



OFFICE OF THE PRESIDENT

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October 25, 2007

MEMBERS OF THE REGENTS' COMMITTEE ON GROUNDS AND BUILDINGS

Enclosed for your information is the Major Capital Projects Implementation Report for fiscal year 2006-07. This report describes the aggregate status of major capital projects underway at the end of the 2006-07 fiscal year and summarizes management initiatives and market conditions affecting project implementation.

If you have any questions about the report, please get in touch with Executive Vice President Lapp. She can be reached at (510) 987-9029.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert C. Dynes", with a stylized flourish at the end.

Robert C. Dynes

Enclosure

cc: All Regents
Chancellors

R.M.S.

Office of the President
October 2007
Mailing between Meetings

TO MEMBERS OF THE COMMITTEE ON GROUNDS AND BUILDINGS:

INFORMATION ITEM

MAJOR CAPITAL PROJECTS IMPLEMENTATION REPORT, 2006-07 FISCAL YEAR

EXECUTIVE SUMMARY

The dollar value of active University projects is holding steady at historically high levels with a slight increase from the previous year's total of \$7.7 billion to a total of \$7.8 billion in fiscal year 2006-07. The percentage of projects with schedule changes continued a multi-year trend with the percentage markedly decreasing from 41.2 percent to 25.8 percent. Net budget augmentations, as a percentage of original budgets, increased from 7 percent to 12 percent, mirroring a similar escalation in the 2006-07 California construction market.

For the past several years the University, along with other public and private owners, has contended with a construction market that has seen ever-rising costs in material and labor, as well as speculation in the commodities markets, labor shortages, and reduced competition among contractors and subcontractors. This trend is expected to continue in California during 2007-08, despite a downturn in the residential construction market.

Effectively managing complex University projects in this challenging market environment requires continuous development of the University's project management capability. These ongoing design and project management responses include:

- using **alternative project delivery methods** such as design/build and privatized development where appropriate;
- **improving the working relationship with the construction industry** by addressing such issues as risk allocation in our contracts and improving invoice payment processes;
- implementing **strategies for addressing construction market volatility** such as bid process modifications to attract more bidders and bid alternate packages;
- requiring **flexible designs** that facilitate scope and design changes to address a volatile construction market; and
- monitor and build upon SB 667 which allowed UC San Francisco to implement a pilot program to allow the **selection of contractors on a "best value" basis**.

At a time when the rise in construction costs have outpaced inflation for the rest of the economy, design and project management responses alone are not enough. In the coming year, the University will work to improve the entire process by which capital projects are identified, programmed, regulated, approved, and developed within the UC and State capital budget system in order to increase program efficiencies and reduce project cost.

INTRODUCTION

The Major Capital Projects Implementation Report, first presented in 1991, provides broad indicators of project delivery performance and identifies University trends. This Report describes the aggregate status of major capital projects underway at the end of fiscal year 2006-07 and summarizes management initiatives and market conditions affecting project implementation.

The University's ability to successfully implement its capital program is affected by many factors. Those within University control include project management and delivery strategies, academic program changes, and budgeting/funding strategies. Factors beyond University control include the construction industry bid climate and market conditions, code changes, State requirements and other funding source requirements, and weather delays.

It is important to recognize that some project budget and schedule changes are driven by circumstances that are intentional, necessary, and beneficial to the University's interests (for example, program changes, the logistics of multiple project phasing, and incorporation of new funding opportunities). Because these variables affect project delivery, simple indicators do not fully represent the complexity of factors affecting University capital project implementation. Nonetheless, to assess the general condition of the program, to identify trends, and to develop initiatives to improve project delivery, two indicators are monitored in this annual report: 1) project budget changes and 2) project schedule changes.

Status of the Capital Program

Major University capital project activity for fiscal year 2006-07 is shown in the summary table below alongside the numbers for the previous fiscal year. The compilation includes only major capital projects, i.e., those with a project cost of over \$400,000. All figures referring to either budget or schedule changes represent the cumulative changes from project budget approval until completion and do not include any changes prior to that time.

