

## CHAPTER 4

# CAPITAL PLAN AND CAPITAL BUDGET

Stanford's 2014/15–2016/17 Capital Plan and 2014/15 Capital Budget are based on projections of the major capital projects that the university will pursue in support of its academic mission. The rolling Capital Plan includes projects that are in progress or are expected to commence during the three years it covers. The Capital Budget represents the anticipated capital expenditures in the first of these years. Both the Capital Plan and the Capital Budget are subject to change based on funding availability, budget affordability, and university priorities.

At \$2.8 billion, the Capital Plan reflects the significant investment Stanford continues to make in its facilities, driven by the academic priorities for teaching, research, and related activities, described in Chapter 2, and the initiatives of the administrative and auxiliary units that support the academic mission, described in Chapter 3.

With the 2013/14 project completions, Stanford will have invested \$4.9 billion in its facilities, infrastructure, and commercial real estate since 2000. The campus has been transformed, with state-of-the-art buildings supporting science, engineering, medicine, business, athletics, law, and the arts. The successful Rosewood Sand Hill hotel and office complex and other off-campus commercial development projects provide additional income to the university.

In addition to the many projects currently under way and previously forecasted, this year's plan includes the following new projects: Stanford in Redwood City Phase 1 (\$393.5 million), the new Earth Sciences Building (\$126.5 million), Rains Houses Renovations (Phases 1, 2, and 3 of 5) (\$34.2 million), Golf Course Redesign and Program Improvements (\$21.3 million), the Biology/Chemistry/Computer Science Precinct Regional Dock and Stauffer III Demolition (\$21.1 million), Hoover Campus Renovations (\$20 million), Environmental Health & Safety (EH&S) Facility Expansion (\$16.6 million), the Stadium Field House (\$14 million), Schwab Residential Center Renovations (\$10 million),

Home of Champions and Hall of Fame Area Relocation (\$7 million), and Sunken Diamond Improvements (\$7 million).

The following seven significant projects make up 59% of Stanford's Capital Plan: Stanford Energy System Innovations (SESI) (\$485 million), Stanford in Redwood City Phase 1 (\$393.5 million), a new School of Medicine (SoM) Building on the Foundations in Medicine 1 site (planned to be either the BioMedical Innovation I Building or the Integrated Cancer Center) (\$222.4 million), the Chemical Biology/Neurosciences Building (\$186 million), California Avenue Faculty Homes (\$155 million), the new Earth Sciences Building (\$126.5 million), and the Anne T. and Robert M. Bass Biology Research Building (\$101.1 million). The remaining 41% of the plan comprises 35 projects and 8 infrastructure programs. For a detailed listing of all Capital Plan projects and programs, see the tables on pages 81–83.

The Capital Plan accounts for the long-term budget impacts on operations, maintenance, and utilities (O&M) and debt service. These obligations are included in the university's long-range budget planning and are detailed on page 75 in the Capital Plan tables.

This chapter provides an overview of the capital planning process, describes current strategic initiatives, presents the 2014/15–2016/17 Capital Plan and related constraints, and discusses the 2014/15 Capital Budget.

## CAPITAL PLANNING OVERVIEW

### Capital Planning at Stanford

Stanford's Capital Plan is a three-year rolling plan with budget commitments made for projects with fully identified and approved funding. Cash flow expenditure forecasts for these projects extend beyond the three-year period, and budget impacts for O&M and debt service will commence at construction completion. The plan includes forecasts of both cash flow and budget impacts by year as well as the impacts of projects beyond the three-year period (see tables on page 75).

The Capital Plan is set in the context of a longer-term capital forecast. The details of this forecast, particularly funding sources and schedules, are less clear than those of the three-year plan, as the needs and funding sources that may emerge over the long-term horizon are difficult to anticipate. Plans tend to evolve as various projects prove more feasible than others based upon shifting funding realities and academic priorities.

### Strategic Initiatives

The following university strategic initiatives are integral to this year's Capital Plan:

- Stanford Energy System Innovations
- Biology/Chemistry/Computer Science Precinct
- Growth and transportation alternatives
- Parking and circulation
- New housing
- Stanford in Redwood City and other off-site facilities

### Stanford Energy System Innovations

At \$485 million, SESI represents 17% of the Capital Plan. SESI will be completed in 2015 and replace the existing central energy plant, Cardinal Cogeneration (Cogen) and related infrastructure. Stanford has been awarded direct access to the electricity markets and will increase its purchased electricity from an energy service provider at the termination of the Cogen contract with General Electric in April 2015.

SESI is one of the most efficient and innovative central district thermal energy system designs in the world and will further advance Stanford's leadership in engineering and environmental excellence while also "greening the bottom

line" in the truest sense. Once SESI is complete, the campus will utilize 70% of the waste heat currently expelled from cooling towers to meet 80% of its heat demands; reduce campus water consumption by more than 18%; and reduce greenhouse gas emissions to less than half of current levels and well below 1990 levels.

### Biology/Chemistry/Computer Science Precinct

The completion of the eighth and last component of the Science, Engineering, and Medical Campus marks the beginning of a future science quad in the Biology/Chemistry/Computer Science Precinct. Two new facilities—the proposed Bass Biology Research Building (\$101.1 million) and the new Science Teaching and Learning Center (STLC) in the renovated Old Chemistry building (\$66.7 million)—will be key components of a long-range vision to create a new precinct along the formal entrance to the Stanford campus by the Oval located at the end of Palm Drive. These buildings will join Gilbert Biological Sciences and Gates Computer Science to the south and the Lokey Laboratory and Keck Science Buildings to the north, anchoring the new precinct. A proposed consolidated underground service area, which will function for the majority of the precinct in the future, will enhance operational efficiency for science deliveries, improve safety for pedestrians and bikers, and also preserve land for future development.

### Bass Biology Research Building

The Bass Biology Research Building is intended to replace the existing Herrin Hall and Herrin Laboratory buildings, which will ultimately be removed. The new building will provide laboratory space for approximately half of the department's faculty, plus the corresponding research staff of graduate students, postdocs, and technicians. The 123,450-gross-square-foot (gsf) building will be located north of the Gates Computer Science Building and front onto Campus Drive; four stories above grade and one below are planned. Construction is anticipated to begin in 2015.

### Science Teaching and Learning Center

The STLC will house teaching laboratories and support spaces available to both students and faculty. In addition, to develop an activity hub for undergraduate students, the STLC will combine the three existing science libraries and will integrate replacement classrooms and lecture halls within new collaborative study spaces. The new facility will

encourage a sense of community for undergraduate students, primarily in the Biology and Chemistry departments.

The primary ceremonial east façade on Lomita Mall will be maintained as the main entrance of the historic Old Chemistry building. The west side will feature an events terrace on the roof of the new one-story, partially underground addition. The terrace will serve as a gathering place for undergraduate interaction as well as a venue for departments to host events.

### **Long-Range Vision**

The demolition of the Stauffer buildings will enable the introduction of a central green that will provide highly valued space for student interactions and departmental collaborations. The site is being carefully planned to allow for the construction of three to four additional buildings within the precinct.

### **Growth and Transportation Alternatives**

Local and regional traffic congestion is an ongoing concern for Stanford campus and neighboring communities. Continued traffic problems can severely limit approvals for additional academic and commercial development. Three factors contribute to these problems: Regional and local roadway networks are currently at capacity, with limited potential for physical capacity improvements; transit systems face severe and variable budget limitations, which prevent expansion and effective planning; and campus and hospital transportation demand management (TDM) programs, while quite robust and effective, are reaching the point of diminishing returns. Given this context, the university is engaged in an ongoing study of “big ideas” to expand both capacity and TDM now and in the future.

### **Parking and Circulation**

As the core campus grows more dense and the availability of surface parking decreases, campus planners are considering a variety of options for parking and circulation. Measures will be implemented that will respond to the demand for parking as well as improving traffic and safety for vehicles, bicyclists, and pedestrians. Several projects will get under way in the short term that will ultimately transform the campus landscape and roadways. These include the installation of campus roundabouts, the construction of new parking structures, and the extension of Panama Mall.

