

Appendix B

LRDP Program Model

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DRAFT LRDP Program Model

Last Updated July 12, 2021

CAMPUS POPULATION (headcount)

	2018 BASE YEAR	2035 PROGRAM MODEL	DIFFERENCE FROM BASE YEAR	PERCENT CHANGE
Students				
Undergraduate	20,581	28,000	7,419	36%
<i>assumptions/notes</i>	86% of total	80% of total		
Graduate/Professional	3,341	7,000	3,659	110%
Masters	1,188	3,710	2,522	212%
PhD	2,153	3,290	1,137	53%
<i>assumptions/notes</i>	14% of total	20% of total. See Note 3.		
Students Subtotal	23,922	35,000	11,078	46%
<i>Enrollment Growth Factor</i>		See Note 1. 46%		
Faculty and Staff (see note)				
Academic Faculty and Staff				
Ladder Rank Faculty	841	1,285	444	53%
<i>assumptions/notes</i>	28.4 students/ladder rank faculty. See Note 3.	27.2 students/ladder rank faculty (UC Average). See Note 4.		
Other Instructional Faculty	332	486	154	46%
<i>assumptions/notes</i>		growth by 46%. See Note 2.		
Non-Teaching Acad Appointments	529	774	245	46%
<i>assumptions/notes</i>		growth by 46%		
<i>Academic Faculty and Staff Subtotal</i>	<i>1,702</i>	<i>2,545</i>	<i>843</i>	<i>50%</i>
Non-Academic Staff				
Non-Academic Staff	3,037	5,000	1,963	65%
<i>assumptions/notes</i>	7.9 non-academic staff/student	7.0 non-academic staff/student ratio (UC Avg. for core funded activities). See Note 5.		
Faculty and Staff Subtotal	4,739	7,545	2,806	59%
CAMPUS POPULATION TOTAL	28,661	42,545	13,884	48%
Student Workers				
Non-Academic Student Staff	2,068	3,026	958	46%
<i>assumptions/notes</i>		growth by 46%		
Graduate Student Appointments	1,928	2,821	893	46%
<i>assumptions/notes</i>		growth by 46%		

Source: UCR Institutional Research

Definitions: Ladder rank and equivalent = tenured, tenure-track, lecturers with promised security of employment. Other instructional faculty = clinical, visiting professors, adjunct, lecturers without security of employment. Academic student = medical residents, graduate researchers, teaching assistants (typically graduate students). Non-teaching academic appointments = agronomists and other academic titles, typically research-related.

1. Note on 35,000 student enrollment: This projection is based on current student enrollment, regional growth trends, and agreements between the University of California system and the State regarding resident student and transfer student enrollment objectives.

The Academics & Research Working Group considered the enrollment model that would bring the campus to approximately 35,000 students in 2035 and found the underlying assumptions to be reasonable. The Working Group considered campus enrollment trends during the past 18 years, going back to fall 2000 when UCR had approximately 13,000 students on campus. During this time, UCR added on average 538 net new students each year. Projecting this linear growth out over the next 17 years to 2035 implies an enrollment of approximately 33,000 students—very close to the planning model. The Working Group envisions a university in 2035 that has cultivated programs already known to have growth potential (BCOE, CHASS), and does not see signs of impending shifts in UCR's academic program portfolio that would have significant implications for space planning.

2. Note on growth factor: The student enrollment is modeled to increase by 46%. The simplest approach and one of multiple methods used in this program model to estimate the need for additional faculty, staff, and campus space by expanding the existing value by 46%.

