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Addendum to the 2015-2016 Campus Travel Survey and the 2016-2017 Campus Travel Survey Reports

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A Research Report from the National Center
for Sustainable Transportation

Susan Handy, University of California, Davis



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Addendum to the 2015-2016 Campus Travel Survey and the 2016-2017 Campus Travel Survey Reports

A National Center for Sustainable Transportation Research Report

February 2018

Susan Handy, Institute of Transportation Studies, University of California, Davis



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ADDENDUM TO
THE 2015-16
CAMPUS TRAVEL SURVEY
AND
THE 2016-17
CAMPUS TRAVEL SURVEY
REPORTS

Institute of Transportation Studies

and

Transportation and Parking Services

University of California, Davis

Prepared by

Dr. Susan Handy

Institute of Transportation Studies

Revised February 2018

Introduction

The UC Davis Campus Travel Survey (CTS) is administered annually to a sample of students, faculty, and staff. Because we survey only a sample of the campus population and because some groups are more likely to respond to the survey than other groups, it is necessary to apply “expansion factors” and “weights” to the sample to achieve an accurate estimate of the responses for the entire campus population. In effect, we use the expansion factors and weights to make the sample of around 4,000 respondents look like the population of around 45,000. The calculation of the expansion factors and weights requires an estimate of the campus population by role group and gender, as explained in more detail below.

The campus population is a difficult number to pin down, as it varies over the year and depends on whether and how different categories of people are counted. For the 2016-17 Campus Travel Survey, a new protocol was used to estimate the campus population, as explained in the posted report.¹ In reviewing the report, campus officials noticed that the new population protocol produced an underestimate of students living on campus, which significantly changed the estimated mode split and other results. A third protocol was devised to correct the problem, and we re-analyzed results from the 2015-16 and 2016-17 surveys using population estimates based on this new protocol.

This addendum explains the procedure for expansion factors and weights, describes the new population estimation protocol, and presents the revised results for selected tables from the CTS reports.

Weights and Expansion Factors

The choice that students, faculty, and staff make about traveling to the UC Davis campus follow certain patterns. Students tend to bicycle and take the bus more than staff, for example, and women are less likely to bicycle than men. Because the CTS sample is not a perfect subset of the UC Davis population with respect to role group and gender, it is important to “weight” the sample so that it matches the population. If too few students answer the survey, for example, we give their responses more weight in the analysis; if too many women answer the survey, we give their responses less weight. By applying these weights, we achieve a more accurate estimate of travel to campus.

While campus officials are sometimes interested in percentages, e.g. the percentage of the campus population traveling by each mode, they are often interested in totals, e.g. the total number of cars coming to campus each day, the total amount of greenhouse gas emissions these cars produced. To estimate total values for the campus, we must “expand” the sample to the population. If the final sample is 4,000 respondents and the population is 45,000, then each response is, in effect, counted just over 11 times. By applying the expansion factors, we achieve an estimate to total travel to campus.

This approach, well established in survey research, is based on an assumption that the respondents in the sample are representative of the rest of the population within their role group (freshman, sophomore, junior, senior, Master’s student, PhD student, faculty, and staff) and gender with respect to the factors that influence their transportation choices. It is unlikely that this assumption is 100% true in any given

¹ Add URL for 2016-17 report when it gets posted.

year, and therefore “sampling error” is an important consideration. The sample in one year might include a disproportionate share of student who like bicycling, for example, or a disproportionate share of staff members who live in Davis rather than other cities. Adding weights for additional factors, beyond role group and gender, would help to correct for these errors, but doing so would require an estimate of the population broken down by these characteristics. The use of role and gender to create the weights corrects for what we believe to be the biggest sources of sampling error.