Summary of All Active Major Capital Projects at Fiscal Year End 2005-2006 and 2006-2007

	2005-06	2006-07
1. Total active projects	330	341
2. Total amount of original budgets	\$7,122,640,000	\$6,908,650,000
3. Cumulative approved budget changes (adj. for inflation)	\$498,717,000	\$830,307,000
4. Total year-end budget, (adj. for inflation)	\$7,621,357,000	\$7,738,958,000
5. Percent change from original budget	7.00%	12.00%
6. Total year-end budget (including inflation)	\$7,658,856,000	\$7,802,231,000
7. Projects with budget changes	126	136
8. Projects with schedule changes ("over schedule" if more than 90 days)	136	88

Table 1 (attached) provides campus-level detail for the above categories. Figures 1, 2, and 3

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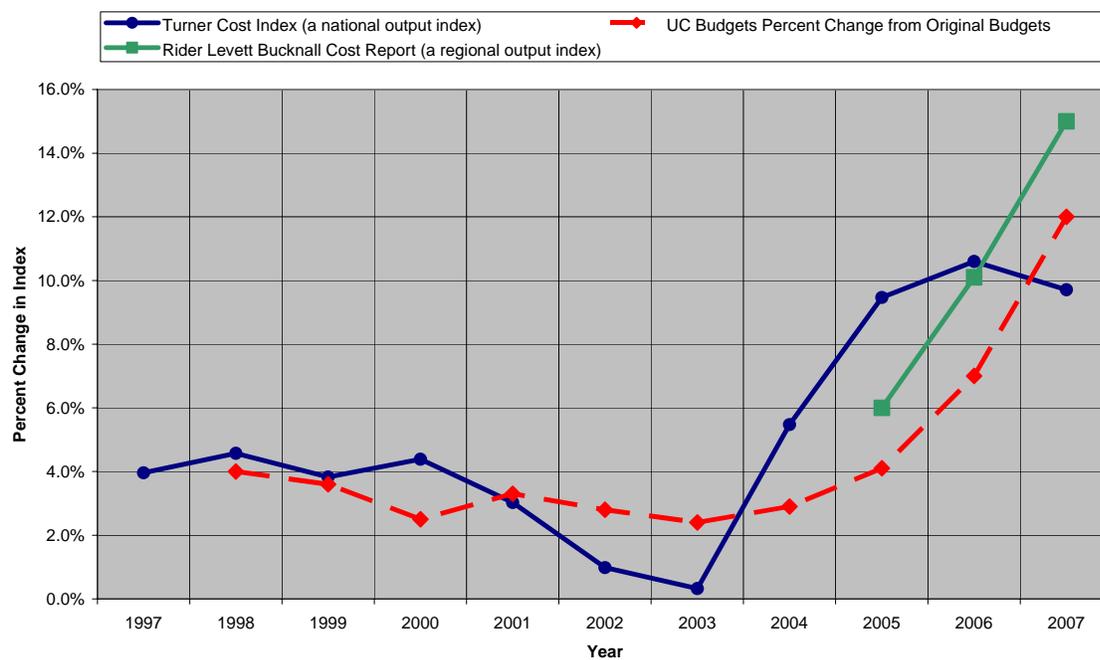
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(attached) display trends for the year-end budget totals and for the number of active projects for each fiscal year; the percent change in project budgets (net changes divided by total amount of original budgets); and the percentage of projects with schedule changes.

During fiscal year 2006-07, 111 projects with budgets totaling \$1.965 billion were completed (filed Notices of Completion or received a Notice of Substantial Completion and do not have any major outstanding financial or contract issues). With the addition of 122 new projects and augmentations to previously approved projects, the total value of projects (approved budgets) in design and construction increased by a net of \$143 million, from \$7.659 billion to \$7.802 billion (Figure 1). More than half of the net increase is for research buildings and hospitals, with housing and classrooms comprising another twenty-five percent. This budget distribution reflects the impact of enrollment growth, research, and the statutory deadlines of SB 1953 on the State and non-State-funded capital program.