3. Note on Undergraduate and Graduate Student Program Model: *The Academic & Research Working Group is supportive of growing graduate enrollment at a greater rate than overall enrollment, and feels that it is feasible to achieve 20% graduate students by 2035. Graduate students are currently 14% of total enrollment, with PhDs comprising around 9% of this total. While the proportion of PhDs is similar to that at other UC campuses, the proportion of Masters students is much smaller. Future PhD enrollments would scale with faculty growth, which planning models suggest would be roughly proportional to overall student growth. Thus there would need to be significant growth in Masters students to achieve the 20% figure. The desire to grow graduate enrollments, and Masters enrollments in particular, has been discussed since at least the last strategic planning effort in 2010 but little progress has been made. A more determined effort will be needed that may require new incentives. Overall, the working group feels that a campus of 35,000 students by 2035, including 20% graduate students, is reasonable, provided the university creates an environment in which faculty feel incentivized to grow Masters programs.*

4. Note on Ladder Rank Faculty Program Model: *Increase student/faculty ratio to equal that of the UC average. Current UCR ratio: 28.4 student/faculty Headcount (or 29.3 FTE). UC Average ratio: 27.2 student/faculty Headcount (or 28.0 FTE).*

5. Note on Non-Academic Staff Model: *The Academics and Research Working Group considered the projected increases in non-academic staffing that would bring the student:staff ratio down to the UC average (from 3,037 up to 5,607, or an 85% increase). However, it is important to understand that the UC averages do include health sciences and other non-core funded activities. Adjusting for "core" funded activities, 5000 could be a reasonable target to consider (which would include both core and some non-core growth, like housing).*

CAMPUS SPACE (assignable square feet)

	2018 BASE YEAR	2035 PROGRAM MODEL	DIFFERENCE FROM BASE YEAR	PERCENT CHANGE
Academics & Research				
Classroom and Service (seats) assumptions/notes	6,947 UCR is currently utilizing its classrooms well (near UCOP utilization expectations). The UV theater classrooms are oversized for their scheduled use, so they are excluded from the utilization analysis. See Note 6a and 6b.	12,978 Modified UCOP SmithGroup has modified the UCOP method for determining classroom need. The Program Model calibrates the UCOP model for the different classroom needs of undergraduate and graduate students. 10% of courses provided through alternative delivery methods that reduce classroom need.	6,031	87%
Classroom and Service (ASF) assumptions/notes	113,282 does not include ASF in movie theaters	290,252 New classroom formats will vary from lecture halls to active learning classrooms. See note 8.	176,970	156%
Teaching Lab. and Service assumptions/notes	102,729 UCR is currently utilizing its teaching labs well (near UCOP utilization expectations).	165,800 Only new teaching labs will be constructed/renovated per the UCOP student station size guidelines. Weekend scheduling. See Note 9.	63,071	61%
Open Lab. and Service assumptions/notes	116,743 See Note 10.	129,500 3.7 ASF/student (typical UC System)	12,757	11%
Research Lab. and Service assumptions/notes	887,529 MRB is not included in Base Year ASF	1,115,300 See Note 11.	227,771	26%
Academics and Research Subtotal	1,220,283	1,700,852	480,569	39%
	1,220,283	1,700,852	480,569	
	1,830,425	2,551,277	720,853	

Sources: UCR Space Planning (Existing ASF), FP&A (Research Projections)

Definitions

assignable square feet (ASF): Assignable Square Feet (ASF) is defined as the area measured within the interior walls of a room that can be assigned to a program. ASF does not include circulation, mechanical, restrooms, or building service spaces.

weekly credit hours (WCH): number of hours per week a student station in an instructional space (classroom or teaching lab) is occupied

6a. Note on Classrooms Base Year: Number of seats and current utilization (32.7 WCH/classroom station) do not include 943 seats in UV theaters. The theaters are oversized for their scheduled use, and thus including them would disproportionately decrease average utilization. Base Year 226,946 WCH (total weekly student contact hours) in East Campus classrooms, 238,610 WSCH in all classrooms including UV theaters.

6b. Note on Classrooms Base Year: Renovations of existing classrooms will not reduce their capacity.

7. Note on Classroom Model (Modified UCOP Method): Undergraduate students = (15 WCH/student)/(35 WSCH/station) = @ 0.43 seats/student. Graduate students = (12 WCH/student)/(35 WSCH/station) = 0.34 seats/student. 10% alternative delivery.

