

2007-2008

Budget for State Capital Improvements



**UNIVERSITY OF CALIFORNIA
Office of the President
November 2006**

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OVERVIEW

UNIVERSITY OF CALIFORNIA STATE CAPITAL IMPROVEMENT PROGRAM

The State-funded capital improvement program of the University of California at this time is facing challenges that are more serious than have been experienced in many years. The capital needs of the University have seldom been more urgent. They are driven by issues of major enrollment growth, a critical need for the renewal and modernization of an aging physical plant, and costs for completing seismic corrections at two major campuses that continue to outstrip available fund sources.

The challenge is made worse by unprecedeted construction market conditions: a volume of contract work in the State that has exceeded construction industry capacity and substantially reduced competition, and a context of global inflation in construction materials. These have increased project costs by well over 35 percent in the last three years and resulted in erratic contract bids that exceed pre-bid estimates by 20 to 50 percent or more.

These factors have caused great concern within the University, and there has been an intensive effort by those responsible at the campuses and the Office of the President to review existing processes and continue to focus resources on the highest priority needs of the campuses.

An overview of these issues and the actions being taken to address them is presented below.

The University's Capital Needs

As frequently cited, the University of California is designated under the California Master Plan for Higher Education as the State's graduate education and research institution with related responsibilities for public service. This three-fold mission determines the character of the institution and the education it provides for both undergraduate and graduate students. The students who receive degrees from the University are prepared to take leadership positions in science, industry, and our community. The University's advanced research is not only an integral part of this educational process but also a vital engine of the continued strength of California's economy.

Growth: The University's general campus enrollment in 1997-98 was 145,534 full-time-equivalent (FTE) students. A period of exceptional enrollment growth began the following year. By 2005-06, enrollment had grown to 191,912 students, a 32 percent increase over eight years. In 2010-11 it is expected to reach approximately 219,600 FTE students, a cumulative increase of about 74,066 students or 51 percent, a number approximately equal to the combined 1997-98 enrollments of the Berkeley, Los Angeles, Riverside, and Santa Cruz campuses. The current growth rate of about 2.5 percent per year will slow after 2010-11; but the continuing demands for undergraduate access, the pressures for increased community college transfer, and the needs of the California economy for graduate-level education are expected to result in enrollment growth of approximately 2,500 students per year.

In addition, the increased demand for medical care by the growing State population, and particularly in underserved rural and urban poor segments of our society, has led to a plan to expand the enrollment in existing UC medical schools by ten percent, with the increase focused on doctors selected and trained specifically to address the needs of underserved groups. Special funding has been included in the proposed 2006 bond to support this focused training program and to expand University telemedicine education and health-care delivery programs throughout the State.

As has been true of past enrollment growth cycles, funding for the expansion of facilities has lagged significantly behind the rapid increase in student population. The current University Space Analysis reports that five University growth campuses have on average about 20 percent less space than recommended by CPEC space guidelines for their level of enrollment. (The analysis fully discounts space allowances in accordance with the University's commitment to bring summer term FTE enrollments to a level equivalent to 40 percent of the average fall/winter/spring term.) Campus facilities are crowded, the recruitment of essential new faculty is constrained, and important actions to expand and innovate curricula are hindered.

Modernization: Given the University of California's leading role in State education, research, and public service, it is no surprise that the University's academic programs have experienced rapid change, particularly in the fields of science and technology that are critical to a skilled workforce and expanding economy. Indeed, the boundaries between once isolated disciplines are rapidly disappearing as "molecular engineering" becomes an essential part of "health science," "nano-technology" produces sensors and

controls critical to both “biology” and “transportation management,” and “biology” addresses critical national petroleum supply problems.

As a result, not only has the University needed a major increase in constructed space to support the growing number of students and faculty, but all the existing facilities that support the University’s enrollment must be modernized to keep them effective in their service to California’s workforce and economy. Many buildings once “state-of-the-art” now seriously impede their occupants or are completely obsolete for the teaching and research work that must be conducted in them.

Renewal: There is need not only for modernization, but for broad renewal in many cases. UC Berkeley was founded in 1873 and UC Los Angeles in 1912, and each still has significant structures that were constructed in the early years of the last century. In the period of enormous growth after World War II, both of those campuses expanded substantially, and seven more general campuses were founded and grew dramatically. The University still depends heavily on the many buildings and infrastructure systems developed during the growth cycles of the 1950s and ‘60s.

The University facilities inventory reports that approximately 34.9 million gross square feet (ogsf) of existing building space, over 33 percent of the total inventory, is 40 or more years old, and 8.9 million ogsf is 60 or more years old. Funding cuts that reduced essential maintenance and repair have magnified the problem of deterioration. Much of that space is in poor condition and badly in need of renewal and fire and health-safety upgrade, and the problem extends to facilities constructed in the decades of the 1970s and ‘80s. We may say that a building should have a life of 40 to 80 years, depending upon function and construction, but the effective life of many component systems is far less. A roof typically has a life of roughly 20 years, and building ventilation equipment has perhaps 25 years. Deterioration of such building systems not only impacts the occupants but increases operating and capital costs. Action must be taken to address this need.

Current societal concerns about sustainability and “green” buildings add further concerns, many involving broad environmental objectives. Energy, in particular, is not only an environmental issue but a critical financial concern for the University that requires an aggressive response. Action by UC during the energy crisis of the 1970s was strong and resulted in large financial savings, and implementation of the University’s new Sustainability policy also is producing important benefits. Unavoidably, however, money must be invested to save money.

Seismic Life-Safety: The Regents have supported an aggressive program of seismic corrections since the 1980s, when the intent was to complete the corrections program by the year 2000. At this time, 90 percent of UC buildings (with 80 percent of the space) rated seismically “Poor” or “Very Poor” prior to 1997 have undergone or are receiving correction. However, the Northridge Earthquake of 1994 and subsequent Kobe Earthquake provided new knowledge of seismic forces, which resulted in major changes in structural codes and design practices in 1997. As a result, the number of UC buildings identified as seismically hazardous has increased dramatically, adding over nine million ogsf of deficient space. With great effort, about 327 facilities containing 76 percent of all seismically hazardous space now have been corrected or are being corrected, including all general campus buildings identified as “Very Poor.” At eight of the University’s campuses, most seismically deficient buildings have been addressed. However, the magnitude of the remaining problem at two campuses—Berkeley and Los Angeles—presents a continuing challenge.

At Berkeley, the central campus is immediately adjacent to the Hayward Fault. It is now understood that forces experienced near such a perilous fault can behave differently and be much greater than previously thought. Of the 127 buildings that have been identified as seismically “Poor” or “Very Poor” at Berkeley, work on 46 structures with more than 60 percent of the total space at issue has been completed or is under way now. This includes all general campus buildings rated seismically “Very Poor” and all student housing. About 20 of the buildings recently added to the list of deficient structures are smaller facilities at the Richmond Field Station, away from the main campus. Compounding the problem is the fact that many of Berkeley’s buildings are relatively old and also badly in need of renewal; the initiation of major structural improvements impacts the building interior and infrastructure systems, adding significant cost. The campus estimates that another ten to fifteen years will be required before all the remaining seismically “Poor” buildings can be strengthened or replaced. State funds to address these needs have been limited. Unfortunately, reductions in State operations funding have significantly impacted the ability of the campuses to use non-State funds to supplement project budgets and pay for associated building renewal requirements and related costs.

At UCLA, facilities containing about 4.9 million ogsf of space, approximately 73 percent of that identified as seismically hazardous, have been or are in the process of being corrected or replaced, including almost all general campus facilities. Only ten of 46 structures with 1.8 million ogsf of seismically deficient space remain to be addressed, with most of the space within the

Center for Health Sciences which was damaged by the 1994 Northridge Earthquake. Replacement buildings are being completed for UCLA's hospitals and the most at-risk health science laboratories, but approximately 1.6 million ogsf of existing Center space still requires seismic upgrade. An additional area will be demolished after being vacated. The work remaining in the Center for Health Sciences will require ten years or more to fund and complete.

At both Los Angeles and Berkeley, the level of necessary additional funding presents a serious challenge that will require a level of campus investment and donor support that, in the current fiscal environment, will be very difficult to achieve.

Cost and Funding Issues

The capital needs outlined above present a daunting challenge to the University and the State of California.

Over the past several years, the University has undertaken a number of efforts to assess its level of capital needs and to review funding strategies, collaborating with internal task forces and campus management. Each year, the University provides data to the State Department of Finance concerning the five-year funding needs for State-supported programs, supporting the Department's legislatively mandated task of developing an annual five-year infrastructure plan for the State. The University currently has documented its funding needs for State-supportable functions—including academic programs, academic support, student services and administration, and campus operational support—at over \$800 million per year through 2011-12. Of the total annual need, more than \$500 million is for development of new facilities and expansion of campus infrastructure to accommodate enrollment growth. These figures include the cost of completing development of the first phase of the new Merced campus for an enrollment of approximately 5,000 FTE students. More than \$300 million is related to the renewal and modernization of existing facilities and correction of seismic hazards. The University also has serious deferred maintenance problems due to continuing shortfalls in operations funding.

State capital appropriations for the University have been supported in recent years largely through general obligation bond measures. The most recent bond was approved by the voters on the March 2004 ballot and provided the University with \$345 million per year for the 2004-05 and 2005-06 budget years. This funding has been critical to the University, and the continued

support of the public, the State administration, and the legislature is of great importance and highly valued. Relying on University commitments regarding program measures and effective use of existing facilities, the Governor has agreed to continue capital funding at a level of \$345 million per year from future general obligation bond or other fund sources as appropriate. Funding for appropriations made in the 2006-07 Budget Act and proposed in 2007-08 would be provided by a new bond measure that must be approved by the voters on the November 2006 ballot.

Without the funds provided by the 2006 bond measure, campuses cannot build the space to support the increase in student enrollments and hire new faculty necessary to provide a high-quality education for California students, make essential seismic life safety corrections, or renew aging and obsolete facilities.

Even with annual State funding of \$345 million, however, there is a capital-funding shortfall of over \$480 million per year. The University remains committed to making every effort to pursue gift and other potential fund sources to supplement State resources for construction. The effort is, however, impaired by cuts in State budgets and competing needs for available funds that have severely limited the ability of the University to continue to allocate non-State resources to construction at the level possible in earlier years. This loss is particularly difficult in the present situation when project budgets set in more stable years are being undermined by extraordinary increases in construction market costs.

In an effort to address the shortfall, the University has increased its borrowing for facility needs. Over the last five years, the University has issued over \$3 billion of additional debt. This external financing has supported not only projects such as student housing and auxiliary functions, but also teaching and research buildings, campus utility infrastructure, and capital renewal efforts. The issue of the University's capacity and practical limits on debt is under serious consideration at this time.

The problem of constrained funding is highlighted in the seismic safety problems described above for Berkeley and Los Angeles. The cost of completing the seismic corrections program at those campuses is in excess of \$1 billion *at each campus*. At the same time, both campuses have other significant capital program needs. The plan at each campus had been to focus available State funds on seismic structural corrections and use campus and gift resources to address related building upgrades, academic program improvements, and problems that arose during construction. However,

increased pressures on campus operations have reduced the campus resources available to supplement State capital funds, constraining project implementation. Such pressures are equally limiting at UC's growth campuses. Available funds are not sufficient to meet high priority needs.

Capital Planning and Implementation Strategies

In response to these problems, the University has intensified its efforts in management of existing facilities, analysis of facility requirements, evaluation of campus priorities, allocation of available funds, and implementation of effective design and construction of projects.

Each campus annually updates its five-year capital program based on a practical assessment of facility needs and on realistic expectations from the Office of the President about the amount of capital funding that can be expected. This encourages careful allocation of limited funds to the highest priority campus needs. It also allows planning efforts to be focused on those projects which are most important and avoids wasting resources on impractical requests. This planning effort includes the use of external and campus space planning standards, utilization standards for classrooms and class laboratory rooms, and continuing discussions with facility users. Campus staff are continually assessing the changing requirements of programs relative to available facilities, identifying serious deficiencies in quantity or condition of space, and analyzing options for addressing those deficiencies. Although some problems can be resolved by adjustments within existing buildings, the level of enrollment growth across the University clearly requires a major increase in available space.

The critical question at the campus level is how the construction of new buildings can best address the most critical needs—how the investment of limited State and campus funds can be optimized for the benefit of campus academic programs and campus infrastructure. The Office of the President Budget Office works with the campuses in this process, providing guidance and perspective relative to Regental and State policies and expectations. The resulting decisions reflect carefully considered campus priorities and are identified in the list of projects scheduled in the five-year State and non-State capital program of each campus.

Projects proposed for State funding in the current budget year are based on intensive, detailed planning and pre-design analysis that typically occur in the year before submittal to the State for initial funding. This process supports effective internal decision-making about specific aspects of the

project, works to ensure that scope and budget commitments can be met (barring extraordinary changes in construction market conditions such as currently exist), enables the University to explain the proposed projects effectively during State review, and improves management of projects during design and construction.

As noted above, construction market conditions have drastically increased costs and created a highly volatile, unpredictable context for project implementation. In response, the University has greatly increased its emphasis on management of cost and cost risk and on the importance of improving the way projects are implemented. Limited State and University resources do not allow us to continue to manage projects as in the past. Unless our cost management is improved, University resources will be quickly exhausted with a resulting substantial reduction in number of projects and ability to support enrollment growth and essential seismic-correction and renewal needs.

The greatest opportunities to control cost occur at the beginning of the design process. During initial project planning, decisions concerning specific aspects of program and their implications for the facility can optimize what can be achieved with available funds. When design begins, an emphasis on simplicity in the physical design solution can reduce cost and, most important, increase flexibility to manage cost risk. At that time, additional program or physical design elements can be identified and designated as options to be implemented at bid if the necessary funds are available. Long-term flexibility in occupant use and control of operation and maintenance cost (particularly energy efficiency) must remain a high priority.

The effort to manage cost continues through the final steps of design, including the definition of contract terms and bid processes in ways that improve contractor response to University projects. If costs at bid substantially exceed budgeted funds, additional measures are investigated to further simplify the building and its scope for re-bid. The funds available to the University from State bond measure and campus resources restrict the ability to augment project budgets, and any action to augment relies on demonstration that all appropriate measures have been taken from the beginning to reduce costs.

Organization of The Regents Budget for State Capital Improvements

This budget document responds to the requirements of the State budget process and focuses on projects for which State funding is requested in 2007-08. In addition, the document includes the five-year capital improvement program for State-funded projects, reflecting anticipated funding requests through 2011-12, and a descriptive overview 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 in detail in a separate document prepared for The Regents. That document includes a summary of projects anticipated from both non-State and State funding resources. Approval actions on projects funded exclusively from non-State sources are managed as a continuing process, amending the capital program at bi-monthly Regents meetings to include new projects as required. In contrast, the State-funded capital improvement program reflects the once-per-year funding cycle of the State Budget process.

It is important to note that UC's five-year *need* is different from and greater than the five-year *capital budget* for State funds presented in this document. The five-year budget request is based on our understanding of the level of State capital funding that is expected to be available during this period, and it presents specific campus projects in priority order based on that estimate of available funding. The budget request does not display or address our total funding need.

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

1. 2007-08 Budget for State-funded Capital Improvements

The total request for State capital outlay funds in 2007-08 totals \$486.8 million. This includes \$316.8 million for the basic capital program and \$140 million for four medical school/telemedicine projects anticipated to be funded from a new general obligation bond measure on the November 2006 ballot. The request also includes a proposal for the Helios Research Facility project, a special energy research facility at the Lawrence Berkeley National Laboratory (LBNL), to be funded from State lease revenue bond funds.

The current request is presented in consolidated tabular form in the following section of this document. That section lists only those projects for which State funding is requested in 2007-08.

2. Campus Five-Year Capital Improvement Programs

The five-year capital improvement program planned for State funding, covering the budget years 2007-08 through 2011-12, is presented in greater detail in individual sections for each of the University's ten campuses, the division of Agriculture and Natural Resources, and Universitywide facilities and programs. Each section begins with an introduction that outlines the goals and problems which shape the capital program. It is followed by a table presenting the five-year program for State funding and by a descriptive summary of each project in the five-year program. Each section concludes with a review of the capital needs of the campus beyond those addressed in the State-funded five-year program and approved by 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.

Projects that are listed in the five-year programs for initial funding in the second and subsequent years of the program have already received substantial internal consideration and are expected to continue to be included 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.

At this time, Regental approval is requested only for those projects comprised in the basic program and the medical education / telemedicine projects for which State funding is proposed in 2007-08. The Lawrence Berkeley National Laboratory is planning to present the Helios Research Facility project to The Regents for action separately at the completion of further study in the spring of 2007. The projects are summarized in the following section.

2007-08 BUDGET FOR CAPITAL IMPROVEMENTS STATE FUNDS

The 2007-08 Capital Budget requests \$486.8 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 adjoining summary budget schedule displays the complete 2007-08 State-funded capital budget request. A total of \$477.7 million is requested to support twenty-seven major capital projects for preparation of preliminary plans, working drawings, or construction. Also requested is \$9.1 million to equip five projects for which construction has already been approved and funded by the State.

Summary:

Of the twenty-seven major capital improvement projects, State funds are requested to support construction or complete design and undertake construction for nineteen projects, and to begin or continue design on eight projects.

Thirteen projects are focused on urgent program improvements to accommodate past and projected enrollment growth and the modernization of facilities to address current program needs. Of these, six will provide new buildings to expand instruction, research, and academic-support facilities; four will expand and renovate existing academic and academic-support buildings; and three will renovate existing building space for growing academic programs. One of the three will renew and upgrade the infrastructure of an existing laboratory building to address current academic program needs.

Life safety continues to be a critical priority for the University, and three of the twenty-seven project funding requests are proposed to address serious seismic life-safety hazards. One of these will replace an obsolete and structurally unsound academic facility with a new building. Essential campus infrastructure renewal and expansion is the focus of six other projects, required to provide the services necessary to accommodate the demands of enrollment growth and associated campus development.

Four innovative Medical Education PRIME / Telemedicine facilities will contribute both to medical instruction and to patient-care services in underserved areas of California. In addition, this budget includes a Lawrence Berkeley National Laboratory proposal for a new energy-research project.

New Facilities:

The requirements of program improvement and enrollment growth will be supported by funding for construction of a new Humanities Building at Irvine, a Social Sciences and Management Building at Merced, and a Biomedical Sciences Facility at Santa Cruz. Funds are requested for both design and construction of an Arts Building at Irvine.

In addition, academic program improvements and enrollment growth will be supported by two new building projects for which funds are requested to begin or conclude design—a Veterinary Medicine Building at Davis and a Management School Facility at San Diego.

Three new Medical Education PRIME / Telemedicine Facilities (at Davis, Irvine, and San Diego) will provide advanced medical instruction and improve health-care services in underserved areas of the State. Also requested is the new Helios Research Facility for innovative energy research at the Lawrence Berkeley National Laboratory.

Expansion and Renovation:

Four projects will address the space deficiencies and deterioration of existing buildings to support evolving academic program needs. Construction funding is requested for an Environmental Health & Safety Expansion at Riverside and for the McHenry Addition and Renovation Project at Santa Cruz. Design and construction funding is requested for the Engineering Unit II Life Safety Improvements and Addition project at Santa Barbara. Funding to complete the design of new space and building renovations is requested for the Davidson Library Addition and Renewal project at Santa Barbara.

Renovation:

Four projects will correct deficiencies of existing buildings. Funding for both design and construction is requested for Durant Hall Renovation at Berkeley and for Boyce Hall and Webber Hall Renovations at Riverside. Additionally, design and construction funding is requested for the renovation of existing

facilities for Telemedicine and PRIME - US Education programs at San Francisco. Funding to begin the design of building renovations is requested for the Bachelor Hall Systems Renewal project at Riverside.

Seismic Corrections:

Three projects included in the 2007-08 State-funded Capital Budget will correct serious seismic and other life safety hazards. Funds are requested for design and construction of Thurman Laboratory Seismic Corrections at Davis and for Steinhaus Hall Seismic Improvements at Irvine. Design funds are requested for a new Campbell Hall Seismic Replacement Building at Berkeley, replacing an existing structure that is too obsolete and structurally unsound for cost-effective renovation.

Infrastructure:

Critical infrastructure deficiencies will be addressed with funding requested to complete design or construction of renewal and expansion work in six projects. These include three new projects at Davis, Riverside, and the Agriculture and Natural Resources Center at Hopland, and three continuing projects at San Francisco, Santa Barbara, and Santa Cruz.

Bond Funding:

The University's 2007-08 State-funded capital budget request is dependent upon passage by the voters of the Kindergarten-University Public Education Facilities Bond measure on the November 2006 election ballot. This financing is essential to the ability of the University to address existing and projected facility deficiencies. University enrollment has increased by over 46,000 students, approximately 32 percent, since the current cycle of growth began in 1998-99, and the expansion of facilities has lagged the increase in enrollment. Student demand is forecast to grow by over 27,600 additional students through 2010-11. In addition, the existing buildings and infrastructure of the campuses are aging and present serious problems of deterioration, obsolescence, and life safety. Passage of the new bond measure is essential if these problems are to be addressed, accommodating enrollment growth while maintaining the quality of UC academic programs in support of a resurgent economy and the vital demographic demands of the State.

University of California
2007-08 BUDGET FOR STATE CAPITAL IMPROVEMENTS

CCCI 4890
EPI 2744

Campus	Project	Prefunded (\$000)	2007-08 Budget (\$000)		Future Funding Requirements (\$000)		Total Project Cost (\$000)
Berk	Durant Hall Renovation		PWC	9,970 *		---	9,970
Berk	Campbell Hall Seismic Replacement Building		PW	6,400	CE	57,294	63,694
Dav	Veterinary Medicine 3B	P 3,100	W	4,751	C 61,125 CE [25,738] G	68,976 [25,738]	68,976 [25,738]
Dav	Electrical Improvements Phase 4		PWC	4,335		---	4,335
Dav	Seismic Corrections Thurman Laboratory		PWC	625 GF		---	625
Irv	Engineering Unit 3	PWC C [8,591] LB	E E	3,292 [3,292] X		----	54,079 [11,883]
Irv	Humanities Building	PW PWC [10,000] LB	C	23,977 *	E	2,064	27,790 [10,000]
Irv	Arts Building		PWC	39,855 *	E	2,500	42,355
Irv	Steinhaus Hall Seismic Improvements		PWC	9,681 *		----	9,681
Mer	Social Sciences and Management Building	PW	2,667	C 37,255	E	3,900	43,822
Riv	College of Humanities and Social Sciences Instruction and Research Facility	PWC C [5,299] X	E	940		----	32,167 [5,299]
Riv	Psychology Building	PWC C [1,500] X	E	1,612		----	34,045 [1,500]
Riv	Environmental Health and Safety Expansion	PW	1,000	C 11,980	E	362	13,342
Riv	Boyce Hall and Webber Hall Renovations	P	900	WC 31,776		----	32,676
Riv	East Campus Infrastructure Improvements Phase 2		PWC C [2,809] X	8,893 *		----	8,893 [2,809]
Riv	Batchelor Hall Building Systems Renewal		P	402	WC	11,110	11,512
SD	Music Building	PWC	39,927	E 2,204		----	42,131
SD	Management School Facility Phase 2		P P [1,000] G	1,000 [1,000] G	WC WCE E	24,620 [17,150] G [1,000] X	25,620 [19,150]

Campus	Project	Prefunded (\$000)	2007-08 Budget (\$000)			Future Funding Requirements (\$000)	Total Project Cost (\$000)
SF	Electrical Distribution Improvements Phase 2	P 525	W 892			C 12,396	13,813
SB	Engineering II Life Safety Improvements and Addition	P [366] X	WC 5,000 WC [834] X CE [3,800] G			----	5,000 [5,000]
SB	Infrastructure Renewal Phase 1	P 489 P [251] X	W 252 W [130] X	WC 9,788 WC [5,042] X		10,529 [5,423]	
SB	Davidson Library Addition and Renewal	P 1,250	W 1,055	CWE 60,494		62,799	
SC	Digital Arts Facility	PWC 21,969	E 1,044		----	23,013	
SC	McHenry Addition and Renovation Project	PWC 45,666 C [2,166] X	CE 38,184		----	83,850 [2,166]	
SC	Biomedical Sciences Facility	PW 6,490	C 69,370	E 2,013		77,873	
SC	Infrastructure Improvements Phase 2	P 367	W 317	C 6,355		7,039	
ANR	Hopland REC Field Laboratory and Multipurpose Facility		PWC 1,708 *		----	1,708	
TOTAL -- BASIC PROGRAM				316,770	254,021		
Dav	Telemedicine Resource Center and Rural - PRIME Facility		PWCE 35,000 PT		----	35,000	
Irv	Telemedicine / PRIME - LC Facilities		PWCE 35,000 PT C [4,000] X E [1,000] G		----	35,000 [5,000]	
SD	Telemedicine and PRIME - HEq Education Facility		PWCE 35,000 PT PWCE [20,375] G PWCE [3,295] X		----	35,000 [23,670]	
SF	Telemedicine and PRIME - US Education Facilities		PWCE 35,000 PT		----	35,000	
Subtotal -- PRIME / Telemedicine				140,000	0		
LBNL	Helios Research Facility		PWC 30,000 RB PWC [30,000] G PWC [30,000] LB		----	30,000 [60,000]	
Subtotal -- LBNL Helios Facility				30,000	0		
TOTAL -- 2007-08				486,770	254,021		

* "Streamlined" State processing during implementation.

KEY TO SYMBOLS AND COST INDICES 2007-2012 CAPITAL IMPROVEMENT PROGRAM

Project Phase Symbols

P = Preliminary Plans
W = Working Drawings
C = Construction
E = Equipment

Fund Source Symbols

No Symbol = State Funds
HR = Hospital Reserves
LB = Long-Term UC Financing
F = Federal Funds
G = Gift Funds
GF = State General Fund
PT = Medical Education PRIME / Telemedicine
RB = State Lease Revenue Bond Fund
U,X = University Funds

Abbreviations

ASF = assignable square feet
GSF = gross square feet
OGSF = outside gross square feet
FTE = Full Time Equivalent
kV = kilo Volts
MVA = Million Volt Amperes
LRDP = Long Range Development Plan
DGS = State Department of General Services
* = "Streamlined" State processing during implementation

All unfunded project costs for State-funded facilities in this Budget are based on California Construction Cost Index (CCCI) 4890 and moveable equipment costs on Equipment Price Index (EPI) 2744, as projected for **July 2007**. Since these indices are associated with the 2007-08 Budget, individual project costs estimated for years beyond 2007-08 do not include an adjustment for subsequent inflationary increases.

BERKELEY CAMPUS

State Capital Improvement Program

ESTABLISHED	1873
ENROLLMENT 2005-2006 (ACTUAL)	24,190 FTE undergraduates 8,157 graduate students 752 health science students
LIBRARY COLLECTION	10 million volumes
CAMPUS LAND AREA	1,290 acres
CAMPUS BUILDINGS	9.3 million assignable square feet

BERKELEY CAMPUS 2007-2012 STATE PROGRAM

INTRODUCTION

Since its doors first opened in 1873, the Berkeley campus and its facilities have continuously evolved to accommodate the University of California's mission of instruction, research, and public service. Early planners designed and built the Berkeley campus on undeveloped lands. As the University grew in size and importance, its development choices became more complicated and its constituencies more numerous. Today, to provide the facilities needed to support the University's academic mission within the bounds of available resources, the campus must address the diverse interests of its faculty, students, and staff, as well as those of neighboring communities, regional jurisdictions, and the State of California.

The State of the Campus

The Berkeley campus has made a number of changes over the past two decades enabling it to continue to recruit the best faculty and to attract a highly qualified and diverse student body, nationally and internationally. Significant actions taken by the campus include the following:

- substantial additional or replacement student housing completed or under way at several sites near campus and at University Village
- reorganization of the biology faculty and curriculum and completion of an ambitious program to build or renew five biology buildings
- construction of new buildings for business, computer science, space science, chemical engineering, student health, and athletics; major additions for humanities, law, and optometry; and several new branch library facilities
- successful completion of two major fund-raising initiatives, "Keeping the Promise" and "New Century Campaign"
- establishment of an ambitious, ongoing seismic safety corrections program, with corrections made in over 46 buildings and coordinated with program improvements
- launching of the "Health Sciences Initiative," a bold new effort to understand and solve today's major health problems that includes two major buildings, one of which is nearing completion

BERKELEY CAMPUS INTRODUCTION (continued)

- comprehensive review of all campus organized research units, recommendation of eight new campus organized research units, and increased support for sponsored research
- restructuring and expansion of program reviews to improve the quality and efficiency of academic and administrative units
- establishment of two California Institutes for Science and Innovation
- establishment of new degree programs such as American Studies, Bioengineering, Asian Studies, Information Management and Systems, Ocean Engineering, Urban Design, Financial Engineering, and Environmental Science, Policy, and Management
- identification and funding of new interdisciplinary programs critical to the State's economy and to campus growth, including computational biology, nanoscience, and nanoengineering
- development of Summer Sessions and Extension programs to accommodate increased enrollments
- implementation of new policies and services to improve graduation rates and decrease time to degree
- expansion of outreach programs to increase enrollment of underrepresented groups
- enhancement of undergraduate education— including increased undergraduate research opportunities, more student engagement with faculty, enhanced instructional technology tools, and regular assessment of undergraduate education
- improvement of business and information systems (e-Berkeley, Berkeley Financial System, Human Resources Management System).

