

The Regents of the University of California

FINANCE AND CAPITAL STRATEGIES COMMITTEE

July 17, 2019

The Finance and Capital Strategies Committee met on the above date at the UCSF–Mission Bay Conference Center, San Francisco.

Members present: Regents Blum, Cohen, Estolano, Kounalakis, Leib, Makarechian, Park, Sherman, Simmons, and Um; Ex officio members Napolitano and Pérez; Advisory members Bhavnani and Jeffrey; Chancellors Christ, Gillman, Hawgood, Khosla, and Leland

In attendance: Regents Ortiz Oakley, Thurmond, and Weddle, Regents-designate Mart, Muwwakkil, and Stegura, Faculty Representative May, Assistant Secretary Lyall, General Counsel Robinson, Chief Investment Officer Bachher, Executive Vice President and Chief Financial Officer Brostrom, Executive Vice President and Chief Operating Officer Nava, Chancellor May, and Recording Secretary Johns

The meeting convened at 1:00 p.m. with Committee Chair Makarechian presiding.

1. APPROVAL OF MINUTES OF PREVIOUS MEETING

Upon motion duly made and seconded, the minutes the meeting of May 15, 2019 were approved.

2. CONSENT AGENDA

A. *Certification of Updated Sewer System Management Plans*

The President of the University recommended that, following review and consideration of the Sewer System Management Plans pursuant to the California Environmental Quality Act (CEQA), the Finance and Capital Strategies Committee recommend that the Regents:

- (1) Determine that the Sewer System Management Plans are exempt from CEQA.
- (2) Certify and approve the updated Sewer System Management Plans for the following locations: Berkeley; Berkeley, University Village Albany; Berkeley Global Campus at Richmond Bay; Davis; UC Davis Health; Irvine; Los Angeles; Merced; Riverside; San Diego; Santa Barbara; Santa Cruz; and the Kearney Research and Extension Center.

B. ***Approval of Preliminary Plans Funding, Future College Living and Learning Neighborhood, San Diego Campus***

The President of the University recommended that the 2018-19 Budget for Capital Improvements and the Capital Improvement Program be amended to include the following project:

San Diego: Future College Living and Learning Neighborhood – preliminary plans – \$30 million to be funded with campus funds.

C. ***Approval of Budget, Scope, External Financing, and Design Following Action Pursuant to the California Environmental Quality Act, 2 North Point Seismic and Tenant Improvements Project, San Francisco Campus***

The President of the University recommended that:

- (1) The 2019-2020 Budget for Capital Improvements and the Capital Improvement Program be amended as follows:

From: San Francisco: 2 North Point Structural and Tenant Improvements – preliminary plans – \$1.63 million funded from campus funds.

To: San Francisco: 2 North Point Seismic and Tenant Improvements – preliminary plans, working drawings, construction, equipment, and interest during construction – \$35,144,000, to be funded from external financing (\$33,514,000) and campus funds (\$1.63 million).

- (2) The scope of the 2 North Point Seismic and Tenant Improvements project shall consist of seismic retrofit of the building for use by UCSF employees, as well as accessibility, building systems, and tenant improvements.
- (3) The President shall be authorized to obtain external financing not to exceed \$33,514,000 plus additional related financing costs, for the project. The President shall require that:
 - a. Interest only, based on the amount drawn, shall be paid on the outstanding balance during the construction period.
 - b. As long as the debt is outstanding, the general revenues of the San Francisco campus shall be maintained in amounts sufficient to pay the debt service and to meet the related requirements of the authorized financing.
 - c. The general credit of the Regents shall not be pledged.

- (4) Following review and consideration of the environmental consequences of the proposed 2 North Point Seismic and Tenant Improvements project, as required by the California Environmental Quality Act (CEQA), including any written information addressing this item received by the Office of the Secretary and Chief of Staff to the Regents no less than 24 hours in advance of the beginning of this Regents meeting, testimony or written materials presented to the Regents during the scheduled public comment period, and the item presentation, the Regents:
 - a. Determine that the 2 North Point Seismic and Tenant Improvements project is exempt from CEQA;
 - b. Approve the design of the 2 North Point Seismic and Tenant Improvements project, San Francisco campus.
- (5) The President be authorized, in consultation with the General Counsel, to execute all documents necessary in connection with the above.

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Committee Chair Makarechian briefly introduced the consent agenda.

Upon motion duly made and seconded, the Committee approved the President's recommendations and voted to present them to the Board.

3. **UNIVERSITY OF CALIFORNIA INNOVATION AND ENTREPRENEURSHIP**

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Vice President Ellis began the discussion with general remarks on UC's innovation and entrepreneurship enterprise. By almost any measure, the University accounted for about ten percent of the entire U.S. academic research enterprise. The pace of creating knowledge is seen in UC's average of more than 100 original research articles per day, the pace of innovation in UC's average of five invention disclosures per day, and the pace of entrepreneurship in the nearly two UC-derived startup companies launched each week. Innovation and entrepreneurship are important frontiers in higher education. All UC locations now had offices supported by personnel and resources at the Office of the President (UCOP) to help bring ideas developed by faculty, staff, and students to the marketplace. These location offices assist in selecting ideas with market potential. They facilitate licensing of intellectual property to companies and they support startup companies. Collectively, these efforts had led to many benefits to society and substantial annual royalties. Innovation and entrepreneurship at UC involves faculty, staff, graduate and professional students, and, increasingly, undergraduates. To assist UC in responding to the dynamic changes occurring in the innovation and entrepreneurship field, President

Napolitano formed an Innovation Council in 2016, including leaders in the innovation and entrepreneurship community. The Council provides valuable advice on trends and best practices. A UC Knowledge Transfer Advisory Committee was constituted in the current year to advise on technology commercialization and knowledge transfer. In addition, what had been a discrete Innovation and Entrepreneurship division at UCOP was recently brought into Academic Affairs to better align with, and be informed by, academic perspectives.

Head of Strategic Partnerships Victoria Slivkoff commented on the extent of innovation and entrepreneurship activities across the UC system. Through funding from private sector and public grants such as Assembly Bill (AB) 2664, each campus had built infrastructure and services to support entrepreneurs and startups. The \$22 million grant from AB 2664 allowed the creation of an enhanced startup incubator infrastructure and provided proof-of-concept funding as well as funding for education, mentoring, and events for entrepreneurs. As a result, over \$22 million in matching funds and over \$8 million in matching in-kind services were raised. Additionally, 560 new startups were launched and innovation and entrepreneurship events were attended by more than 15,000 students. As an example, a new program, the Central Valley Entrepreneurship Academy, was formed to provide greater connectivity and resources to local entrepreneurs. By orchestrating a coordinated effort to move research and discovery to the marketplace, UC can strengthen its position as the leading university system for innovation and entrepreneurship. In consultation with the campuses, the Office of Innovation and Entrepreneurship develops a strategic roadmap in which UCOP is uniquely positioned to add value to existing campus innovation and entrepreneurship ecosystems in six areas, while respecting the campuses' current relationships and activities and avoiding conflicts or competition. First, UCOP adds value in enhanced coordination within and between campuses to share and leverage best practices and opportunities with multi-campus projects, programs, and initiatives. UCOP's ability to convene allows it to amplify impact and democratize innovation and entrepreneurship across the system. Second, UCOP provides increased funding sources for the campuses to support early-stage startups, particularly for women and minority entrepreneurs. UCOP helps a large network of investors connect to startups across the UC system. UCOP also plans to lead a systemwide effort to champion additional grant funding from the State Legislature. Third, UCOP increases the monetization of University intellectual property by engaging with corporations to accelerate licensing opportunities. Fourth, UCOP engages with industry partners not currently engaged with UC or those who seek a multi-campus initiative. Fifth, UCOP facilitates systemwide engagement by alumni founders and works with the campuses to create mechanisms for alumni founders to donate their equity in the Founders' Pledge. Sixth, UCOP elevates the UC brand as a leading university system for innovation and entrepreneurship by coordinating between UCOP and campus marketing groups to ensure that UC messaging is properly aligned and strategized overall.

UCSF Professor Regis Kelly, OBE, Executive Director of QB3, explained that QB3 was one of the four California Institutes for Science and Innovation. These Institutes were unique not because of the focus on science but because of the focus on innovation, on converting the massive research efforts on UC campuses into practical benefits for society.

To foster innovation, the four Institutes had to “innovate innovatively.” QB3 had decided to do this by helping to launch successful startup companies. QB3 had assisted about 400 entrepreneurs with great ideas, but without business or legal experience, to incorporate their companies. QB3 started an incubator program to house the fledgling companies, and so far the program had housed more than 170 companies. The companies that QB3 has helped create contribute about \$300 million annually to the local economy and create about two jobs every day, on an annual budget of about \$800,000. To expand QB3’s impact to the other campuses, Mr. Kelly worked as Senior Advisor on Innovation and Entrepreneurship with President Napolitano to secure passage of AB 2664 and to share best practices in entrepreneurship among the campuses and National Laboratories. To get seed funding for these companies, UC has created its own University-associated venture funds. The first was Mission Bay Capital, which had already had nine successful exits. This was inspiring other UC campuses to do the same.

UC’s innovation and entrepreneurship efforts were progressing well but UC would have to do better to remain at the cutting edge, and Mr. Kelly presented some suggestions. The first would be to renew AB 2664 with four more years of funding. Second, the University should take better advantage of the four California Institutes for Science and Innovation. Currently, the Institutes were receiving about \$16 million annually from the UC budget. UC should consider how it can better use this money to achieve UCOP goals. Third, the University should take advantage of its size. UC should be an overwhelming presence in the innovation and entrepreneurship arena, but needed to coordinate its activities much more effectively across the system, sharing best practices and making it easier for potential private sector partners to navigate their way around UC’s complex system. Finally, Mr. Kelly urged UC to think big, as befits a big university. For example, aging and age-related diseases are a massive health, social, and economic problem globally. UC has tremendous resources on its ten campuses; could UCOP stimulate and coordinate work on the campuses to address this hugely important but relatively neglected area? Mr. Kelly concluded that staying at the cutting edge was achievable. The Office of Innovation and Entrepreneurship at UCOP was in a powerful position to achieve this goal.

Chancellor Christ began her remarks by noting that UC Berkeley had a long legacy of developing groundbreaking products, founding companies, and creating new industries. UC Berkeley students, professors, and alumni had founded more than 2,000 companies, including Intel, Apple, Tesla, Gap, American International Group (AIG), Autodesk, SanDisk, and PowerBar. Caviar, the food delivery service recently acquired for \$100 million, was founded by UC Berkeley students while they were still in school. In May 2019, Crunchbase ranked UC Berkeley as the world’s top public school for business and technology startups that attract early-stage funding. The Berkeley campus innovation and entrepreneurship ecosystem thrives in a facilitated bottoms-up approach. UC Berkeley understands that a top-down approach can stifle entrepreneurial creativity and therefore seeks to create an open environment in which to encourage and nurture the entrepreneurial spirit of the campus. Over the last several years, the UC Berkeley entrepreneurial ecosystem had grown and strengthened dramatically. From resources for startups such as the Berkeley SkyDeck accelerator and the CITRIS Foundry to the numerous courses offered throughout the campus by the Sutardja Center for Entrepreneurship and

Technology and the Berkeley-Haas Entrepreneurship Program, UC Berkeley offers many opportunities to its students, faculty, and startups to pursue entrepreneurship. Chancellor Christ thanked UCOP for its advocacy for AB 2664. The \$2.2 million that came to the Berkeley campus as a result of that bill was tremendously beneficial to the campus' innovation and entrepreneurship ecosystem. These funds allowed many of the campus' innovation and entrepreneurship resources to expand their reach to more students, faculty, and startups than ever before. Many of the startups are not only successful in building capital but also contribute to the greater social good. The Haas School of Business' LAUNCH program was UC Berkeley's accelerator and competition, designed to transform early-stage startups into fundable companies. Many successful ventures were emerging from this program. In 2015, the LAUNCH grand prize winner was a company called Ava. Ava is a mobile application for the hearing-impaired that provides real-time, color-coded transcription of speakers in a group setting. A platform focused on bridging the communication gap for the hearing-impaired, Ava was now empowering 400 million deaf and hard-of-hearing people to understand and participate in group conversations. All of these exciting efforts have led to the campus appointing its first ever Chief Innovation and Entrepreneurship Officer, and Professor Richard Lyons, former Dean of the Haas School, had been appointed to this role. In this new role, Mr. Lyons would work with campus partners to help channel grassroots energy and efforts to further develop and communicate UC Berkeley's rich portfolio of innovation and entrepreneurship activities. He would be responsible for developing strategies to raise the visibility of these activities and to create high-value partnerships. Chancellor Christ introduced Rhonda Shrader, Executive Director of the Berkeley-Haas Entrepreneurship Program. Ms. Shrader had been successful in creating critical partnerships with stakeholders on and off campus, had experience founding startups in the biotechnology, behavioral health, retail, nonprofit, and artificial intelligence realms, and had served as a long-time mentor for UCSF's "Idea to IPO" course.

