

SJSU Associate Students Transportation Solutions Fall 2019 Student Survey Data



1. Introduction

Transportation Solutions (TS) completed its eighteenth annual survey administered at the end of fall semester. This was TS's sixteenth online survey and it was administered by Qualtrics.

The survey was carried out from November 1st through 15th. The survey's link was sent to 33,972 students (Regular enrollment, Open University, Special sessions, etc.); 4,149 participated at a response rate of 12.2%.

The survey instrument has changed from previous survey iterations. This year's survey utilizes both skip and branching logic features to create a custom paths for survey takers. The use of the feature has permitted Transportation Solutions to develop additional questions for specific sub-groups, preventing biases from non-target participant's responses, and improving the survey experience by showcasing applicable questions for each subgroup.

There is one major and minor branching points established in the survey. The major branch diverts participants that responded that they live in on-campus housing (i.e. non-commuting students) (Q7) from commute-survey block to department-awareness block. The minor branch diverts self-identified non-alternative transportation riders from alternative-transportation related questions and to drive-alone related question.

Of the total 4,149 respondents, 414 respondents were redirected away from the commute-related questions of the survey and the remaining 3,735 respondents proceeded to completing the rest of the survey.

With the above changes, the survey produced relatively consistent ratios when compared with previous years' results.

2. Analysis

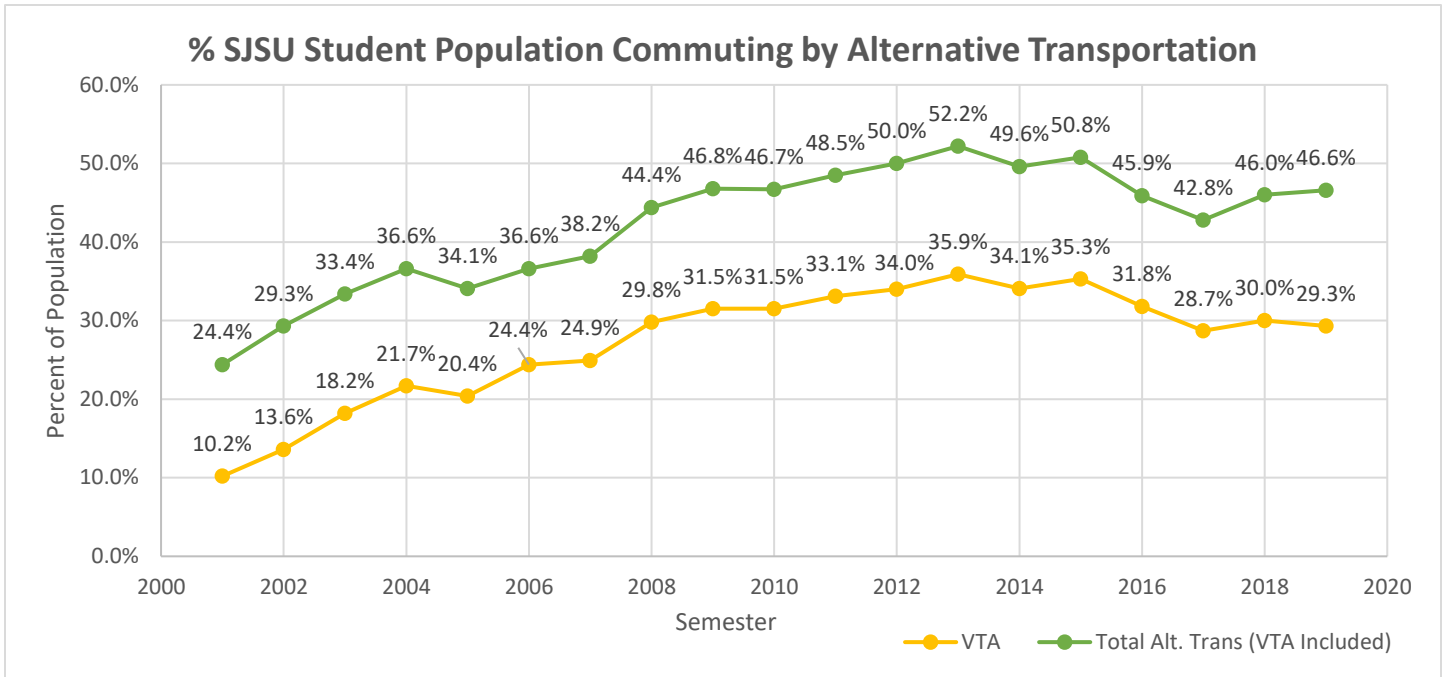


Figure 1: SJSU Alternative Transportation Usage Trends.

