

Long Range Development Plan Population and Unconstrained Space Assumptions

1 | BACKGROUND

The Long Range Development Plan (LRDP) serves as the regulatory framework for the overall physical development of the UC Berkeley campus. Every University of California campus has an LRDP which is updated at key points in time. After nearly 15 years, the time has come to update Berkeley's LRDP so it is consistent with and supportive of our Academic Strategic Plan, as well as key campus priorities such as academic life, housing and student life, landscape and open space, sports and recreation, mobility and parking, historic resources, accessibility, signage, seismic resilience, sustainability, and infrastructure. The two and a half year process is organized into four phases: 1 - discovery and analysis; 2 - strategic framework; 3 - campus master plan development; and 4 - phasing strategy and documentation.

Between June 2019 and December 2019, the consultant team developed phase 1 findings, which focused the space analysis and an assessment of the physical campus's existing conditions. The memo that follows provides a summary of findings associated with campus space needs and associated campus population discussion.

The space and population analyses account for space and people within the LRDP's boundaries. The LRDP boundary encompasses all University properties (owned, leased, and operated by the campus) within the City of Berkeley, as well as those in the Hill Campus. While some of the Hill Campus is within the City of Berkeley, other sections of the Hill Campus reach into the City of Oakland and Unincorporated Contra Costa County (e.g., Space Sciences Laboratory, Botanical Garden, MSRI).

2 | UNCONSTRAINED SPACE NEED ASSESSMENT

A space analysis is a foundational component of a campus's physical plan, providing a quantitative assessment of facilities needs for the current and projected future campus population. The space analysis generates a rough order of magnitude and planning level program.

While the LRDP will describe potential uses in certain campus zones (i.e., a land use plan), it will not provide the level of detail needed to design an individual project. Projects will undergo additional programming as they are proposed and implemented. Individual project programs may vary from the LRDP space model depending on several factors, including priorities at the time of implementation, unforeseen needs, and funding availability. However, the space analysis provides an important snapshot that identifies what needs to be accommodated within the LRDP's boundaries so that the LRDP can appropriately anticipate and plan for them.

The space analysis evaluates needs on a quantitative basis, and it does not account for needs associated with qualitative factors, seismic needs, deferred maintenance, design excellence, or the effectiveness of space in supporting pedagogical or mission-driven purposes. Consistent with the comprehensive nature of the planning process, existing space and space needs will be considered from multiple perspectives, including all of those mentioned above.

Key Assumptions

Population – specifically, the daytime peak campus population – is the basis for the LRDP development program (i.e., the space need assessment), as well as used in the LRDP Environmental Impact Report (EIR)

analysis, where it is one of the factors used to assess environmental impacts and their corresponding mitigation measures. It is important to note that the population assumptions for the space analysis and the LRDP EIR analysis differ - the space analysis is focused on a Full-Time-Equivalent (FTE) population, whereas the LRDP EIR analysis will be focused on a headcount population in most cases. An FTE analysis provides the best reflection of physical impacts to space utilization on a campus where space is a shared resource.

Space use is based on the Division of Academic Planning's room-level inventory of all campus spaces: for a given room, its assignable and gross square footage, to whom it is assigned, and the type of space use. This is generally to identify campus-wide space quantities and a baseline space need. It includes all space owned and leased in Berkeley and Oakland (note: space in Oakland is largely limited to the uses in the Hill Campus beyond the Berkeley City limit). The space data is separated into 14 space type categories mandated by UCOP, which are largely aggregated into Academic Space (e.g., classrooms, research space, labs, offices); Campus Life Space (e.g., recreation, athletics, assembly/exhibition, dining, social spaces); and Housing.

The space analysis evaluated the campus space need for two scenarios: Current Need and Future Need. Current Need reflects the campus space need based on the current population (2018-2019). The Future Need reflects the campus space need based on future population projections. For the LRDP, the campus analysis looks at a future year of 2036/37.