### **Roundabouts**

As the core campus continues to develop and expand, it has become critical to develop vehicular circulation, pedestrian safety, and bike safety strategies at various intersections. After comparing metrics for four-way stop signs, traffic signals, and roundabouts, Stanford has developed a plan for a system of roundabouts at intersections along Campus Drive. These roundabouts will enable more efficient vehicular circulation, reduce confusion for both drivers and pedestrians, and transform large asphalt intersections into welcoming landscape features at various campus entrances. The first roundabout conversion will occur at the Escondido Road/Campus Drive intersection, with construction expected to be complete in fall 2014.

### **Parking Structures**

Parking structure (PS) 10 will be a four-level structure constructed under Roble Field, with the existing recreation field restored on grade. In the near term, a 600-space surface lot is being constructed west of the Campus Drive/Santa Teresa intersection. This lot will accommodate the 250 parking spaces that will be removed for the construction of two new dorms at Lagunita Court. It will also enable the removal of 120 on-street parking spaces along Santa Teresa Street to facilitate traffic flow and to incorporate safety measures along this highly traveled route. The openings of the new Arrillaga Outdoor Education and Recreation Center (AOERC) and the BioE/ChemE building, as well as future development, are expected to increase parking demand within the West Campus region. PS 10 will provide sufficient inventory for current demand as well as some capacity for future growth. It will be right-turn-only exiting onto Via Ortega to manage the volume of traffic on Santa Teresa.

Future structures will generally be sited along the outer perimeter of the core campus or in the vicinity of the Campus Drive loop. Campus planners are continuing to investigate innovative and efficient strategies for pedestrian circulation within the Campus Drive loop.

### **Panama Mall and Other Circulation Improvements**

As a part of the PS 10 project, the Godzilla Modular will be removed, enabling the adjacent extension of Panama Mall. This new segment, consistent with the Campus Long-Range Planning Vision, will link Samuel Morris Way and Governor’s Avenue and provide a safer pedestrian and bicycle pathway.

This initiative will also close Samuel Morris Way to vehicular traffic, extend Via Ortega between the new AOERC and the future PS 10, and result in a future academic building site south of the Yang and Yamazaki Environment and Energy Building.

### **New Housing**

Stanford's housing program provides a wide range of choices for its students, faculty, and staff. Several significant undertakings are moving forward to alleviate the under-supply of affordable high-quality housing for faculty and to accommodate the increasing populations of both graduate and undergraduate students.

The new California Avenue faculty homes (\$155 million) will consist of 68 single-family detached homes and 112 condominium flats. To ensure that this community meets faculty needs, all the housing units will be made available to faculty for purchase at below-market prices through use of a restricted ground lease. The project will facilitate broader lifestyle opportunities and community identity through the inclusion of a central park, other gathering and respite areas, play equipment, and common fitness and community buildings. Construction is expected to proceed over a three-year period with delivery of the first homes in early 2017.

The newly dedicated Donald Kennedy Graduate Residences in Escondido Village (formerly Comstock Graduate Housing) (\$110 million) will offer 436 new graduate beds upon their completion in summer 2014 (362 net beds after the demolition of nine low-rise residences). Each house in the new complex bears the name of a former provost (William F. Miller, Albert H. Hastorf, Gerald J. Lieberman, and James N. Rosse).

The Manzanita undergraduate dorm (\$23.8 million) will add 128 new beds to the 425 now provided by the Kimball, Castaño, and Lantana Hall dorms. Completion is due in early to midsummer 2015.

Two new buildings (\$42.8 million) will be added to historic Lagunita Court, increasing the number of student beds from 319 to 535. Both will be four-class residences, each providing beds for 108 undergraduate students (including resident assistants and two new resident fellows, as well as necessary program spaces). Occupancy is anticipated in spring 2016.

The Graduate School of Business (GSB) will expand its current housing stock with a new residence complex (\$75 million) adjacent to the Schwab Residential Center and across Serra Street from the Knight Management Center. A net of 200 additional beds will be constructed with the objective of accommodating all first-year single students who desire to live on campus. This housing will also support Stanford's overall need for additional graduate housing. Completion is anticipated in summer 2016.

### **Stanford in Redwood City and Other Off-Site Facilities**

Stanford has secured entitlements to develop a satellite campus in Redwood City totaling 1,518,000 square feet. This development is part of a strategic initiative that allows core campus lands to be used for the highest academic priorities by locating administrative and appropriate academic functions on a nearby campus. The Redwood City property currently contains six buildings totaling 536,000 square feet and is occupied by corporations, with the exception of several Stanford University Library departments, which occupy approximately 65,000 square feet, and some university storage.

Early planning has commenced for a Phase 1 development of 500,000 square feet at \$393.5 million. This size was determined to enable minimum critical mass. The development is planned to include both administrative offices and amenities, and could include non-university tenants. Land, Buildings and Real Estate (LBRE) is facilitating a process to identify and validate the appropriate Stanford users for the new campus. At this point, no definitive dates for the development and subsequent moves have been set, but construction may start as early as 2015/16.

To meet ongoing space needs, several departments within the School of Medicine (SoM), along with various university administrative units, have moved or will move to the Porter Drive area of the Stanford Research Park. Once all the tenant improvements are complete, these Stanford entities will partially or fully occupy seven buildings with a population of approximately 2,000 faculty and staff. Many of these occupants will move to the new Redwood City campus when it is complete. Any vacated buildings will be leased at market rates.

## THE CAPITAL PLAN, 2014/15-2016/17

Stanford's academic campus, including the SoM but excluding the hospitals, has approximately 700 facilities providing over 17.5 million square feet of space (including parking structures). The physical plant has a historical cost of \$7.6 billion and an estimated replacement cost of \$10.8 billion.

The Capital Plan includes a forecast of Stanford's annual programs to restore, maintain, and improve campus facilities for teaching, research, housing, and related activities and outlines Stanford's needs for new facilities. The Capital Plan is compiled, reviewed, and approved in a coordinated manner across the university. The plan carefully balances institutional needs for new and renovated facilities with the challenging constraints of limited development entitlements, available funding, and budget affordability.

Projects listed in the Capital Plan are those approved by the provost. Many are under the purview of the Board of Trustees. Board-level approval is required for any of the following:

- Projects with a total cost of \$10 million and above
- New building construction
- Projects that use 5,000 or more new square feet within the academic growth boundary
- Changes in land use
- Projects with major exterior design changes

Expenditures in the 2014/15-2016/17 Capital Plan, which includes major construction projects in various stages of development and numerous infrastructure projects and programs, total \$2.8 billion. The table below provides a comparison of the last three Capital Plans.

### COMPARATIVE CAPITAL PLANS

[IN MILLIONS OF DOLLARS]

	2012/13	2013/14	2014/15
Design/Construction	1,030.6	1,200.9	1,144.1
Forecasted	840.3	1,096.4	1,402.0
Infrastructure	262.3	249.4	290.0
<b>Total</b>	<b>2,133.2</b>	<b>2,546.7</b>	<b>2,836.1</b>

### Projects in Design and Construction

Projects in design and construction total \$1.1 billion (40% of the plan). Construction of these projects is contingent upon fundraising of \$25.6 million (2%). This category comprises 16 projects, as shown in the table on page 81.

The cost of projects in design and construction has decreased by \$56.8 million from 2013/14 as a result of the completion of certain projects, partially offset by the movement of projects from the forecasted category and the addition of a new project. Projects moving from the forecasted to the design and construction stage include the GSB Graduate Residences (\$75 million), the STLC (\$66.7 million), the 408 Panama Mall Office Building (\$49.7 million), the Lagunita Court Addition (\$42.8 million), PS 10 (\$42 million), the Roble Gymnasium Renovation (\$28 million), and Stanford House in Oxford (\$4 million). The Stadium Field House (\$14 million) is new to the Capital Plan. Projects scheduled to be completed in 2013/14 include the Bioengineering/Chemical Engineering Building (BioE/ChemE) and Connective Elements (\$196.6 million), the Donald Kennedy Graduate Residences (\$110 million), Lathrop Library (\$57 million), the Anderson Collection at Stanford University (\$36 million), Phase 1 of the Crown Quadrangle Renovation (\$15 million), Northwest Data Center and Communications Hub (NDCCH) (\$14.9 million), and the Windhover Contemplative Center (\$5.4 million). The Crothers Hall/Crothers College Dean's Residence project (\$3 million) has been cancelled.