Ms. Shrader recalled her experiences with a 2016 video marketing campaign that promoted UC entrepreneurs to the investor and corporate communities and at a UC-wide meeting to explore interest in the Blackstone LaunchPad student entrepreneurship program, which demonstrated the importance of a systemwide Innovation and Entrepreneurship operation. UC systemwide Innovation and Entrepreneurship had helped the LAUNCH accelerator raise awareness across campuses and made introductions to corporate executives and investors. While Innovation and Entrepreneurship had made progress over the past three years in elevating the profile of UC's innovation and entrepreneurial ecosystems to external partners, Ms. Shrader and her colleagues at other campuses were keenly aware that most programs were planned and executed without their involvement. Due to lack of communication and coordination with the campuses, there was a disjunction between the Innovation and Entrepreneurship roadmap and actual benefits realized at the campus level. Ms. Shrader was pleased to report that Innovation and Entrepreneurship had changed to a new approach in working with the campuses. For the first time, the campuses were involved in the planning and execution of strategic programs and initiatives. She emphasized the value of a UC-wide Innovation and Entrepreneurship operation as it serves as a conduit for external partners to navigate the University's vast and fragmented ecosystems, bringing more funding and partnership opportunities to the campuses. Innovation and Entrepreneurship can assist the campuses by amplifying the outstanding

work being done there, exposing the campuses to opportunities they would not be aware of otherwise, and supporting the campuses, which have constrained resources, to accomplish what they could not do on their own.

Regent Leib asked if UC was the largest holder of patents in the United States. Ms. Slivkoff responded in the affirmative. Regent Leib noted that the University had received \$200 million in patent royalties in fiscal year 2018. He asked how these funds are distributed, remarking that this source could fund the University in the future. By increasing its royalties, UC could avoid tuition increases and increase student mental health services. Mr. Ellis responded that the campuses have a formula which varies by campus. Roughly half of the funds go to the campus, 35 percent to the inventor or multiple inventors, and 15 percent to the inventor's research laboratory or department. Chancellor Christ added that UC Berkeley had carried out a study two years prior comparing its level of investment in patenting and licensing operations with the five universities across the U.S. that, in UC Berkeley's view, represented best practices. UC Berkeley was investing only a fifth of the amount that the other universities were investing. The Berkeley campus could increase income through increased investment in patenting and licensing and was engaged in new ways of generating income streams from intellectual property, beyond patenting and licensing. This was a promising income stream that was not as robust as it could be at UC Berkeley, but investment would be required to develop it.

Regent Leib stressed that UC must figure out how to monetize and maximize its inventions, which represented a great funding potential. UC must invest in patenting and licensing and in defending its patents. He also noted that innovation and entrepreneurship activity was not always valued equally at all campuses and that UC should ensure that campuses receive appropriate support. Ms. Slivkoff responded that the most frequent request her office receives from external partners is access to UC startups, entrepreneurs, and domain experts. External partners are not necessarily interested in one particular campus but want to know where the inventions are. Innovation and Entrepreneurship has been building a database of startups and entrepreneurs across the UC system; the database now had more than 3,000 data points and was an effective tool for introducing investors to entrepreneurs, including at campuses that might not often be visited by large venture capital investors. Regent Leib stated that he looked forward to working on increasing the University's patent royalties.

Regent Sherman asked if the systemwide Innovation and Entrepreneurship office was having discussions with the Office of the Chief Investment Officer about securing venture capital funding from the General Endowment Pool or pension. Mr. Ellis responded that Provost Brown had been speaking with Chief Investment Officer Bachher about these opportunities. These discussions were still in an early stage.

Regent Sherman observed that UC was planning to invest a significant amount of money in the private equity and venture space. The University's 3,000 entrepreneurs presented a perfect opportunity. He asked if UC was attracting its successful alumni entrepreneurs as donors to give back to UC, and if there was a focused outreach effort to these individuals. Ms. Slivkoff responded that the Berkeley and Irvine campuses had, in addition to

development office outreach, a Founders' Pledge whereby entrepreneurs can pledge a percentage of equity in their startup to their alma mater. This represented a significant upside for UC and Ms. Slivkoff hoped that this mechanism could be implemented on more campuses. Her office had been working with the Office of the Chief Investment Officer and Bow Capital, its venture capital investment vehicle, helping them to identify promising intellectual property, startups, and domain experts. Mr. Bachher added that his office was working with Provost Brown, Ms. Slivkoff, chancellors, and incubators on the campuses. The Office of the Chief Investment Officer had created term sheets to create funds on campuses that did not yet have funds. There was currently an extraordinary pipeline of opportunities. He credited President Napolitano for her vision of making innovation and entrepreneurship an important focus for the University. The level of activity had increased at every campus; the UC Irvine innovation ecosystem was an outstanding example of this. The role of the Office of the Chief Investment Officer was to be a capital provider, able to fund companies directly and assist chancellors with establishing funds. Conversations on these matters were taking place weekly if not daily, and extensively, across the UC system.

Regent Park observed that this important topic straddled the jurisdictions of all the Regents' committees. She concurred with Regent Leib about the need for UC to capture these revenues and that this source would fund the University's future. Investment at this moment was important because these ventures take time to come to fruition. She commented that the background materials that were provided lacked details about funding specifics, access to information, and governance. She hoped that a unified plan would emerge from these multifarious collective efforts. The materials did not make any reference to involvement of the Regents, yet the Regents own the University's intellectual property and have a role to play. The University had relied on the generosity of the Legislature in this field but this could not be UC's only plan. Regent Park urged the University to take a purposeful approach and to make transparent what should be transparent. This discussion was only the beginning of efforts and a focus by the Regents in this area.

Regent Kounalakis recounted that she had visited the UC Berkeley SkyDeck accelerator and encouraged other Regents to visit this incubator that helps launch companies. The SkyDeck accelerator was not exclusive to UC Berkeley but open to all UC campuses, and its activities had expanded at an impressive rate.

Regent Estolano raised a number of questions, noting that she did not expect immediate answers. Given that UC spends only one-fifth on these efforts compared to the amount spent by comparator institutions, what would the return be if UC increased its investment? How much revenue does the University believe it could generate, how would UC project this, and what investment would be necessary to achieve this? What was UC not doing that it could be doing to maximize the benefit of this potential stream of revenue and innovation for the betterment of society? Regent Estolano asked about measures to enable investment in entrepreneurs who are women and people of color, direct investment that would not otherwise occur. She suggested that the Board have a deeper discussion of this matter.

Committee Chair Makarechian recalled that he had chaired the Working Group on Technology Transfer in 2012. At that time there was not the same kind of central

coordination at UCOP. One of the recommendations of the Working Group, stated in its October 2012 report, was that the Regents should establish an Ad Hoc Committee on Technology Transfer to monitor systemwide efforts to enhance technology commercialization. He suggested that the Regents might wish to create such a committee at this point to bring these matters to the Regents' focused attention. He concurred that details were not provided, such as a flow chart indicating how funds were being spent or how investment decisions were being made. This structure did not yet exist.

Chair Pérez noted that Committee Chair Makarechian's suggestion raised questions of committee jurisdiction. He summarized the general wish of the Board to determine which committee has appropriate responsibility for innovation and entrepreneurship and to ensure that Regents have an appropriate level of engagement.

Mr. Kelly referred to remarks that had been made earlier. He noted that he had worked in the innovation and entrepreneurship field for 15 years and had observed a massive explosion of interest on the UC campuses. A critical factor was to change the organizational culture, and the change in culture was not to focus on money. Many faculty members do not come to UC in order to bring funds into the University but to do good for society. The University had to communicate that starting companies and becoming involved with companies was not to make money for oneself or the University, but to do good and bring benefit to society. This has been an important cultural change and has helped to increase interest in innovation. With regard to AB 2664, Mr. Kelly emphasized that the University did not ask the Legislature for a gift but demonstrated to the State the significant return on investment from UC innovation and entrepreneurship, with the University taking State funding and converting it into economic growth in the San Francisco Bay Area. The University suggested applying this model in other parts of the state. The Legislature supported this idea because it saw the University fulfilling its public service mission; the University was not trying to get a generous handout from the Legislature.

President Napolitano remarked that much of the University's outstanding research had the potential to be monetized, sometimes returning money to the University. While this was a relatively new activity for UCOP, it seemed to her that the University needed a central entity working and coordinating with the campuses to address these questions as a system. UCOP would be happy to provide further information and detail in future presentations.

Regent Um noted that the Regents had been provided an organizational chart that showed many vacancies for the Office of Innovation and Entrepreneurship, with the exception of Ms. Slivkoff. He asked if the Board could assist in addressing these vacancies. Mr. Ellis responded that UCOP was working through a transition period during which much transactional staffing and infrastructure has been moved into Academic Affairs. The transition had begun in November 2018. Provost Brown was working on the development of the new department for research and innovation, including staffing needs.

Regent Leib asked how much money the University has earned in patent royalties over the past five years. He also asked how UC patent royalties compared to those of other

universities such as Stanford, Harvard, and Princeton. Mr. Ellis responded that this information could be provided.

4. **UNIVERSITY OF CALIFORNIA RETIREMENT PLAN – PROPOSAL TO ADOPT CHANGES IN ACTUARIAL ASSUMPTIONS AND AUTHORIZATION TO INCREASE THE EMPLOYER CONTRIBUTION RATE**

The President of the University recommended that:

- A. The Regents’ Consulting Actuary’s recommendations regarding economic actuarial valuation assumptions for the UC Retirement Plan (UCRP or Plan) summarized in Attachment 1 be adopted.
- B. The Consulting Actuary’s recommendations regarding non-economic actuarial valuation assumptions for the UCRP summarized in Attachment 1 be adopted.
- C. With respect to the UC-PERS Plus 5 Plan and the UC Retiree Health Benefit Program, the actuarial valuation assumptions summarized in Attachment 2 be adopted.
- D. The Plan Administrator be authorized to implement the changes summarized in Attachments 1 and 2.
- E. The Regents approve the following schedule of increases in the University contribution rate on behalf of active members in the Campus and Medical Centers (C/MC) and Lawrence Berkeley National Laboratory (LBNL) segments of UCRP and on behalf of active participants in “Savings Choice” from 14 percent and six percent, respectively, to:

Effective Date	UCRP Employer Contribution Rate	
	UCRP Active Members ¹	“UAAL Surcharge” ²
July 1, 2020	14.5%	6.5%
July 1, 2021	15.0%	7.0%
July 1, 2022	15.5%	7.5%
July 1, 2023	16.0%	8.0%

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

¹ Excludes UCRP member class known as “Tier Two”, which is a frozen group that had four active members as of July 1, 2018. For Tier Two, employer rates are one-half of the rates for non-Tier Two members.

