

## CAPITAL BUDGET AND THREE-YEAR CAPITAL PLAN

Stanford's Capital Budget and three-year Capital Plan are based on a projection of the major capital projects that the university will pursue in support of the academic mission. The Capital Budget represents the anticipated capital expenditures in the first year of the rolling three-year Capital Plan. The Capital Plan includes projects that are in progress or are expected to commence during that three-year period. Both the Capital Budget and the Capital Plan are subject to change based on funding availability, budget affordability, and university priorities.

Over the past thirteen years and under the current university administration, approximately \$4 billion of capital projects have been completed. The university has been and continues to be in the midst of the largest construction program in its history. This program addresses the need to replace and upgrade many aging facilities and also to invest in state-of-the-art buildings to accommodate the latest research and technologies. At \$2.1 billion, the 2012/13–2014/15 Capital Plan is 14% larger than last year's plan and is represented by significant projects in the areas of academic research, infrastructure, and housing.

This year's plan moves the university closer to completing the Science, Engineering and Medical Campus (SEMC) as it simultaneously moves forward the Arts Initiative and begins a new housing initiative for Residential and Dining Enterprises (R&DE). Beyond the final two SEMC projects (Bioengineering/Chemical Engineering (BioE/ChemE) and facilities for Biology Research and Teaching (Biology Research Building/Teaching Labs and Learning Center), academic projects include several School of Medicine (SoM) projects (including the Foundations in Medicine (FIM) 1), and repurposing of the vacated Graduate School of Business (GSB) complex. The Arts Initiative will see both the completion of the Bing Concert Hall and the commencement of the McMurtry Building for the Department of Art and Art History and the new building for the Anderson Collection at Stanford University. New housing plans propose significant additions to student housing including Escondido Village (EV) Comstock Graduate Housing, Lagunita and Manzanita Undergraduate Housing, and the GSB Housing Expansion. The Capital Plan also includes the new Stanford Energy System Innovations (SESI) project which at \$438 million represents 21% of the Capital Plan.

SESI will provide the campus with a new central energy plant and related infrastructure. This project is discussed in greater detail in the Strategic Initiatives section under Capital Planning Overview.

The Capital Plan reflects the significant investment that Stanford is making 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. This chapter includes a discussion of the 2012/13 Capital Budget, provides an overview of the capital planning process, describes current strategic initiatives, and presents the 2012/13–2014/15 Capital Plan and related constraints.

### THE CAPITAL BUDGET, 2012/13

The 2012/13 Capital Budget at \$529.5 million reflects the university's significant capital projects including SESI, BioE/ChemE, McMurtry Building, Building 08-350 GSB South Repurposing, 3155 and 3165 Porter Drive Lab Renovations, Stanford Research Computing Facility, Arrillaga Outdoor Education and Recreation Center (formerly West Campus Recreation Center), Anderson Collection at Stanford University, Satellite Research Animal Facility (SRAF), and various infrastructure projects and programs. The projected 2012/13 expenditures reflect only a portion of the total costs of the capital projects, as most projects span more than one year. The table on the next page highlights major capital projects with significant expenditures that will be incurred in the 2012/13 Capital Budget, as well as the percentage of the project expected to be complete by the end of 2012/13.

## MAJOR CAPITAL PROJECTS - PERCENT OF COMPLETION 2012/13<sup>1</sup>

[IN MILLIONS OF DOLLARS]

	CAPITAL BUDGET 2012/13	ESTIMATED PROJECT COST	ESTIMATED PERCENT COMPLETE 2012/13
Stanford Energy System Innovations (SESI)			
New Central Energy Facility	73.6	230.0	30%
Piping, Building Conversions and Process Steam Plant	40.9	165.7	40%
New Electrical Substation	13.5	42.3	30%
Bioengineering / Chemical Engineering (Building and Connective Elements)	73.4	196.1	86%
McMurtry Building	16.2	85.0	42%
Building 08-350 GSB South Repurposing 3155 and 3165 Porter Drive Lab Renovations	24.9	57.0	62%
Stanford Research Computing Facility	29.5	43.4	100%
Stanford Research Computing Facility	25.5	41.2	100%
Arrillaga Outdoor Education and Recreation Center	19.3	35.5	100%
Anderson Collection at Stanford University	15.6	32.5	61%
Satellite Research Animal Facility (SRAF)	10.1	26.5	100%
	<b>342.6</b>	<b>955.2</b>	

<sup>1</sup> Includes projects scheduled to be in construction and with forecasted expenditures greater than \$10 million in 2012/13.

The size of 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 70% of the total budgeted. This has been less of a factor of late (76% over the past three years) because of the increased number of projects in recent Capital Budgets that have all funding identified, staff assigned, and Board of Trustees approval.

