Turning the Curve on Affordable Student Housing

Report and Recommendations of the Chancellor's Affordable Student Housing Task Force

July 30, 2018

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Executive Summary

We begin by affirming the sense of urgency many students express when discussing their housing situations, concerns supported by available data and by long established national definitions of affordable housing. UC Davis students are experiencing high levels of housing insecurity, amidst a broader crisis of housing affordability in our city, region, state, and nation.

A dramatic 47% upsurge of enrollment in Davis campus programs between 2000 and 2017 has outpaced local housing supplies, helping drive up rents in the city of Davis by over 31% (in inflation adjusted dollars). A recent ASUCD-GSA Housing Affordability and Insecurity Survey finds that, during the past year (2017-18), about 7% of UC Davis students surveyed were homeless for a period of time and 2% spent time living in their car or another place not intended as housing (see Figure 2 and Appendix C for details). Almost 18% of students experienced either homelessness or some other form of housing insecurity, such as making only partial rent or utility payments, doubling up in rooms without a lease, moving in with others because of financial problems, or moving more than twice during the year.

The bottom line for students is deeply troubling. Far too often, housing costs and unsettled or even abusive housing circumstances undermine students' educational experiences while they attend UC Davis. These burdens exacerbate related problems with food insecurity and mental health, often following students into adulthood in the form of debt. Given our values and mission as a campus, these trends are not acceptable. Bold action is needed.

Over the long-term, more affordable housing will require assertive steps to increase the supply of housing. We are encouraged by recent commitments by the campus and the city of Davis to build new student housing. However, this additional housing capacity is many years away from being realized. In the meantime, vacancy rates will continue to be extremely low and the upward pressure on rents will persist. As a result, the next three to five years is a particularly critical juncture for campus activity to support students. Extraordinary measures beyond conventional planning routines will be necessary.

Our Charge, Methods, and Key Assumptions

Chancellor Gary May appointed our task force in February 2018, charging us to: "1) review our existing student housing options and their affordability; 2) suggest improvements to enhance the affordability of our existing student housing programs and services; and 3) make recommendations about any additional student housing programs or options we should consider implementing." Since February, the task force has 1) sought out constructive ideas on what can be done to enhance affordable housing by conducting more than 50 interviews and consultations with students, campus leaders, and city officials (Appendix A); 2) gathered data from campus, city, and other sources (Appendix B); and 3) collaborated with the Graduate Student Association (GSA), the Associated Students of the University of California, Davis (ASUCD), and the Office of Student Affairs to conduct a student housing survey (Appendix C). We have sought to focus on actions over which campus leaders have some measure of control, guided by the following key assumptions:

- **Accountability to students.** Because housing burdens directly impact a student's educational experience, acting to improve housing affordability is part of the campus's fundamental responsibility to students and to carrying out its educational mission.
- **Equity.** The affordable housing issue impacts some groups of students more severely than others; new services and policies should be designed to meet the needs of distinct subpopulations and target those students most adversely impacted.
- **Collaboration.** Based on a common interest in solving affordable housing challenges, improving collaborative relationships with the city of Davis and other local municipalities is a priority.
- **Connecting the dots.** Affordable housing cannot be considered in isolation from related issues such as transportation, community support structures, city and regional housing markets, cultural diversity, and the impact of housing-related stress on students' classroom performance.

Recommendations

This executive summary describes 19 task force recommendations; four are overarching priorities to guide and support needed changes, and another 15 are short-to-medium term action priorities. Figure 1 summarizes the recommendations and identifies campus entities that have a role in their implementation. The full report provides additional details on each recommendation and a deeper analysis of the trends and data that have informed our thinking.

Overarching Priorities

1. **We recommend the Chancellor charge and empower a leadership team with the responsibility to implement the recommendations in this report.** The leadership team should provide quarterly updates to the campus community on its work. We expect that substantial progress on all 19 recommendations can be achieved by the end of the 2018-19 school year. The leadership team would be led by the Office of Student Affairs, but include representatives of other key administrative offices and student leadership groups, including: Budget and Institutional Analysis, Campus Planning, Government Relations, Student Housing and Dining Services, Financial Aid, Aggie Compass, Unitrans, Associated Students of the University of California, Davis (ASUCD), and the Graduate Student Association (GSA).

2. **We recommend that the Chancellor invite leaders from the City of Davis and nearby municipalities to participate in an ongoing forum that would address shared interests in affordable housing, sustainable transportation, and related issues.** The current crisis presents the opportunity for a new era of city and regional collaboration, one in which elected officials, administrators, businesses, nonprofit organizations, affordable housing developers, and citizen groups all have a stake. We envision quarterly gatherings that might include informal opportunities to develop relationships, informational presentations to spark partnership ideas, and spin-off working groups to pursue specific collaborative opportunities.

3. **Identify funds to support affordable student housing.** Currently, Student Housing and Dining Services operates on a "pay its own way model." Expanding services beyond the limitations of this model will require an exhaustive effort to identify potential funding sources that could subsidize housing costs for students via stipends, vouchers, and/or reductions in on-campus rents. These might include public, private, or philanthropic sources, or innovative financing methods such as housing bonds, community land trusts or cooperative housing models.

4. **Monitor affordable housing trends by means of a yearly survey and other data.**
   Although Student Housing and Dining Services has provided an annual vacancy survey for
   many years, the campus should develop a regular capacity to draw together campus, city
   and regional housing and transportation data to assess trends in the affordability of
   student housing. This effort is needed to determine if the action steps recommended in
   this report are succeeding. It can build on the successful pilot survey (Appendix C)
   conducted by GSA and ASUCD in the spring of 2018 (ASUCD-GSA Housing Affordability
   and Insecurity Survey, 2018).

Short-to-medium-term Action Priorities

I. Manage supply, demand, and design on campus

5. **Limit enrollment increases.** The time has come for an era of much slower, incremental
   growth in the student population, enabling the campus to catch up with infrastructure
   needs, including housing, classroom space, and student support services.

6. **Increase the campus housing supply by building more units**. We welcome the
   Chancellor's recent decision to increase the target of new housing units to be built on
   campus to include 9,050 beds, but our analysis of the available data suggests that number
   needs to be higher to reverse the trend toward increasingly unaffordable housing.

7. **Design for affordability**. In any new campus housing development, including
   remodeling of existing structures, emphasize housing design specifications that enhance
   affordability, including options that pair smaller private spaces with shared community
   spaces providing basic amenities.

II. Advocate for students

8. **Adjust UC financial aid budget calculations to reflect actual market value of rental
   units, rather than student survey responses.** As discussed in detail in the body of this
   report, UC-wide financial aid calculations systematically underestimate the actual housing

costs faced by students. Campus leaders should press UC Office of the President (UCOP) officials to change their methods and calculations immediately.

9. **Ensure an appropriate ratio between housing rental rates and the salaries graduate students receive as Graduate Student Researchers and Teaching Assistants.** As of 2017, two graduate teaching assistants sharing a two-bedroom apartment in Davis can expect to pay 36% of their salaries on rent if they both work at 50% time (up from 26% of the salary in 2000). Working with the appropriate parties at the UC Office of the President, the campus should ensure this ratio begins to decline, for example, by factoring housing costs into salary negotiations leading to more appropriate compensation.

III. Develop and/or improve specific housing services for students

10. **Provide adequate and readily accessible emergency housing services.** Given the ASUCD-GSA Housing Affordability and Insecurity Survey data finding high levels of housing insecurity and homelessness among UC Davis students, we recommend that Student Affairs be charged with putting an emergency housing services plan in place during the next school year.

11. **Establish an ombudsperson and/or call line to support students facing landlord/tenant issues.** Students and city officials both report increasing numbers of conflicts between student tenants and their landlords. The Office of Student Affairs should collaborate with the city's Rental Resources Program, or similar agency, to increase the support available to students in these situations. Stronger renter's rights protections are an important, tangible way to support students.

12. **Create financial/rental literacy programs for students**. Many students report difficulties navigating lease agreements and other aspects of being new to renting. We recommend that the Office of Student Affairs work with a student advisory committee, and with the city's Rental Resource Program staff, to create a practical, accessible (e.g. online) financial and rental literacy education program.

13. **Improve roommate matching programs to better assist students in vetting roommates.** Given extremely low rental vacancy rates, the need to double- or triple-up to

reduce housing costs, and early deadlines for lease renewals, students often have difficulty finding and keeping roommates or feeling secure in their housing situation. A roommate matching service might be more effective and visible if it is intentionally connected to the new Aggie Compass in the Memorial Union.

14. **Reestablish Campus Community Housing Listing Service.** Housing options for students need to be made more transparent and accessible. In developing this capacity, attention should be given to using web platforms that are available to international students, and to the needs of students who must relocate to satellite campuses during their course of study, such as students at the Bodega Marine Lab.

15. **Provide incentives for city landlords to become 'Aggie preferred housing partners.'** This might be facilitated by having students, campus housing officials, and city personnel update the ASUCD Davis model lease to incorporate affordability elements such as guidelines restricting year-to-year rent increases. A more robust rental inspection program, modeled after the nationally recognized one in the City of Sacramento, can also help by identifying any housing code violations that might impact students.

16. **Increase Financial Aid Office staff support.** Both undergraduate and graduate students report some problems in receiving financial aid disbursements in a timely fashion. Due to resource constraints, a limited number of applications are processed daily, restricting the timely availability of grants or loans. Additional automation and staff will provide concrete benefits to students.

17. **Keep Solano Park open as long as possible.** To preserve affordable housing options for graduate students while the university and other developers are in the process of building more housing, Solano Park graduate student housing should be kept open as long as possible, with appropriate maintenance and renovation as required.

IV. Pursue innovation

18. **Provide better transportation options for students, faculty, and staff living outside of Davis.** Many students, staff, and faculty live outside of Davis in search of cheaper housing or for other reasons. One way to increase student affordable housing options,

which would also benefit faculty and staff, would be to provide frequent, accessible, and sustainable transportation options to campus from nearby municipalities.

19. **Develop and build a co-op housing facility with professional management.** A number of college campuses or university towns have successfully developed large scale co-op housing models that combine professional management with traditional co-op principles such as shared equity. We recommend that such a facility be constructed on campus, with careful evaluation of its costs and benefits as a future campus model.

Conclusion

Deeply rooted social problems such as affordable housing require a variety of strategies in order to turn the curve and move trend lines in the right direction. Key steps include 1) bringing the right partners together, 2) generating a variety of short-term responses oriented toward shared goals, 3) marshalling current and new resources to pursue opportunities, and 4) using data to track progress toward goals. The four primary recommendations in this report are intended to be foundational for turning the curve on affordable student housing at UC Davis. The remaining 15 recommendations provide a short- and medium-term action agenda that builds momentum toward systematic and comprehensive long-term solutions. We hope our work will make a significant contribution to framing the campus and community discussion of affordable housing in the near future.

Figure 1. Summary of key recommendations and responsible parties.

Recommendation	Lead unit(s) with responsibility
Overarching priorities	
1.Charge and empower a leadership team with the responsibility to implement all recommendations	Chancellor, Student Affairs
2. Invite leaders from the City of Davis and nearby municipalities to an ongoing forum addressing shared interests in affordable housing, sustainable transportation, and related issues.	Chancellor, Government Relations
3. Identify funds to support affordable student housing	Chancellor, Government Relations, Development, BIA
4. Monitor affordable housing trends by means of a yearly survey and other data	Student Affairs
Short-to-medium term action priorities	
I. Manage supply, demand, and design on campus	
5. Limit enrollment increases	Chancellor, Provost, BIA
6. Increase housing supply by building more housing units	Chancellor, BIA, Campus planning, UCOP
7. Prioritize affordable designs in new campus housing	Campus planning, Real Estate Services, Student Affairs, Student Housing and Dining Services
II. Advocate for students	
8. Adjust UC financial aid budget calculations to reflect actual market value of rental units, rather than student survey responses	Chancellor, Financial Aid, UCOP
9. Ensure an appropriate ratio between graduate student GSR and TA salaries and housing rates.	Academic Affairs, UCOP
III. Develop and/or improve specific housing services	
10. Provide adequate and readily accessible emergency housing service	Student Affairs
11. Establish an ombudsperson and/or call line to support students facing landlord/tenant issues	Student Affairs, Government Relations
12. Create financial/rental literacy programs for students	Student Affairs
13. Improve roommate matching programs to better assist students in vetting roommates to increase security and reduce turnover	Student Affairs
14. Reestablish Campus Community Housing Listing Service	Student Affairs
15. Provide incentives for city landlords to become 'Aggie preferred housing partners.'	Student Affairs, Government Relations
16. Increase Financial Aid Office support	Financial Aid, BIA
17. Keep Solano Park open as long as possible	Student Affairs, Campus Planning, BIA
IV. Pursue innovation	
18. Provide better transportation options for students (and faculty & staff) living outside of Davis	Government Relations, Unitrans
19. Develop and build a co-op housing facility with professional management	Campus planning, Real Estate Services, Student Affairs, Student Housing and Dining Services

Turning the Curve on Affordable Student Housing

The remainder of this report is presented in support of the recommendations listed in our executive summary. It includes the following sections:

- An overview of the crisis in affordable student housing, including a section on two primary ways affordability is currently being defined.
- A summary of the methods the task force used to gather information to inform our recommendations (see also Appendices A and C).
- A housing data snapshot that provides key data points that informed our recommendations (see also Appendix B).
- A section describing the story(ies) behind the numbers that analyzes some key drivers of the affordable housing crisis, along with a few positive trends to build upon.
- An expanded discussion of the Recommended Actions identified in the Executive Summary section of this report.