### Forecasted Projects

Forecasted projects are those anticipated to receive Board of Trustees approval over the next three years. These projects total \$1.4 billion (50% of the plan) and are listed on page 82. Like those in design and construction, these projects are contingent upon funding. For this group, \$259.8 million (19%) remains to be fundraised and \$329.4 million (24%) has yet to be identified.

Project costs within this category have increased by \$305.6 million from 2013/14, as a number of new and reactivated projects have been added. These include Stanford in Redwood City Phase 1 (\$393.5 million), the new Earth Sciences Building (\$126.5 million), Rains Houses Renovations (Phases 1, 2, and 3 of 5) (\$34.2 million), Golf Course Redesign and Program Improvements (\$21.3 million), the Regional Dock and Stauffer III Demolition at the Biology/Chemistry/Computer Science Precinct (\$21.1 million), Hoover Campus Renovations (\$20 million), EH&S Facility Expansion (\$16.6 million), and several other renovation and improvement projects.

## Infrastructure

Stanford's ongoing efforts to renew its infrastructure are reflected in a budget of \$290 million (10% of the plan) and are listed on page 83. Infrastructure costs have increased from last year's Capital Plan by \$40.6 million. Infrastructure programs include the Investment in Plant Program (planned maintenance), the Capital Utilities Program (CUP), the Residential & Dining Enterprises (R&DE) Major Renovation Plan, Whole Building Energy Retrofit Program Group 2, the Stanford Infrastructure Program (SIP), information technology and communications systems, storm drainage projects, and General Use Permit (GUP) mitigation. GUP mitigation and SIP projects are funded through construction project surcharges. The other projects are funded by central funds or debt.

### Investment in Plant (Planned Maintenance) Program

Annual Investment in Plant assets represent the maintenance funds planned to be invested to preserve and optimize Stanford's existing facilities and infrastructure (e.g., pathways, outdoor structures, and grounds). These projects are based on life cycle planning, the key concept being that life expectancies of facility subsystems are known and, as a result, maintenance schedules can be predicted. The three-year estimated program cost is \$134 million.

### Capital Utilities Program

The \$52.7 million three-year CUP plan will improve electrical, steam, water, chilled water, and wastewater utility systems. The annual CUP covers expansion of systems as required by campus growth (\$23 million) and replacement of systems that are near the end of their useful life (\$11.9 million). CUP projects include Biology/Chemistry/Computer Science Precinct utilities (\$6.3 million), IT infrastructure (\$1.9 million), and storm drainage (\$600,000). The CUP will also fund the installation of photovoltaic power generating equipment (\$5 million) on campus buildings and a campus plug-in vehicle charging system (\$4 million).

### R&DE Major Renovation Plan

R&DE's initiative addresses health and safety issues, seismic upgrades, code compliance, energy conservation and sustainability, and major programmatic improvements in the student housing and dining physical plant. Projects anticipated over the next three years total \$46.9 million and include continuation of the code compliance upgrades of various Row Houses, repairs to the Escondido Village

slab heating system and infrastructure, and bathroom and kitchen renovations. Completed projects will be maintained through the Stanford Housing, Dining, and Hospitality Asset Renewal Programs.

### Whole Building Energy Retrofit Program Group 2

This retrofit program seeks to reduce energy consumption in Stanford's largest energy-intensive buildings. The program began in 2003/04 with studies of the top 12 energy-consuming buildings, representing \$15.9 million of energy expenses per year, or nearly 36% of the campus total. It has since been expanded to offer cost-effective, capital-intensive energy retrofit opportunities to additional large energy-consuming buildings. The retrofits completed thus far have delivered annual energy cost savings of \$3.5 million, a discounted payback of less than four years, and Pacific Gas and Electric rebates of \$2 million.

The table on the facing page summarizes the status of these projects, expected annual energy savings, and actual savings achieved. Each project goes through a one-year tuning and monitoring period following completion of construction to ensure the building is performing to design expectations; this is followed by ongoing monitoring. Early results may not be indicative of expected long-term improvements because time is needed for the changes to take full effect.

### Stanford Infrastructure Program

SIP consists of campus and transportation projects and programs for the improvement and general support of the university's academic community, hospitals, and physical plant. SIP expenditures are expected to total \$13.7 million over the next three years (excluding funding for replacement parking spaces). SIP projects include campus transit, parking lot infrastructure, and site improvements; landscape design and enhancements; bicycle, cart, and pedestrian path construction; and lighting, signage, and outdoor art installations.

### Information Technology and Communications Systems

The university's computing and communications systems provide comprehensive data, voice, and video services to the campus community. Over time, these systems must be improved and/or replaced to maintain a consistently high level of service. Additionally, new technologies provide more efficient, faster, and/or more cost-effective solutions. Planned upgrades to these critical university systems total

## WHOLE BUILDING ENERGY RETROFIT PROGRAM

PROJECT	RETROFIT STATUS	ESTIMATED ANNUAL CONSUMPTION SAVINGS	EARLY RESULTS
Stauffer I - Chemistry	Complete	38%	46%
Gordon & Betty Moore Materials Research <sup>1</sup>	Complete	32%	10%
Paul Allen Center for Integrated Systems (CIS)	Complete	15%	14%
Forsythe (George) Hall	Complete	8%	8%
Stauffer II - Physical Chemistry	Complete	38%	43%
Gates Computer Science	Complete	29%	27%
Beckman Center for Molecular and Genetic Medicine	Complete	46%	32%
Gilbert Biological Sciences	Complete	35%	32%
Cantor Center for Visual Arts	Complete	13%	14%
Bing Wing (Green Library West)	Complete	16%	50%
Packard Electrical Engineering	Complete	26%	37%
Mitchell Earth Sciences	Design	50%	
Green Earth Sciences	Design	15%	
Clark Center	Design	11%	
Arrillaga Alumni Center	Design	27%	
Varian Physics Laboratory	Study	24%	
Mechanical Engineering Laboratory	Study	24%	
Lucas Center	Study initiated		
Keck Science	Study initiated		
Durand	Study initiated		
Center for Clinical Sciences Research (CCSR)	Delayed to 2016/17		

<sup>1</sup> Construction scope reduced from original survey.

\$12.6 million, including \$2.8 million to upgrade the network backbone and \$1.6 million for a departmental firewall refresh that is required every five years.

### Storm Drainage

The ongoing storm drainage program includes projects for improving and expanding the capacity of the campus storm drainage system, building storm water detention facilities, replacing deteriorated pipes, and improving drainage around buildings. In addition, recently adopted storm water quality regulations necessitate new storm water treatment approaches, such as bioswales, bioretention, and capture, to minimize conveyance of contamination from common storms to natural water bodies. These approaches will be incorporated on new building sites, where feasible. Beyond this, the program covers campus-wide detention and treatment facilities needed to meet the requirements. For 2014/15, a large new storm water detention facility is envisioned to mitigate runoff from rapidly developing areas of campus. The three-year estimated program cost is \$12 million.

### General Use Permit Mitigation

An internal fee levied on capital projects that increase school/department campus space allocations funds the implementation of Santa Clara County GUP requirements and recommendations, including trails, storm water management, TDM, protection of biological resources, and other programs. GUP fees also fund projects related to water conservation, water allocation (alternative supplies), wastewater collection expansion (estimated to cost \$2.2 million over three years), and new parking spaces.