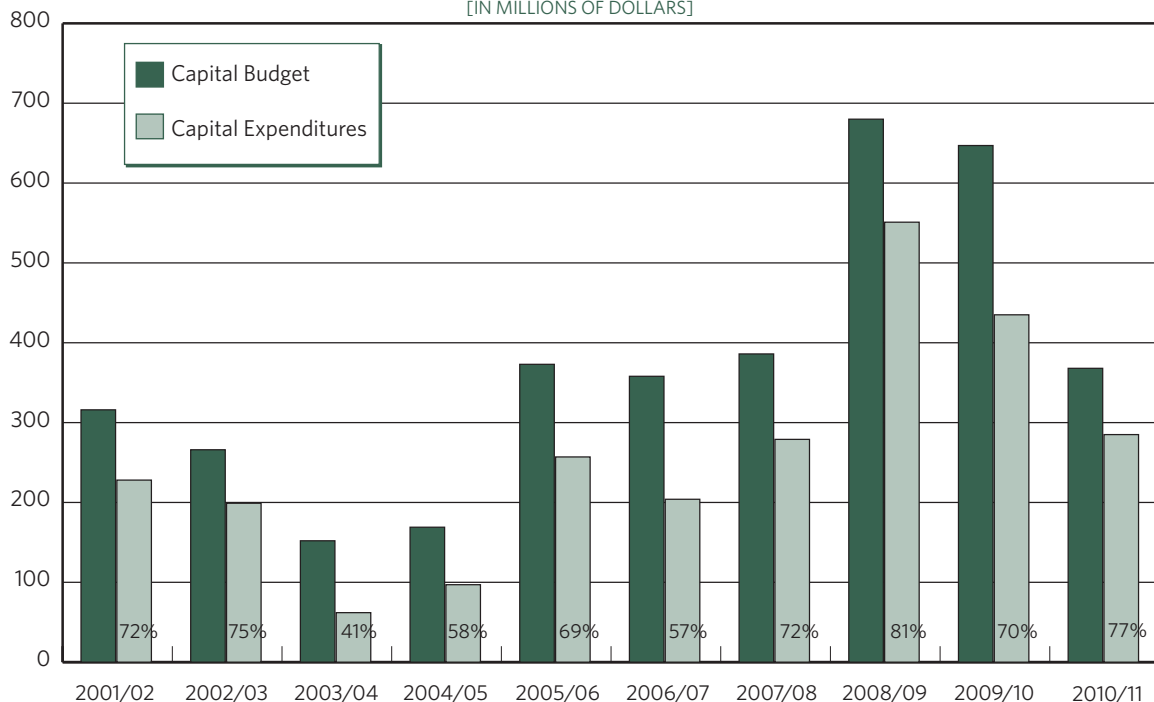
### Sources and Uses

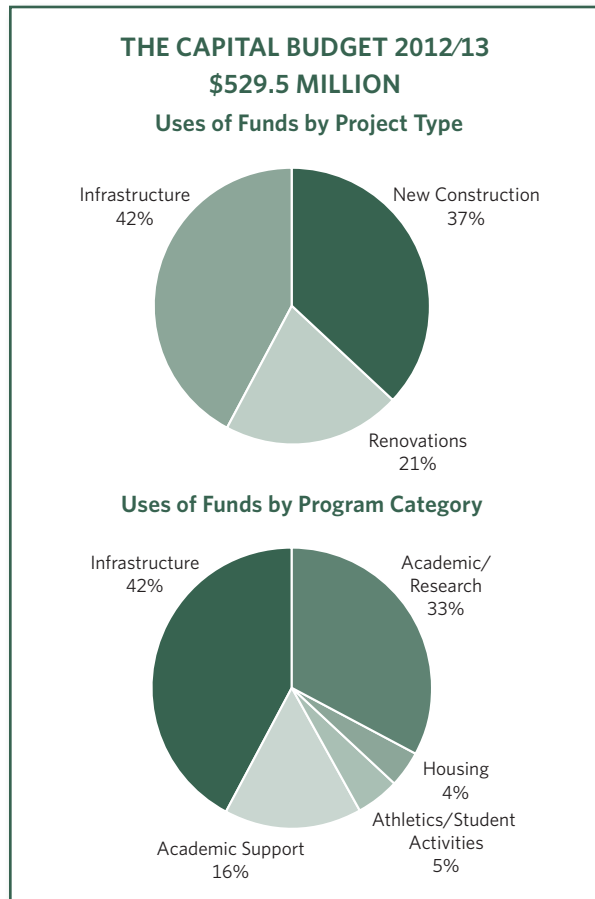
Sources of funds for the Capital Budget will be a combination of Current Funds (which include the Capital Facilities Fund (CFF), funds from university and school reserves, General Use Permit (GUP) and Stanford Infrastructure Program (SIP) fees, and a subvention from the Hoover Institution), gifts, and debt. The university typically allocates debt to projects in the absence of other available funding. The mix of project funding will be impacted by the timing of gift receipts, which may be bridge financed.

The uses of funds by project type and program category for the \$529.5 million Capital Budget are shown in the pie

### CAPITAL BUDGET VS. EXPENDITURES 2001/02 to 2010/11

[IN MILLIONS OF DOLLARS]





charts above. The large infrastructure investment (42%) represents projected cash flow for the new SESI project, Investment in Plant (Planned Maintenance) and R&DE's Capital Improvement Program (CIP). Academic/Research projects (33%) include BioE/ChemE, 3155 and 3165 Porter Drive Lab Renovations and the McMurtry Building. Large Academic Support projects (16%) include GSB South Repurposing and the Stanford Research Computing Facility.

### Capital Facilities Fund

A crucial source of funds for capital projects is the CFF. In June 2007, the Board of Trustees approved an increase in the target endowment payout rate from 5.0% to 5.5%. The additional 0.5% payout releases unrestricted funds, which are held in the CFF to support major facilities projects.

Annual transfers to the CFF will be \$90 million in 2011/12 and \$92 million in 2012/13 with commitments of \$85.9 million in 2011/12 and \$106 million in 2012/13, as shown in the adjacent table, along with a detailed listing of projects funded by these funds.

### CAPITAL FACILITIES FUND (CFF)

#### Funding Sources and Committed Uses of Funding

[IN MILLIONS OF DOLLARS]

	2011/12	2012/13
<b>Sources of Funding</b>		
<b>Formula Units</b>		
School of Medicine	11.7	10.5
Hoover Institution	3.7	3.8
President's Funds	9.3	9.4
Non-Formula	65.3	68.3
<b>Total Funding</b>	<b>90.0</b>	<b>92.0</b>
<b>Committed Uses of Funding</b>		
Porter Drive - School of Medicine	7.0	1.7
SUMC Entitlements - Palo Alto	1.8	
780 Welch Road (Asian Liver Center)	0.2	1.3
Stanford Institutes of Medicine (SIM1) funding return	(2.4)	
Strategic Projects	1.0	2.0
Various School of Medicine Projects	3.5	3.3
Hoover Institution Projects	3.7	3.8
Various Projects Funded by President's Funds	9.3	9.4
Building 08-350 GSB South Repurposing	14.3	42.7
Stanford Auxiliary Library III Phase 2	11.8	
3160 Porter Drive	8.2	
Bing Concert Hall (O&M)	7.0	
Arrillaga Outdoor Education and Recreation Center	5.9	
Crown Quadrangle Renovation	5.0	
Stanford Research Computing Facility	4.2	
Emergency Power and Management Programs	1.6	1.5
Arrillaga Family Athletic Facility at SLAC	1.0	
Redwood City Entitlements	0.9	
Roble Gym Renovation Documentation	0.8	
Arrillaga Family Dining Commons	0.6	
Teaching Labs and Learning Center		18.1
Knight and Littlefield Repurposing		8.0
Biology Research Building		3.6
Northwest Campus Electronic Communications Hub (ECH)		2.7
Access Control Enterprise System (ACES) Phase 2		2.5
Anderson Collection at Stanford University		2.0
Stanford Nanofabrication Facility/CIS		1.5
Forsythe Data Center Phase 4 Power and Cooling Upgrade		1.4
School of Education Building Seismic Renovation Phase 2		0.4
Other Projects	0.4	0.2
<b>Total Commitments</b>	<b>85.9</b>	<b>106.0</b>
Net Annual Activity	4.1	(14.0)
Balance at Beginning of Year	70.6	74.7
Uncommitted Balance	74.7	60.7

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 Budget Impact on 2012/13 Operations

The 2012/13 Consolidated Budget for Operations includes incremental debt service and operations and maintenance (O&M) expenses for projects completing in 2012/13. Additionally, this budget includes an incremental increase in internal debt service and O&M expenses for projects completing in 2011/12 that were operational for less than 12 months.

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 internal debt service is a blended rate of interest expense on debt issued for capital projects, bond issuance and administrative costs. The BIR for 2012/13 is 4.5%.

The projected incremental internal debt service funded by unrestricted funds, including formula units, in 2012/13 is \$1.6 million. This amount includes the additional debt service on Forsythe Data Center Phase III, Group 2 Retrofit, Stanford Research Computing Facility, Satellite RAF, Beckman Energy Retrofit, SoM's tenant improvements at Porter Drive locations and other smaller capital projects and programs. It is offset by decreases in the amount of gifts being bridge financed for the Jen-Hsun Huang Engineering Center, Center for Nanoscale Science and Engineering, Jerry Yang and Akiko Yamazaki Environment and Energy Building, Knight Management Center, Li Ka Shing Center for Learning and Knowledge, Lorry I. Lokey Stem Cell Research Building, and the Neukom Building. This additional debt service brings the total annual internal debt service borne by the unrestricted university budget to \$57.6 million.

Consolidated internal debt service, including that borne by formula units, auxiliaries, service centers, Faculty Staff Housing, and real estate investments is projected to increase from \$156.2 million to \$168.2 million. In addition, annual lease payments are projected at \$19.8 million in 2012/13.

The university will incur incremental O&M costs in 2012/13 of \$4.7 million, driven by the Bing Concert Hall (\$2.7 million), the Stanford Auxiliary Library III Phase 2 project (\$330,000), and various infrastructure projects.

## CAPITAL PLANNING OVERVIEW

### Capital Planning at Stanford

Stanford's Capital Plan is a three-year rolling plan with budget commitments made for the first year and then only for projects with fully identified and approved funding. Cash flow expenditure forecasts for these projects extend beyond the three-year period, with budget impacts for operations, maintenance, and debt service commencing at construction completion. The plan includes forecasts of both cash flow and budget impacts by year, demonstrating the impact of projects beyond the three-year plan (see table on page 75).