Methodology

The space analysis was developed using an Excel-based space needs model to identify space needs for the current and projected future population. The model integrates assumptions and data specific to UC Berkeley to generate the projected space need for each space category. For most space use categories, projected space need is calculated by using the appropriate census data and a guideline for a given space type, typically on a square foot per FTE basis. The projected space need is then compared to the existing space for the given category to determine whether a quantitative space surplus or deficit exists.

The space needs model has been tailored for the unique conditions at the UC Berkeley, including its constrained urban setting and programmatic operations. The primary source of the guidelines is the CEFPI (Council of Educational Facility Planners International), which are nationally recognized higher education space planning metrics, and are typically used in campus master planning. Many states incorporate the CEFPI guidelines as the basis for their space planning guidelines for public institutions. UC Berkeley's space guidelines have been incorporated into the analysis as available, primarily for office space.

Key Findings

Academic Space Needs

- The campus has a demand for more classroom space to accommodate the current population, as well as match modern pedagogy, such as more active and project-based learning.
- There is a demand for modern research lab space, particularly in the STEM academic areas. Some of this new and improved space could also be used to accommodate research while existing space is retrofitted and remodeled.
- Academic units value proximity to their existing academic clusters and facilities, to promote on-going collaboration within their colleges and research communities.

Campus Life Space Needs

- The space analysis identified campus life space needs for recreation/wellness functions, social spaces, and other student community space types.
- Campus life space is crucial to the student experience, and more is needed to catch up to current and projected enrollment. These spaces (e.g., meeting rooms, social, dining, recreation) are where the greatest space need was identified, in addition to classrooms.

- These space types have nuanced programs, and the assumption is that while many campus life uses have an “ideal” future program, their growth would likely be adjusted based on financial resources and available development sites.
- The campus developed a benchmark analysis to compare the proportion of space at UC Berkeley to other peer institutions, notably other large, urban, research institutions. When compared to the University of Washington, the University of Pennsylvania, and MIT, UC Berkeley tends to have less campus life space and more academic life space as a proportion of its total space.

Housing Space Needs

- Housing supply is of interest to the campus community.
- The LRDP identifies housing need in terms of bed count; however, this would be further refined and assigned housing product typologies as part of site-specific study and on-going market trends.
- While the campus anticipates housing demand to be substantial, additional market analysis is needed to identify the segments of the housing market that would be needed to address the demand. (e.g., lower division students have different housing needs compared to upper division and graduates)
- The greatest faculty housing need is assumed to be “touchdown housing”, or time-limited (e.g., 3 to 5 years) housing, for newer tenure-track faculty while they complete tenure and become acclimated to the local housing market.
- Housing assumptions will be presented at the April 2020 LRDP CAG meeting.

Summary of the Unconstrained Space Program

Table 1 summarizes the proposed LRDP development program. Various space types are broadly grouped within academic, campus life space, and housing categories. The university has ~12.1 million gross square feet (~5.8 million asf) of existing space within the academic and campus life categories. Based on the current population, the campus believes that it has a current deficit of ~1.3 million gsf (~860,000 asf). In the future, this deficit would grow to ~4.0 million gsf (~2.3 million asf) based on future population planning projections. The greatest current need is associated with community spaces (social spaces, dining, recreation), collaboration spaces (study space, meeting rooms, affinity group spaces, conference rooms), and classrooms.

The provision of space in the plan will be intentionally flexible and will be refined when projects are proposed. Space is an asset to the academic mission of the university; however, the construction of additional space is contingent on programmatic need, site development guidelines/urban design principles, and budgetary constraints. As State funding has declined, the campus has increasingly relied on other funding strategies to support its projects, including debt financing and philanthropy. The space analysis does not account for potential improvements in utilization of existing space. The campus anticipates that future projects consider improved utilization in addition to space modifications and new construction to provide space that matches modern teaching pedagogies and professional work styles. The campus also conducts project design review to align project program objectives with the more experiential physical planning and urban design principles that ensure Berkeley maintains a sense of place.