The crisis in affordable student housing

At a time when 47% of renters nationally and 61% in Davis pay more than 30% of their income on rent—the official US Housing and Urban Development (HUD) definition of housing affordability—it is clear that the affordability crisis is deep and pervasive.[1] University students are often among those most deeply impacted by this crisis, and UC Davis students are experiencing high levels of housing insecurity (GSA resolution, March 1, 2018). Since 2000, the average market rental unit in Davis has increased in cost by 31%, such that a one-bedroom apartment in 2017 costs, in real terms, more than a 2-bedroom apartment in 2000.

The recent ASUCD-GSA Housing Affordability and Insecurity Survey finds that, during the past year (2017-18), 18% of UC Davis students experienced some form of housing insecurity (Figure 2). About 7% of students stated they were homeless for a period of time and 2% indicated they spent at least some time living in their car or another place not intended as housing. If the survey percentages are extrapolated to reflect the entire UC Davis student population, they indicate that as many as 6,000 students are housing insecure, more than 2,500 have been homeless for a period of time, and over 600 have spent time living in a car or another place not intended as housing.[2]

Figure 2. Surveyed student experience of housing insecurity and homelessness in the past year

Role Group	Homeless for a period*			Homeless or insecure†			Lived in auto, etc.		
	n	Pct	Est	n	Pct	Est	n	Pct	Est
Undergraduate	**115**	**6.3%**	**2158**	**284**	**15.4%**	**5275**	**34**	**1.85%**	**634**
Freshman	5	0.3%	103	14	0.7%	240	1	0.04%	13
Sophomore	9	0.5%	171	33	1.8%	617	1	0.06%	20
Junior	37	2.0%	685	88	4.8%	1644	13	0.72%	246
Senior	64	3.4%	1165	149	8.1%	2774	19	1.04%	355
Graduate	**16**	**0.9%**	**308**	**45**	**2.5%**	**856**	**3**	**0.16%**	**54**
Master's & Pro	7	0.4%	137	22	1.2%	411	1	0.07%	23
PhD	9	0.5%	171	23	1.3%	445	2	0.09%	31
Total	**132**	**7.2%**	**2466**	**329**	**17.9%**	**6131**	**37**	**2.01%**	**688**
- MOE		*1.0%*	*338*		*1.5%*	*507*		*0.54%*	*184*

Figure 2 Notes. Totals may be affected by rounding. Reported sample n is weighted according to student role group as a portion of overall campus population counts. Estimated (Est) columns reflect extrapolations to the overall student population and are based on 2017-18 enrollment in general campus programs. Sources: ASUCD-GSA Housing Affordability and Insecurity Survey, 2018; population extrapolations based on 2017-18 3-quarter average headcount for students in general campus programs. MOE is margin of error at 90% confidence interval.

*Homelessness conditions cover: stayed in an auto/library/public building/tent/etc., thrown out of home by family or housemates, legally evicted, stayed in a shelter, unsure of place to sleep at least one day, stayed temporarily with acquaintances while looking for a home, did not have a home.

†Housing insecurity conditions listed cover: Did not pay full amount of rent or utilities, moved 2 or more times, doubled up in a bedroom without a lease, moved in with other people due to financial problems.

The same survey found that 29% of Davis students report knowing first-hand a fellow student who has experienced being housing insecure or homeless.[3] A separately conducted, smaller survey of an academic department with 98% of students that are under-represented minorities (93% of whom received need-based aid) found that almost two-thirds reported having to borrow money at some point to pay for rent/housing. Furthermore, approximately 12% of those students experienced temporary homelessness during the previous 12 months.[4] The phenomenon of homeless students living in cars or "couch surfing" as they seek increasingly scarce and costly rental spaces has become all too common.[5] So are the so-called "mini-dorms" created when investors rent single family homes, which large numbers of students share to lower their housing costs, a phenomenon that is becoming a recognized problem in the city of Davis.

Yet public housing policies for the most part exclude students from receiving housing subsidies. Popular conceptions of campus living are out of touch with the reality facing students, where

working long hours while attending the university is common, and rising student debt levels are changing how an entire generation navigates early adulthood. The housing affordability crisis is also exacerbating social inequality, including inequities in how students from different backgrounds experience higher education. According to national data, low-income and first-generation students graduate at lower rates than their higher income peers, and housing challenges are one reason.[6] Lower income students face greater pressures to double- or triple-up in housing, disproportionately exposing them to living situations associated with poorer health and with little privacy or space that is conducive to study.

The university has an opportunity to respond to the affordable housing crisis creatively and effectively, guided by our Principles of Community and by the obligation to create the conditions in which our students can thrive in and beyond the classroom. Our charge has been to identify recommendations for campus responses to the crisis and associated student impacts. While we were not specifically charged with identifying the causes of the current housing situation, it is difficult to propose remedies—even partial ones—without presuming some definition of the problem.

One obvious way of defining the problem is that the supply of housing has not kept up with demand, leading to rising prices. Increasing the supply of housing on campus, in the city, and in surrounding areas is a central long-term strategy for increasing affordability. Recent decisions taken by both the City of Davis and the campus signal significant supply increases over the next 5-10 years. How much relief these actions will provide on the rental and housing markets remains to be seen. In the meantime, there are many immediate student housing needs requiring attention. Our task force has taken into consideration multiple problems that are being articulated by students and a broad array of potential action steps.

Given the severity and long-term genesis of the housing crisis, only a concerted action on multiple fronts and an engagement of multiple partners has a realistic chance to "turn the curve" on housing affordability, reversing the long-term trend toward less affordable student housing.[7]
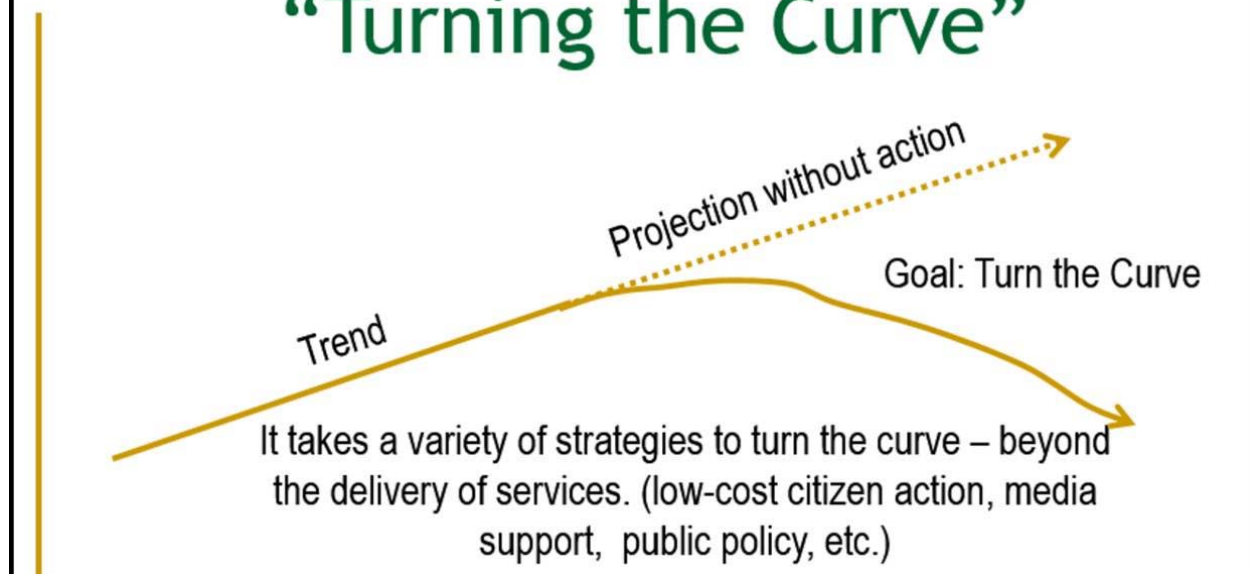
Figure 3. The "turning the curve" model of change (Mark Friedman).

In housing policy, as in other contentious policy discussions, there is a tendency to personalize issues that are better understood as being caused by structural and institutional failures. In the US political economy, local areas and officials often are on the receiving end of problems that are not primarily of their own making, and for which higher levels of government are not responding with sufficient investments. While it is unfair to blame campus and/or city leaders for causing a deeply structural societal problem, it is also true that they have a particular responsibility to provide bold and assertive leadership on this issue. Indeed, things will not get better unless they act.

We are pleased that Chancellor May has recognized this reality early in his tenure, both by formally committing the campus to increase the number of housing units built on campus, and by forming this task force to consider how student housing services can be improved. In response, we offer a constructive approach that is both cognizant of the structural and institutional constraints on campus actions, but insistent that we can and must do better, with and for students.

Defining affordability

How housing affordability is defined in practice varies. Some definitions anchor themselves in the percentage of income required to pay housing costs. For example, the US Department of Housing and Urban Development (HUD) definition states that housing is affordable if one is spending no more than 30% of one's income on housing-related costs; cost burdened households pay more than 30% and extremely cost-burdened households pay 50% or more of their income for housing. This way of defining affordability has the benefit of tying affordability to the ability to pay. It has the limitation, from another point of view, of not taking into account what it actually costs to build housing. Most municipalities and campuses (including UC campuses) define affordability in terms of rents that are some percentage below the prevailing market rate. This has the advantage of being realistic about the actual cost to build housing in a particular market, but the corresponding drawback is that even housing that is labelled as "affordable" (compared to the market rate) is still out of the reach of many. Indeed, that is the current situation facing the campus, community, region, and nation. Exacerbating the situation for students is that under federal regulations they rarely can qualify for whatever publicly subsidized affordable housing units might be available.

Task Force Activities and Data Collection Methods

In the relatively short period of time available for our work (a little more than one academic quarter), the task force has sought broad input via interviews, consultations, a web site soliciting ideas, and a student housing survey. A list of task force contacts, which include students, administrators, city officials, and concerned community members, is included in Appendix A. In each of our conversations, we have sought advice on needed changes to improve student housing affordability, whether short-term or long-term in nature.

We gathered as much data as we could from campus, city, and other sources to inform our understanding of the nature and extent of affordable housing issues facing students. Much of that data is included in the text of our report to characterize the problems facing students and to support our recommendations, with footnotes indicating the data sources. A summary of the most relevant data is provided in Figure 4, and an index of major data sources is included in Appendix B. Most of the data we have used will be directly available via a web link on the Chancellor's website where this report is posted (http://affordable.ucdavis.edu).

Figure 4. Housing data snapshot.