Between fiscal year 2005-06 and 2006-07, the net project budget augmentations for active projects, as a percentage of original budgets, increased from 7 percent to 12 percent (Figure 2), while the percent of active projects with schedule changes decreased from 41.2 percent to 25.8 percent (Figure 3). The increases in the net project budget augmentations over the last two years closely track the year-to-year percentage increase in national and state construction cost. The Rider Levett Bucknall (RLB) "Quarterly Construction Cost Reports," a construction cost report that measures the price contractors are asking to construct a project, reports that average construction costs in California increased 10 percent in fiscal year 2005-06 and 13.8 percent in 2006-07 (see chart below).

Index Comparison



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The relationship between these numbers and the increases in augmentations points to the difficulty of holding project budgets in a highly inflated and volatile construction market even when progress is being made to reduce schedule changes. This issue is addressed later in this report.

Major Capital Projects Completed During Fiscal Year

While the statistics above examine all active projects on the last day of the fiscal year, it is important to look also at projects completed during the fiscal year in order to ascertain the percent change of original budgets and the average and weighted average number of days over original schedule. When calculating the weighted average, the days over schedule are weighted in proportion to the project budget. This information is presented in the following table:

**Summary of Major Capital Projects Completed During Fiscal Years
2005-2006 and 2006-2007**

	2005-06	2006-07
1. Total number of projects completed	121	111
2. Total amount of original budgets of projects completed	\$1,641,941,000	\$1,888,407,000
3. Cumulative approved budget changes (adjusted for inflation)	\$56,223,000	\$69,212,000
4. Total year-end budgets (adjusted for inflation)	\$1,698,164,000	\$1,957,619,000
5. Percent net change from original budget	3.4%	3.7%
6. Total year-end budget (including inflation)	\$1,708,260,000	\$2,070,669,000
7. Total number of completed projects within original schedule	93	84
8. Total number of completed projects over original schedule	28	27
9. Average number of days over original schedule	408	145
10. Weighted average number of days over original schedule	512	265

Just as last year, the percent difference between the original budgets and the final budgets of the projects completed during the fiscal year (3.7 percent) and the percent difference between the original budgets and current budgets of all projects still active at the end of the year (12 percent) mirrors the changes in the construction market that have occurred over the last three years. Many of the projects completed during the past year were bid before the market conditions discussed below became critical and therefore the budget increases for these projects tend to be lower than current active projects.

While 84 of these projects finished on schedule, 27 did not. As explained earlier, project changes may be for the benefit of the project, such as program revisions that require redesign, new funding opportunities, shifts in funding strategies, and coordination with other projects. When these types of projects are identified and assumed to be “on schedule,” the number of projects “over schedule” drops to 17, and the average delay for projects with delays drops to 71 days.

Construction Market Conditions in 2006 – 2007 and Forecast for 2007 – 2008

In 2006 – 2007, the California construction market continued the trends began in 2003 – 2004 with continued inflation and volatility in the materials and labor markets, and high contractor premiums in final bids. Even though there was a 23% drop in California housing starts in 2006¹, overall construction costs continue to be driven by the “increasing level of activity in the non-residential building sector and lack of available skilled labor to deliver projects.”² The Turner Building Cost Index (a nationwide “output” index that measures the price contractors are asking to construct a project) showed a 7.4 percent cost increase over the four 2006 – 2007 quarters. The ENR California Construction Cost Index (a regional “input” index that measures the cost of materials and labor that go into a contractor’s bid) showed an increase of 5.4 percent over this same period. The difference between the “input” index and the “output” index reflects the impact of “market premiums” on rising construction cost. In California this difference was more pronounced. The Rider Levett Bucknall (RLB) “Quarterly Construction Cost Report” (an “output” index), reported that the cost increase for the four 2006 – 2007 quarters was 13.3 percent in Los Angeles and 14.33 percent in San Francisco. These trends are expected to continue in 2007 – 08, but at a more predictable, if not moderate, pace. The Davis Langdon Construction Industry Market Report reported that escalation in the Western region is expected to run approximately 8-12 percent for the twelve months leading to July 2008 “with the likelihood of localized significant bid overages in certain sub-trades, particularly cladding systems, dry-wall, mechanical and electrical trades.”³ A recent Rider Levett Bucknall (RLB) Quarterly Cost Report stated, “The apparent slowing of the economy, in general, will most likely have a minimal affect on the construction industry over the balance of the year with more noticeable figures at the beginning of 2008.”