The calculation and application of weight factors and expansion factors is explained in Appendix H of the CTS reports. The weight factor is a ratio of the population share to the sample share for each role group. That is, with N total population, n in the sample, and N_i in role and gender group i in the population (for instance, female freshmen), and n_i of that group i in the sample, we apply the weight factor $W_i = (N_i/N) / (n_i/n)$ to all cases in group i . Applying the weight factors alters the apparent distribution of respondents by role and gender, but the overall sample size is unchanged. In instances where we would like to expand the sample to a projection of the full population, we weight each case by an *expansion* factor E_i , equal to (N_i / n_i) . Applying the expansion factors alters both the distribution of respondents by role and inflates the sample to the size of the population (i.e. the expansion factors are in fact a combined weight and expansion factor). Revised versions of Table 53, showing the new weight and expansion factors for 2015-16 and 2016-17, are attached.

Population Estimation Protocol

Since weighting the data significantly influences the final results as presented in the CTS reports, the accuracy of campus population numbers used to create the weights is critically important. The student population is especially variable, as enrollment numbers decline from fall to winter to spring quarters. In previous years, we used an estimate of campus population produced at the end of the academic year that reflected an average over the year. However, these estimates were not available until the summer, thereby delaying publication of the CTS reports until late summer. In addition, the UC Davis Long Range Development Plan (LRDP) update process got underway in 2016, and the UC Davis Campus Planning department requested that the 2016-17 survey use the same campus population numbers as the LRDP process.

For the 2016-17 survey, campus officials thus adopted a new protocol for the population estimates. The new protocol produced a higher estimate of the number of staff and a lower estimate of the number of faculty in 2016-17 than in 2015-16, meaning that the responses of staff are given more weight and those of faculty less weight in analyzing the results. The new protocol for student population estimates used winter quarter enrollment as a surrogate for the average for the year (since winter enrollment is lower than fall but higher than spring). The weights calculated using student population estimates from this new protocol, however, when applied to the survey sample, produced an underestimate of students living on campus and an overestimate of those living off campus. Exploration of the causes of this error yielded the explanation that the winter enrollment numbers reflect a substantial shift of “freshman” to “sophomore” status owing to advanced placement (AP) credits. For this reason, the results presented in the 2016-17 CTS report under-count freshmen, most of whom live on campus, and over-count sophomores, most of whom live off campus.

The revised protocol, applied in this Addendum, uses the LRDP approach to estimating staff and faculty (as used in the 2016-17 CTS report) but fall quarter enrollment numbers for students. This revised

protocol means that the same student population numbers are used for calculating the needed sample size and for calculating the weight factors (as described in Appendices G and H of the CTS reports). It also matches the timing of the survey to the timing of the population estimates, both fall quarter. The totals estimated from the sample (e.g. for number of cars coming to campus, GHG emissions, etc.) will be higher than if we used either of the previous population estimation protocols, given that fall enrollments are higher than other quarters. For this reason, the new protocol produces a more conservative estimate of how UC Davis is doing in reducing car travel and GHG emissions.

Results

This addendum presents revised versions of four key tables from the CTS reports: Table 14, Table 15, Table 42, and Table 43.

Tables 14a and 14b show that the new population estimate protocol produces an estimate of students living on-campus in 2016-17 (7,739) that is close to the number reported by campus officials (around 7,500). These tables also show, however, a considerable increase in the share of faculty and staff living outside Davis between 2015-16 and 2016-17: the share for faculty increases from 28.2% to 35.2% and for staff from 49.2% to 61.7%. It is possible that this increase reflects a true shift in where faculty and staff are living that could be explained by high housing prices in Davis. It is also likely that this increase in part reflects sampling error, as described above. If the true split is known from administrative records, it would be possible to also weight for residential location (in Davis, outside Davis).

The shift towards living outside Davis explains differences in the results for mode share (Tables 15a and 15b), annual greenhouse gas emissions (Tables 42a and 42b), and annual tons of greenhouse gas emissions avoided (Tables 43a and 43b). Because faculty and staff living outside of Davis are more likely to drive and less likely to bicycle than those living inside Davis, the driving share and greenhouse gas emissions increase from 2015-16 to 2016-17.