The campus continues to face the challenge to sustain and strengthen the institution despite financial constraints. A dominant element of the Berkeley campus capital program in the current decade is a series of projects intended to correct seismic life-safety hazards. New seismic studies undertaken in 1997 in light of code changes and information from the 1994 Northridge and other earthquakes indicated that nearly 100 campus structures, accounting for 27 percent of campus space, required structural improvement. Therefore, despite significant past progress in correcting buildings with "Poor" or "Very Poor" seismic ratings, there was much additional work to be accomplished. The campus prepared the comprehensive "SAFER" Plan (Seismic Action Plan for Facilities Enhancement and Renewal) to guide its planning in light of this information, and it recognizes this program as essential to protect lives and ensure UC Berkeley's continued status as a premier educational institution.

BERKELEY CAMPUS INTRODUCTION (continued)

Specific projects necessary to correct the remaining seismic deficiencies must be scheduled within a 15-year time frame, with the most critical life-safety work to be completed over the next ten years. Funding available from the State will cover only part of the cost of this program, and every possible fund source is being explored to make this effort successful.

To maintain academic quality while carrying out seismic repairs, the campus continues to pursue concurrent opportunities to renovate, replace, and expand its buildings to meet programmatic needs, as well as to renew building systems that have reached the end of their useful lives. The campus has placed great emphasis on the need to address its extensive backlog of deferred maintenance and to schedule this work in tandem with seismic corrections and program improvements, although the reduction in funding for deferred maintenance puts continued progress in jeopardy. A systematic, ongoing capital renewal program is critical to keep the capital assets of the campus up to date. In a limited number of cases, new construction will be the most cost-effective and appropriate solution. Examples of the latter are new buildings in the northeast precinct for two California Institutes for Science and Innovation (the California Institute for Bioengineering, Biotechnology, and Quantitative Medicine [QB3] and the Center for Information Technology Research in the Interest of Society [CITRIS]), the replacement of Campbell Hall, and (in the northwest precinct) construction of the new Biomedical and Health Sciences Building and other elements of Berkeley's Health Sciences Initiative, as well as planning of new facilities for the School of Public Health.

Projections of enrollment demand for the University made in the mid-1990s by the State Department of Finance indicated a significant growth in the college-age population from 1998 to 2010 ("Tidal Wave II"). In response, the University developed plans to support an increase in enrollment of almost 50 percent systemwide between 1998 and 2010, with approximately 4,000 more students at the Berkeley campus. To minimize the environmental consequences of this growth, including the construction of additional space, the campus has sought to accommodate a significant number of the students in Summer Sessions and off-campus programs and continues to study how to accommodate the remainder while minimizing detrimental effects on campus infrastructure and the surrounding community. Additional academic, administrative, and research space will clearly be needed, particularly in the more popular programs, to accommodate the additional students and the faculty and administrative staff they will require. The total on-campus enrollment for the 2005-06 academic year was 32,347 FTE.

BERKELEY CAMPUS INTRODUCTION (continued)

Campus Development

For many years, campus development was guided by two major planning efforts that provided comprehensive descriptions of facility needs and capital improvement plans: the Berkeley Campus Space Plan (1981) and the 1990 Long Range Development Plan (LRDP). A new 2020 LRDP has been adopted that will guide campus development through 2020-21, but many guiding principles of the previous LRDP will be continued. The Berkeley campus will accommodate its facility needs by optimizing space assignments, renovating or modifying existing facilities, constructing new infrastructure and a limited number of new buildings, and enhancing environmental resources. Berkeley aims to accomplish these goals while preserving the important historic fabric of the campus. The 2020 LRDP draws on the “New Century Plan,” a facilities master plan to guide the continuing “SAFER” program and to account for critical new program initiatives that were not predicted when the previous LRDP was prepared. The LRDP also relies on the campus Strategic Academic Plan, a joint academic-planning effort of the administration and the Academic Senate that provides the necessary academic foundation for the new LRDP. The principal themes of this planning are:

1. **Capital Needs:** Improvements to the physical plant are essential to ensure the safety of building occupants, to support state-of-the-art education and research, to meet new facility standards, and to continue to attract the best faculty, students, and staff. Capital needs at the Berkeley campus are driven by several factors:
 - **Seismic Corrections:** The campus needs to complete its program of seismic corrections. The Berkeley campus is located in an area of extensive seismic activity, with many of its buildings close to the Hayward Fault and in need of strengthening. Given the magnitude of the problem still remaining, a program is required that will draw on multiple fund sources and address the most critical life-safety needs in the next ten years.
 - **Changing Academic Needs:** The campus needs to rectify crowding in existing facilities, support emerging new instructional methods and technologies, accommodate new research subjects and technologies, and incorporate new approaches to management of computing services and information systems. Particularly critical

BERKELEY CAMPUS INTRODUCTION (continued)

for the campus are initiatives in the physical and life sciences, with strong emphasis on the biomedical field, on nanoscience, and on interdisciplinary connections.

- **Facility Age and Obsolescence:** The campus needs to modernize buildings that have become obsolete, complete the upgrade of buildings with life-safety and other code deficiencies, make existing buildings more accessible to disabled users, and provide adequate space for activities still housed in substandard facilities.
- **Infrastructure Needs:** The campus needs to complete its communications network to accommodate new computing and communications technologies. It must also rehabilitate and expand its aging and inadequate utilities systems and optimize access and circulation through development and reconfiguration of roads, parking areas, bicycle routes, and pedestrian ways.
- **Changing Support Needs:** The campus needs to provide adequate facilities for specialized student services, improve sports and recreational facilities, and continue to address the need for faculty and student housing at affordable prices in a tight housing market.
- **Environmental and Historical Needs:** The campus needs to take advantage of opportunities to improve its open space and to preserve the character of the central campus, the hill area, and outlying properties. Among the most important campus features are a number of historically significant buildings and other elements that require preservation and restoration.
- **Transportation Needs:** The campus needs to continue its work with local community agencies to provide reliable and affordable mass transportation for the campus community. The high cost of living in the Bay Area compels many faculty, staff, and students to live at some distance from the campus. As available parking spaces are limited, mass transportation and other alternatives need to be encouraged.

BERKELEY CAMPUS INTRODUCTION (continued)

2. **Development Strategy:** Since the Berkeley campus is densely developed, a dual strategy of conservation and development is being pursued. When feasible, academic and administrative facility needs are met through more intensive space use and selective renovation of existing facilities. When this approach is inadequate, the campus considers using its few remaining building sites for new construction. The Berkeley campus has a long and successful history of supplementing State resources with private gifts for capital improvements. This reliance on private generosity will continue, but the magnitude of the expanded seismic program, in particular, will require new revenue sources. The use of long-term debt will remain the primary means to finance projects for auxiliary and self-supporting programs.

2007-2012 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4890
EPI 2744

BERKELEY CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2007-08	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2008-09	2009-10	2010-11	2011-12	
Durant Hall Renovation (912260)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
		P 350 *					9,970
		W 550 *					
		C 9,070 *					
Campbell Hall Seismic Replacement Building (912017)		P 3,200	C 54,794			E 2,500	63,694
		W 3,200					
Biomedical and Health Sciences Building (912129)	P [6,500] G		WC 46,450				46,450
			WCE [137,050] G				[143,550]
Hearst Gymnasium Academic Building Seismic Corrections (912179)		P 2,650	W 3,150	C 43,800			49,600
Tolman Hall Seismic Corrections (912030)				P 5,250	W 6,350		111,600
					C 11,200		
Mulford Hall Seismic Corrections (912045)					P 2,650		55,800
CAMPUS TOTAL		16,370	103,894 [137,050]	3,150	49,050	22,700	

**BERKELEY CAMPUS
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM**

Durant Hall Renovation PWC \$ 9,970,000

State funds are requested for preliminary plans, working drawings, and construction to renovate Durant Hall and correct various infrastructure and accessibility deficiencies. Originally built in 1911, this 12,738 asf steel-frame building has received only relatively minor renovations over the course of almost a century of service to the campus. Currently occupied by the East Asian Library and related department offices, the space in this building will be released in 2007 upon the completion of the new Starr East Asian Library facility. The specialized library spaces need to be adapted to new uses; the building is totally inaccessible to mobility impaired individuals, and it has numerous life-safety and infrastructure deficiencies. Following completion of this project, the campus will move the Deans' Office of the College of Letters and Science and the Undergraduate and Interdisciplinary Studies Division from their present quarters in seismically "Poor" Campbell Hall to Durant Hall.

**Campbell Hall Seismic
Replacement Building.....PWCE \$ 63,694,000**

State funds are requested for preliminary plans and working drawings for a project to replace the existing, seismically "Poor" (DGS Level V) Campbell Hall (40,362 asf) with a new, larger building (53,450 asf). Campbell Hall was built in 1959 and currently houses the Department of Astronomy and related research programs as well as the Deans' Office and other programs in the College of Letters and Science. The new building will correct a serious seismic safety hazard, provide improved facilities for the Department of Astronomy, address the need for additional laboratory and office space for Physics, and strengthen interdisciplinary ties between Astronomy, Physics, and related research programs. A separate project, Durant Hall Renovation, will provide a new home for the College of Letters and Science in a more central location on the campus.

BERKELEY CAMPUS CAPITAL PROGRAM (continued)

Biomedical and Health

**Sciences Building.....WC \$ 46,450,000
WCE \$ [137,050,000] G**

This project will construct a new laboratory building of approximately 104,000 asf designed to facilitate interactive, multidisciplinary research in the molecular mechanisms of human disease. The programs focus on infectious disease, cancer biology, stem cell biology and gene regulation, neuroscience, and computational biology. The building will be constructed on the current site of Warren Hall.

Hearst Gymnasium Academic

Building Seismic Corrections PWC \$ 49,600,000

Hearst Gymnasium is an 83,742 asf facility built in 1927. It provides space for teaching programs in the biological and social sciences in the College of Letters and Science (the Physical Education Program and the Departments of Integrative Biology and Anthropology), research collections of the Hearst Museum of Anthropology, and a general-assignment classroom. The building is rated seismically “Poor” (DGS Level V) and is a serious life-safety hazard. Its structural weaknesses include many discontinuous interior and exterior shear walls, as well as supporting beams and columns that provide little or no resistance to seismic forces. In addition, skylight openings impede the transfer of seismic forces from the roof and floor diaphragms to the shear walls. The project will upgrade the building by filling in openings below discontinuous shear walls and strengthening openings in the roof, resulting in a rating of “Good.” Mandatory correction of fire and life-safety and accessibility code deficiencies also will be completed.

Tolman Hall Seismic Corrections.....PWC \$ 111,600,000

Built in 1962, this seismically “Poor” (DGS Level VI) 139,156 asf reinforced concrete office and dry laboratory building consists of three structurally continuous wings. The primary occupants are the School of Education and the Department of Psychology, but Tolman also houses two research institutes, thirteen general-assignment classrooms with about 400 seats, and the Education-Psychology Library. The project will correct seismic deficiencies and will include mandatory corrections of fire and life safety deficiencies and compliance with the Americans with Disabilities.

BERKELEY CAMPUS CAPITAL PROGRAM (continued)

Mulford Hall Seismic Corrections PWC \$ 55,800,000

Mulford Hall is a 47,212 sf building constructed in 1948 that houses part of the Department of Environmental Science, Policy, and Management; selected programs of the School of Public Health; and four general-assignment classrooms with a total of 229 seats. The building is rated seismically “Poor” (DGS Level VI) and is a serious life-safety hazard. It has inadequate shear-wall area, perimeter bearing walls that are too stiff, and inadequate diaphragm integrity at the eastern re-entrant corner. The project will strengthen the lateral system to reduce stress on the perimeter shear walls, add new interior shear walls, and add new seismic-force collector paths to attain a rating of “Good.” Mandatory correction of fire and life-safety and accessibility code deficiencies also will be completed under this project. The campus is studying the need for program-related improvements, to be funded from non-State sources and coordinated with this project for cost-effective implementation.

BERKELEY CAMPUS OTHER CAPITAL NEEDS

The Berkeley campus capital program emphasizes renewal and limited new construction. Paramount among campus needs is the completion of necessary seismic safety corrections for many campus buildings; the SAFER Plan is a key document to guide campus planning in the coming years. The other principal current sources of guidance are the recently approved 2020 Long Range Development Plan; the Strategic Academic Plan and New Century Plan, which provide a framework for the LRDP; and additional specialized studies such as the Landscape Master Plan and Landscape Heritage Plan.

Retrofitting will be the dominant approach to seismic corrections, and the campus intent is to take the opportunity to carry out needed building renovation and renewal in coordination with structural work. Although there are limited building sites left on the Berkeley campus, some replacement and expansion through new construction is also necessary to resolve particular campus space and facility problems, including replacement of seismically unsafe structures where retrofit is not economically prudent and expansion is required to accommodate campus growth. A strategy to use multiple fund sources is essential to finance this capital program.

Because of the high proportion of older buildings, current crowding, and the dispersed locations of some departments, a very strongly coordinated building renewal and seismic corrections program is a necessity. This requires space in which to relocate units during renovation. The renewal process has been planned to effect a more efficient use of campus facilities while preserving the park-like qualities of the campus.

1. Core Academic Facilities

Capital needs for particular teaching and research units are presented in alphabetical order and do not reflect campus priorities.

Classrooms: Ongoing capital projects and an intensified deferred maintenance program have significantly improved existing classrooms and seminar rooms, but additional work is needed. As modes of instruction have changed, many classrooms have not been fully adapted to modern teaching technologies. Needs include new or improved audiovisual facilities; upgrade of lighting and ventilation; improvement of seating, other furnishings, and equipment; acoustical

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

corrections; code corrections and physical rehabilitation; and, in some instances, expansion or subdivision of rooms to provide an optimum balance of classroom sizes and types for contemporary instruction methods. Phasing of improvements is necessary to bring classrooms up to date without disrupting instruction.

Humanities, Social Sciences, and Professions: A number of units in the humanities, social sciences, and professions suffer from lack of space or are housed in buildings that—because of age, wear, and obsolescence—are inadequate and hamper academic programs.

- Inadequate and fragmented facilities of the **Department of Anthropology**, the **Department of Art Practice**, and the **Hearst Museum of Anthropology** may require expansion of Kroeber Hall or additional space at another site.
- Phase two of the Tien Center for East Asian Studies facility, totaling approximately 25,000 asf, is planned to address the space needs of the **Department of East Asian Languages and Cultures** and the **Institute of East Asian Studies**. This project will also benefit other crowded humanities programs through the release of existing space in Dwinelle Hall.
- The **Department of Music** requires additional space for performance, ethnomusicology, composition, and other specialized programs, as well as redesigned and expanded practice, office, and teaching facilities. These needs will be partly met by renovation of space in Morrison Hall formerly occupied by the Music Library, and by renovation of the old Art Gallery.
- Several older buildings need rehabilitation for the arts, humanities, and social sciences. Dwinelle Annex, home of the **Department of Theater, Dance, and Performance Studies**, requires major refurbishment and upgrading for changing uses as well as correction of seismic deficiencies.
- The space needs of the **School of Social Welfare** will be addressed by renovations and space reassessments in Haviland Hall.

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

- The need of the **UC Berkeley Art Museum** for improved and expanded space for visual arts collections will be addressed in conjunction with planning to address the seismic deficiencies of the Museum's current building.
- Unmet space needs of the **Haas School of Business** and the **School of Law** will be addressed by a planned Academic Commons building in the southeast precinct as well as by renovations in existing facilities. An executive education residential and teaching facility for the **Haas School of Business** is also under study.

Libraries: Besides the Starr East Asian Library, which will be assigned 46,000 asf in phase one of the Tien Center for East Asian Studies facility, a number of library branches have problems of overcrowding and obsolescence. They require redesign, upgraded technology, and in some cases expansion.

Life and Health Sciences: Berkeley's programs in the life sciences are housed in 20 major buildings on the central campus, as well as in off-campus facilities. The academic reorganization of the biology disciplines at Berkeley and the accompanying building program were highly successful in what they accomplished, but unmet facilities needs remain and new needs have arisen.

- Most of the campus buildings occupied by the **College of Natural Resources** need renovation to respond to program changes in the life sciences, which now place heavier emphasis on sophisticated chemical, physical, and biological methods in research and teaching and require more wet-laboratory bench space, utilities, fume hoods, and environmental controls. An important example is the growing program in microbial biology. Program upgrades will be coordinated with seismic corrections where needed.
- The **School of Public Health** remains split among six campus buildings and various off-campus rental sites, and Warren Hall, rated seismically "Poor" and near the end of its useful life, is planned for removal.

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

- In the near-term, the School's need for wet laboratories will be primarily addressed in buildings in the northwest quadrant of the campus, and additional office space is being provided in University Hall. In the longer term, new facilities will be developed on the recently acquired former State Department of Health Services site adjacent to the campus.
- The upgrade and expansion of facilities at the **Botanical Garden** is necessary to meet the Garden's growing role in teaching and research in addition to its public service mission.
- The **Department of Plant and Microbial Biology** and the **Department of Environmental Science, Policy, and Management** need more experimental growing space for plants, including modern greenhouse space and additional field areas.
- The campus manages fourteen field stations, mostly under the aegis of the **California Biodiversity Center** and the **Center for Forestry**, which have significant needs for improved or expanded facilities.

Physical Sciences and Engineering: The physical sciences and engineering departments need improved laboratory space because of changes in the nature of these academic disciplines, the advance of technology, obsolescence of buildings, deterioration of building systems, and increasing need for protection from environmental hazards connected with research and instruction.

- In addition to replacement of Campbell Hall with a new physical sciences building for the **Departments of Physics and Astronomy**, opportunities for dual-use facilities shared with Lawrence Berkeley National Laboratory are also being explored.
- The problem of inadequate electrical capacity for modern laboratories is keenly felt by the **Physical Sciences** and **Engineering** programs. Increased use of computers and other sophisticated equipment strains building power systems, and in some cases the installation of additional research equipment is limited by the power available. Plans to upgrade building power

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

systems where the problems are greatest will be coordinated with other campus infrastructure and seismic projects.

- Facilities of the **College of Chemistry** require continuation of an ongoing program of major renovation and expansion, particularly for synthetic chemistry. Upgraded ventilation and utilities are essential to provide greatly increased fume-hood capacity. Special attention will be given to expanding capacity while improving energy conservation. The campus will continue its phased laboratory renovation of Latimer Hall and extend this program to other buildings.
- Several **College of Engineering** buildings—particularly Hesse Hall, McLaughlin Hall, and Cory Hall—require replacement or major upgrading and modernizing to improve utility systems, accessibility, and life safety and to provide program improvements. The Naval Architecture Building, constructed in 1914 as a temporary building and now considered of historical significance, requires rehabilitation to solve a variety of seismic, code, heating and ventilation, and sound-insulation problems.

Richmond Field Station: Significant new construction, infrastructure improvements, hazard remediation, site upgrading, and other work at this off-campus location are necessary to realize its potential as a research center and to create a suitable environment for programs for which there is insufficient room on the central campus. Third-party development options are being explored.

2. Administrative and Support Facilities

Alumni and Visitor Affairs: Expanded and renovated space for the Alumni Association is under consideration to accommodate expanded activities and possibly to provide a permanent location for the Visitor Center. Improved visitor parking also is needed.

Campus Computing: Unit-level computing centers located in substandard facilities and buildings targeted for seismic upgrading will be evaluated for relocation to the campus's central computer facility, which is housed in a seismically sound, well-designed space that

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

provides reliability for campus computing systems and other critical services.

Relocation of Administrative and Service Activities: Further relocation of selected administrative and support units is intended to consolidate functions, reduce leased space, and release central space for other programs. Alterations to existing facilities will be needed to accomplish this.

Recreational Sports: Expansion, improvement, rehabilitation, code correction, and safety projects are needed for the **Department of Recreational Sports** at the Strawberry Canyon Recreational Area (SCRA), the Clark Kerr Campus, and the Recreational Sports Facility. Indoor recreation facilities are overcrowded, and improvements are badly needed for the pools at the SCRA. Existing outdoor playing fields and courts are heavily used and cannot meet present demand. Hearst Athletic Field will continue to be used for some time for temporary facilities supporting the seismic program, and tennis and outdoor basketball courts have been removed by new construction. Renovation of existing fields and the planned restoration of Underhill Field will partially address these problems.

Student Services: Despite improvements, several student services remain in inadequate space or continue to lease space off the campus. Alternatives are under review to correct crowded conditions and to provide improved, consolidated space for efficient, effective, and convenient delivery of student services. A redesign of lower Sproul Plaza and environs will provide the foundation for a plan to improve personal safety and provide programmatically enhanced, seismically safe facilities for student programs and services.

3. Auxiliary Enterprise Facilities

Child Care: In 2006-07 the campus increased its childcare program by serving an additional 70 children of faculty, staff, and students in its state-of-the-art facility. Additional facilities for child care for students, faculty, and staff are needed. As funding sources for services are developed and new projects are planned, child care facilities will be considered for inclusion in the capital program.

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

Housing and Dining Services: Even with the recent easing of the rental market, the student housing situation remains challenging, given the general high cost of housing in the Bay Area and students' strong preference to live as close to the central campus as their budgets allow. In Fall 2004, the campus was able to provide rooms to all incoming freshmen and transfer students who met the housing application deadline and to accommodate all continuing-student applicants and a majority of applicants from the UC Extension Fall Program for Freshmen. The campus has set a further objective of accommodating more sophomores and first-year graduate students in campus housing. An increase of over 2,000 beds in the campus housing inventory is projected from future projects, including possible third-party development projects, to meet campus housing goals.

Changes also are needed to existing University-owned student housing at University Village, the Clark Kerr Campus, and Bowles and Stern Halls. The first phase has been completed of a plan to replace 920 units of student family housing at University Village in Albany, and two additional phases are expected to be complete in four to five years. Given the magnitude of what is needed, renovation or replacement projects must be carefully prioritized and phased.

Housing is also a critical problem for new faculty and staff. The shortage of affordable housing for sale or rent near campus hinders the academic program by affecting the ability of the Berkeley campus to recruit and retain faculty, particularly young professors.

Intercollegiate Athletics: A plan to correct seismic deficiencies in California Memorial Stadium will be implemented in phases and coordinated with needed program upgrades. Planning for the first phase of that program is under way. Major improvements are also needed at the Spieker Aquatics Complex.

4. Utilities, Site Development, Transportation, and Parking Improvements

Accessibility: The Berkeley campus is committed to making its educational program and facilities accessible to persons with disabilities. Campus programs open to the wider public—such as conferences, performing arts, and sports activities—must also be

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

accessible. Though much work already has been done and is currently in progress to provide primary access to programs, the campus continues to identify additional work necessary to comply with ADA (federal) and Title 24 (State) access requirements. Access improvements are now focused on campus pathways, specialized program spaces, and peripheral sites and other properties. Older buildings also present special accessibility challenges.

Building Mechanical Systems: Mechanical systems require a program of systematic replacement and upgrades to extend their operation and meet codes. Many buildings have major heating and ventilation deficiencies, especially in relation to current health and life-safety code requirements and indoor air quality. Some systems are unsuited to current needs or have exceeded their useful lives, and others cannot accommodate the demands of energy-conservation measures and more intensive use. These factors can create health hazards and excessive noise, dirt, discomfort, and inefficiency in space assignment. Many of the faulty and outdated systems waste energy and need up-to-date equipment or redesign.

Campus Communications Infrastructure: Electronic communication by a variety of technologies has become critical to almost all campus programs and activities, and demand is expected to increase rapidly over the next decade. The current campus infrastructure is unable to support the required physical cabling and distribution topologies. The campus has carried out five steps of a phased, multi-year program to build a new Interbuilding Campus Communications System (ICCS) linking all campus buildings. As much as 40 percent of the campus community still relies on communications systems housed in an old, seismically “Poor” facility. As part of the campus disaster management and emergency preparedness plan, communications equipment will be moved to seismically safe locations around the campus to provide more redundancy and resiliency for critical communications services and thus remain operable in an emergency. The need to complete this work is made more pressing by the enhanced reliability and functionality of the new central computer facility, which would lose connectivity to a significant portion of the campus if a failure in the old facility were to occur.

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

Landscape Improvements: Major construction on the Berkeley campus during past periods of development has overshadowed, to some degree, the need for judicious preservation and enhancement of existing open space and landscape resources. Now, limitations on campus density require that capital development give careful consideration to the outdoor space. Specific projects will be developed to redesign critical areas, improve public circulation, enhance environmental quality, and install, upgrade, and coordinate campus lighting, signs, furnishings, and outdoor art. Some examples are the redesign of major campus entrances and core-campus spaces such as the western terminus of Campanile Way, the southern campus entrances at College and Telegraph Avenues and Dana Street, and lower Sproul and Dwinelle Plazas. Major landscape and circulation improvements are planned in the southeast precinct as part of a plan to link Memorial Stadium to the main campus.

Parking: The campus needs additional parking spaces, owing to regional and campus factors that have increased demand for vehicle access. These factors include not only continued growth in campus enrollment and employment, but also restrictions by the city on nearby street parking and the displacement of existing spaces by new campus buildings. Expansion of attendant parking has reduced some of this need, as have a broad range of campus incentive programs for alternative travel modes, including discounted transit fares for students and campus employees. However, a significant percentage of the present parking inventory is located in surface lots; and, given the scarcity of buildable land on and around the campus, most of these surface lots are prospective sites for future buildings. In accord with University parking principles, the campus has established a policy to provide for replacement of parking spaces displaced by new buildings, and it is expected that these displaced spaces will be replaced in structure parking. Under the new campus LRDP, the campus parking inventory could increase to a maximum of approximately 10,000 spaces to accommodate both unmet demand and future campus growth.

Site Development: Potential land slippage caused by underground water at hillside sites is a serious problem, and a hill dewatering and stabilization project is needed to correct this problem. Recent storm damage has been identified along the Jordan Fire Trail, an area critical to the hill area for fire protection vehicle access. Much of this damage

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

occurred when the existing drainage culvert system was not able to handle excessive storm water, indicating a need to improve this culvert system. As part of an overall environmental plan for the campus, restoration of declining native flora and the eroded banks of Strawberry Creek is also a priority.

Utilities Modernization and Expansion: The network of underground utilities is in severe decay. Breakdowns are not uncommon in water, steam, sewage, and electrical lines; and increased demand has brought utility systems to the limits of their capacity. A continuing and systematic program to overhaul utility systems is needed to support normal operations, provide for the increasing needs of research and instruction, and address code requirements. The main campus steam tunnel is seriously deteriorated and requires repair or replacement. Studies are continuing to promote increased energy conservation and greater reliability in supplies of electricity and heating fuel. Capital investment also may be required to address restrictions on currently used refrigerants that will require alternative cooling methods for campus buildings. Ongoing improvements to the systems for gas, water, sanitary sewerage, storm drainage, and steam are being coordinated with each other and with planned electrical and communications projects.

5. Code Corrections for Health and Life Safety

Asbestos: The danger of airborne asbestos fibers has been recognized for several decades. Asbestos was formerly used extensively as a building material, and large quantities were incorporated into campus buildings and underground utilities. When asbestos is found in the course of a maintenance or renovation project, it is handled with special precautions and removed from the immediate workplace. These precautions add considerable project cost. Abatement has been undertaken in both non-State-funded and State-funded facilities, and the highest priority problems have been addressed. It is anticipated that, given the scope of planned construction and the extensive presence of asbestos-containing materials on campus, abatement activities will continue as a component of maintenance and renovation projects.

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

Lead: Although its application was effectively banned in 1978, lead-containing paint is still present in many campus buildings. The dangers of exposure to lead paint chips, contaminated soils, and lead-containing dust and debris have been known for many years. Regulatory agencies impose certification requirements for contractors who disturb lead-containing materials. Paint sampling and airborne monitoring are frequently required during abatement activities, and lead debris often must be disposed of as hazardous waste. In child care facilities, disturbance of lead-containing materials requires exposure controls, notification, and clearance criteria beyond the requirements applicable to general construction and renovation projects. These requirements can add significantly to project costs. Because lead-containing paint is so common in older buildings, proper abatement of lead-containing materials will continue to be a component of many campus renovation projects.