² The “UAAL Surcharge” is the employer contribution to UCRP on behalf of active employees who elected “Savings Choice” as their primary retirement benefit and are current participants in the Defined Contribution Plan. The UAAL Surcharge pays down UCRP’s Unfunded Actuarial Accrued Liability (UAAL).

Executive Vice President and Chief Operating Officer Nava explained that two actions were being proposed. The first was to adopt changes to actuarial assumptions, based on an experience study just completed by Segal Consulting (Segal). The second was to authorize changes to the University's employer contribution rate to the UC Retirement Plan (UCRP) as a result of these actuarial changes, which would increase costs for the UCRP.

Director Kenneth Reicher explained that the experience study is a best practice for pension plans like the UCRP and is carried out every three to five years. The last experience study was performed in 2015. Actuaries use an experience study to help ensure that plan liabilities and costs are developed appropriately, according to actuarial standards. The study compares a plan's actual and expected demographic experience to determine how accurately the current assumptions are predicting actual experience. The study also analyzes economic assumptions for long-term appropriateness, given current market conditions and future outlook. Based on the results of a study, the actuary might make recommendations to change some assumptions while retaining others, as was the case with this latest study by Segal, which examined UCRP experience over the four-year period from July 2014 to June 2018. As was the case for the 2015 study, the recommended changes with the largest financial impact on the UCRP were a proposed decrease in the assumed investment return and a change in the mortality assumption, which reflected longer life expectancy.

Segal Consulting Representative Paul Angelo presented the most significant new insights and recommendations from this four-year study. In the economic assumptions, Segal was recommending reducing the price inflation assumption from three percent to 2.75 percent. This was a long-term assumption and significant because it was a component of other assumptions, including salary increases and investment return. There was a link between this recommendation and the other most significant economic recommendation, which was to reduce the expected return, or discount rate used to value the UCRP liabilities and determine the UCRP cost, from 7.25 percent to seven percent. There would be no change in the real return, but lower price inflation would reduce the nominal return. This was occurring with pension plans around the nation. The California State Teachers' Retirement System and the California Public Employees' Retirement System were using a seven percent expected return assumption. There were about 30 independent public pension plans in California; their return assumptions were clustered in the range of seven percent to 7.25 percent. The University has tended to be at the front end of this curve, so moving to a seven percent assumption would not be out of character. Many retirement systems in the U.S. were now moving their assumptions down from eight percent to 7.5 percent. California tends to lead national practice.

Another major new insight was that UCRP members were living longer. When Segal sets mortality assumptions, it tries not only to match current experience but to anticipate future improvements in mortality. The Society of Actuaries had issued a new set of actuarial tables. The Society had completed a major public plan study the prior year, with separate tables for general members, police and firefighters, and teachers. Segal was using the teachers' table but adjusting it for the UC experience. UC faculty members were living longer than the average teacher, while UC staff were living about as long as the average

teacher. Segal was also reviewing “generational mortality,” with different assumptions for each future calendar year. The mortality tables are also benefit-weighted; level of income before and after retirement is a strong predictor of mortality. The table takes the level of retirement benefits into account.

Mr. Angelo then discussed the anticipated impacts of these assumption changes based on July 1, 2018 valuations. The key number in determining pension costs is the Normal Cost. For active members, this is the cost allocated to each year of service. The assumption changes would increase the Normal Cost from about 17.9 percent to 19.7 percent, a 1.8 percent of payroll increase in the annual cost of UCRP for active members, or \$270 million for the current year. The Actuarial Accrued Liability represents all the costs that have accrued to date, including the value of benefits for inactive and retired members. This would increase by \$4.5 billion, a 5.8 percent increase, from about \$77 billion to \$81.4 billion. The Funded Ratio was another way to measure the accrued liability. When accrued liability increases, the Funded Ratio decreases. The Funded Ratio would decrease by about five percent. Mr. Angelo observed that, while the proposed assumption changes would strengthen the funding of the UCRP, they make this “snapshot” measure look worse. All these benchmarks are combined in the Total Funding Policy Contribution Rate, which includes the Normal Cost plus an amount to pay off the unfunded liability. This measure would increase from 26.3 percent to 31 percent, the actuarially determined contribution.

Executive Vice President and Chief Financial Officer Brostrom recalled that the second element of the proposed action was to gradually increase the employer contribution rate, which had been at 14 percent for several years, to 16 percent over the next four years. No action was being proposed for active member contribution rates. In recent years, the Regents had authorized additional funding for the UCRP totaling \$6.4 billion through a combination of internal transfers from the Short Term Investment Pool (STIP) and external borrowing. This has enabled UC to contribute up to the policy level since 2010-11. Because of the increases in the UCRP liability and Normal Cost outlined by Mr. Angelo, the University believed that the borrowing cost would be too significant and might put constraints on UC liquidity. For that reason, the University was proposing a gradual increase in the employer contribution rate, one-half of one percent each year for the next four years. This two percent increase would largely offset the 1.8 percent increase in the Normal Cost. The University would still recommend additional borrowing in the coming years in order to achieve the Annual Required Contribution and the policy level.

Committee Chair Makarechian recalled that the University had had a “contribution holiday” with no employer or employee contributions for a number of years when returns were favorable. There has since been much criticism of this holiday, and UC has had to resume contributions to and borrow for the UCRP. He stressed his view that borrowing from STIP was not a good solution. The proposed assumption of seven percent was still too high and should be lower. Twenty-year returns were lower than six percent. For every half of a percentage point, the shortfall would equate to around \$5 billion. The University was not proposing an increase in the employee contribution. When these employees retire, someone else would have to pay the shortfall. The ten-year projection shown in a chart indicated significant shortfalls in future years. Some retirement systems in the U.S. had

reduced their return assumption to 6.5 percent or 6.25 percent because they did not believe that the market would continue to perform as well as it has recently.

Regent Sherman expressed agreement with Committee Chair Makarechian's points. He observed that, while Segal had lowered the inflation assumption to 2.75 percent, it had left the rate of expected real return on investments the same. He asked why Segal had not considered lowering this latter assumption, given that the University's 20-year trailing investment return was below six percent, even including the excellent returns in recent years. He cited the idea of reversion to the mean and suggested that there was a strong case to be made for an investment return assumption much lower than seven percent. Mr. Angelo responded that Segal examines different components of the investment return, and the real return in particular. Based on discussions with the Office of the Chief Investment Officer, consideration of UC's asset allocation, and a survey of capital market assumptions, Segal found that there was a modest reduction in the expected real return but not enough to justify an additional 25 basis point reduction. Based on updated capital market assumptions from a survey of investment firms, Segal found that the real return component was comparable to what it had been in the study four years prior. This point was considered, and Segal made a specific recommendation not to lower the real return.

Regent Sherman asked about the numbers behind Segal's conclusion that there was no justification for an additional 25 basis point reduction in the expected real return. Mr. Angelo responded that, in Segal's study, expected real return declined from 5.55 percent to about 5.4 percent. Segal also applies a risk adjustment, and because the portfolio was now less risky than it had been four years earlier, Segal reduced the risk adjustment by about 15 basis points, which left the University's likelihood of achieving the assumed return substantially unchanged. In its study four years prior, Segal had found a 55 percent likelihood of achieving a 7.25 percent return; this likelihood was now at 54 percent, and this was an essential benchmark. The fact that the portfolio now had lower risk meant that the University could absorb the lower real return without affecting the nominal rate and still maintain a comparable level of risk for the assumption.

Regent Sherman asked about the dollar figure of the amount that would have to be amortized for every 25 basis point change in the expected return. In effect, the University was putting off a difficult issue. Mr. Brostrom responded that every quarter-point discount adds about \$2 billion to the UCRP liability, which is amortized. Regent Sherman asked if a ten or 15 basis point change would represent about half that amount. Mr. Angelo responded in the affirmative. Segal tries to avoid the illusion of precision. Some retirement systems have reduced their discount rate by one-tenth of a percent, but this was not usual. In his view, one should not over-calibrate these decisions. Segal tends to think in terms of 25 basis point reductions.

Regent Sherman asked if UC discounts the UCRP liability at the expected earnings rate, while the corporate world discounts this liability at the borrowing rate. Mr. Angelo responded in the affirmative. Regent Sherman asked what would happen to the UCRP liability if UC discounted the liability at its borrowing rate, which was about half of its earnings rate. Mr. Angelo responded that this would dramatically increase the liability.

Regent Sherman asked if this was within the realm of possibility. Mr. Brostrom responded that, in essence, UC had been doing this by borrowing from STIP. Regent Sherman asked if borrowing was within the realm of possibility. Mr. Brostrom responded that the University had been considering this. Interest rates were extraordinarily low at this moment. He noted that bonds for the North District student housing project at UC Riverside had just received a grade of Baa3, or bottom of investment grade, at a 30-year rate of 3.68 percent. The University could probably secure a 15- to 20-year rate at about 2.5 percent, which would be fixed, unlike STIP.

Regent Sherman stated that the University should consider borrowing while the environment of low interest rates persisted. Mr. Brostrom responded that he would propose that UC proceed with the borrowing that the Regents had authorized and perhaps borrow more, to take advantage of this environment.

Regent Cohen referred to the life expectancy projections in the experience study. He observed that retirement systems had been underestimating life expectancy. He asked how much certainty Segal felt about these figures and if the next experience study, in three to four years, would find that these figures were inaccurate. Mr. Angelo responded that, until now, most retirement systems, including UC, had been anticipating future mortality improvements on a static basis, moving a margin with every study. The current study was different, using the “generational mortality” approach. In theory, when Segal returns in four years with the next study, it should not have to change the mortality tables. Incorporating a different mortality table for each future year would be a more reliable approach. The Society of Actuaries carries out projections annually. Mr. Angelo stressed that Segal’s projections also reflect actual UC mortality; they balance UC experience and the standard table. If UC’s actual experience is quite different over the next four years, this might result in an adjustment. The “generational mortality” approach was specifically design to address Regent Cohen’s concern about entities that are constantly inaccurate in their projections and trying to catch up.

Regent Cohen observed that the reduction of the inflation assumption from three percent to 2.75 percent appeared to reflect current economic realities. He asked if the University linked payroll assumptions to inflation assumptions, such that UC presumed that it would give its employees, on average, the equivalent of inflationary raises over the next 30 years. In the last round of collective bargaining agreements, the University had been giving three percent raises. In approving these agreements, the Regents were creating unfunded liability. Mr. Angelo countered that this was not necessarily the case. Segal builds a salary increase assumption into its calculations. Segal begins with price inflation but adds a real wage growth component of 50 basis points. Segal was assuming that average wages would grow by 3.25 percent.

Regent Cohen asked why UC had decided to phase in the increases in the employer contribution rate over four years, rather than over two years or in one year. Mr. Brostrom responded that UC’s covered compensation amounted to about \$12 billion, so that one percent equaled about \$120 million. The State portion of the contribution was about 30 percent. UC was trying to implement these increases in a way that would not result in

severe consequences for UC's request to the State or for tuition. The proposed increases would represent an increase of \$15 million to \$20 million for the State portion and would affect UC auxiliary enterprises and the medical centers.

Regent Cohen asked if UC had calculated how much liability it was adding at a seven percent borrowing cost and by slow implementation. Mr. Brostrom responded that he would still propose borrowing the amount of the funding policy shortfall, up to the Annual Required Contribution, substituting additional borrowing.

Regent Cohen suggested that, if UC increased the employer contribution rate to 16 percent next year rather than over four years, UC would be borrowing a smaller increment. He expressed concern about the plan to borrow perpetually. This approach had made sense in the conditions of the past several years. The University had found an innovative way to access cheap money to help pay down its pension liabilities, but Regent Cohen expressed doubt about this as a perpetual plan. Mr. Brostrom acknowledged that the proposed increase in the rate and proposed borrowing represented a certain threat to the amount of working capital the University had available, funds available in the event of an earthquake or business interruption.