Table 14a. Residential location by role group – 2015-16

Role	On campus	West Village	Off campus in Davis	Outside Davis	Weighted sample	Projected population
Student	22.5%	5.5%	63.3%	8.6%	2,336	34,116
Undergraduate	25.1%	5.9%	61.6%	7.4%	1,920	28,038
Freshman	93.5%	0.2%	3.2%	3.1%	389	5,682
Sophomore	6.8%	10.2%	80.2%	2.9%	335	4,889
Junior	8.7%	7.7%	73.9%	9.6%	535	7,815
Senior	7.4%	5.7%	76.5%	10.4%	661	9,652
Graduate	10.7%	3.3%	71.5%	14.5%	416	6,078
Master's	9.4%	5.6%	67.6%	17.4%	187	2,729
PhD	11.8%	1.5%	74.7%	12.1%	229	3,349
Employee	0.4%	0.0%	53.2%	46.4%	834	12,179
Faculty	0.7%	0.3%	70.7%	28.2%	112	1,636
Staff	0.3%	0.0%	50.5%	49.2%	722	10,543
Overall	16.7%	4.0%	60.7%	18.6%	3,170	46,295
Weighted sample	530	128	1,923	589	3,170	NA
Projected population	7,739	1,870	28,086	8,599	NA	46,295

Results are based on responses to question Q16. Data are weighted by role and gender based on the 4,132 valid responses to questions Q01, Q10, and Q20-30 (see Table 9).

Table 14b. Residential location by role group – 2016-17

Role	On campus	West Village	Off campus in Davis	Outside Davis	Weighted sample	Projected population
Student	22.7%	5.5%	60.0%	11.8%	2,864	35,333
Undergraduate	25.8%	6.1%	57.6%	10.5%	2,365	29,179
Freshman	92.0%	0.8%	2.5%	4.6%	501	6,176
Sophomore	7.7%	11.9%	73.7%	6.7%	401	4,945
Junior	10.7%	8.3%	67.1%	13.9%	672	8,293
Senior	5.9%	4.6%	76.3%	13.2%	792	9,765
Graduate	8.1%	2.5%	71.0%	18.4%	499	6,154
Master's	8.4%	4.5%	68.4%	18.8%	222	2,741
PhD	7.9%	0.8%	73.2%	18.1%	277	3,413
Employee	0.0%	0.2%	41.8%	58.0%	1,002	12,363
Faculty	0.3%	0.5%	63.9%	35.2%	139	1,719
Staff	0.0%	0.2%	38.2%	61.7%	863	10,644
Overall	16.8%	4.1%	55.2%	23.8%	3,866	47,696
Weighted sample	651	158	2,136	920	3,866	NA
Projected population	8,036	1,955	26,352	11,353	NA	47,696

Results are based on responses to question Q16. Data are weighted by role and gender based on the 4,132 valid responses to questions Q01, Q10, and Q20-30 (see Table 9).

Table 15a. Share using each mode on an average weekday, by role group (all locations) – 2015-16

Role	Physically travelling	Of those physically traveling to campus						Weighted sample	Projected population
		Bike	Walk or skate	Drive alone	Carpool or ride	Bus	Train		
Student	88.5%	49.7%	8.0%	14.9%	4.0%	22.7%	0.7%	2,792	34,116
Undergraduate	89.2%	48.7%	8.4%	12.7%	3.6%	26.1%	0.4%	2,295	28,038
Freshman	87.6%	67.7%	21.8%	4.2%	1.9%	4.0%	0.4%	465	5,682
Sophomore	91.3%	49.0%	2.9%	8.8%	3.0%	36.4%	0.0%	400	4,889
Junior	90.4%	44.2%	5.8%	14.8%	3.2%	31.4%	0.6%	640	7,815
Senior	88.0%	41.2%	5.7%	18.1%	5.2%	29.2%	0.5%	790	9,652
Graduate	85.1%	54.7%	5.8%	25.4%	6.0%	6.1%	2.0%	497	6,078
Master's	83.4%	50.0%	5.2%	31.3%	4.1%	7.3%	2.1%	223	2,729
PhD	86.5%	58.5%	6.2%	20.8%	7.5%	5.2%	1.8%	274	3,349
Employee	83.0%	25.4%	3.5%	56.5%	9.5%	3.8%	1.3%	997	12,179
Faculty	78.8%	44.5%	5.4%	38.0%	6.0%	2.7%	3.4%	134	1,636
Staff	83.7%	22.6%	3.3%	59.2%	10.0%	3.9%	1.0%	863	10,543
Overall	87.0%	43.6%	6.9%	25.3%	5.4%	17.9%	0.8%	3,789	46,295
Weighted sample	3,298	1,439	227	836	178	591	28	3,789	NA
Projected population	40,292	17,578	2,769	10,209	2,173	7,224	339	NA	46,295