How many students, staff, and faculty are at UC Davis?[8]	
Total UC Davis student enrollment	36,735
Total enrollment in Davis-based programs	**34,249**
Undergraduate students	28,771
Graduate, professional, and post-baccalaureate students	5,478
Faculty	1,820
Staff	9,160
Where do students, staff, and faculty find housing?[9]	
Students/on-campus housing	10,617 (31%)
Students/city of Davis	20,207 (59%)
Students/outside of Davis	3,425 (10%)
Faculty outside of Davis	655 (36%)
Staff outside of Davis	5,588 (61%)
How much does it cost to rent in Davis and in UC Davis Student Housing?	
Average rent for an apartment in Davis in Fall 2017[10]	$1,673
Average apartment rents in Davis by number of bedrooms:	
Studio	$1,035
One-bedroom	$1,270
Two-bedroom	$1,660 ($830/room)
Three-bedroom	$2,270 ($757/room)
Four-bedroom	$2,858 ($715/room)
Prices for residence halls and Student Housing Apartments, (which include utilities, housekeeping/custodial, and academic and residential support services)[11]	
Single bedroom in residence halls	$1,268 (9 months)
Double-up in residence halls	$1,107 (9 months)
Single bedroom in Student Housing Apartments	$1,140 (10.5 months)
Double-up in Student Housing Apartments	$978 (10.5 months)
Solano Park one- and two-bedroom	$766 and $906 ($383 and $453 if shared)
Some below-market P3 apartments, for half of a two-bedroom unit	$501-$706
Other P3 apartments	$834- $1,300 per bedroom
How affordable are average rents in Davis for students?	
Percentage of minimum wage and gross Teaching Assistant salary needed to rent <u>half</u> of a market-rate two-bedroom apartment[12]	
For minimum wage ($11/hr) at 40 hours/week	($1,905/mo salary) 44%
For minimum wage ($11/hr) at 20 hours/week	($953/mo salary) 87%
For a Teaching Assistant at 20 hours/week	($2,295/mo salary) 36%
For a Teaching Assistant at 10 hours/week	($1,147/mo salary) 72%
How crowded is the Davis rental market? (vacancy rates)	
Davis multi-family apartment market (fall 2017[13], spring 2018)	0.2%, 0.9%
Student Housing P3 Apartments (2017-18)[14]	0.0%
Student Housing Residence Halls (2017-18)	1.9%

For the survey, the task force collaborated with the Graduate Student Association (GSA) and the Associated Students of the University of California, Davis (ASUCD) in fielding a survey of students to identify housing affordability trends and needs, with assistance from the Office of Student Affairs (Appendix C). The survey data is rich and extensive, and a full analysis lies beyond the scope of our responsibilities. We have been able, however, to draw selectively on parts of the survey data to inform our readers and provide a context for understanding our recommendations. As we discuss below, we believe the campus should support a yearly survey that gathers housing data, including affordability metrics.

The Story(ies) Behind the Numbers

In our conversations with campus officials, students, and others, we attempted to discern the key factors driving the affordable housing crisis facing UC Davis students. The following section briefly characterizes the most frequently mentioned drivers.

US national policies emphasize lowering taxes and cutting public spending on social programs and deny most students access to the limited amount of public housing subsidies that are available. Since 2000, housing prices have doubled in much of the world and tripled in some places.[15] Many countries have responded by building large amounts of public housing to increase supply and moderate the effect of price increases, but the US has not.

State of California policies have dramatically reduced the funding support for the UC system, forcing campus leaders to find alternative ways to fund campus operations in the face of rising costs. Since 1980, enrollment has increased by 113% while State General Fund spending per student has decreased by 51%.[16] State funding for undergraduate enrollment growth is at lower levels than in the past, ~$7K compared to ~$10K per student.[17] In addition, the elimination of state programs funding local Redevelopment Agencies in 2011 took away one major tool used by cities to fund new affordable housing units.

Previous UC Davis campus policies prioritized rapid growth in international and out-of-state students as a way to make up for the shortfall in state funding. Total undergraduate enrollment at UC Davis increased by 4,700 since 2011-12.[18] Out-of-state and international undergraduate students increased from 4% to 17% of total UC Davis enrollment since 2012.[19]

The combination of City of Davis policies that have prioritized slow growth, and campus policies emphasizing rapid enrollment increases, has meant that the supply of rental housing has not kept up with increasingly high demand. Figure 5 shows the growth in campus enrollments and the number of students living off campus since 2000, indicating a net increase of approximately 5,000 students in the Davis rental housing market. With minimal expansion of available rental housing in the city during this same time period, the result is: a) more students are crowding into the available rental units, b) vacancy rates are extremely low (recently below 1%), and c) rental rates are escalating rapidly.
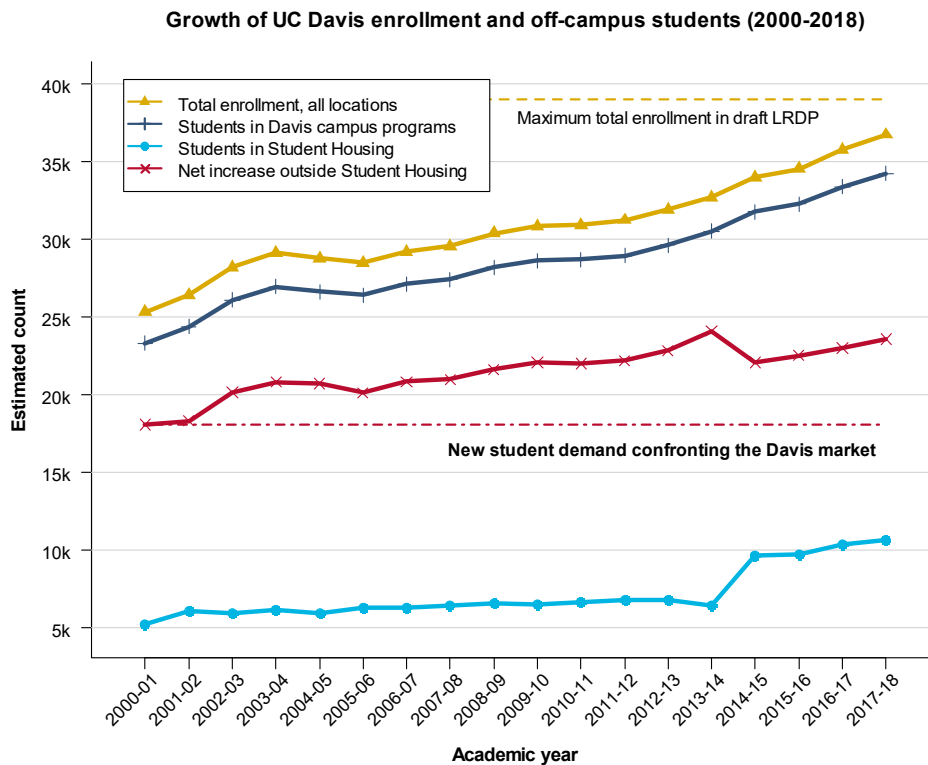
Figure 5. Sources: UC Davis 3-quarter enrollment headcounts, UC Davis Student Housing Occupancy Reports, and UC Davis draft Long Range Development Plan (2018).

While precise data about the extent of crowding are difficult to collect, the ASUCD-GSA Housing Affordability and Insecurity Survey suggests that about half of the renters in the City of Davis are UC Davis students; yet, they occupy as few as 30% of the multi-family rental units and houses.[20] The survey estimates there are, on average, 2.69 bedrooms per student-occupied apartment and 4.15 occupants, leaving an average of 1.55 students per bedroom. In contrast, using Student Housing Vacancy Report data and current City of Davis rental unit counts, we estimate that the

average occupancy per apartment bedroom in the city is 1.22.[21] If there were more options available for the student renter population, occupancy-per-bedroom figures would more closely approximate an ideal 1.0.

Cost burdens for housing in Davis are at alarming levels. According to the City of Davis "State of the City" report (2017, p. 76), at least 44% of all Davis households experience some level of excessive housing cost burden, defined by HUD as paying more than 30% of income for housing. At least 26% are extremely cost-burdened, meaning they pay half or more of their income for housing. Among renters the percentages are much higher, as at least 61% are cost-burdened and 40% are extremely cost-burdened.

The bond ratings of the university govern how much debt the system can take on at any point in time. Combined with other factors, these ratings influence how much new construction occurs and its cost. Currently, university bonds are not A-grade, making them costlier to sell, and UCOP assumptions require that new housing projects generate 1.1-1.25 times what they cost to build. Tax-exempt bonds help to incentivize investment in building projects by promising higher earnings for investors; however, they also require quicker repayment, which reduces the immediate cost savings that can be passed on in the form of lower rents.

The university system has committed itself to paying prevailing wages in most construction projects, an important and valuable way to support labor. A tradeoff of this policy is that it makes it more expensive to build student housing on campus than off-campus, perhaps by as much as 15% over what it might be otherwise.

Student aid has not kept pace with rising housing costs in California, and the available aid covers only a fraction of the actual food and housing costs facing students in every region of the state.[22] Further, UCOP sets financial aid parameters based in part on estimates of what it costs students to secure housing. From the data we have gathered, it appears that these estimates are unrealistically low. We return to this important issue in our recommendations.

Fellowships provided to graduate students often are taxable and many come with requirements that limit or preclude second jobs that might allow a way to generate income needed to meet housing and other costs.

Campus housing services at UC Davis are funded solely from the revenues generated by student room and board fees, including rents. Without any additional infusion of campus budget funds, rents must rise regularly to provide for mandated staff pay increases under union contracts and other rising costs. In addition, Student Housing and Dining Services must turn over a portion of the fees generated from students as part of assessments which all campus units pay to the central campus for shared services and other administrative overhead.

Affordable housing advocacy organizations and developers cannot always or even typically be counted on as allies of students. These groups do not typically prioritize students as a group who should be a key beneficiary of limited public housing assistance and programs, feeling that to do so may divert limited resources away from non-student individuals and families.

Positive Trends on Which to Build

At the same time, there are positive trends that can be noted, especially in the last few years. These include increased recognition by both campus and city leaders that a crisis point has been reached and that action is needed. In the City of Davis, for example:

- Affordable housing was a major issue in the June 2018 Davis city council election.
- The City has approved new rental housing developments geared toward students (Lincoln 40 and Sterling), increasing supply overall and with many units designated as affordable.
- City voters approved a large rental housing development on the Nishi property in June 2018, making it possible to bring 700 new apartment units totaling 2,200 new beds online in the coming years, with about 15% of these designated as affordable.

On campus, the Chancellor has signaled that he will make affordable housing a priority:

- Appointing this task force to advise him and other campus leaders.
- In preparing the long-range development plan (LRDP), the Chancellor committed the campus to building 9,050 new beds for students by 2030-31 (8,500 in new construction and an additional 550 beds at West Village by allowing additional students to live in existing apartments), up from earlier projections of 6,200 units.
- The draft of the new UC Davis Strategic Plan, "To Boldly Go," commits the campus to "Redouble campus planning efforts to increase the supply and affordability of housing for undergraduate and graduate students" (p. 22).

Task Force Recommendations

The following section discusses our task force recommendations, elaborating on and providing supportive data for the priorities identified in the Executive Summary.

Overarching Priorities

1. We recommend the Chancellor charge and empower a leadership team with the responsibility to implement the recommendations identified in this report. The leadership team should provide quarterly progress updates to the campus community on its work. We expect that substantial progress on all the recommendations can be achieved by the end of the 2018-19 school year. The leadership team would be led by the Office of Student Affairs, but include representatives of other key administrative offices and student leadership groups, including: Budget and Institutional Analysis, Campus Planning, Government Relations, Financial Aid, Unitrans, Associated Students of the University of California, Davis (ASUCD), and the Graduate Student Association (GSA).

2. We recommend that the Chancellor invite leaders from the City of Davis and nearby municipalities to participate in an ongoing forum that would address our shared interests in affordable housing, sustainable transportation, and related issues. The current crisis presents the opportunity for a new era of city and regional collaboration, one in which elected officials, administrators, businesses, nonprofit organizations and citizen groups all have a stake. We envision quarterly gatherings which might include informal opportunities to develop relationships, informational presentations to spark partnership ideas, and spin-off working groups to pursue specific collaborative opportunities. Among other priorities, such a group might focus on learning about how other campuses are handling the affordable housing issue, something our task force was unable to pursue as much as we would have liked. In addition, it might learn from work being done in our own region, such as the Sacramento Area Council of Government's (SACOG) Regional Housing Needs Assessment, or the City of Sacramento's Housing Element Annual Report.[23] Campus, city, and regional leaders have a shared interest in finding solutions to the affordable housing crisis, which affects everyone in the community and region (albeit in varying degrees). For example, the 9,160 staff members of UC Davis are increasingly living outside of Davis (65% in 2017 compared to 55% in 2007), adding to traffic issues in the region.