### Other Stanford Entities

In an effort to present a comprehensive view of university planned construction, the capital planning process has included Stanford Real Estate, Stanford Hospital and Clinics (SHC), Lucile Packard Children's Hospital (LPCH), and SLAC National Accelerator Laboratory. Although the tables at the end of this chapter do not include these entities, brief descriptions of the Real Estate, SHC, and LPCH capital programs follow. The SLAC capital programs are addressed in Chapter 2, page 51.

## Stanford Real Estate

Real Estate is managing eight projects totaling \$926 million in various stages of planning and development on Stanford lands. Two projects are currently under construction—1701 Page Mill Road and the Stanford Shopping Center expansion—totaling \$83.8 million of Stanford investment. Stanford in Redwood City Phase 1 is in the early planning stages, with a current budget of \$393.5 million. The Redwood City campus received entitlements from the city in September 2013. Two projects required under the Mayfield Development Agreement with Palo Alto are currently going through the approval process and have a combined budget of \$171.6 million. One of these projects is the California Avenue faculty homes, which will provide 180 units of much-needed housing to Stanford’s faculty. The other will provide 70 below-market-rate units in Palo Alto. The 500 El Camino Real project in Menlo Park is a mixed-use project of 457,000 square feet, including rental housing and office and retail space, with a preliminary budget of \$225.1 million. This project is going through a lengthy entitlement process, and its scope, budget, and timing are subject to potential changes over the coming year. Finally, two projects totaling \$52 million—the 1450 Page Mill Road redevelopment and the Stanford Barn renovation—are in the early planning stages.

## Stanford Hospital and Clinics and Lucile Packard Children’s Hospital

The Stanford University Medical Center (SUMC) renewal project includes the development of approximately 1.3 million square feet of net new hospital, clinic, and medical office space on the main medical campus and the Hoover Pavilion site. The project received development entitlements from the City of Palo Alto nearly three years ago. Construction is well under way, and significant project milestones have been achieved. Major utility upgrades to serve the new medical facilities have been completed along Welch and Quarry Roads, and foundation work and steel erection are currently under way for both the new SHC and the LPCH expansion, which are estimated to cost \$2 billion and \$1.1 billion, respectively. On the Hoover Medical Campus, the historic Hoover Pavilion has been fully renovated and upgraded to accommodate modern medicine, a new 1,080-car parking structure has recently been completed, and excavation is set to occur for a new 92,500-square-foot medical office and clinic building just northwest of the original pavilion.

## Overall Summary

A table summarizing the 2014/15–2016/17 three-year Capital Plan appears on the next page. It includes projects and programs in the design and construction, forecasted, and infrastructure categories that are currently active or are anticipated to commence in the next three years.

The expenditures necessary to complete the three-year Capital Plan are anticipated to extend beyond 2016/17. To differentiate between the estimated costs of the plan and the forecasted spending to complete its projects and programs, an additional table (Capital Plan Cash Flows) forecasts the Capital Plan expenditure cash flow based on project and program schedules.

O&M and debt service costs for each project will impact the university’s operating budget once construction is substantially complete. Although the Capital Plan Summary shows the full budget impacts of all completed projects, it is important to note that these impacts align with the project completion schedule and will therefore be absorbed by the university budget over a period beyond the three-year plan. The Capital Plan Impact on Budget table forecasts these budget impacts by area of responsibility (general funds, formula schools, etc.).

The tables at the end of this chapter provide a detailed list of the projects included in the Capital Plan. The accompanying text summarizes these projects to present a comprehensive view of all major planned construction on Stanford lands.

The following sections address Capital Plan funding sources and uses, along with resource constraints.

## Capital Plan Funding Sources

As the top chart on page 76 shows, Stanford’s Capital Plan relies on several funding sources, including current funds, gifts, and debt. Depending upon fundraising realities and time frames, some projects will prove more difficult than others to undertake. As a result, it is possible that projects in the Capital Plan will have to be cancelled, delayed, or scaled back in scope.

For any projects relying on gifts to be raised, the Office of Development has determined that fundraising plans are feasible, although the time frames for the receipt of gifts are subject to change. “Resources to be identified” are expected to come from a combination of school, department, and university reserves, as well as other sources.

## SUMMARY OF THREE-YEAR CAPITAL PLAN 2014/15-2016/17

[IN MILLIONS OF DOLLARS]

	ESTIMATED PROJECT COST	CAPITAL BUDGET 2014/15	CURRENT FUNDS <sup>1</sup>	PROJECT FUNDING SOURCE						ANNUAL CONTINUING COSTS	
				GIFTS		UNIVERSITY DEBT		RESOURCES TO BE IDENTIFIED <sup>2</sup>		DEBT SERVICE	OPERATIONS & MAINTENANCE <sup>3</sup>
				IN HAND OR PLEGDED	TO BE RAISED	SERVICE CENTER/ AUXILIARY DEBT	ACADEMIC DEBT	OTHER			
Projects in Design & Construction	1,144.1	388.2	195.0	147.8	25.6	662.7	89.0	24.0		36.5	22.3
Forecasted Projects	1,402.0	144.0	147.9	83.7	259.8	50.5	530.7		329.4	36.0	16.7
<b>Total Construction Plan</b>	<b>2,546.1</b>	<b>532.2</b>	<b>342.9</b>	<b>231.5</b>	<b>285.4</b>	<b>713.2</b>	<b>619.7</b>	<b>24.0</b>	<b>329.4</b>	<b>72.5</b>	<b>39.0</b>
Infrastructure Programs	290.0	123.2	151.8			103.3	34.9			14.0	
<b>Total Three-Year Capital Plan 2014/15-2016/17</b>	<b>2,836.1</b>	<b>655.4</b>	<b>494.7</b>	<b>231.5</b>	<b>285.4</b>	<b>816.5</b>	<b>654.6</b>	<b>24.0</b>	<b>329.4</b>	<b>86.5</b>	<b>39.0</b>

<sup>1</sup> Includes funds from university and school reserves and the GUP and SIP programs. Also includes the \$20 million Hoover subvention for the McMurtry Building.

<sup>2</sup> Anticipated funding for this category is through a combination of school, department and university reserves and other sources.

<sup>3</sup> Operations & Maintenance includes planned and reactive/preventative maintenance, zone management, utilities, contracts, grounds and outdoor lighting.

## CAPITAL PLAN CASH FLOWS

[IN MILLIONS OF DOLLARS]

	2013/14 & PRIOR	2014/15	2015/16	2016/17	2017/18 & THEREAFTER	TOTAL
Projects in Design & Construction	499.2	388.2	195.9	55.6	5.1	1,144.1
Forecasted Projects	34.0	144.0	349.0	451.9	423.0	1,402.0
<b>Total Construction Plan</b>	<b>533.2</b>	<b>532.2</b>	<b>545.0</b>	<b>507.5</b>	<b>428.1</b>	<b>2,546.1</b>
Infrastructure Programs	9.2	123.2	78.1	77.3	2.4	290.0
<b>Total Cash Flows</b>	<b>542.4</b>	<b>655.4</b>	<b>623.0</b>	<b>584.8</b>	<b>430.5</b>	<b>2,836.1</b>

## CAPITAL PLAN IMPACT ON BUDGET

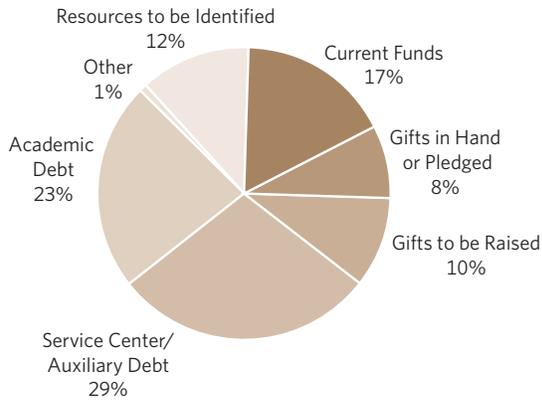
[IN MILLIONS OF DOLLARS]