Fire: It is necessary to complete the program to correct or mitigate campus fire and life-safety code deficiencies, particularly within high-rise buildings and high-hazard facilities. A significant number of deficient and obsolete building fire-alarm systems need to be upgraded or replaced to meet current codes. Since the obsolete systems cannot be adequately maintained, frequent false alarms have caused numerous unnecessary building evacuations, risked diverting emergency responders from real emergencies, and reduced building occupants' confidence in the fire alarm systems.

Underground Storage Tanks: Groundwater monitoring will continue at some locations where corrective action has already taken place to ensure that there are no further fuel-leakage problems, although monitoring of current sites of concern is expected to be completed within the next year. Clean-up of any newly identified contaminated sites will need to be prioritized and funded. Recent regulatory changes have made design and installation of new underground storage tanks significantly more expensive.

Storm Water Quality: Federal storm water regulations require that the campus operate under a National Pollutant Discharge Elimination System Permit and develop a Storm Water Management Plan. The campus submitted this plan to the water quality board in March 2003 and is awaiting designation and approval. The permit will require

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

development and implementation of best management practices and new programs for campus facilities operation, maintenance, and construction activities to reduce the discharge of pollutants into Strawberry Creek and San Francisco Bay to the maximum extent practicable. Implementation and monitoring programs will establish new responsibilities and require additional funding.

Richmond Field Station Site Remediation: The campus is required by the California Health and Safety Code and State Superfund law to investigate and remediate pollutants at the Richmond Field Station that pose a threat to human health and ecological receptors. Industrial activities at the Station and adjacent properties have resulted in significant widespread pollution. The Regional Water Quality Control Board has issued a Cleanup and Abatement Order that is driving a costly, multi-year remediation, restoration, and monitoring program. Regulatory oversight of this project has recently transferred to the State Department of Toxic Substances Control, which may impose modified or new clean-up requirements.

6. Corrections for Seismic Safety

Because of the age of buildings on the Berkeley campus and because a major earthquake fault runs beneath a portion of the campus, the risk to human life and property from earthquakes is severe. An early study of buildings occupied by State-supported programs indicated that a significant proportion of the most hazardous buildings in California were on the Berkeley campus. Many of these structures were seismically strengthened in the 1980s and 1990s. However, new information from the Northridge and Kobe earthquakes led to more stringent building code requirements in the late 1990s, and a consequent re-examination of campus buildings identified additional structures as deficient. In total, this re-examination effort confirmed a seismically deficient rating for nearly 100 structures, comprising 27 percent of Berkeley's assignable space. The severity of the hazard is accompanied by a high cost for structural renovation. This large amount of work is being accomplished under the SAFER Plan, with the most severe hazards scheduled for correction in the next ten years. Corrections for 46 structures have already been completed or are in progress, as well as work to mitigate nonstructural hazards.

BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)

7. Energy Conservation Improvements

Since the advent of energy conservation programs, the campus has made considerable progress in reducing energy consumption and reforming patterns of energy use. The campus anticipates further projects involving the central control system and cogeneration plant. The campus is actively addressing UC's green building and clean energy policy. Expansion of the successful energy management system, which now reaches 70 buildings, is an important goal. Further retrofit projects involving more energy-efficient cooling systems and variable-speed fans are likely. Of particular importance will be replacement of failing steam lines, which cause energy loss throughout the campus.

DAVIS CAMPUS

State Capital Improvement Program

ESTABLISHED	1905
ENROLLMENT 2005-2006 (ACTUAL)	22,525 FTE undergraduates 4,212 graduate students 2,103 health science students
LIBRARY COLLECTION	3.5 million volumes
CAMPUS LAND AREA	5,993 acres
CAMPUS BUILDINGS	7.1 million assignable square feet
HOSPITAL AND CLINICS	1.6 million assignable square feet
VETERINARY HOSPITAL	159,960 assignable square feet

DAVIS CAMPUS 2007-2012 STATE PROGRAM

INTRODUCTION

Founded in 1905 as the University Farm, UC Davis became a general campus of the University of California in 1959. While the campus is an acknowledged longstanding international leader in agricultural and environmental sciences, veterinary medicine, and biological sciences, it has in recent years gained similar recognition for excellence in the arts, humanities, social sciences, engineering, health sciences, law, and management. UC Davis now offers more than 130 undergraduate majors and 80 graduate programs in the College of Agricultural and Environmental Sciences, the College of Engineering, the College of Letters and Science, and the College of Biological Sciences. These programs, and the five campus professional schools—the School of Law, Graduate School of Management, School of Medicine, School of Education, and School of Veterinary Medicine—combine to provide the most diverse program offerings of any campus within the University of California system.

The UC Davis campus strategic plan emphasizes learning, discovery, and engagement. Learning is enriched through high-caliber instructional programs, quality faculty/student interaction, and the expansion of research, internship and international experiences for undergraduates. Discovery is pursued through intensive research, enhancing the role of graduate students and postdoctoral fellows in research efforts. Engagement of the university in the lives of the broader community, locally and globally, contributes to solutions of society's most pressing problems.

To accomplish these goals, many campus programs require specialized land and building resources. The 5,300 acres of the main campus include not only core instruction and research buildings but also major structures for animals, greenhouses, and other academic support facilities, as well as agricultural land used for teaching and research. Because the Davis campus evolved within a rural setting where basic urban infrastructure was not available, the campus operates its own domestic and utility water systems, wastewater treatment plant, and solid waste landfill site in addition to electrical systems and central steam and chilled-water services.

DAVIS CAMPUS INTRODUCTION (continued)

The recent period of rapid enrollment growth has strained the ability of the campus to maintain campus infrastructure and support systems, to correct safety and code deficiencies, and to renew or replace old and obsolete buildings. Additionally, the campus continues to have significant space deficiencies in basic research, office, and teaching spaces. There is also a continuing need to adapt existing facilities to meet the ever-evolving needs of instruction and research and to maintain the vitality of the academic programs they support.

General-campus enrollment grew by 18 percent (from 22,672 to 26,737) in the period 2001-02 to 2005-06 and is projected to reach approximately 29,300 FTE (including summer-term and off-campus enrollments) by 2010-11.

Long Range Development Plan

The 2003 Long Range Development Plan (LRDP) is the comprehensive policy and land use plan that will guide development of the Davis campus through the horizon year 2015-16 in support of the teaching, research, and public service mission of the University. The LRDP responds to anticipated growth in student enrollment, faculty and staff employment, and UC affiliated activities on the campus.

The 2003 LRDP addresses a campus three-quarter-average headcount enrollment of 32,000 in 2015-16. The LRDP proposes general types of campus development and land uses to support this campus population and enable expanded and new program initiatives. To accommodate this growth, the plan provides for up to 2.5 million square feet of new facilities to meet the core mission, including the provision of student, faculty, and staff housing, and new recreation fields and facilities.

DAVIS CAMPUS INTRODUCTION (continued)

Campus Development

It is clear that because of growth in the number of students and faculty the campus will need additional teaching, research, and support facilities, administrative support space, auxiliary enterprise facilities, infrastructure expansion, and transportation and parking improvements. To meet the needs of campus academic programs, key priorities for the State capital improvement budget will include the following types of new construction and facilities upgrade projects:

- **Expansion of Facilities:** Additional academic and support facilities will be needed both to correct existing deficiencies and to accommodate projected increases in campus enrollment. Existing facilities also require improvement to address the needs of science laboratories and support space, classrooms, and computer laboratories that must be capable of accommodating current programs and technologies.
- **Modernization of Existing Facilities:** A large portion of campus facilities constructed in the 1960s is now showing the effects of age and heavy use. Many facilities require renewal and modernization. Capital funds have been targeted to upgrade these aged facilities and improve their operational efficiency. Capital projects for the sciences will upgrade and replace unsuitable laboratory facilities. Capital projects for non-scientific academic programs and for professional and graduate schools also are needed to modernize obsolete space.
- **Improvement of Health Sciences Facilities:** Major facilities improvements are needed to ensure the quality of programs of the School of Veterinary Medicine. New and expanded facilities are needed to appropriately house current and planned veterinary medicine programs and to correct the problem of clinical facilities that are physically remote from the teaching, research, and central administration functions of the School. The School of Medicine also needs new facilities, and the campus is completing construction on a new Medical Education Building that was funded with non-State resources. Although the Medical Education Building will provide new teaching and research facilities for the School of Medicine additional facilities still are needed to support growth in medical student enrollment associated with the Rural - PRogram In Medical Education (PRIME) and to improve the delivery of health care to underserved populations with the advancement of telemedicine technology.

DAVIS CAMPUS INTRODUCTION (continued)

- **Seismic Corrections:** The program to correct seismic deficiencies in buildings housing State-supportable programs will be nearly complete with the construction of the Seismic Correction Phase 4 project, the Thurman Lab Seismic project, and the SB 1953 compliance project at the medical center.
- **Campus Infrastructure:** Campus infrastructure development has not kept pace with the addition of new and more demanding academic facilities. The electrical service, chilled water, steam, and campus wastewater utility systems will require expansion to ensure that the campus infrastructure does not limit the goals of academic programs.

State funds have not been sufficient to meet the capital improvement needs of the campus. To provide the academic and support facilities required to meet essential needs of the campus, non-State funds have been used to supplement State funds in several projects, including Veterinary Medicine 3B, the Music Building, and Engineering 4. Additionally, projects like Hunt Hall Renovations, Warren and Leita Giedt Hall, and the Advanced Materials Research Laboratory are funded from entirely non-State resources. The amount of non-State funds available is limited, however, constraining options to support enrollment increases and still maintain program quality without additional State support.

2007-2012 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4890
EPI 2744

DAVIS CAMPUS

PROJECT NAME	PREFUNDED (000s)	PROPOSED 2007-08	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST (000s)
			2008-09 (000s)	2009-10 (000s)	2010-11 (000s)	2011-12 (000s)	
Veterinary Medicine 3B (954140)	P 3,100	W 4,751	C 61,125 C [24,228] G	E [1,510] G			68,976 [25,738]
Electrical Improvements Phase 4 (936074)		P 189 W 223 C 3,923					4,335
Seismic Corrections Thurman Laboratory (954120)		P 40 GF W 43 GF C 542 GF					625
Telemedicine Resource Center and Rural - PRIME Facility (9555900)		PWCE 35,000 PT					35,000
Music Building (932160)			P [850] X W 850	C 11,800 C [4,800] G	E [500] X		12,650 [6,150]
Engineering 4 (950360)			P 950 P [250] G	W 950 W [250] G	C 32,100 C [2,500] G		34,000 [3,000]
Fire and Life Safety Improvements and Building Renewal (950700)			P 750	W 750 C 5,000	C 5,500	C 5,000	17,000
Chilled Water System Improvements Phase 7 (950970)			P 1,200	W 1,200 C 21,600			24,000
Haring Hall Renovations (950980)				P 850	W 850	C 16,100	17,800
Academic Building Renewal (950070)				P 400	W 400	C 9,600	10,400
Science Library Replacement (951240)						P 800	24,600
CAMPUS TOTAL		44,711	64,875 [25,328]	42,550 [6,560]	38,850 [3,000]	31,500	

DAVIS CAMPUS
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM

**Veterinary Medicine 3B..... WC \$ 65,876,000
CE \$ [25,738,000] G**

State funds are requested to prepare working drawings for the Veterinary Medicine 3B project. This project will continue a phased program of new construction and renovation to provide state-of-the-art facilities needed to sustain the vitality of the School of Veterinary Medicine's teaching, research, and service programs. The project will provide research laboratory, laboratory support, office, and clinical space in a new 99,000 asf building at the site of the Veterinary Medical Teaching Hospital. This new space will replace obsolete and inadequate space in Haring Hall, allowing reassignment of that facility to academic programs in the core campus where it is located.

Electrical Improvements Phase 4 PWC \$ 4,335,000

State funds are requested for preliminary plans, working drawings, and construction of the next stage of the campus electrical system improvements. This fourth phase of electrical service expansion will be needed to improve system distribution infrastructure and increase the reliability and efficiency of the campus electrical system. The Electrical Improvements Phase 4 project will complete an essential switching station, add new bulk power feeders, and transfer loads from existing overloaded circuits to new circuits.

Seismic Corrections

Thurman Laboratory..... PWC \$ 625,000 GF

State funds are requested for preliminary plans, working drawings, and construction of seismic corrections for Thurman Laboratory (also known as the California Animal Health and Food Safety Veterinary Diagnostic Laboratory). The structure is rated seismically "Poor" (DGS Level V), and correction is required to address life-safety hazards. This 26,497 asf facility houses diagnostic laboratories, laboratory support space, offices, and conference rooms that are managed by the campus for the California Department of Food and Agriculture. The project will correct the seismic deficiencies and improve the lateral-load-resisting system of the building to achieve an acceptable level of life safety.

DAVIS CAMPUS CAPITAL PROGRAM (continued)

Telemedicine Resource Center and Rural – PRIME Facility.....PWCE \$ 35,000,000 PT

State Telemedicine / Medical Education funds are requested for preliminary plans, working drawings, construction, and equipment for the Telemedicine Resource Center and Rural - PRIME Facility. This project will provide approximately 25,700 asf of new space to support telemedicine activities and new medical school students in the Rural PRogram In Medical Education. Space in the new building will include telemedicine and instructional space, medical simulation suites, and associated administrative office and support space.

Music Building	P	\$ [850,000] X
	WC	\$ 12,650,000
	C	\$ [4,800,000] G
	E	\$ [500] X

The Music Building project will provide modern music recital space for the Davis campus, advancing the campus commitment to the fine arts. The approximately 12,000 asf project will include a recital hall, recital hall support space, and instructional and administrative space for the Department of Music, whose existing facilities are inadequate to support current instruction and research.

Engineering 4	PWC	\$ 34,000,000
	PWC	\$ [3,000,000] G

This project will provide approximately 28,000 asf of new teaching and research facilities for the College of Engineering, including space for the Department of Chemical Engineering and Materials Science, the Environmental Engineering Program, and a portion of the research activities of the Department of Electrical and Computer Engineering. The additional space provided by the project will be needed to meet projected enrollment and program growth in the College of Engineering.

DAVIS CAMPUS CAPITAL PROGRAM (continued)

Fire and Life Safety Improvements

And Building Renewal PWC \$ 17,000,000

Several older campus buildings—including Briggs Hall, Chemistry, and the Chemistry Annex—have significant fire, life safety, and renewal issues that require upgrade. Improvements will bring these buildings into compliance with health and safety code requirements.

Chilled Water System

Improvements Phase 7 PWC \$ 24,000,000

This project will expand the campus chilled water system to provide additional cooling capacity to serve new buildings and other campus improvements that are expected to be completed after 2011.

Haring Hall Renovations PWC \$ 17,800,000

At the completion of Veterinary Medicine 3B, Haring Hall will be vacated by the School of Veterinary Medicine and prepared for other core campus uses. Renovation of the building will include upgrades to building systems, fire and life safety improvements, and conversion of wet laboratory space to dry laboratory and office uses. After renovation, the building is expected to be occupied by departments within the College of Letters and Sciences where programs are in need of additional space to address enrollment growth.

Academic Building Renewal PWC \$ 10,400,000

This project will undertake the renewal of aging academic buildings on the core campus. The School of Medicine (SOM) has occupied a number of temporary buildings since the late 1960s. The temporary buildings are obsolete and in extremely poor condition. This project will construct replacement space to house on-campus programs for the SOM.

Science Library Replacement PWC \$ 24,600,000

The existing Science Library requires expansion of stacks, student seating, and administrative areas to support future needs of science and engineering disciplines.

DAVIS CAMPUS OTHER CAPITAL NEEDS

1. Core Academic Facilities

Veterinary Medicine: A phased program of new construction and renovation of existing facilities is under way to provide the School of Veterinary Medicine with state-of-the-art facilities needed to sustain the vitality of its instruction, research, and service programs and maintain full accreditation of the School. In addition to Veterinary Medicine 3A, the Veterinary Medicine Instructional Facility, and Veterinary Medicine 3B, the School will need the research laboratories and other facilities planned in Veterinary Medicine 3C, and related projects, to meet the full needs of veterinary medicine programs.

Agricultural and Environmental Sciences: Agricultural and Environmental Sciences academic programs have become increasingly complex since the 1940s and 1950s when many of the buildings that house these programs were constructed. Today's science requires more sophisticated laboratory facilities and support spaces than are currently available in these buildings. Capital projects are needed to renovate existing buildings and provide additional space to meet the requirements of expanded enrollment. After completion of the Robert Mondavi Institute for Wine and Food Science, renovations will be needed in space released in several buildings by the Department of Viticulture and Enology and the Department of Food Science.

New facilities to replace obsolete existing spaces, accommodate program changes, and provide for growth will need to be constructed for several academic and support programs with specialized needs, such as dairy teaching and research. Agricultural research land near the central campus that has been relinquished for the construction of new facilities will require replacement, and necessary infrastructure will have to be provided to support agricultural operations.

Biological Sciences: Programs in the biological sciences require technology-intensive facilities to support instruction and research. The biological sciences will need improvements to existing facilities in Storer Hall, Briggs Hall, and Hutchison Hall and new space to accommodate growing programs. In addition, there is currently a lack of space on the campus for multidisciplinary programs in biology,

DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)

engineering, bio-informatics, and biotechnology. New research facilities will be needed for these programs. Support for Neuroscience programs will be focused on facilities located in South Davis.

Engineering: Existing facilities do not meet the needs of the Department of Chemical Engineering and Materials Science and the environmental engineering program. These two programs will require more than 30,000 asf of new space to meet the needs of continuing enrollment growth. When this replacement space is built, released space in Bainer Hall will need renovation for use by the Departments of Biological and Agricultural Engineering and Mechanical and Aeronautical Engineering. Additional space for the Department of Electrical and Computer Engineering also will be required.

Visual and Performing Arts: The space deficiency in the fine arts and performing arts disciplines is limiting the effectiveness of instruction. New construction and modifications are needed to correct existing deficiencies and to provide adequate teaching facilities, support space, and performance and gallery facilities. The Art Building and Art Annex will need to be remodeled to provide modern and more efficient facilities for the Art Department, and new space will be required to replace temporary facilities and provide much-needed student and faculty studio space. The crowded and obsolete facilities of the Environmental Design program, now part of the Humanities, Arts, and Cultural Studies Division, will need to be replaced.

Social Sciences: After completion of Veterinary Medicine 3B, space in Haring Hall will be released to the campus and renovated for programs in the Division of Social Sciences. Released space in Young Hall also will need to be renovated to provide modern facilities to accommodate growth in the teaching and research programs of the social sciences.

School of Medicine: The School of Medicine occupies facilities on the Davis campus and in Sacramento at the UC Davis Medical Center. Although the new Education Building in Sacramento and Genome and Biomedical Sciences Facility are being completed at this time, the School of Medicine also continues to experience a significant shortage of high-quality research space, primarily research laboratories and laboratory support space. The School needs additional facilities, both

DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)

in Davis and in Sacramento, to correct this deficiency. The Sacramento facilities would accommodate the School's rapidly expanding clinical research programs. The Davis facilities would provide expansion space and replacement space for programs currently accommodated in maintenance-intensive and technologically deficient temporary buildings.

Graduate School of Management and School of Education: New facilities needed to accommodate the Graduate School of Management will be constructed adjunct to the proposed Hotel and Conference Center. The subsequent release of space will trigger a need for minor renovation of current Graduate School of Management facilities in Academic Office Building 4 for reassignment to the expanding School of Education.

Libraries: The Physical Sciences and Engineering Branch Library has reached full capacity. A larger branch library for the sciences is needed to accommodate the collections of the life sciences in addition to the physical sciences and engineering. The vacated Physical Sciences and Engineering Branch Library would then be remodeled for use by academic programs in the physical sciences.

Animal Facilities: Existing animal facilities require expansion and upgrading to meet current accreditation requirements and support the instruction and research programs of the campus. These include the California Regional Primate Research Center, which supports AIDS research and other research activities. The Primate Center requires substantial infrastructure upgrades to allow continued program growth.

2. Administrative Support Facilities

Many administrative support units have outgrown their existing building space and need improved facilities. These units occupy core campus building sites identified in the campus LRDP for academic program growth. To support the reassignment of central campus space to academic functions, service units such as Operations and Maintenance, Environmental Health and Safety, and a portion of Information Technology will be moved from the central core to expanded facilities in outlying campus areas.

DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)

3. Health System Needs

Significant non-State resources have been expended in past years to make needed improvements to clinical, medical education, and research facilities. There is a continuing need for substantial additional investment to upgrade and replace outdated facilities, expand programs, and renew infrastructure.

The Medical Center Master Plan identifies work totaling more than \$300 million for these needs. The Davis campus has received \$120 million of State funds to address acute-care facility seismic deficiencies, and the medical center is implementing three SB 1953 seismic projects that include additional improvements funded from hospital reserves. Additional projects are identified in the Medical Center Master Plan for funding from hospital reserves and other non-State sources.

4. Housing

Campus Neighborhood: The campus is proposing to construct a new residential neighborhood to provide student, staff, and faculty housing in response to expected growth at the campus. The neighborhood site, known as the West Village, is located on University-owned land on the West Campus bordered by Russell Boulevard to the north, SR 113 to the east, and Hutchison Drive to the south. Adjacency to both the campus and the City of Davis provides for links between home, work, and school. West Village Phase I could provide up to 300 faculty and staff housing units and 1,800 student beds. Additionally, the West Village will provide for open space, recreational fields, a community education center, and an elementary school. Transportation corridors that provide for pedestrian, bus, auto, and bike uses will also be included.

Student Housing: Additional student housing will be needed as enrollment increases. Infill projects at the Tercero complex are planned, in addition to the development of student apartments in the new West Village.

DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)

5. Transportation and Parking Improvements

Campus Road Improvements: New roads, bike paths, and pedestrian paths are needed to safely handle the demands of a larger campus community and an increased number of pedestrians and vehicles. Plans include improvements to the campus loop road to provide direct access to the Buehler Alumni and Visitors Center and other new developments.

Parking: The need will be evaluated for new parking facilities to accommodate the growing campus population and displacement of existing surface lot parking by future building projects, particularly in the Health Sciences District.

6. Corrections for Seismic Safety

As noted above, the UCD Medical Center in Sacramento has substantial seismic deficiencies and must upgrade many of its facilities to meet the requirements of SB 1953. The Master Plan for the Medical Center includes a series of projects that are under way to correct or replace seismically deficient space to meet SB 1953 requirements. Seismic corrections in State-supported facilities on the general campus will be near completion with conclusion of the Seismic Phase 4 and Thurman Laboratory Seismic Corrections projects.

7. Campus Utilities Infrastructure

UC Davis is different from other UC campuses because, of necessity, it has had to provide significant utility infrastructure which is usually provided by outside agencies. The campus has its own wastewater treatment plant, a landfill, domestic water system, utility water system, and chilled water and steam facilities. These utilities will require expanded capacity and renewal. Additionally, capacity and reliability improvements are needed for the campus electrical system.

IRVINE CAMPUS

State Capital Improvement Program

ESTABLISHED	1965
ENROLLMENT 2005-2006 (ACTUAL)	20,236 FTE undergraduates 3,040 graduate students 1,142 health science students
LIBRARY COLLECTION	2.5 million volumes
CAMPUS LAND AREA	1,543 acres
CAMPUS BUILDINGS	5.5 million assignable square feet
HOSPITAL AND CLINICS	651,427 assignable square feet

IRVINE CAMPUS 2007-2012 STATE PROGRAM

INTRODUCTION

Since its opening in 1965, the University of California, Irvine has attained national and international distinction in its faculty and academic programs. As indicated by the award of Nobel Prizes for physics and chemistry in 1995 and for chemistry in 2004, UCI is one of the nation's fastest-rising universities, ranked well within the top 50 research universities according to various measures. UCI's instruction and research programs focus on fundamental areas of knowledge while at the same time providing for interdisciplinary and professional study through the Schools of the Arts, Biological Sciences, Engineering, Humanities, Information and Computer Science, Physical Sciences, Social Ecology, Social Sciences, and Business; the Department of Education; and the College of Health Sciences.

The campus LRD^P that was approved in 1989 defined an enrollment target of 25,650 FTE, including general campus and Health Sciences students. Subsequent forecasts of student demand far exceeded earlier projections, however, and the University responded by increasing projected enrollments at UCI and other campuses through the end of the decade. UCI is now looking at longer-term growth and targeting an enrollment of up to 37,000 students by 2025 to accommodate continuing student demand and evolving academic goals. The LRD^P is currently being revised in accordance with this new target, and the campus expects to submit it to The Regents in early 2007.

UCI's general campus enrollment has increased approximately 30 percent in the last five years, from 17,980 FTE in 2000-01 to an actual total of 23,276 FTE in 2005-06. This growth has resulted in a serious shortfall in facility capacity, creating many problems for programs and the campus. By 2010-11, projections indicate a total enrollment of approximately 29,300 FTE, an additional increase of 26 percent. This level of growth, even with planned increases in summer enrollments, will result in a wide variety of needs—not only for additional instruction and research space but also for new support facilities, housing, recreation, childcare, and campus administration. Just as urgent as the need for additional space is the need to expand the campus infrastructure systems to accommodate these new facilities. UCI's capital needs as now defined include the following:

IRVINE CAMPUS INTRODUCTION (continued)

- New Academic Space**

The dramatic increase in enrollments since the late 1990s has resulted in a need for new space for all disciplines. In addition, the campus is actively developing new programs in a variety of areas that will require space. Examples include new programs in Literary Journalism in the School of Humanities, an interdisciplinary graduate program in Arts, Computation and Engineering, the new Department of Statistics in the School of Information and Computer Science, and new Health Sciences programs in Nursing Science, Pharmaceutical Sciences, and Public Health. Although the completion of projects currently in development will significantly help address those needs, continuing problems will remain because of the magnitude of growth and development. The new projects proposed in the five-year capital program will address the highest of these priorities.

- Renewal and Replacement of Existing Facilities**

The facilities at the Irvine campus are beginning to show their age: 33 academic buildings on the main campus are at least 20 years old, and a number have seriously deteriorated. Building systems have become inefficient or obsolete and more difficult to maintain, and some are unable to provide the level of service currently required. Moreover, academic and research programs are extremely dynamic, constantly evolving to stay at the forefront in a world of rapidly changing technology and increasing information requirements. Projects to renovate existing instruction, research, and academic support facilities will be needed to accommodate new programs and technology as well as to respond to building deterioration and code-related deficiencies. The currently proposed capital program includes two renovation projects: a classroom renovation project to correct code deficiencies and to provide adequate acoustics, lighting, and HVAC, as well as updated technology, in a number of existing general-assignment classrooms, and a project to provide building systems upgrades, fire and life-safety upgrades, and other code-required improvements in one or more of UCI's aging laboratory facilities. In addition, there is a continuing need to replace approximately 53,000 asf of inadequate trailers and other interim facilities used for instruction and research-related activities.

IRVINE CAMPUS INTRODUCTION (continued)

The functions of UCI's medical center also are restricted by the age of its facilities. When the medical center was purchased in 1976, it was recognized that many of the structures on the site were severely deficient and would need to be replaced or upgraded. Since then, several new buildings and renovation projects have been completed, and a new hospital is under construction to replace the existing seismically deficient facility, but major deficiencies still remain in clinical and support facilities.

- **Correction of Seismic Deficiencies**

Since 1985, seismic upgrade or replacement of 29 structures has been completed or is under way. Construction of the final State-funded seismic upgrade to Steinhaus Hall is proposed for 2007-08. Non-State-supportable facilities at the main campus have been addressed. The remaining deficient buildings are at the medical center and will be upgraded as part of the Replacement Hospital project or in subsequent projects as funding is identified.

- **Infrastructure**

As new buildings are constructed, campus electrical capacity will require expansion in several phases. The proposed State capital program includes a project to remedy existing deficiencies in the system and to provide adequate electrical capacity to support planned growth. Expansion of campus cooling capacity also will be required, as will upgrade and extension of telecommunication services, sewers, storm drains, and roadways, both to remedy deficiencies in sections of the existing systems and to accommodate expansion into new areas such as the East Campus. Storm drain and sewer capacity studies have been completed, and detailed studies of other infrastructure components will be undertaken in the near future to better assess these needs and to update a campus utilities master plan that was completed a decade ago.

Given the current and projected rate of enrollment growth, State funds cannot meet all of the capital needs of the Irvine campus. As a partial response to these growth imperatives, the campus has supplemented the budgets of several State-funded projects—including Computer Science Unit 3, Biological Sciences Unit 3, Engineering Unit 3, and Social and Behavioral Sciences—from non-State sources in order to provide new space in a timely

IRVINE CAMPUS INTRODUCTION (continued)

and cost-effective manner. Non-State funds, including gifts and campus funds, have been used to construct new academic buildings for both the general campus and the health sciences. Even with these additional measures the campus will be unable to provide all of the space needed to accommodate growth, and State funding reductions will make it difficult to maintain this level of funding for capital projects from campus resources.