We are long past the time where the city of Davis is able to easily absorb the number of students who are not housed on campus, requiring fresh thinking on the part of both campus and community leaders on a workable housing model. The past two decades have witnessed much finger-pointing, with some city residents and leaders stressing the campus's obligation to build more housing, while some students and campus leaders cite the strong slow growth and NIMBY tendencies of the Davis population as barriers to affordable housing. While there is truth in both positions, neither does much by itself to deal constructively with the problem we face jointly. With the human and political costs of inaction increasing, it is time for serious, sustained, and constructive dialogue. Davis has a well-earned reputation for enlightened community planning; now is the time to extend that reputation by putting our heads together to turn the curve on housing affordability. There is enormous creative potential in such a dialogue, positioning the campus and city to become models in housing affordability.

Partnering with the city on economic development projects that include affordable housing could result in a win-win scenario, as envisioned in the Chancellor's Aggie Square concept. The Chancellor has indicated that some elements of Aggie Square might be located in Davis, and we recommend that these possibilities become a focus. The City's upcoming General Plan process provides a particularly opportune time for these conversations.

3. Identify funds to support affordable student housing. Currently, Student Housing and Dining Services operates on a "pay its own way model." Expanding services beyond the limitations of this model will require an exhaustive effort to identify potential funding sources that could subsidize housing costs for students via stipends, vouchers, and/or reductions in on-campus rents. These might include public, private, or philanthropic sources, or innovative financing methods such as housing bonds, community land trusts, or cooperative housing models. Potential sources of new funds in support of affordable student housing might be generated by:

- Scanning federal or state housing programs for potential matches with campus needs;
- Directing the Development office to identify donors willing to create a housing endowment; this might be combined with strategies that connect housing to lecture halls or other educational facilities in which donors want to invest;
- Moving funds from other, lower priority UC Davis budget items to support high priority affordable housing needs over the next 5-year period.

Beyond this, there is of course an ongoing need to lobby the Governor and the Legislature for better overall UC funding, in order to create opportunities to better support students. More specifically, the leadership team might work with UC Davis Governmental Relations and other state-level organizations like the California State Association of Counties (CSAC) to support bills/legislation that address housing issues. For example, AB 2784 is a bill on Emergency Student Housing Loan Programs, and there is ongoing conversation about allowing Cal Grants to cover more than just systemwide fees.

4. Monitor affordable housing trends by means of a yearly survey and other data. Although the Student Housing department has provided an annual vacancy survey for many years, the campus should develop a regular capacity to draw together campus, city and regional housing and transportation data to assess trends in the affordability of student housing and track progress. This effort is needed to determine if the action steps recommended in this report are succeeding and to anticipate problems before they become severe. It can build on the successful pilot survey of students conducted by GSA and ASUCD in the spring of 2018, although ideally the survey would be expanded to include staff and faculty. It would be beneficial if a faculty member can take ownership of the administration and analysis of the survey, with some resource support provided by the campus, similar to the model Environmental Science and Policy Professor Susan Handy has developed for the Institute of Transportation Studies' Campus Travel Survey. Working with the survey and other readily available data, the campus might create a dashboard with metrics on affordable student housing goals, which could indicate progress toward the following key benchmarks:
- A 30% ratio between half the rental cost of a Davis market-rate two-bedroom apartment and a Teaching Assistant (TA) salary at 50% FTE;
- A 4-5% rental housing vacancy rate in the City of Davis;
- A 0% or minimal gap between the Davis housing market average annual rent increase and the average annual inflation as measured by the Consumer Price Index;
- Less overcrowding in rental units as measured by a yearly student housing survey;
- Evidence that rental rates and conditions for low income students are improving.

Short-to-medium-term Priority Actions

I. *Manage supply, demand, and design on campus*

5. Limit future enrollment increases. The campus budget model has emphasized the need to grow the student body, particularly out-of-state and international students, using increased tuition revenues to offset reductions in state funding. When combined with pressures from the legislature and UCOP to serve more students, the result has been dramatic growth that makes it difficult for the campus and city to provide sufficient housing infrastructure. This reality is at the heart of the housing crisis facing students, as inadequate housing supply and rising demand have driven rent costs into increasingly unaffordable levels.

As part of the broader UC system, UC campus leaders do not have complete control over student admissions. To the extent that they do, including their development of a campus budget model, they should emphasize slow or incremental growth in the coming years. To the extent that enrollment growth is being imposed on them by the UC Regents and President, or the State Legislature, they should advocate otherwise in the strongest terms, noting the increasing impacts of growth on the overall educational experience of students. We have already reached, or nearly so, the campus targets for growth under the previous 2020 vision and plan. The time has come for an era of much slower growth, enabling the campus to build more student housing, classrooms, and other supports necessary to enhance the student experience.

6. Increase housing supply by building more housing units. We welcome the decision by the Chancellor to raise the target of new campus housing units to 9,050 new beds by 2030-31. However, our analysis of the available data suggests that the number needs to be even higher if we are to reverse current affordability trends.[24] As it plans for the future, the university should consider providing more on-campus housing for continuing undergraduates and raising the total percentage of students it commits to house on campus.

Since many UC Davis students will continue to live in the city of Davis (currently 59% do so), the campus should also consider being more proactive in supporting student-oriented housing projects that are proposed in the city of Davis, while respecting the autonomy of city leaders and officials. In selected cases, it might make sense to be proactive on other topics as well, including

advocacy and participation in City of Davis land use actions such as the slated renewal of the slow growth-oriented Measure R in 2020. Campus efforts to educate the public about the economic and social benefits of having students live in the community are needed to combat community opposition to student-oriented housing.

In both the campus and City planning efforts, building higher and denser is one strategy that can increase the number of units per available footprint of land. Many factors have caused resistance against "building-up" in Davis in the past, but the time has come to make this a serious consideration. Obviously, this strategy will be more appropriate in some campus or community locations than others and could result in higher housing costs per student, but it would achieve an overall increase in dwelling units per acre.

7. Prioritize affordable designs in new campus housing. In building new on-campus housing, a high priority should be maximizing the number of lower cost units through designs that enhance affordability. These designs would offer students the essential features they need while avoiding extra features that drive up prices. The new campus Long Range Development Plan puts forth affordability goals that drive the level of amenity to be more basic. This should be a priority for all new campus housing. As one student put it, "we would like designs that feature more community and less amenity."

A number of ideas about siting, locating, and designing affordable student housing were generated by a class taught by Landscape Architecture and Environmental Design Professor Steve Wheeler in spring 2018 and are included in the resources website that accompanies this report (see Appendix B). Siting as much housing as possible in the central campus lessens the need for cars, and it can reduce costs by taking advantage of existing dining facilities and other student services. Building overtop of existing parking lots is one alternative to be considered.

II. Advocate for students

8. Adjust UC financial aid budget calculations to reflect actual market value of rental units, rather than individual student survey responses. The University of California Office of the President calculates financial aid budgets for eligible students at each of its 10 campuses. A portion of that budget is meant to reflect the cost of housing. To identify housing costs students

face, UCOP uses a survey method that asks individual students what they pay in rent each month. As more and more UC Davis students crowd into apartments in order to reduce their housing costs, this survey method systematically underestimates the actual cost of rental housing in the UC Davis market. As can be seen in the comparative chart below (Figure 6), it appears that this issue affects financial aid calculations across the entire UC system. The data compare the housing costs estimated by UC for each of its campuses to the estimated housing cost at the nearest CSU campus. According to this data, rents in Davis are cheaper than rents in Sacramento, which is demonstrably not the case, as shown in Figure 7. The pattern repeats itself at all the UC campuses. There is speculation that the reason the rental calculations are kept low is an effort to make the costs of UC seem less daunting to prospective students and their families. Whether this is the case or not, campus leaders should press UCOP officials to change their methods so that UC Davis (and other UC) students receive financial aid packages that accurately reflect actual rental rates in the communities where they live.

Off-campus living expense expectations: UC vs. CSU models (2017-18)

Comparative shortfall of UC campus estimates ($)

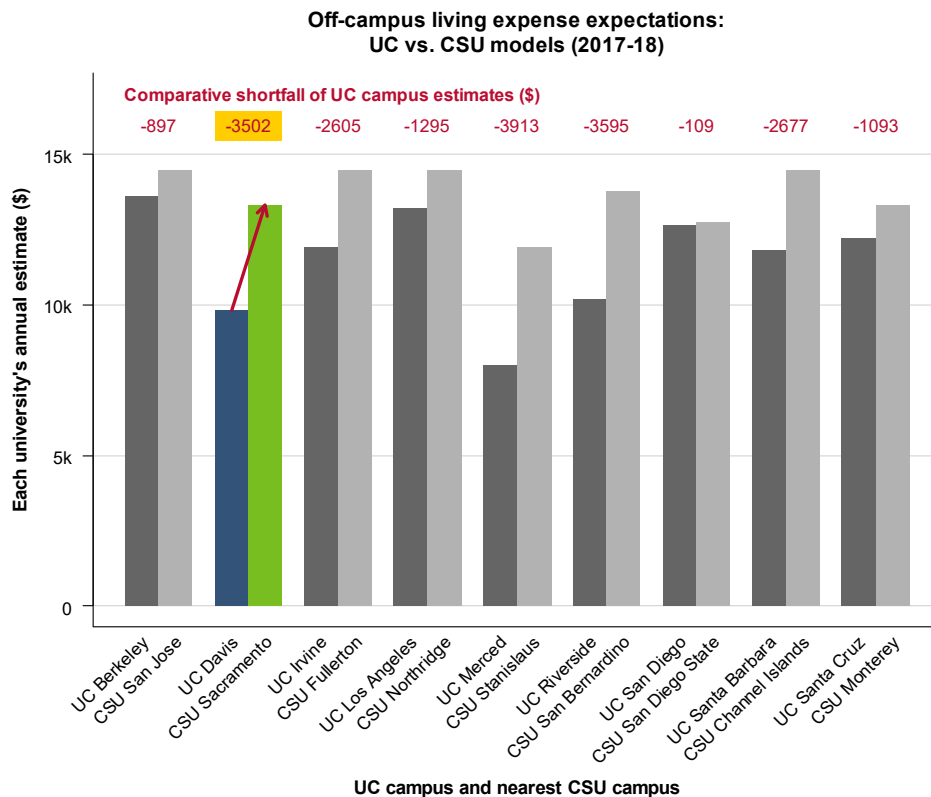| -897 | -3502 | -2605 | -1295 | -3913 | -3595 | -109 | -2677 | -1093 |

Figure 6. The data represent each university systems's official estimate of cost of living for off-campus students. Off-campus cost of living models were compiled and analyzed as part of the UC Financial Aid Leadership Institute Capstone Project using publically available Cost of Attendance data from each campus' website.