	2015/16	2016/17	2017/18 & THEREAFTER	TOTAL
<b>Debt Service</b>				
General Funds	13.2	3.1	28.0	44.3
Formula and Other Schools	12.7	2.5	2.9	18.1
Auxiliary	7.6	3.4	4.1	15.1
Other <sup>1</sup>	8.0	0.5	0.4	8.9
<b>Total Debt Service</b>	<b>41.5</b>	<b>9.6</b>	<b>35.4</b>	<b>86.5</b>
<b>Operations and Maintenance</b>				
General Funds	6.1	2.8	15.5	24.4
Formula and Other Schools	4.6	1.8	3.8	10.2
Auxiliary	(1.4)	0.4	0.1	(0.9)
Other <sup>1</sup>	3.5	1.7	0.1	5.3
<b>Total Operations and Maintenance</b>	<b>12.8</b>	<b>6.7</b>	<b>19.5</b>	<b>39.0</b>

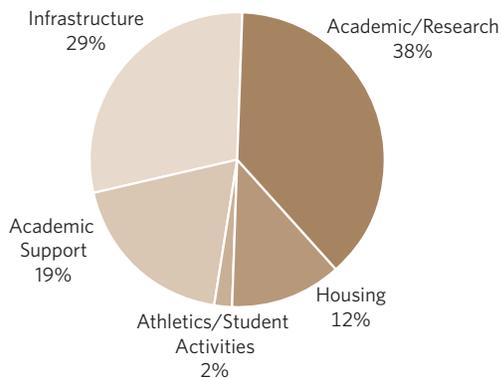
<sup>1</sup> Primarily the hospitals along with the Forsythe facility, Faculty Staff Housing, and outside entities.

**THE CAPITAL PLAN 2014/15–2016/17:  
\$2.8 BILLION**

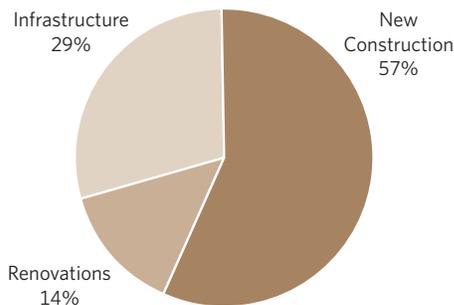
**Sources of Funds**



**Uses of Funds by Program Category**



**Uses of Funds by Project Type**



**Uses of Funds by Program Category and Project Type**

The middle chart divides Capital Plan activity into program categories—academic/research, infrastructure, academic support, housing, and athletics/student activities—with the largest categories being academic/research and infrastructure at 38% and 29% of the plan, respectively. The bottom chart breaks out the same activity into project types including new construction, infrastructure, and renovations.

**Capital Plan Constraints**

**Affordability**

The incremental internal debt service expected at the completion of all projects commencing in the three-year plan period (completion dates range from 2014/15 to 2019/20) totals \$86.5 million annually (excluding debt service for bridge financing the receipt of gifts and operating lease payments). Of this amount, \$44.3 million will be serviced by general funds, \$18.1 million directly by formula schools (the GSB and SoM), and \$24.1 million by auxiliary and other operations. Service center debt is funded through rates paid by customers and has been allocated and included in the totals for general funds, formula schools, auxiliary operations, and other operations.

The additional O&M costs expected at the completion of all projects commencing in the three-year period total \$39 million per year. Of this amount, \$24.4 million will be serviced by general funds, \$10.2 million by the formula schools, and \$4.4 million by auxiliary and other operations. O&M and debt service on capital projects compete directly with other academic program initiatives.

**Debt Capacity**

As of May 21, 2014, debt available to finance capital projects and faculty mortgages is estimated at \$1.1 billion, including \$368 million of taxable commercial paper and \$248 million of tax-exempt commercial paper, \$363 million of unexpended tax-exempt bond proceeds, and \$136 million of unexpended taxable bond proceeds. In addition, through fiscal year-end 2013/14 and 2014/15, \$104 million internal amortization proceeds on debt-funded projects will become available to lend to projects, and \$115 million in forecasted pledge payments will retire debt issued to bridge finance the receipt of gifts.

The three-year Capital Plan will require a total of \$1.5 billion of debt:

- \$762 million to complete projects already approved or under construction;
- \$537 million for projects forecast to be approved in 2014/15; and
- \$187 million to bridge finance the receipt of gift pledges for projects approved or under construction.

Additional debt may be required to finance the Faculty Staff Housing program. As of May 1, 2014, the portfolio of debt-subsidized mortgages had increased by \$26 million to \$402 million.

Projects identified in the three-year Capital Plan commencing after 2015/16 will require an additional \$127 million in debt. Debt for these projects has not been committed and allocations will be evaluated in the context of debt capacity, affordability, viability of the funding plan, and GUP limitations..

## Entitlements

The Stanford campus encompasses 8,180 acres in six jurisdictions. Of this total, 4,017 acres, including most of the central campus, are within unincorporated Santa Clara County.

In December 2000, Santa Clara County approved a GUP that allows Stanford to construct up to 2,035,000 additional gross square feet of academic-related buildings on the core campus, up to 2,372 new student housing units, and 646 housing units for postdoctoral fellows, medical residents, faculty, and staff.

Conditions of approval included the following:

- Creation of an academic growth boundary to limit the buildable area to the core campus for a minimum of 25 years;
- Approval of a sustainable development study (SDS) before new construction exceeds one million gross square feet (Santa Clara County approved the SDS in April 2009); and
- Construction of 605 units of housing for each 500,000 gross square feet of new academic building.

Given the stringent requirements imposed by the GUP and the increasingly difficult entitlement environment, Stanford carefully manages the allocation of new growth.

Construction through 2012/13 accounted for 1.4 million square feet. This year's Capital Plan forecasts net utilization of 378,193 GUP square feet, after demolitions. With the completion of planned housing projects, including the Donald Kennedy Graduate Residences, the GSB Graduate Residences, and the Lagunita and Manzanita undergraduate housing, Stanford will have added 2,437 net new housing linkage units since approval of the GUP. Their completion will enable the total new academic and academic support space allowed under the GUP to reach nearly two million gross square feet.

## THE CAPITAL BUDGET, 2014/15

At \$655.4 million, the 2014/15 Capital Budget reflects only a portion of the costs of the projects in the Capital Plan, as most of them span more than one year. The table on the next page highlights major capital projects for which expenditures under the 2014/15 Capital Budget will be significant, as well as the percentage of each project expected to be complete by the end of 2014/15.

In 2014/15, LBRE anticipates substantial completion of six projects with total budgets of \$677.8 million and estimated 2014/15 expenditures of \$226 million. Two major components of the \$485 million SESI initiative (the replacement central energy facility and piping and building conversions) will be completed before Cogen is decommissioned. The McMurtry Building will join the Bing Concert Hall and the Anderson Collection in realizing Stanford's objective to establish an Arts District. The historic Roble Gymnasium, constructed in 1931, will be renovated for drama and dance programs, as well as flexible space to pursue independent arts. The Manzanita Undergraduate Dorm will add new 128 beds to the housing inventory. The Stadium Field House will replace existing auxiliary facilities adjacent to the stadium with a modern two-story building. Finally, a Stanford Research Park building at 1651 Page Mill will be renovated for use by the SoM.

The Capital Budget is based on the assumption that funding availability will align with approved project schedules. Historically, the Capital Budget has been substantially higher than actual spending due to project deferrals caused by funding gaps. In fact, the last decade's actual expenditures were 72% of the total budgeted. Over the past five years, the percentage improved to 78% due to an increase in the number of projects that have all funding identified, staff assigned, and Board of Trustees approval obtained.