Results are based on responses to question Q21 (whether they traveled to campus each day) and question Q30 (primary means of transportation each day). All mode split percentages are calculated as follows: we first calculate the percent of five weekdays that an individual used a particular mode and then take the average over all respondents. Data are weighted by role and gender based on the 4,132 valid responses to questions Q01, Q10, and Q20-30 (see Table 9).

Table 15b. Share using each mode on an average weekday, by role group (all locations) – 2016-17

Role	Physically travelling	Of those physically traveling to campus						Weighted sample	Projected population
		Bike	Walk or skate	Drive alone	Carpool or ride	Bus	Train		
Student	84.8%	44.3%	9.9%	18.4%	4.2%	22.6%	0.4%	3,061	35,333
Undergraduate	85.7%	42.9%	10.7%	16.6%	3.6%	25.7%	0.4%	2,528	29,179
Freshman	87.6%	67.1%	24.8%	3.2%	1.5%	2.7%	0.6%	535	6,176
Sophomore	86.9%	38.4%	6.9%	12.1%	4.0%	38.4%	0.2%	428	4,945
Junior	85.8%	36.5%	7.0%	21.0%	4.4%	30.4%	0.6%	718	8,293
Senior	83.7%	34.9%	6.6%	24.0%	4.2%	30.1%	0.1%	846	9,765
Graduate	80.6%	51.4%	5.7%	27.4%	7.1%	7.4%	0.9%	533	6,154
Master's	76.2%	49.6%	6.1%	28.7%	6.4%	8.8%	0.4%	237	2,741
PhD	84.1%	52.8%	5.4%	26.5%	7.5%	6.5%	1.3%	296	3,413
Employee	79.4%	17.1%	3.9%	63.4%	8.8%	4.9%	1.7%	1,071	12,363
Faculty	73.9%	35.8%	6.7%	42.7%	9.9%	2.0%	2.8%	149	1,719
Staff	80.3%	14.4%	3.5%	66.5%	8.7%	5.4%	1.5%	922	10,644
Overall	83.4%	37.6%	8.4%	29.5%	5.3%	18.3%	0.7%	4,132	47,696
Weighted sample	3,446	1,297	290	1,017	184	630	26	4,132	NA
Projected population	39,781	14,968	3,347	11,743	2,120	7,269	296	NA	47,696

Results are based on responses to question Q21 (whether they traveled to campus each day) and question Q30 (primary means of transportation each day). All mode split percentages are calculated as follows: we first calculate the percent of five weekdays that an individual used a particular mode and then take the average over all respondents. Data are weighted by role and gender based on the 4,132 valid responses to questions Q01, Q10, and Q20-30 (see Table 9).