**Off-campus housing cost expectations vs. actual market rates:
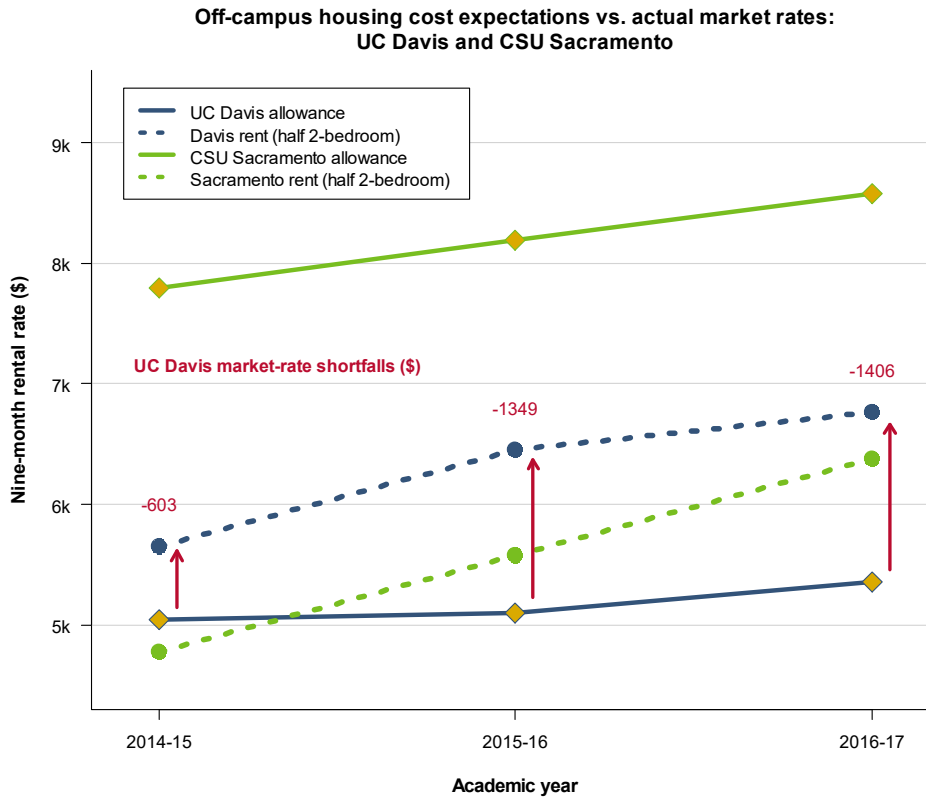UC Davis and CSU Sacramento**

Figure 7. The data compare UC Davis' and CSU Sacramento's official estimates for the cost of housing (for a 9-month academic year) in the off-campus market along with statistics on the actual average rental rates in the respective housing market. The rental rates, taken from RentJungle.com at January 1 of each year, represent one half the cost of a two-bedroom apartment. The budgets for cost of housing were compiled and analyzed as part of the UC Financial Aid Leadership Institute Capstone Project using publically available data from each campus' website.

9. Ensure an appropriate ratio between graduate student GSR and TA salaries and housing rates. The campus/UC system can take active steps to ensure that graduate students have affordable housing. At issue is the ratio between graduate student salaries/support and the rental rates for appropriate graduate student housing on campus and in the community. As of 2017, two graduate students sharing a two-bedroom apartment in Davis can each expect to pay 36% of their salaries on rent if they both work at 50% time (up from 27% of their salary in 2000); the figure jumps to 72% of their salary if they are working at only 25% time, as is the case for many students. Figure 8 shows how the ratio of an individual's rent to Teaching Assistant salary has tracked over time under three different scenarios: paying market price for the average Davis apartment, paying market price for the average one-bedroom Davis apartment, and paying one half of market price to share a bedroom in a two-bedroom Davis apartment. Only in the third scenario was the cost of housing ever below HUD's definition of affordability at 30% of income. It

has remained well above 30% since 2003, and after 2013 it began a surge to its present level of 36%. Even this scenario is ideal compared to actual circumstances facing students, since it uses gross income, assumes maximal student employment, and excludes the cost of utilities.

**Rent as percentage of half-time gross TA income:
Effective increases since 2000, three scenarios**

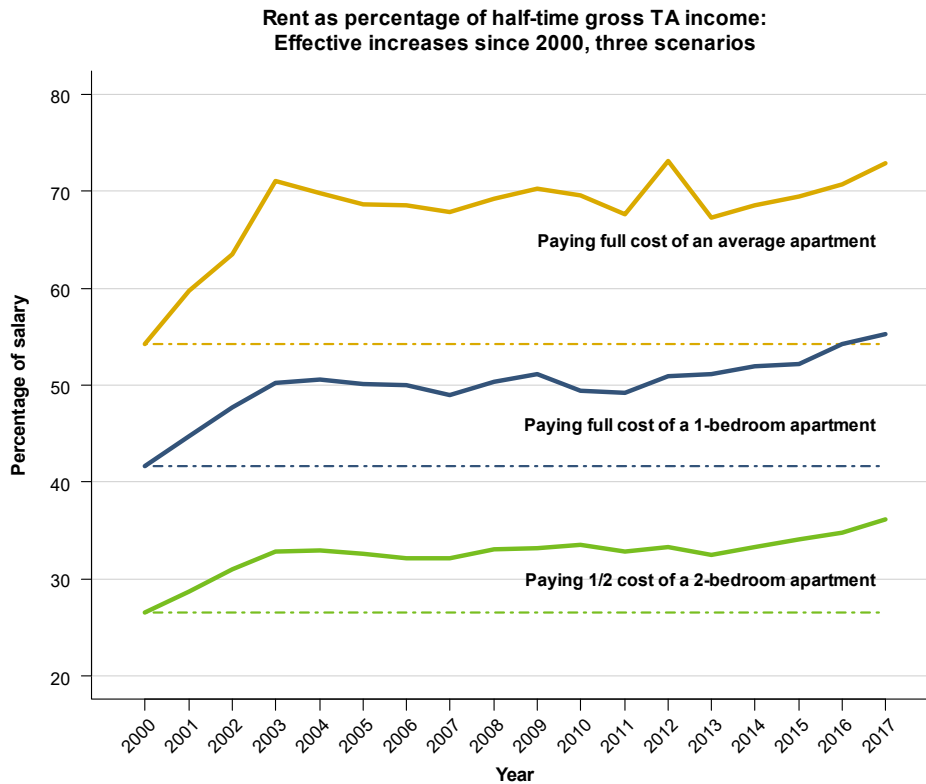Figure 8. Ratios of TA salaries to rent over time. Sources: UCOP Academic Salary Scales, UC Davis/BAE Student Housing Vacancy Reports.

Figure 9 shows that rent increases have far exceeded the rate of inflation while Teaching Assistant salaries have tracked but not kept up with the inflation rate. As a consequence, the gap between rent prices and student income has grown dramatically worse since 2000.

Davis rent and half-time TA salary vs. statewide inflation

Legend:
- Average rent, all apartments
- CPI inflation, indexed to 2000 rent
- Gross TA salary (50%)
- CPI inflation, indexed to 2000 salary
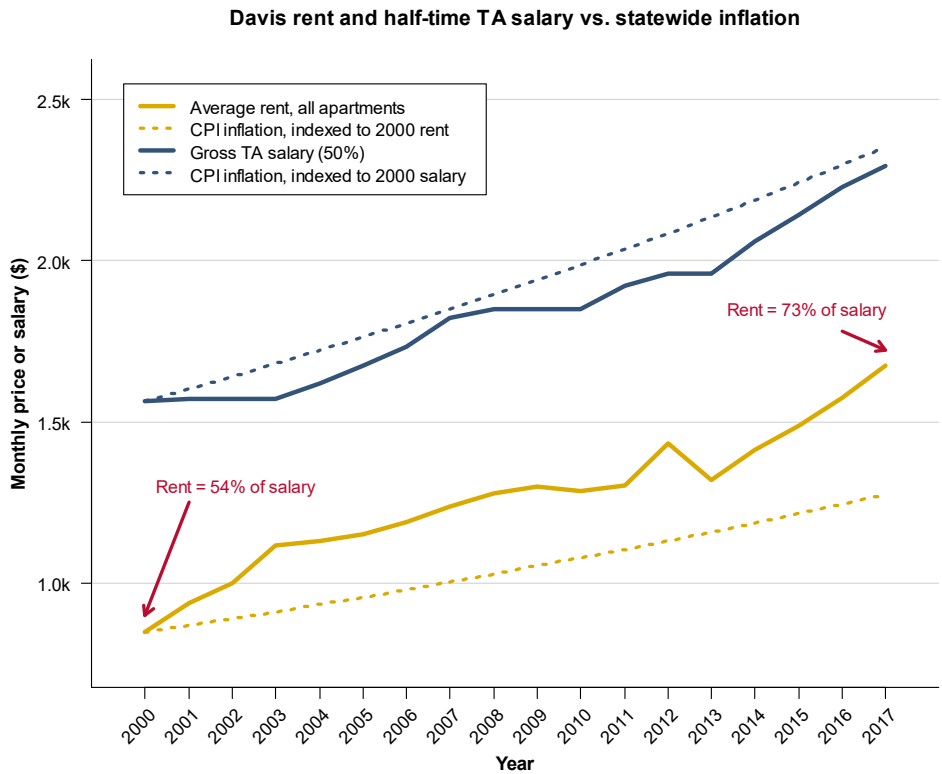
Rent = 73% of salary

Rent = 54% of salary

Figure 9. Gap between rent prices and student compensation over time. Sources: UCOP Academic Salary Scales, UC Davis/BAE Student Housing Vacancy Reports, State of California Department of Finance.

A combination of two strategies would begin to improve upon this reality. First, an increase in graduate student support and GSR and TA wages can increase what is available to pay rents. Second, any new graduate student housing built must be tailored to the specific needs of graduate students, with affordability as a top priority. Student Affairs should track the affordability ratio metric for graduate students on a yearly basis, beginning next year, and work with campus officials to ensure that significant steps are taken to turn the curve.

In bringing this recommendation forward we are reaffirming the earlier recommendation of the June 9, 2015 Final Report on Student Family Housing Redevelopment at UC Davis, which wrote (p. 2): "Most universities, including those within the UC system, define affordable housing by benchmarking it against the local market rate. Our research has shown that as a result of this strategy, which does not consider known TA and GSR incomes, a significant portion of our student families struggle to afford housing."

III. Develop and/or improve specific housing services

Currently, around 69% of UC Davis students live off-campus (59% in Davis and 10% elsewhere). While Student Housing and Dining Services understandably focuses much of its attention on providing on-campus housing and related services, off-campus students often need support in navigating the local rental market. We recommend that more resources be directed to support the housing-related needs of the majority of students who live off-campus.

10. Provide adequate and readily accessible emergency housing services. The task force recommends that Student Affairs be charged with exploring alternatives and putting an emergency housing services plan in place during the next school year. A convergence of factors has made it more likely that many students will experience periods of time when they are without stable housing. Our task force received many reports of students living in cars, couch surfing with friends, using university facilities to sleep or bathe, etc. In the spirit of "each Aggie matters," even a single student facing homelessness should be able to have some place to turn for short-term assistance, and it appears we may have hundreds of such students on our campus (see Figure 2). Sometimes the onset of a period of homelessness can be as simple as finding oneself mid-year in a situation where the housing you had been occupying is removed from the market by a landlord decision, and it takes time to find a new unit that is affordable. This recently affected one student who happened to have a job, but faced a rental market with so few options that she found herself alternately couch surfing, staying in her car, and staying with a reluctant relative. In other cases, student crowding creates problematic roommate situations where the likelihood of conflict and stress is greater, thus heightening the potential for leaving or being forced out. We have heard of faculty and staff facing similar dilemmas, but with somewhat greater resources to help them navigate the difficulty.

In many cases, temporary housing support for a period of two weeks to one month would be sufficient to support students as they explore more permanent housing options. Student Affairs should explore whether state funding for reducing homelessness can be tapped to support an emergency housing program. We encountered many emergency housing ideas that could be considered. These ideas could form the basis for concrete experiments whose effectiveness and costs can be evaluated, including: placing a button in Canvas, MyUCDavis, or other commonly visited web portals that direct students to emergency housing resources; designating a parking lot

or structure on campus as a place where students sleeping in cars can congregate while police patrols provide security, perhaps near the ARC where showers are available; working with the city of Davis to rethink existing ordinances about sleeping in cars; advertising emergency housing resources in the 24/7 study room at the Shields library; negotiating agreements with local hotels to use unused beds; mobilizing community volunteers willing to share their extra beds on a temporary basis; providing spaces in any unused campus inventory; building tiny houses for this purpose; and converting a large classroom for night-time use as emergency housing. Potential partnerships in this effort might come from those who would like to see the campus have more temporary housing options for visiting scholars, other campus guests, or students who reside elsewhere (such at Bodega Marine Laboratory) but come to campus for extended visits.

11. Establish an ombudsperson and/or call line to support students facing landlord/tenant issues. Students and city officials both report increasing numbers of conflicts between student tenants and their landlords. While many landlords are exemplary, our task force has heard about a variety of landlord behaviors that are problematic, including: the increasingly routine practice of requiring early lease renewals to receive lower rental rates; abrupt termination of leases mid-year; inadequate attention to identified maintenance issues; deliberately misleading students about noise issues; leases with beginning and end dates that are out of sync with the university schedule; and, of course, rapid escalation of rental rates.