## MAJOR CAPITAL PROJECTS - PERCENT OF COMPLETION 2014/15<sup>1</sup>

[IN MILLIONS OF DOLLARS]

	CAPITAL BUDGET 2014/15	ESTIMATED PROJECT COST	ESTIMATED PERCENT COMPLETE 2014/15
Stanford Energy System Innovations (SESI)			
Replacement Central Energy Facility	49.9	234.5	100%
Piping, Building Conversions, and Process Steam Plant	60.1	209.3	100%
California Avenue Faculty Homes (180 units)	30.9	155.0	22%
McMurtry Building	43.0	87.0	100%
Stanford GSB Graduate Residences (200 net new beds)	32.6	75.0	56%
Science Teaching and Learning Center (Old Chemistry)	31.2	66.7	74%
408 Panama Mall Office Building	29.4	49.7	87%
Lagunita Court Addition (216 new beds)	19.3	42.8	56%
Parking Structure 10 (1006 spaces)	20.7	42.0	78%
Roble Gymnasium Renovation	17.8	28.0	100%
Manzanita Undergraduate Dorm (128 new beds)	14.7	23.8	100%
Stadium Field House	10.9	14.0	100%
Bass Biology Research Building	16.4	101.1	13%
New Hoover Office Building	10.0	45.6	25%
1651 Page Mill Road Tenant Improvements	29.6	40.0	100%
Rains Houses Renovations (Phases 1, 2, and 3 of 5)	10.0	34.2	33%
<b>Total</b>	<b>426.5</b>	<b>1,248.7</b>	

<sup>1</sup> Includes projects (other than infrastructure programs) scheduled to be in construction and with forecasted expenditures greater than \$10 million in 2014/15.

## Sources and Uses

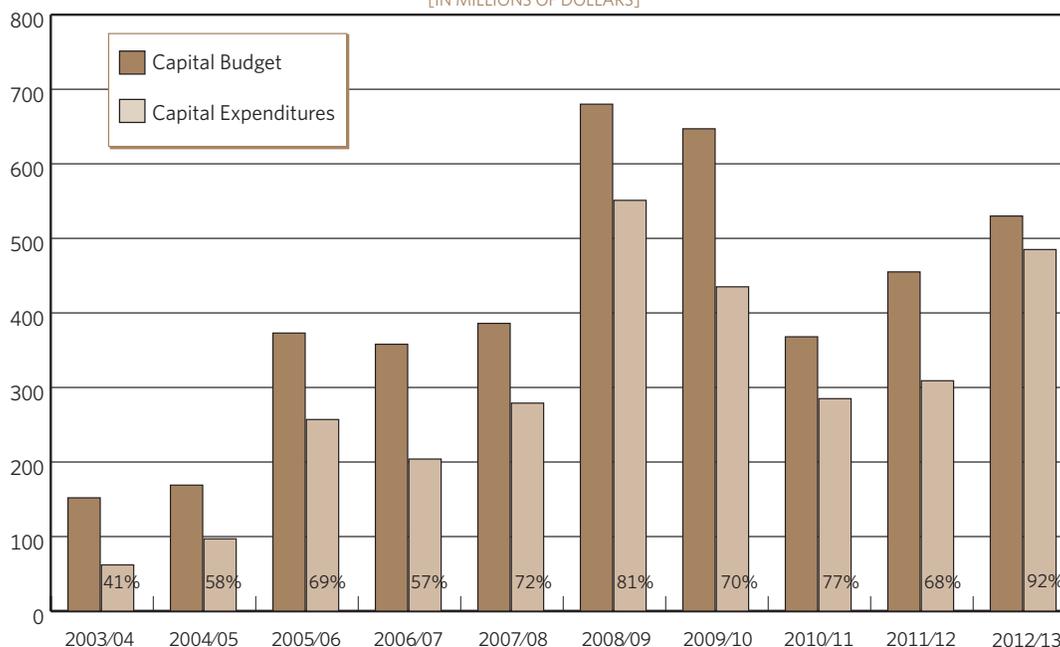
Sources of funds for the Capital Budget will be current funds (which include the Capital Facilities Fund [CFF], funds from university and school reserves, and GUP and SIP fees), gifts, and debt. The university typically allocates CFF or debt funding to projects in the absence of other available funding. The timing of gift receipts, which may be bridge financed, will affect the mix of project funding.

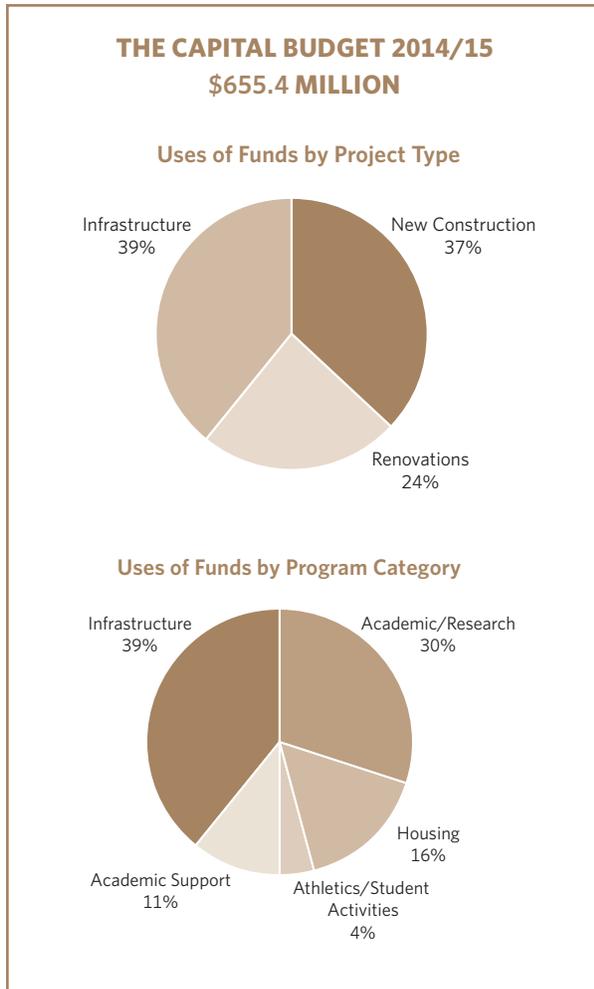
The pie charts on the facing page show the uses of funds under the \$655.4 million Capital Budget by project type and program category. Infrastructure investment of \$256.8 million (39%) includes SESI, PS 10, Investment in Plant (planned maintenance), CUP, and R&DE Major Renovation Plan projects. Academic/research projects, forecasted at \$197.2 million (30%), include the McMurtry Building, the STLC, the Roble Gymnasium Renovation, the Bass Biology Research Building, the new Hoover Office Building, and 1651 Page Mill Road Tenant Improvements. Anticipated expenditures of \$108.4 million (16%) for housing projects include the California Avenue Faculty Homes, the GSB Graduate Residences, the Lagunita Court Addition, the Manzanita Undergraduate Dorm, and Rains Houses Renovations (Phases 1, 2, and 3 of 5). Academic support projects, forecasted at \$69.6 million (11%), and athletics/student activities projects, at \$23.3 million (4%), include the 408 Panama Mall Office Building and Stadium Field House, respectively.

## CAPITAL BUDGET VS. EXPENDITURES

2003/04 to 2012/13

[IN MILLIONS OF DOLLARS]





In June 2007, the Board of Trustees approved an increase in the target endowment payout rate from 5.0% to 5.5%. The additional payout releases unrestricted funds, which are held in the CFF to support major facilities projects.

Annual transfers to the CFF are projected to be \$101.8 million in 2013/14 and \$108.6 million in 2014/15, with corresponding commitments of \$137.2 million and \$38.7 million for these two years. The following table lists projects anticipated to receive CFF funding in 2013/14 and 2014/15.

In general, non-formula CFF funds are allocated to projects that are difficult to support through restricted sources and thus reduce the call for debt serviced by general funds. The formula units determine uses of their CFF funds according to their highest priorities.