Regent Cohen observed that another factor restricting the University's flexibility was the question of whether its ratings would be affected by failure to meet actuarially required contributions. Mr. Brostrom responded that a trade-off was involved. The rating agencies were very pleased that the UCRP was 87 percent funded, of which seven points had come from borrowing.

Regent Cohen stated his assumption that the Office of the President had not had the time or opportunity to confer with the rating agencies about the actions being proposed in this item. Mr. Brostrom responded that the rating agencies were well aware of these issues. At the most recent meeting, the agencies' representatives had asked about UC's plans for its discount rate. The University had forewarned the agencies about an approximately \$2 billion increase in liability attributed to the change in the discount rate but had not anticipated the dramatic change in mortality, which accounted for another \$2 billion increase.

Regent Cohen remarked that, the higher the discount rate, the more risk the University was taking on. It was important to hear whether the Office of the Chief Investment Officer was comfortable about achieving an expected return of seven percent.

Regent Park asked how long UC had retained Segal's services. Mr. Angelo believed that this had been since 2004.

In response to a question by Regent Park, Mr. Angelo confirmed that staff have a slightly shorter life expectancy than faculty. Regent Park asked if this had been broken down by type of staff. Mr. Angelo responded in the negative.

Regent Park stated that the University should consider the issue of life expectancy in connection with employee contributions. It was the University's duty to calibrate its method of sustaining its promises to employees. Given the differences in life expectancy, it would be more than appropriate that there be greater contributions from non-represented employees. With represented employees, this is a subject of bargaining.

In response to Regent Cohen's request for commentary, Chief Investment Officer Bachher stated that in the last experience study, the real rate of return was added to inflation to arrive at 7.25 percent. Inflation is one variable. As an investment professional, he felt that 2.75 percent was a high number for the inflation assumption. In practical terms, the University was in an environment of two percent inflation. Nevertheless, these assumptions cover a long time period. If the University did not change the discount rate and worked only with the inflation assumption, Mr. Bachher stated that he would assume inflation in the range of two to 2.5 percent. With regard to the real rate of return, the way to achieve five percent or 5.25 percent is by adding on private market risk, which offers higher returns but presents higher risk. Long-term returns on public equities of five to seven percent would be reasonable. This had been an exceptional year for bonds, but a reasonable return would be in the range of zero to two percent. If half of the assets in a portfolio are in equities, earning three percent, and bonds are earning one percent, the only way to achieve a seven percent return is to increase risk in the portfolio. This was challenging when one considered the outlook for returns in the next ten to 20 years. With regard to long-term expectations for returns, seven percent or 7.25 percent would be a stretch for the University because this would require increasing risk, and this was not a time to increase risk, considering the current state of the markets after such a bull run, following the depths of the financial crisis. For Mr. Bachher and his office, the range for an expected return was the cost of borrowing at one end and some established ceiling at the other end. The only variable was the amount of risk one was willing to take to achieve that return.

Committee Chair Makarechian asked about the average return on the UCRP over the past 20 years. Mr. Bachher responded that this was between five and seven percent.

Regent Cohen asked whether, if the discount rate was reduced to seven percent, Mr. Bachher would need to present a new asset allocation plan to the Investments Committee, or if the current allocation would achieve a seven percent return. Mr. Bachher responded that he would carry out another asset allocation review. At the time of the last review, with the target of 7.25 percent, models indicated that one should have 40 percent private equity; UC had closer to 30 percent, with a lower probability of achieving 7.25 percent. The reduction to seven percent would give his office the flexibility to be more relaxed about risk. The change warranted taking a prudent look UC's asset allocation to determine if the University should increase the risk in its portfolio or not.

Committee Chair Makarechian underscored the Regents' fiduciary responsibility to ensure that UC retirees have funds that they expect to receive when they retire. He asked about the implications of increasing contributions from non-represented employees.

Chair Pérez asked how the projections might shift if, in addition to the proposed actions, UC also included appropriate levels of contributions from non-represented employees. He asked about a scenario under which UC would reduce the discount rate to 6.75 percent rather than seven percent, with appropriate employer and non-represented employee contributions. The Regents take seriously their responsibility to deliver on the promise of pension benefits to UCRP participants, do not wish to replicate bad patterns of the past with contribution holidays, and are conscious of the fact that rating agencies are examining the UCRP unfunded liability. He expressed the general concern of the Regents about whether the proposed actions would lead to a result consonant with the Regents' fiduciary responsibility. He asked what options the Regents had with respect to employee contributions and how these contributions might shift the projected numbers. Mr. Brostrom recalled that there had been a 20-year holiday during which neither the University nor its employees made any contributions to the UCRP, which was overfunded up to 140 percent in 2001. The funding level decreased dramatically, and a pension task force considered a new tier and a contribution strategy. Both employee and employer contributions were resumed. Employee contributions rose from zero to eight percent within four years and the University contribution rose from zero to 14 percent. The rationale at the time contributions were resumed was not to ask current employees to make up for the sins of the past. Employees would split the Normal Cost with the University. At that time, the Normal Cost was about 17 percent. Employees paid eight percent and UC paid nine percent. The University contribution rate was increased to make up for the unfunded liability. The Normal Cost had increased from 17 percent to about 20 percent, mostly because of changes in mortality and the discount rate.

Chair Pérez observed that the underlying logic for the resumption of contributions had been to split the Normal Cost. This was not the underlying logic for the current proposal. Mr. Brostrom responded that if this kind of split were included in this action, one would increase the employee contribution, and this represented a trade-off with competitiveness. If UC increased the employee contribution to ten percent, this might hamper efforts to hire and retain faculty, who would be asked to put ten percent into their contribution. This matter would have to be considered by the President, the Regents, and the Academic Senate. Increasing the employee contribution by one percent would represent about \$120 million, the same as a one percent increase to the employer contribution.

Chair Pérez stated that the result would be different if such an increase were combined with a reduction in the return assumption. The Board had a general concern about whether it was appropriate to share the increase in the Normal Cost and whether seven percent was the appropriate discount rate.

Committee Chair Makarechian asked who had decided that, in the proposed action, the contribution rate would be increased only for the employer and not for the employees. Mr. Brostrom responded that a group at the Office of the President worked on this proposal and brought it to President Napolitano. The University wants to ensure that it is fully funding the UCRP, and this action would accomplish this.

Committee Chair Makarechian asked why employees should not pay a portion of this cost. Mr. Brostrom responded that this had to do with competitiveness of the labor market. Committee Chair Makarechian stated his view that competitiveness was a different issue; the Regents had addressed this issue in discussions about raising salaries. The University should also take into account the fact that higher-paid employees live longer, yet UC was not increasing their contribution. Committee Chair Makarechian felt that this was unfair. Mr. Brostrom recalled that there were caps on pensionable income at the level of the California Public Employees' Pension Reform Act (PEPRA) cap. Committee Chair Makarechian reiterated his view that competitiveness was a different issue and stressed the importance of ensuring future pensions and having a fair contribution from employer and employees.

In response to a question by Regent Sherman, Mr. Brostrom explained that the PEPRA cap level was at about \$120,000. Regent Sherman suggested that the issue of competitiveness would not apply for employees earning above that level since they would not be making contributions for income above that level. Mr. Brostrom countered that increasing the contribution would affect average employees whose income was far below the PEPRA cap.

Regent Sherman stated his perception that UC compensation was more competitive in the marketplace for highly paid employees than for employees earning salaries below the PEPRA cap. Mr. Brostrom concurred with this assessment but noted that there were areas, such as information technology, in which marketplace competition was difficult.

Regent Sherman remarked that, while this discussion was concerned with the UCRP liability in the more distant future and finding ways to address the liability now rather than later, the discussion had not touched on retiree health benefits, which were unfunded and represented a far greater liability on the University's financial statements than did UCRP. Mr. Brostrom responded that UC was addressing retiree health benefit costs on a pay-as-you-go basis. The cost the prior year had been about \$340 million. The University must increase this cost at the medical trend rate of seven to 7.5 percent and discount back at the risk free cost of capital, which was now below three percent. This was the reason why this liability had grown so significantly on the balance sheet.

Committee Chair Makarechian asked how the inclusion of employee contributions would change the projections. Mr. Brostrom responded that increasing the employee contributions would reduce the funding policy shortfall.

Regent Cohen asked what the Normal Cost would be with a discount rate of 6.75 percent. Chair Pérez suggested that these options be further developed and brought back at a future meeting. Mr. Brostrom stated that the Regents must adopt some measure before the financial statements are issued. There had been suggestions to lower the discount rate and to increase employee contributions.

Regent Kieffer referred to Mr. Brostrom's statements about employee contributions as an issue of competitiveness. He suggested that the Regents should examine this issue further. Historically, UC had had lower employee contributions and lower compensation; this was

now changing. Mr. Brostrom responded that data could be provided on comparable California employers and other higher education institutions. Comparison with other higher education institutions would be complicated by the fact that UC was one of the few institutions that offers a Defined Benefit Plan; comparison would be with Defined Contribution Plans. Regent Kieffer noted that this last point should be considered as an added factor in competitiveness. Mr. Brostrom suggested that this item could be brought back at the September meeting. Committee Chair Makarechian asked that this be done.

Faculty Representative May commented that, if UC raised the employee contribution, this would induce a higher rate of retirement among faculty. Although faculty live longer, they also retire later; this must also be factored into these calculations. These two factors must be considered.

President Napolitano asked Mr. Brostrom and his team to develop options and present them at the September meeting.

5. **APPROVAL OF THE BUDGET, SCOPE, EXTERNAL FINANCING, STANDBY FINANCING, AND DESIGN FOLLOWING ACTION PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, SUSAN AND HENRY SAMUELI COLLEGE OF HEALTH SCIENCES BUILDING, AND SUE AND BILL GROSS NURSING AND HEALTH SCIENCES HALL, IRVINE CAMPUS**

The President of the University recommended that:

A. The 2019-20 Budget for Capital Improvements and the Capital Improvement Program be amended as follows:

Irvine: Susan and Henry Samueli College of Health Sciences Building – design, construction, equipment, and interest during construction – \$113 million to be funded from gifts (\$55 million), external financing (\$55 million), and campus funds (\$3 million).

Irvine: Sue and Bill Gross Nursing and Health Sciences Hall – design, construction, equipment, and interest during construction – \$72 million to be funded from gifts (\$30 million), external financing (\$41.5 million), and campus funds (\$0.5 million).

B. The scope of the Susan and Henry Samueli College of Health Sciences Building shall consist of constructing an approximately 108,200-gross-square-foot (gsf) (63,600-assignable-square-foot (asf)) building that would provide clinical space, classrooms and instructional space, research space, academic and administrative office space, and shared collaboration and scholarly activity space.

The scope of the Sue and Bill Gross Nursing and Health Sciences Hall shall consist of constructing an approximately 71,500-gsf (43,100-asf) building that would

provide classrooms and instructional laboratories, research space, academic and administrative office space, and shared collaboration and scholarly activity space.