Many partners exist who can assist with the goal of supporting students in their interactions with landlords. Among the common types of issues fielded by the City of Davis's Rental Resources Program (formed in March 2017) are security deposit refunds, general problems/disputes with landlords, lack of housing, and housing affordability (the latter two issues are beyond the scope of the program's responsibility and are handled by the City Housing program). Although still in its early development, the program receives approximately 20 contacts each month, with higher volume during lease signing and move-in/move-out months. The City program routinely refers students and others (approximately 4-5 per month) to Legal Services of Northern California (LSNC) for advice when that is warranted. However, international students are not eligible for LSNC support as non-citizens, though they are often among the students who have the greatest difficulty navigating rental agreements and landlord relationships. We believe the campus might fruitfully explore a partnership with the City program to expand the availability of advice and legal services by establishing a call line for landlord/tenant issues and disputes, potentially staffed by UC Davis law students. Another potential partner is the Yolo Conflict Resolution Center.

Another approach would be to create an ombudsperson position/office for handling student landlord disputes/complaints. This official/office might seek to update the Davis renter's rights ordinance (*Ord 2496-Housing Rental Regulations and a Residential Rental Registration and Inspection Program*) to prohibit tiered pricing structures based on how early students re-lease property. This practice adds to student stress and unfairly burdens many transfer and graduate students who are not able to secure leases early. The office might also advocate for a more robust Rental Housing Inspection Program similar to the nationally recognized model in the City of Sacramento.[25]

12. Create financial/rental literacy programs for students. Many students report difficulties navigating the terms of lease agreements, student loans, and related issues. Because there are limited housing choices, some students sign leases without even seeing the property. We recommend that the Office of Student Affairs work with a student advisory committee to create a practical, readily accessible financial and rental literacy education program that supports students in being informed consumers of rental housing. Consideration should be given to making this available through an online delivery system, using a platform that can be accessed by both domestic and international students at any time. Topics should include tenant rights, recourse measures for dealing with problem landlords, and the legal responsibilities of landlords. One useful strategy would be to distribute a flyer electronically to every first-year undergraduate in January, notifying them of their rights and directing them to resources.

13. Improve roommate matching programs to better assist students in vetting roommates to increase security and reduce turnover. Students need housing that is not only affordable, but also safe and conducive to their needs as students. Given extremely low vacancy rates, the need to double up to reduce housing costs, and early deadlines for lease renewals, students report difficulty finding roommates. This can be especially difficult for students with particular needs or preferences, such as a disability. Many students use Facebook or other social media mechanisms to find roommates, but a campus support system of some type is desired. A roommate matching service might be more effective and visible if it was intentionally connected to the new peer-to-peer services of Aggie Compass in the Memorial Union. Another model to explore, particularly for significant demographic sub-groups who might prefer that services are delivered by trusted allies, would be to decentralize some services to departments or centers on campus that work with distinct student groups. Our interviews suggest that many students are more likely to seek out information from peers or trusted allies than from faculty, staff, or official university offices.

14. Reestablish the Campus Community Housing Listing Service. Students often face difficulties when they begin to look for housing options off campus. Student Housing and Dining Services currently offers many resources, but these can be made more transparent, accessible and focused on affordable options. There may be opportunities to partner with GSA and ASUCD to jointly provide a housing list. In developing this capacity, attention should be given to using platforms that are available to international students, and to the needs of students who must relocate to satellite campuses during their course of study, such as students at the Bodega Marine Lab. The latter currently face very difficult circumstances in securing adequate housing at or near the facility and would benefit from a centralized housing listing, especially in light of the recent loss of housing due to the wine country wildfires of 2017. The campus should consider providing lodging overnight in the Bodgega Marine Lab dorms while students are searching.

15. Provide incentives for city landlords to become 'Aggie preferred housing partners.' This might be facilitated by updating the ASUCD Davis Model Lease to incorporate affordability elements such as guidelines for restricting year-to-year rent increases. Campus housing officials should consider working with the city Rental Resources Program staff, or a similar type agency, to create some type of program/website that creates incentives (preferential advertising or referrals, etc.) for landlords who minimize rate increases, have minimal complaints, and agree to abide by the terms of a Model Lease. A more robust rental inspection program, modeled after the nationally recognized one in the City of Sacramento, can also help by identifying any housing code violations that might impact students.

16. Increase support for the Financial Aid Office. Both undergraduate and graduate students report some problems in receiving financial aid disbursements in a timely fashion. For example, while a partnership between the Office of Graduate Studies and the Financial Aid office currently offers emergency loans to incoming graduate students, many do not get them in a timely manner. Due to limited resources, the number of daily emergency loan appointments are limited. This is a particular hardship as students are already burdened with moving costs and will not receive their first paycheck until over a month after the start of the Fall quarter. Increasing the number of Financial Aid staff and investing in automation will help all students receive timely access to the financial aid they need.

17. Keep Solano Park open as long as possible. To preserve affordable options for graduate students while new developments are being built, Solano Park graduate student housing should be kept open as long as possible, with appropriate maintenance and renovation as required. More background on the history of how Solano Park has benefited students can be found in the Final Report on Student Family Housing Redevelopment at UC Davis (June 9, 2015).

IV. Pursue innovation

18. Provide better transportation options for students, staff, and faculty living outside of Davis. A key principle in planning for affordable student housing is that housing cannot be considered in isolation from transportation issues and costs. As Figure 10 shows, over the past decade and especially the past five years, there has been an increase in students, faculty, and staff living outside of Davis. The trend has been especially pronounced for undergraduates and staff. Many factors drive these trends, including a cultural preference to live in other communities.

Figure 10. Sources: Residential location data in the UC Davis Institute of Transportation Studies Campus Travel Survey, UC Davis three-quarter average general campus enrollment, and UCOP fall headcounts of general campus faculty and staff (with historical staff counts adjusted in proportion to the UC Davis Budget and Institutional Analysis estimates used for the Long Range Development Plan).[26]

Among undergraduate students, the trends toward living outside of Davis are strongest among Juniors and Seniors.

Undergraduates living outside of Davis:
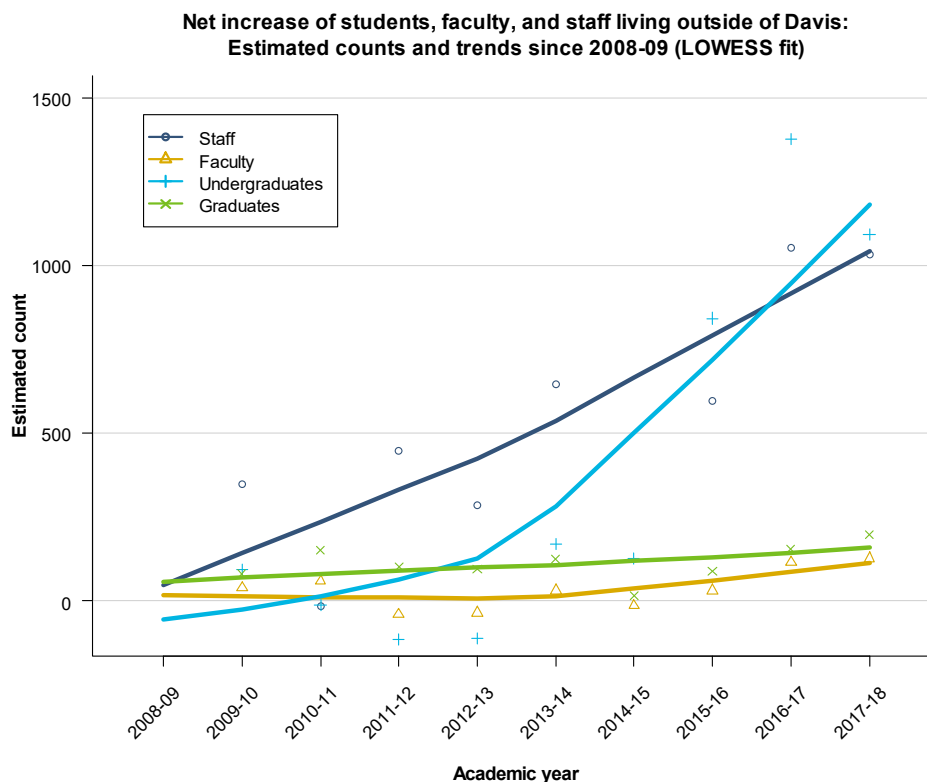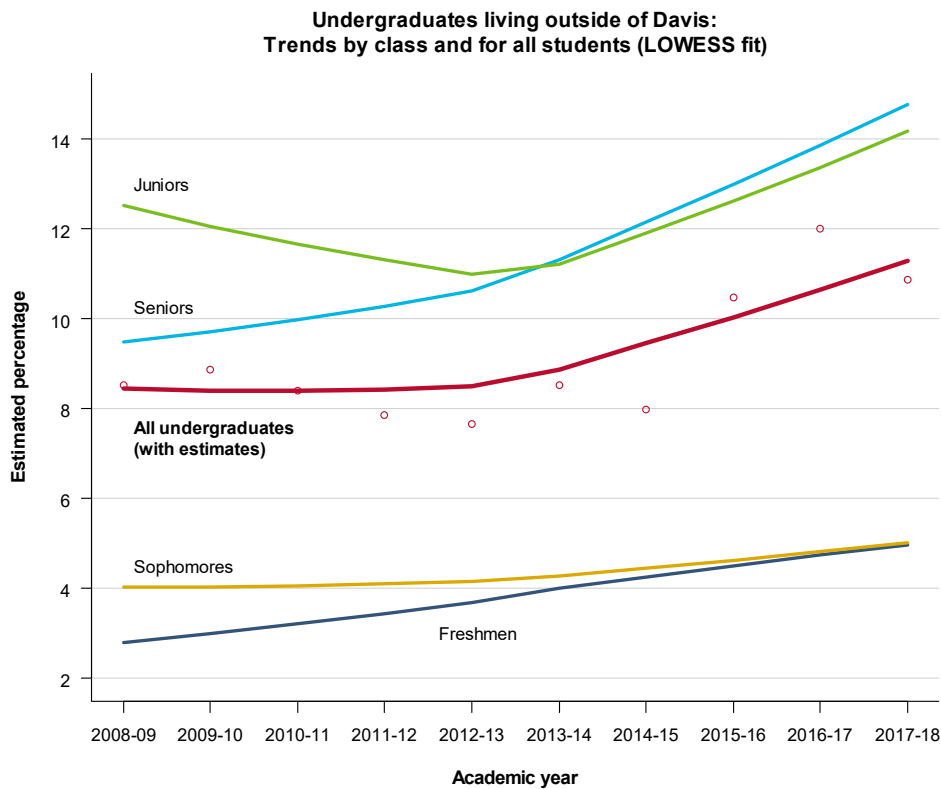**Trends by class and for all students (LOWESS fit)**

Figure 11. Sources: Residential location data in the UC Davis Institute of Transportation Studies Campus Travel Survey and UC Davis three-quarter average general campus enrollment.

Pressure to live outside of Davis likely contributes to the increasing number of commuter car trips observed in the Campus Travel Survey, especially among undergraduate students.[27] One potential way to increase student affordable housing options, which would also benefit faculty and staff, is to expand transportation options to campus, including buses, Amtrak, light rail, or bike trails. We are pleased to learn that discussions such as this are underway and believe they should be a high priority for the campus. Any plans for new transportation options to campus must emphasize student needs, including frequency, time of day, price, preference for intermodal (bike/busing) options, etc.

In the past, the Yocha Dehe Wintun Nation has funded many transportation improvements in Yolo County and might be a potential partner in efforts to improve inter-city transportation that benefits students, faculty, and staff. Some communities are exploring partnerships with Uber or

other similar services (Via) that can provide on-demand transit options for students. This option might be worth pursuing given the economies of scale the campus population provides, enhancing the possibility of negotiating good prices with a vendor.

19. Develop and build a co-op housing facility with professional management. A number of college campuses or university towns have successfully developed larger scale co-op housing that combines professional management with traditional co-op principles such as shared equity. A key benefit of the co-op model is providing mechanisms that increase affordability, such as student on-site work requirements. Co-ops can also be seen as contributing to the educational mission of the university because they provide students with experiential learning opportunities related to their participation in co-op operations and governance.