8. Note on Classroom ASF Program Model: Future student seats are assumed to be 21 ASF/station. UCR's existing classrooms (excluding the movie theaters) have an average 15.5 ASF/station, which is typical for lecture-style classrooms. Active learning can require up to 25 ASF/station. The assumed 21 ASF/station in the model represents the average of the 15 - 25 ASF range for active learning classrooms. The ASF calculations add 4% for classroom service space for new classrooms, plus existing classroom and service ASF.

9. Note on Teaching Lab Program Model: Teaching labs are defined as rooms used for regularly or formally scheduled classes which require special equipment or configuration (ex: art studios, chemistry labs, engineering computer labs). Only new labs are sized and scheduled per UCOP guideline. Fall 2018 course schedule extrapolated to 2035. New labs adjusted to 24 WCH (higher than existing lab utilization of 16.9 WCH). UCOP recommends 20 WCH; **24 WCH assumes weekend scheduling assumption of up to 4 hours.** New labs constructed/renovated at recommended ASF/station (ASF varies by discipline). The model assumes that existing labs will maintain current lower utilization and station capacity.

10. Note on Open Labs: An open laboratory is designed for or furnished with equipment that serves the needs of a particular discipline or discipline group for individual or group instruction where 1) use of the space is not formally or regularly scheduled, or 2) access is limited to specific groups of students. Included in this category are spaces generally called music practice rooms, language laboratories used for individual instruction, studios for individualized instruction, special laboratories or learning laboratories (e.g., speech, hearing, law, psychology, and health-related professions) if discipline restricted, individual laboratories, and computer laboratories involving specialized restrictive software or where access is limited to specific categories of students. General purpose computer labs are not open labs, but rather classified as study rooms (Library & Collaborative Space).

11. Note on Research Labs and Service Model: A FP&A projected Direct Research Expenditures (Expenditure) by college for 2035 at \$270.1m (average 6% annual increase in research expenditure; base year 2018-19 Expenditure projected at \$96m), assuming additional faculty/researchers and increased expenditure/researcher. It should also be noted that the quality of existing research space is a significant concern and likely limiting factor towards increasing per researcher expenditure. Adapting a research-field methodology to the college-level direct expenditures projections. Space factors ranging from 120 ASF to 540 ASF per \$100,000 in direct expenditures were applied to each college-level projection (see detailed table below). Space needs analysis was limited to direct expenditures (67% of total research expenditures), and do not include F&A expenditures (indirect costs) or land-based research expenditures. The model assumes that current proportion of land-based research remains (16.4% of total research expenditure); UC Riverside reaches 40% of UC average research expenditure per faculty member by 2035; assumes growth in UCR faculty as per LRDP model.

College	FY 2018-19 Research Exp. (projected)	FY 2034-25 Research Exp. (projected)	% Change	Space Factor (ASF)	ASF/\$100000
BCOE	\$ 25,000,000	\$ 69,600,000	178%	450	313,000
CHASS	\$ 5,800,000	\$ 13,900,000	140%	180	25,000
CNAS	\$ 46,200,000	\$ 115,400,000	150%	480	554,000
GSOE	\$ 1,900,000	\$ 3,300,000	74%	120	4,000
SOM	\$ 6,700,000	\$ 32,800,000	390%	540	177,000
SPP	\$ 960,000	\$ 1,090,000	14%	120	1,300
All Other	\$ 9,400,000	\$ 34,000,000	262%	120	41,000
Total	\$ 96,000,000	\$ 270,100,000			1,115,300

CAMPUS SPACE (assignable square feet) (continued)

	2018 BASE YEAR	2035 PROGRAM MODEL	DIFFERENCE FROM BASE YEAR	PERCENT CHANGE
Academic Support Offices and Services <i>assumptions/notes</i>	996,834 The total existing office space is slightly below guidelines.	1,583,415 New offices are constructed/renovated to UCR guidelines. Office size dependent on title and staff status. Space for conference and common spaces. See Note 12.	586,581	59%
Library & Collaborative Learning Space <i>assumptions/notes</i>	337,551 Library - 294,704 ASF Collaboration Spaces - 42,847 ASF	514,789 Library expansion program specific to UCR. Collaboration space outside of the library expanded. See Note 12.	177,238	53%
Assembly and Exhibit <i>assumptions/notes</i>	54,988	117,000 Common national space guidelines for universities with performing arts academic programs. See Note 14.	62,012	113%
Other Department Space <i>assumptions/notes</i>	69,602 See note 15.	140,000 4.0 ASF/student (SmithGroup benchmark)	70,398	101%
Admin and Support Subtotal	1,458,975	2,355,204	896,229	61%
	1,458,975	2,355,204	896,229	
	2,188,463	3,532,806	1,344,344	