Since the 2020 LRDP was adopted, the campus has added approximately 1,300 beds, including new beds at Units 1 and 2, Maximo Martinez Commons, and Blackwell Hall. The university currently has ~9,500 beds in its inventory. The current housing deficit reflects the Chancellor’s Housing Initiative to provide 8,000 new student beds and 300 faculty units, which will increase the percentage of students housed to 45%. The space analysis currently assumes that the campus would expect to house a similar percentage of its future student body, and applying this percentage to the future student population generates the need for 3,350 additional student beds and 360 additional faculty units. More information about housing will be provided at a future date.

Table 1. Proposed Unconstrained Development Program

	Academic and Campus Life Space Total (GSF)	Housing (Beds)
Current Condition / Status of 2020 LRDP		
Campus Space in 2005 (2020 LRDP Baseline)	12,107,100	8,190
Realized 2020 LRDP Development Program	+992,160 (of 2.2M)	+1,301 (of 2,600)
Current Campus Space (2019 Conditions)	13,099,260	9,491
Space Remaining in 2020 LRDP Space Allocation	1,207,840	1,299
Proposed New LRDP Space Program		
Current Space Need, based on current population	+1,319,000	+8,000 student beds +300 faculty units
Net Add'l Space Need, based on future population	+2,699,000	+3,350 student beds 60 faculty beds
Total Future Space Need	+4,018,000	+11,350 student beds +360 faculty units
Estimated Total Future Space	17,117,260 gsf	21,200 total beds

3 | LRDP POPULATION ASSUMPTIONS

Campus population projections have been developed for the LRDP and the LRDP EIR. The projections do not commit the university to any level of growth; they are used for planning purposes associated with the LRDP development program. Population projections are developed in coordination with the University of California Office of the President (UCOP), UC Berkeley Institutional Planning and Research enrollment planners, and campus leadership at the Vice Chancellor, Executive Vice Chancellor and Provost, and Chancellor levels.

UCOP provides leadership and coordinates many activities that allow the University and State to fulfill their commitment to admit, enroll, and graduate students from California and from around the world and nation. University of California enrollment planning is coordinated at the system level, accounting for State of California enrollment targets at the undergraduate freshman and transfer levels, as well as considering local campus conditions in terms of Student Affairs and Budget and Capital Resources.

Campus enrollment is affected by the California Master Plan for Higher Education's goals for educating California students. Subsequent policies related to the California Master Plan for Higher Education have reaffirmed the state's commitment to California residents:

"The University of California and the California State University are expected to plan that adequate spaces are available to accommodate all California resident students who are eligible and likely to apply to attend an appropriate place within the system. The State of California likewise reaffirms its historic commitment to ensure that resources are provided to make this expansion possible, and shall commit resources to ensure that [eligible] students are accommodated in a place within the system." [CA Education Code 66202.5]

This commitment includes a policy that the UC system establishes policies to ensure adequate transfer opportunities for community college students. Consistent with State guidance, UC Berkeley strives to maintain a 2:1 ratio (one community college transfer for each two freshmen enrolled) when reviewing and accepting lower division applicants. The system also maintains a policy on ensuring each campus enrolls a certain percentage of California residents as of 2017-18.

UCOP assesses the University's physical, academic, and financial capacity to increase enrollment of undergraduate California residents and its graduate population. This requires an examination of past enrollment trends and scenarios of various student body compositions. The units of analysis for this review

are at a system level but also a campus level. As a system of 10 campuses, UCOP seeks to aid campuses in planning for their individual needs while also leveraging their particular strengths in educating their share of California students and their contributions to California’s economic engine. UCOP guides development of population projections to ensure a level of consistency between UC campuses in their LRDPs.