For example[28]:

- Minneapolis's Riverton Housing Co-ops is comprised of six housing facilities, with total assets of over $30 million. The Chateau facility alone offers 127 units (1-4 bedrooms).
- The Berkeley Housing Cooperative houses 1,300 students across 17 properties. It is valued at $50 million, with annual income of $11 million, while paying out $2.2 million in salaries and covering $1.3 million in food costs. Cost for rentals ranges from $900-1,100 per month during the academic year.
- College Houses in Austin, Texas is a 501c(3) nonprofit that has 500 members. Their prices range from $630 to $930 per month, with four hours of student labor required per week. Most of their facilities include a meal plan.
- The Oberlin Student Housing Cooperative houses 25% of the 2,900 students on its campus, provides meals during the academic year, and is priced at under half the cost of regular on-campus housing.

We recommend that the campus work with the National Association for Student Housing Cooperatives to develop and build at least one new co-op housing facility, at a scale comparable to the examples above and to many of the other large housing facilities being built on our campus. Further, we recommend that a careful evaluation and assessment of the comparative costs and benefits of co-op housing be put in place to assess its viability as a broader model for the campus. Finally, to increase the overall housing supply, adding faculty or staff co-op housing should be strongly considered as it will likely benefit students by reducing competition for housing in the Davis market.

Conclusion

Deeply rooted social problems such as affordable housing require a variety of strategies in order to turn the curve, moving trend lines in the right direction. Key steps include 1) bringing the right partners together, 2) generating a variety of short-term responses oriented toward shared goals, 3) marshalling current and new resources to pursue opportunities; and 4) using data to track progress toward goals. The four primary recommendations in this report are intended to be foundational for turning the curve on affordable student housing at UC Davis. The remaining 15 recommendations provide a short-to-medium term action agenda that builds momentum toward systematic and comprehensive long-term solutions. We hope our work will make a significant contribution to framing the campus and community discussion of affordable housing in the near future.

Appendix A. Task Force Contact List

To inform our work, we have communicated with the following individuals. We also took part in three larger gatherings at which we were able to hear a wide range of student perspectives on affordable housing. Finally, we helped to field a housing survey with responses from over 1,800 students.

Name	Role	Date
Paul Majestic	Campus fundraiser and local realtor	Feb. 12
Anthony Palmere	UCD TAPS	Feb. 13
Josh Dalavai	ASUCD outgoing President	Feb. 14
Keith Taylor	Cooperative Extension Specialist	Feb. 14, May 8 (Task Force Meeting)
Marilyn Derby	Student Judicial Affairs	Feb. 16
Steve Wheeler	Professor in Landscape Architecture	Feb. 16
Jonathan London	Professor in Community and Regional Development	Feb. 16
Jon Li	Local resident	Feb. 19
Carlos Garcia	CAO, Interdisciplinary Studies, Hart Hall	Feb. 26
Bob Segar Matt Dulcich	Campus Planning Local Government Relations	February 26, April 3 (Task Force meeting)
Michael Rawls	MA Student	March 3
Susan Handy	Professor, Environmental Science and Policy Department	March 4
Georgina Valencia	Local realtor	March 5
Adela de la Torre	Vice Chancellor for Student Affairs	March 5
Alyssa West	Program Coordinator, Chicana/o Studies	March 7
Stella Mancillas	Graduate Program Coordinator, Native American Studies	March 7
Alma Martinez	Student Affairs Officer, Chicana/o Studies	March 7
Aj Ballesteros	First year Sociology student and member of Students for a Democratic Society and Latinx Student Union	March 9
Ellie White	Ph.D. Student, Department of Civil Engineering	March 16, April 24
Albee Wei	Transportation Technology and Policy Graduate Group	April 3
Samantha Ramalingam	Dean's Office, College of Agricultural and Environmental Sciences	April 6
Donald Kalman	Davis Social Services Commission	April 16, May 9
Mike Sheehan, Branden Petitt	Direct of Facilities Services, Student Housing and Dining Services; Director of Student Development, Student Housing and Dining Services	April 17 (Task Force Meeting)

Yadira Leticia Paiz Aceves, Donya Desiree Foley, Izanie Nicole Love	Students in CRD 147, Youth and Community Development	April 24
Gary May, Karl Engelbach	Chancellor Associate Vice Chancellor	May 1 (Task Force Meeting)
Bernadette Austin	Center for Regional Change	May 9
Rob Weiner	Executive Director, California Coalition for Rural Housing	May 9
Daryl Rutherford	City of Davis Planning Commission, Executive Director of the Sacramento Housing Alliance	May 9
Lucas Griffith	Campus planner	May 9
Deborah Agee, Trina Wilson, Joyce Cleaver	Student Financial Aid Office Enrollment Management Analytics	May 11
Kelly Foley Stachowicz, Heidi Tschudin	City Manager's Office, City of Davis	May 18
Jason Sadowski	Graduate Student	June 12
Group events		
Affordable Student Housing public forum	Hosted by the Davis Vanguard (approximately 20 students spoke at the meeting)	April 18
LDA 142 class presentations	Professor Steve Wheeler's LDA 142 class (approximately 30 students)	May 15
GSA focus group	GSA (approximately 8 students)	May 18

Appendix B. Data Index

Below are sources used in researching and compiling the 2018 Report by the Chancellor's Affordable Student Housing Task Force. Documents are organized according to type, and most are available through this report's accompanying online data index (http://affordable.ucdavis.edu).

Task Force Proceedings
- Chancellor's Charge Letter (2018)
- Meeting Notes

Presentations Made to the Task Force
- Galindo, Emily, Mike Sheehan, and Branden Petitt (2018, Apr 17), Student Housing and Dining Services, prepared for the Chancellor's Affordable Student Housing Task Force.
- London, Jonathan, Yadira Leticia Paiz Aceves, Donya Desiree Foley, and Izanie Nicole Love (2018, Apr 24), presentation of Findings from Research conducted by Students in CRD 147, Youth and Community Development.
- Taylor, Keith (2018, May 8), Housing Cooperatives as Development Opportunities, prepared for the Chancellor's Affordable Student Housing Task Force.
- Saper, Robert (2018, May 15), Research Summary on UCD Affordable Student Housing, prepared for the Chancellor's Affordable Student Housing Task Force.

UC Davis Student Housing Reports
- UC Davis Student Housing and BAE, Annual Vacancy Report (2000-2017).
- UC Davis Student Housing, Annual Occupancy Report (2000-2017).
- UC Davis Student Housing (2016, Mar 2), Orchard Park Redevelopment Status Report.
- Brailsford and Dunlavey, on behalf of UC Davis Student Housing (2018, Apr 3), Student Housing Demand Analysis: Demand Findings & Working Session.

General University Reports
- UC Davis Financial Aid and Scholarships (2017), Aid Year Report 2016-2017.
- UC Davis (2018), Draft of the Long Range Development Plan for Public Review.
- EY, on behalf of UC Davis (2018, Apr 15), Budget Allocation Assessment Report: Current State Findings and Future State Options.

City of Davis Reports
- Residential Housing Reports (2012-2017)
- State of the City Report (2017)

Surveys and Survey Reports
- UC Davis Institute for Transportation Studies and Transportation and Parking Services, Campus Travel Survey (Results and data from 2007-2018)
- ASUCD-GSA, Affordable Housing and Housing Insecurity Survey (2018)
- US Census Bureau, Census 2000, 2010, and American Community Survey (2009-2016)

- UC Davis Chancellor's Graduate and Professional Student Advisory Board (2014), A Survey on Graduate Student Housing & Family Needs
- UC Davis Student Housing (2012), Graduate Student and Family Housing Survey
- UC Davis Student Family Housing Redevelopment (2015), Final Report [with supplements]:
    - UC Davis Student Surveys on Family Income and Federal Rent Subsidies
    - Johnson, Paul (2015, Feb 23), CGPSA Survey: Results of Analysis Commissioned by Family Housing Redevelopment Committee.

Data Tables and Internal Task Force Analysis
- UC Financial Aid Leadership Institute Capstone Project, Off-campus Living Expense Comparison
- UC Davis/BAE Student Housing Vacancy Report tabulations
- UC Davis Student Housing Occupancy Report tabulations
- UC Davis Enrollment tabulations
- UC Davis Student, Staff, and Faculty Headcount tabulations
- UC Davis Teaching Assistant Salary tables
- US Census and American Community Survey tabulations
    - Units in Structure
    - Population in Davis by Household Tenure
    - Tenure by Bedrooms
- Model: Renters, Students, Units and Beds in Davis

Student and Faculty Input on Housing and Housing Affordability
- Taylor, Keith (2018), To Boldly Go: A Pathway for Homeownership in Davis and California.
- Wheeler, Stephen and LDA 142 Students (2018), Proposals for Affordable Student Housing.
- Graduate Student Association (2018, March), Affordable Housing Resolution.

Public Policy Analysis and Related News
- Anderson, Alissa and Esi Hutchful (2018, Mar), CalWORKs Grants Continue to Fall Short as Rents Keep Rising, California Budget & Policy Center (http://calbudgetcenter.org/resources/calworks-grants-continue-fall-short-rents-keep-rising/).
- Best, Best, and Krieger (2018), Memorandum to City of San Luis Obispo on University Expansion, Housing, and Community Wellness Solutions Analysis.
- California Department of Housing and Community Development (2017, Jan), California's Housing Future: Challenges and Opportunities – Public Draft (http://www.hcd.ca.gov/policy-research/plans-reports/docs/California's-Housing-Future-Main-Document-Draft.pdf).
- Deninger, Madeline (2018, Mar 26), 95-unit, Co-op Style Housing Slated for Como Neighborhood, Minnesota Daily (http://www.mndaily.com/article/2018/03/n-95-unit-co-op-style-housing-slated-for-como-neighborhood).

- Kimberlin, Sara (2017, Sep), Californians in All Parts of the State Pay More than They Can Afford for Housing, California Budget & Policy Center (http://calbudgetcenter.org/resources/californians-parts-state-pay-can-afford-housing/).
- Levin, Matt and Ben Christopher (2017, Aug 21), Californians: Here's Why Your Housing Costs Are So High, CalMatters (https://calmatters.org/articles/housing-costs-high-california/#It-may-cost-more-to-live-here-but-they-pay-you-more).
- Lillis, Ryan (2018, Apr 12), A Huge UC Davis Tech Campus Is Coming to This Neighborhood in Sacramento, The Sacramento Bee (http://www.sacbee.com/news/local/news-columns-blogs/city-beat/article208716999.html).
- Perez, Tanya (2018), 'Aggie Square' Will Enhance UCD's Ties with Sacramento, The Davis Enterprise (https://www.davisenterprise.com/local-news/ucd/aggie-square-will-enhance-ucds-ties-to-sacramento/).
- Romo, Vanesssa (2018, April 3), Hunger and Homelessness Are Widespread Among College Students, Study Finds, National Public Radio (https://www.npr.org/sections/thetwo-way/2018/04/03/599197919/hunger-and-homelessness-are-widespread-among-college-students-study-finds).
- Rose, Amy (2018, May), Barriers to Higher Education Attainment: Students' Unmet Basic Needs, California Budget & Policy Center (http://calbudgetcenter.org/resources/barriers-to-higher-education-attainment-students-unmet-basic-needs/).
- Sacramento Bee Editorial Board (2018, Apr 22), Here's How to Keep UC Davis' Aggie Square from Becoming a Gentrification Bomb in Sacramento, The Sacramento Bee (http://www.sacbee.com/news/local/news-columns-blogs/city-beat/article208716999.html).
- Schumacher, Kristin (2018, Feb), CalWORKS Grants Are Overdue for a Significant Investment, California Budget & Policy Center (http://calbudgetcenter.org/resources/calworks-grants-overdue-significant-investment/).
- UC Office of the President, UC Leads the Way in Enrollment and Six Year Graduation of Pell Grant Recipients (https://www.universityofcalifornia.edu/infocenter/uc-leads-way-enrollment-and-six-year-graduation-pell-grant-recipients).
- The View from Here: Place and Privilege [podcasts], Capital Public Radio (http://www.capradio.org/news/the-view-from-here/2017/10/06/place-and-privilege/).
- Wilson, Nick (2018, Apr 4). SLO Spends $20,000 on Memo Encouraging Cooperation with Cal Poly on Housing, Growth, The San Luis Obispo Tribune (http://www.sanluisobispo.com/news/local/article207935219.html).