There are several reasons cited for the continued construction cost escalation. One is the passage of several referenda in the State aimed at rebuilding California’s infrastructure. This includes Proposition 1A-1E, passed in November 2006, which allocated \$37.3 billion in capital spending for transportation, schools, housing and flood protection. Hospitals across the State are either seismically upgrading or replacing their buildings in accordance with deadlines set by SB 1953. The Los Angeles Unified School District is still building its \$19.2 billion capital program. Another reason cited is the continued drop-off in skilled construction trade persons as baby-boomers retire and are not replaced by younger workers.⁴ Material shortages will also be a factor, resulting from a continuous strong global construction markets and a weak dollar. “The U.S. steel industry has become a net exporter, not by a large margin but enough to turn the tables on supply.”⁵ Finally, the escalation in gas and oil prices is expected to continue to be problematic.

The only area that may see a leveling off or even a slight reduction in construction cost is in

¹ “Finance & Labor Report,” Engineering News Record, 7/25/07.

² Turner 2007 Second Quarter Forecast (Turner Construction)

³ Davis Langdon Construction Industry Market Report (Davis Langdon Construction)-2007 Second Quarter.

⁴ “Inflation is Set for Strong Rebound,” Engineering News Record, 6/18/07.

⁵ Ibid.

Type V, wood-frame construction. For the University this type of construction is mostly residential, and while we anticipate few UC projects of this type going out to bid in the current fiscal year, we anticipate that there will be several in the next fiscal year.

Initiatives Related to Cost Management and Project Delivery

From January 2005 to August 2007, construction costs in California have increased by approximately 31 percent⁶ while the nationwide Consumer Price Index has increased 8.3 percent⁷. When measured in relation to inflation of the general economy, buildings have become very expensive, especially in California.

In a time of escalating and volatile construction costs, design and project management responses are critical to optimizing the construction dollar. Over the past three years the University has implemented strategies to address construction market volatility, improve the University's working relationship with the construction industry, improve contract delivery methods, and optimize building design. These ongoing design and project management responses include:

- Using **alternative project delivery methods** such as design/build and privatized development where appropriate. During the last year a new Cost Plus Fixed Fee contract was rolled out, modifications to the Brief Form contract were completed, and a new Mini Form Contract was introduced. Using the CM @ Risk contract, language was developed to allow Design-Build bid packages for major sub-contractors to align more closely with private industry Design-Assist delivery methodology. A draft of a Job Order contract was completed and is expected to be available in the second quarter of 2007-08. Contract documents, in support of a "developer turnkey" project competition for the San Francisco campus, were developed.
- Improving **the working relationship with the construction industry** by addressing such issues as risk allocation in our contracts and improving invoice payment processes.
- Implementing **strategies for addressing construction market volatility** such as bid process modifications to attract more bidders and bid alternate packages.
- Requiring **flexible designs** that facilitate scope and design changes.
- Monitoring and building upon SB 667 which allowed UC San Francisco to implement a pilot program to allow the **selection of contractors on a "best value" basis**.

During the coming year, the University will continue to work to optimize strategies in these areas. But during a time when the rise in construction cost have outpaced inflation for the rest of the economy, these design and project management responses alone are not enough. They

⁶ Average of Los Angeles and San Francisco cost indexes from the Rider Levett Bucknall Quarterly construction Cost Reports.

