State funding and a descriptive summary of each project in the five-year program. Each campus section concludes with a review of the capital needs of the campus beyond those addressed in the State-funded five-year program and approved non-State-funded projects; this includes both long-term needs that the University may propose for State funding in the future, and needs that will be addressed from other funding sources.

Regental approval is requested only for projects for which State funding is proposed in 2003-04—summarized in the following Overview section.

Projects that are listed in the five-year programs for funding in later years have already received substantial internal consideration and are expected to continue to be reflected in future capital budgets. However, it must be noted that these five-year programs are planning documents and changes will occur as needs, opportunities, and funding decisions unfold.

2003-04 BUDGET FOR CAPITAL IMPROVEMENTS
STATE FUNDS

The 2003-04 Capital Budget requests $315.9 million in State funds for the University's capital outlay program. This level of funding is essential to expand and upgrade academic facilities to support enrollment growth and to maintain progress on seismic and other life-safety improvements while also addressing essential infrastructure and building renewal needs.

The attached summary budget schedule displays the complete 2003-04 State capital budget request. This includes a total of 40 major capital projects in universitywide priority order for which preliminary plans, working drawings, or construction funds are requested.

Of these 40 major capital improvement projects, funds are requested to support construction or complete design and undertake construction for 27 projects, and to begin or continue design on 13 projects.

Seventeen projects are focused on urgent program improvements to accommodate enrollment growth. Of these, 11 will provide new buildings to expand instruction, research, and academic support facilities; three will expand and renovate existing academic buildings; and the other three will renovate existing buildings for growing academic programs. Two additional projects will renew and upgrade the infrastructure of existing laboratory buildings to address current academic program needs and another project will renovate an existing facility to provide research and support space for initial faculty at the new Merced campus.

Life safety continues to be a critical priority for the University, and 13 of the 40 universitywide project funding requests are to address serious seismic and other life-safety hazards. In addition to nine projects for the correction of seismic deficiencies, this funding request includes two projects that will provide facilities to improve emergency response to earthquakes and other disasters and two projects that will provide building fire sprinkler and fire alarm systems.

Essential infrastructure renewal and expansion is the focus of seven projects. These infrastructure improvements are required to provide the services necessary to accommodate the demands of enrollment growth and associated campus development.

The requirements of program improvement and enrollment growth will be supported by funding for construction of a computer science building at Irvine (priority 1), a pharmaceutical sciences building at San Diego (2), an addition and renovation for the psychology building at Santa Barbara (3), the Biomedical Library at San Diego (13), as well as the next increment of collection storage space at the Northern Regional Library Facility (22).

Funds for both design and construction in projects to provide academic program improvements and accommodate enrollment growth are requested for the Humanities and Social Sciences Facility at Santa Cruz (11), the College of Humanities and Social Sciences Instruction and Research Facility at Riverside (16), and the Biological Sciences Unit 3 project at Irvine (23).

In addition, enrollment growth will be supported by a number of projects for which funds are requested to begin and/or conclude design, including a new facility for wine and food science (the Robert Mondavi Institute) at Davis (14), a student academic services facility at San Diego (25), the second phase of alterations for engineering facilities at Santa Cruz (26), renovations to biological sciences buildings at Santa Barbara (27), a psychology building at Riverside (29), an education and social sciences building at Santa Barbara (31), renovations for the applied physics and mathematics facilities at San Diego (32) as well as the combined addition and renovation of Mayer Hall at San Diego (33), and the logistical and support services facility at the new Merced campus (36).

Three projects will address the deficiencies of aging buildings and support academic program needs. Funding is requested to construct a project that will renew and upgrade building utility systems in the Health Sciences West laboratory facility at San Francisco (10), to begin design for similar building system upgrades and improvements in the Medical Sciences Building at San Francisco (37), and to complete design for the renovation of facilities at Castle Aviation Center to support the research endeavors of initial faculty at Merced (15).

Several projects included in the 2003-04 State-funded Capital Budget will correct serious seismic and other life-safety hazards. Among the projects that address seismic safety hazards are funds requested for construction or to complete design and construct the second phase of corrections for Kinsey Hall at Los Angeles (4), the replacement facility for the seismically hazardous office wing in Snidecor Hall at Santa Barbara (5), the final step in the phased corrections for Doe Library at Berkeley (7), the combined project