Appendix C. ASUCD-GSA Student Housing Affordability and Insecurity Survey

In May, 2018, the Associated Students of UC Davis and the Graduate Student Association distributed an electronic survey (with the support of Student Academic Affairs) to graduate and undergraduate students on matters of housing affordability and housing insecurity. The survey asked students a total of 69 questions to assess their housing and roommate circumstances, rental and utility costs, financial resources (including financial aid), experiences with various forms of housing instability or homelessness, and perspectives on housing in Davis and their particular living situation. The survey invitation was distributed to 11,248 randomly selected student e-mail addresses on May 21, and the response period lasted until June 5. There were 1,839 complete and valid submissions, representing a response rate of 16.3% (incomplete responses and responses lacking a figure for housing payment costs were rejected).

The survey data presented in this report were validated, processed, and analyzed by Robert M. Saper, Geography PhD student and research assistant to the Task Force. Below we provide a brief summary of the weighting procedures used in our analysis. Where applicable, weights were applied to ensure proportionate representation of different UC Davis sub-populations (i.e., freshmen, sophomores, juniors, seniors, master's and professional students, and PhD students, as well as undergraduates and graduates overall). Weighting is important for this survey because students at various stages of their education can be expected to have a different relationship to campus and Davis housing. Information on how weights were calculated is as follows:

Role Group	N Davis general campus	Pct of general campus population	n responses	Pct of respondents	Weight, in total (Pct pop / Pct survey)
Undergraduate	**28771**	**84.0%**	**1335**	**72.5%**	**1.158**
Freshman	4364	12.7%	344	18.7%	0.682
Sophomore	5398	15.8%	264	14.3%	1.099
Junior	7749	22.6%	378	20.5%	1.102
Senior	11261	32.9%	349	19.0%	1.734
Graduate	**5478**	**16.0%**	**506**	**27.5%**	**0.582**
Master's & Pro	2315	6.8%	199	10.8%	0.625
PhD	3163	9.2%	307	16.7%	0.554
Total	**34250**	**100.0%**	**1841**	**100.0%**	**1.000**

Figure 11. Calculations for weighting the survey sample when tabulating for all students. Totals may be affected by rounding.

Endnotes on Data Sources

[1] Joint Center for Housing Studies (2017). America's Rental Housing 2017. Harvard University, Cambridge, MA (http://www.jchs.harvard.edu/research/americas-rental-housing-2017); City of Davis (2017). State of the City report, 2017, p. 76.

[2] Extrapolations to student population are based on percentages of 2017-18 enrollment in general campus programs. Sources: ASUCD-GSA Housing Affordability and Insecurity Survey (2018); UC Davis three-quarter average headcount (2017-18), summarized by UC Davis Budget and Institutional Analysis (http://budget.ucdavis.edu/data-reports/data-tables-dashboard.html).

[3] The CSU system estimates that around 9% of students are housing displaced (https://www.csus.edu/news/articles/2016/3/15/danielle-munoz-comes-to-the-aid-of-students-in-crisis.shtml).

[4] West, Alyssa (2017), "The Struggle is Real": An Exploration of the Prevalence and Experiences of Latinx Undergraduate Students Navigating Food and Housing Insecurity at a Four-year Research University. Master's Thesis, California State University, Sacramento.

[5] A recent survey of California State University students found that 8-12% of the approximately 460,000 students in the system were homeless (see Rashida M. Crutchfield, Ruth M. Chambers, and Barbara Duffield (2016), Jumping Through the Hoops to Get Financial Aid for College Students Who Are Homeless: Policy Analysis of the College Cost Reduction and Access Act of 2007. *Families in Society: The Journal of Contemporary Social Services*: 2016, Vol. 97, No. 3, pp. 191-199). Some suggest the numbers may be higher due to the stigma certain students feel in reporting difficulties they experience.

[6] U.S. Department of Housing and Urban Development, Office of Policy Development and Research (2015, February), Barriers to Success: Housing Insecurity for U.S. College Students (https://www.huduser.gov/portal/periodicals/insight/insight_2.pdf).

[7] For a fuller explanation of the "turning the curve" approach to addressing problems, see Mark Friedman's Results-based accountability resources (http://raguide.org/).

[8] Student enrollment is taken from the UC Davis three-quarter headcount average for the 2017-18 academic year (http://budget.ucdavis.edu/data-reports/data-tables-dashboard.html). Faculty headcounts are from the UC Office of the President's (UCOP) October 2017 UC Employment Headcount for UC Davis, General Campus (https://www.universityofcalifornia.edu/infocenter/uc-employee-headcount). Staff headcounts reflect the 2016-17 academic year and were compiled by the UC Davis Budget and Institutional Analysis Office for the Long Range Development Plan.

[9] Data are drawn from the 2017-18 University of California Housing Occupancy Report, which UC Davis Student Housing submitted to UCOP and the State of California Department of Finance (a yearly requirement). The Occupancy Report numbers are for fall 2017, when enrollment is typically at its highest; since the percentage of enrollment is based on UC Davis three-quarter headcount averages, the percentage may be slightly overstated. For enrollment headcounts, see: http://budget.ucdavis.edu/data-reports/enrollment-reports.html and http://budget.ucdavis.edu/data-reports/data-tables-dashboard.html. Estimates of the number of faculty, staff, and students living outside of Davis were derived by analyzing data from the UC Davis Institute for Transportation Studies' Campus Travel Survey.

[10] Rental prices are averages for conventionally leased units in multi-family complexes, taken from the 2017 UC Davis/BAE Student Housing Vacancy Report (http://housing.ucdavis.edu/vacancy-report/). Prices do not include utilities.

[11] UC Davis Student Housing prices are for 2017-18. The market price used for comparison is $830, which represents one half the rent of a two-bedroom apartment in Davis, according to the 2017 UC Davis/BAE Student Housing Vacancy Report (http://housing.ucdavis.edu/vacancy-report/). Utilities are not included for most prices, though they are bundled in UC Davis residence halls and Student Housing Apartments (these options also

include academic and residential support programs). Rents are taken from the fee schedules posted on the Student Housing website (http://housing.ucdavis.edu/) and from 2017-18 Student Housing-approved P3 rents for medium-sized two-bedroom and one- or two-bathroom apartments (made available to this task force by UC Davis Student Housing). Student Housing Apartments (reserved for first-year transfer students) and residence hall prices do not include meal plans (though such plans are mandatory in residence halls), and they reflect the price for the academic year divided by the length of the contract (10.5 and 9 months, respectively).

[12] Minimum wages reflect statewide policy as of January 1, 2018 for workers in companies with more than 25 employees. Teaching assistant salaries, current as of July 2017, are published by UCOP (https://www.ucop.edu/academic-personnel-programs/compensation/2017-18-academic-salary-scales.html). Percentage of market rate is calculated based on average Davis market-rate for a two-bedroom apartment, divided by 2, then divided again by gross monthly salary. Note that TA salaries represent only 9 months of income; as a consequence, these figures understate the cost of housing, unless it is assumed that graduate students will find equivalent compensation for work during the summer months.

[13] The fall rate is based on the UC Davis/BAE 2017 Student Housing Vacancy Report (http://housing.ucdavis.edu/vacancy-report/). The spring rate is taken from a draft 2018 student housing demand report, researched and authored by Brailsford and Dunlavey and made available to this task force by UC Davis Student Housing.

[14] UC Davis Student Housing vacancy rates are calculated using the 2017 University of California Housing Occupancy Report, which UC Davis Student housing submitted to UCOP and the State of California Department of Finance.

[15] Joint Center for Housing Studies (2017), America's Rental Housing. Harvard University, Cambridge, MA (http://www.jchs.harvard.edu/research/americas-rental-housing-2017).

[16] California Budget & Policy Center (2018, May), Data Hit. Even as UC Enrollment Has Increased, State General Fund Support Has Declined (http://calbudgetcenter.org/resources/even-as-uc-enrollment-has-increased-state-general-fund-support-has-declined/).

[17] EY. April 15, 2018. Budget Allocation Assessment Report: Current State Findings and Future State Options (http://budget.ucdavis.edu/documents/ucdavis-budget-assessment-report.pdf).

[18] EY. April 15, 2018. Budget Allocation Assessment Report: Current State Findings and Future State Options (http://budget.ucdavis.edu/documents/ucdavis-budget-assessment-report.pdf).

[19] EY. April 15, 2018. Budget Allocation Assessment Report: Current State Findings and Future State Options (http://budget.ucdavis.edu/documents/ucdavis-budget-assessment-report.pdf).

[20] Multiple data sources are used to estimate the Davis rental population and the portion comprised of students. The US Census' American Community Survey estimates total renters in apartments and houses, as well as the total number of apartment units and detached housing units. However, to produce an up-to-date figure of the rental population (the highest confidence ACS estimates only effectively measure up to 2014) that is also consistent with current City of Davis estimates of rental unit counts (April 2018), we used the ACS only to derive ratios of renters per unit. For apartments, we extrapolated from trends (2007-2014) in the average growth rate of the Davis apartment population and the number of rental apartments (using OLS linear regression to determine both ratio components); this method predicts a current ratio of 2.50 renters per unit. We then multiplied 2.50 by the City's estimated number of rental apartments (11,757) to arrive at about 29,400 renters, of which, according to the ASUCD-GSA Housing Survey, 14,500 (or 49%) are likely Davis students. For rental houses, we used a ratio of 3.25 renters per unit, which is the rate in the ASUCD-GSA Housing Survey and is similar to the highest rates found among the relatively flat values of the ACS between 2007 and 2014. Multiplying 3.25 by the City's estimate of 4,364 rental houses gives 14,183 renters. Combined, the number of apartment and house renters approaches 44,000. Using the ASUCD-GSA Housing Survey (with results independently corroborated by knowing the number of students in Student Housing and estimating that 10% of students live outside the city), we estimate the student rental population to be 20,100-20,500 students, or about 46% of Davis renters. (NB: The City of Davis estimates of rental unit counts are substantially higher than those

in the ACS, even accounting for the growth trend since 2014, but they are likely more accurate. Hence, the choice to use the City's unit numbers as the basis for current renter population estimates.)

[21] The annual UC Davis Student Housing/BAE Vacancy Reports, which survey all multi-family units in the city, show a weighted average of 2.05 bedrooms per apartment (+/- 0.02 over the past 5 years). We can extrapolate, based on current City of Davis counts of rental apartments (11,757), that there are about 24,100 bedrooms. We divide the estimated apartment renter population (see previous note) by the number of bedrooms to arrive at 1.22 occupants per bedroom. The method can be verified independently using the 2016 ACS 5-year data: a count of all rental occupants (houses and apartments) divided by the count of bedrooms in all rental units yields 1.22 renters per bedroom. Note: The ACS segments bedroom counts by tenure but not by type of unit, preventing a direct tally of only apartment renters and bedrooms.

[22] California Budget & Policy Center (2018, May), Issue Brief. Barriers to Higher Education Attainment: Students' Unmet Basic Needs (http://calbudgetcenter.org/resources/barriers-to-higher-education-attainment-students-unmet-basic-needs/).

[23] See http://sacramento.granicus.com/MetaViewer.php?view_id=21&event_id=3250&meta_id=527393.

[24] A preliminary analysis using data from the recent ASUCD-GSA Housing Survey suggests there is pent-up demand for over 3,500 new units, or over 9,500 new beds. If university total enrollment continues growing steadily toward 39,000, then even with full completion of all currently planned campus student housing construction in 2022, there will likely remain a deficiency of at least 1,600 units, or over 4,500 beds, at that time—unless multiple additional projects also unfold in the city. We base these deficiency estimates on conservative assumptions.

[25] For further information on the City of Sacramento's Rental Housing Inspection Program, see https://www.cityofsacramento.org/Community-Development/Code-Compliance/Programs/Rental-Housing.

[26] A high staff estimate of 1,648 in 2014-15 was used in the trend fit, but is not visualized in the graph.

[27] Heckathorn, Drew (2017), Results of the 2016-17 Campus Travel Survey. Institute of Transportation Studies, University of California, Davis, pp. 28-29 (https://itspubs.ucdavis.edu/wp-content/themes/ucdavis/pubs/download_pdf.php?id=2890).

[28] Source: Keith Taylor, Cooperative Extension Specialist, Department of Human Ecology, UC Davis.