- C. The President be authorized to obtain external financing in an amount not to exceed \$96.5 million, plus additional related financing costs, to finance the Susan and Henry Samueli College of Health Sciences Building and the Sue and Bill Gross Nursing and Health Sciences Hall. The President shall require that:
- (1) Interest only, based on the amount drawn, shall be paid on the outstanding balance during the construction period.
 - (2) As long as the debt is outstanding, the general revenues of the Irvine campus shall be maintained in amounts sufficient to pay the debt service and to meet the requirements of the authorized financing.
 - (3) The general credit of the Regents shall not be pledged.
- D. The President be authorized to obtain standby financing not to exceed \$45 million, plus related interest expense and additional financing costs, for the Susan and Henry Samueli College of Health Sciences Building and the Sue and Bill Gross Nursing and Health Sciences Hall, subject to the following conditions:
- (1) Interest only, based on the amount drawn down, shall be paid on the outstanding balance during the construction period.
 - (2) Repayment of any debt shall be from gift funds. As gifts are received, the campus will reimburse the standby financing in a timely fashion. If gift funds are insufficient and some or all of the debt remains outstanding, then unrestricted campus funds shall be used to pay the debt service and to meet the related requirements of the authorized financing.
 - (3) As long as the debt is outstanding, the general revenues of the Irvine campus shall be maintained in amounts sufficient to pay the debt service and to meet the related requirements of the authorized financing.
 - (4) The general credit of the Regents shall not be pledged.
- E. Following review and consideration of the environmental consequences of the proposed Susan and Henry Samueli College of Health Sciences Building and the Sue and Bill Gross Nursing and Health Sciences Hall project, as required by the California Environmental Quality Act (CEQA), including any written information addressing this item received by the Office of the Secretary and Chief of Staff no less than 24 hours in advance of the beginning of this Regents meeting, testimony or written materials presented to the Regents during the scheduled public comment period, and the item presentation, the Regents:

- (1) Adopt the Initial Study and Mitigated Negative Declaration for the Susan and Henry Samueli College of Health Sciences Building and the Sue and Bill Gross Nursing and Health Sciences Hall project.
- (2) Adopt the Mitigation Monitoring and Reporting Program for the Susan and Henry Samueli College of Health Sciences Building and the Sue and Bill Gross Nursing and Health Sciences Hall project, and make a condition of approval the implementation of mitigation measures within the responsibility and jurisdiction of UC Irvine.
- (3) Adopt the CEQA Findings for the Susan and Henry Samueli College of Health Sciences Building and the Sue and Bill Gross Nursing and Health Sciences Hall project.
- (4) Approve the design of the Susan and Henry Samueli College of Health Sciences Building and the Sue and Bill Gross Nursing and Health Sciences Hall project.

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Chancellor Gillman noted that this project had been discussed at the May meeting. This was an exciting project and an important strategic initiative for the campus.

Upon motion duly made and seconded, the Committee approved the President's recommendation and voted to present it to the Board.

6. **APPROVAL OF BUDGET, SCOPE, EXTERNAL FINANCING, AND DESIGN FOLLOWING ACTION PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, CHEMISTRY ADDITION AND FIRST FLOOR RENOVATION, AND DELEGATION OF AUTHORITY FOR FUTURE CAPITAL APPROVALS FOR CHEMISTRY BUILDING AND CHEMISTRY ANNEX, DAVIS CAMPUS**

The President of the University recommended that:

- A. The 2019-20 Budget for Capital Improvements and the Capital Improvement Program be amended as follows:

From: Davis: Chemistry Addition and First Floor Renovation – preliminary plans – \$5,114,000 to be funded from campus funds.

To: Davis: Chemistry Addition and First Floor Renovation – preliminary plans, working drawings, construction, and equipment – \$46,921,000 to be funded with external financing.

- B. The scope of the Chemistry Addition and First Floor Renovation project shall provide approximately 29,700 new assignable square feet (asf) and 7,200 renovated asf to provide modern laboratories and collaboration spaces in support of the increasing demand for teaching and research.
- C. The President shall be authorized to approve external financing (Century Bonds 2012 and 2015) in an amount not to exceed \$46,921,000 plus additional related financing costs to finance the Chemistry Addition and First Floor Renovation project. The President shall require that:
 - (1) Interest only, based on the amount drawn, shall be paid on the outstanding balance during the construction period.
 - (2) As long as the debt is outstanding, the general revenues of the Davis campus shall be maintained in amounts sufficient to pay the debt service and to meet the related requirements of the authorized financing.
 - (3) The general credit of the Regents shall not be pledged.
- D. Following review and consideration of the environmental consequences of the Chemistry Addition and First Floor Renovation project, as required by the California Environmental Quality Act (CEQA), including any written information addressing this item received by the Office of the Secretary and Chief of Staff to the Regents no less than 24 hours in advance of the beginning of this Regents meeting, testimony or written materials presented to the Regents during the scheduled public comment period, and the item presentation, the Regents:
 - (1) Adopt the CEQA Findings for the Project, having considered both the 2018 Long Range Development Plan (LRDP) Environmental Impact Report (EIR) for the Davis campus and February 2019 Addendum³; and
 - (2) Make a condition of approval the implementation of applicable mitigation measures within the responsibility and jurisdiction of UC Davis as identified in the Mitigation Monitoring and Reporting Program adopted in connection with the 2018 LRDP EIR.
 - (3) Approve the design of the Chemistry Addition and First Floor Renovation project, Davis campus.
- E. The President shall be authorized to approve individual capital projects located in the Chemistry Building and Chemistry Annex with a cumulative total up to and including \$25 million over a period of three years, until July 2022. Minor capital

³The February 2019 Addendum covers the proposed Chemistry Complex Addition and First Floor Renovation Project, other capital projects in the Chemistry Complex, as well as construction of a new Engineering Student Design Center at Bainer Hall, located southeast of the Chemistry Complex.

projects, within these buildings, with a project cost of less than or equal to \$1 million are not included in the cumulative total.

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Executive Vice President and Chief Financial Officer Brostrom briefly introduced the item. Chancellor May explained that, in 2006, UC Davis conducted an evaluation of the Chemistry Building and the Chemistry Annex and the buildings' systems and developed plans for a series of improvement projects. The first project aimed to address seismic and life safety deficiencies. This work was well under way and expected to be substantially complete in summer 2020. An expanded planning effort was completed in 2014 to identify strategies to increase and improve the quality of research and instructional space. The Chemistry Addition and First Floor Renovation was the first major project of the 2014 planning effort.

Vice Chancellor Kelly Ratliff recalled that the Chemistry Building was built in 1966 and the Annex completed in 1971. The campus was proposing an addition and a series of renovations. UC Davis had run out of options for providing any additional capacity in these buildings. The space and systems were inadequate. The Chemistry Building is a large building in the center of the campus. There was no effective way to move people and functions from this building to temporary locations elsewhere. Projects in this building were being implemented in a phased approach so that UC Davis can continue using this facility while upgrading and adding capacity.

With the proposed project, the cumulative investment in the Chemistry Building and Chemistry Annex would exceed \$70 million. Pursuant to Regents Policy 8103: Policy on Capital Project Matters, Regents' review and approval is required to complete the planned renovation and expansion. The campus was seeking additional authority of up to \$25 million over three years to facilitate other projects that were planned or under way and that might be needed as the campus hires additional faculty. Ms. Ratliff presented a slide with the project floor plan, showing how the project would fill in an existing courtyard space in the basement and provide additional space on the first and upper floors. Existing office spaces would be moved and laboratories would be renovated.

Referring to Leadership in Energy and Environmental design (LEED) targets, Regent Estolano noted that the campus was proposing both LEED Silver and Gold. She asked if LEED Silver was the target for the renovation and LEED Gold for the new construction. University Architect Jim Carroll responded that the campus intended to achieve LEED Silver. UC Davis hoped to reach LEED Gold but LEED Silver was a minimum standard for UC Davis on this project. LEED Gold would be more difficult to achieve in the renovation than in the new construction.

Ms. Ratliff stated that the campus would use the Design-Build approach, hoping to achieve LEED Gold if this was possible. UC Davis would use external financing from Century Bond proceeds. The project met UC's required thresholds for modified cash flow and debt

service to operations. Cost per square foot was within the range of other recent projects for this type of building.

Committee Chair Makarechian asked about the source of the remaining \$25 million. Ms. Ratliff responded that this \$25 million would come from campus resources; UC Davis would not use debt. The campus would use these monies in smaller increments as opportunities present themselves or as UC Davis hires faculty and undertakes further renovations to accommodate new faculty.

Upon motion duly made and seconded, the Committee approved the President's recommendation and voted to present it to the Board.

7. **UNIVERSITY OF CALIFORNIA 2020-21 BUDGET FOR STATE CAPITAL IMPROVEMENTS**

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Executive Vice President and Chief Financial Officer Brostrom explained that, every fall, the University submits its Budget for State Capital Improvements to the Legislature and the State Department of Finance. Beginning in 2013-14, the Legislature gave UC the authority to take a portion of its State General Fund appropriation and make debt service payments on general revenue bonds to fund capital improvements. To date, UC had undertaken almost \$2 billion in financing through this mechanism. About one-third of this financing had been dedicated to the Merced 2020 project, while about \$500 million has supported projects on other campuses that address seismic and life safety needs. The remaining funding was used to address enrollment growth—about 6,800 classroom seats or instructional laboratory stations.

Associate Vice President Peggy Arrivas recalled that UC was in the process of assessing its buildings for seismic safety. UC was currently finishing this assessment for its largest buildings. This year, the University planned to dedicate most of the relevant funds to the buildings that presented the highest risk. These buildings would be identified in the next few months. Three hundred million dollars would support construction or retrofitting for these buildings. The University had also set aside \$85 million for planning additional retrofitting for other high-priority buildings. The State budget this year included an allocation of \$80 million for the UC Riverside School of Medicine. UC would also use \$25 million in State funds for seismic retrofitting of the UCLA Public Affairs Building. The University was also currently conducting a deferred maintenance assessment. The University would direct \$35 million in State funds toward the highest-risk deferred maintenance projects in the UC system. Mr. Brostrom stated that a list of projects would be presented at the September meeting.

Regent Sherman referred to the allocation for the UC Riverside School of Medicine and asked how great an increase in enrollment it would permit. Mr. Brostrom responded that he would provide this information.

In response to a question by Regent Blum, Mr. Brostrom stated that, when the seismic safety assessment was complete, UC would present the list of planned projects to the Regents and the State; this would include projects at the Berkeley campus.

Committee Chair Makarechian remarked that UC had 140 million square feet of office space, perhaps more than in the City of London, and a very extensive need for seismic retrofit work.

8. **VERANO 8 GRADUATE STUDENT HOUSING AND LONG RANGE DEVELOPMENT PLAN AMENDMENT FOR ON-CAMPUS HOUSING, IRVINE CAMPUS**

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Chancellor Gillman introduced this item, an exciting project for the Irvine campus as it continued to build out its student housing infrastructure.

Committee Chair Makarechian praised the campus for its commitment in this project to provide student housing at a rate 30 percent lower than the market rate.

Vice Chancellor Ronald Cortez introduced the Verano 8 Graduate Student Housing project, a new facility that would provide approximately 1,050 beds at a cost more than 30 percent below market. The campus currently had a long wait list for graduate student housing. One of the campus' goals was to increase graduate student enrollment up to 25 percent of the campus' total enrollment. This project would accommodate the existing shortfall and future growth. Currently, UC Irvine housed 41 percent of its graduate students on campus. After remodeling some existing facilities and constructing Verano 8, the campus would be able to accommodate 52 percent of its graduate students on campus. UC Irvine had a total student body of approximately 36,000, of whom 6,400 were graduate students. As of 2022, UCI planned to enroll 7,450 to 7,500 graduate students. The campus was seeking to accommodate the growth of 1,300 graduate students as well as students on the wait list, also about 1,300.

Campus Architect Brian Pratt explained that this project would contain primarily two-bedroom, one-bathroom units and four-bedroom, two-bathroom units. There would be about 20 studio apartments. Planning was still under way, but the campus envisioned four to five residential buildings of five to six stories each and a 14,000-gross-square-foot community center. The project would include 850 structured parking spaces for Verano 8 residents as well as fleet vehicles for the maintenance and operations facility, visitor spaces, and general campus parking. The project density was 135 beds per acre, significantly higher than in the existing Verano community. The campus anticipated seeking Regents' approval for budget, financing, design, and California Environmental Quality Act-related actions in the fall. The project would also entail an amendment of the campus' Long Range Development Plan (LRDP). Following completion of the Verano 8 project, the overall student housing capacity would be nearing the 17,600 bed

target set in the 2007 LRDP. The campus anticipated the need to build additional housing beyond this level and planned to amend the LRDP to increase capacity to 22,000 beds to accommodate 60 percent of the LRDP enrollment level. In setting this goal, the campus considered take rates for existing on-campus housing, wait list information, and demand for off-campus housing in the vicinity. UC Irvine concluded that providing housing for 60 percent of enrolled students would satisfy projected demand. Overall, the proposed LRDP housing development program would result in more efficient land use, and proposed housing densities would increase to an average of 125 to 185 beds per acre, including parking, with density at the lower end of the range for graduate student and family housing and at the higher end of the range for undergraduate housing. UCI staff has met with City of Irvine leadership and staff to review the proposed LRDP student housing amendment and upcoming UCI student housing projects including Verano 8, and City representatives have expressed support for these proposals to serve the needs of UCI students and reduce housing and traffic impacts in the surrounding community.

