UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ

OFFICE OF THE PRESIDENT

Robert C. Dynes
President

1111 Franklin Street
Oakland, California 94607-5200
Phone: (510) 987-9074
Fax: (510) 987-9086
http://www.ucop.edu

October 27, 2006

MEMBERS OF THE REGENTS' COMMITTEE ON GROUNDS AND BUILDINGS

Enclosed for your information is the Major Capital Projects Implementation Report for fiscal year 2005-06. This report describes the aggregate status of major capital projects underway at the end of the 2005-06 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 Vice President Hershman. He can be reached at (510) 987-9103.

Sincerely,

Robert C. Dynes

Enclosure

cc: All Regents
Chancellors
Laboratory Directors

Office of the President
September 2006
Mailing between Meetings

TO MEMBERS OF THE COMMITTEE ON GROUNDS AND BUILDINGS:

INFORMATION ITEM

MAJOR CAPITAL PROJECTS IMPLEMENTATION REPORT, 2005-06 FISCAL YEAR

EXECUTIVE SUMMARY

The dollar value of active University projects held relatively steady with only a slight decrease from the previous year's total of $8 billion to a total of $7.7 billion in fiscal year 2005-06. The percentage of projects with schedule changes continued a two-year trend with the percentage decreasing from 47.7 % to 41.2%. The percentage of net budget augmentations increased from 4.1% to 7.0%.

For the past three years the University along with other public and private owners has had to contend with a construction market that has seen ever-rising costs in material and labor. During the past two years this cost pressure has been aggravated by speculation in the commodities markets, labor shortages, and reduced competition among contractors and subcontractors. In last year's report it was predicted that this overheated and volatile market would continue in 2005-06 and it did. At the time of the writing of this report it is expected to continue through 2006-07.

Campus financial and staff resources continue to be challenged by the scale and complexity of a capital program that has increased from $1.9 billion in 1996-97 to nearly $7.7 billion today. Meeting this challenge requires continuous development of the University's project management capability to effectively manage complex University projects in this challenging market environment.

Introduction

The Major Capital Projects Implementation Report, first presented in 1991, provides broad indicators of project delivery performance and identifies trends. This Report describes the aggregate status of major capital projects underway at the end of fiscal year 2005-06 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. Factors 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 sources, and weather delays.

It is important to recognize that some project budget and schedule changes are driven by circumstances 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 this mix of factors affects 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 2005-06 is shown in the summary table below. The compilation deals only with 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 change over a project's duration (normally averaging four years).

Summary of Major Capital Project Activity at Fiscal Year End 2005-2006

1. Total active projects 330
2. Total amount of original budgets $7,122,640,000
3. Cumulative approved budget changes (adj for inflation for 2005-06) $498,717,000
4. Total year-end budget, (adj. for inflation) $7,621,357,000
5. Percent change from original budget 7.0%
6. Total year-end budget (including inflation) $7,658,856,000
7. Projects with budget changes 126
8. Projects with schedule changes ("over schedule" if more than 90 days) 136

Table 1 attached to this report provides campus-level detail for the above categories. Attached Figures 1, 2, and 3 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.

From fiscal year 2004-05 to fiscal year 2005-06, the net number of active projects decreased, by 14 from 344 to 330. During fiscal year 2005-06, 121 projects with budgets totaling $1.550 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 107 new projects and augmentations to previously approved projects, the total value

of projects (approved budgets) in design and construction decreased by a net of $320 million, from $7.979 billion to $7.659 billion (Figure 1). As in former years, projects related to enrollment growth, including housing, continue to be the majority of projects in the program. Seismic improvements and renovation projects continue to represent a substantial component of the State-funded capital program. In addition, replacement hospitals and seismic improvements to existing medical center buildings that are needed to meet statutory deadlines under SB 1953 represent a significant component of the non-State-funded capital program.

From fiscal year 2004-05 to fiscal year 2005-06 the percentage of net project budget augmentations increased from 4.1% to 7.0% (Figure 2). The percentage of projects with schedule changes decreased from 47.7% to 41.2% between 2004-05 and 2005-06 (Figure 3). While the decrease in schedule changes indicates a favorable trend in scheduling, the increase in augmentations reflects the challenges in holding down (or even predicting) construction costs in a very unstable construction market. This issue is addressed later in this report.