The Capital Plan is set in the context of a longer-term capital forecast for the university. The details of this longer-term 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. Over the longer-term forecast, 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 and are detailed below:

- Arts Initiative
- Science, Engineering, and Medical Campus (SEMC)
- Stanford Energy System Innovations (SESI)/Sustainability and Energy Management (SEM)
- New Housing

### Arts Initiative

The Arts Initiative, a key component of the Stanford Challenge, established a university commitment to the following:

- Engage the arts and creativity
- Improve arts in undergraduate life
- Strengthen the academic programs in the arts
- Develop world class facilities to support the arts

The development of a long range vision to create an Arts District establishes a physical plan to support this initiative. This district, which flanks Palm Drive and the Oval at the main entrance into campus, leverages four existing Stanford venues — the Cantor Arts Center, Frost Amphitheater, Memorial Auditorium and the Art Gallery. Three new key building components of the Arts District will provide additional performance, exhibit, and academic space:

- Bing Concert Hall
- Anderson Collection at Stanford University
- McMurtry Building

### ***Bing Concert Hall***

The construction of this new 844-seat performance facility is under way. Located at the gateway to the campus, the 112,635 gross square foot (gsf) concert hall will sit adjacent to the existing Frost Amphitheater at the east end of Museum Way. The acoustically exceptional vineyard style hall will accommodate performances ranging from small chamber ensembles to full orchestra. It will also be equipped with state-of-the-art technical capacity to present multimedia and electronic music performances. The concert hall is set to open in January 2013.

### ***Anderson Collection at Stanford University***

The proposed 30,000 gsf building is being planned to house the Anderson Collection at Stanford — 121 works by 86 artists that include some of the foremost examples of post-World War II American art. The collection marks a major milestone in the Stanford Arts Initiative, a university-wide campaign to integrate the arts fully into the life of the Stanford campus. The site is located north of the Cantor Arts Center on the corner of Lomita and Campus Drive. Construction is anticipated to commence in late 2012; estimated completion is in 2014.

### ***McMurtry Building***

The McMurtry Building will serve as an interdisciplinary hub for the arts at Stanford. The proposed 96,000 gsf building will be the future home of the Art and Art History Department's programs in Art Practice, Art History, Film and Media Studies, and Documentary Film. The building is to be located on Roth Way between the Cantor Arts Center and Parking Structure 1 on the site of the now demolished Old Anatomy building. Construction is scheduled to begin in early 2013 with estimated completion in 2015.

To complement the three new buildings, plans are being developed for new connections in the landscape between these venues highlighting Stanford's existing collection of outdoor art, as well as provide future opportunities for new commissioned art.

## **Science, Engineering, and Medical Campus**

Over the course of the SEMC initiative, the university has invested in the upgrade of aging facilities for the science, engineering, and medical programs.

The SEMC consists of eight new projects, six of which have been completed:

- Astrophysics (completed in 2006)
- Jerry Yang and Akiko Yamazaki Environment and Energy Building (Y2E2) (completed in 2007)
- Lorry I. Lokey Stem Cell Research Building (SIM1) (completed in 2010)
- Jen-Hsun Huang Engineering Center (Huang) (completed in 2010)
- Center for Nanoscale Science and Engineering (Nano) (completed in 2010)
- Li Ka Shing Center for Learning and Knowledge (LKSC) (completed in 2010)
- Bioengineering/Chemical Engineering (BioE/ChemE) (to be completed in 2014)
- Biology Research Building/ Teaching Labs and Learning Center (to be completed in 2016)

This year's Capital Plan includes both the BioE/ChemE building and the Biology Research building/Teaching Labs and Learning Center, the two remaining SEMC projects.

### ***Bioengineering/Chemical Engineering Building***

At \$215.5 million, the BioE/ChemE project is the final component of the Science and Engineering Quad 2 (SEQ 2). This building and its associated connective elements and fit-ups will facilitate interdisciplinary study through the placement of two related programs — Bioengineering and Chemical Engineering — in one location. The building will include wet laboratories and associated support spaces designed for intensive research in each of the departments. Included in the building scope are classrooms, faculty offices, and conference spaces.

The 196,172 gsf BioE/ChemE building will match the architectural character of the neighboring Y2E2 building, and

the Huang Engineering and Nano Centers. The Ginzton Laboratory has been demolished to clear the site. Mass excavation of the site commenced in 2011, with expected completion of the building by 2014.

### ***Biology Research and Teaching***

This year's Capital Plan includes the final project in the SEMC — the Biology Research building and the Teaching Labs and Learning Center.

### ***Biology Research Building***

The Biology Research building is intended as a replacement for the existing Herrin Laboratory building, which will ultimately be removed. The proposed \$86.1 million building will provide laboratory space for approximately half the department's faculty, plus the corresponding research staff of graduate students, post-docs and technicians. The 108,500 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. Included in the building scope are laboratory support spaces, faculty offices, and conference areas. The new building will encourage collaboration and interdisciplinary work, allowing faculty with research in molecular biology, cell biology, neurobiology, biophysics, and molecular evolution to conduct their research across departmental and school boundaries. Construction is anticipated to begin in 2014.

### ***Teaching Labs and Learning Center***

In conjunction with the Biology Research building, this year's Capital Plan includes the renovation of the Old Chemistry (Old Chem) building into an undergraduate student learning center. The renovated facility will house Biology and Chemistry teaching laboratories, a combined sciences library for Biology, Chemistry and Math, as well as classrooms, auditoria, and student collaboration areas. Architectural programming has begun and design work is anticipated to begin later this year. Due to the historic status of Old Chem, the renovation will fully retain the building's exterior character and selected interior features. Construction is anticipated to begin in 2015.

## **Stanford Energy System Innovations/ Sustainability and Energy Management**

### ***Stanford Energy System Innovations***

Included in the Capital Plan is the new Stanford Energy System Innovations (SESI) project, which at \$438 million

represents 21% of the Plan. SESI will provide the campus with a new central energy plant and related infrastructure.

Stanford currently receives most of its thermal (heating and cooling) and electrical energy from the Cardinal Cogeneration plant (Cogen). Cogen operations are based on a third-party operation and maintenance agreement with General Electric that expires in April 2015, at which time the plant will be 28 years old and at the end of its useful life. Other central energy plant equipment is or will also be at or near the end of its useful life.

Since 2007, nearly \$130 million of maintenance and system upgrade projects have been deferred pending consideration and selection of a Cogen replacement. In addition, campus growth projections and the addition of the Stanford Hospital and Clinics and Lucile Packard Children's Hospital expansion facilities will require an increase in both our thermal and electrical energy capacity of 20% by 2020. Approximately half of this increased demand in thermal energy is due to campus development and half attributed to the hospitals' growth, while all of the electrical growth is due to the campus since the hospitals are on the City of Palo Alto electrical grid.

In 2009, the Department of Sustainability and Energy Management (SEM) completed a long range Energy and Climate Plan for the university. A key component of this plan was replacement of the aging Cogen plant with a new facility. Over the subsequent two years, nine options were developed for a Cogen replacement strategy. These options not only addressed an aging central energy plant and its equipment but also considered its reliability, growth, seismic requirements, improved efficiency and sustainability. The options analysis considered purchased electricity through external energy markets as well as on-site generation. Each option was developed by staff in SEM and reviewed by two external engineering firms, financial consultants, and faculty experts.

In March 2011, the university was successful in obtaining Direct Access (DA) to the electricity markets. DA allows the university to directly purchase electricity from multiple generation companies and provide flexibility in the source of generation (i.e., gas, nuclear, solar, wind, etc.).

An Energy Advisory Committee was formed in June 2011 that includes members of the Board of Trustees, the President and the Provost. The charge of the committee was

to review the nine options and provide input and guidance for the selection of an option. The option for replacement of the Cogen facility was recommended by the Energy Advisory Committee and approved by the Board of Trustees in December 2011. This option, SESI, will meet the energy needs of the university through 2050 while providing full flexibility in how our electrical energy needs can be met. SESI includes the following components:

1. Procurement of electricity through Direct Access.
2. Installation of a new central energy facility that recovers waste heat from the campus chilled water system (which is currently discharged out of cooling towers) to meet the bulk of campus heating needs.
3. Conversion of the existing central steam system to a more efficient hot water system.
4. Relocation of the Central Energy Facility and expansion of the campus electrical substation on the west side of campus.
5. Decommissioning and demolition of the existing plant and electrical substation.