Table 42a. Annual tons of CO₂e emitted, by mode and role (not including Unitrans) – 2015-16

Role	Annual tons of CO ₂ e emissions						Average tons per person	Share of total CO ₂ e	Share of population	Projected population
	Drive alone	Carpool	Ride	Bus	Train	Total CO ₂ e				
Student	13,161	833	380	538	855	15,766	0.46	38.7%	73.7%	34,116
Undergraduate	9,749	711	319	418	325	11,521	0.41	28.3%	60.6%	28,038
Freshman	608	59	18	2	34	721	0.13	1.8%	12.3%	5,682
Sophomore	677	132	23	14	-	846	0.17	2.1%	10.6%	4,889
Junior	3,289	323	59	150	-	3,821	0.49	9.4%	16.9%	7,815
Senior	5,176	197	219	252	290	6,134	0.64	15.1%	20.8%	9,652
Graduate	3,412	122	60	120	531	4,245	0.70	10.4%	13.1%	6,078
Master's	1,988	29	13	67	215	2,312	0.85	5.7%	5.9%	2,729
PhD	1,424	93	48	53	316	1,933	0.58	4.7%	7.2%	3,349
Employee	22,225	1,291	258	666	550	24,990	2.05	61.3%	26.3%	12,179
Faculty	1,682	57	12	37	131	1,919	1.17	4.7%	3.5%	1,636
Staff	20,543	1,234	246	629	419	23,071	2.19	56.6%	22.8%	10,543
Outside Davis	32,568	1,902	377	1,129	1,404	37,381	4.35	91.7%	18.6%	8,599
Within Davis	2,817	222	260	75	2	3,376	0.09	8.3%	81.4%	37,696
On Campus	11	2	9	3	1	27	0.00	0.1%	16.7%	7,739
West Village	16	1	3	2	-	22	0.01	0.1%	4.0%	1,870
Off Campus	2,790	218	248	70	1	3,327	0.12	8.2%	60.7%	28,086
Overall	35,386	2,124	638	1,204	1,405	40,756	0.88	100.0%	100.0%	46,295

Data are weighted for both years by role and gender (see Table 9)

Table 42b. Annual tons of CO₂e emitted, by mode and role (not including Unitrans) – 2016-17

Role	Annual tons of CO ₂ e emissions						Average tons per person	Share of total CO ₂ e	Share of population	Projected population
	Drive alone	Carpool	Ride	Bus	Train	Total CO ₂ e				
Student	16,690	776	494	648	727	19,334	0.55	41.6%	74.1%	35,333
Undergraduate	12,746	433	412	583	503	14,676	0.50	31.6%	61.2%	29,179
Freshman	802	32	56	75	167	1,131	0.18	2.4%	12.9%	6,176
Sophomore	1,323	159	58	88	45	1,674	0.34	3.6%	10.4%	4,945
Junior	5,269	136	153	219	267	6,044	0.73	13.0%	17.4%	8,293
Senior	5,352	107	145	200	24	5,827	0.60	12.5%	20.5%	9,765
Graduate	3,944	343	82	65	224	4,658	0.76	10.0%	12.9%	6,154
Master's	1,842	182	40	5	42	2,112	0.77	4.5%	5.7%	2,741
PhD	2,102	161	42	60	182	2,546	0.75	5.5%	7.2%	3,413
Employee	24,343	1,199	272	565	726	27,105	2.19	58.4%	25.9%	12,363
Faculty	1,911	94	36	30	220	2,291	1.33	4.9%	3.6%	1,719
Staff	22,432	1,105	236	535	506	24,814	2.33	53.4%	22.3%	10,644
Outside Davis	38,307	1,741	596	1,095	1,452	43,191	3.80	93.0%	23.8%	11,353
Within Davis	2,725	234	169	118	1	3,248	0.09	7.0%	76.2%	36,343
On Campus	15	2	6	4	0	27	0.00	0.1%	16.8%	8,036
West Village	18	2	2	1	-	22	0.01	0.0%	4.1%	1,955
Off Campus	2,692	231	161	113	1	3,198	0.12	6.9%	55.2%	26,352
Overall	41,033	1,975	765	1,213	1,453	46,439	0.97	100.0%	100.0%	47,696

Data are weighted for both years by role and gender (see Table 9)

Table 43a. Annual tons of CO₂e emissions avoided compared to driving alone – 2015-16