Major Capital Projects Completed During Fiscal Year

While the statistics above examines all active projects on the last day of the fiscal year, The Regents have expressed interest in tracking 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, projects with larger budgets are weighted more than projects with smaller budgets. This information is presented in the following table:

Summary of Major Capital Projects Completed During Fiscal Year 2005-2006

1. Total number of projects completed.....121
2. Total amount of original budgets of projects completed.....$1,641,941,000
3. Cumulative approved budget changes (adjusted for inflation).....$56,223,000
4. Total amount of net augmented budgets.....$1,698,164,000
5. Percent net change from original budget.....3.4%
6. Total year-end budget (including inflation).....$1,708,260,000
7. Total number of the 121 completed projects within original schedule.....93
8. Total number of the 121 completed projects over original schedule.....28
9. Average number of days over original schedule.....408
10. Weighted average number of days over original schedule.....512

The difference between the percent change in the original budgets of the projects completed during the fiscal year (3.4%) and the percent change between the projects still active at the end of the year (7.0%) mirrors the changes in the construction market that have occurred over the last two to three years. Most of the projects completed during the past year were bid before many of the market conditions discussed below became critical.

More than three-quarters of the projects completed during the fiscal year were completed within their original schedule. These 93 projects accounted for $1,089,000,000 of the total year-end budget of $1,708,260,000 for all completed projects. Twenty-eight projects were over schedule with an average of 408 days. The reasons behind these schedule delays fell into the following categories:

- Intentional schedule delays for the benefit of the project or University (e.g., program changes, new funding opportunities, changes in funding strategies, coordination with other projects, etc.);
- Schedule delays due to market/design issues (e.g., redesign of project due to high bids, design issues, or adequacy of bid documents; changes in market timing strategies; etc.);
- Schedule delays during the course of construction (e.g., contractor non-performance, change order delays, weather conditions, work stoppage, etc.);
- Post-construction schedule delays (e.g., completion of final punch-list, building commissioning problems, legal issues, etc.).

While some of the projects with substantial delays were impacted by schedule changes in only one category, most were impacted by changes in several categories that, taken together, delayed the average project by approximately one year. The average and weighted average of schedule changes is skewed by six projects over $30 million that had an average schedule change of 600 days. When these projects are omitted, the average delay for projects with schedule changes is 355 days.

Construction Marketplace Conditions in 2005-06

In 2005-2006, the California construction market continued to follow trends that started in 2003-04 and grew worse in 2004-05. It has continued to be a "seller's" (contractor's) market with plenty of work and fewer people to do it. World competition for construction materials persisted and speculation in the commodities markets led to not only higher contractor's cost but also a much more volatile market. These trends are anticipated to continue through the 2006-07 fiscal year.

The late 1990's until the early 2000's saw a relatively stable period of predictable material and labor cost escalation. Subsequently, fiscal years 2003-04 and 2004-05 saw steep increases in material and labor costs as world construction markets heated up. There was an expectation that these increases would spike and then decline as production caught up with demand. This did not occur. A combination of high oil prices, continued world construction demand, a continued strong residential market, and increased public sector spending absorbed all the increased production. In addition, domestic labor costs started to rise as markets heated up and the construction workforce remained constant.

Construction material price speculation as well as "market premiums" (i.e., additional costs resulting from a tight market) in 2005 and 2006 have not only exacerbated cost pressures but also created unpredictable markets. This has made it difficult not only to budget projects but also to anticipate problems at the time of bid. The "seller's" market has made it difficult to obtain sufficient bid coverage and in some cases to get any bids at all. The 2006 Pinnacle One Pulse of U.S. Public Construction survey found that almost half (45 %) of the owners surveyed nationwide had witnessed a decrease in the number of bidders on their construction projects. The Turner Building Cost Index (a nationwide "output" index that measures the cost contractors are asking to do a project) showed an 11.4% cost increase over the four 2005-06 quarters. The ENR Constructor Cost Index (a national "input" index that measures the cost of materials and labor that go into a contractor's bid) showed an increase of 4.5%. The difference between the "input" index and the "output" index reflects the impact of "market premiums" on rising

construction cost.