More information about how UCOP conducts long-range enrollment plans can be found online: <https://www.ucop.edu/institutional-research-academic-planning/content-analysis/academic-planning/enrollment-planning.html>

The UC Berkeley LRDP population projection has also incorporated guidance from the campus’s LRDP Advisory Group regarding the implications of potential enrollment growth: namely, that enrollment growth requires more people and more facilities, both of which have financial and other impacts. A horizon year has sometimes been used to name past LRDPs; however, LRDPs and LRDP EIRs do not expire – rather conditions and circumstances can change to the extent that updated documents are needed. The current practice among UC campuses is to include a horizon year only in the LRDP EIR for analysis purposes. For planning purposes the updated LRDP will have a potential horizon year of 2036-2037.

For the LRDP and LRDP EIR, population figures include students, faculty, and staff. Please note that the population categories for the new LRDP and LRDP EIR will be slightly different from the categories included in the 2020 LRDP (approved in 2005) and the 2019 Upper Hearst Development Project SEIR (2019 SEIR). The LRDP population figures may also differ from population and enrollment figures used for other reporting and forecasting purposes on campus, due to the specific methodology associated with the LRDP. Population categories are aggregated to provide flexibility over the lifetime of the LRDP – although project specific academic planning may need to examine the nuances between types of faculty appointments, staff job codes, and doctoral vs master’s degree students, the LRDP’s analyses occur at a much higher level, and the four main categories (Undergraduates, Graduates, Faculty and Staff) are sufficient for evaluating potential space and environmental impacts at a programmatic level.

Table 2 summarizes the population assumptions used to inform the updated LRDP development program, in comparison to the 2020 LRDP assumptions and existing conditions.

Table 2. Population Assumptions

	Campus Population 2001-02	2020 LRDP Population Assumption	Current Campus Population (2018-19)	% Change from 2001-02	Potential LRDP Population (Planning Assumption)	Net New Compared to 2018-19	% Change from Current
Students	31,800	33,450	39,708	24.9%	48,200	+8,492	21.4%
Undergraduates			29,932		35,000	+5,068	
Graduates			9,776		13,200	+3,424	
Employees	12,940	15,810	15,421	19.2%	19,000	+3,579	28.2%
Faculty	1,760	1,980	3,276		4,200	+924	
Staff	11,180	13,830	12,145		14,800	+2,655	
TOTAL CAMPUS POPULATION	43,740	49,260	55,129	26.0%	67,200	+12,071	21.9%

Summary of Key Population Assumptions

- Undergraduate growth is projected at 0.5% per year for years 1-5 and 1% per year thereafter through the 2036-37 school year; historically, growth has been more uneven but on average similar to this annual percentage.
- Master’s degree student growth is projected at 2% per year, and doctoral growth is tied to faculty appointment growth to maintain faculty to doctoral student ratios. Self-supporting student programs are included and projected to grow at 2% per year similar to master’s degree programs – this is a conservative assumption but consistent with the quantitative space assessment. Self-supporting

student programs may be on campus in the daytime, in the evenings, on weekends, online, or a combination of on and off line.

- Ladder faculty growth reflects the Strategic Plan's goal of 100 new faculty appointments, as well as an aspirational goal of decreasing the faculty to student ratio to 18 from the current 19.6. The ratio is calculated using FTE figures of all students and all faculty engaged in teaching; FTE has been converted to headcount for the LRDP population figures.
- Academic and administrative staff growth is based on overall enrollment growth, to maintain current ratios. However, historical administrative staff growth since 2005 has been much lower, and in some years decreased, due to overall, university budget constraints. Administrative staff projections include only staff working within the LRDP boundary (i.e., the City of Berkeley and Hill Campus).
- The table below does not include visitors, which would be considered in the environmental analysis.
- The 2020 LRDP EIR headcount was based on a two-semester average headcount population plus an estimate of average daily visitors/vendors.