Source: UCR Space Planning (Existing ASF)

Definition: Collaborative spaces = the informal spaces outside of classrooms and teaching labs where faculty can informally meet with groups of students and where students can collaborate on group projects and conduct peer-peer learning

12. Note on Offices and Services Program Model: Allocation per person by employment type plus 40% factor for conference, service, and internal office suite circulation. Faculty and Staff - 120 ASF/person, Student Appointments - 60 ASF/person (ex: 2 TA's in a 120 ASF office), Student Staff - 30 ASF/person. The Faculty, Staff, and Student Appointment office sizes are UCR guidelines. UCR has no formal telecommuting policy - all employees are assumed to require office space.

13. Note on Library and Collaborative Learning Space Program Model: UCR Librarian prepared a UCR-specific needs calculation for a library to serve a 35,000-student enrollment (expansion by 128,875 ASF). There is no standard guideline for collaborative learning space distributed across campus outside of the library - the space type is too new. Through benchmarking and discussion with various universities, SmithGroup has found that an ASF allocation of 15% to 25% of the classroom and teaching lab ASF is appropriate.

14. Note on Assembly and Exhibit Program Model: CEFPI guidelines from Association for Learning Environments. Core facility of 14,000 ASF plus 2.5 ASF/student, plus factors for academic programs (8,000 ASF for a degree program in theater, 5,000 ASF for a degree program in music, and 2,500 ASF for a degree program in dance). UC Average Assembly and Exhibit ASF data is not available. The CEFPI guideline suggests ASF that is achievable. In recent SmithGroup projects, the CEFPI Assembly and Exhibit guidelines applied at other universities has indicated both surpluses and deficits in the existing condition.

15. Note on Other Department Space: Uses included in this category are those that do not fit in any other category. At UCR this includes space categorized by UCR as 510 (Armory), 530/535 (Media Production), 555 (Demonstration), 560 (Field Buildings), 570/575 (Animal Quarters), and 650 (Lounge). The 4.0 ASF/student benchmark is achievable. In recent SmithGroup projects, the Other Department Space guideline applied at other universities has indicated both surpluses and deficits in the existing condition.

CAMPUS SPACE (assignable square feet) (continued)

	2018 BASE YEAR	2035 PROGRAM MODEL	DIFFERENCE FROM BASE YEAR	PERCENT CHANGE
Student Life				
Residential (beds)	6,511	14,000	7,489	115%
Freshmen (design capacity)	2,943	5,068	2,125	72%
Triples included in above	512	887	375	73%
Upperclass and Family assumptions/notes	3,056	8,045	4,989	163%
	27% residency. Does not include International Village.	40% residency, 15% of freshmen in triples (Fall '18 rate). See Note 16a and 16b.		
Residential (ASF)	1,525,647	3,643,620	2,117,973	139%
assumptions/notes	on-campus residential buildings, operating in Fall 2018	250 - 500 GSF / bed. See Note 17.		
Residential Dining (seats)	1,172	1,929	757	65%
assumptions/notes	As of Fall 2020- 28% residency. 342 seats Lothia, 830 seats Glasgow, 3.7 freshmen residents/seat. See Note 18.	40% residency 342 seats Lothian 830 seats Glasgow 600 seats North District 157 new seats 3.1 freshman residents/seat		
Residential Dining (ASF)	55,802	94,527	38,725	69%
assumptions/notes	15,002 ASF Lothian 40,800 ASF Glasgow 48 ASF/seat average	49 ASF/seat. See Note 20.		
Student Health	14,117	24,500	10,383	74%
assumptions/notes	Vietsch	New Campus Health and Counseling Center early programming (2019)		
Student Union	97,122	187,422	90,300	93%
assumptions/notes	HUB, Hub 2, Hub Coffee, Costo Hall	Student Union Expansion Analysis (2015)		
Recreation Indoor	140,707	205,867	65,160	46%
assumptions/notes	SRC North, South	growth by 46%		
Recreation Outdoor (fields)	7	11	4	57%
assumptions/notes	Glen Mor fields, Sportsplex, Soccer Field	growth by 46%. See Note 21.		
Athletics	42,568	42,568	-	0%
assumptions/notes	indoor athletic facilities are shared with recreation	No program growth. See Note 22		
Student Life Subtotal (without Outdoor Recreation)	1,875,963	4,198,504	2,322,541	124%
	1,875,963	4,198,504	2,322,541	
	2,813,945	6,297,756	3,483,811	