SESI offers the most energy efficient, economical, sustainable, and flexible energy supply choice of the many options studied, including modern on-site gas-fired cogeneration. It 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 completed, the campus will utilize 70% of the waste heat currently expelled from cooling towers to meet 80% of campus heat demands; reduce campus water consumption by more than 18%; and reduce greenhouse gas emissions to less than half what they are today and well below 1990 levels.

### ***Sustainability and Energy Management (SEM)***

Stanford is committed to advancing sustainability in the design, construction, and operation of campus facilities. The reduction of overall energy consumption and the use of cleaner energy sources are integral to creating a sustainable campus.

Under the university's sustainability standards, new buildings are required to use 30% less energy and 25% less water than building codes require. This is achieved through

a combination of building orientation relative to the sun, adept space use planning, building operation scheduling, and use of efficient electrical and mechanical equipment. In addition, use of native drought-tolerant landscaping and non-potable or reclaimed water for irrigation and other suitable applications, education and training of building occupants, and other measures will contribute to improved conservation and sustainability goals.

Existing buildings that have been identified as the largest energy-intensive facilities on campus are being renovated to meet sustainability standards in our Whole Building Energy Retrofit Program (see the discussion on page 73 for further information). Minor capital and operations improvements are funded through the Energy Retrofit Program (ERP). The Energy Conservation Incentive Program (ECIP) provides incentives for schools and other units to decrease energy use.

Across the university, Sustainable Working Teams are collaborating to advance sustainable approaches to operations in other areas such as green purchasing, food service, recycling, and transportation. Revised long-term master plans for increased sustainability efforts in the areas of campus water use and transportation are in draft form and awaiting completion of new studies at this time.

### **New Housing**

Stanford University prides itself in having a housing program that provides a wide range of choices for its students. The vision for academic housing builds upon this program by providing the physical framework that would offer a variety of living options. The projects mentioned below are in the early planning stages.

R&DE proposes to add approximately 700 new graduate and undergraduate beds over the course of the next several years by constructing new buildings at Comstock, Lagunita and Manzanita. To facilitate construction of EV Comstock Graduate Housing, seven EV low-rise buildings will be demolished. An underground parking facility is also planned for the Comstock area.

In addition to the above, the GSB plans to expand their current housing stock by building 150 net new graduate beds commencing in 2015.

## THE CAPITAL PLAN, 2012/13-2014/15

Stanford's central campus, including the Medical School but excluding the hospitals, has approximately 700 major buildings providing 15.3 million square feet of physical space. The physical plant has an historical cost of \$6.6 billion and an estimated replacement cost in excess of \$10.6 billion.

The Capital Plan includes a forecast of Stanford's annual programs designed to restore, maintain, and improve campus facilities for teaching, research, housing, and related activities. The plan also 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 of the projects are under the purview of the Board of Trustees. Board-level approvals are required for any of the following:

- Total project 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 2012/13-2014/15 Capital Plan, which include major construction projects in various stages of development and numerous infrastructure projects and programs, total \$2.1 billion. The table below provides a comparison of the last three Capital Plans.

### COMPARATIVE CAPITAL PLANS

[IN MILLIONS OF DOLLARS]

	2010/11	2011/12	2012/13
Design/Construction	795.9	495.3	1,030.6
Forecasted	221.8	1,106.1	840.3
Infrastructure	498.0	275.8	262.3
<b>Total</b>	<b>1,515.7</b>	<b>1,877.2</b>	<b>2,133.2</b>

### Projects in Design and Construction

Projects in Design and Construction total \$1,030.6 million (48% of the plan). Construction of these projects is

contingent upon fundraising of \$129.8 million (13%). Thirteen projects are listed in this category, as shown in the related table on page 78.

The cost of projects in Design and Construction increased by \$535.3 million from 2011/12 as a result of projects moving from the Forecasted category and the addition of new projects, partially offset by the completion of certain projects. Projects moving from Forecasted to Design and Construction include SESI (\$438 million), McMurtry Building (\$85 million), Building 08-350 GSB South Repurposing (\$57 million), 3155 and 3165 Porter Drive Lab Renovations (\$43.4 million), Stanford Research Computing Facility (\$41.2 million), Satellite Research Animal Facility (\$26.5 million), and Arrillaga Family Sports Center Addition (\$17 million). The Anderson Collection at Stanford University (\$32.5 million) and Windhover Contemplative Center (\$4.2 million) are two new projects to the Capital Plan. Projects scheduled to be completed in 2011/12 include the Bing Concert Hall (\$111.9 million), Jill and John Freidenrich Center for Translational Research (\$21.3 million), Arrillaga Family Dining Commons (\$20.3 million), Stanford Center at Peking University (\$5.2 million), and Madera Grove Children's Center/Mulberry House (\$4.6 million). The Rains Houses Renovation project is no longer included in the Capital Plan as it has been moved beyond 2014/15.

### Forecasted Projects

Forecasted Projects are those anticipated to receive Board of Trustees approval over the next three years. These projects total \$840.3 million (39% of the plan) and are listed on page 79. As with the projects in Design and Construction described above, these projects are contingent upon funding. For this group of projects, a total of \$270.8 million (32%) remains to be fundraised and \$19 million in funds have yet to be identified.

Project costs within this category have decreased by \$265.8 million from 2011/12, as a number of projects have moved into the Design and Construction category. The decrease was partially offset by new projects added to the Forecasted Projects section including FIM1 (\$197.5 million), Biology Research and Teaching (\$149.7 million), GSB Housing Expansion (\$63.2 million), Lagunita Undergraduate Housing (\$35 million), 780 Welch Road (Asian Liver Center) (\$26.5 million), Stone Complex Seismic (\$20 million), Roble Gym



Renovation (\$19 million), Governor's Corner Renovation - Phase 2 (\$18 million), RAF1/RAF2 Rehabilitation and Building Energy Retrofit (\$18 million), Buildings 02-520 and 02-524 Renovations (\$17 million), and Florence Moore Renovation (\$12.3 million).

## Infrastructure

Stanford's ongoing efforts to renew its infrastructure are reflected in a budget of \$262.3 million (12% of the plan) and are listed on page 80. Infrastructure costs have decreased from last year's Capital Plan by \$13.5 million. Infrastructure programs include the Investment in Plant Program (Planned Maintenance), R&DE's Capital Improvement Program (CIP), General Use Permit (GUP) Mitigation Program, Capital Utilities Program (CUP), Whole Building Energy Retrofit Program Group 2, Stanford Infrastructure Program (SIP), Information Technology & Communications Systems, Emergency Generators, and Storm Drain projects. GUP mitigation and SIP projects are funded through construction project surcharges. The other categories of 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. These projections are based on the life cycle planning methodology, the key concept being that life expectancies of facility subsystems are known and, as a result, maintenance schedules can be predicted. This year's Planned Maintenance Program also includes funds for pathway, outdoor structures, and grounds. The planned costs and funding total \$128.9 million.

### R&DE Capital Improvement Program

R&DE's CIP initiative is intended to address health and safety issues, seismic upgrades, code compliance, energy conservation and sustainability measures, and major programmatic improvements in the student housing and dining physical plant. CIP projects anticipated over the next three years total \$54.6 million. The plan includes continuation of the code compliance upgrades of various Row Houses, repairs to the EV slab heating system and infrastructure, as well as bathroom and kitchen renovations. In an effort to reduce deferred maintenance within R&DE facilities, a Deferred Maintenance Reduction Initiative (\$27.1 million) was started in 2011/12 to upgrade critical building systems

and components. This initiative is expected to be completed in 2012/13. Upon completion of CIP building renovations, the facilities will be maintained through the Stanford Housing Asset Renewal Program (SHARP) and the Dining Asset Renewal Program (DARP).

### GUP Mitigation

Funding for GUP mitigations is generated by an internal fee levied on capital projects that increase school/department campus space allocations. The fee provides funding necessary for implementation of Santa Clara County GUP requirements and recommendations including trails, storm water management, transportation demand management, protection of biological resources, and other programs. Additionally, GUP fees fund new parking spaces.