According to several articles in construction industry publications including the Turner Building Cost Index, Engineering News Record, Tradeline Publications, Davis Langdon Construction Newsletter, and the R&D Facility Construction Cost Index, the current run-up in construction cost and volatility is not temporary and will persist through 2006 and 2007. The underlying trends and market conditions are not expected to change. The volatile global commodities market will continue at least through 2006. Bottlenecks in fabrication continue in some areas as world production is still trying to catch up to world demand. The drop-off in skilled construction trade persons will continue as baby-boomers retire and are not replaced by younger workers. The large state and national construction programs show no sign of abating, especially in California (by way of example, the Los Angeles Unified School District is in the middle of a major $19.2 billon capital program, and hospitals across the State are either seismically upgrading or replacing their buildings in accordance with deadlines set by SB 1953). These trade publications are projecting an increase of between 10% and 12% in 2006 and 2007 and a 6%-8% increase in 2008 (a Presidential election year) in the price contractors will be asking to construct a project. Another factor that will continue to exert upward pressure on the construction market is the State economy, which is expected to remain stable despite a slight dip in the single-family home construction market.

Initiatives Related to Cost Management and Project Delivery

The volatility and unpredictability of the current construction market has prompted the continued implementation of cost management and project delivery initiatives to mitigate market impact on budgets and schedules.

Immediate strategies include improving the University's working relationship with the construction industry. Several contract modifications have been studied and implemented to more fairly allocate risk between owner and contractors addressing issues related to material price escalation and instability, liquidated damages, unforeseen conditions, and the processing of payment requests, change orders, and requests for information. The University is also expanding its ongoing outreach program to the industry.

Other immediate responses include "post-budget" strategies in the areas of scope, design, and bidding to address projects with budgets developed prior to 2004. Scope strategies include examining user needs to prioritize scope in order to identify a scope contingency. Design strategies concentrate on flexible designs that facilitate scope and design changes through the design process while maximizing the efficiency of building systems. Bid strategies include bid process modifications to attract more bidders (e.g., on-line pre-bid conferences for subcontractors) and additive bid packages (i.e., bid packages that bid a basic building with add-alternates such as more program or improved mechanical systems).

Longer-term initiatives include the ongoing implementation of the recommendations of the report "Transforming Capital Asset Utilization and Delivery", a cost reduction study requested by The Regents, including the development of system-wide building and project metrics, standards, and data. Legislative efforts to modify the public contracting code to allow the selection of contractors on a "best value" basis were successful with the passage of SB 667 which will allow this selection process at UC San Francisco on a pilot program basis.

The Regents' policy on sustainability is now applicable to all new University building projects. During the 2005-06 fiscal year, nine of the ten projects that received design approval will comply with the UC Green Building and Clean Energy Policy. The one that did not was a parking structure that still received sixteen of the twenty-six required sustainability points for compliance.

In addition, during 2005-06 the University continued to address the following capital project delivery issues.

- The University reviewed and approved twenty-five requests for Executive Design Professional (EDP) approval for capital projects with total project budgets over $5 million. The total construction value of these projects was $464,217,000 and the total amount of fees for basic architectural services was $31,636,959 resulting in an overall fee percentage of 7% of construction value. Of these, four 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 projects was $121,513,000 and the total amount of fees was $9,732,131 resulting in an overall fee of 8% 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 were fully explained and supported by the campus in their request letter.
- The University continued to address a shortage of student housing by approving housing projects that add approximately 1,729 beds.
- The UC Project Management Institute (UC PMI) offered 18 training sessions in 2005-2006. Of the 18, 10 were in conjunction with the Energy Efficiency Partnership Program. The regular sessions ranged from contracting methods to a meeting for UC Building Officials. The Energy Efficiency Partnership Program offered sessions on lighting, monitoring based commissioning, and many other subjects with sustainability as the end goal. The number of UC staff in attendance at UC PMI sessions in FY 2005-06 was 711. UC PMI also coordinated two half-day sessions for planning, design and construction consultants to learn about UC business opportunities. The two sessions attracted over two hundred consultants for each session.
- The University continued expanding the use of alternative project delivery methods such as Construction Manager At-Risk and Design/Build.
- The University sought legislative initiative to modify the Stull Act to allow "best value" selection for all project delivery methods. This goal was partly achieved with the passage of SB 667 which will allow this selection method at UC San Francisco on a pilot program basis. The University will continue its efforts to expand this selection method to all UC campuses.
- The University continued to review contract documents with regard to risk allocation.
- The University reviewed administrative processes on campuses with the objective of improving contractor relations.
- The University has initiated bi-monthly meetings between UC medical center project directors, UCOP staff, and the Office of Statewide Health Planning and Development.