2007-2012 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

IRVINE CAMPUS

CCCI 4890
EPI 2744

PROJECT NAME	PREFUNDED (000s)	PROPOSED 2007-08 (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST (000s)
			2008-09 (000s)	2009-10 (000s)	2010-11 (000s)	2011-12 (000s)	
Engineering Unit 3 (990073)	P 2,218 * W 1,222 * C [8,591] LB C 47,347 *	E 3,292 E [3,292] X					54,079 [11,883]
Humanities Building (991077)	P 1,225 * P [883] LB W 524 * W [221] LB C [8,896] LB	C 23,977 *		E 2,064			27,790 [10,000]
Arts Building (991072)		P 2,160 * W 732 * C 36,963 *			E 2,500		42,355
Steinhaus Hall Seismic Improvements (991842)		P 454 * W 191 * C 9,036 *					9,681
Telemedicine / PRIME - LC Facilities (991970)		PWCE 35,000 PT C [4,000] X E [1,000] G					35,000 [5,000]
Social and Behavioral Sciences Building (991268)	P 2,280 * P [883] LB W 570 * W [221] LB C 37,582 * C [8,896] LB	E 2,798 E [2,798] X					43,230 [12,798]
Primary Electrical Improvements Step 4 (996046)		P 400	W 400	C 9,900			10,700
Sciences Building (990960)		P 3,500 W 900	C 54,400		E 3,600 E [3,600] X		62,400 [3,600]
Classroom Renovations Phase 5 (997114)			P 150 W 150 C 2,800				3,100
Instruction and Research Building for Professional Programs (990990)				P 1,400 P [525] G W 800 W [290] G	C 32,750 C [12,065] G		35,950 [14,980]
Physical and Engineering Sciences Building (990970)					P 3,700 W 1,000		62,700
Laboratory Facilities Renovations (990980)					P 525 W 200 C 4,100		4,825
CAMPUS TOTAL	111,805 [8,292]	7,598 [2,798]	59,964	14,600 [815]	45,875 [15,665]		

IRVINE CAMPUS
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM

Engineering Unit 3.....	E \$ 3,292,000
	E \$ [3,292,000] X

State funds are requested to equip Engineering Unit 3, which will provide approximately 82,440 asf of space, including 70,006 asf for the Henry Samueli School of Engineering and a general-assignment lecture hall, and 12,434 asf of campus-funded surge space. The Irvine campus has made a commitment to increase enrollments in the sciences to provide the workers required by California's high-technology industries. This project will provide space to help accommodate this growth—including instructional and research laboratories and academic and administrative space for the School of Engineering, a 350-seat lecture hall, and dry laboratory and office surge space to meet other high-priority campus needs.

Humanities Building **CE \$ 26,041,000**

State funds are requested to construct the Humanities Building, a project that will provide approximately 44,800 asf of space to address the growth-related needs of the School of Humanities. Although the Humanities Instructional Building was completed in 1997, this facility addressed primarily existing need, including replacement of approximately 11,000 asf of trailer space. Since that time, Humanities enrollments have increased, and the number of departments in the School has grown from eight to twelve. As a result, existing space is fully occupied, and there is no space available to accommodate growth. This project will address these needs by providing approximately 33,340 asf of instructional, research, and academic and administrative office space for the School of Humanities. In addition, the project will provide 720 asf to replace two general-assignment classrooms, and 540 asf to provide four testing rooms for the Disability Services Center. The campus has supplemented the budget with non-State resources in order to provide approximately 10,000 asf of additional office, research, and assembly space.

IRVINE CAMPUS CAPITAL PROGRAM (continued)

Arts Building**PWCE \$ 42,355,000**

State funds are requested for preliminary plans, working drawings, and construction for the Arts Building, which will provide approximately 38,000 asf of additional space for the Claire Trevor School of the Arts. Developing programs and enrollment growth, as well as an increased emphasis on interdisciplinary activities requiring technology-intensive facilities, require the construction of additional space. This project will address these needs by providing teaching studios and associated support spaces, research facilities and studios, and academic and administrative offices.

**Steinhaus Hall Seismic
Improvements..... PWC \$ 9,681,000**

State funds are requested for preliminary plans, working drawings, and construction to seismically upgrade Steinhaus Hall, which was built in 1965 and currently houses research and instructional laboratories for the School of Biological Sciences. Over the years, sections of the exterior precast concrete panels on a portion of the building have deteriorated, cracked, and broken off, creating falling hazards and reduced structural resistance to seismic forces. This project will upgrade the seismic rating of the building by removing and replacing the building's precast concrete panels, panel connections, and related anchorages.

**Telemedicine / PRIME - LC Facilities.....PWCE \$ 35,000,000 PT
C \$ [4,000,000] X
E \$ [1,000,000] G**

State Telemedicine / Medical Education funds are requested for preliminary plans, working drawings, construction, and equipment for the Telemedicine / PRIME - LC Facilities. This project will provide approximately 30,000 asf of interactive tele-video and telemedicine "virtual care" consultation space, instructional and research space, and academic and administrative offices to support new educational and clinical activities in telemedicine and increased medical school enrollments in the PRogram In Medical Education - Latino Community (PRIME - LC).

IRVINE CAMPUS CAPITAL PROGRAM (continued)

Social and Behavioral

Sciences Building E \$ 2,798,000
E \$ [2,798,000] X

This project will provide a total of 78,850 asf of space for the Schools of Social Sciences and Social Ecology. The campus has experienced significant growth in the last several years and is expected to continue to grow at least through the end of the decade. The Schools of Social Sciences and Social Ecology already are experiencing shortages of all types of space. The Schools have a severe shortage of computer class laboratories, and research and office spaces are overcrowded. The project will help address these needs by providing instructional and research laboratories and academic and administrative offices to support growth in these disciplines.

Primary Electrical

Improvements Step 4..... PWC \$ 10,700,000

This project will expand campus electrical substation capacity to accommodate the campus's projected electrical load. The campus is expected to grow substantially through the decade in response to increasing enrollments. Construction forecasts indicate that by the end of the decade the campus electrical load will exceed the existing substation service capacity. The proposed project will help meet increased electrical demand by installing an additional 66 kV-to-12 kV transformer, by implementing switchyard improvements and installing new 12 kV feeders and switchgear at the University Substation, constructing a new South Substation, and by installing additional underground ductbank extensions.

Sciences BuildingPWCE \$ 62,400,000
E \$ [3,600,000] X

This project will provide approximately 51,000 asf of class laboratories, research laboratories, and office space to accommodate projected enrollment and program growth in science disciplines. The campus has a shortage of space to accommodate growth in existing science programs, such as Biological Sciences and Physical Sciences, as well as new programs in Pharmaceutical Sciences and Public Health.

IRVINE CAMPUS CAPITAL PROGRAM (continued)

Classroom Renovations Phase 5..... PWC \$ 3,100,000

In 2003, the Irvine campus initiated a phased plan to renovate and upgrade its existing inventory of general-assignment classrooms. Many older rooms are in poor condition and do not have the technological capabilities required by modern instructional practices. This project will help remedy these deficiencies by addressing ADA, fire, and life-safety issues; providing improved acoustics, lighting, and HVAC; and installing technology such as video and computer projection, computers, and sound systems.

Instruction and Research Building

**For Professional Programs..... PWCE \$ 35,950,000
PWCE \$ [14,980,000] G**

The Paul Merage School of Business is taking steps to strengthen and expand its undergraduate minor program by increasing the number of undergraduate courses the school offers, increasing the number of students eligible to participate in the minor, and adding faculty. In addition, further growth is expected in the State-funded graduate program. Additional space is required to accommodate this growth. The proposed project will provide approximately 51,000 asf, including instructional facilities, research and graduate student space, and faculty and administrative office space.

Physical and Engineering Sciences Building..... PWCE \$ 62,700,000

This project is required to provide additional space to accommodate continued enrollment and program growth in the Schools of Physical Sciences and Engineering. Both Schools will be provided near-term growth space through scheduled capital projects; however, this space will not adequately accommodate all of the growth projected. The proposed project will provide approximately 49,000 asf of space to accommodate teaching laboratories, research facilities, and faculty and administrative offices.

Laboratory Facilities Renovations..... PWC \$ 4,825,000

A number of UCI's laboratory buildings, such as the Engineering Tower, the Medical Sciences buildings, and Med Surge 1 and 2, were constructed in the 1960s and 70s, and building systems such as HVAC and fire sprinklers have reached the end of their useful life and in many cases no longer comply with

IRVINE CAMPUS CAPITAL PROGRAM (continued)

code requirements. In addition, these systems are often inadequate to accommodate the increased demands of contemporary laboratory teaching and research. The Laboratory Facilities Renovations project will provide building systems upgrades, fire and life-safety upgrades, and other code-required improvements in one or more laboratory buildings based on the campus's highest priorities at the times the projects are proposed.

IRVINE CAMPUS OTHER CAPITAL NEEDS

1. Core Academic Facilities

Engineering and Computer Science: To meet California's demand for well-trained engineers and computer specialists, growth is projected in the School of Engineering and the School of Information and Computer Science. Even after completion of projects currently included in the campus capital program, additional instruction and research facilities will be required to accommodate this rapid growth.

Humanities and the Arts: Over the next decade, both enrollment growth and development of new program areas—such as Literary Journalism in the School of Humanities and Digital Arts and the interdisciplinary graduate program in Arts, Computation and Engineering in the Claire Trevor School of the Arts—will result in increased requirements for instruction, research, and support space. New Humanities and Arts facilities are included in the current five-year program; however, additional space will be needed to accommodate all anticipated growth in these two Schools.

Social Sciences and Social Ecology: Together, these two Schools accommodate a high percentage of the undergraduate workload on the campus. Although a new, shared facility is currently in design, more space will be required to accommodate anticipated growth.

Biological and Physical Sciences: The School of Biological Sciences has the second-highest number of majors on the campus, while the School of Physical Sciences has one of the largest workloads. Even considering recent space assignments in Natural Sciences Unit 2 and the yet-to-be completed Biological Sciences Unit 3, these schools will continue to need additional space to keep pace with enrollment increases.

Merage School of Business and Department of Education: Demand for the Paul Merage School of Business programs is growing, and MBA programs are planned to expand significantly. The Department of Education is developing graduate programs at both the masters and doctoral levels that will focus on math and science education. Significant growth is projected in the teaching credential

IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)

program over the next few years in response to California's workforce needs. To support the program and enrollment growth anticipated by these academic units, additional facilities will be required beyond those addressed in the current five-year program.

Library: The rapid advance of information and educational technology, coupled with expansion of enrollment and academic programs defined in the LRD^P, require continued improvement and expansion of the information systems and library facilities of the campus. The capacity of the Main Library—which houses the entire campus collections in the fields of social sciences, humanities, and the arts—is of particular concern. In the long term, an addition to the library will be needed to accommodate general book stacks, student and faculty use facilities, and library staff work space and to complete technological modernization associated with advances in library information access.

Health Sciences Instruction and Research: Additional instruction and research space is required for health sciences programs. Space is needed to support newly established programs and to facilitate collaborative research in areas such as cardiopulmonary medicine and biomedical engineering. The School of Medicine envisions the construction of a complex of facilities in the Health Sciences Quad to accommodate interdisciplinary research, as well as additional research facilities at the UCI Medical Center.

Instruction and Research Space in Trailers: The campus has a continuing need to replace approximately 53,000 asf of inadequate interim and trailer facilities, some of which have been in place since 1966. As new building projects are added to the capital program, they will include replacement space for activities currently housed in trailers and other temporary facilities.

2. Administrative and Support Facilities

North Campus: In the future, the campus intends to develop the North Campus with facilities for research and development, office, and residential uses. This plan may require relocation of campus departments currently on that site, including Facilities Management, Garage and Fleet Services, Printing and Reprographics, Materiel

IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)

Management, and Mail Division. Appropriate facilities for these units will need to be constructed on the main campus or at another suitable location.

Recreation, Athletics, and Student Services: To accommodate the needs of current and future enrollment, the campus continues to improve and expand existing athletic and recreation facilities, including facilities for baseball, aquatics, tennis, and strength and conditioning. The campus is also considering eventual expansion of the Bren Events Center, a multipurpose facility that accommodates sporting and other events, to provide more seating capacity, additional support spaces, and new facilities for intercollegiate athletics.

Other support facilities also are envisioned, including additional space for student services, student health services, student center activities, international student activities, and child care services for faculty, staff, and students.

Campus Administration: A number of administrative units have been moved to off-campus leased space in recent years in order to accommodate growth of academic units on campus. Currently the campus is leasing over 70,000 asf to accommodate these activities. Construction of new office facilities is required to provide adequate space on campus for administrative functions.

3. Health Sciences Clinical Facilities

Improvements to clinical facilities in the Health Sciences are needed in response to evolving needs in patient care, instruction and research programs, and life-safety requirements. In addition to the SB 1953-mandated replacement hospital that is currently in construction, renovations to selected inpatient and outpatient facilities at the UCI Medical Center will be required to enhance patient care and service and to upgrade them to current health and safety requirements.

Additional clinical space will be needed on the main campus to support research activities in the areas of ophthalmology, cardiopulmonary diseases, cancer, organ transplantation, and human genetics.

IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)

4. Auxiliary Enterprise Facilities

The update to the LRDP that is currently under way includes a goal of providing on-campus housing for 50 percent of the total campus enrollment. To meet this goal, additional residence halls and apartments will be needed as growth occurs. Existing housing complexes also will require phased renovation and refurbishment. In addition, faculty/staff housing inventories will be increased to accommodate growth. New food service venues and retail facilities such as bookstores will be required to support enrollment growth as well.

5. Utilities, Site Development, Transportation, and Parking Improvements

To support current needs, anticipated enrollment growth, and program development, several utility systems and the campus roadway system require expansion. These infrastructure improvements are vital to UCI's continued ability to grow.

Chilled and High-Temperature Water: Most of the major buildings on campus rely on chilled and high-temperature water supplied from the Central Plant for general air-conditioning, research process control, computer cooling, and other environmental requirements. To meet continuing increases in campus demand, cooling capacity will be expanded in phases, which may include the addition of a satellite plant facility.

Domestic Water: An additional source of high-pressure domestic water is needed to serve the higher elevations of the campus, such as the University Hills housing development, where it is becoming difficult to maintain adequate water service.

Reclaimed Water: Many areas of the east portion of the campus currently use the potable domestic water supply for irrigation. New reclaimed water irrigation lines, connected to the Irvine Ranch Water District pipeline, would be constructed to supply irrigation to individual housing projects in the East Campus. In addition, upgrades to the existing reclaimed water system are needed to maximize the use of reclaimed water, add significant capacity to the existing on-site

IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)

distribution system, and reduce consumption of more expensive domestic water.

Sanitary Sewer: Monitoring has confirmed that several sections of the existing backbone sewer system are deficient and require upgrade to serve current demand and future growth. The campus has developed a phased implementation strategy, the first phase of which would address existing system deficiencies as the highest-priority utility capital need of the campus. Subsequent phases of the implementation plan will be needed within the next decade and include system extensions serving the West Campus and Central Campus collectors.

Storm Drains: The campus will require substantial improvements to the existing storm drainage system to serve development identified in the LRDP. In addition to improvements to increase the capacity of deficient sections of the system in the central academic core and new facilities to serve the East Campus and other outer-campus areas, this work will include significant campuswide improvements required to meet State and federal storm water regulations that became effective in March 2003.

Natural Gas: To accommodate future campus growth, the natural gas system will be expanded by creating a high-pressure loop starting near California Avenue and University Drive and terminating near Campus Drive and East Peltason Drive.

UCI Medical Center Electrical and Site Utilities: Upgrades to existing electrical and heating and cooling systems at UCIMC are required to achieve reliable, energy-efficient services and to provide for anticipated growth in existing and new facilities.

Electrical and Telecommunication Services: To develop the southern portion of the campus, electrical and telecommunication services must be extended. As new areas are developed, equipment will be needed to distribute power from the 66/12 kV substation. Telecommunication services will be extended from the existing central plant facility around the outer campus loop.

Campus Roadways: To accommodate increased traffic demand, the campus roadway system must be expanded. The most critical need is

IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)

the widening of Peltason Drive, the primary loop roadway serving the central campus. It is currently at or near maximum capacity and must be widened from two to four lanes to accommodate future enrollment growth. In addition to the Peltason loop, the existing roadway system includes five radial roads linking to adjacent off-campus roads.

Proposed expansion of this system includes the extension of the Arroyo Drive loop to California Avenue, which will complete the outer campus arterial roadway system. Projects aimed at improving bicycle and pedestrian traffic, including grade-separated crossings and off-street bikeways, also will be needed as the campus grows.

Campus Parking: Existing physical constraints and academic space needs limit the amount of land within the central campus that can be dedicated to parking. This premium on land precludes the use of extensive surface parking lots in the central core. The long-range plan for parking is to construct several parking structures strategically located around the perimeter of the campus core.

Medical Center Parking: Adequate on-site parking for patients, visitors, faculty, and staff remains an important objective at the UCI Medical Center. Additional parking structures, associated roadway improvements, and removal of older buildings will be required to accommodate future demand.

6. Code and Safety Corrections

A 1989 study identified asbestos in several campus buildings. The most hazardous situations have been addressed, and other corrections will be carried out during renovation projects or as other funding opportunities occur.

In addition to code-required corrections, there are a number of safety issues that also need to be addressed, including installing fire sprinklers in selected science buildings, replacing deficient fire alarm systems in six buildings, and upgrading exterior lighting along major pedestrian ways where illumination levels are below the campus standard. The campus is currently working to identify funding sources to address the most urgent of these safety issues.

IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)

7. Corrections for Seismic Safety

All State-supportable buildings known to be seismically hazardous have been upgraded, are undergoing corrections, or are scheduled for upgrade as part of the five-year plan. Several non-State secondary structures at the medical center will require seismic correction.

LOS ANGELES CAMPUS

State Capital Improvement Program

ESTABLISHED	1919
ENROLLMENT 2005-2006 (ACTUAL)	25,342 FTE undergraduates 7,409 graduate students 3,784 health science students
LIBRARY COLLECTION	8.1 million volumes
CAMPUS LAND AREA	419 acres
CAMPUS BUILDINGS	10.7 million assignable square feet
HOSPITAL AND CLINICS	1.8 million assignable square feet

LOS ANGELES CAMPUS 2007-2012 STATE PROGRAM

INTRODUCTION

The Westwood campus opened its doors in 1929 with a Teacher's College and the College of Letters and Science occupying the first four permanent campus buildings in the undeveloped rolling hills of Bel Air. The master's degree was authorized in 1933, and the doctorate followed in 1936. In the intervening years, the University of California, Los Angeles campus has continued to expand and evolve to meet the diverse needs of the students, faculty, and staff, as well as the neighboring community, the region, and the State.

The formal academic structure of UCLA includes the College of Letters and Science with six divisions, seven general campus professional schools, and four health-science professional schools. In addition, there are 37 formally established interdepartmental programs, 24 organized research units, and many less-structured interdisciplinary efforts.

Campus facilities require renovation and replacement as obsolescence and normal aging of building systems occur. Disciplines with sophisticated research requirements, such as those in the physical and life sciences, have increasing difficulty conducting their instruction and research activities in inadequate and inflexible facilities. Renewal and upgrade of existing facilities is a continuing need.

An aggressive program of seismic structural corrections has been under way since the mid-1980s, and most of the general campus buildings rated seismically "Poor" or "Very Poor" have been structurally upgraded or are being upgraded. The need for strengthening of older buildings was accentuated when the January 1994 Northridge Earthquake caused significant damage to a number of campus structures. Campus work with the Federal Emergency Management Agency and with State disaster recovery efforts has been largely successful, and the seismic correction of core campus buildings is now nearing completion, with planning in process for the remaining buildings. Work is under way on two replacement hospitals and on other replacement facilities for the Center for the Health Sciences (CHS), and further projects to complete seismic corrections and mitigations at CHS are in the planning stages. Completing these final seismic corrections remains a high priority for the campus.

LOS ANGELES CAMPUS INTRODUCTION (continued)

Campus Enrollment

The 2002 LRDP sets forth a 2010-11 enrollment projection of 37,829 FTE for the Los Angeles campus (general campus and health science students enrolled in both regular and summer sessions on- and off-campus). This projection includes growth of general campus enrollment to approximately 34,100 FTE by 2010-11.

Academic and ancillary units will require facility improvements to address (1) deficiencies in the amount and types of space, (2) technological or functional obsolescence of existing facilities, and (3) modernization of the instruction and research programs. Student enrollment growth also will result in a need for additional faculty space, housing, and parking.

Campus Development

To accommodate the diverse interests of the UCLA/Westwood community—including students, faculty, staff, visitors, and others—campus planning will need to manage increasingly scarce resources wisely while pursuing the University's academic and community service mission. Resource management includes not only fiscal and facilities concerns but also land resources (campus building sites, LRDP/EIR constraints and opportunities, etc.). Future facilities requirements may be met through alternative approaches such as intensification of use, reallocation, and selective renovation of existing facilities. New facilities will be considered when this approach is insufficient or not cost-effective.

To address continuing facility needs, the campus has found that it must pursue a process similar to urban renewal: rehabilitation and upgrade of existing facilities and, as appropriate, the development of new facilities to accommodate specific program or renovation-staging requirements. Implementation of technological innovations and pedagogical advances often require facility renovation or replacement.

The campus continues to be committed to long-term comprehensive planning efforts that focus on program priorities and address the most critical campus capital needs. The needs remain significant and diverse. The campus State-funded capital program for the next few years will continue to be focused on seismic and life-safety corrections, both for the main campus and for portions of the Center for Health Sciences. Non-State resources will be used to

LOS ANGELES CAMPUS INTRODUCTION (continued)

address most non-safety needs for general upgrades, renewals, and new construction.

Seismic Deficiency Corrections: The campus has a commitment to correct all buildings with “Very Poor” and “Poor” seismic ratings and to complete repairs needed after the Northridge earthquake while also minimizing the negative impacts of extensive and disruptive construction activities on the academic program. These corrections include the few remaining deficient general campus buildings, completion of the Westwood and Santa Monica hospital replacements and repairs, and repair of remaining deficiencies in Center for Health Sciences facilities.

Campus Infrastructure Renewal and Expansion: Renewal and expansion of primary utilities and fire alarm and sprinkler systems remain a necessity for the campus.

Building Renewal: Upgrades of obsolete building systems such as heating, ventilation, air-conditioning, water, and power distribution, as well as other renovations and improvements, are needed to support programs in older facilities.

Completion of “in-progress” Academic Facilities Improvement

Master Plans: The campus maintains a commitment to the implementation of space plans initiated in the early 1980s in the Physical and Life Sciences divisions of the College of Letters and Science and in the School of Engineering and Applied Science.

Academic Program Facilities Requirements: The campus will continue to identify capital improvement projects needed to support general campus programs including professional schools, health sciences, and fine arts. In the health sciences, the campus is actively responding to State initiatives related to PRograms In Medical Education (PRIME), including related growth in medical student enrollments, service to medically underserved groups and communities, and efforts to incorporate telemedicine technology to improve the delivery of care to underserved areas.

The campus capital program development strategies will be directed first to completion of the seismic life-safety program, but in the long term there will be a continued emphasis on (1) a balanced capital program of life-safety corrections, primary and building infrastructure renewal and upgrades, and

LOS ANGELES CAMPUS INTRODUCTION (continued)

academic program improvements, (2) continued use of private funds to supplement limited State funds, and (3) continued urban renewal of the campus.

2007-2012 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4890
EPI 2744

LOS ANGELES CAMPUS

PROJECT NAME	PREFUNDED (000s)	PROPOSED 2007-08	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST (000s)
			2008-09 (000s)	2009-10 (000s)	2010-11 (000s)	2011-12 (000s)	
School of Public Health Seismic Correction (948738)		P [500] X	W 775 C 19,225				20,000 [500]
Electrical Distribution System Expansion Step 6C (946124)		P [225] X	W 400 C 7,910				8,310 [225]
School of Medicine High-Rise Fire Safety (946238)		P [950] X	W 1,450 C 26,100				27,550 [950]
Medical Education Building including PRIME / Telemedicine (944020)			PW 13,150 PW 2,000 PT		CE 63,000 CE 18,300 PT CE [62,510] G	CE 33,875	130,325 [62,510]
Telemedicine Facilities at Remote Locations (944030)			PWCE 14,700 PT				14,700
Engineering Addition (942310)						P 3,000	35,640 [28,000]
CAMPUS TOTAL	— [1,675]	—	85,710	—	81,300 [62,510]	36,875	

LOS ANGELES CAMPUS
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM

School of Public Health

Seismic Corrections	P \$ [500,000] X
	WC \$ 20,000,000

The School of Public Health, a 91,183 asf tower in the Center for the Health Sciences built in 1968, has a seismic rating of “Poor” (DGS Level V). Seismic deficiencies in this L-shaped building include discontinuous shear walls, lack of seismic joints between the wings, and brittle details used in the reinforced concrete bracing components. The project will upgrade the lateral force-resisting capacity of the building to “Good” and address fire, life-safety, and accessibility code deficiencies.

Electrical Distribution System

Expansion Step 6C.....	P \$ [225,000] X
	WC \$ 8,310,000

This project will complete the phased program of projects to convert the campus’s obsolete 4.8 kV electrical distribution system to a new 12 kV system. When the project began, the existing system was between 35 and 50 years old and at its maximum load-carrying capacity. The work for this remaining phase primarily involves conversion of 4.8 kV services to the Center for the Health Sciences buildings. In addition, the work will involve installation of some loop cross-ties on the central campus to complete the distribution system, and modifications to the main service at the campus central substation to complete the final transition to 12 kV service.

School of Medicine High-Rise

Fire Safety.....	P \$ [950,000] X
	WC \$ 27,550,000

Portions of the Center for the Health Sciences complex, comprising approximately 539,000 asf, lack fire sprinklers. In addition, the existing fire alarm system must be replaced when the occupancy classification of entire complex changes after the hospital’s in-patient functions relocate to the Westwood Replacement Hospital and large portions of the complex remain occupied. The existing fire alarm system consists of 1950s-era electro-mechanical equipment (and some newer systems) that utilize staff

LOS ANGELES CAMPUS CAPITAL PROGRAM (continued)

notification chimes operated through the soon-to-be-discontinued hospital communications center, rather than the system of horns, strobes and duct smoke detectors currently required for high-rise occupancies with offices, classrooms and laboratories. Fire sprinklers and a fire alarm system will be installed in the following structures: Brain Research Institute, portions of Health Sciences, Neuropsychiatric Institute (except south wing), Clinical Research Center, Reed Research Center and Marion Davies. Future seismic corrective work will not adversely impact the installation of the proposed improvements, and fire safety systems will be installed in the School of Public Health and South Tower under separate projects. A phased implementation plan will be developed during design.

Medical Education Building including

PRIME / Telemedicine	PWCE \$ 110,025,000
	PWCE \$ 20,300,000 PT
	CE \$ [62,510,000] G

This project will construct a 115,000 asf Medical Education Building on the site at the southeast corner of Westwood Plaza and Charles E. Young Drive South. The project will allow educational functions of the School of Medicine to vacate seismically deficient space in the Center for the Health Sciences (CHS), accommodate enrollment growth related to PRograms In Medical Education (PRIME), and consolidate the School's education programs currently scattered throughout the CHS and other campus locations. The project will provide instructional space including teaching laboratories, a patient simulation center with a surgery simulation suite, clinical skills performance suite, telemedicine studio, and study rooms, as well as faculty and administrative offices. The building will be equipped to add telemedicine, telehealth, distance learning, and teleconferencing support to the School's medical education and clinical programs. The building will also serve as a hub for a new network that will connect the building with telemedicine exam rooms to be equipped at remote sites under a separate project. The project will include site clearance and related work to prepare the site for new construction. The seismically deficient space vacated in CHS will be retrofitted for other health science functions under separate projects as funding is available.

LOS ANGELES CAMPUS CAPITAL PROGRAM (continued)

Telemedicine Facilities at Remote Locations.....PWCE \$ 14,700,000 PT

This project will install and/or equip as appropriate the telemedicine examination rooms that will connect the hub network constructed as part of the Medical Education Building project to a variety of remote locations, including facilities at UC Riverside, Drew University, Venice Family Clinic, and elsewhere. Regional emergency departments will be linked to the network, and consultation suites will allow specialists at UCLA's two hospitals and ambulatory health-care clinics to interact with all remote sites.