The overall alternative transportation usage is at 46.6% (Figure 1); the alternative transportation proportion includes both local public (i.e. VTA) and regional transportation, carpool/vanpools, non-ride-hail related drop offs, bicycling, and bike- and scooter-share usage. Extrapolated over the population of 33,972, the total alternative transportation users were estimated at 15,682.

The Santa Clara Valley Transportation Authority (VTA) ridership to campus was at 29.3% (Figure 1) or 9,954 riders. Regional transit, which includes Caltrain, BART, Highway 17 Express, Altamont Corridor Express (ACE) train, Amtrak Capitol Corridor and Monterey-Salinas Transit; accounts for 6.8% of the commute mode split. The total transit users including VTA (29.3% or 9,954) and regional transit (6.8% or 2,310) made up 36.1% of the population or 12,264 riders. Figure 1 illustrates the history of VTA and total alternative commute usage.

Though not included in the total alternative transportation usage rate, walk/ skateboard/ manual scooter accounts for 10.6% (4,416 students) of all commutes to campus

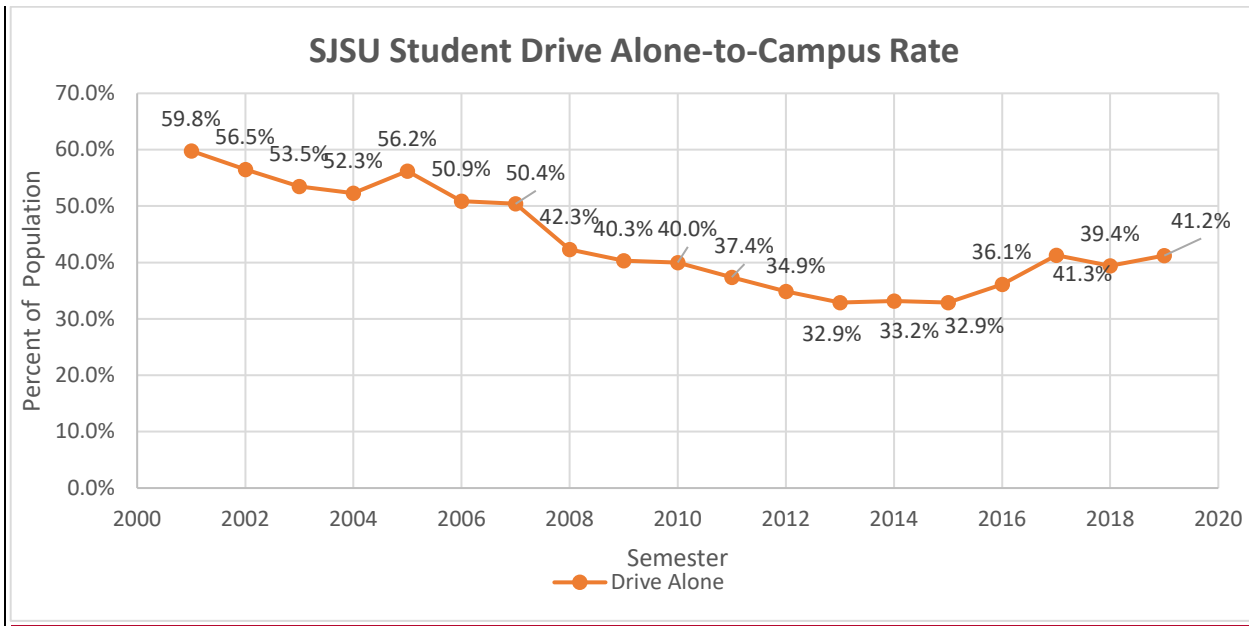


Figure 2: Historical SJSU Drive-Along Rate.