⁷ Consumer Price Index, U.S. Department of Labor Bureau of Labor Statistics.

cannot alter the fact that buildings are still going to be expensive in our current economy. To meet this challenge the University has recently taken steps to review and improve the entire process by which the University's capital projects are identified, programmed, regulated, approved and developed within the UC and State capital budget system. This review will seek a better alignment between the capital plan and the University-wide long-range strategic plan and goals to ensure that all building projects are aligned with the strategic plan. It will also identify and implement ways the project approval process within the University and the State can better align with project delivery needs and thus save time in the process. New project delivery methods are also being examined and implemented that will reduce delivery time and, where appropriate, take advantage of the economies of the private sector.

As part of the University's initiative to examine its organizational and administrative operations and procedures, a special working group has been formed to "work to improve the capital projects development and approval processes, with the goal of saving hundreds of millions of dollars annually in avoidable construction delays." The actionable items developed through this process and the recommendations of the working group will form the basis for change in the capital projects development and approval process in the near future.

On-going Capital Project Issues

In addition to the ongoing endeavors to control capital costs through project management, design, and construction delivery methods, the University also addressed the following capital project delivery issues during the year:

Strategic Goals and Policy Implementation

- The University reviewed and approved twenty-seven requests for Executive Design Professional (EDP) approval for capital projects with a total project budget over \$5 million. The total construction value of these projects was \$585,116,076, and the total amount of fees for basic architectural services was \$42,181,612, resulting in an overall fee percentage of 7.2 percent of construction value. Only three of these projects had fees over the current fee guidelines (fee guidelines vary depending on building type and the construction value of the project). The total construction value of these two infrastructure projects was \$12,815,000 and the total amount of fees was \$1,167,850 resulting in an overall fee of 9.1 percent of the construction value. The fee amounts over the guidelines averaged a little over one-half of a percentage point for these projects. Under current procedures, each of these fee requests was fully explained and supported by the campus in its request letter.
- The University continued to address student housing by approving the design of housing projects that added approximately 1,204 new beds.

Sharing Best Practices

- The UC Project Management Institute (UCPMI) offered 17 training sessions in 2006-2007. Seven of those programs were in conjunction with the *Energy Efficiency Partnership Program*. The regular sessions ranged from ergonomics in building design to the annual meeting of campus contract administrators. *The Energy Efficiency Partnership Program*

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offered sessions on campus applications of LEED for renovations (LEED CI), commissioning certification and many other subjects with energy efficiency and sustainability as the end goal. The number of UC staff in attendance at UC PMI sessions in 2006-07 was 745.

- The University has initiated bi-monthly meetings between UC medical center project directors, UCOP staff, and the Office of Statewide Health Planning and Development.
- The University has also initiated bi-monthly meetings between UC Fire Marshals, directors, UCOP staff, and the Office of Statewide Health Planning and Development.

Sustainability

- The Regents' Policy on Green Building, Clean Energy, and Sustainable Transportation was expanded in March 2007 to include green building requirements for renovation projects, and to incorporate sections on climate protection practices, sustainable operations, waste reduction and recycling, and environmentally preferable purchasing. With the expansion, the policy was renamed the *Policy on Sustainable Practices*.
- During fiscal year 2006-07, several UC projects received LEED certification through the U.S. Green Building Council. For new construction, the UC Davis Tahoe Research Center earned a LEED Platinum rating; at UC Merced the first building to be certified, the Central Plant, achieved a LEED Gold rating and a LEED Silver rating is expected for the Classroom and Office Building in November 2007; and the Palo Verde Housing project at the Irvine campus achieved a LEED Gold rating. Through the "LEED for Existing Buildings" rating system, the Office of the President achieved a LEED Silver rating for the headquarter office in downtown Oakland.
- Of note is that all projects that received design approval during fiscal year 2006-07 will comply with the aforementioned *Policy on Sustainable Practices*.