Engineering Addition PWC \$ 35,640,000 C \$ [28,000,000] G

The anticipated growth in Engineering enrollment will require additional space for instruction and research. In the proposed project, a new building will be built adjacent to the Engineering 1 Replacement Building, currently under construction.

LOS ANGELES CAMPUS OTHER CAPITAL NEEDS

Because of the age and density of the Los Angeles campus and the limited number of new building sites available, there will continue to be a significant emphasis on building renewal. The renewal effort will focus on appropriate use and selective renovation of existing facilities. New construction, however, also will be required to meet programmatic and technical needs which cannot be accommodated in existing facilities.

The following information reflects critical immediate and long-term campus capital needs beyond those in the preceding description of the State-funded five-year program. The order of the list is not reflective of campus priorities or of specific fund sources.

1. Core Academic Facilities

College of Letters and Science: This College is the oldest and largest academic unit on campus, occupying approximately 85 percent of core academic space. It offers instruction in 34 departments and 40 specialized programs. Programs in the College are organized into four academic divisions under the overall direction of a Provost.

- **Humanities:** This division includes English, Classics, Linguistics, Philosophy, Art History, Musicology, Speech, and foreign languages. There are a variety of needs for renewal and reallocation of facilities involving instruction, research, and academic support functions. Consolidation of these areas into a cohesive whole is a high priority for the division.
- **Life Sciences:** This division includes Microbiology, Immunology, and Molecular Genetics; Molecular, Cell, and Developmental Biology; Ecology and Evolutionary Biology; Physiological Science; and Psychology. Appropriate instruction and research space is needed to continue the development of comprehensive programs in cellular, molecular, and developmental aspects of neurobiology, biotechnology, and plant sciences. The undergraduate curriculum also is changing rapidly to provide greater exposure to contemporary laboratory technology. Obsolete and inadequate facilities will be addressed through continued renovation of existing space and the

LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)

construction of new space. Some of these deficiencies are being addressed with current projects; however, future projects will be required to resolve space inadequacies for Psychology and other Ecology and Evolutionary Biology programs.

- **Physical Sciences:** This division includes Physics/Astronomy, Atmospheric Sciences, Chemistry and Biochemistry, Earth and Space Sciences, and Mathematics and Statistics. Particular attention is being given to strengthening instruction in the core physical sciences of chemistry, mathematics, and physics. The division must continue to update facilities to integrate recent advances in technology into the instructional program. Although some needs have been addressed, other divisional program needs remain.
- **Social Sciences:** The largest segment of the College of Letters and Science, this division includes Anthropology, Economics, Geography, History, Political Science, and Sociology. These programs are continuously evolving and require facilities appropriate to their changing needs. A variety of needs exist for renewal, reallocation, and additional space for instructional and research uses.

The Arts: Two professional schools—the School of the Arts and Architecture and the School of Theater, Film, and Television—add a professional orientation to graduate education in the arts and offer the opportunity to relate the scholarly aspects of the arts to their creative, performing, and applied aspects. Capital needs for these Schools include program-related renovations and the addition of studio and performance spaces.

- **School of the Arts and Architecture:** The School of the Arts and Architecture includes the Departments of World Arts and Cultures, Art, Design | Media Arts, Music, Ethnomusicology, and Architecture and Urban Design. The School has identified a significant need for practice, rehearsal, and recording studios and for renovation of instructional, office, administrative, and support space. Although recent projects are providing some of the space needed for the School, other programs such as Music and Architecture and Urban Design

LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)

continue to occupy space that is insufficient or inadequate to their needs.

- **Theater, Film and Television:** The School of Theater, Film and Television includes the Department of Film, Television, and Digital Media and the Department of Theater. The School has identified a need for space appropriate for instruction in the technologies of theater, film, and television. Outdated and unsafe facilities require upgrades.
- **Cultural Facilities:** Cultural facilities serve the UCLA academic programs in applied and performing arts as well as the wider campus and community. With one of the largest university-based performing arts programs in the nation, UCLA provides an important public service and contributes to Los Angeles' growing reputation as a major cultural center. The campus continues to seek ways to expand its arts programs and make them more accessible to the public with performance, exhibition, and archival space.

General Campus Professional Schools: The following general campus professional schools have long-term unmet capital needs.

- **Graduate School of Education and Information Sciences:** Established in 1939, the Graduate School of Education and Information Sciences had its roots in the State Normal School with the primary mission of training teachers. With today's strong faculty and research programs, the broader mission of the School is to advance scholarship and train scholars and practitioners, influence educational practice and policy, and develop model training programs. The School has identified needs for expanded teacher training facilities and program support space.
- **School of Engineering and Applied Science:** The six departments within the School of Engineering and Applied Science serve as centers of activity for study and research in engineering disciplines. The School also provides continuing education to practicing engineers to keep them abreast of changes in their fields. The School has identified an ongoing need to update obsolete and

LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)

inadequate facilities to keep pace with technological change.

Although some space deficiencies are being addressed, other program needs remain.

Health Sciences:

- **School of Dentistry:** The School has implemented an innovative vertical-tier curriculum which combines patient care with the flexibility for students to pursue research fellowships, interdepartmental programs, or state-of-the-art curricular offerings in geriatric dentistry, pain and anxiety control, aesthetic dentistry, implant prosthodontics, and computer technology. Replacement of portions of obsolete and inadequate space will be needed to support program improvements.
- **School of Medicine:** The School of Medicine will continue to place a high priority on medical education and on the preparation of students for careers in biomedical research. Clinical training will be provided increasingly in ambulatory settings, and more teaching will be done in small groups. These and other developments will require more faculty time, space, and operating resources.

Other high priorities of the School include psychiatry, medical genetics, and medical education. The faculty also is mindful of the need to respond quickly to innovative medical developments such as AIDS treatments, magnetic resonance imaging, positron emission tomography, and organ transplantation.

Reconstruction of the Center for the Health Sciences to address seismic hazards also will replace or upgrade the obsolete and constrained facilities now used by its programs.

Libraries and the Organization of Information: Libraries are the essential resource for information service to the campus, the University, and the community. Their challenge for the coming decades will be to stay at the forefront of technological innovation and to anticipate and respond to their users' needs. The UCLA Library will continue to develop collections of traditional sources of information and,

LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)

at the same time, will greatly increase access to new electronic sources. Consolidating branch units on campus and adding nontraditional locations for information access (such as residence halls) will release funding for acquisitions and new technologies. Plans for collection growth will include additional space to house the collections. Consolidating branch units can contribute to solutions for collection growth, new technologies, and adequate staff and user space.

Classrooms: While the campus has established a program of normal classroom maintenance and improvement, major efforts are required to address age and wear in building utility systems, to provide adequate audio-visual systems in classrooms, to meet disabled access requirements, and to adapt classrooms to modern teaching technologies. The classroom improvements will be accomplished in the context of ongoing major and minor capital renewal and improvement projects.

2. Administrative and Support Facilities

Student Affairs: Student Affairs provides an array of programs, services, and educational experiences that promote the academic success of UCLA students and enhance the quality of campus life. Over the past decade, the physical inadequacy and dispersion of student-serving facilities throughout the campus and in Westwood have been serious constraints on the effective delivery of services. Although the consolidation of services into a student activities center and a new student health facility addressed some of these space needs, space deficiencies for student programs in the South Campus remain.

3. Health Sciences Clinical Facilities

Medical Center: Since it opened in 1955, the UCLA Medical Center, a leader in medical education, research, and service, has seen a fourfold increase in the types of analytical procedures performed in its clinical laboratories and development of entirely new areas of patient care. The Medical Center sustained substantial damage in the 1994 Northridge Earthquake. The campus is implementing a multiphase reconstruction plan, including the Westwood and Santa Monica

LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)

replacement hospitals, Health Sciences Seismic Replacement Building 2 for instructional and research space, renovation of other instructional and research space, and demolition and replacement of damaged parts of the Center for the Health Sciences (CHS) where repair or seismic retrofit is infeasible.

4. Auxiliary Enterprise Facilities

Housing: Since 1931, UCLA has provided housing accommodations for students. The current cost of real estate in Los Angeles, among the highest in the country, increases pressure on the University to provide affordable and accessible housing for students, faculty, and staff. In 2000, the campus adopted a goal for the year 2010-11 of housing 60 percent of the student body either in University-owned housing or in private housing within a mile of campus. With the addition of 3,400 new housing beds, including those currently under way for undergraduates in the Northwest campus and those recently completed for graduate students in the Southwest campus, this goal will be met.

5. Utilities and Fire Safety

Electrical Distribution System: The campus is nearing completion of a phased program of projects to upgrade its 4.8 kV electrical distribution system, which was between 35 and 50 years old, obsolete, and at its maximum load-carrying capacity.

Fire Safety Systems Improvements: The campus is completing a phased program to upgrade deficient fire alarm systems to improve life safety for faculty, students, and staff in all campus facilities. The electro-mechanical systems in use in many buildings are outdated, and replacement systems are no longer manufactured. A project to complete these improvements in State-supported facilities is under way, as is planning to complete upgrades throughout the rest of the campus within the next few years.

LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)

6. Corrections for Seismic Safety

Seismic Upgrading: UCLA has an ongoing comprehensive seismic safety program to address seismic corrections to the buildings that were identified as “Poor” or “Very Poor” in its 1978 seismic study. The 1994 Northridge Earthquake damaged several general campus buildings as well as buildings at the Center for the Health Sciences (CHS), prompting a program to repair and upgrade the damaged facilities. In response to new building codes and standards following the earthquake, a new comprehensive study identified a number of additional seismically deficient buildings. Most general campus structures are completed, including all buildings rated seismically “Very Poor,” and detailed planning is under way for the remaining facilities on and off the campus.

Some of the structures at the CHS were damaged in the Northridge Earthquake, and others that were previously considered seismically adequate were found to be deficient. These problems are addressed in the Academic Health Center Master Plan for redevelopment of the CHS. Two replacement hospitals are under construction, and projects to provide replacement buildings for instruction and research space are under way or in the planning stages. Some of the damaged structures at the CHS will be demolished, and others will receive seismic corrections and renovation.

MERCED CAMPUS

State Capital Improvement Program

ESTABLISHED	1998
ENROLLMENT 2010-2011 (Approximate Projection)	4,050 FTE
LIBRARY COLLECTION	43,357 volumes
CAMPUS LAND AREA	2,000 acres
CAMPUS BUILDINGS	443,800 assignable square feet

MERCED CAMPUS 2007-2012 STATE PROGRAM

INTRODUCTION

UC Merced opened in 2005-06 with 865 FTE students—a mixture of freshmen, community college transfers, and graduate students—and 50 FTE faculty (plus 15 temporary faculty). Enrollment is scheduled to increase to approximately 4,050 FTE by 2010-11.

Eventual steady-state development is planned to accommodate 25,000 FTE students on a 2,000-acre site, as identified in the LRDP. Development of UC Merced is part of the University's strategy to increase overall enrollment capacity and improve access to students from the San Joaquin Valley. UC Merced has a concurrent enrollment program with nearby community colleges, and increasing the number of transfer students is a major objective for the campus.

The campus now offers 13 undergraduate majors and a graduate program with seven program areas within its three schools: Social Sciences, Humanities, and Arts (SSHA); Engineering; and Natural Sciences. The approved undergraduate degree programs include Applied Mathematical Sciences, Bioengineering, Biological Sciences, Cognitive Sciences, Computer Science and Engineering, Earth Systems Science, Environmental Engineering, Management, Materials Science and Engineering, Mechanical Engineering, Psychology, Social and Cognitive Sciences, and World Cultures and History. Two additional majors in Chemical Sciences and Physics are approved for Fall 2008. Individual graduate programs are offered in Applied Mathematics, Computer and Information Systems, Environmental Systems, Atomic and Molecular Science and Engineering, Quantitative Systems Biology, Social and Cognitive Sciences, and World Cultures. Additional undergraduate and graduate degree programs are in development.

The distinctive character of research at UC Merced originated in its signature organizations, the Sierra Nevada Research Institute, the Energy Center, the Biological Systems Institute, and the World Cultures Institute. Topics currently under study include hydrology, solar power technologies, and migrant peoples. As with the academic programs, UC Merced's research institutes will foster collaboration across disciplinary lines—the relationship between environmental science and environmental policy is an obvious example, especially for the Central Valley. Partnerships with other UC

MERCED CAMPUS INTRODUCTION (continued)

campuses and with entities such as Lawrence Livermore National Laboratory, Sequoia and Kings Canyon National Parks, and Yosemite National Park enhance education and research at UC Merced.

UC Merced already provides many economic benefits to the San Joaquin Valley and will continue to gain importance in this role. Campus public service programs, such as UCM's major contributions to the region's Small Business Development Centers, will advance employment growth and business expansion. Academic programs in the environmental sciences and engineering, including research opportunities with campus-led institutes and collaboratives, are responding to regional workforce requirements by providing training and technical skills needed by regional industries. In addition, as a major employer and user of services, the campus will continue to be a significant and growing contributor to the local economy.

Major campus infrastructure and site development projects, including the central utility plant, were completed during 2005. The campus site is served by utilities from off-campus, including water, sewer, natural gas, data/telecommunications, and a dual-feed electric service. Completed projects on campus include the Library, the Classroom and Office Building, the Science and Engineering Building, and the first housing and dining facility. A student recreation and wellness center is in construction and will be occupied during 2006. Projects in construction, design, or planning include three State-funded projects: the Logistical Support/Services Facility, the Social Sciences and Management Building, and the Science and Engineering Building 2.

Campus facilities, business services, and academic programs are all finding ways to incorporate principles of sustainability into campus development and operations. UC Merced is already a model for responsible and sustainable development in the Central Valley.

The LRDP approved in 2002 will guide development of the campus and establish its relationship to the adjacent University community and the Virginia Smith Trust. This development is in accordance with the University Community Plan, which envisions close connections between the campus core and an adjacent "town center" with compatible services and businesses. The town center will form the heart of the University community, including compact pedestrian-oriented development, infrastructure systems, and

MERCED CAMPUS INTRODUCTION (continued)

transportation facilities shared between the campus and the community, as well as preservation of significant areas of open space and natural habitat.

The University has partnered with the Nature Conservancy, the Wildlife Conservation Board, and various federal and State agencies for the acquisition and permanent protection of over 20,000 acres of grassland and vernal pool habitat in the vicinity of the campus. In addition, the University, through a grant from the David and Lucile Packard Foundation, acquired 5,750 acres for conservation, including a 750-acre natural reserve contiguous to the UC Merced campus. These efforts have contributed greatly toward the establishment of a regionally based conservation effort in eastern Merced County, and they will support the teaching and research mission of the campus.

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CCCI 4890
EPI 2744

MERCED CAMPUS

PROJECT NAME	PREFUNDED (000s)	PROPOSED 2007-08 (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST (000s)
			2008-09 (000s)	2009-10 (000s)	2010-11 (000s)	2011-12 (000s)	
Social Sciences and Management Building (900060)	P 1,191 W 1,476	C 37,255		E 3,900			43,822
Science and Engineering Building 2 (900020)		—	P 1,900 —	W 2,200 —	C 39,350 —	E 3,900 —	47,350
CAMPUS TOTAL		37,255	1,900	6,100	39,350	3,900	

MERCED CAMPUS
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM

**Social Sciences and
Management Building.....CE \$ 41,155,000**

State funds are requested for construction of the new Social Sciences and Management building of approximately 60,000 asf to accommodate enrollment growth and to provide instruction and research space for the social sciences, arts, and humanities and for an undergraduate management program. The facility will provide classrooms and case-study rooms, open computer laboratories, research facilities, scholarly activity space, faculty offices, and department administrative space.

**Science and Engineering
Building 2.....PWCE \$ 47,350,000**

The second building for the School of Natural Sciences and School of Engineering will provide approximately 42,000 asf of academic space to support growing student and faculty workload within the two Schools. The space includes teaching and research laboratories, laboratory support space, faculty and administrative offices and office support space, shared equipment rooms, and other specialized facilities for new or expanding programs not accommodated in the first Science and Engineering Building.

MERCED CAMPUS OTHER CAPITAL NEEDS

The Merced LRDp establishes a vision for the physical development of the campus. Phase 1 of development provides the basic campus infrastructure, site development, and buildings required to support campus operations from opening through approximately 2011. This first phase of campus development includes a central utilities plant, utility distribution systems, and major roadways, connections, and landscaping for the academic facilities. Phase 1 also includes the initial academic buildings, student housing, dining, and recreation facilities, space for facilities management, and surface parking lots.

Additional instruction and research facilities will soon be needed to support the Phase 1. Future campus capital program elements are expected to include additional housing, dining, child care, and recreational programs associated with increasing enrollments. UC Merced's goal is to house 50 percent of students on campus. Planning efforts are under way to expand the inventory of student beds available both on- and off-campus because there is little housing available in the nearby communities.

Increased campus circulation and infrastructure are essential to planned campus growth. Consistent with the approved Long Range Development Plan, the Merced campus will expand to include acreage that is currently undeveloped. The capacity of the Central Plant and distribution of underground utilities will need to expand to support growing enrollments and to serve future campus development. Undeveloped areas of the campus will require site improvements to address issues such as campus topography and drainage. New bridges, roadways, parking lots, and bicycle and pedestrian pathways will be needed to serve the new areas of the campus.

RIVERSIDE CAMPUS

State Capital Improvement Program

ESTABLISHED	1907
ENROLLMENT 2005-2006 (ACTUAL)	13,570 FTE undergraduates 1,875 graduate students 49 health science students
LIBRARY COLLECTION	2.4 million volumes
CAMPUS LAND AREA	1,112 acres
CAMPUS BUILDINGS	3.8 million assignable square feet

RIVERSIDE CAMPUS 2007-2012 STATE PROGRAM

INTRODUCTION

Established in 1907 as a citrus experimental and research facility of the University of California, the Riverside campus and its facilities have become a center of research and learning in the rapidly growing Inland Empire region of Southern California. Campus enrollment increased significantly over the past decade and is expected to continue increasing steadily over the next decade. The continuing regional growth creates demographic pressures on all educational institutions, and the capacity of the Riverside campus to accommodate this growth depends significantly on the availability of resources to construct new facilities as well as to improve existing ones.

The 2005 LRD^P anticipates a future headcount enrollment of 25,000 students in 2015-16 and the potential for additional growth beyond that level. In 2005-06, general campus enrollment was 15,445 FTE students, severely straining campus facility capacity. The State has projected major increases in student demand over the next decade, and the University anticipates substantial enrollment growth at Riverside and other campuses. Current revised University forecasts anticipate enrollment at Riverside to increase to approximately 20,000 FTE by 2010-11 for an increase of 30 percent from 2005-06, including summer and off-campus enrollment growth.

The surge in enrollment has made it necessary for the campus to accelerate its timeline for bringing future capital projects on-line. Simply stated, the buildings that were planned for implementation in future years of the capital improvement program will be needed sooner to address current shortfalls and accommodate growth. The campus 2005 LRD^P assessed the impact of this increased growth. Consequently the campus has initiated related environmental assessments and has developed strategies (including summer and off-campus programs) for responding to these changes while maintaining high academic standards.

The important capital improvement issues include: the continuing improvement and evolution of academic programs (including those in the materials sciences, genomics, bioengineering, and humanities and social sciences), the serious need for renewal or replacement of academic buildings that have not had significant improvement in decades, the renewal and extension of campus infrastructure to address its advancing age as well as

RIVERSIDE CAMPUS INTRODUCTION (continued)

the recent and projected growth of the campus, and development of the West Campus.

Capital Plans: Capital plans at the Riverside campus are shaped by these issues and reflect the urgent need to accommodate programs that are changing and rapidly expanding while simultaneously addressing life-safety, code-related, and other deficiencies. Increases in the Riverside campus population of students, faculty, and staff have created a demand for instruction and research facilities, specialized student services, athletic and recreation facilities, housing, and various campus support services. These, in turn, have generated additional requirements for communications networks, roadways, pedestrian walkways, open space, and utility and other infrastructure systems.

Other critical needs that have created demand on capital resources include completing the correction or replacement of facilities that have accessibility or code-related deficiencies, are obsolete because of the emergence of new methods and technologies in teaching and research (including related demands on outdated building systems), or have operational inefficiencies resulting from dispersion of related academic units.

Campus Development Strategy: The Riverside campus has a multifaceted strategy for overall development of its physical facilities and environment which is related to the 2005 LRDP goals and growth projections and is shaped by available resources. New facilities will be constructed when possible to meet the need for types of space not now available or to replace facilities that cannot be effectively renovated. This will be done on infill sites within the existing academic core and on sites within designated 2005 LRDP land use areas. Growth pressures have created the need to develop the West Campus for professional and graduate schools, freeing space in the East Campus academic core for undergraduate instruction and research activities. The opportunity created by the release of space in existing buildings will be used to alleviate other problems of crowding, obsolescence, and location. Existing facilities will be improved, alterations will be provided that allow new occupants to make effective use of reassigned space, life safety and other code problems will be corrected, and the intensity of space use will be increased. Additional student service facilities, including housing and recreation, will be provided in conjunction with anticipated growth and program needs. An adequate support infrastructure also will be provided. To preserve central campus sites for academic uses, many administrative and

RIVERSIDE CAMPUS INTRODUCTION (continued)

other supporting activities are being housed in facilities at the campus periphery.

Development Plans and Programs: The Riverside campus capital program, project priorities, and funding schedules are developed to meet current needs within available resources while continuing long-term planning in accordance with the 2005 LRDP.

- **Classrooms, Laboratories, and other Academic Support Facilities:** Much of the classroom and laboratory space in older buildings is obsolete or in poor condition and needs upgrade or replacement. Some programs lack the specialized facilities needed to support their courses. New and expanded facilities will be required to support continued growth of academic programs and enrollment.
- **Libraries:** Additional space and the use of new information-access technologies will be required for the campus libraries to keep pace with long-term program development. A study of long-term library facility and space needs is currently under way and will be completed in 2006-07.
- **Professional Schools:** The campus 2005 LRDP envisions establishment of additional professional schools and sites, as well as the development of West Campus facilities for the Graduate School of Education and the Anderson Graduate School of Management.
- **Administrative and Campus Support Facilities:** Additional space will be required for administrative and support services to accommodate past and future growth. To accommodate the projected enrollment, core facilities will be required for central administrative and enrollment functions near student activity centers and student support services.

Pedestrian and Vehicular Circulation: To address existing circulation problems and prepare for the future while maintaining a park-like campus, emphasis will be placed on maintaining a pedestrian-oriented campus core with walkways and bicycle paths. Campus circulation deficiencies will be addressed by improvement of peripheral roadways and development of campus transportation hubs, coordinated with other major improvements by the City of Riverside and other agencies for University Avenue, Martin Luther King, Jr. Boulevard, and State Highway 215/60 freeway-access points.

2007-2012 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4890
EPI 2744

RIVERSIDE CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2007-08	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2008-9	2009-10	2010-11	2011-12	
College of Humanities and Social Sciences Instruction and Research Facility (950377)	(000s) P 937 * W 1,561 * C 28,729 * C [5,299] X	(000s) E 940	(000s)	(000s)	(000s)	(000s)	32,167 [5,299]
Psychology Building (950451)	P 1,075 W 1,166 C 30,192 C [1,500] X	E 1,612					34,045 [1,500]
Environmental Health and Safety Expansion (950456)	P 400 W 600	C 11,980	E 362				13,342
Boyce Hall and Webber Hall Renovations (950462)	P 900	W 1,372 C 30,404					32,676
East Campus Infrastructure Improvements Phase 2 (950463)		P 308 * W 525 * C 8,060 * C [2,809] X					8,893 [2,809]
Batchelor Hall Building Systems Renewal (950464)		P 402	W 676	C 10,434			11,512
Student Academic Support Services Building (950457)	P 750 W 900 C 18,035		E 893				20,578
Materials Science and Engineering Building (950450)	P 1,600 * W 2,149 * C 50,549 * C [6,900] X		E 4,530				58,828 [6,900]
Engineering Building Unit 3 (950465)		P 2,100	W 3,150	C 55,000			60,250 [503]
West Campus Graduate and Professional Center Phase 1 (950449)			P 1,000	W 1,700	C 34,800		37,500
West Campus Infrastructure Improvements (950449)			P 500	W 600	C 10,500		11,600
Academic / Research Building Addition and Renovation (950474)			P 450	W 650 C 1,000			13,750
CAMPUS TOTAL		55,603 [2,809]	8,561	15,084	57,750	46,950	

**RIVERSIDE CAMPUS
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM**

**College of Humanities and Social Sciences
Instruction and Research Facility..... E \$ 940,000**

State funds are requested to equip a new facility that will provide approximately 68,000 asf of instructional, research, and office space for several interdisciplinary academic programs of the College of Humanities, Arts, and Social Sciences. The building is part of a multiphased plan that includes major renovations to existing buildings and construction of new space needed to accommodate current and projected student enrollment growth.

Psychology Building.....E \$ 1,612,000

State funds are requested to equip the Psychology Building. This project will provide approximately 34,000 asf for interdisciplinary instructional and research programs in Psychology. It will address significant growth in the College of Humanities, Arts, and Social Sciences, and will facilitate reuse of existing facilities that will be necessary to support teaching and research requirements in the College. In addition, this project will provide a new research-support facility to serve UCR's growing research needs.

**Environmental Health and
Safety Expansion.....CE \$ 12,342,000**

State funds are requested for construction of the Environmental Health and Safety Expansion project. This project will provide approximately 18,000 asf in laboratories, waste-handling facilities, and related office and support space to help this critical unit respond to the increased requirements of the growing campus.

RIVERSIDE CAMPUS CAPITAL PROGRAM (continued)

Boyce Hall and Webber

Hall Renovations WC \$ 31,776,000

State funds are requested for preparation of working drawings and construction of the Boyce Hall and Webber Hall Renovations project. This renovation and upgrade of 53,000 asf of space in Boyce and Webber Halls will include hazardous materials abatement, upgrade of building infrastructure systems, laboratory improvements, and accessibility corrections. The project will provide flexible and adaptable laboratory space for research programs in the Life Sciences. In addition, Boyce Hall houses research support facilities that are poorly configured and have deficient infrastructure to support modern research initiatives and protocols. The project will selectively upgrade and reconfigure the highest priority areas of Boyce Hall to provide a safe and efficient research environment.

East Campus Infrastructure

Improvements Phase 2..... PWC \$ 8,893,000
C \$ [2,809,000] X

State funds are requested for preliminary plans, working drawings, and construction for the East Campus Infrastructure Improvements Phase 2 project. This project will follow earlier infrastructure upgrades and provide an expansion of the campus steam system, chilled water/condensate return, and domestic water capacity. The project also will continue the incremental conversion of the campus 5 kV electrical system to a modern 12 kV system. These infrastructure improvements are required to accommodate the demand on campus systems as enrollment continues to increase.

Batchelor Hall Building

Systems Renewal..... PWC \$ 11,512,000

State funds are requested for preparation of preliminary plans for the Batchelor Hall Building Systems Renewal project. This renovation of approximately 57,300 asf of space will include the phased upgrading of the central equipment and utility distribution systems and correction of code deficiencies. The completed project will provide the building systems necessary to support contemporary low-to-moderate intensity research space for the current and proposed occupants.

RIVERSIDE CAMPUS CAPITAL PROGRAM (continued)

Student Academic Support

Services Building E \$ **893,000**

This project will provide a new building of approximately 37,400 asf for student academic services office and support space, addressing the growth needs of core support services including Admissions, Financial Aid, and the Registrar.

Materials Science and

Engineering Building.....E \$ 4,530,000

This project will construct approximately 75,000 of new space to provide academic laboratory, office, and support space for interdisciplinary instructional and research programs in nanotechnology, materials science, and bioengineering and will provide approximately 18,000 asf of general-assignment classrooms for the campus.

Engineering Building Unit 3PWC \$ 60,250,000
E \$ [503,000] X

This project will construct approximately 54,000 asf of laboratory, laboratory support, and academic office facilities to address the enrollment growth and program space needs in the Bourns College of Engineering. The building will house bio-safety level 2 and 3 laboratories, instrumentation, and bioinformatics/systems biology laboratories for instruction and research in Bioengineering, Chemical and Environmental Engineering, and Mechanical Engineering.

West Campus Graduate and
Professional Center Phase 1.....PWC \$ 37,500,000

This project will construct approximately 60,000 asf of facilities, including academic offices, instructional and research laboratories, assembly spaces, and departmental support spaces in the professional school development zone on the West Campus. The first phase of developing the West Campus Professional and Graduate Center will construct facilities for the Graduate School of Education (GSOE).

RIVERSIDE CAMPUS CAPITAL PROGRAM (continued)

West Campus Infrastructure

ImprovementsPWC \$ 11,600,000

Rapid growth of enrollment and programs will require that core campus facilities expand into the western campus area. This project will provide for utility and circulation-related improvements including domestic water, sanitary sewer, storm drain, natural gas, electrical power, communications systems, and vehicle access needed to support the initial academic development of the West Campus.