Role	Annual tons of CO ₂ e avoided						Average savings/person	Projected population
	Bike	Walk or skate	Carpool or ride	Bus	Train	Total		
Students	6,709	977	1,044	1,962	1,255	11,946	0.35	34,116
Undergraduate	5,224	822	843	1,825	476	9,191	0.33	28,038
Freshman	855	248	66	26	50	1,244	0.22	5,682
Sophomore	1,025	67	143	394	-	1,630	0.33	4,889
Junior	1,310	328	351	584	-	2,573	0.33	7,815
Senior	2,034	180	283	822	426	3,744	0.39	9,652
Graduate	1,485	154	200	137	779	2,755	0.45	6,078
Master's	592	43	38	72	315	1,060	0.39	2,729
PhD	893	111	163	65	464	1,695	0.51	3,349
Employees	2,243	432	1,865	468	807	5,815	0.48	12,179
Faculty	462	66	152	26	192	898	0.55	1,636
Staff	1,782	366	1,713	441	615	4,917	0.47	10,543
Outside Davis	451	523	2,560	719	2,059	6,312	0.73	8,599
Within Davis	8,501	886	349	1,711	2	11,449	0.30	37,696
On campus	984	311	4	22	1	1,322	0.17	7,739
West Village	326	11	1	80	-	418	0.22	1,870
Off campus	7,191	565	343	1,609	1	9,709	0.35	28,086
Overall	8,952	1,409	2,909	2,430	2,061	17,762	0.38	46,295

Bike savings = 1.1 lbs./mile*annual person-miles biked

Walk or skate savings = 1.1 lbs./mile*annual person-miles walked or skated

Carpool or ride savings = 1.1 lbs./mile*(carpool or ride PMT)

Bus savings = 1.1 lbs./mile – 4.64 lbs./mile*annual bus PMT. "Unitrans" estimates are used to conservatively estimate savings.

Train savings = 1.1 lbs./mile – 39.96 lbs./mile*annual train PMT

Table 43b. Annual tons of CO2e emissions avoided compared to driving alone – 2016-17

Role	Annual tons of CO2e avoided						Average savings/person	Projected population
	Bike	Walk or skate	Carpool or ride	Bus	Train	Total		
Students	5,062	1,168	1,226	1,851	1,066	10,414	0.29	35,333
Undergraduate	3,798	1,073	525	1,733	738	7,907	0.27	29,179
Freshman	830	384	39	62	245	1,561	0.25	6,176
Sophomore	641	165	172	396	66	1,440	0.29	4,945
Junior	1,119	155	164	612	391	2,444	0.29	8,293
Senior	1,207	369	150	663	35	2,462	0.25	9,765
Graduate	1,264	95	700	118	328	2,506	0.41	6,154
Master's	485	48	362	43	62	1,000	0.36	2,741
PhD	779	47	338	75	267	1,506	0.44	3,413
Employees	1,097	870	1,774	440	1,065	5,254	0.43	12,363
Faculty	321	123	208	22	323	1,001	0.58	1,719
Staff	775	747	1,566	417	742	4,253	0.40	10,644
Outside Davis	388	1,107	2,682	698	2,130	7,045	0.62	11,353
Within Davis	5,771	930	318	1,593	1	8,623	0.24	36,343
On campus	965	355	5	18	1	1,347	0.17	8,036
West Village	249	21	2	119	-	391	0.20	1,955
Off campus	4,557	555	310	1,457	1	6,886	0.26	26,352
Overall	6,159	2,038	3,000	2,291	2,131	15,668	0.33	47,696

Bike savings = 1.1 lbs./mile*annual person-miles biked

Walk or skate savings = 1.1 lbs./mile*annual person-miles walked or skated

Carpool or ride savings = 1.1 lbs./mile*(carpool or ride PMT)

Bus savings = 1.1 lbs./mile – 4.64 lbs./mile*annual bus PMT. "Unitrans" estimates are used to conservatively estimate savings.