### Trails

For more than a decade, Stanford has been working to fulfill its obligations under the 2000 General Use Permit negotiated with Santa Clara County to build two public hiking trails (S-1 and C-1) crossing Stanford land as outlined in a Countywide Trails Master Plan (CTMP). In 2006 Stanford and the County reached agreement on specific trails alignments including segments in San Mateo County, Portola Valley, and Los Altos Hills that would meet objectives of the CTMP and fulfill the GUP requirement.

Following a lengthy process that was finally resolved in December of 2009 by a California Supreme Court ruling in which Santa Clara County and Stanford prevailed, construction resumed on the previously permitted segments of the S-1 trail in unincorporated Santa Clara County. The trail opened in June 2011 and with the completions of bike lane improvements to Deer Creek Road in November 2011, all Stanford obligations for the Santa Clara County trail elements have been fulfilled.

The C-1 trail would be on land owned by Stanford in San Mateo County and the town of Portola Valley. Stanford reached agreement with the Town of Portola Valley for construction of the trail segment through that community and construction was completed in 2011. The San Mateo County Board of Supervisors did not accept Stanford's offer to complete trail segments in that jurisdiction by the December 2011 deadline. Under the terms of the agreement, Stanford made a payment of \$10.4 million in February 2012 to Santa Clara County which fulfilled Stanford obligations for the C-1 trail.

## 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 <sup>2</sup>	Complete	8%	0%
Stauffer II - Physical Chemistry	Complete	38%	43%
Gates Computer Science	Complete	29%	27%
Beckman Center for Molecular and Genetic Medicine	Construction	43%	
Gilbert Biological Sciences	Construction	34%	
Cantor Center for Visual Arts	Construction	13%	
Bing Wing (Green Library West)	Construction	16%	
Psychiatry Academic and Clinic Building	Design	56%	
Packard Electrical Engineering	Design	26%	
Mitchell Earth Sciences	Design	25%	
Green Earth Sciences	Study		
Clark Center	Study		
Arrillaga Alumni Center	Study		
Jordan Hall	Not started		
Varian Physics Laboratory	Not started		
Mechanical Engineering Laboratory	Not started		
Green Library East	Not started		
Sweet Hall	Not started		
RAF 1	Not started		
RAF 2	Not started		
Lucas Center	Delayed to 2011/12		
Center for Clinical Sciences Research (CCSR)	Delayed to 2012/13		
Herrin Hall - Biology <sup>3</sup>	Cancelled		

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

<sup>2</sup> Equipment installed as part of the Forsythe Hall retrofit uses less energy, however, the installation of additional computing equipment has offset the energy savings achieved by the retrofit.

<sup>3</sup> Planned for demolition.

Stanford reached an agreement to build additional trail segments (C-2) in the Town of Los Altos Hills that would provide a link back to the original CTMP location of the S-1 trail. Completion of the C-2 trail is expected by the end of 2013. The total estimated cost for all trails is \$21.6 million.

### Water-Related Programs

These projects are related to water conservation, water allocation (i.e., alternative supplies) and wastewater collection expansion. The estimated cost for the program for 2012/13-2014/15 is \$3.7 million.

### Capital Utilities Program

The \$17.4 million three-year plan improves electrical, steam,

water, chilled water, and wastewater utility systems. The annual CUP program covers the areas of system expansion (\$13.4 million) and system replacement (\$4 million). The university annually budgets for the replacement of systems that are nearing the end of their useful life and expands systems as required by campus growth.

The CUP program costs are significantly less than in prior years in anticipation of the SESI initiative, which will subsume many energy-related CUP projects in the next few years.

### 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 using buildings, representing \$15.9 million of energy expenses per year, or nearly 36% of the total campus energy expense. It has since been expanded to include additional large energy consuming buildings that offer cost effective, capital intensive energy retrofit opportunities. The retrofits completed thus far have delivered annual energy cost savings of \$2.8 million annually, a discounted payback of about 4 years, and Pacific Gas and Electric rebates of \$2 million.

The table on the facing page summarizes the status of these projects, expected annual savings, and early results. It should be noted that early results may not be indicative of expected long-term improvements due to the imprecise nature of estimating potential energy savings from major renovations as well as the time needed for the changes to take full effect. Where results are less than expected and after one full annual building cycle has passed, troubleshooting will continue until conditions are understood, problems are addressed, and expectations are met or exceeded.

### **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 \$12.7 million over the next three years (excluding funding for replacement parking spaces). SIP projects include the construction of campus transit improvements, parking lot infrastructure improvements, site improvements, landscape design and enhancements, bicycle, cart and pedestrian paths, lighting, signage, and outdoor art.

### **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 so that a consistently high level of service can be maintained. Additionally, new technologies are implemented that provide more efficient, faster, and/or more cost-effective solutions. For 2012/13-2014/15, a total of \$6.8 million has been allocated for upgrades to these critical university systems.

### **Emergency Generators**

Comprehensive emergency preparedness planning includes the installation of emergency generators at major housing and dining facilities throughout campus. The program is scheduled to be completed in 2012/13 at a cost of \$2.4 million.

### **Storm Drains**

The ongoing storm drainage program includes projects for improving and expanding the capacity of the campus storm drainage system, replacing deteriorated pipes, and improving drainage around buildings. In addition, increasingly stringent storm water quality regulations are necessitating new storm water treatment approaches such as bioswales, bioretention, and storm water capture to minimize contamination conveyed to natural water bodies from common storms. These treatment approaches will be incorporated on new building sites by those projects, where feasible. This program covers campus-wide storm water treatment facilities that meet these requirements beyond those met by new building projects. The estimated cost for the program for 2012/13-2014/15 is \$900,000.

### **Other Stanford Entities**

In an effort to present a comprehensive view of university planned construction, the capital planning process has included real estate investments, Stanford Hospital and Clinics (SHC), Lucile Packard Children's Hospital (LPCH), and SLAC National Accelerator Laboratory. Although the Capital Plan tables at the end of this chapter do not include these other entities, brief descriptions of their capital programs follow:

#### **Real Estate Investments**

Under an approved land use development agreement with the City of Palo Alto, known as the Mayfield Agreement, the Real Estate department will be master planning the conversion of certain commercial sites on the edges of the Research Park to residential uses after the underlying ground leases expire in late 2013. The Real Estate department has begun the early planning for these development projects; detailed plans and project costs will be determined in future years. Project completion is anticipated in 2017.

## **Stanford Hospital and Clinics and Lucile Packard Children's Hospital**

After nearly four years from date of application, the Stanford University Medical Center (SUMC) received, in July 2011, entitlements in Palo Alto to create a new hospital zone allowing development of approximately 1.3 million square feet of net new hospital, clinic, and medical office space. The new zone allows for an increase in the height limit from 50 feet to 130 feet. Approval of the SUMC entitlements allowed for the September 2011 commencement of the renovation and expansion of SHC and LPCH. Estimated project costs of SHC and LPCH are \$2.0 billion and \$1.2 billion, respectively.

## **SLAC National Accelerator Laboratory**

In February 2011, SLAC completed its Long-Range Development Plan with its vision to consolidate research activities, upgrade infrastructure, and/or demolish and renovate facilities. In 2011/12, the Research Support Building (RSB) and Infrastructure Modernization project, totaling approximately \$97 million funded by the Department of Energy (DOE), will begin at the SLAC campus and is scheduled for completion by 2014. These funds will be used to construct a new 64,000 gsf building to house accelerator research staff at the RSB, renovate 40,000 gsf in two mission-support buildings, and demolish 64,000 gsf of substandard buildings and trailers.

Additional projects within the Long-Range Development plan include three DOE funded projects — the \$65 million/65,000 gsf Science and User Support Building (SUSB) project, the \$55 million/55,000 gsf Photon Sciences Laboratory Building (PSLB), and the construction of the \$405 million/76,000 gsf Linac Coherent Light Source II (LCLS-II) facilities.