## CAPITAL FACILITIES FUND (CFF)

### Funding Sources and Committed Uses of Funding

[IN MILLIONS OF DOLLARS]

	2013/14	2014/15
<b>Sources of Funding</b>		
Formula Units		
School of Medicine	14.1	15.1
Hoover Institution	3.9	4.1
President's Funds	9.7	10.1
Non-Formula	74.0	79.3
<b>Total Funding</b>	<b>101.8</b>	<b>108.6</b>
<b>Committed Uses of Funding</b>		
Bioengineering/Chemical Engineering Building	7.1	1.9
Porter Drive/Page Mill Road Site Planning	4.6	
School of Medicine Building Maintenance	4.5	3.7
Stone Complex Seismic Bracing	3.4	4.5
RAF 1 and RAF 2 Rehabilitation and Retrofit	2.6	
Other School of Medicine Projects	(1.2)	
BioMedical Innovation I Building		5.0
Hoover Institution Projects	3.9	4.1
Projects Funded by President's Funds	9.7	10.1
<b>Formula Units and President's Funds</b>		
<b>Project Subtotal</b>	<b>34.7</b>	<b>29.3</b>
Roble Gymnasium Renovation	26.6	
Science Teaching and Learning Center (Old Chemistry)	24.9	
Lathrop Library	15.5	
Bass Biology Research Building	8.1	
Meyer Library Demolition	6.7	
Panama Street Utilities Relocation	5.4	
Stanford House in Oxford	4.0	
Memorial Auditorium Exterior Preservation and Renewal	3.5	
Institute for Chemical Biology (Lab Fit-up)	3.0	
Siebel Golf Practice Facility	3.0	
Northwest Data Center and Communications Hub	2.5	
McMurtry Building	2.0	
Stanford Institute for Chemical Biology/Neurosciences Building	2.0	
Ground Source Heat Exchange Study	1.8	
Cantor Arts Center Renewal	1.6	
Stanford in Washington Building Renewal	1.5	
Stanford in Redwood City Phase 1 (Development Fees)	1.2	0.3
Other Non-Formula Units Projects	3.6	9.1
BioE/ChemE Building (bridge funding)	(14.2)	
<b>Total Commitment</b>	<b>137.2</b>	<b>38.7</b>
Annual Funding less Commitments	(35.4)	69.9
Balance at Beginning of Year	52.2	16.8
Uncommitted Balance	16.8	86.7

## CAPITAL BUDGET IMPACT ON 2014/15 OPERATIONS

The 2014/15 Consolidated Budget for Operations includes incremental debt service and O&M expenses for projects completing in 2014/15 or completing in 2013/14 but operational for less than 12 months in 2014/15.

Capital projects requiring debt are funded from internal loans that are amortized over the asset life in equal installments (principal and interest). The budgeted interest rate (BIR) used to calculate the internal debt service is a blended rate of interest expense on debt issued for capital projects, bond issuance, and administrative costs. The BIR is unchanged in 2014/15 at 4.25%.

The projected incremental internal debt service funded by unrestricted funds, including formula unit funds, in 2014/15 is \$4.1 million. This amount includes additional debt service on the Research Animal Facility (RAF) 1 and RAF 2 Rehabilitation and Retrofit project, the C. J. Huang Building, the BioE/ChemE Building, the Northwest Data Center and Communications Hub (NDCCH), and other smaller capital projects and programs. It is offset by decreases in bridge financing as scheduled payments or gift pledges are made for several university buildings. This additional debt service brings the total annual internal debt service borne by the unrestricted budget to \$57.5 million.

Consolidated internal debt service, including that borne by formula units, auxiliaries, service centers, Faculty Staff Housing, and real estate investment, is projected to increase from \$174.5 million to \$183.0 million. Additional debt service related to the Rosewood Sand Hill Hotel and office complex is not included in the Consolidated Budget for Operations. In addition, annual lease payments for rental properties, largely occupied by the SoM, are projected to be \$25.3 million in 2014/15.

The university will incur incremental O&M costs related to new facilities in 2014/15 of \$4.4 million: \$2.3 million for 3160 Porter Drive, \$1.0 million for the BioE/ChemE Building, \$867,000 for the McMurtry Building, \$727,000 for Lathrop Library (formerly Building 08-350 Renovation for SUL North), \$667,000 for NDCCH, and \$510,000 for the Anderson Collection. These costs will be partially offset by planned demolitions, including Meyer Library and Cummings Art.

## CAPITAL PLAN PROJECT DETAIL

The tables on the following three pages show capital projects in three categories: projects in design and construction, forecasted construction projects, and infrastructure projects and programs.

**2014/15-2016/17 CAPITAL PLAN  
PROJECTS IN DESIGN & CONSTRUCTION**

[IN MILLIONS OF DOLLARS]

	SCHOOL/ DEPARTMENT	FISCAL YEAR PROJECT SCHEDULE	ESTIMATED PROJECT COST	CAPITAL BUDGET 2014/15	CURRENT FUNDS <sup>1</sup>	PROJECT FUNDING SOURCE				ANNUAL CONTINUING COSTS			
						IN HAND OR PLEGGED	GIFTS TO BE RAISED	UNIVERSITY DEBT		RESOURCES TO BE IDENTIFIED <sup>2</sup>	DEBT SERVICE	OPERATIONS & MAINTENANCE <sup>3</sup>	
								SERVICE CENTER/ AUXILIARY DEBT	ACADEMIC DEBT				OTHER <sup>4</sup>
Stanford Energy System Innovations (SESI)													
	LBRE	2012-15	234.5	49.9	0.1			210.4				12.8	12.9
	LBRE	2012-15	209.3	60.1				209.3				12.7	
	LBRE	2012-15	41.2					41.2				2.5	
	LBRE	2013-18	155.0	30.9				155.0					
	H&S	2012-15	87.0	43.0	37.0	46.3	3.7						2.2
	G&B	2014-16	75.0	32.6	15.0	15.0	15.0		30.0			1.8	1.8
	H&S	2013-16	66.7	31.2	28.9	30.0	3.5		4.3			0.3	1.8
	PRES/PROV	2013-16	49.7	29.4		19.4			30.3			1.8	1.0
	R&DE	2013-16	42.8	19.3		15.0		27.8				1.7	0.3
	LBRE	2014-16	42.0	20.7	42.0								1.7
	H&S	2014-15	28.0	17.8	28.0								
	R&DE	2010-15	23.8	14.7	4.8			19.0				1.2	0.1
	SOM	2012-15	23.2	5.8	2.3	11.5			9.4			0.6	0.4
	SOM	2013-15	20.6	7.9	5.6				15.0			1.1	
	SOE	2013-15	20.5	8.8	20.5								
	DAPER	2014-15	14.0	10.9		10.6	3.4						0.1
	SOE	2007-16	6.8	3.0	6.8								
	VPUE	2013-15	4.0	2.4	4.0								
			<b>1,144.1</b>	<b>388.2</b>	<b>195.0</b>	<b>147.8</b>	<b>25.6</b>	<b>662.7</b>	<b>89.0</b>	<b>24.0</b>		<b>36.5</b>	<b>22.3</b>
<b>Subtotal - Projects in Design &amp; Construction</b>													

<sup>1</sup> Includes funds from university and school reserves and the GUP and SIP programs. Also includes the \$20 million Hoover subvention for the McMurtry Building.

<sup>2</sup> Anticipated funding for this category is through a combination of school, department and university reserves and other sources.

<sup>3</sup> Operations & Maintenance includes planned and reactive/preventive maintenance, zone management, utilities, contracts, grounds and outdoor lighting.

<sup>4</sup> Contribution from SHC and LPCH.