Train savings = 1.1 lbs./mile – 39.96 lbs./mile*annual train PMT

Appendix H. Weighting by role and gender

UC Davis Total On- and Off-Campus Headcount Population		
Fall headcount for students and two-month average for employees¹		
	2015-16	2016-17
Total On- and Off-campus Population	60,398	62,241
On-campus Population	46,291	47,698
Off-campus Population ²	14,107	14,543
Student Population	2015-16	2016-17
Total Student Population (fall quarter)	36,119	37,398
On-campus	34,110	35,333
Off-campus ²	2,009	2,065
<u>On-campus</u>		
Freshmen	5,682	6,176
Sophomore	4,889	4,945
Junior	7,815	8,293
Senior	9,652	9,765
Graduate & Other Prgms (Masters, Professional, Post Bacs)	2,465	2,414
Doctoral	3,346	3,413
Self-Supporting ³	261	327
Total on-campus	34,110	35,333
<u>Off-campus</u>		
Undergraduate	220	200
Graduate & Other Prgms (Masters, Professional, Post Bacs)	1,399	1,475
Doctoral	29	30
Self-Supporting ³	361	360
Total off-campus	2,009	2,065

Faculty & Staff Population (excludes student employees)		
	2015-16	2016-17
Total Faculty & Staff Population⁴	24,279	24,843
<i>On-campus</i>		
Faculty	1,638	1,721
Staff	9,023	9,160
<i>Affiliated (Agriculture & Natural Resources)</i>	865	891
<i>Without Salary Employees</i>	655	594
Total on-campus	12,181	12,365
<i>Off-campus</i>		
Faculty	792	838
Staff	10,086	10,494
<i>Affiliated (Agriculture & Natural Resources)</i>	148	152
<i>Without Salary Employees</i>	1,072	996
Total off-campus	12,098	12,478
**Totals may be affected by rounding		
NOTES		
1 Annual averages for students represent fall, winter, spring quarter averages (or semester averages for the School of Law and the School of Veterinary Medicine). Annual averages for faculty and staff represent two-month averages (one fall month, one spring month) of snapshot figures for		
2 Includes students, faculty and staff at UCDCMC, Bodega Bay, Lawrence Livermore Laboratory and other locations outside the City of Davis.		
3 Self-supporting programs include such programs as the Working Professional MBA, Forensic Science and Master of Advanced Study. These programs are not state-supported, although several professional programs charge special fees.		
4 As of 2011-12, the data source for faculty and staff population data changed from the Campus Payroll Personnel Data Warehouse (PPS) to the Corporate Personnel System (CPS). Along with this data change, slight modifications to the methodology were made. Most notably, employee location is now determined by home department except in the case of some without salary (WOS) employees who have health science related jobs. Also, only 10 percent of the emeriti faculty were included in the WOS headcount for the campus.		

2015-16 Population by Gender			
	Male	Female	
Undergrad	41.1%	58.9%	
Grad	47.6%	52.5%	
Faculty	65.4%	34.5%	
Staff	34.4%	65.6%	
	Male	Female	Total
Freshmen	2,335	3,347	5,682
Sophomore	2,009	2,880	4,889
Junior	3,212	4,603	7,815
Senior	3,967	5,685	9,652
Graduate & Ot	1,298	1,431	2,729
Doctoral	1,593	1,757	3,349
Faculty	1,071	565	1,636
Staff	3,627	6,916	10,543

2016-17 Popoulation by Gender			
	Male	Female	
Undergrad	41.0%	59.0%	
Grad	51.0%	49.0%	
Faculty	63.5%	36.4%	
Staff	33.4%	66.6%	
	Male	Female	Total
Freshmen	2,532	3,644	6,176
Sophomore	2,027	2,918	4,945
Junior	3,400	4,893	8,293
Senior	4,004	5,761	9,765
Graduate & Ot	1,398	1,343	2,741
Doctoral	1,741	1,672	3,413
Faculty	1,093	626	1,719
Staff	3,555	7,089	10,644