Regent Sherman asked if the parking would be above ground or subterranean. Mr. Cortez responded that parking would be above ground. Regent Sherman asked why the parking would not be built underground, given that land is a scarce resource. Other campuses were converting above-ground parking structures for other uses. Mr. Pratt explained that building parking underground was significantly more expensive because this requires ventilation systems. Soils at UC Irvine are wildly variable and soil reports often dictate what the campus can construct below ground. Chancellor Gillman observed that an above-ground parking structure could be more easily repurposed than an underground structure.

Regent Sherman asked if the ratio of one-half vehicle per resident was typical, given ride-sharing and other possible future trends. Mr. Cortez responded that the campus had lowered the number of parking spaces from its original estimate, based on consideration of these trends. The campus was funding some of the parking spots and bringing down the number of parking spaces.

Regent Simmons asked if UC has second-tier and subcontracting goals for small, local, and disadvantaged businesses. Mr. Pratt responded that UC Irvine makes recommendations but that this is a self-reporting requirement; there is no strict requirement. Regent Simmons encouraged the University to consider such goals for all its significant capital projects and that it take a firmer stance than merely a suggestion. This would demonstrate the University's positive impact on the community.

Regent Ortiz Oakley emphasized the importance of providing on-campus housing for students. There are students who, but for that housing, would not be able to attend the University.

Regent Estolano stressed the importance of the contracting issue raised by Regent Simmons. She suggested that there be a discussion at a future meeting to consider action at a policy level on this matter. This would amplify the University's positive impact on its local communities. Mr. Brostrom responded that the University had more stringent goals in the past, but that these were disallowed by the Public Contract Code. Regent Estolano

responded that she understood this, but stated that the University should examine what it can do.

9. **PROPOSED MIXED USE DEVELOPMENT OF UP TO 36.2 ACRES AT MOFFETT FIELD, BERKELEY CAMPUS**

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Chancellor Christ introduced this item, a potential new venture with the National Aeronautics and Space Administration (NASA) at the NASA Ames Research Center to develop a part of Moffett Field into a mixed-use research, education, and housing site. She noted that she had visited the site the previous week and was impressed with the vision that NASA has for this location and NASA's excitement about working with a public research university like UC Berkeley. The prospects for faculty and students to collaborate with NASA, industry in Silicon Valley, and neighboring educational and research partners were quite attractive. Nevertheless, taking on such a massive development comes with opportunity costs. She outlined a few key conditions for the project to be successful. First, the physical infrastructure would need to be developed without central campus investment; the project could not take resources away from UC Berkeley's core activities. Second, to warrant the investment of UC Berkeley's time and people, the development would have to very substantially advance UC's mission to educate Californians and provide research outcomes to serve the world. Third, given that NASA would lose its authority from Congress to issue a ground lease for this parcel at the end of the current calendar year, there would need to be considerable flexibility for UC to exit the agreement without financial penalty during an initial predevelopment phase, during which time UC could conduct additional due diligence and project planning. UC Berkeley had three primary goals for the exploration of this unique opportunity. First, UC Berkeley is committed to strategically expanding its physical and digital reach to serve the changing needs of students and faculty; UC Berkeley must reach and teach more Californians. The opportunity for this kind of expansion in the heart of Silicon Valley was very compelling. Second, UC Berkeley is committed to advancing discoveries that address some of the world's greatest challenges and its objective is to raise the bar of what is possible for humanity to fuel innovations in space exploration, technological change, artificial intelligence, environmental sustainability, and beyond. UC Berkeley intends to teach more Californians about these technologies and prepare the next generation of scientists, academics, innovators, entrepreneurs, and professionals. To do this, UC Berkeley must stretch beyond its physical limits and partner with talented colleagues in the public and private sectors. The third goal is to cultivate a global talent pool. One of the key functions of academic institutions is to bridge the gap between theoretical understanding and the application of knowledge in the real world. The University plays a key role as a powerful pathway to upward mobility. UC campuses both grow and connect talent. NASA and UC Berkeley had benefited from a multi-decade partnership that had already produced groundbreaking scientific discoveries. The campus believed that this opportunity had the potential to build on that foundation and lead to the kind of transformative relationship that the campus enjoys with the Lawrence Berkeley National Laboratory.

Managing Director Darek DeFreece recalled that the Moffett Field site was set aside by NASA in 2002 for educational purposes. Since that time, the University has been in conversation with NASA about building a physical presence on the NASA Ames campus. UC Berkeley joined this conversation at the beginning of the current year. The proposed site was immediately adjacent to the historic Hangar One. Google had leased Hangar One and intended to redesign it as a site for research into artificial intelligence, data science, robotics, and aeronautics. Google had also leased the airfield and an additional parcel on the NASA Ames campus where it was building 1.2 million square feet of additional space. The parcel immediately south of the proposed site had recently been leased to a developer and would host 2,000 units of housing. There was a critical housing need in this region. The development would alleviate this need and bring horizontal infrastructure to the NASA Ames research park. The educational parcel itself was about 36.2 acres in size, with a permissible 1.4 million square feet. UC Berkeley envisioned that this parcel could host a myriad of uses tied to the campus' academic and research missions. Faculty and departments had already expressed interest in teaching and laboratory space, particularly in partnership with NASA Ames. UC Berkeley would support this effort with additional housing for those conducting long-term assignments on the site, coming to stay for a short period, or for students engaged in internships or other opportunities. With respect to industry, UC Berkeley would partner with NASA to identify industry partners who are mission-aligned with UC Berkeley and NASA and with whom UC could further connect on sponsored research and educational opportunities. Another important factor would be the lease income earned from these industry partners. This would be necessary to attract the third-party capital required to build the development itself, so UC can limit or potentially use none of UC Berkeley's balance sheet and debt capacity for construction. In addition to selecting a developer, over the next exploratory period, UC Berkeley would also consider the proper financing for the project and the right mix of uses. UC Berkeley had already identified a number of new programs and opportunities that would be either entirely new or a net addition to what is already offered on the campus. With the aid of a faculty visionary committee, UC Berkeley could catalogue new programs such as aerospace engineering, quantum computing, astrobiology, and other programs. Research in these fields could best be done not only on the Berkeley campus, but on the NASA Ames site. In addition to space science, one would be remiss to not mention that this land is in the heart of Silicon Valley, which is home to not only the largest technology companies in the world but also the smallest. Innovation and entrepreneurship is a key focus for the Berkeley campus, as mentioned in a preceding discussion. UC Berkeley was currently exploring this opportunity with NASA under a very tight timeline. UC Berkeley planned to release a Request for Proposals to the developer community once it had received the Regents' strategic input. If the site showed sufficient promise, the campus would return to the Regents for approval to enter into a flexible ground lease with NASA before the end of the calendar year.

Committee Chair Makarechian asked if housing to be built by other parties would be part of the acreage. Chancellor Christ responded that housing would not be part of the acreage but the campus was anticipating that, if it builds educational programs, it would build more housing on the site for students.

Committee Chair Makarechian referred to the background materials, which indicated that UC Berkeley might construct 200 units for students, faculty, and staff. He suggested that the income from housing might pay for the rest of the development. He asked why UC would be leaving this to others, rather than developing more housing itself. UC Berkeley would already be taking on the responsibility for developing one million square feet of office and research space. In an area with an acute housing shortage, this would be very profitable. Executive Vice President and Chief Financial Officer Brostrom responded that the housing development opportunity would be desirable, but this was not in the University's control; NASA was in control of this. NASA was issuing a ground lease to raise money.

Committee Chair Makarechian countered that no one other than UC would take on this project development. No developer would wish to develop housing next to an empty site. The University would be responsible for environmental cleanup such as water contamination issues. The University was taking on the most difficult element, which was development of the site for research and education. This would not be possible without the involvement of UC Berkeley. Since UC was taking on the most difficult part, it should seek to develop the entire site, including housing. Mr. DeFreece responded that NASA had put out the housing development opportunity to public bid the prior year. The contract had been awarded to CRC Partners (CRC), so this opportunity was gone. However, UC Berkeley was in discussions with CRC about opportunities for collaboration on the site. CRC was developing horizontal infrastructure from Highway 101 directly to the parcel line. CRC's partnership was critical and UC Berkeley would continue to have active discussions about development on the CRC site and the UC site.

Committee Chair Makarechian asked if UC was restricted in building housing on its site. Mr. DeFreece responded that the University was not restricted but noted that in 2002, under the NASA development plan, this site was set aside for educational purposes. Housing would have to be ancillary to that purpose.

Committee Chair Makarechian observed that the University would not wish the faculty, students, and researchers working at this site to have to drive two or three hours to get there or to have to pay thousands of dollars in rent. This was one of the most expensive housing areas in the state. He urged the University to consider carefully the proportion of square footage of office and research space to units of housing, in order to be able to provide housing at reasonable rates.

Committee Chair Makarechian asked about environmental cleanup on the site. Mr. DeFreece responded that there were environmental concerns about the site. The University already had an extensive environmental survey document and the site had undergone a full National Environmental Policy Act (NEPA) review. There were two identified responsible parties, the U.S. Navy and a former semiconductor chip company. There were some active contaminants on the site. The University would have to delve more deeply into these issues during the next exploratory period and understand the environmental concerns before recommending proceeding with the project. In addition, UC has its own standards under the California Environmental Quality Act (CEQA). During

the predevelopment period, should UC Berkeley decide to proceed with a ground lease, it would use this time to conduct a full CEQA analysis, in addition to the NEPA analysis that had already been conducted, in order to determine if it was economically feasible to develop the site. UC Berkeley must ensure that there would be few or no penalties for exiting the predevelopment lease, should the environmental concerns be too great.

Committee Chair Makarechian advised the University to secure insurance for environmental cleanup in advance. This should be a requirement before any project on this type of site.

Committee Chair Makarechian asked how this project would be financed. Mr. DeFreece responded that finding the appropriate balance in mixed use with industry partners on the site would unlock the development potential. In its initial discussions with NASA, UC Berkeley explained that it would need potential future lease income from industry partnerships to finance the project in phases. UC Berkeley would not be able to develop 36.2 acres all at once, but would first determine the amount of space to be dedicated to an industry research park aligned with NASA and UC Berkeley, monetize the future lease income, and build out the horizontal infrastructure while continuing the ongoing vertical phased development process. UC Berkeley had a long-term vision for building out the site.

Committee Chair Makarechian asked who would bear responsibility if NASA were to lose the lease. Mr. DeFreece responded that he could not yet answer this question because UC Berkeley had not yet engaged in active negotiations with NASA. During the next exploratory phase, when the University had not yet committed to any action, it would examine the issue of lease guarantees and the consequences if NASA were to lose its authority with respect to the site or if some Congressional action were taken. These issues would be explored during the next phase.

Regent Leib concurred with Committee Chair Makarechian's recommendation that the University should secure environmental cleanup insurance. Regent Leib asked what would happen to the lease at the end of the calendar year if UC Berkeley did nothing, and who would own the property. Mr. DeFreece responded that, under a Congressional act, NASA currently had delegated authority to lease the land. If nothing happened, on January 1, 2020, the land would be returned to the federal land use authority, the repository under Congressional authority, and NASA would not have the ability to enter into a ground lease. NASA had actually extended its enhanced use lease authority, which had expired on December 31, 2018, by one year through an act of Congress.