**2014/15-2016/17 CAPITAL PLAN  
FORECASTED CONSTRUCTION PROJECTS**

[IN MILLIONS OF DOLLARS]

	SCHOOL/ DEPARTMENT	FISCAL YEAR PROJECT SCHEDULE	ESTIMATED PROJECT COST	CAPITAL BUDGET 2014/15	CURRENT FUNDS <sup>1</sup>	GIFTS			PROJECT FUNDING SOURCE			ANNUAL CONTINUING COSTS						
						IN HAND OR PLEGDED	TO BE RAISED	SERVICE CENTER/ AUXILIARY DEBT	ACADEMIC DEBT	OTHER	RESOURCES TO BE IDENTIFIED <sup>2</sup>	DEBT SERVICE	OPERATIONS & MAINTENANCE <sup>3</sup>					
Stanford in Redwood City Phase 1	LBRE	2008-17	393.5	12.0														
BMI I or ICC Building and related tunnel infrastructure	SOM	2015-18	237.4	7.8	46.9	155.6			393.5						23.9	10.0		
Stanford Institute for Chemical Biology/ Neurosciences Building	DOR	2015-18	186.0	9.8	2.0						184.0				2.1	1.7		
Bass Biology Research Building and related projects <sup>4</sup>	H&S	2014-19	139.8	20.6	42.5	7.9			30.7						1.9	(4.2)		
New Earth Sciences Building	SES	2017-20	126.5								126.5					3.2		
Hoover Institution New Office Building	HOOVER	2015-17	47.3	11.7	1.7	35.3									0.4	0.4		
1651 Page Mill Road Tenant Improvements	SOM	2014-15	40.0	29.6	10.0				30.0						2.3	0.5		
Rains Houses Renovations (Phases 1, 2 and 3 of 5)	R&DE	2015-17	34.2	10.0					34.2						2.1			
Stone Complex Seismic Bracing Projects <sup>5</sup>	SOM	2013-18	23.6	7.1	7.6										1.2			
Golf Course Redesign and Program Improvements	DAPER	2014-19	21.3	3.9	0.1	21.2										0.3		
Hoover Campus Renovations	HOOVER	2015-17	20.0	1.1		20.0												
Encina Hall Renovation (FSI International Initiative)	DOR	2015-17	17.0	0.9	3.0	5.8												
Public Safety Building	PRES/PROV	2015-17	17.0	0.4	4.5													
Environmental Health & Safety Facility Expansion	DOR	2015-17	16.6	0.9														
Governor's Corner Renovation - Sterling Quad Part A (Phase 1 of 5)	R&DE	2017	11.1							11.1								
Schwab Residential Center Renovations	G&B	2015-17	10.0	2.2	10.0													
School of Education Building Seismic Renovation Phase 2	G&E	2016-18	8.6		2.2	6.4												
Sunken Diamond Improvements	DAPER	2014-15	7.0	5.7		7.0												
Home of Champions & Hall of Fame Area Relocation	DAPER	2015-16	7.0	2.8		7.0												
Meyer Library Demolition	SUL	2015	6.7	6.7	6.7													
Crown Quadrangle Renovation - Second Floor and Basement	SLS	2014-16	6.4	2.4	1.4													
Forsythe Data Center Phase 4 Power and Cooling Upgrade	BA	2013-15	5.6	2.9														
HEPL South End Station III Code and Infrastructure Improvements	DOR	2012-15	5.5	1.8	5.5													
High Voltage Intertie	LBRE	2014-17	5.3		0.1					5.2								
Helium Recovery and Liquefaction System	DOR	2014-15	4.8	2.5														
Access Controls Enterprise System (ACES) Phase 2	BA	2008-15	3.8	0.9	3.8													
<b>Subtotal - Forecasted Projects</b>			<b>1,402.0</b>	<b>144.0</b>	<b>147.9</b>	<b>83.7</b>	<b>259.8</b>	<b>50.5</b>	<b>530.7</b>	<b>24.0</b>	<b>329.4</b>	<b>36.0</b>	<b>16.7</b>	<b>329.4</b>	<b>72.5</b>	<b>39.0</b>		
<b>SUBTOTAL - CONSTRUCTION PLAN</b>				<b>532.2</b>	<b>342.9</b>	<b>231.5</b>	<b>285.4</b>	<b>713.2</b>	<b>619.7</b>	<b>24.0</b>	<b>329.4</b>	<b>72.5</b>	<b>39.0</b>					

<sup>1</sup> Includes funds from university and school reserves and the GUP and SIP programs.

<sup>2</sup> Anticipated funding for this category is through a combination of school, department and university reserves and other sources.

<sup>3</sup> Operations & Maintenance includes planned and reactive/preventative maintenance, zone management, utilities, contracts, grounds and outdoor lighting.

<sup>4</sup> Includes Connective Elements, Regional Dock, and the demolitions of Herrin Lab, Herrin Hall, Org Chem, Mudd, and Stauffer III.

<sup>5</sup> Excludes the Boswell portion of the project which will be funded by SHC.

## 2014/15-2016/17 CAPITAL PLAN INFRASTRUCTURE PROGRAMS

[IN MILLIONS OF DOLLARS]

	SCHOOL/ DEPARTMENT	FISCAL YEAR PROJECT SCHEDULE	ESTIMATED PROJECT COST	CAPITAL BUDGET 2014/15	CURRENT FUNDS <sup>1</sup>	PROJECT FUNDING SOURCE				RESOURCES TO BE IDENTIFIED <sup>2</sup>	ANNUAL CONTINUING COSTS		
						IN HAND OR PLEGGED	TO BE RAISED	SERVICE CENTER/ AUXILIARY DEBT	UNIVERSITY/DEBT		OTHER	DEBT SERVICE	OPERATIONS & MAINTENANCE <sup>3</sup>
Investment in Plant (Planned Maintenance)													
Non-Formula/Admin	LBRE	2015-17	58.1	16.5	58.1								
Formula	SOM	2015-17	19.2	6.2	19.2								
R&DE (SHARP/DARP/HARP) <sup>4</sup>	R&DE	2015-17	47.2	13.8	47.2								
DAPER	DAPER	2015-17	9.5	9.5	9.5								
<b>Subtotal-Investment in Plant (Planned Maintenance)</b>			<b>134.0</b>	<b>46.0</b>	<b>134.0</b>								
Capital Utilities Program (CUP)													
System Expansion	LBRE	2015-17	23.0	10.6				23.0			1.4		
System Replacement	LBRE	2015-17	11.9	3.4				11.9			0.7		
Bio/Chem/CS Precinct Utilities and IT Infrastructure	LBRE/BA	2015-17	8.8	7.5	1.9			6.3	0.6		0.4		
Photovoltaic Power Generation	LBRE	2014-15	5.0	5.0				5.0			0.3		
Plug-in Vehicle Infrastructure	LBRE	2015-16	4.0	2.0				4.0			0.2		
<b>Subtotal-CUP</b>			<b>52.7</b>	<b>28.5</b>	<b>1.9</b>			<b>50.2</b>	<b>0.6</b>		<b>3.1</b>		
R&DE Major Renovation Plan <sup>4</sup>	R&DE	2015-17	46.9	28.9				46.9			7.0		
Whole Building Energy Retrofit Program Group 2	Various	2014-18	15.9	3.2				3.2	12.7		1.2		
Stanford Infrastructure Program (SIP)	LBRE	2015-17	13.7	4.4	13.7								
Information Technology and Communications Systems	BA	2015-17	12.6	2.7				3.0	9.6		1.6		
Storm Drainage	LBRE	2015-17	12.0	9.0					12.0		1.1		
GUP Mitigation Water-Related Programs	LBRE	2015-17	2.2	0.5	2.2								
<b>Subtotal - Infrastructure Projects &amp; Programs</b>			<b>290.0</b>	<b>123.2</b>	<b>151.8</b>			<b>103.3</b>	<b>34.9</b>		<b>14.0</b>		
<b>Total Capital Plan</b>			<b>2,836.1</b>	<b>655.4</b>	<b>494.7</b>			<b>816.5</b>	<b>654.6</b>		<b>86.5</b>	<b>39.0</b>	

<sup>1</sup> Includes funds from university and school reserves and the GUP and SIP programs.

<sup>2</sup> Anticipated funding for this category is through a combination of school, department and university reserves and other sources.

<sup>3</sup> Operations & Maintenance includes planned and reactive/preventive maintenance, zone management, utilities, contracts, grounds and outdoor lighting.

<sup>4</sup> R&DE Major Renovation Plan projects generally includes program and code upgrades vs. Planned Maintenance which includes subsystem replacement.