Solo-driving to campus increased by 1.8%, from 39.4% in 2017 to 41.2% in 2018. Figure 2 illustrates the history of drive-alone rate to campus among SJSU students since fall 2001.

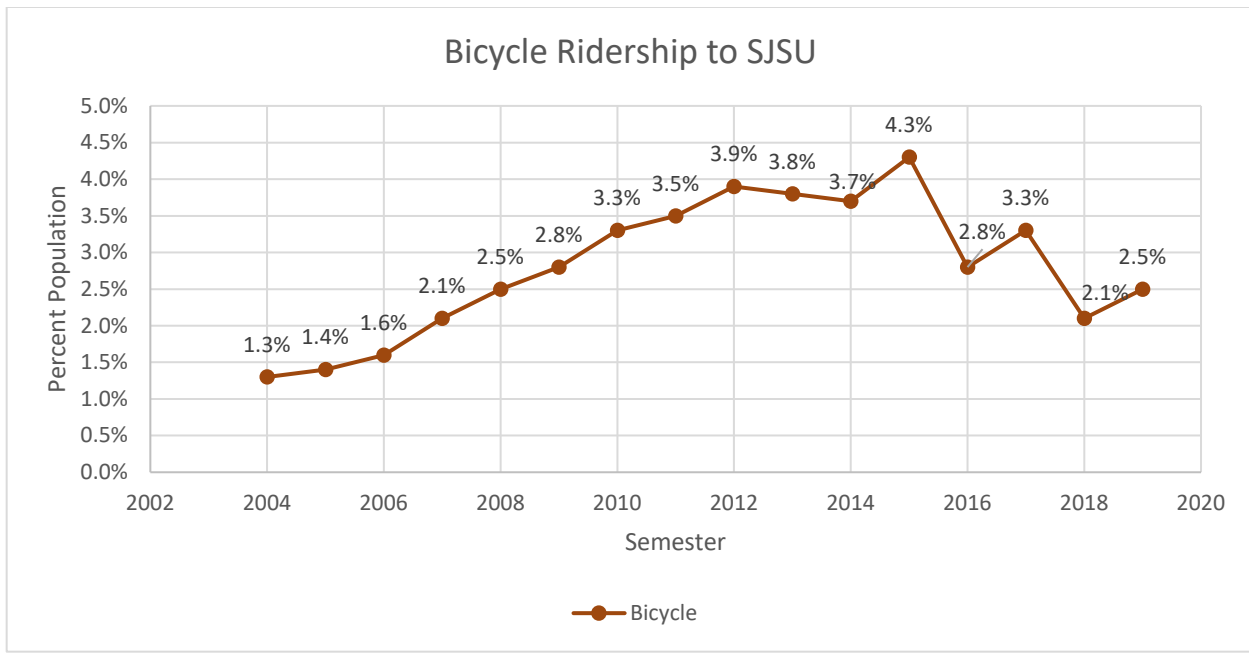


Figure 3: Historical Bike Ridership to SJSU

In 2019, 2.5% of the population or about 849 biked to campus. The following chart shows the history of bike ridership to campus.