Attachments

Table 1

Figures 1, 2, 3

Table 1

**UNIVERSITY OF CALIFORNIA
MAJOR CAPITAL PROJECT SUMMARY
2006-07**

CUMULATIVE CHANGES TO BUDGET AND SCHEDULE SINCE PROJECT APPROVAL BY REGENTS

Campus	1	2	3	4	5	6	7	8	9
	Active Projects	Original Budget (\$000's)	Budget at End of '06-07 (\$000's)	Inflation Adjusted Budget 06-07 (\$000's)	Total # with Budget Changes	Changes to Original Budget (\$000's)	% Change from Original Budget	# with Schedule Changes	% with Schedule Change
Berkeley	50	1,058,002	1,143,267	1,143,267	14	85,265	8.1%	7	14.0%
Davis	46	817,681	992,031	990,663	12	172,982	21.2%	5	10.9%
Irvine	19	789,134	887,321	877,285	14	88,151	11.2%	13	68.4%
Los Angeles	44	1,562,963	1,875,362	1,872,027	27	309,064	19.8%	18	40.9%
Merced	8	143,283	153,333	153,333	2	10,050	7.0%	2	25.0%
Riverside	16	411,440	434,353	431,877	11	20,437	5.0%	9	56.3%
San Diego	47	760,128	798,607	791,403	18	31,275	4.1%	8	17.0%
San Francisco	51	478,802	498,072	498,014	13	19,212	4.0%	13	25.5%
Santa Barbara	33	530,842	637,821	612,131	10	81,289	15.3%	2	6.1%
Santa Cruz	25	354,349	380,037	366,931	15	12,582	3.6%	10	40.0%
DANR	2	2,026	2,026	2,026	0	0	0.0%	1	50.0%
	341	6,908,650	7,802,231	7,738,958	136	830,307	12.0%	88	25.8%
			<i>Inflation Adjustments:</i>	63,273					
BUDGET CHANGES									
Reduced					30				
Increased					106				
SCHEDULE									
On Schedule								253	
Schedule Changed								88	
State	85	4,181,064	4,926,996	4,863,723					
Non-State	256	2,727,586	2,875,235	2,875,235					
TOTALS	341	6,908,650	7,802,231	7,738,958	136	830,307	12.0%	88	25.8%

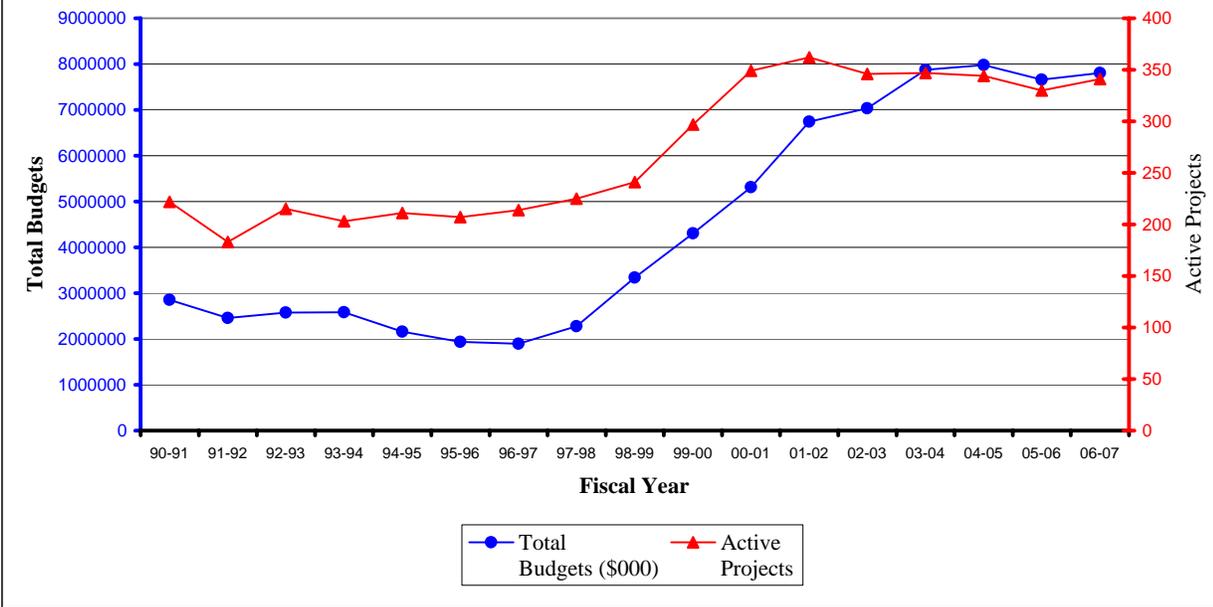
Column Heading Footnotes:

- (1) Active Projects: Projects with budgets exceeding \$400,000 on which funds were expended in 2006-2007 and had not been completed (no Notice of Completion filed) by June 30, 2007.
- (2) Original Budget: The sum of the original budgets for the active projects approved by The Regents.
- (3) Budget at End of 2006-2007: The sum of the project budgets at year end. This figure includes all increases and decreases made to the original budget since its approval.
- (4) Budget with inflation removed for state funded projects. *Value of inflation adjustments shown in italics.*
- (5) Total # with Budget Changes: the number of active projects that have had budget changes (increases or decreases) over the life of the project to date.
- (6) Changes to Original Budget: This is a net dollar amount of augmentations and decreases. State-funded project budgets are adjusted to the original cost index for the project so that inflationary changes are not reflected as budget augmentations.
- (7) % Change Original Budget: The budget changes represent the percent of change from the original budget, including changes to revised program scope and market conditions.
- (8) # with Schedule Changes: The number of projects that have had changes in their schedule since original approval.
- (9) % with Schedule Changes: The percentage of the total campus projects with schedule changes.

*** % Change from Original Budget Footnotes:**

- (a) Campus is currently completing 3 very large projects that were budgeted before and bid after the serious cost escalations that began in 2004.
- (b) Several projects were augmented with campus funds in order to increase the program after initial budgets were approved (i.e. Social & Behavioral Sciences Building, Student Center Expansion, Biological Sciences Building). This also includes a \$35 million augmentation for the UCIMC Replacement Hospital that was budgeted before 2004 and bid during the cost escalations.
- (c) Augmentations for Westwood Hospital and Santa Monica Orthopedic Replacement Hospital included.
- (d) Two large housing projects and two large classroom buildings were budgeted before 2004 and were bid during the very volatile California construction market of 2005-06.

Figure 1: Total Budgets and Active Projects



Projects: All active projects with budgets exceeding \$400,000 for which funds were expended in 2006-07 and had not been completed (no Notice Of Completion filed) by June 30, 2007.

Dollars: This is the sum of all project budgets at the end of 2006-07. The figure includes all increases and decreases, and is adjusted to remove inflation made to the original budget subsequent to its initial approval.