Academic / Research Building

Addition and Renovation.....PWC \$ 13,750,000

Continued enrollment and program growth will result in greater demand for Instruction and Research programs facilities. The campus will provide suitable space to meet these needs through a combination of new construction and renovation of existing facilities.

RIVERSIDE CAMPUS OTHER CAPITAL NEEDS

The capital needs described below are reflected in Riverside's master space planning efforts and the 2005 LRDP. The rapid growth experienced by the campus in recent years has been accommodated in facilities that in many cases were constructed two or three decades ago. The capital program is driven by the simultaneous needs to upgrade and renew aging buildings and infrastructure, to make improvements to support programs that have evolved substantially, and to adapt or expand facilities to catch up to past enrollment growth and accommodate new growth and new programs. There is an urgent requirement for additional facilities to accommodate new students and expanded programs. Some of this growth in the longer term will be accommodated through the development planned for the West Campus, which will include relocation of existing professional schools to free up space in the central academic core on the East Campus, the establishment of new graduate and professional schools, and development of new housing and recreation facilities. UCR places great importance on carefully coordinating the construction of new academic and student support facilities with a systematic building renewal program to make the most effective use of existing space.

1. Core Academic Facilities

Present plans include enlarging the boundaries of the academic core and implementing a number of major infrastructure construction projects. Within the existing academic core, a number of buildings require renewal to correct code and other deficiencies, to upgrade or replace building systems, and to provide for major academic program changes.

Classrooms: General-assignment classroom space is distributed throughout each of the academic program areas. Many classrooms are old and need upgrading for modern teaching practice. In addition, new classroom space needed to meet enrollment levels defined in the LRDP will be included in major academic building projects as appropriate. Some reorganization within existing facilities also may yield improved or additional classroom space.

RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)

College of Humanities, Arts, and Social Sciences: Several departments of the College of Humanities, Arts, and Social Sciences (CHASS) are housed in facilities that are in poor condition, are crowded, do not meet functional needs, and are dispersed in several locations. At projected enrollment levels, the College will require additional instruction and research space for all program areas. Although the Psychology Building, CHASS Instruction and Research Facility, and Culver Center will address a portion of this need, additional needs remain.

College of Natural and Agricultural Sciences: These programs will require improved and expanded facilities to address existing space deficits from enrollment growth, the continuing evolution of programs, and technological advances. Much of the laboratory space that was built in the 1960s has become obsolete with rapid changes in research directions in recent years. Older facilities with serious building infrastructure and program deficiencies require renewal to support campus programs. More class laboratory, research, and greenhouse space will be needed as the campus population grows. Currently proposed projects will begin to address these critical space needs, but ongoing requirements for class laboratory space equipped for instruction in the sciences and for modern research space will necessitate strategic combinations of new space and renovation of existing facilities.

Bourns College of Engineering: More class laboratories, laboratory support, and academic offices and departmental support space will be needed to accommodate enrollment growth in this College. Improved and expanded facilities will be required to address the continuing evolution of programs and advancement of technology. Anticipated growth of the College will require development of additional space, such as the Engineering Building Unit 3 proposed in the current five-year capital program, as well as renovations of existing class laboratory and research laboratory space in response to evolving program needs and research initiatives.

RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)

Professional Colleges and Schools: The continued development of UCR's professional colleges and schools, which include the Graduate School of Education and the Graduate School of Management, will require additional facilities. In the context of UCR's LRD^P and West Campus Area Plan, these new facilities will be located on the West Campus.

- **Education:** The Graduate School of Education is currently housed in Sproul Hall, in the middle of the College of Humanities, Arts, and Social Sciences precinct in the core academic area of the East Campus. Longer term plans will relocate the School to new facilities on the West Campus.
- **Management:** The A. Gary Anderson Graduate School of Management is currently housed in the central and south wings of Anderson Hall. The School will be relocated to new facilities in the West Campus, supporting program development and enrollment growth. The School's needs include space for academic offices, class laboratories, and seminar and colloquia rooms.
- **New Professional Schools:** The LRD^P envisions development of new professional schools in response to the continued rapid development of the inland area of Southern California and the increased needs of the region and State. Professional school proposals currently under consideration include a Graduate School of Public Policy. A professional and graduate school reserve on the West Campus has been provided in the LRD^P to accommodate these future developments.
- **Libraries:** The rapid advance of information and education technology, coupled with the long-term expansion of enrollment and academic programs defined in the LRD^P, requires continued improvement and expansion of the information systems and library facilities of the campus. A study of long-term library facility and space needs is currently under way and will be completed in 2006-07.

RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)

- **Cultural Facilities:** Existing performance facilities are small, heavily scheduled, and relied upon for multiple purposes on a campus with few large assembly spaces. The campus art gallery is temporarily located in a building not designed for that purpose. With performing arts programs and cultural exhibitions playing a major public service role in cultural life at UCR and in the community, the campus must expand its capacity to make theater, music, dance, exhibits, and other arts events accessible to a wider public. New performance and gallery facilities projects are planned for the future.

2. Administrative and Support Facilities

Campus Administration: With enrollment growth over the last decade, existing administrative facilities have become crowded and inadequate to properly support the activities housed in them. Many administrative units have been moved into off-campus, leased locations or to newly acquired properties adjacent to the campus. The LRDP identifies new facilities for campus administration, enrollment management, and student-oriented administrative services.

Alumni and Visitor Center: There are currently no separate facilities to accommodate alumni functions or the needs of the visiting public. A new non-State-funded facility designed to address these needs is under construction.

3. Auxiliary Enterprise Facilities

Housing: Enrollment growth and housing demand from the past decade, coupled with anticipated enrollment increases and housing demand in the next decade, will require additional new bed spaces. The campus expects to build new housing facilities regularly, and plans are being developed for new residence halls, apartment complexes, and cluster housing complexes to accommodate affinity groups. The Strategic Plan for Housing provides a framework for the phased implementation of new construction, acquisition, redevelopment, and renovation for all campus housing types. Housing for undergraduates will continue to be clustered near the East Campus Academic Core, and

RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)

housing for graduates and students with families will be developed on the West Campus.

Athletics and Recreation Facilities: As the campus develops, intercollegiate athletics and student recreation activities will be extended beyond the East Campus Academic Core so they can have space to grow and will not limit the few remaining prime sites needed for the expansion of other student services and academic programs. In the LRD^P approximately 60 acres are identified for recreation and athletics use. To meet requirements of indoor and intercollegiate sports, major new athletic facilities will be required to replace the existing Physical Education building. The next increments of student recreation facilities are slated for implementation in conjunction with UCR's next housing developments.

Child Care Facilities: The Campus Child Development Center, occupied in 1996, currently provides day care services for children of students, faculty, and staff. The campus has completed studies for options to provide additional facilities in response to increasing demand. These options include new East and West Campus child care facilities in conjunction with UCR's planned housing developments; new facilities on the East Campus are in planning and will begin design soon.

4. Campus Infrastructure Improvements

Roadway Accessibility: Roadway improvements will be required as the academic core expands. Existing interior roadways will be transformed into a limited-access roadway system with priority for service and emergency vehicles. Pedestrian and bicycle-oriented amenities will be created and combined with other improvements to support increased use of public transit and an expanded campus shuttle system.

Parking: As the campus adds more facilities, new parking facilities at the periphery will be required to replace interior parking lots lost to new construction. Within the next five years, the expected increase in overall demand for parking will require development of major

RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)

transportation hubs, including parking structures. Planning is under way to develop sites at the major entrances to the campus.

Campus Communications Network: The campus intends to extend its existing communication systems, which include telephone, data, video, and emergency/security services. The expanded network of lines typically will be installed as individual infrastructure projects, and future building projects will be connected to the system as required. Future improvements in campus telecommunications will be necessary as use of electronic communication expands and technology changes.

Utilities Expansion and Modernization: As the campus develops existing and new sites, the network of gas, domestic water, sanitary sewer, storm drain, steam, chilled water, and electrical lines must be extended. Some utility lines will require renewal and expansion in response to age and increased demand. The East Campus Infrastructure Improvements and West Campus Infrastructure Improvements projects will address the most critical of these areas. Beyond these projects, however, ongoing renewal and expansion of aging or undersized utility systems will be needed to ensure stable and efficient service distribution.

Landscape Improvements and Site Development: Campus plans include the extension of the existing landscaped mall system on the East Campus, beginning with a strategic restoration of the University Arroyo, to be completed in 2006-07, and development of the Fine Arts Mall. Other landscape improvements may include exterior development at the main entrances to the campus and creation of malls to connect the Recreation Center, Student Commons, engineering buildings, the Anderson Graduate School of Management Building, and the Psychology Building in accordance with the Area Studies completed in 2003-04, 2004-05, and 2005-06. Pedestrian walkways and integrated bicycle lanes will be developed as the campus explores extensions to its formal landscape system of campus entries, malls, plazas, courtyards, and terraces. Landscape and site development guidelines are also being formulated in anticipation of West Campus development.

RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)

5. Improvements to Facilities for Health and Life Safety

Asbestos: While much asbestos abatement work has been completed, further work will continue during renovations and building renewal, and as funding opportunities occur.

Fire Safety: Fire detection and suppression systems in older buildings must be upgraded to comply with contemporary codes and safety concerns. Access routes for fire-safety vehicles and traffic control measures will be adjusted as the campus develops.

6. Corrections for Seismic Safety

Seismic Improvements: The deficiencies of all State-supported buildings on campus that have been identified as seismically “Poor” or “Very Poor” have been corrected. The non-State supported Highlander Hall, confirmed to be seismically “Poor,” will be addressed over the next few years. Current plans call for phased relocation of occupants into seismically “Good” space, allowing for demolition of the facility and subsequent redevelopment of the site.

SAN DIEGO CAMPUS

State Capital Improvement Program

ESTABLISHED	1912
ENROLLMENT 2005-2006 (ACTUAL)	20,630 FTE undergraduates 3,465 graduate students 1,576 health science students
LIBRARY COLLECTION	3.2 million volumes
CAMPUS LAND AREA	2,040 acres
CAMPUS BUILDINGS	8.0 million assignable square feet
HOSPITAL AND CLINICS	919,043 assignable square feet

SAN DIEGO CAMPUS 2007-2012 STATE PROGRAM

INTRODUCTION

The University of California, San Diego campus began in the early 1900s as a marine research station and later developed into the Scripps Institution of Oceanography. In 1960, the campus was officially designated as an independent UC campus, serving both undergraduate and graduate students. Since its inception, the campus has evolved into an internationally distinguished research university. Six semi-autonomous colleges, each with its own residential and academic facilities and distinctive educational philosophy, serve UCSD's undergraduates. With an enrollment of 3,000 to 4,000 each, the colleges provide students with academic and extramural opportunities that are usually found only in small college environments. UCSD students also benefit from the academic enrichment provided by General Campus divisions and schools, the Scripps Institution of Oceanography, the Graduate School of International Relations and Pacific Studies, the School of Medicine, the Skaggs School of Pharmacy and Pharmaceutical Sciences, and the Rady School of Management.

As UCSD endeavors to provide adequate space to accommodate enrollment growth, the capital program must accomplish both the construction of essential additional space and the renewal and upgrade of existing aged buildings and infrastructure. Improved campus facilities are needed to support emerging academic and research programs critical to California's economy and the quality of life of its citizens. For example, UCSD's new PRogram In Medical Education - Health Equity (PRIME - HEq) and the program's emphasis in telemedicine will result in improved access to healthcare for underserved groups and communities. Facilities are needed to accommodate expanded medical school enrollments from this new program.

The approved 2004 UCSD Long Range Development Plan (LRDP) anticipates that by 2020-21 the campus will grow to 32,700 FTE students, including summer term. During the 2005-06 academic year, UCSD enrolled 25,671 FTE general campus and health sciences students.

SAN DIEGO CAMPUS INTRODUCTION (continued)

Several areas comprise capital needs at the San Diego campus.

- **Instruction and Research:** As programs evolved, especially in the last decade, a shortage of space developed in many campus instruction and research programs. Recent projects have addressed some of those needs, but space shortages remain. Continuing enrollment growth means that the campus will continue to face a shortage of space and limited flexibility for a number of academic programs.
- **Renewal of Existing Facilities and Infrastructure:** Many of the buildings on the General Campus, School of Medicine, and Scripps Institution of Oceanography are over 40 years old and require renewal and infrastructure upgrades in response to changing academic programs, health and safety requirements, and obsolescence. UCSD's older buildings throughout the campus are no longer efficiently or effectively supporting today's teaching and research. Modernizing these buildings and providing upgrades to meet fire, life safety, and other code requirements are high campus priorities. In particular, several wood-framed buildings in the core area of the campus that were acquired from the former US Marine Corps Camp Matthews military base are slowly being replaced with more suitable facilities that better respond to academic program needs and utilize land more efficiently.
- **Utility Systems:** Improvements to the campus and medical center utilities plants, including renewal of building systems and introduction of new energy management and energy conservation equipment, have proven to be efficient and cost-effective, and will continue to be implemented over the next five years. The campus will continue to explore energy conservation options and implement new measures. Improvements to the campus telecommunications network will accommodate expanding computing and instructional technologies.
- **Development Strategy:** UCSD's capital improvement program will balance new construction, renovation, building system upgrades, and the renewal and expansion of infrastructure. Private gifts and grants, industry partnerships, and federal grants and contracts will continue to provide important capital funding to complement State funds.

2007-2012 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

SAN DIEGO CAMPUS

CCCI 4890
EPI 2744

PROJECT NAME	PREFUNDED	PROPOSED 2007-08	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2008-09	2009-10	2010-11	2011-12	
	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
Music Building (962870)	P 1,711 W 2,091 C 36,125	E 2,204					42,131
Management School Facility Phase 2 (963480)		P 1,000 P [1,000] G	W 1,231 W [1,169] G C 23,389 C [14,981] G		E [1,000] G E [1,000] X		25,620 [19,150]
Telemedicine and PRIME - HEq Education Facility (963250)		PWCE 35,000 PT PWCE [20,375] G PWCE [3,295] X					35,000 [23,670]
Biological and Physical Sciences Building (963240)			P 4,000 W 4,800	C 63,800		E 2,500	75,100
Campus Stormwater Management (966176)			P 250	W 350	C 3,200		5,100
Structural and Materials Engineering Building (962630)	P 3,378 * W 4,128 * C 67,551 *			E 3,020 E [4,026] X			78,077 [4,026]
Satellite Utilities Plant (966158)				P 675	W 825 C 13,450		14,950
Instructional Technology Building (963230)				P 2,175	W 2,600	C 45,200	52,175
SIO Research Support Facilities (962560)					P 230 W 210 C 4,060		4,500
Muir Biology Building Renovation (963260)					P 1,150	W 1,050 C 20,800	23,000
Campus Fire and Life Safety Improvements (966177)						P 260 W 340 C 5,350	5,950
SIO Utilities System Improvements Phase 2 (963490)						P 280 W 350	6,130
CAMPUS TOTAL		38,204 [24,670]	33,670 [16,150]	70,020 [4,026]	25,725 [2,000]	76,130	

SAN DIEGO CAMPUS
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM

Music Building **E \$ 2,204,000**

State funds are requested to equip the Music Building which will provide approximately 48,000 asf of instructional spaces, practice rooms, group performance spaces, faculty studios, administrative support space, and a 392-seat recital hall to accommodate growth of the Music Department. The Music Department's active teaching and performance programs have outgrown current space, and there is no expansion space available within existing facilities.

Management School

Facility Phase 2..... **PWC \$ 25,620,000**
 PWCE \$ [18,150,000] G
 E \$ [1,000,000] X

State funds are requested for preliminary plans for the Management School Facility Phase 2 project. This new building will provide approximately 50,000 asf of instructional, student-support, auditorium, and executive education space to support the new Rady School of Management. The earlier Phase 1 facility, funded entirely with gifts and campus funds, is scheduled to be completed in early 2007. This Phase 2 project will be necessary to accommodate the School's space needs as enrollments approach steady-state.

Telemedicine and PRIME - HEq

Education Facility..... **PWCE \$ 35,000,000 PT**
 PWCE \$ [20,375,000] G
 PWCE \$ [3,295,000] X

State funds are requested for preliminary plans, working drawings, construction and equipment for the Telemedicine and PRIME - HEq Education Facility. This project will provide approximately 48,800 asf of new space to accommodate expanded medical school enrollments in the Program In Medical Education - Health Equity and to support a major new initiative in use of telemedicine to improve health-care access. The new facility will include a telemedicine training center; consultation and simulation rooms; and classrooms, academic and administrative offices, and support space.

SAN DIEGO CAMPUS CAPITAL PROGRAM (continued)

Biological and Physical

Sciences Building.....PWCE \$ 75,100,000

This project will provide approximately 58,000 asf of class laboratories, research laboratories, and office space for the Divisions of Biological Sciences and Physical Sciences. The project is necessary to accommodate the growing workload projections for these two academic divisions. Even with completion of projects currently under way, there will be substantial unmet space needs for these programs that will require construction of a new facility.

Campus Stormwater Management.....PWC \$ 5,100,000

This project will provide improvements to reduce the discharge of pollutants into the stormwater system, protect water quality, and meet water quality requirements of the Clean Water Act and Regional Water Quality Control Board Basin Plans. The project will include installing detention, treatment, and infiltration basins, installing dry weather flow diversions and treatments, and making other improvements to satisfy water quality requirements.

Structural and Materials

**Engineering Building.....E \$ 3,020,000
E \$ [4,026,000] X**

This project will provide 110,000 asf of class laboratories, research laboratories, offices, and related support spaces to accommodate enrollment growth in the Jacobs School of Engineering (specifically the Department of Structural Engineering and the Materials and Engineering research group) and in the Department of Visual Arts. The addition of this new space will allow space released in existing facilities to be reassigned to other programs for their growth needs.

Satellite Utilities Plant PWC \$ 14,950,000

The existing main campus utility plant has reached its maximum capacity, physically constrained by the size of its site and related factors. This project will construct a Satellite Utilities Plant with the chiller capability to meet future growth in demand. Elements for this initial phase will include a chiller and cooling tower, support systems, interconnection piping, new cabling to the existing utility distribution network on campus, and a new enclosing structure

SAN DIEGO CAMPUS CAPITAL PROGRAM (continued)

of approximately 5,000 gsf in the School of Medicine neighborhood. New electrical service from the east campus to the west campus and a new substation in the south part of the campus will also be included in this project.

Instructional Technology

Building.....PWCE \$ 52,175,000

This project will construct 65,000 asf of new space within the University Center. General assignable classroom seats will be built to provide state-of-the-art instructional services for the growing undergraduate and graduate student population at UCSD. In addition, the project will provide space to consolidate Academic Computing Services (ACS), Media Center, Teacher Education Program (TEP), and the Academic Enrichment Program.

SIO Research Support Facilities PWC \$ 4,500,000

The proposed project will provide 15,300 asf of space to support the seagoing and remote location research programs of the Scripps Institution of Oceanography (SIO). The project will provide a flexible facility that will allow researchers to stage and test their equipment, prior to its being loaded for transport on research expeditions. These expeditions require specialized instrumentation, equipment and support materials for use at sea and at remote sites. Many of the existing research support structures were built in the 1940s and are in deteriorated condition, are inadequate for storage, and do not provide the space necessary for staging and testing equipment. These substandard structures will be replaced by the new facilities.

Muir Biology Building Renovation.....PWC \$ 23,000,000

This renovation project will upgrade the Muir Biology Building to provide required fire and life safety code and building infrastructure improvements. The Muir Biology Building, constructed in 1970, has serious infrastructure and life-safety deficiencies, and renovation is necessary for the building to effectively support contemporary Ecology, Behavior and Evolution, and Plant Genetics research.

SAN DIEGO CAMPUS CAPITAL PROGRAM (continued)

Campus Fire and Life

Safety Improvements PWC \$ **5,950,000**

This project will provide fire and life safety improvements in selected State-supportable campus buildings to reduce fire-related hazards. A systematic approach to reducing fire-related losses involves three interconnected elements: early fire detection and occupant alerting, transmission of alarm information to the UCSD Police Department, and automatic fire suppression. Buildings will be retrofitted with modern, fully addressable fire alarm systems and automatic sprinkler systems. In addition, an interface module at the fire alarm panel in each building will be installed.

SIO Utilities System

Improvements Phase 2.....PWC \$ **6,130,000**

Scripps Institution of Oceanography (SIO), established in 1925, is the oldest part of UCSD. Most buildings at UCSD are between 25 and 50 years old and were not originally built with the utility infrastructure needed to support today's instruction and research. There have been small add-on solutions to provide the power and HVAC needs of the scientists for both research and teaching. This project will interconnect the systems to increase efficiency and will upgrade the several "neighborhood-based" utility plant systems now supporting the operations of SIO. Centralizing the physical plants will achieve significant energy savings and improve reliability for the infrastructure support systems of SIO's buildings. In addition, Nierenberg Hall does not have sufficient power to support the increased demand of science instrumentation and computers used for research in the building. Therefore, as part of this project, new feeder lines, panels, and power distribution for the building will be added.

SAN DIEGO CAMPUS OTHER CAPITAL NEEDS

1. Core Academic Facilities

During the period of remarkable enrollment growth in the 1980s, capital resources were focused on expansion of facilities to accommodate new students and programs. In most of the 1990s, the UCSD capital program focused on completing critical life safety corrections and essential renewal and modernization projects in the older buildings and infrastructure of the campus. Starting about 1998-99, however, demographic forces resulted in resumed enrollment growth, the expansion of academic and support programs, and the need for additional facilities to accommodate them. Consequently, UCSD has continued to address life safety and renewal needs in existing facilities in concert with new construction to meet growth and programmatic requirements.

Biological and Physical Sciences: These programs will require improved and expanded facilities to address enrollment growth, evolving academic programs, and technological advances. The Divisions of Physical Sciences and Biological Sciences plan to consolidate their laboratory-based departments and conduct the core of instruction and research activities at Revelle College. The Department of Chemistry and Biochemistry will continue improvements in Urey Hall to modernize facilities, respond to evolving safety and code issues, and address changing program requirements.

Humanities and Social Sciences: As these programs expand with growing enrollments, Humanities and Social Science departments such as anthropology, history, philosophy, and literature will require space either in a new building or in a vacated space released by departments moving to new buildings.

Engineering: Even with the recent completion of new engineering facilities, there will be a space deficit for the Jacobs School of Engineering based on workload projections. An engineering interdisciplinary facility will be needed to provide research and office space for the cross-disciplinary programs in nanotechnology and chemical and biological systems engineering.

SAN DIEGO CAMPUS OTHER CAPITAL NEEDS (continued)

Arts: As new music space is constructed, vacated space will be reassigned to Visual Arts to provide adjacent expansion space for its undergraduate teaching programs.

Marine Sciences: Assessments of the facilities and programs at the Scripps Institution of Oceanography (SIO) have defined the need for three new laboratory/research facilities. The first—the Center for Marine Genomics, Biotechnology and Biomedicine—addresses the need for substantially expanded research in the area of pharmaceuticals from the sea. The second is the Coastal Biophysical Research Center to study the biological and physical processes in near-shore waters. The third is the Center for Earth Observations and Applications to study global changes in the oceans and atmosphere.

Additionally, several existing research and instructional buildings have deteriorated from age and the marine environment and are hampered by inadequate mechanical, air cooling, and electrical systems that cannot sufficiently support modern science. The renovation of these structures will ensure their adequacy for future research and student training and also improve their energy efficiency.

Health Sciences: The School of Medicine's mission includes instruction, research, patient care, and community service. Demand for modern teaching space has grown dramatically since the Basic Science Building opened in 1969. Even with the recently completed building for the Skaggs School of Pharmacy and Pharmaceutical Sciences and the proposed new Telemedicine and PRIME - HEq Education Facility, long-range plans indicate the need for additional instruction and research facilities. The School of Medicine is actively pursuing gift and foundation support, private sector partnerships, and other alternative funding mechanisms for new facilities.

SAN DIEGO CAMPUS OTHER CAPITAL NEEDS (continued)

2. Health Sciences Clinical Facilities

The UCSD Medical Center operates hospital facilities in Hillcrest and La Jolla. A major focus of the Medical Center's capital program for the Hillcrest facility involves completing State-funded projects to correct seismic deficiencies in a multi-phased approach that satisfies SB 1953 in a cost-effective manner while still serving the needs of the community.

At the La Jolla campus, construction of a Cancer Center Facility to consolidate cancer research and clinical activities was completed in Summer 2005. In addition, plans are under way for a Cardiovascular Center, expansion of ambulatory diagnostic and treatment facilities, and increased Intensive Care Unit and emergency capacity at the Thornton Hospital.

3. Student Activities, Services, Organizations, and Recreation

Enrollment growth has required expansion of recreational and student activity facilities. Student Affairs needs additional space to provide an array of programs and services to support the undergraduate population, to promote the academic and interpersonal success of students, and to enhance overall student life. Expansion is under way for the Price (student) Center and older student-center facilities that are operating at full capacity.

4. Housing

Commensurate with undergraduate and graduate enrollment projections and the campus LRD^P, UCSD plans to house 50 percent of its students in University housing located on or off the campus. Future housing projects will implement this goal primarily in proximity to the undergraduate colleges, because the college system plays an important part in shaping the educational, cultural, and social experience of undergraduates at UCSD. Construction of graduate housing on the East Campus will be completed this fiscal year, and housing for transfer/upper-division students on the North Campus is in the design phase.

SAN DIEGO CAMPUS OTHER CAPITAL NEEDS (continued)

5. Administrative and Support Facilities

UCSD continues to redevelop the University Center area as the hub of campus activity and student life; nearly all of the former US Marine Corps buildings there that pre-date the establishment of the campus will be demolished. Replacement space will be provided for a number of administrative services departments. UCSD will continue to consolidate administrative service and business operations departments which need less campus contact at the periphery of the campus.

6. Utilities, Site Development, and Parking Improvements

Maintaining an adequate information infrastructure is critical to the success of UCSD's academic programs. Systemic inadequacies in existing facilities will be resolved through a comprehensive program to complete telecommunications infrastructure where service gaps exist, upgrade the backbone of the electronic mail system, and increase the number of student access workstations.

To supplement the campus fiber-optic and broadband network, UCSD has created wireless networks in a few locations and plans to expand them throughout the campus. The combined system will support research productivity and medical diagnostics by increasing access to supercomputers and specialized databases, advancing the availability of academic research to the private sector, and broadening learning opportunities by connecting faculty, students, and staff in various locations.

To meet physical circulation and traffic safety needs, UCSD has developed a pedestrian-oriented campus interior. Additional parking structures are being planned at peripheral locations, along with extended service of the campus-wide shuttle system.

SAN FRANCISCO CAMPUS

State Capital Improvement Program

ESTABLISHED	1873
ENROLLMENT 2005-2006 (ACTUAL)	4,050 FTE health science students
LIBRARY COLLECTION	824,852 volumes
CAMPUS LAND AREA	180 acres
CAMPUS BUILDINGS	3.6 million assignable square feet
HOSPITAL AND CLINICS	1.3 million assignable square feet

SAN FRANCISCO CAMPUS 2007-2012 STATE PROGRAM

INTRODUCTION

The University of California, San Francisco is a graduate health sciences campus with a 2005-06 enrollment of 4,050 students. It is a multiple-site campus with four teaching hospital sites, two UC-owned (at UCSF/Parnassus Heights and UCSF/Mount Zion) and two with which UCSF has longstanding affiliation agreements (Veterans Affairs Medical Center and San Francisco General Hospital). Parnassus Heights has been the principal center for teaching, research, and clinical programs, but with the growth of academic and support programs at other sites, the role of the Parnassus Heights campus site is changing. UCSF's approved LRDP, which will guide campus development, calls for continued investment in existing sites and the development of a single major new site to consolidate some of the presently scattered locations and allow program decompression and expansion. The Mission Bay property was selected as the new site; the first parcel of land was acquired in July 1999, and the first project was completed and occupied in 2002-03. Development at Mission Bay is continuing with the planning and construction of several major projects.

As one of the nation's preeminent health sciences institutions, UCSF's mission is fourfold: teaching, research, clinical care, and public service. UCSF's success in carrying out its mission has led to growth across a wide spectrum of programs such as: molecular, cell, and systems biology research and clinical applications; structural biology and the design of antiviral drugs; pharmacology; retroviral research, especially on the AIDS virus (HIV); cancer; children's health and disease; aging; neuroscience; cardiovascular research; and epidemiology. These areas of growth are generating a major demand for new space for research and clinical care activities and related teaching and administrative functions. Development of new facilities at Mission Bay will be of great importance in helping to meet these needs.