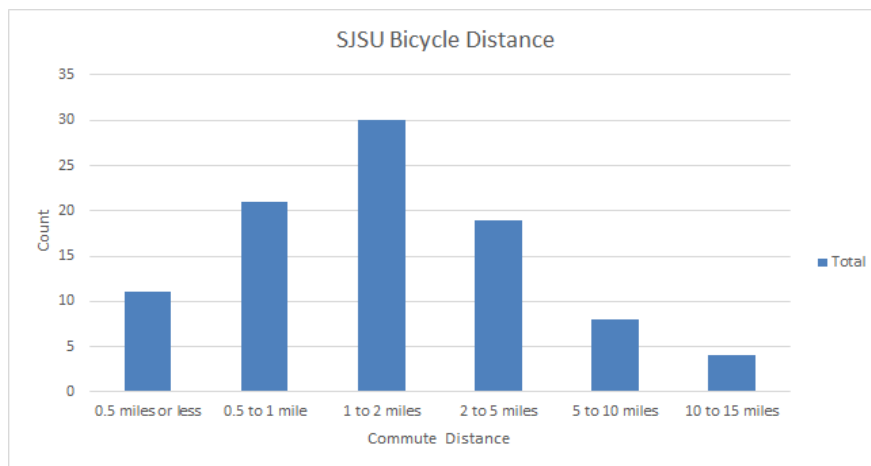


Figure 4: Distribution of Commute Distance of Bicyclist, Fall 2019 Semester

Using Question 11 and filtering for those who responded that their primary commute mode is bicycling in Question 10, we find the average biking distance to SJSU is 2.8 miles.

Figure 5 shows the student commuter mode split to SJSU

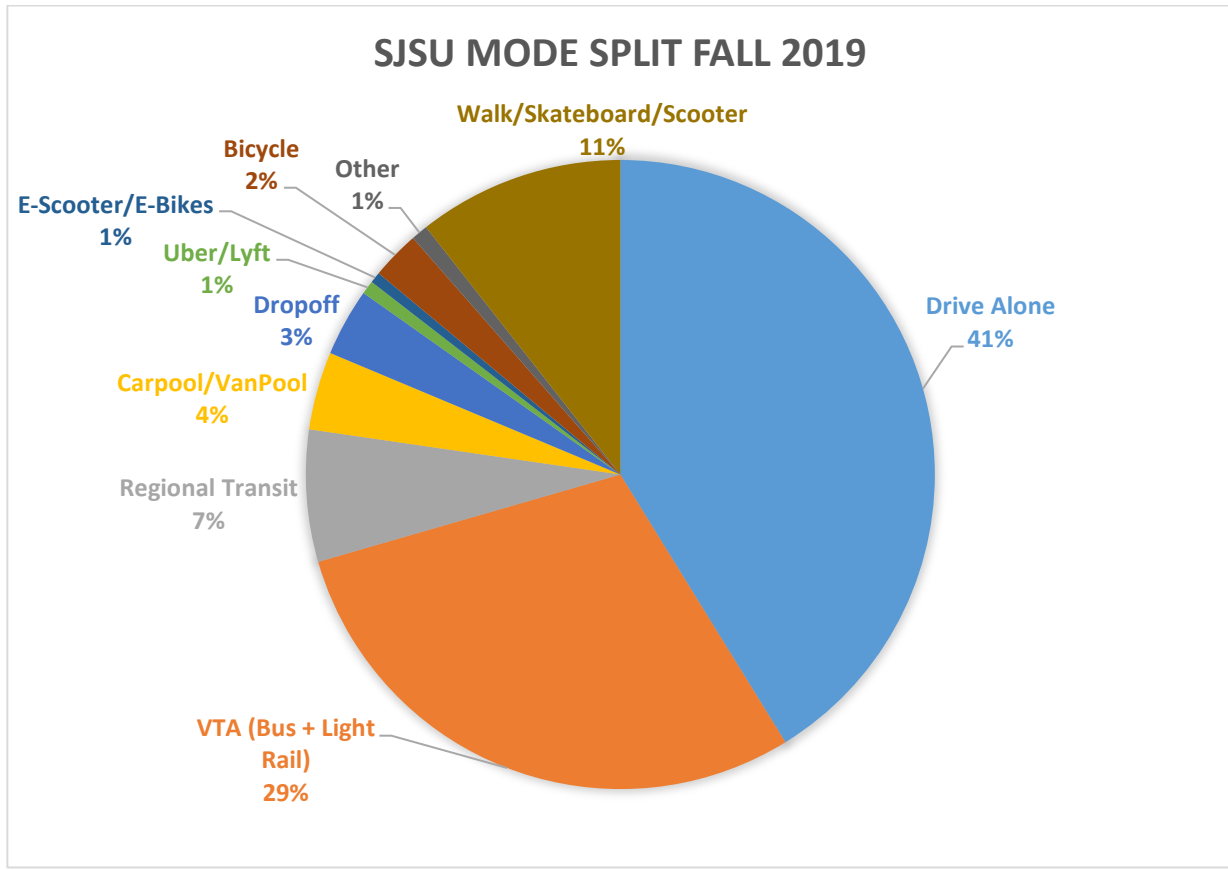


Figure 5: Proportion of Commute Mode Usage by SJSU Student in Fall 2019 Semester

Mode of travel when not using transit: The responses from Question 10 provide the percentages for all the commute modes. Based on the 33,972 enrollment, the numbers for non-transit commuters are extrapolated:

- Drive-alone plus Drive to SJSU Park & Ride was at 41.2% or 13,996
- Carpool, drop off at 7.5% or 2,548
- Uber/Lyft at 0.7% or
- Bike was at 2.5% or 849,
- Electric scooter/E-bike at 0.6% or 217
- Walk/ skateboard/ manual scooter at 10.6% or 3601
- Other modes at 0.9% or 306

2.2 Commute Distance & Frequency Analysis

- b) Average frequency of travel to/from campus was 3.81 days per week, from the results of Question 4
- c) Average one-way trip distance (home to campus) was 14.8 miles, from the results of Question 9. Average time of commute was 36.5 minutes (Question 10). The following tables list the average one-way trip distance for each type of commuter mode (Q5xQ9).

Transportation Mode	Average One-Way Commute Distance (mi)
Altamont Corridor Express	49.0
Amtrak	30.8
BART	30.2
Caltrain	34.6
Carpool/Vanpool	20.5
Drive Alone & VTA Park & Ride	17.0
Highway 17	34.6
I got Dropped Off	11.1
VTA Bus	8.4
VTA Light Rail	11.3
Bicycle	2.8

- d) Average Drive-alone and Drive to Park & Ride distances are as follows:

Transportation Mode	Average One-Way Commute Distance (mi)
Drive Alone	19.6
Drive to SJSU Park & Ride	17.3

e) Average walking, skateboard/ manual scooter distance:

Transportation Mode	Average One-Way Commute Distance (mi)
Skateboard/Manual Scooter	2.6
Walk	2.2

f) Other

Transportation Mode	Average One-Way Commute Distance (mi)
E-Scooter/E-Bike	2.7
Motorcycle	14.1
Uber/Lyft	9.5

- g) The overall average frequency of travel using alternative transportation was 3.96 days/week. The following table shows the average alternative transportation days per week and per year (Estimated 42 weeks) by mode (Q5xQ4).

Transportation mode	Average Commute Frequency (day/wk)	Average Commute Frequency (day/yr)
Altamont Corridor Express	3.4	144
Amtrak	3.6	151
BART	3.7	155
Bicycle	4.1	173
Bus (VTA)	4.1	172
Caltrain	3.5	145
Carpool/ Vanpool	3.7	154
Drive alone to VTA Park & Ride	3.8	160
Highway 17 Express Bus	3.4	142
I get dropped off	4.0	169
Light Rail (VTA)	3.9	164

- h) Average Drive-alone and Drive to SJSU Park & Ride days are as follows:

Transportation mode	Average Commute Frequency (day/wk)	Average Commute Frequency (day/yr)
Drive Alone	3.5	147
Drive Alone to SJSU Park & Ride	3.7	155

i) Average walking, skateboard/scooter days:

Transportation mode	Average Commute Frequency (day/wk)	Average Commute Frequency (day/yr)
Skateboard/Manual Scooter	4.9	206
Walk	4.4	184

j) Other

Transportation mode	Average Commute Frequency (day/wk)	Average Commute Frequency (day/yr)
E-Scooter/E-Bike	4.2	178
Motorcycle	3.7	155
Uber/Lyft	3.5	147

k) The average one-way distance to initial transit stop or carpool site (Q18xQ19):

Partial Trips to Transit or Carpool Stop	Partial Trip, Average One-way distance (mi)
Bicycle	1.8
Bus/ light rail/ train/ ferry	2.1
Carpool	2.5
Drive alone	3.5
Electric scooter/ E-Bike	1.6
I get dropped off	2.3
Uber/ Lyft	2.0
Walk/ skateboard/ manual scooter	0.5

2.3 TS Effectiveness

The overall trips reduced among new and continuing student commuters:

Total transit (36.1%) plus half of carpool (2%) = 38.1% or 12,943

By using Question 8 and applying a filter to show only the response of those who responded they use either a transit services or carpool/vanpool as their primary commute mode (Question 10), we observe that 62.6% have access to a vehicle for getting to SJSU; Therefore, $13,147 \times 62.6\% = 8,230$ chose not to drive.