The SUSB project includes the demolition of the Panofsky Auditorium and SLAC's Cafeteria that are to be replaced by a new auditorium/cafeteria/user center, creating a new "front door" to the SLAC National Accelerator Laboratory and the first stop for researchers and visitors to SLAC. The SUSB will break ground in late 2013 with occupancy planned for 2015.

The PSLB project will construct new environmentally sustainable facilities that will include laboratory space, offices, and collaboration space to support SLAC's photon science mission. The PSLB is planning a ground breaking in 2015 with occupancy in 2017.

Based on the success of Linac Coherent Light Source (LCLS), the DOE approved the start of planning LCLS-II. This expansion of LCLS, which will significantly enhance its scientific capability and capacity, is expected to be ready for operational use in 2018.

In addition to the above, the university is constructing the Stanford Research Computing Facility at SLAC which is due to be completed in 2013.

## **Overall Summary**

A summary table of the 2012/13–2014/15 three-year Capital Plan appears on the next page. Included are projects and programs in Design and Construction, Forecasted, and Infrastructure that are anticipated to commence in the next three years.

To differentiate between the estimated costs of the three-year Capital Plan and the forecasted spending to complete its projects and programs, an additional table (Capital Plan Cash Flows) is included along with the Capital Plan Summary. This table forecasts the expenditure outflow of the Capital Plan based on project and program schedules. These cash expenditures are anticipated to be spent over a period extending beyond 2014/15.

Operating (including utilities), maintenance, and debt service costs will impact the university's operating budget once the construction is substantially complete. Although the Capital Plan Summary shows the full budget impact of all completed projects, it is important to note that this impact aligns with the project completion schedule and will be absorbed by the university budget over a period beyond the three-year plan based on actual project completion dates. A table entitled Capital Plan Impact on Budget is included with the Capital Plan Summary and Capital Plan Cash Flows table to forecast the budget impact by area of responsibility (e.g., 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 in order to present a comprehensive view of all planned construction on Stanford lands.

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

## SUMMARY OF THREE-YEAR CAPITAL PLAN 2012/13-2014/15

[IN MILLIONS OF DOLLARS]

	ESTIMATED PROJECT COST	CAPITAL BUDGET 2012/13	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 PLEDGED	TO BE RAISED	SERVICE CENTER/AUXILIARY DEBT	ACADEMIC DEBT			
Projects in Design & Construction	1,030.6	360.4	169.3	184.4	129.8	454.0	93.1	33.3	33.7	
Forecasted Projects	840.3	81.5	188.6	110.2	270.8	170.7	81.0	19.0	15.3	
<b>Total Construction Plan</b>	<b>1,870.9</b>	<b>441.9</b>	<b>357.9</b>	<b>294.6</b>	<b>400.6</b>	<b>624.7</b>	<b>174.1</b>	<b>19.0</b>	<b>48.6</b>	<b>45.1</b>
Infrastructure Programs	262.3	87.6	172.4			71.9	18.0	5.7		
<b>Total Three-Year Capital Plan 2012/13-2014/15</b>	<b>2,133.2</b>	<b>529.5</b>	<b>530.3</b>	<b>294.6</b>	<b>400.6</b>	<b>696.6</b>	<b>192.1</b>	<b>19.0</b>	<b>54.3</b>	<b>45.1</b>

<sup>1</sup> Includes funds from university and school reserves and the GUP and SIP programs. Also includes the \$20M 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

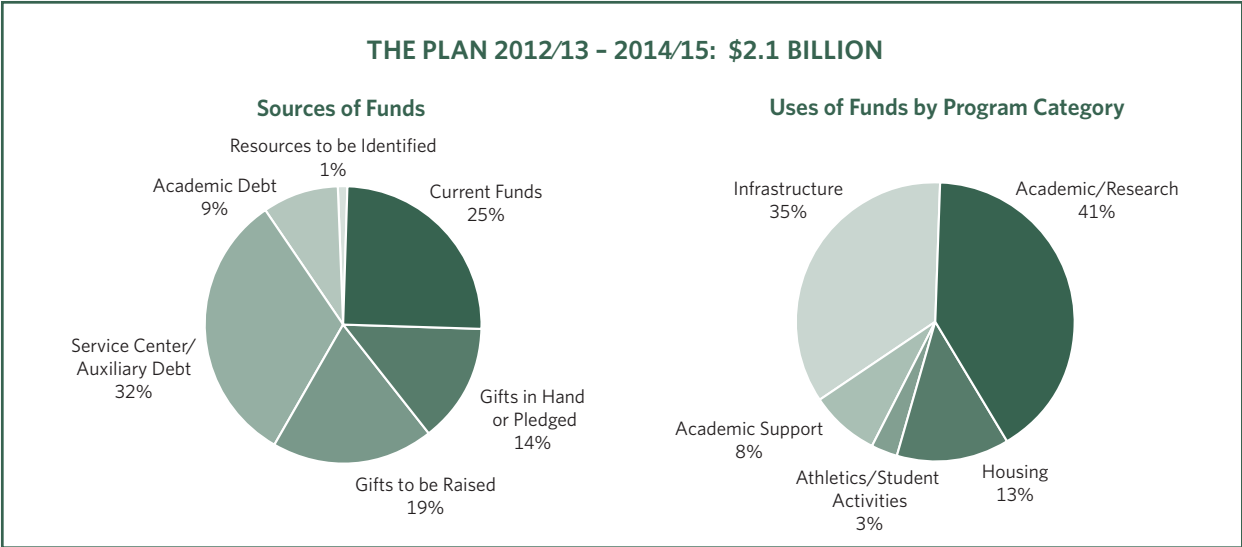
[IN MILLIONS OF DOLLARS]

	2011/12 & PRIOR	2012/13	2013/14	2014/15	2015/16 & THEREAFTER	TOTAL
Projects in Design & Construction	217.7	360.4	328.0	90.0	34.5	1,030.6
Forecasted Projects	12.5	81.5	202.3	244.6	299.4	840.3
<b>Total Construction Plan</b>	<b>230.1</b>	<b>441.9</b>	<b>530.4</b>	<b>334.6</b>	<b>333.9</b>	<b>1,870.9</b>
Infrastructure Programs	43.6	87.6	67.9	63.2		262.3
<b>Total Three-Year Capital Plan 2012/13-2014/15</b>	<b>273.7</b>	<b>529.5</b>	<b>598.3</b>	<b>397.8</b>	<b>333.9</b>	<b>2,133.2</b>

## CAPITAL PLAN IMPACT ON BUDGET

[IN MILLIONS OF DOLLARS]

	2013/14	2014/15	2015/16 & THEREAFTER	TOTAL
<b>Incremental Internal Debt Service</b>				
General Funds	0.7	1.4	1.5	3.6
Formula and Other Schools	3.6	0.9	2.0	6.5
Auxiliary	4.5	1.8	8.9	15.2
Service Center	3.9	3.7	21.5	29.1
<b>Incremental Internal Debt Service</b>	<b>12.6</b>	<b>7.7</b>	<b>33.9</b>	<b>54.3</b>
<b>Incremental Operations and Maintenance</b>				
General Funds	0.5	9.5	9.4	19.4
Formula and Other Schools	4.4	1.9	0.9	7.2
Auxiliary	4.6	0.1	1.8	6.5
Service Center			12.0	12.0
<b>Incremental Operations and Maintenance</b>	<b>9.5</b>	<b>11.5</b>	<b>24.1</b>	<b>45.1</b>



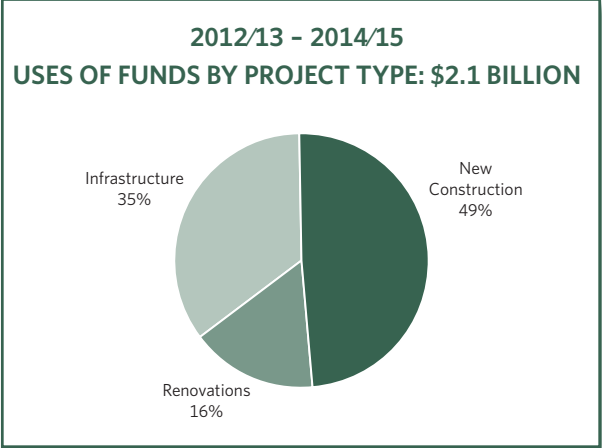
### Capital Plan Funding Sources

As the first chart above 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 complete. 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 includes funds yet to be fully identified, with the expectation that funds will come from a combination of school, department and university reserves, and other sources.