Table 53a. Weight factors, applied by role and gender - 2015-16

Role	Gender	Population (N)	Factors by role, gender, and mode				Factors by role, gender, mode, and geocoded			
			Valid responses (n)	Weight factor (Ni/N)/(ni/n)	Expansion factor (Ni/ni)	Weighted sample size	Valid responses (n)	Weight factor (Ni/N)/(ni/n)	Expansion factor (Ni/ni)	Weighted sample size
Freshman	Female	3,347	249	1.100	13.442	274	238	0.963	14.063	229
	Male	2,335	100	1.911	23.350	191	96	1.665	24.323	160
Sophomore	Female	2,880	373	0.632	7.721	236	338	0.583	8.521	197
	Male	2,009	112	1.468	17.938	164	86	1.600	23.360	138
Junior	Female	4,603	305	1.235	15.092	377	263	1.198	17.502	315
	Male	3,212	124	2.120	25.903	263	110	1.999	29.200	220
Senior	Female	5,685	360	1.292	15.792	465	315	1.236	18.048	389
	Male	3,967	155	2.095	25.594	325	137	1.983	28.956	272
Master's	Female	1,430	152	0.770	9.408	117	130	0.753	11.000	98
	Male	1,299	108	0.984	12.028	106	89	0.999	14.596	89
PhD	Female	1,755	271	0.530	6.476	144	235	0.511	7.468	120
	Male	1,594	157	0.831	10.153	130	141	0.774	11.305	109
Faculty	Female	564	239	0.193	2.360	46	184	0.210	3.065	39
	Male	1,072	237	0.370	4.523	88	194	0.378	5.526	73
Staff	Female	6,916	586	0.966	11.802	566	425	1.114	16.273	474
	Male	3,627	261	1.137	13.897	297	189	1.314	19.190	248
Overall	-	46,295	3,789	0.000	12.218	3789	3170	0.000	14.604	3170

^a Based on valid responses to Q10 and Q30

^b Based on valid responses to Q10, Q30 and successful geocoding of home location (from questions Q18-Q19)

Table 53b. Weight factors, applied by role and gender - 2016-17

Role	Gender	Population (N)	Factors by role, gender, and mode				Factors by role, gender, mode, and geocoded			
			Valid responses (n)	Weight factor (Ni/N)/(ni/n)	Expansion factor (Ni/ni)	Weighted sample size	Valid responses (n)	Weight factor (Ni/N)/(ni/n)	Expansion factor (Ni/ni)	Weighted sample size
Freshman	Female	3,644	350	0.902	10.411	316	348	0.849	10.471	295
	Male	2,532	123	1.783	20.585	219	121	1.696	20.926	205
Sophomore	Female	2,918	357	0.708	8.174	253	334	0.708	8.737	237
	Male	2,027	125	1.405	16.216	176	111	1.480	18.261	164
Junior	Female	4,893	406	1.044	12.052	424	377	1.052	12.979	397
	Male	3,400	206	1.430	16.505	295	191	1.443	17.801	276
Senior	Female	5,761	459	1.087	12.551	499	433	1.078	13.305	467
	Male	4,004	177	1.960	22.621	347	162	2.003	24.716	325
Master's	Female	1,343	195	0.597	6.887	116	180	0.605	7.461	109
	Male	1,398	136	0.891	10.279	121	120	0.944	11.650	113
PhD	Female	1,672	303	0.478	5.518	145	286	0.474	5.846	136
	Male	1,741	163	0.925	10.681	151	153	0.922	11.379	141
Faculty	Female	626	233	0.233	2.687	54	217	0.234	2.885	51
	Male	1,093	250	0.379	4.372	95	236	0.375	4.631	89
Staff	Female	7,089	433	1.418	16.372	614	397	1.447	17.856	575
	Male	3,555	216	1.426	16.458	308	200	1.441	17.775	288
Overall	-	47,696	4,132	0.000	11.543	4132	3866	0.000	12.337	3866

^a Based on valid responses to Q10 and Q30

^b Based on valid responses to Q10, Q30 and successful geocoding of home location (from questions Q18-Q19)