Attachments
Table 1
Figures 1, 2, 3

Attachment

Table 1

UNIVERSITY OF CALIFORNIA
MAJOR CAPITAL PROJECT SUMMARY
2005-06

CUMULATIVE CHANGES TO BUDGET AND SCHEDULE SINCE PROJECT APPROVAL BY REGENTS

	1	2	3	4	5	6	7	8	9
	Active Projects	Original Budget ($000's)	Budget at End of 05-06 ($000's)	Inflation Adjusted Budget 05-06 ($000's)	Total # with Budget Changes	Changes to Original Budget ($000's)	% Change from Original Budget	# with Schedule Changes	% with Schedule Change
Berkeley	32	571,697	678,259	677,656	9	105,959	18.5%	12	37.5%
Davis	47	858,676	886,583	882,885	14	24,209	2.8%	17	36.2%
Irvine	19	823,915	923,955	921,443	10	97,528	11.8%	16	84.2%
Los Angeles	44	1,884,790	1,971,197	1,968,701	26	83,911	4.5%	31	70.5%
Merced	12	263,470	291,635	276,546	5	13,076	5.0%	7	58.3%
Riverside	15	351,325	370,534	366,543	9	15,218	4.3%	9	60.0%
San Diego	70	918,737	969,099	967,541	22	48,804	5.3%	25	35.7%
San Francisco	48	746,074	770,352	770,352	12	24,278	3.3%	6	12.5%
Santa Barbara	23	461,504	541,407	541,407	8	79,903	17.3%	4	17.4%
Santa Cruz	19	241,422	254,805	247,253	11	5,831	2.4%	8	42.1%
DANR	1	1,030	1,030	1,030	0	0	0.0%	1	100.0%
	330	7,122,640	7,658,856	7,621,357	126	498,717	7.0%	136	41.2%
			Inflation Adjustments:	*37,499*					
BUDGET CHANGES									
Reduced					20				
Increased					106				
SCHEDULE									
On schedule								194	
Schedule Changed								136	
State	88	4,127,384	4,478,453	4,440,954					
Non-State	242	2,995,256	3,180,403	3,180,403					
TOTALS	330	7,122,640	7,658,856	7,621,357	126	498,717	7.0%	136	41.2%

(1) Active Projects: Projects with budgets exceeding $400,000 on which funds were expended in 2005-2006 and had not been completed (no Notice of Completion filed) by June 30, 2006.

(2) Original Budget: The sum of the original budgets for the active projects approved by The Regents.

(3) Budget at End of 2005-2006: 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.