Sources: UCR Space Planning (Existing ASF), Plumley Residential and Dining Demand Projections

16a. Note on Residential Beds Program Model: Falkirk Apartments will be converted from upperclassmen to family within the next ten years, reducing the upperclassmen student beds by 345 beds.

16b. Note on Residential Beds Program Model: In Fall 2018, 15 percent of freshman were a third person in a two-person room (512 residents in 2,943 rooms).

17. Note on Residential ASF Program Model: New beds are designed to average 250 GSF/Freshmen bed, average 500 GSF/Upperclassmen-Family bed, 70% ASF/GSF efficiency. In Freshmen tripled rooms, three residents in a room sized for two residents.

18. Note on Residential Dining Seats Base Year: All space categories consider Fall 2018 as the base year, except Research Labs and Residential Dining Seats/ASF. The Residential Dining Base Year is Fall 2020, when Glasgow dining (830 seats) is open and Aberdeen-Inverness dining (500 seats) is closed. After Dundee Hall opens (820 beds), there will be 4,335 freshmen beds. [4,335 freshmen residents/1,172 seats=3.7 freshmen residents/seat]

19. Note on Residential Dining Seats Program Model: The completion of the North District will result in 5,470 freshmen beds and 1,772 dining seats (3.1 freshmen residents/seat). The Program Model maintains the 3.1 freshmen residents/seat ratio for 40% on-campus residency.

20. Note on Residential Dining ASF Existing Year: *Lothian is 15,002 ASF and has 342 seats (44 ASF/seat). The Glasgow Dining Hall is planned to be 50,600 ASF/40,800 ASF and have 830 seats (49 ASF/seat).*

21. Note on Recreation Outdoor Fields: *In addition to the 3 fields at Glen Mor, UCR Recreation presently has shared use of the 3 fields of the Sportsplex with the City of Riverside and has access to the fields during the typical times for intramural and club sport competition. UCR Recreation also has shared use of the 1 athletics soccer competitive field.*

22. Note on Athletics Program Model: *No plans for growth in the Athletics program that would result in a need for additional space or outdoor facilities was expressed. However, quality of existing space is a concern.*

CAMPUS SPACE (assignable square feet) (continued)

	2018 BASE YEAR	2035 PROGRAM MODEL	DIFFERENCE FROM BASE YEAR	PERCENT CHANGE
Other				
Corporation Yard	248,279	248,279	-	0%
assumptions/notes		Common planning guideline. See Note 23.		
Other Subtotal	248,279	248,279	-	0%

Source: UCR Space Planning (Existing ASF)

23. Note on Corporation Yard Program Model: Guidelines recommend 5% of all non-residential, non-facilities ASF. It is anticipated that UCR residence halls will have their own maintenance staff and work space, which is incorporated to the Residential Beds Program Model. Based on that assumption, current interior space for campus related needs is in line with the projected need in 2035.

TOTAL CAMPUS SPACE (assignable square feet)

Campus LRDP Program Space Total	4,803,500	8,502,839	3,699,338	77%
<i>Gross square feet equivalent</i>	<i>7,205,252</i>	<i>12,754,258</i>	<i>5,549,006</i>	