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

The chart above divides the Capital Plan activity into program categories — Academic/Research, Infrastructure, Housing, Academic Support, and Athletics/Student Activities — with the largest categories being Academic/Research and Infrastructure at 41% and 35% of the Capital Plan, respectively. The chart below breaks out the same activity into project types — New Construction, Infrastructure, and Renovations — with New Construction and Infrastructure comprising 49% and 35% of the plan, respectively. Notably, with the addition of several major projects, Academic/Research now accounts for 41% of the Capital Plan compared to 23% in last year’s Capital Plan.



### 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 2012/13 to 2016/17) totals \$54.3 million annually (excluding debt service for bridge financing the receipt of gifts and operating lease payments). Of this amount, \$3.6 million will be serviced by general funds, \$44.2 million by auxiliary or service center operations, and \$6.5 million by formula schools (the GSB and SoM).

The additional O&M costs expected at the completion of all projects commencing in the three-year period total \$45.1

million per year. Of this amount, \$19.4 million will be serviced by general funds, \$18.5 million by auxiliary and service center operations, and \$7.2 million by the formula schools. O&M and debt service on capital projects compete directly with other academic program initiatives.

### Debt Capacity

As of May 1, 2012 debt available to finance capital projects and faculty mortgages is estimated at \$587 million, including \$369 million of taxable commercial paper, \$207 million of tax-exempt commercial paper, and \$11 million of unexpended tax-exempt bond proceeds. In addition, through fiscal year-end 2011/12 and 2012/13, \$114 million of internal amortization proceeds on debt-funded projects will become available to lend to projects and \$119 million in forecasted pledge payments will retire debt issued to bridge finance the receipt of gifts.

The Capital Plan will require a total of \$1,402 million of debt:

- \$486 million to complete projects already approved or under construction;
- \$349 million for projects forecast to be approved in 2012/13; and
- \$567 million to bridge finance the receipt of gift pledges for projects under construction.

Additional debt will be required to finance the Faculty Staff Housing program. In the past five years, the portfolio of debt subsidized mortgages has grown an average of \$26 million per year. In the current low rate environment, however, mortgages are being refinanced and the portfolio has declined \$6 million to \$392 million year to date.

Projects identified in the three-year Capital Plan commencing after 2012/13 will require an additional \$162 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, which fall within 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 General Use Permit (GUP) that allows Stanford to construct up to

2,035,000 additional gross square feet of academic-related buildings on the core campus. The GUP also allows the construction of up to 2,000 new student housing units and over 1,000 units of housing 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;
- Approval of a sustainable development study (SDS) before new construction is developed beyond one million gross square feet. (The SDS was approved by Santa Clara County 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. The total GUP square footage allocation was originally projected to be expended over 15 years at an average rate of approximately 135,000 gsf per year. Subsequent experience has lengthened this projection.

The 2012/13-2014/15 Capital Plan utilizes 393,325 of GUP square feet. This square footage, along with gsf previously allocated, brings the total GUP 2000 gsf expended or planned to over one million. Given the university's longer-term capital forecast, coupled with funding and affordability challenges and ongoing scrutiny of expansion, the current GUP allocation may extend through 2025.

With the completion of planned housing projects, including EV Comstock Graduate Housing, GSB Housing Expansion, and Lagunita and Manzanita Undergraduate Housing, Stanford will have added 2,350 net new housing linkage units since approval of the GUP. The completion of these units will enable the university to construct 2 million gsf of new academic space under the GUP. The construction of square footage beyond this amount will require additional housing units.

## CAPITAL PLAN PROJECT DETAIL

The tables on the following three charts show projects grouped within three categories: Projects in Design and Construction, Forecasted Construction Projects, and Infrastructure Projects and Programs.

**2012/13-2014/15 CAPITAL PLAN  
PROJECTS IN DESIGN & CONSTRUCTION**

[IN MILLIONS OF DOLLARS]

	PROJECT FUNDING SOURCE										ANNUAL CONTINUING COSTS	
	SCHOOL/ DEPARTMENT	FISCAL YEAR PROJECT SCHEDULE	ESTIMATED PROJECT COST	CAPITAL BUDGET 2012/13	CURRENT FUNDS <sup>1</sup>	GIFTS		UNIVERSITY DEBT		RESOURCES TO BE IDENTIFIED <sup>2</sup>	DEBT SERVICE	OPERATIONS & MAINTENANCE <sup>3</sup>
						IN-HAND OR PLEGGED	TO BE RAISED	SERVICE CENTER/ AUXILIARY DEBT	ACADEMIC DEBT			
Stanford Energy System Innovations (SESI)												
New Central Energy Facility	LBRE	2012-15	230.0	73.6				230.0			14.0	12.0
Piping, Building Conversions and Process Steam Plant	LBRE	2012-15	165.7	40.9			165.7				10.1	
New Electrical Substation	LBRE	2012-15	42.3	13.5			42.3				2.6	
Bioengineering / Chemical Engineering												
Base Building	SOE/SoM	2005-14	187.3	70.4	5.0	102.7	69.8		9.8		0.6	5.8
Connective Elements	SOE/SoM	2005-14	8.8	3.0	8.8							
Future Fit-up	SOE/SoM	TBD	19.4				19.4					
McMurtry Building	H&S	2012-15	85.0	16.2	35.0	34.5	15.5					2.6
Building O8-350 GSB South Repurposing	PRES/PROV	2012-14	57.0	24.9	57.0							2.9
3155 and 3165 Porter Drive Lab Renovations	SoM	2012-13	43.4	29.5	10.9				32.5		2.0	4.1
Stanford Research Computing Facility	DOR/ITS	2011-13	41.2	25.5	10.3				30.9		1.9	3.5
Arrillaga Outdoor Education and Recreation Center <sup>4</sup>	DAPER	2011-13	35.5	19.3	11.0	24.5						0.9
Anderson Collection at Stanford University	PRES/PROV	2012-14	32.5	15.6	14.7	4.0	13.8					0.8
Satellite Research Animal Facility (SRAF)	SoM	2011-13	26.5	10.1	6.6				19.9		1.2	0.1
Manzanita Undergraduate Housing (125 new beds)	R&DE	2010-14	20.0	3.4	4.0			16.0			1.0	0.1
Arrillaga Family Sports Center Addition	DAPER	2012-13	17.0	7.5		5.7	11.3					0.2
Stanford Auxiliary Library III Phase 2	SULAIR	2011-13	14.8	6.8	14.8							0.5
Windhover Contemplative Center	PRES/PROV	2012-15	4.2	0.2		4.2						0.2
<b>Subtotal - Projects in Design &amp; Construction</b>			<b>1,030.6</b>	<b>360.4</b>	<b>169.3</b>	<b>184.4</b>	<b>129.8</b>	<b>454.0</b>	<b>93.1</b>		<b>33.3</b>	<b>33.7</b>

<sup>1</sup> Includes funds from university and school reserves and the GUP and SIP programs. Also includes the \$20M 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> Formerly West Campus Recreation Center.