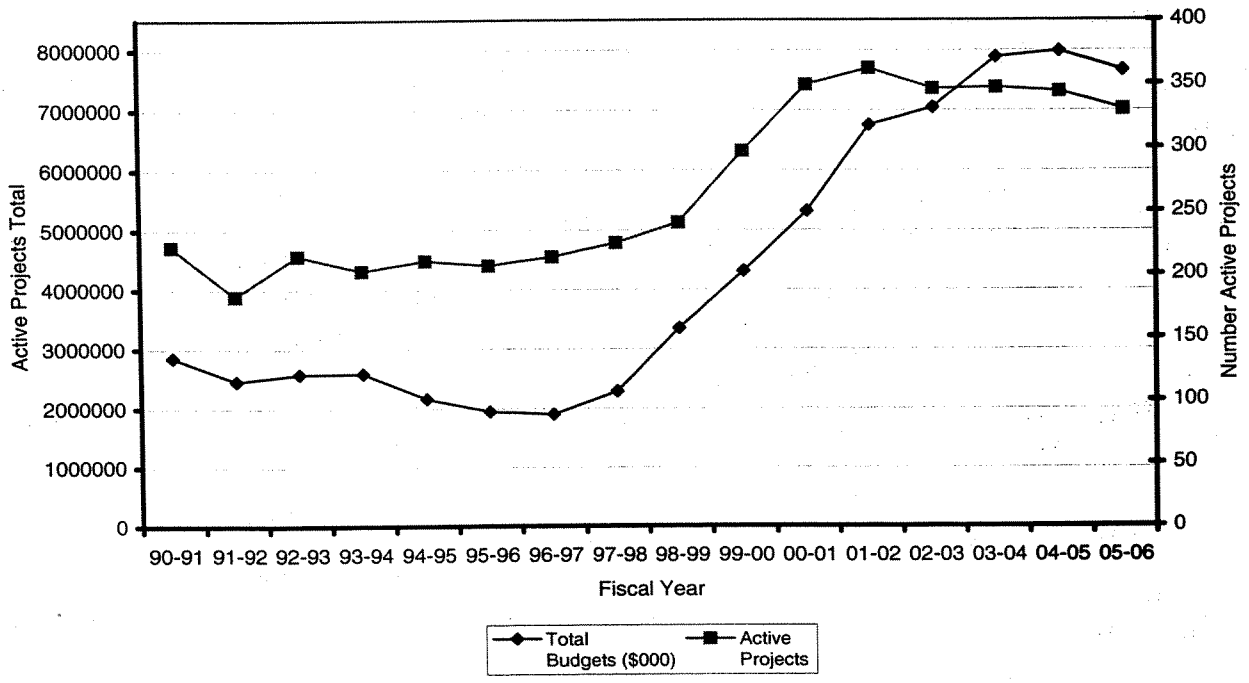
(6) Changes to Original Budget: This is a net dollar amount of augmentations and decreases. State funded project budgets are adjusted to the original cost index for the project so that inflationary changes are not reflected as budget augmentations.

(7) % Change Original Budget: The budget changes represent the percent of change from the original budget, due to revised program scope or 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.

Fig. 1: Total Budget and Number of Projects



Projects: All active projects with budgets exceeding $400,000 for which funds were expended in 2005-06 and had not been completed (no Notice Of Completion filed) by June 30, 2006.

Dollars: This is the sum of all project budgets at end of 2005-06. The figure includes all increases and decreases, and is adjusted to remove inflation made to the original budget since its initial approval.