Figure 2: Percent Change to Active Project Budgets

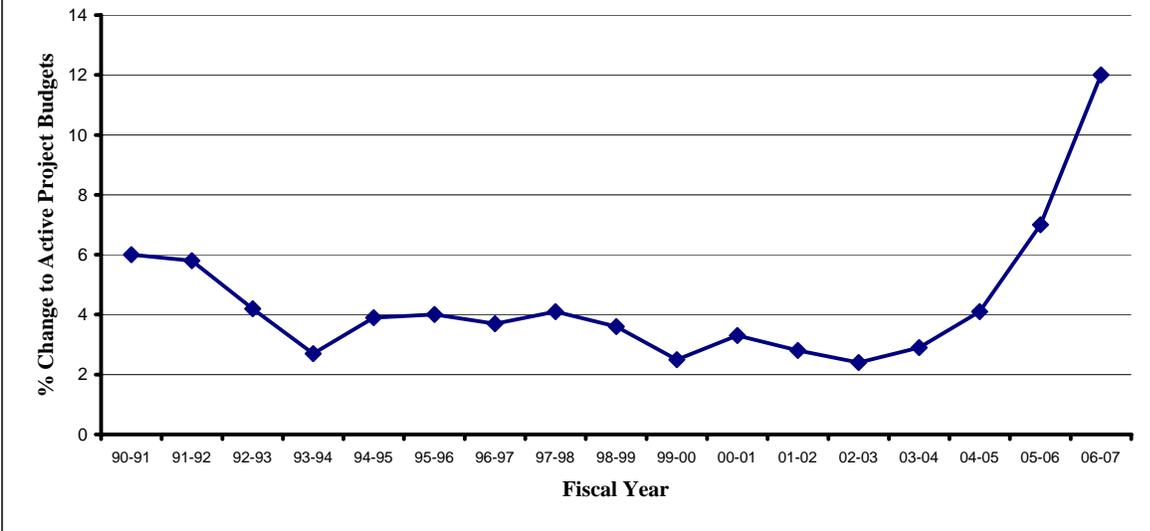
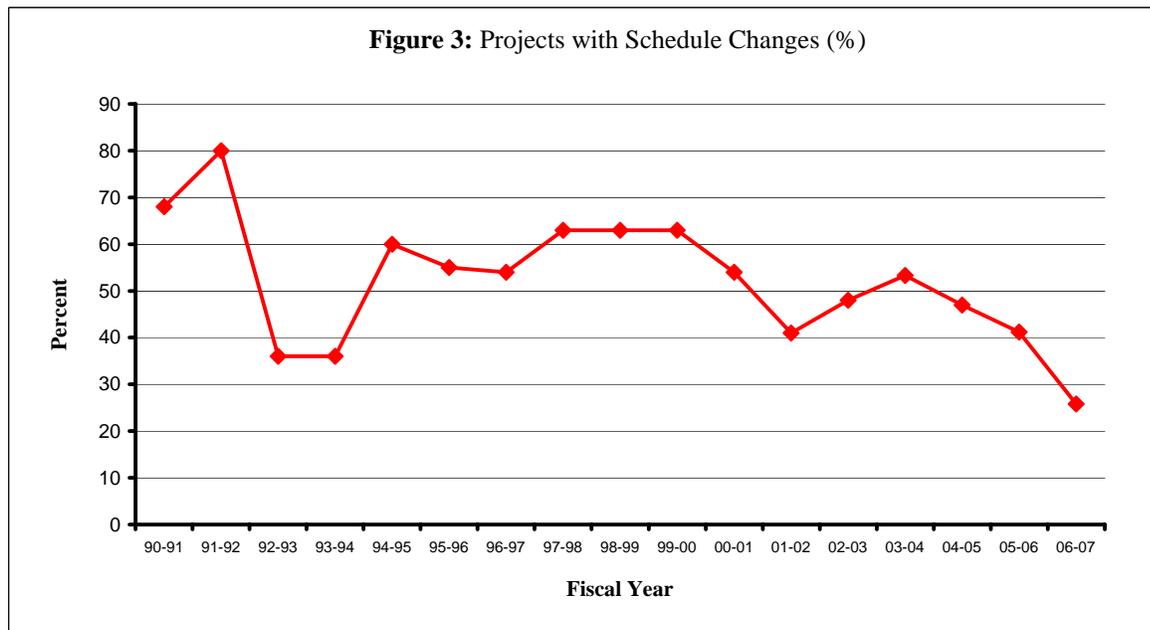


Figure 3: Projects with Schedule Changes (%)



Projects: All active projects with budgets exceeding \$400,000 for which funds were expended in 2006-07 and had not been completed (no Notice Of Completion filed) by June 30, 2007.

Dollars: This is the sum of all project budgets at the end of 2006-07. The figure includes all increases and decreases, and is adjusted to remove inflation made to the original budget subsequent to its initial approval.