Regent Leib asked if NASA was the best partner for the University to negotiate with, rather than the U.S. General Services Administration. Chancellor Christ responded that this was her view. NASA was seeking a transformational research partnership with UC Berkeley. NASA operates under various restrictions on its current research campus, where 3,000 scientists are employed. Currently, NASA and UC Berkeley had many collaborations. UC Berkeley's Space Sciences Laboratory was the campus' largest Organized Research Unit. The campus would like to make this partnership even more transformational and NASA was interested in moving into other areas. NASA had authority

on this land only for a project that would be synergistic with its mission. NASA could not lease the land merely for generating income. Any tenants that UC would have on the land must have synergy with the University's research mission.

Regent Sherman asked about the expected term of the ground lease, which was an important factor in financing. He asked about the lease for the residential parcel. Mr. DeFreece responded that the lease for the residential parcel was for 90 years, a 60-year long-term ground lease with two 15-year renewable terms. In addition, there was a predevelopment period of two years. Google had similar ground lease terms for approximately 99 years.

Regent Sherman asked if the University would have the right to sublease. Mr. DeFreece and Chancellor Christ responded in the affirmative.

Regent Sherman stated that environmental cleanup should be a retained liability to NASA, rather than covered separately by insurance. He suggested that the University include this condition of retained liability by NASA in the agreement.

On behalf of Regent Park, Regent Estolano asked why UC Berkeley was not considering partnerships with California State University and California Community College campuses in the region. This could greatly augment the benefit of this mixed-use project, especially with regard to potential expansion of Extension programs, continuing life-long learning, as well as benefits to the workforce and economy. Chancellor Christ responded that this was part of UC Berkeley's vision. The development of this site would benefit California public higher education generally. She identified three sources of income from the site: Extension programs, increased research contracts, and development of the research park.

Regent Estolano expressed support for this project. She asked about environmental liability, phasing, and the master developer. Phasing was critical, but UC Berkeley should ensure that it would share the upside in future phases that were not attached to any particular master developer. A master developer might not be able to evolve and change as the area evolves and changes. This would be a generational investment. It would be desirable for UC Berkeley to have an agreement with the adjacent developer to house UC researchers. The University would be adding value to that property and should benefit from some of the upside.

Chancellor Christ noted that there was enormous faculty excitement about this project; this was an important motivation for the campus to pursue this opportunity.

Faculty Representative May stated that it would be worthwhile to consider having involvement by UC Santa Cruz in this project. Chancellor Christ responded that UC Santa Cruz had had an option on the property for five years but ultimately decided not to pursue the option because there was not sufficient faculty interest. UC Berkeley had been in conversations with UCSF about possible participation.

10. UC CENTER SACRAMENTO FACILITY ACQUISITION AND RENOVATION

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

UC Center Sacramento (UCCS) Director Richard Kravitz explained that, since its founding in 2004, UCCS has been committed to a dual mission of preparing California's future leaders for careers in public service and disseminating knowledge generated on the ten UC campuses to inform public policy. As of 2019, nearly 2,000 undergraduates had completed the program; almost half in the past five years. Admission to the program is limited to upper-division students with a 3.0 or better grade point average. Students from all nine undergraduate campuses, representing diverse majors and backgrounds, come to live and work in Sacramento for a full quarter or semester. During their time at UCCS, they spend at least 20 hours per week on a policy-related internship. They complete coursework in California politics and policy, conduct a capstone policy research project which culminates in a public poster presentation attended by internship supervisors and public officials, and participate in workshops aimed at developing career-building skills and professionalism. UCCS also has programs for graduate students. The Emerging Scholars Award recognizes graduate students for their policy-relevant research and brings them to Sacramento to interact with the policy community. The STEM Solutions Award encourages graduate students in the science, technology, engineering, and mathematics fields to submit ideas for legislation based on their own scientific research or expertise. UCCS connects research faculty and staff with the policy community in Sacramento through a weekly speaker series and a quarterly panel called Capitol Insights.

UCCS had grown dramatically over the past six years. A strategic plan completed in 2014 called for an increase in undergraduate enrollment over five years, from approximately 60 undergraduate students per year to 125. Actual growth had surpassed this target and the past year's enrollment had been 191. The 2018 report by Huron Consulting, currently under review by the Academic Senate, had proposed that UCCS aspire to serve 400 students per year by 2030. At the same time, UCCS' public engagement programs had also gained traction. Average attendance at the speaker series talks the past winter was 219, an increase of 100 percent over a few years prior. By providing the opportunity for UC students to study in Sacramento and connecting UC researchers with the State policy community, UCCS is a vibrant demonstration of the value that UC delivers to the people of the state.

With regard to the relocation project, Dr. Kravitz recalled that UCCS was currently located in the basement at 1130 K Street, a UC-owned building two blocks from the State Capitol. A complete seismic review indicated that needed repairs and upgrades would be cost-prohibitive, and a search was launched for an alternative location that could house both UCCS and State Governmental Relations. An attractive site close to the Capitol had been identified. The new location would accommodate both planned student enrollment growth and deeper engagement with the Sacramento policy community.

Committee Chair Makarechian asked why UCCS would seek a new location without first selling the original building. Executive Vice President and Chief Financial Officer Brostrom responded that UC had already sold the existing site. UC had taken bids and the transaction was in the due diligence process.

Regent Leib emphasized the importance to UC of its involvement in Sacramento and praised this project. He noted that the project anticipated construction of three floors, with the eventual possible addition of a fourth floor. He suggested that the project construct four floors at the outset because these programs would need more space over the long term. Adding an additional floor later would be more costly. Mr. Brostrom responded that more details would be presented at a future meeting. The University was working on cost estimates for a third and fourth floor and considering financing sources including AB 94 funds and philanthropy.

Regent Kieffer recalled that the process of seeking a new location for UCCS had begun five years prior. He thanked UCCS, Dr. Kravitz, Mr. Brostrom, and other UC staff who had worked to secure this site. This project was an excellent opportunity, and the University's presence in Sacramento is critically important.

11. **UPDATE REGARDING THE NEW HOSPITAL UCSF HELEN DILLER MEDICAL CENTER PROGRAM AT PARNASSUS HEIGHTS INTEGRATED FORM OF AGREEMENT AND PROCUREMENT STRATEGY, SAN FRANCISCO CAMPUS**

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Chancellor Hawgood began the discussion by emphasizing the importance of the Helen Diller Medical Center project for UCSF. The campus planned to present an item for action at the September meeting in order to keep planning for this replacement hospital on the Parnassus Heights campus on track and to be able to admit the first patient in 2029. This was an enormous undertaking for UCSF, and perhaps the largest single capital project undertaken by the University to date. For this reason, UCSF was very mindful of the need to ensure that an appropriate delivery model was used for this project. This discussion would focus on the Integrated Form of Agreement (IFOA), a current delivery model used for large projects, in particular for hospital projects. UCSF was introducing this topic because IFOA was not currently covered under the California Public Contract Code section 10503. However, this Code section allows the Regents to approve a delivery model that is in the best interest of the University.

Senior Associate Vice Chancellor Brian Newman asserted that UCSF believed that the IFOA model was in the best interest of the University on this project. The Helen Diller Medical Center at Parnassus Heights is a highly complex, ten-year undertaking that lends itself to an IFOA to align the project with industry best practices and increase the probability of completing the project on budget and on schedule, while maximizing innovation and quality. He outlined reasons why IFOA is a best practice. IFOA enables

direct access to trades and suppliers without having to go through the general contractor or executive architect, and this results in transparent negotiations, pricing, and communication. IFOA creates incentives based on risk to profits, all the pooled profits of the participants, rather than based on bonus. IFOA eliminates hidden pools of contingency and labor escalation that are typically located in each of the parties' budgets. There are contractual limitations on disputes and change orders; this was different from the conventional approach. The team commitment to achieve the budget and the inclusion of the trades in setting the target cost reflected the culture and behaviors UCSF wished to cultivate for this project. The IFOA incorporated lessons learned from other projects.

Mr. Newman presented a diagram illustrating the IFOA structure. He recalled that, in the conventional contracting approach, there are separate contracts between the owner and the general contractor on one hand and between the owner and the executive architect on the other. These contracts cascade downward into multiple contracts with sub-consultants to the architect and subcontractors to the contractor. In an IFOA there is one master contract which includes all the key parties in a shared risk and reward group. This group includes the owner, the architect, the general contractor, all the major sub-consultants and subcontractors, and the key suppliers. All are signing one document and committing to the success of the project. The IFOA for this project would ultimately be signed by 15 to 18 parties. The parties outside this risk and reward group would be recruited through the normal public procurement code.

Mr. Newman then presented a number of project scenarios. He distinguished the project budget, the design and construction budget, and the target cost. The project budget includes owner contingency, the pooled profit of the IFOA signatories, and the direct cost of the project. The design and construction budget excludes the owner contingency. The target cost is set collectively by all the parties to the IFOA, and this excludes their pooled profit. Under scenario 1, the delivery of the project achieves the target, the team earns its full profit, and the owner retains its contingency. By anyone's definition this would be a successful project. Under scenario 2, the project is delivered over the target cost, so that the pooled profit at risk is partially expended. However, the owner retains 100 percent of its contingency and the project is delivered under the design and construction budget. Under scenario 3, the project is delivered under the target cost, the team earns its full profit and any savings are shared with the owner. An arrangement for sharing would be worked out in the negotiations. Under scenario 4, the project exceeds the target cost and all the pooled profit is used to cover the overage; however, the project is still within the design and construction budget. Under scenarios 1 to 4, the project is delivered on budget. From UCSF's perspective the project would be successful, although not from the team's perspective. Under scenario 5, the worst-case scenario, the project exceeds the design and construction budget. All the profits and the owner contingency are used to complete the project.

Regent Blum asked if UCSF was inclined to hire a general contractor, someone with whom the campus might now be in discussions. Chancellor Hawgood responded that UCSF first needed to receive approval to use this delivery model. UCSF would then issue Requests

for Qualifications for designers and builders, immediately after approval at the September meeting. UCSF had not spoken with a general contractor.

Mr. Newman explained that the IFOA uses a qualifications-based selection process, followed by competitive negotiations. UCSF would issue its Requests for Qualifications for designers and builders, evaluate responses to narrow the pool down to a certain number of finalists, evaluate the passing candidates on multiple criteria, including an interview with an oral presentation, select the preferred candidate, and enter into negotiations. If unable to reach terms with that candidate, UCSF would move to the second-ranked candidate, and then execute the IFOA. Mr. Newman noted UCSF's commitment to being a leader with regard to labor practices. UCSF requires prevailing wages, respects jurisdictional work boundaries among the various trades, uses union labor, continues to partner with the City and County of San Francisco on programs that target local hiring, and maintains its own construction community outreach program. UCSF intended to insert in the Request for Qualifications, among the criteria for selection, California Public Contract Code sections 10506.8 and 10506.9, which allow UC to require a skilled and trained workforce to complete the program. Compliance with California Public Contract Code sections 10506.8 and 10506.9 would also be required in the terms of the IFOA for key participants.

Committee Chair Makarechian asked how this approach would differ from previous projects and who the actual owner in this case was, the one who would bear responsibility for bond financing. Vice President J. Stuart Eckblad responded that, for the Mission Bay Hospital project, UCSF had separate contracts with the architect and with the general contractor, who both, in turn, had their own separate contracts with engineers and subcontractors for mechanical, electrical, and plumbing. UCSF now wished to leverage the success of the Mission Bay Hospital project to greater heights. If UCSF could have better and direct access to each subcontractor, this would improve constructability because UCSF would see where and how contingency monies are being spent. The model used for the Mission Bay Hospital project was the Construction Manager at Risk model, a traditional model with separation of the parties. The most significant disputes or differences of opinion in this model occur when the design of the architect and the design of the subcontractor are not coordinated, and this leads to costly change orders. In the IFOA model, with the shared risk and reward group, these parties could not request a change order due to that lack of coordination. This model would minimize the number of claims for change orders and limit the opportunities to work in separation. Experience has shown that integrating all participants and contracts into one business entity on the project site, with profit at risk, leads to collaboration and innovation. The new California Pacific Medical Center in San Francisco was built using this contract method. That project was successfully completed with substantial savings and on time. The building is over one million square feet in size and is located on a very constricted site. The IFOA allowed for pre-fabrication and work offsite. The IFOA model would allow UCSF to work more directly with those providing the services, and these entities are incentivized to work together rather than separately for improved performance and accountability.