Fig. 2: Percent Change to Active Project Budgets

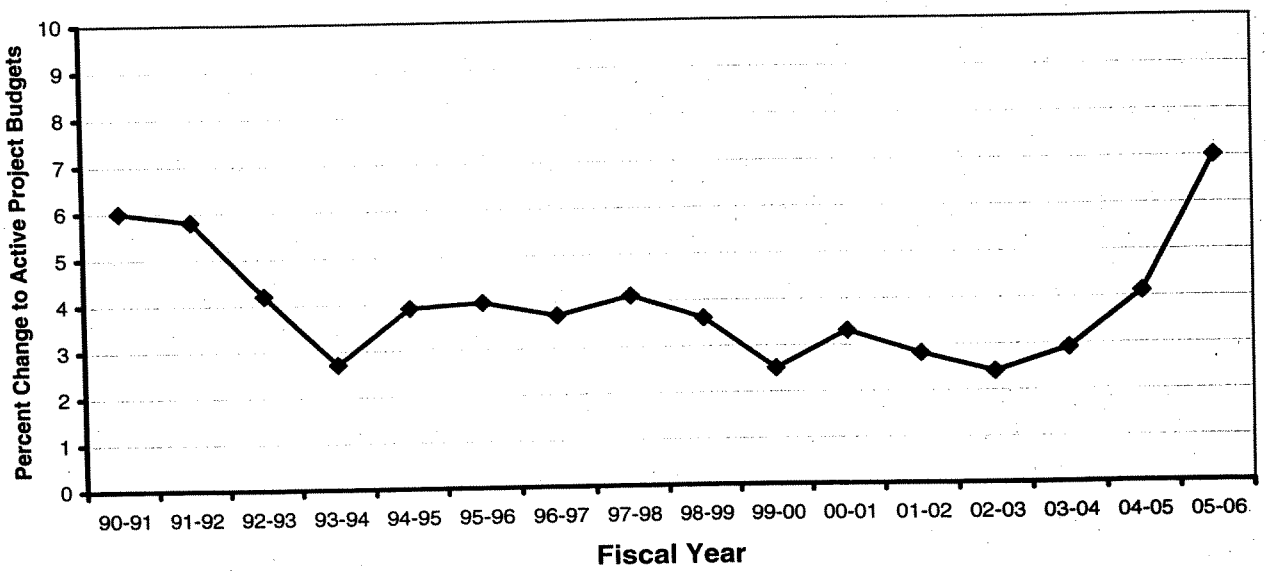
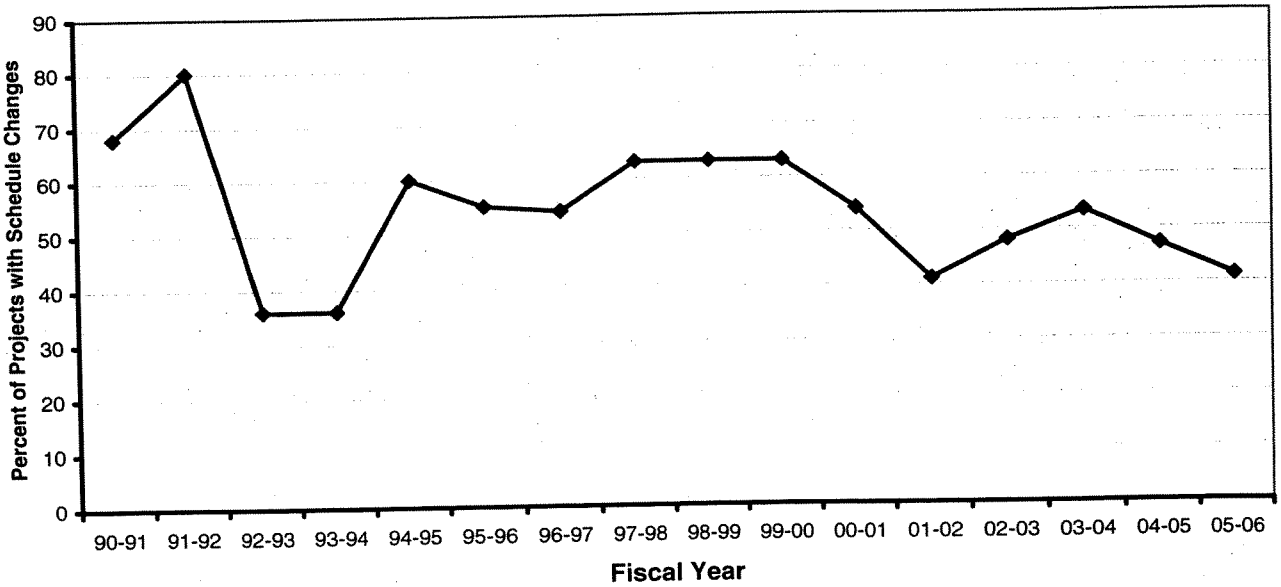


Fig. 3: Percent of Projects with Schedule Changes (%)



Projects: All active projects with budgets exceeding $400,000 for which funds were expended in 2005-06 and had not been completed (no Notice Of Completion filed) by June 30, 2006.

Dollars: This is the sum of all project budgets at end of 2005-06. The figure includes all increases and decreases, and is adjusted to remove inflation made to the original budget since its initial approval.