At the same time, ongoing problems in existing facilities must be addressed. These problems include the need to correct obsolescence in campus building infrastructures to meet seismic, fire, and laboratory safety requirements and to upgrade central utility, laboratory, and academic support facilities to meet the demands of modern biomedical research and teaching programs.

SAN FRANCISCO CAMPUS INTRODUCTION (continued)

UCSF faces a number of planning challenges at the central Parnassus Heights campus site. First, a serious program space deficit has long existed. Second, aging buildings exacerbate this space shortage. Several buildings at Parnassus are physically obsolete and/or seismically hazardous and require replacement. Many building infrastructure systems are obsolete, requiring renewal or replacement to meet utility and equipment demands as well as increasingly stringent building and fire-code requirements. Third, because the Parnassus site is so intensively developed with complex laboratory and clinical facilities, the collective demands on the central utility system for steam, electricity, and laboratory utilities require extensive upgrade and expansion. Finally, support facilities at Parnassus, such as for environmental health and safety, are aged and deteriorated and require replacement.

The campus is addressing these challenges in the following ways:

- To address the space deficit, initial development at the UCSF Mission Bay campus site is providing substantial new program space in the near term, with significant additional development capacity planned in the long term. Programs relocating from Parnassus to Mission Bay will release space at Parnassus, which can help meet needs for program expansions.
- To address building obsolescence, UCSF has instituted a plan of ongoing replacement and upgrade of building systems to correct fire and life safety deficiencies, toxic hazards, code deficiencies, and infrastructure needs at its Parnassus buildings. The campus is substantially upgrading the mechanical systems of its core academic research buildings as well as emergency and standby power systems so that research space can meet current code and research requirements. UCSF also is renovating obsolete laboratory, clinical, and support space to meet the needs of program occupants more effectively.
- To remedy central campus utility system obsolescence at Parnassus, the campus is implementing an integrated program that began with construction of a new central utilities plant and adding new chillers and a cooling tower.
- To address concerns about seismic life safety and deteriorated support facilities at Parnassus, UCSF is proceeding with a program to replace or upgrade the facilities at issue.

SAN FRANCISCO CAMPUS INTRODUCTION (continued)

- To address seismic deficiencies in its teaching hospitals at the Parnassus and Mount Zion sites, UCSF has developed a plan that will achieve compliance with seismic requirements.
- To address deficiencies in buildings occupied by UCSF at San Francisco General Hospital, UCSF is working with the City and County of San Francisco on a plan to correct or replace deficient facilities.
- To respond to State initiatives related to PRograms In Medical Education (PRIME) including related growth in medical student enrollment, service to medically underserved groups and communities, and efforts to incorporate telemedicine technology to improve the delivery of care to underserved areas, UCSF will be renovating and equipping existing space.

As a long-range goal, UCSF plans to construct a new central utilities plant at Mission Bay to support proposed and future development. The plant will allow UCSF to produce 12 kV electrical power that will increase energy efficiency, reduce energy costs, and minimize environmental pollution.

2007-2012 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4890
EPI 2744

SAN FRANCISCO CAMPUS

PROJECT NAME	PREFUNDED (000s)	PROPOSED 2007-08 (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST (000s)
			2008-09 (000s)	2009-10 (000s)	2010-11 (000s)	2011-12 (000s)	
Electrical Distribution Improvements Phase 2 (940540)	P 525	W 892	C 12,396				13,813
Telemedicine and PRIME - US Education Facilities (924160)		PWCE 35,000 PT					35,000
Medical Sciences Building Improvements Phase 3 (924280)			P 650	W 1,150	C 16,150		17,950
Mission Bay Central Utilities System Phase 2 (923920)				P 525 P [1,056] X	W 525 W [1,372] X	C 17,300 C [7,390] X	18,350 [9,818]
Medical Sciences Building Improvements Phase 4 (924290)						P 320 W 380 C 7,800	8,500
CAMPUS TOTAL		35,892	13,046	1,675 [1,056]	16,675 [1,372]	25,800 [7,390]	

SAN FRANCISCO CAMPUS
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM

Electrical Distribution

Improvements Phase 2.....WC \$ 13,288,000

State funds are requested for working drawings to support the second step in the implementation of the electrical system master plan for the Parnassus campus. This project will improve flexibility for central plant operators to control individual electrical loads on the system in the event of a power outage and reduce the time required to restore power. The project will consist of a series of major equipment, generator, and control system upgrades as well as extension of emergency and standby power distribution from the Central Plant to core Parnassus research buildings. This will improve emergency and standby power and distribution systems and enable the campus to meet more stringent life-safety requirements.

Telemedicine and PRIME - US

Education Facilities.....PWCE \$ 35,000,000 PT

State funds are requested for preliminary plans, working drawings, construction, and equipment for the Telemedicine and PRIME - US Facilities project. This project includes renovations of existing space at UC San Francisco, San Francisco General Hospital, and Mt Zion to create additional instruction space, including “smart” classrooms equipped with telemedicine, videoconference, and other technology to enable remote participation and interaction; a modern clinical skills center to enable “hands-on” training for medical procedures both in-person and via telemedicine; and the technology infrastructure to enable greater interaction with faculty, clinicians, students, and others at sites such as UC medical schools and distant care facilities.

Medical Sciences Building

Improvements Phase 3.....PWC \$ 17,950,000

This project will build upon the work completed through Phases 1 and 2 of the Medical Sciences Building Improvements project, completing the upgrade of the building’s mechanical systems (heating, ventilation, and air conditioning) begun in the earlier projects. The project will include chilled

SAN FRANCISCO CAMPUS CAPITAL PROGRAM (continued)

water distribution, air-handling units, the heating hot water system, building management controls, and other mechanical and electrical systems.

Mission Bay Central Utilities

System Phase 2.....	PWC \$ 18,350,000
	PWC \$ [9,818,000] X

This project will be the second part of a multi-phase infrastructure development plan that will ultimately construct a central utility plant with cogeneration and an underground utility distribution system to serve the Mission Bay campus. This second phase will continue and complete the construction of an underground utility distribution system loop that will enable all major buildings at Mission Bay to connect to centralized utility services from a future Central Utility Plant which would supply power, steam, condensate, chilled water, and high temperature hot water (from cogeneration).

Medical Sciences Building

Improvements Phase 4	PWC \$ 8,500,000
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Phase 4 of this series of projects will include upgrading of mechanical systems, extending distribution of chilled water, replacing air-handling units, and upgrading the heating system for the MSB tower, which is served by separate environmental systems within the Medical Sciences Building.

SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS

In accordance with its LRDP, the San Francisco campus has embarked on a multi-track major capital improvement program to solve a number of longstanding capital needs. In addition to projects presented in the current five-year State-funded capital improvement program, over the next decade UCSF will pursue solutions to the most important facility improvement objectives described below:

1. Core Academic Facilities

Mission Bay Site Development: As proposed in the UCSF LRDP, a total of 43 acres of land in the Mission Bay area of San Francisco is being donated and transferred in phases to The Regents to create a new campus site for UCSF research and instruction. An initial phase of 26 acres is being developed with the planning and construction of major new buildings, landscaping, infrastructure, and parking. The new campus will, over the next two decades, accommodate 2.65 million ogsf of development, plus parking. Toward this goal, UCSF has now constructed three biomedical research buildings, a new campus community center, new housing, structured parking, a quadrangle of open space, and landscaped walkways. The campus has also begun construction on a new biomedical research building and will be constructing the first phase of a new centralized utility infrastructure system to serve the UCSF Mission Bay site.

Parnassus Site Research Laboratory Building Improvements: The campus research capabilities at the Parnassus site are constrained by obsolete facilities which have not been able to keep up with current and projected requirements of a rapidly evolving research enterprise. In spite of significant progress made in upgrading buildings, many laboratory buildings on the Parnassus site have aging infrastructure that requires substantial upgrade to meet capacity and performance requirements of modern research. Capital needs for research facilities include major improvements of such essential elements as fire and life safety, fume hood and building air supply, electrical capacity and distribution, heat reduction, and environmental controls for equipment and occupants. Projects must be carefully planned to optimize investment, coordinate work across multiple buildings, and limit disruption for faculty and students. Space released at Parnassus from

SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS (cont'd)

the move of biomedical research to the Mission Bay campus will be renovated and re-assigned to existing and new programs.

2. Health Sciences Clinical Facilities

Medical Center Renovations at Parnassus: Clinical care space requires improvements to house new imaging equipment, expand surgery and recovery areas, accommodate new interventional therapeutic procedures, and meet code requirements. Future projects will continue the renovation program for patient care and other units at Moffitt and Long Hospitals in response to rapid changes in managed care and their impact on traditional clinical in-patient facilities. Special attention is being given to increasing the numbers of beds devoted to intensive and acute care units and expanding the number of operating rooms. To create the space to do this within existing hospital buildings, the Medical Center has been relocating some of its diagnostic and lab support functions to various off-site locations. The expansion of academic and acute care programs related to increased in-patient activity will permit wider training opportunities for UCSF students and increase the effectiveness of the UCSF Medical Center in the managed care market.

Medical Center Renovations at Mount Zion: Since the integration with Mount Zion in 1990, much of the short-range development program for the UCSF Medical Center at Mount Zion has been accomplished with the completion of a research building, two medical office buildings, and a five-story Outpatient Cancer Center (into which existing outpatient clinics have been relocated). The campus will also add a new building for the Osher Center for Integrative Medicine, a School of Medicine academic research center which provides alternative care services. Improvements to existing inpatient buildings are awaiting completion of extensive reviews of needs, financial issues, and seismic-safety requirements for acute care hospitals mandated by the Alquist Hospital Facilities Seismic Safety Act (SB 1953—see Section 5 below) that significantly affect program plans at Mount Zion.

SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS (cont'd)

3. Auxiliary Enterprise Facilities

Campus Housing at Parnassus: UCSF faces a critical housing shortage for students, junior faculty, clinical residents, and staff which has been difficult to remedy because of the high cost of housing construction and limited campus site capacity. In the past several years, UCSF has converted more than 35 houses along Third and Fifth Avenues and Kirkham Street from administrative and academic offices to residential use or has built replacement housing for faculty families. A few remaining houses at the Parnassus site will eventually be converted to faculty housing. Several remaining houses near the Parnassus site will either be converted to faculty family housing or demolished and the sites used to build new studio apartments for students, residents, and post-doctoral scholars. A new 18-apartment housing project was completed at 145 Irving Street and made available for Fall 2006 occupancy.

Campus Housing at Mission Bay: To meet the LRDP target of providing housing for 40 percent of its future student enrollment, UCSF has built new student housing at Mission Bay. UCSF will also investigate development of affordable housing for junior faculty, clinical residents, and staff.

Campus Child Care at Parnassus and Mission Bay: UCSF presently has two child care facilities with a total licensed capacity for 132 children and a waiting list of approximately 300 families. New child care facilities are being developed at both campus sites to support recruitment and retention of faculty, staff, and students. A new modular child care facility at Mission Bay with capacity for 75 children was completed in 2006.

4. Utilities, Site Development, Life Safety, Transportation, and Parking

Site and Infrastructure Improvements at Parnassus: Many of the campus utility distribution systems and building infrastructure systems are aged beyond their useful life and unable to meet current needs. While construction of the Central Utility Plant has added significant electrical and steam capacity, the Parnassus campus needs

SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS (cont'd)

other improvements to its utility systems—including electrical, voice/data communications, steam, water, chilled water, and other service systems—in order to renew and supply sufficient capacity.

Fire Protection and Life Safety: In response to fire and life safety code requirements, a program of building improvements will improve general safety for faculty, students, and staff in laboratories and teaching spaces at the Parnassus campus.

Transportation and Parking Improvements: The dispersed facilities of the UCSF multi-site campus and their urban setting result in significant access and circulation problems. Improvements to parking and transportation systems will provide better movement to and between several key campus sites. With few (if any) opportunities for expansion at Parnassus and Mount Zion, UCSF experiences substantial deficits in parking at these sites. On the other hand, UCSF has completed two new parking structures at Mission Bay, in addition to new surface parking lots.

5. Corrections for Seismic Safety

Seismic Upgrade of Facilities: The correction or removal of all remaining seismic hazards is a high priority for UCSF. The demolition of seismically unsound buildings at Parnassus will provide sites for some new construction, but it will also reduce overall campus built space. UCSF is implementing its plans to address the identified seismic life safety hazards in academic facilities at Parnassus.

UCSF Medical Center clinical facilities at both the Parnassus and Mount Zion sites need structural and nonstructural seismic improvements to comply with seismic requirements. Improvements to comply with the 2002 Senate Bill 1953 seismic requirements have been addressed and completed at both sites. State funds have been provided to address 2008 requirements at the Parnassus site, and corrections are scheduled to be completed by January 2008.

Further improvements required to comply with SB 1953 requirements for 2030 are being evaluated and are expected to be significant in scope and cost. UCSF's existing hospitals at Parnassus and Mount Zion sites

SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS (cont'd)

not only do not meet seismic standards for 2030 but also are functionally obsolete, have inefficient space layouts not easily adapted to changing practices in patient care, and lack the space to meet the growing demand for highly specialized patient care.

Therefore to continue clinical operations into the long-term future, a first phase of a new Mission Bay Hospital has been proposed to provide 289 beds, with the complex ultimately consisting of a 183-bed Children's Hospital, a 36-bed Women's Hospital, a 70-bed Cancer Hospital, together with related ambulatory care, central plant, and site infrastructure. The Medical Center would like to begin preliminary planning for the Children's, Women's, and Cancer hospitals and the ambulatory care facilities so that these buildings could be available to receive patients by January 2015.

UCSF leases several older masonry buildings at San Francisco General Hospital (SFGH) that are used for research laboratories and offices but are seismically unsound. The campus is developing plans in coordination with SFGH to correct the seismic deficiencies or provide alternative facility solutions.

SANTA BARBARA CAMPUS

State Capital Improvement Program

ESTABLISHED	1944
ENROLLMENT 2005-2006 (ACTUAL)	18,684 FTE undergraduates 2,821 graduate students
LIBRARY COLLECTION	2.9 million volumes
CAMPUS LAND AREA	1,012 acres
CAMPUS BUILDINGS	4.0 million assignable square feet

SANTA BARBARA CAMPUS 2007-2012 STATE PROGRAM

INTRODUCTION

Since relocating to the current campus in 1950, UCSB has grown from a small teachers' college to a world-class teaching and research university. From 75 small World War II barracks, the campus now occupies slightly over 4 million assignable square feet. The major capital program begun during the 1990s, in response to a decade of enrollment and program expansion, is nearing completion with approximately 775,000 asf added to the campus, of which approximately 400,000 asf was accomplished with the use of State funds. Another 185,000 asf will either be under construction or completed in the next three years. Recently occupied buildings include the Engineering-Science Building, the Life Sciences Building, the non-State funded Marine Science Research Building, the California Nanosystems Institute, and the Psychology Building Addition. One State-funded project serving the fine arts and another non-State funded project serving student support services will be completed by the end of 2006. All of these improvements will greatly benefit the students, faculty, and staff at UCSB.

The age and quality of many campus instructional and research buildings, as well as the campus infrastructure, are of particular concern. Of the more than 1,300,000 asf of space devoted to instruction and research, over 70 percent is at least 35 years old. The campus utility systems are showing signs of serious deterioration, with many of the systems over 40 years old and in critical need of upgrade and expansion. A major study of the entire infrastructure of the campus—including roads, hardscape and landscape, and all utility systems—has been completed and is guiding a coordinated improvement plan.

The Colleges of Letters and Science, Engineering, Creative Studies, the Gevirtz Graduate School of Education, and the Donald Bren School of Environmental Science and Management provide undergraduate and graduate education for 21,505 FTE students enrolled at UCSB in 2005-06. Projections show that by 2010-11, total enrollment at UCSB is anticipated to grow to approximately 23,000 FTE. Growth will be accommodated largely through summer and off-campus programs. Increases in enrollment, changes in instructional and research technology, and development of new programs and new ways to manage information will require new and improved facilities for all academic disciplines and academic support units such as the

SANTA BARBARA CAMPUS INTRODUCTION (continued)

Library. Critical to Santa Barbara's future is providing affordable housing for faculty and staff.

Three principal factors drive the capital needs of UCSB: academic planning, the campus physical environment, and the LRDP.

Academic Planning: During the last year the campus has been updating its academic plan, looking at the future needs and aspirations of the campus and the State of California over the next 20 years. This effort includes examining the potential for enrollment growth and associated capital. Enhancement of interdisciplinary teaching and research efforts is a fundamental planning principle. Disciplines which the campus is especially committed to expanding are materials science, nanoscience, marine science, internationalization, education, biotechnology, film studies, communication, digital media, business, computer science, earth sciences, and cultural studies from both humanistic and social science perspectives. The establishment of the Bren School of Environmental Sciences and Management, the California Nanosystems Institute, and the Center for Film, Television and New Media are major steps toward meeting these academic goals.

Physical Planning: A majority of the permanent instruction and research space on the campus was constructed before 1972. Many of these buildings operate with existing infrastructure which is no longer able to meet current needs and is very energy inefficient. There are fire/life-safety concerns in older science and engineering buildings and six-floor towers that house humanities and social sciences programs. New facilities are addressing the critical shortage of space and a portion of the needs associated with new technologies. While some of the older facilities have been upgraded, the ability of the remainder to meet current academic needs is compromised. Aging infrastructure and changes in life-safety codes have reduced the ability of several buildings to accommodate modern research and instruction programs. As funding opportunities arise, these facilities will be upgraded. Outdated temporary buildings will be removed as new space becomes available.

Important aspects of physical planning at UCSB include preserving and enhancing its unique, sensitive environment, strengthening public campus spaces through creation of strong pedestrian corridors, and improving

SANTA BARBARA CAMPUS INTRODUCTION (continued)

pedestrian, vehicular, and bicycle circulation through the campus. In recent years, the campus has made improvements to campus circulation for vehicle and bicycle traffic and has removed a number of temporary structures. However, recent and projected increases in population and the construction of new facilities are putting severe strains on existing road and bike systems.

Long Range Development Plan: The 1990 LRDP is based on a three-quarter-headcount campus enrollment of 20,000 students (equivalent to 19,400 FTE) and has provided the framework for capital and physical development on the campus. The campus reached the 20,000 student enrollment in Fall 2005 and is currently reassessing the 1990 LRDP to update areas of the plan to meet projected facility needs associated with new population and program expansion in the campus academic plan.

2007-2012 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4890
EPI 2744

SANTA BARBARA CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2007-08	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2008-09	2009-10	2010-11	2011-12	
Engineering II Life Safety Improvements and Addition (981320)	(000s) P [366] X	(000s) W 200 W [293] X C 4,800 C [541] X C [3,630] G E [170] G	(000s)	(000s)	(000s)	(000s)	5,000 [5,000]
Infrastructure Renewal Phase 1 (986080)	P 489 P [251] X	W 252 W [130] X	C 4,836 C [2,491] X	W 243 W [125] X	C 4,709 C [2,426] X		10,529 [5,423]
Davidson Library Addition and Renewal (981230)	P 1,250	W 1,055		C 29,216		W 1,055 E 1,007	62,799
Education and Social Sciences Building (981240)	P 1,747 P [538] G W 2,369 W [738] G C [13,022] G C 74,322 C [2,068] G		E 2,541 E [227] G				80,979 [16,593]
Arts Building Seismic Corrections and Renewal (988720)	P 865 W 990		C 20,211				22,066
Phelps Hall Renovation (980710)	P 550 W 550		C 9,818				10,918
Ellison Hall Renovation (981430)			P 600	W 600	C 10,400		11,600
Infrastructure Renewal Phase 2 (986090)			P 320 P [210] X	W 260 W [210] X	C 3,500 C [2,110] X	W 340 W [210] X C 2,800 C [2,110] X	12,220 [4,850]
South Hall and HSSB Renovations (981470)					P 425	W 425	10,350
Academic Building Renewal (980720)						P 900	35,000
CAMPUS TOTAL		6,307 [4,764]	38,326 [2,928]	30,319 [335]	19,034 [4,536]	6,527 [2,320]	

**SANTA BARBARA CAMPUS
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM**

Engineering II Life Safety Improvements and Addition.....	WC \$ 5,000,000
	WC \$ [834] X
	CE \$ [3,800] G

State funds are requested for preparation of working drawings and construction of the Engineering II Life Safety Improvements and Addition project. This project will correct fire code deficiencies, install fire sprinklers in the existing 84,000 asf building, and construct an addition of approximately 8,400 asf. The project will expand the research capabilities of this facility and meet critical space needs of the Solid State Lighting and Design program.

Infrastructure Renewal Phase 1.....	WC \$ 10,040,000
	WC \$ [5,172,000] X

State funds are requested to prepare working drawings for the Infrastructure Renewal Phase 1 project. This will replace or upgrade major campus infrastructure systems, including gas, water, storm drain, and sewerage. Most of the campus infrastructure is older than forty years and has deteriorated to such a degree that failures are becoming common, particularly in lateral sewer lines. The project will replace or renew most of the main distribution systems, including lateral lines connecting the main systems to campus buildings, increasing their capacity to meet future demand

Davidson Library Addition and Renewal.....	WCE \$ 61,549,000
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State funds are requested for preparation of working drawings for the Davidson Library Addition and Renewal project. The campus has not constructed new library facilities since the mid-1970s. While new technology is helping to address many shortcomings, the humanities and social sciences continue to rely heavily on the services and collections of the central library, which is crowded, cannot accommodate new technology, and lacks sufficient instructional and study space. To meet collection requirements, the campus

SANTA BARBARA CAMPUS CAPITAL PROGRAM (continued)

has leased over 25,000 asf of book-storage space off-campus, in addition to utilizing the Regional Libraries. This project will construct new library facilities of approximately 45,000 asf and renovate and seismically upgrade the oldest section of the existing Library.

Education and Social

Sciences Building.....	E \$ 2,541,000
	E \$ [227,000] G

This project will construct a three-building academic complex of approximately 126,000 asf with facilities for instruction, research and support, office, clinic and demonstration, and film theater functions. The building will house the Graduate School of Education and academic units in the social sciences and humanities, and will release existing academic space to meet instruction and research needs of other departments in the sciences, engineering, social sciences, and humanities.

Arts Building Seismic

Corrections and Renewal.....	C \$ 20,211,000
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This project will provide seismic corrections for the building, upgrading its seismic rating from “Poor” (DGS Level V) to “Good,” and will renovate the facility. The Arts Building was constructed in 1959, and its infrastructure systems—including electrical, plumbing, and HVAC—are in need of renewal. The project will also correct fire, life-safety, and accessibility deficiencies and improve roofing, floors, ceiling, and window systems. The structural changes will result in the addition of approximately 1,200 asf of new space, and the project will also renovate approximately 2,500 asf of existing space to meet the instruction and research needs of the Departments of Art Studio and History of Art and Architecture.

Phelps Hall Renovation	C \$ 9,818,000
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This project will correct code deficiencies, upgrade major building utility systems, and renovate approximately 43,000 asf of space released as a result of completion of the new Education and Social Sciences Building. It is part of the campus overall space plan encompassing 357,000 asf of new and released space in five buildings to address critical space needs of the sciences,

SANTA BARBARA CAMPUS CAPITAL PROGRAM (continued)

humanities, and social sciences. Space released in Phelps Hall will be used to increase computer and teaching laboratory space for students and to provide needed offices, teaching space, and research space for departments in the sciences and humanities.

Ellison Hall Renovation..... PWC \$ 11,600,000

This project will renovate approximately 55,000 asf in Ellison Hall as part of a campus space plan to address the growing teaching and research needs of departments in the sciences, social sciences and humanities. In addition, major building infrastructure systems will be improved, and life-safety deficiencies will be corrected.

Infrastructure Renewal Phase 2.....PWC \$ 12,220,000 PWC \$ [4,850,000] X

This project will continue the phased renewal of 40-year-old campus utility systems including sewer, storm drain, gas, and water.

South Hall and HSSB Renovations PWC \$ 10,350,000

The project will renovate approximately 43,000 asf in South Hall and HSSB, following occupancy of the Education and Social Sciences Building, to address the instruction and research needs of departments in the humanities and social sciences. The project is the final phase of an overall campus space plan responding to enrollment and faculty growth in several disciplines. Major building infrastructure systems and life safety needs will be addressed as part of the project.

Academic Building Renewal.....PWCE \$ 35,000,000

This project will modernize the infrastructure of selected older buildings on the campus. Building systems, such as HVAC and electrical, will be upgraded to meet programmatic requirements. In addition, the project will correct fire, life-safety, and accessibility deficiencies and provide program improvements where necessary.

SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS

1. Core Academic Facilities

The academic direction of the Santa Barbara campus emphasizes continual improvement and strengthening of individual departments while promoting interdisciplinary development to benefit both undergraduate and graduate students. As direction of a particular field shifts and its technology evolves, individual programs experience significant changes as well. This results in pressure on existing facilities to meet new and more intensive functional requirements. In addition, the campus will experience severe space shortages from current and projected enrollment growth.

Recent new construction and renovation efforts are addressing a variety of academic needs. However, many existing academic facilities, particularly in the sciences and fine arts, are over 40 years old, in poor condition, and functionally obsolete for the needs of the programs they house. In addition, approximately 100,000 sf of instructional and research space is contained in World War II barracks and temporary structures that are overdue for replacement. Such facilities seriously constrain teaching and research and the continuing development of academic programs.

Graduate programs need sophisticated laboratories, supportive scholarly activity facilities, additional office space, and extensive library support and information systems. New academic program initiatives frequently develop from small student/faculty research efforts and are important to the academic growth and quality of the campus. These initiatives often require specialized facilities.

2. Auxiliary Enterprise Facilities

Improved and expanded space is needed for auxiliary enterprise facilities to accommodate student services, housing, social, and recreational programs. University projections show campus enrollment growing to approximately 23,000 FTE by 2010-11, including summer and off-campus enrollment. The need for affordable faculty and staff housing has become critical as retired faculty are replaced, since the

SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS (cont'd)

median home price in Santa Barbara has climbed to over \$1,000,000. Faculty and staff increasingly are having to find housing at distant locations, some as far as two hours drive from the campus. Dispersed housing increases commuting, intensifies traffic congestion, worsens air quality, and requires more on-campus parking. To address this need, the campus is proceeding with planning for a third-party faculty housing development on the North Campus and has completed a new Campus Housing Study that identifies areas on existing campus land where new student, faculty, and staff housing can be constructed as third-party projects. The campus hopes to develop these units over the next five to ten years.

In the fall of 2002, the campus opened a new 800-bed undergraduate student housing complex. This was the first new housing to be constructed since the 1980s. Two years ago the campus purchased a 1,300 bed student residence less than a mile from campus. A 976-bed apartment complex for graduate students is under construction. With the completion of these developments the campus will meet its goal of housing 30-35 percent of its students in University-owned facilities.

Existing family student housing facilities have significant deferred maintenance issues. These housing facilities will need to be replaced in the future, at which time the campus will propose to reutilize the site to achieve increased density and provide a mix of housing for students, staff, and faculty.

3. Utilities, Site Development, Transportation and Parking Improvements

Utilities: The campus utilities network will continue to be expanded to accommodate growing enrollments and evolving academic programs. Existing water, storm drainage, and communications lines will be extended in conjunction with expanded roadway, bicycle, and pedestrian routes to serve new development. While a number of projects to renew and expand the campus infrastructure systems are already under way, subsequent phases of the overall campus plan will need to be implemented in the next five to ten years. These out-year projects will address deficient infrastructure systems identified in the

SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS (cont'd)

recently completed comprehensive infrastructure evaluation. Long-term improvements will focus on storm drain, natural gas, water, and sewer systems in those sections of the campus not addressed in the first two phases of the multi-phased campus plan.

Site Development: The campus borders the Pacific Ocean on the east and south and the Goleta Slough on the north and adjoins several environmentally sensitive wetlands. Erosion of ocean bluff tops due to natural events and storm drain run-off is a serious concern, and options to slow erosion are being examined. The campus has been working successfully with its own faculty and local habitat-restoration groups to restore bluffs bordering the Goleta Slough and Lagoon. In addition the campus is working to enhance and expand pedestrian corridors that will become major public spaces for the campus.

Transportation and Circulation: The increase in campus population experienced over the past decade has seriously strained the existing network of vehicular, bicycle, and pedestrian circulation systems. Five primary objectives for the improvement of campus circulation are to:

- Provide safe and convenient parking facilities for students, faculty, staff, and visitors.
- Enhance flow of traffic between Isla Vista and the campus and accommodate on-campus vehicular traffic between Isla Vista and other locations east of the campus with minimal disruption of campus activities.
- Introduce greater clarity into the roadway network through enhanced east and west entrances and improved vehicular signage.
- Improve and expand the existing bicycle system by repaving paths, separating paths to ease pedestrian crossings, realigning paths to create improved flow, adding new segments, and increasing bicycle parking.
- Design a pedestrian-oriented academic core.

SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS (cont'd)

The campus has completed construction on two parking structures, and (upon the completion of a third structure near the end of 2006) will have adequate parking to serve the current projected campus population. Additional road improvements are necessary to address deficiencies in current roadways and address campus growth. A critical component of planning is the use of transportation-management alternatives. Nearly 30 percent of faculty and staff and over 70 percent of students use an alternative form of transportation to commute to campus.

The bicycle is an essential alternative to automobile use at UCSB, and over 18,000 are used daily on campus. The existing bike route network is expanding in conjunction with development of new buildings and extension of the roadways. New paths are being completed to better connect the east side of campus.

Pedestrian access is well established within the campus and from off-campus areas including Isla Vista. Additional improvements will improve safety, link up poorly served areas of the campus, improve coastal access, and enhance paths to and from Isla Vista.

4. Code Corrections

As building and health-and-safety codes evolve and change, compliance becomes more complex and costly, requiring the campus to increase its investment in improvements. Corrective code work for accessibility and fire and life safety will be an integral part of campus renewal efforts.

5. Seismic Safety Code Corrections

All State-supported campus structures (with the exception of the Music Building whose rating was recently downgraded from "Fair" to "Poor") that had been earlier identified as seismically "Poor" or "Very Poor" either have been upgraded to "Good" or are included in the current five-year State-funded capital program. Corrections to the three remaining non-State-supported facilities identified as seismically deficient also will be addressed within the next five years.

SANTA CRUZ CAMPUS

State Capital Improvement Program

ESTABLISHED	1965
ENROLLMENT 2005-2006 (ACTUAL)	13,510 FTE undergraduates 1,381 graduate students
LIBRARY COLLECTION	1.5 million volumes
CAMPUS LAND AREA	2,000 acres
CAMPUS BUILDINGS	3.5 million assignable square feet

SANTA CRUZ CAMPUS 2007-2012 STATE PROGRAM

INTRODUCTION

Since it opened in 1965, the University of California, Santa Cruz has won a distinctive position within the UC system as a campus devoted to excellence in undergraduate education as well as graduate studies and research. The residential college is an important part of the Santa Cruz experience. The colleges divide a large university into smaller communities, each serving as a social and intellectual gathering place for about 1,000 students and 30 to 100 faculty fellows from a variety of academic disciplines.

Campus enrollment in 2005-06 was 14,891 FTE students, including 1,381 graduate students. Current capital planning is based on enrollments increasing to approximately 17,500 FTE by 2010-11. The recently approved 2005 LRDP reflects a planned enrollment of 19,500 FTE by 2020-21.

The campus offers a full range of major programs within the arts, humanities, engineering, physical and biological sciences, and social sciences, as well as a number of interdisciplinary majors. In graduate study, 32 academic fields lead to MA, MS, MFA, EDD, DMA, and PhD degrees.

Despite its status as one of the younger campuses within the UC system, Santa Cruz has been recognized nationally for the quality of its undergraduate and graduate programs, its commitment to undergraduate instruction, and its research.

The campus is moving forward with a number of new initiatives, including graduate programs in the arts, an interdisciplinary environmental research institute, and further expanding the School of Engineering that was established in July 1997. With this expansion, the campus is developing a critical role in training the skilled engineering workforce that will drive the economies of Silicon Valley, the Monterey Bay region, and the State. In addition, the campus is planning the development of the Silicon Valley Center in Santa Clara. The Center is an important element in the University's efforts to develop education and research opportunities for students and faculty, develop higher education partnerships, expand outreach programs with K-12 schools, and increase collaborative research with industry.

SANTA CRUZ CAMPUS INTRODUCTION (continued)

To sustain this progress in achieving its mission, the campus must address a number of capital program issues. Accordingly, priorities for the State capital improvement budget must consider projects for:

- **Instruction and research:** As programs evolved, especially over the past twenty years, a shortage of space developed in virtually all campus programs. Recent projects have addressed many of those needs, but space shortages and limited flexibility remain, particularly in the sciences and engineering programs.
- **Renewal of existing facilities and infrastructure:** The campus is 41 years old. The urgent need for renewal of existing facilities and infrastructure in response to changing academic programs, new health and safety requirements, declining condition, and obsolescence will have a strong influence on campus capital planning. Improvements are required not only for buildings but also for the campus fire alarm, sewer, communications, water (cooling, heating, fire protection, and domestic), electrical, natural gas, and drainage systems.
- **Circulation infrastructure:** The LRDP and subsequent planning efforts have made clear that the development of an adequate University campus circulation infrastructure is essential. The Santa Cruz campus occupies 2,000 acres, with the developed central campus (consisting of the colleges and most of the academic buildings) comprising about 400 acres. The hillside setting of the campus—with a 900-foot change in elevation—challenges planners. At no other UC campus is the topography so pronounced: the changes in elevation, many ravines, and dense trees create the need for a coordinated system of pedestrian and automobile bridges, roads, and pathways to provide more direct and efficient routes throughout the campus. This network remains incomplete and is further strained under the weight of expanded enrollment.

2007-2012 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4890
EPI 2744

SANTA CRUZ CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2007-08	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2008-09	2009-10	2010-11	2011-12	
Digital Arts Facility (970450)	(000s) P 1,330 W 888 C 19,751	(000s) E 1,044	(000s)	(000s)	(000s)	(000s)	23,013
McHenry Addition and Renovation Project (970948)	P 3,602 W 3,245 C 38,819 C [2,166] X	C 36,273 E 1,911					83,850 [2,166]
Biomedical Sciences Facility (971250)	P 4,090 W 2,400	C 69,370		E 2,013			77,873
Infrastructure Improvements Phase 2 (970120)	P 367	W 317	C 6,355				7,039
Environmental Health and Safety Facility (971260)			P 850	W 600	C 12,300		13,750
Alterations for Physical, Biological, and Social Sciences			P 300 W 300	C 5,700			6,300
Silicon Valley Center (973000)				P 1,000	W 750	C 18,850	21,075
Social Sciences Facility (971330)					P 3,350	W 2,200	56,350
Circulation Improvements Phase 1 (970300)					P 650	W 500	11,800
Infrastructure Improvements Phase 3 (970130)					P 740 W 560	C 5,900	13,350
CAMPUS TOTAL		108,915	7,805	9,313	18,350	27,450	

SANTA CRUZ CAMPUS
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM

Digital Arts Facility **E \$ 1,044,000**

State funds are requested to equip the Digital Arts Facility. This project will construct approximately 24,400 asf of office, research, and teaching space for Arts Division programs. The project will help solve existing space deficiencies and provide for enrollment and program growth in the Arts Division, including the new Digital Arts and New Media (DANM) graduate program. Most of the released space created by this project will be assigned to Arts Division programs to address existing deficiencies.

**McHenry Addition and
Renovation Project** **CE \$ 38,184,000**

State funds are requested to construct the renovation phase and equip the McHenry Addition and Renovation Project. This project will increase space for the Library, upgrade the existing seismically “Poor” (DGS Level V) building to a “Good” rating, renovate existing library space, and provide instruction and research space to accommodate growth in campus enrollment.

The first phase will construct an 85,400 asf (117,450 ogsf) addition to the existing McHenry Library. When existing Library functions have relocated from the existing building into this new addition, the older building of 114,830 asf will receive seismic, ADA, and other life safety improvements, along with programmatic renovations.

The seismic retrofit of the existing building will address perimeter walls and shear walls that do not adequately resist seismic forces, numerous discontinuous shear walls, and weak connections in the roof diaphragm and elsewhere. The existing building also will be renovated to house instruction and research space as well as library functions and services. With the new addition and the renovation, the McHenry Addition and Renovation Project will provide additional space for the Library, Mathematics Department, Art History Department, Interdisciplinary Graduate Program in Arts, Writing Program, Instructional Development Support, and campus-wide academic offices. Eventually, the Library will occupy the entire facility.

SANTA CRUZ CAMPUS CAPITAL PROGRAM (continued)

Biomedical Sciences Facility.....CE \$ 71,383,000

State funds are requested to construct the Biomedical Sciences Facility. This project will provide a facility of approximately 62,700 asf to address existing space shortages and projected enrollment growth in the sciences and engineering. Recent technological advances (such as the decoding of the human genome), an aging population, the identification of new environmental and inherited health risks, and the emergence of new infectious diseases are all driving biomedical sciences to advance at an unprecedented pace. This project will provide interdisciplinary wet laboratory space and core specialized facilities requiring heavy utility infrastructure for scientists investigating health and medical issues involving Molecular and Cellular Biology, Chemistry and Biochemistry, Environmental Toxicology, and Biomolecular Engineering.

Infrastructure Improvements

Phase 2WC \$ 6,672,000

State funds are requested to prepare working drawings for the Infrastructure Improvements Phase 2 project, which will provide continued improvements to stormwater drainage, core heating water, electricity, and natural gas systems. Most of the infrastructure on the Santa Cruz campus is over 40 years old and in need of renewal and expansion to support the major increase in campus population and development resulting from enrollment growth. The planned improvements will address health and safety concerns, improve the reliability of distribution systems, and provide additional capacity for currently planned buildings.

Environmental Health and Safety FacilityPWC \$ 13,750,000

Existing campus facilities for handling hazardous wastes are inadequate, do not meet current health and safety codes, and cannot accommodate workload increases associated with projected growth. Hazardous and radioactive wastes handling and staging space, a laboratory, and technical and administrative support space are planned in a facility of approximately 10,000 asf in the Science Hill area.

SANTA CRUZ CAMPUS CAPITAL PROGRAM (continued)

Alterations for Physical, Biological, and Social Sciences.....PWC \$ 6,300,000

Existing space in the Thimann Laboratories building and the Social Sciences 1 building will be renovated to meet critical needs for wet laboratory space in the physical, biological, and social sciences. Approximately 7,000 asf in the two buildings will undergo program alterations and approximately 90,000 ogsf in the 40-year-old Thimann Laboratories will require building-wide fire and life safety improvements.

Silicon Valley Center.....PWCE \$ 21,075,000

A new off-campus Center is being planned in the Santa Clara Valley to support the development of collaborative programs in education and research among local educational institutions, industry, and the community. The Silicon Valley Center will provide UC with a presence in the Valley and respond to significant Statewide and regional needs that include growing educational and workforce issues, the rising demand for UC programs in the Valley at a time of technological and economic changes, and the growing and increasingly diverse high school population in the Santa Clara region.

Social Sciences FacilityPWCE \$ 56,350,000

This project will provide approximately 50,000 asf of new space to meet needs resulting from serious space deficiencies and projected enrollment increases, particularly in social science disciplines. The project will construct a facility to include teaching, research, and office space for the Economics and Education departments and the Social Sciences Division. Released space resulting from this project will benefit Engineering, Psychology, Anthropology, other Social Sciences programs, and the Humanities.

Circulation Improvements

Phase 1 PWC \$ 11,800,000

The existing campus roadway system does not provide efficient circulation of campus traffic and must be expanded to safely accommodate current needs and planned campus growth. The necessary improvements, implemented in one or more projects, include connection of existing inner campus roads, extension of existing roads, and a third campus entrance. The proposed

SANTA CRUZ CAMPUS CAPITAL PROGRAM (continued)

upgrades will improve vehicle circulation, promote safety for pedestrians and bicyclists, provide efficient shuttle bus routes, and allow rapid access for emergency vehicles.

Infrastructure Improvements

Phase 3..... PWC \$ 13,350,000

Most of the infrastructure on the Santa Cruz campus has been in place since the mid 1960s. The Infrastructure Improvements Phase 1 and Phase 2 projects were designed to prevent immediate failures in existing systems and increase capacity for short-term campus growth. The proposed Phase 3 project will provide additional improvements for domestic/fire-protection water, electrical, and natural gas systems, and the campus communications infrastructure and sewer system. These upgrades will address remaining problems in the existing systems and provide additional capacity for future growth.

SANTA CRUZ CAMPUS OTHER CAPITAL NEEDS

1. Core Academic Facilities

Physical and Biological Sciences: Physical and biological science programs at Santa Cruz have increased in quality and enrollment. New facilities have been provided, but additional facilities are needed, and the campus is still in the process of consolidating programs and making necessary improvements in the older sciences buildings.

An environmental sciences building is needed to provide expansion space for Ecology and Evolutionary Biology, Earth Sciences, Ocean Sciences, and Environmental Toxicology, as well as for Environmental Studies in the Social Sciences Division. The new building would be located on Science Hill in proximity to the existing Earth and Marine Sciences building and would provide interdisciplinary research laboratories, core specialized facilities, and office space.

The Marine Science Campus, located on the Monterey Bay coast, has completed two new gift-funded facilities, but an addition to the Ocean Health Building is needed to provide the laboratories necessary for research and for teaching undergraduate and graduate students the latest methods of sampling, testing, identifying, and evaluating substances and compounds. In addition, the infrastructure needs to be expanded and improved to support continued development of the 100-acre marine sciences complex for UC and other research partners.

Residential Colleges: The colleges at Santa Cruz provide an important living and learning context for undergraduates. They also serve as the location of most of the academic facilities for Humanities and Social Sciences instruction and research, including classrooms, faculty and administrative offices, and support facilities. The campus LRD^P calls for expansion of the ten existing colleges to support future enrollment.

The Arts: Arts programs at Santa Cruz have grown rapidly over the past decade, and an array of supporting facilities are required to meet current needs as well as continued growth of the programs. Of particular importance are special performance facilities for mixed uses. The Music program would benefit substantially from the

SANTA CRUZ CAMPUS OTHER CAPITAL NEEDS (continued)

addition of a concert hall of 800-1,500 seats for student and faculty academic programs, a University guest artist series, University non-music convocations and lectures, and community-based music performance organizations. A University Art Gallery to support art programs will be developed as a central component for the University's future cultural facilities. An area in the academic core has been identified as a location for both a gift-funded concert hall and a gift-funded art gallery.

Classrooms: General-assignment classrooms will be included in new academic buildings to be constructed as enrollment grows. Specific projects will be planned to maintain an efficient match between class sizes and room sizes.

2. Administrative and Student Support Facilities

Administrative Facilities: Existing administrative space is inadequate and scattered throughout the campus and in leased and purchased space off-campus. Space will continue to be leased off-campus for administrative units until funding is available to construct new space or renovate existing space.

Student Support Facilities: Student fees will help to fund expansion of appropriate student support offices and services. A number of fee-supported buildings—recreational, student activity, and auxiliary enterprise—will be constructed as they gain approval and become financially feasible. This includes expansion and renovation of the Cowell Health Center, an outdoor event/soccer stadium and sports field, new student union facilities, and a campus event center seating 3,000 to 5,000 people.

Child Care: Demand for child care on the campus greatly exceeds the supply, primarily as a consequence of insufficient space. Gift funds are being raised for the construction of a new Early Education and Child Care Center to replace and expand existing child care operations at Family Student Housing. The new facility will double the number of children provided for on campus.

SANTA CRUZ CAMPUS OTHER CAPITAL NEEDS (continued)

3. Auxiliary Enterprise Facilities

Construction of residence halls and apartments is planned and will be coordinated with enrollment growth, demand, and financial feasibility. Student activity space and special support elements will be completed in the colleges as gift funds become available.

Student Housing: Housing demand and unit projections suggest shortages of supply for both on- and off-campus housing. The campus is aggressively pursuing new housing opportunities. Enrollment growth will be accommodated in a series of new housing projects, as well as in other locations.

Residence halls and apartments are planned for each new college, infill housing has recently been completed for some existing colleges, and existing family student housing is to be redeveloped at a higher density. Other housing may be provided by developers using third-party financing.

Faculty/Staff Housing: Faculty and staff housing continues to be a critical challenge for the campus. Although the off-campus inventory has increased, affordability limits options for faculty and staff. A series of construction projects on campus inclusion-area land are expected to add more than 200 housing units for faculty and staff.

4. Utilities, Site Development, Transportation and Parking Improvements

The campus is 41 years old. Older buildings have mechanical, electrical, and life-safety deficiencies and outdated technologies. Some underground utilities require renewal, modernization, or expansion. Additionally, the 1996 Campus Transportation Implementation Plan recommends a series of program and infrastructure improvements to accommodate the transportation, parking, and access needs of the campus. The plan includes circulation improvements such as new bridges, pedestrian paths and roadways, new parking lots, and an expanded Travel Demand Management Program.

AGRICULTURE AND NATURAL RESOURCES

State Capital Improvement Program

ESTABLISHED	1952
RESEARCH AND EXTENSION CENTERS	9
LAND AREA	12,653 acres
BUILDINGS	535,355 assignable square feet

AGRICULTURE AND NATURAL RESOURCES 2007-2012 STATE PROGRAM

INTRODUCTION

Within the University of California, Agriculture and Natural Resources (ANR) is responsible for research and extension services in the areas of agriculture, the environment, natural resources management, and human and community development. These research and extension responsibilities also are authorized by three federal legislative acts: the Morrill Act of 1862, which provided land grants to states and territories to establish colleges for the teaching of agriculture and mechanical sciences; the Hatch Act of 1887, which established experiment stations to conduct agricultural research at the land-grant colleges; and the Smith Lever Act of 1914, which provided federal support for extension services in the agricultural colleges to transfer knowledge and identify new research needs. These Acts are the basis for ANR's formal link with the U.S. Department of Agriculture.

As one of the most highly regarded research and extension programs in the world, Agriculture and Natural Resources has affected and influenced agriculture throughout the State and nation for over 100 years. The effects of these programs have been widespread, from model production methods applied in third world countries to biotechnology innovations employed throughout the worldwide agricultural community.

ANR has two principal components: the Agricultural Experiment Station and Cooperative Extension.

The Agricultural Experiment Station supports research in a broad array of disciplines related to food, nutrition, agriculture, natural resources and the environment, veterinary medicine, and human and community resource development. This research takes place in three colleges and one school on the Berkeley, Davis, and Riverside campuses and at nine agricultural Research and Extension Centers. The State-funded capital program for ANR primarily addresses needs at the Research and Extension Centers.

Cooperative Extension conducts applied and adaptive research and offers a broad range of educational programs designed to transfer knowledge and research-based information from the campuses for use by individuals and organizations in both rural and urban areas throughout the State.

AGRICULTURE AND NATURAL RESOURCES

INTRODUCTION (continued)

Cooperative Extension has programs in all counties in California, as well as several remote sites which support extension activities.

ANR's strategic planning process has identified two high-priority issues driving its programs:

- **Agricultural Resources:** ANR's priorities for research and extension programs in agriculture emerge from new opportunities at the leading edge of science, including biotechnology, and from the continuing need in California's agricultural systems to improve on already advanced performance. Two recurring themes are efficient and sustainable agricultural systems adjusted to scarcer resources, and pest and disease management. These reflect the pressures of population growth and change in California, competition in a global economy, development of new production areas, and the continuing threat of pests and diseases to more intensive farming systems. The very diversity of California agriculture, with over 250 commodities, creates additional needs. Sustainability of the system derives from reduced or redirected inputs, more efficient practices, improved cost effectiveness, reduced environmental impacts, and optimized land and water use. Improvements are needed in all these areas. Other needs are integration of new and developing pest and disease control technologies into management strategies, and development of rapid diagnostic and predictive tools.
- **Natural Resources:** Priorities in this area include (1) land, water, air, and wildland resources; (2) biological systems and diversity; and (3) environmental quality. Urgent needs for research and extension programs are driven by the impact of population on California's natural resources, which are increasingly threatened by competitive demands and pollution. The integrity and sustainability of biological systems are declining, with impacts on forest and rangeland ecosystems and other natural communities. For watersheds, scientifically sound decision-making strategies and management techniques are needed to balance competing needs among water utilization, timber harvesting, recreation, grazing practices, fish and wildlife habitat, and other factors. Water resources strategies are needed for allocation of resources, quality assessment, and public policy development—including water transfers, possible use limits,

AGRICULTURE AND NATURAL RESOURCES INTRODUCTION (continued)

and investigation of alternative sources. Water quality will continue to be crucial, so more information and education are needed on the levels of water quality required to sustain ecosystems, production agriculture, recreation, and other uses. Management strategies are needed in dealing with wildland fires while maintaining public safety and environmental quality, as increasing fuel loads result in enormous economic, social, and environmental costs.

Addressing these issues requires adequate and modern facilities to enable research and extension staff to fulfill the University's academic goals for this division, to provide practical education, to transfer knowledge, and to identify new research needs.

Planning Strategy

An in-depth evaluation of both campus and REC facilities was conducted to determine condition, adequacy, and sufficiency of space related to agricultural research and outreach programs. ANR oversees and coordinates these issues across the University, provides support for the campuses, and has direct responsibility for operating the Research and Extension Centers. ANR studies have confirmed that many facilities that support these programs are in poor condition, inadequate to meet current needs, and inefficient. This constrains ANR's instructional and research functions and presents a major capital need.

2007-2012 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

AGRICULTURE AND NATURAL RESOURCES

CCCI 4890
EPI 2744

PROJECT NAME	PREFUNDED (000s)	PROPOSED 2007-08 (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST (000s)
			2008-09 (000s)	2009-10 (000s)	2010-11 (000s)	2011-12 (000s)	
Hopland REC Field Laboratory and Multipurpose Facility (L-951210)		P 60 * W 80 * C 1,568 *					1,708
Kearney REC Insectary Facility (9506200)				P 65 W 75 C 1,520			1,660
Intermountain REC Field Laboratory and Multipurpose Building			—	—	—	—	1,500
TOTAL	1,708		—	1,660	—	—	1,500

**AGRICULTURE AND NATURAL RESOURCES
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM**

**Hopland REC Field Laboratory
and Multipurpose Facility..... PWC \$ 1,708,000**

State funds are requested for preparation of preliminary plans and working drawings and to construct a new 3,750 asf facility to accommodate research, extension, and related educational activities. The Hopland Research and Extension Center has become a resource and focal point for studying the management of North Coast natural resources, in addition to its traditional role of the "sheep station." With this expanded role, there is a critical need for adequate laboratory and multipurpose space. The project will provide open multipurpose and workroom space for research activities, seminars, and community-based educational functions.

Kearney REC Insectary Facility..... PWC \$ 1,660,000

The project will construct approximately 3,000 asf of new space for the rearing of a wide variety of insects and mites for research. Research on integrated pest management, insects, and their predators results in more efficient, environmentally friendly, and safer farming practices, as well as response preparedness for mitigating the effects of new invasive pests. The proposed facility will provide space and environmental controls for optimum growing conditions for varied species of insects, while decreasing cross-contamination risks. The facility will be used by onsite, campus, and county-based researchers and their students involved in insectary, greenhouse, and field research.

**Intermountain REC Field Laboratory
and Multipurpose Building..... PWC \$ 1,500,000**

A multipurpose laboratory facility of approximately 3,000 asf will be constructed to accommodate research and service activities at the Intermountain Research and Extension Center. This Center has become a resource and focal point for studying mountain/high-desert agriculture, and there is a critical need for space to accommodate larger numbers of participants in research, extension, and educational activities. Faculty, Cooperative Extension Specialists and Advisors will use the facility for a variety of agriculture and natural resource activities. This project will provide in-the-field multipurpose space for dry laboratory activities, seminars, and educational programs.

AGRICULTURE AND NATURAL RESOURCES OTHER CAPITAL NEEDS

Many of ANR's research, education, and extension programs are conducted at remote Research and Extension Centers (some located hundreds of miles from UC campuses). These centers support campus, regional, and county-based researchers, educators, and students. Their facility requirements are similar to those of campuses requiring modern research laboratories, meeting and classroom space, administrative support space, and related infrastructure.

Buildings and other facilities at ANR's Research and Extension Centers include scientific laboratories, field laboratories, academic and administrative offices, greenhouses, livestock barns, special-use equipment-intensive support facilities, classrooms, meeting facilities, maintenance shops, and storage buildings. The required infrastructure includes domestic and agricultural water systems, wastewater systems, electrical and gas distribution systems, roads and fences, security and fire-protection systems, and hazardous-waste storage and treatment systems. Many of these facilities are antiquated, in poor condition from years of use in harsh environments, of a design that no longer supports contemporary research needs, and have environmental health and safety concerns.

Programs conducted at the Centers have changed markedly over the years, reflecting changes in both issues of concern and methods used to conduct research in agriculture, biology, resource sciences, and related disciplines. These facilities must support multi-disciplinary initiatives in growing methods, pest control, water management, resource conservation, and other subjects necessary to respond to new issues and needs facing the State.

Field infrastructure and buildings should be renewed and improved and new facilities added to meet continuing needs and new requirements in support of these essential field laboratory resources and programs of the University.

Capital Needs

Factors influencing capital needs of the division include these issues:

- Lack of analytical chemistry laboratories has restricted initiation of new research programs at many of the Centers. In addition to the projects in the current five-year capital program, other facilities must be constructed

AGRICULTURE AND NATURAL RESOURCES OTHER CAPITAL NEEDS (continued)

in the near future to accommodate increased demand for this type of space in conjunction with field facilities.

- Larger multipurpose rooms are urgently needed to accommodate meetings and classes with researchers, students, industry, and community groups. Facilities for such meetings are scarce in many of the communities associated with these remote locations.
- Many other facilities and infrastructure systems are inappropriate and outdated for current research methodologies and for the level of activity at these centers. Buildings are substandard, unsuitably configured, inadequately sized, and incompatible with current requirements. There is a lack of technologically advanced equipment. New or remodeled space and support systems are essential to provide service to University research programs and to deliver the educational programs that are an integral part of ANR's mission.

UNIVERSITYWIDE

State Capital Improvement Program

2007-2012 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4890
EPI 2744

UNIVERSITYWIDE

PROJECT NAME	PREFUNDED (000s)	PROPOSED 2007-08 (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST (000s)
			2008-09 (000s)	2009-10 (000s)	2010-11 (000s)	2011-12 (000s)	
Southern Regional Library Facility Phase 3					P 1,300	W 1,400	29,200
Medical Education PRIME / Telemedicine Facilities Phase 2					PWCE 200,000 PT		200,000
CCCI Inflation Adjustments			14,000	25,000	43,000	51,000	
TOTAL			14,000	25,000	244,300	52,400	
LBNL - Helios Research Facility		PWC 30,000 RB PWC [30,000] G PWC [30,000] LB TOTAL 30,000 [60,000]					

**UNIVERSITYWIDE
2007-2012 STATE CAPITAL IMPROVEMENT
PROGRAM**

**Southern Regional
Library Facility Phase 3PWCE \$ 29,200,000**

The Southern Regional Library Facility (SRLF) is one of two regional service centers for the UC library system, providing expeditious access to and economical storage for important research materials of infrequent use. The SRLF, located in Los Angeles, was planned for periodic expansion to accommodate continuing deposits by campuses of the University. The Phase 2 facility is rapidly approaching the limit of its capacity. The proposed Phase 3 project will increase the storage area by providing a third shelving module with associated services, mechanical equipment, and fire and life-safety improvements, and providing increased space for new systemwide library service functions

**Medical Education PRIME / Telemedicine
Facilities Phase 2PWCE \$ 200,000,000 PT**

The Medical Education PRIME / Telemedicine Facilities Phase 2 projects will continue efforts by UC medical schools to address State objectives for improved access to clinical services, expansion of the systemwide network for telemedicine services, and an increase in the number of doctors to meet the needs of California citizens for quality health care. These projects would support programs that improve health care delivery to underserved populations by training doctors oriented to serve those communities, and expanding the University telemedicine system to provide access to specialist care and health education not available locally. The projects will provide specialized medical education and telemedicine facilities that train students committed to serve underserved communities and support health care providers in the delivery of health care to those in need.

Inflation Adjustments

Project budget data presented in the University's five-year capital outlay program are normalized to California Construction Cost Index (CCCI) 4890 and Equipment Price Index (EPI) 2744, the State's approved cost indices for the 2007-08 budget.

The reserve defined in this funds item will be used for adjustment to the CCCI and EPI approved for subsequent annual cycles of the capital program.

UNIVERSITYWIDE CAMPUS CAPITAL PROGRAM (continued)

LBNL - Helios Research Facility.....	PWC \$ 30,000,000 RB
	PWC \$ [30,000,000] G
	PWC \$ [30,000,000] LB

State funding is requested for preliminary plans, working drawings, and construction of a new research laboratory facility of approximately 100,000 ogsf at the Lawrence Berkeley National Laboratory. The Helios Project research is focused on accelerating the development of renewable and sustainable forms of energy drawn from sunlight. The ultimate objective is to use sunlight to manufacture a transportation fuel, as plants harvest the energy of sunlight to make molecules. Research paths include improvement of conventional biomass conversion processes, direct microbial synthesis of biofuels using photosynthesis, use of chemical bonds to convert sunlight-derived electricity to fuel, and direct photochemical conversion of light to fuel.