Committee Chair Makarechian asked about payment and performance bonds. Mr. Eckblad responded that payment and performance bonds would be provided by the contractor or

subcontractors. Committee Chair Makarechian asked about how risk would be shared. Mr. Eckblad responded that each participant would be issuing a bond. Once UCSF had selected the team, there would be a validation phase that would take several months. During this time, the price of the work would be set. Once the price was set, bonds would be issued.

Committee Chair Makarechian asked what would happen if the architect issued a change order and how UCSF would minimize the risk of conflict in such a situation. He stated that the IFOA model looked good but expressed skepticism about its ability to function practically and deliver the results that UCSF expected unless there were no payment or performance bonds. He expressed concern about possible conflicts and litigation when each participant issues its own bonds. It would be desirable to have more information about projects that had used the IFOA model or variations of this model. Mr. Eckblad responded that five major projects had been built in Northern California using this model. Chancellor Hawgood stated that UCSF would examine this issue and these concerns before September.

Regent Estolano asked if UCSF would issue Requests for Qualifications for a single team with all participants or for each participant separately. Mr. Eckblad responded that UCSF would prefer to select individual team members separately. This would allow UCSF to build a team. Regent Estolano asked about the selection process. Mr. Eckblad explained that UCSF would choose the architect; then, together with the architect, choose the contractor; and then, together, the team would choose the subcontractors. It was a process of progressive selection.

Committee Chair Makarechian observed that, when UCSF chose an architect, the architect would not know which contractors and subcontractors it would have to work with. Mr. Eckblad responded that the architect and others participate in the selection process. This had been the case with the Mission Bay Hospital project and UCSF had received positive feedback about this.

Regent Sherman observed that many consultants and suppliers would be involved, which suggested greater expenses. He asked where the savings in this model would come from versus a traditional development model. Mr. Eckblad responded that savings occur in several ways. Change orders would be limited to only those allowed under any other normal contract, such as field conditions or a change of scope made by the owner. One could not issue a change order for a coordination issue.

Regent Sherman adumbrated a typical change order situation in which a contractor requests a shop drawing from the architect and requests a change order because the drawings were not fully detailed at time of the contractor's bid. He asked how the IFOA model would eliminate that typical situation. Mr. Eckblad responded that all participants sign one contract with equal accountability. Profit is placed in a central pool. Participants work at cost and do not receive profits unless the project is completed under budget and on time. The situation described by Regent Sherman arises frequently in the design and construction industry. In an IFOA, as the design drawings are being developed, all participants have ownership of this document. The participants are incentivized to ensure that the drawings are coordinated and to improve productivity.

In response to another question by Regent Sherman, Mr. Eckblad explained that, once the cost is validated in the initial stage, this is the budget and it is set. In order to receive profits, the participants must keep the direct cost under the target cost level.

Regent Sherman observed that the IFOA structure puts the collective profit at risk but puts no limit on the direct cost.

Committee Chair Makarechian suggested a separate meeting for further questions and answers about this important topic. Chair Pérez remarked that the IFOA model was significantly different from the models the Regents were used to. He agreed with the proposal for a separate meeting and suggested that the campus present case studies of hospital projects that have used this model and use that information to frame the conversation.

Regent Blum asked why UCSF would not conduct this project as it had the Mission Bay Hospital project. Chancellor Hawgood responded that UCSF had learned many lessons from the Mission Bay project and believed that this project could be even better.

12. **APPROACHES TO ADDRESS STUDENT HOUSING INSECURITY**

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

General Counsel Robinson reported that Committee Chair Makarechian had asked the Office of the General Counsel and others at the Office of the President to facilitate a discussion about requests that UC had been receiving from students that the University establish programs to allow students to sleep in their personal vehicles overnight in parking areas on University property. Programs known as safe parking programs, which allow individuals to sleep in their personal vehicles overnight, had been implemented by a number of municipalities, including San Jose, San Diego, and Los Angeles, to address the housing crisis in California. Mr. Robinson observed that, while safe parking programs might be an effective way for cities to manage the needs of countless unidentified homeless individuals with whom they have no previous established relationship, the situation for the University is very different. UC has established relationships with its students. As a matter of policy and its academic mission, the University strives to ensure that each student is able to meet his or her housing needs through an initial needs assessment and financial aid; these matters are discussed with students even before they arrive on campus. UC also has a number of established supplemental programs. Cities do not have control over who is a resident and implementation of the safe parking programs had been motivated to some extent by the prohibition on overnight parking on city streets and a commensurate obligation to identify alternative locations for homeless populations. Mr. Robinson also observed that meeting the legal and regulatory requirements to establish safe parking programs would be difficult and time-consuming; this might take years, to say nothing of the considerable safety, health, and security concerns. In Mr. Robinson's view, the University's time and resources would be better directed toward shoring up UC's analyses

and processes and, if necessary, bolstering the housing resources that are available to students.

Committee Chair Makarechian stated his understanding that implementing safe parking programs for students would involve changes in zoning and considerable risk. He suggested that this topic be moved to the agenda of the Special Committee on Basic Needs.

Regent Weddle stated that she would be happy to continue the discussion of this issue with the Special Committee on Basic Needs. She advised the University to make a distinction between permanent parking options for students and safe parking models, which are typically short-term and transitional. She would like to review questions about legality and permitting to determine if Mr. Robinson's statements would apply to short-term transitional programs.

The meeting adjourned at 4:10 p.m.

Attest:

Secretary and Chief of Staff

**SUMMARY OF CONSULTING ACTUARY'S RECOMMENDATIONS REGARDING
CHANGES IN ACTUARIAL VALUATION ASSUMPTIONS FOR UCRP**

Economic Assumptions

Assumption	Description	Recommendation
Inflation	Affects projections of investment returns, active member salary increases, cost-of-living adjustments (COLA) for retirees	Decrease rate from 3.00 percent per annum to 2.75 percent per annum
Investment Return	Estimates average future net rate of return on assets over projected lifetime of the Plan as of the valuation date	Decrease rate from 7.25 percent per annum to 7.00 percent per annum
Individual Salary Increases	Includes components of inflation, real "across the board" (ATB) salary increases and merit and promotion (M-P) increases in salary.	<ul style="list-style-type: none"> • Inflation: see above • ATB: Maintain at 0.50 percent • M-P: Increases for both Faculty and Staff/Safety members
Administrative Expenses	Fees for administrative, legal, accounting and actuarial services, as well as routine costs for printing, mailings, computer-related activities and other functions carried out for Plan operation are paid from Plan assets.	Decrease load on Normal Cost from 0.50 percent of covered payroll to 0.40 percent of covered payroll

Non-Economic Assumptions

Assumption	Description	Recommendation
Retirement Rates for Members Retiring from Active Membership	Predicts the conditional probability of retirement at each age at which members are eligible to retire, given attainment of that age	<p>1976 Tier Faculty:</p> <ul style="list-style-type: none"> • < 20 years of service: Decreases • 20+ years of service: Decreases <p>1976 Tier Staff:</p> <ul style="list-style-type: none"> • < 10 years of service: Decreases • 10-20 years of service: Decreases • 20+ years of service: Increases <p>2013 & 2016 Tier Faculty & Staff – Decreases Modified 2013 Tier Staff – Increases Safety Members – Increases</p> <p>New Assumption – No retirements occur until the next July 1 following the valuation date</p> <p>New Assumption – All future retirees with either a 1976 Tier benefit or Safety benefit will receive an increase in benefit reflecting the assumed Inactive COLA that occurs just prior to the member's July 1 retirement date.</p>
Retirements for Members Retiring from Inactive Membership	Inactive vested members assumed to retire at a fixed age.	<p>2013 & 2016 Tier Members – Increase from age 60 to age 63 Maintain at age 60 for all other inactive vested members</p>
Refunds of Accumulations for Current Terminated Non-Vested Members	Current assumption: Immediate refund at valuation date	Change to assume receipt of refund over a five-year period

Non-Economic Assumptions (continued)

Assumption	Description	Recommendation
Mortality Rates for Non-disabled Members	Estimates the conditional probability of dying at each age, after attaining that age	<p>Pre-Retirement – Change to the Pub-2010 Teacher Employee Amount-Weighted Above-Median Mortality Table, projected generationally with the two-dimensional mortality improvement scale MP-2018</p> <p>Post-Retirement – Change to the Pub-2010 Healthy Teachers Employee Amount-Weighted Above-Median Mortality Table, projected generationally with the two-dimensional mortality improvement scale MP-2018. For Faculty, table rates adjusted by 90% for males and 95% for females. For Staff & Safety, table rates adjusted by 100% for males and 110% for females.</p> <p>Separate tables for males and females</p>
Mortality Rates for Disabled Members	The probability of dying for members who are either receiving Disability Income or who have “crossed over” to receive retirement income is assumed to be different than for members not in this group.	<p>Pre- and Post-Retirement – Use the Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table, projected generationally with two-dimensional mortality improvement scale MP-2018</p> <p>Separate tables for males and females</p> <p>Members who have “crossed over” will continue to be valued using disabled mortality tables</p>

Non-Economic Assumptions (continued)

Assumption	Description	Recommendation
Mortality Rates for Beneficiaries	Current assumption: Same as that used for healthy retirees	Pub-2010 Contingent Survivor Amount-Weighted Mortality Table, projected generationally with two-dimensional mortality improvement scale MP-2018. Table rates adjusted by 100% for males and 90% for females. Separate tables for males and females
Mortality for Actuarial Equivalence Basis	Mortality table used for converting Plan benefits under one form of payment to an actuarially-equivalent amount under a different form of payment	Change to “static” version that approximates generational mortality table recommended for non-disabled members above
Rates of Separation Prior to Retirement	Estimates the probability of leaving active UCRP membership after attaining each level of service credit	Overall decreases in the rates
Incidence of Disability	Estimates the probability of becoming disabled at each age	Overall decreases in the rates
Eligible Survivor Assumptions	Assumptions for how many non-retired members will have eligible survivors at retirement or pre-retirement death, the age of the eligible survivor(s) and the number of eligible survivors	Age difference of Member compared to Eligible Survivor: <ul style="list-style-type: none"> • Male Survivors – Reduce from three years older to two years older • Female Survivors – Maintain current assumption
Assumption for Unused Sick Leave Converted to Service Credit	Unused sick leave hours at separation are converted to service credit	Faculty and Staff – Maintain current assumption Safety – Increase in load from 1.90 percent to 2.00 percent
Lump Sum Cashout (LSC) Take-Rate	The rate at which retirement-eligible members opt to receive a LSC in lieu of monthly retirement income	Overall decreases in the rates

The recommendation for any current assumption not listed here is to maintain the current assumption for the July 1, 2019 valuation.

**SUMMARY OF CONSULTING ACTUARY'S RECOMMENDATIONS
THAT ALSO APPLY TO OTHER UC BENEFIT PLANS**

Recommended changes to also be applied to the actuarial valuations of other UC benefit plans—

UC-PERS Plus 5 Plan:

- Investment Return;
- Inflation; and
- Mortality Rates.

UC Retiree Health Benefit Program:

- Retirement Rates;
- Mortality Rates;
- Termination Rates;
- Incidence of Disability Rates;
- Conversion of Unused Sick Leave; and
- Lump Sum Cashout Take-Rate.