## 2012/13-2014/15 CAPITAL PLAN FORECASTED CONSTRUCTION PROJECTS

[IN MILLIONS OF DOLLARS]

	SCHOOL/ DEPARTMENT	FISCAL YEAR PROJECT SCHEDULE	ESTIMATED PROJECT COST	CAPITAL BUDGET 2012/13	CURRENT FUNDS <sup>1</sup>	PROJECT FUNDING SOURCE				ANNUAL CONTINUING COSTS		
						IN HAND OR PLEGGED	GIFTS TO BE RAISED	SERVICE CENTER/ AUXILIARY DEBT	UNIVERSITY DEBT ACADEMIC DEBT	RESOURCES TO BE IDENTIFIED <sup>2</sup>	DEBT SERVICE	OPERATIONS & MAINTENANCE <sup>3</sup>
Foundations in Medicine (FIM) 1 Building	SoM	2014-17	182.5	0.3	36.1		129.3		17.1		1.0	0.9
Tunnel Infrastructure	SoM	2014-17	15.0	0.3	13.5				1.5		0.1	
Biology Research and Teaching	H&S	2013-16	86.1	4.5	18.6	48.9	7.9		10.7		0.7	3.4
Biology Research Building	H&S	2013-16	55.0	3.0	18.1	25.6	7.0		4.3		0.3	1.8
Teaching Labs and Learning Center	H&S	2013-16	4.5	0.2		4.5						
Connective Elements	H&S	2016	4.1			4.1						
Demolitions (Herrin Lab/Herrin Hall/Mudd)												
EV Comstock Graduate Housing												
Comstock Studios and Apartments (363 net new beds)	R&DE	2013-15	110.0	5.9	20.0			90.0			5.5	0.7
Parking Structure (480 stalls)	LBRE	2013-15	20.0	1.1	20.0							0.8
GSB Housing Expansion (150 new beds)	GSB	2015-17	63.2				63.2					
Hoover Office Building (formerly Cummings Replacement)	HOOVER	2013-16	45.6	1.7		3.2	42.4					1.4
Lagunita Undergraduate Housing (200 new beds)	R&DE	2013-15	35.0	1.9	4.0						1.9	0.2
780 Welch Road (Asian Liver Center)	SoM	2012-14	26.5	7.1	3.0	12.5	11.0					0.2
Stone Complex Seismic Project <sup>4</sup>	SoM	2013-15	20.0	0.9	6.0				14.0		0.9	
Crown Quadrangle Renovation	SLS	2012-14	20.0	8.7	5.0	5.0	10.0					
SESI - High Voltage Intertie	LBRE	2013-15	19.4	6.2				19.4			1.2	
Roble Gym Renovation	H&S	2012-14	19.0	7.9								19.0
Governor's Corner Renovation - Phase 2	R&DE	2015	18.0					18.0			1.1	
RAF1/RAF2 Rehabilitation & Building Energy Retrofit	SoM	2013-14	18.0	8.3	3.0				15.0		0.9	
Buildings 02-520 and 02-524 Renovations	SOE	2012-14	17.0	7.3	17.0							
Florence Moore Renovation	R&DE	2013	12.3	7.2				12.3			0.7	
Northwest Campus Electronic Communications Hub (ECH) <sup>5</sup>	ITS/AS	2013-15	10.8	0.6	2.7				8.1		0.5	
3172 Porter Drive Lab Renovation	SoM	2012-13	9.1	4.6	3.0				6.1		0.4	0.2
School of Education Building Seismic Renovation Phase 2	SUSE	2014-16	8.6	0.2	2.2	6.4						
Knight and Littlefield Repurposing	PRES/PROV	2013-14	8.0	0.7	8.0							1.7
Forsythe Data Center Phase 4 Power and Cooling Upgrade	ITS/AS	2013-14	5.6	0.5	1.4				4.2		0.3	
Access Control Enterprise System (ACES) Phase 2	PRES/PROV	2010-15	3.8	0.8	3.8							0.1
Legacy Door Access Replacement	ITS/AS	2013-14	3.2	1.6	3.2							
<b>Subtotal - Forecasted Projects</b>			<b>840.3</b>	<b>81.5</b>	<b>188.6</b>	<b>110.2</b>	<b>270.8</b>	<b>170.7</b>	<b>81.0</b>	<b>19.0</b>	<b>15.3</b>	<b>11.4</b>
<b>SUBTOTAL - CONSTRUCTION PLAN</b>			<b>1,870.9</b>	<b>441.9</b>	<b>357.9</b>	<b>294.6</b>	<b>400.6</b>	<b>624.7</b>	<b>174.1</b>	<b>19.0</b>	<b>48.6</b>	<b>45.1</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> Incremental cost of \$4. million for the Boswell portion of the project will be funded by SHC and is not reflected in this total.

<sup>5</sup> Facility includes space for ECH, Remote Operator Facility, and the University's critical systems.

**2012/13-2014/15 CAPITAL PLAN  
INFRASTRUCTURE PROGRAMS**

[IN MILLIONS OF DOLLARS]

	SCHOOL/ DEPARTMENT	FISCAL YEAR PROJECT SCHEDULE	ESTIMATED PROJECT COST	CAPITAL BUDGET 2012/13	CURRENT FUNDS <sup>1</sup>	PROJECT FUNDING SOURCE					ANNUAL CONTINUING COSTS	
						IN HAND OR PLEGGED	GIFTS TO BE RAISED	SERVICE CENTER/ AUXILIARY DEBT	UNIVERSITY DEBT ACADEMIC DEBT	RESOURCES TO BE IDENTIFIED <sup>2</sup>	DEBT SERVICE	OPERATIONS & MAINTENANCE <sup>3</sup>
Investment in Plant (Planned Maintenance)												
Non-Formula/Admin	LBRE	2013-15	51.9	17.8	51.9							
Formula	SoM	2013-15	29.7	16.8	29.7							
R&DE (SHARP/DARP) <sup>4</sup>	R&DE	2013-15	34.9	9.9	34.9							
DAPER	DAPER	2013-15	9.9	5.2	9.9							
Utilities <sup>5</sup>	LBRE	2013-15										
Roads	LBRE	2013-15	2.5	0.6	2.5							
<b>Subtotal-Investment in Plant (Planned Maintenance)</b>			<b>128.9</b>	<b>50.3</b>	<b>128.9</b>							
R&DE Capital Improvement Program <sup>4</sup>	R&DE	2013-15	54.6	10.7	3.1			51.5				3.1
GUP Mitigation Programs	LBRE	2005-13	21.6	0.3	21.6							
Trails	LBRE	2013-15	3.7	2.5	3.7							
Water-Related Programs												
<b>Subtotal-GUP Mitigation Programs</b>			<b>25.3</b>	<b>2.8</b>	<b>25.3</b>							
Capital Utilities Program (CUP)	LBRE	2013-15	13.4	5.8				13.4				0.8
System Expansion	LBRE	2013-15	4.0	1.4				4.0				0.2
System Replacement												
<b>Subtotal-CUP</b>			<b>17.4</b>	<b>7.2</b>				<b>17.4</b>				<b>1.1</b>
Whole Building Energy Retrofit Program Group 2	Various	2013-15	13.3	7.6					13.3			1.0
Stanford Infrastructure Program (SIP)	LBRE	2013-15	12.7	4.0	12.7							
Information Technology & Communications Systems	ITS	2013-15	6.8	2.3				3.0	3.8			0.4
Emergency Generators	EH&S	2013	2.4	2.4	2.4							
Storm Drains	LBRE	2013-15	0.9	0.3					0.9			0.1
<b>Subtotal - Infrastructure Projects &amp; Programs</b>			<b>262.3</b>	<b>87.6</b>	<b>172.4</b>			<b>71.9</b>	<b>18.0</b>			<b>5.7</b>
<b>Total Capital Plan</b>			<b>2,133.2</b>	<b>529.5</b>	<b>530.3</b>			<b>294.6</b>	<b>400.6</b>	<b>19.0</b>		<b>54.3</b>
												<b>45.1</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 Capital Improvement Program generally includes program and code upgrades vs. Planned Maintenance which includes subsystem replacement.

<sup>5</sup> Included under CUP - System Replacement below.