The total number of automobile trips per day reduced = $8,230 \times 2$ one-way trips per day = 16,460

Mode of travel prior to use of Transportation Solutions services – Using the results of questions 17 and 10, along with additional filtering, allows us to calculate what the student commute mode was before student began using TS services and after TS service:

Commute Mode	Commute Mode Split Before TS Service Usage	Commute Mode Split After TS Service Usage	Net Change
I was taking VTA bus/ light rail/ Access	18.6%	29.6%	11.1%
I got dropped off	8.4%	3.5%	-4.9%
I drove alone (including to SJSU Park & Ride and motorcycle)	46.6%	41.7%	-4.8%
I lived near to campus, so I walked/ skateboard/ manual scooter	12.6%	10.6%	-2.0%
Regional train/ bus (including Caltrain, BART, Hwy 17 Express, ACE, Amtrak, MST)	4.1%	6.8%	2.6%
Bicycle	2.9%	2.5%	-0.4%
Carpool	4.5%	4.0%	-0.5%
Uber/Lyft	1.7%	0.7%	-1.0%
Electric Scooter/E-bike	0.7%	0.6%	-0.1%

The TS effectiveness in reducing drive-alone rate in 2019 was 4.8%:

Population 33,972 x 4.8% decrease in drive-alone = 1,631 cars x 2 trips/day = 3,261 trips/day

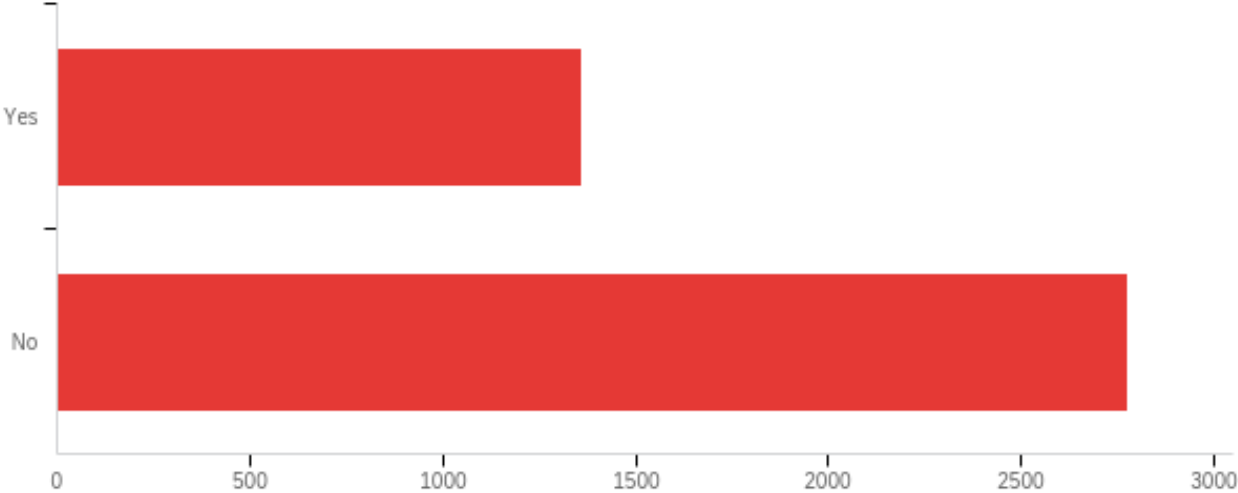
According to Question 18, 22.9% of the green transportation users drove-alone to an initial transit stop or carpool pick up site.

Calculations: $22.9\% \times \{ \text{Total transit riders (36.1\%)} + \text{Total carpoolers (4.0\%)} \} \times 33,972 = 3,119$

Student Survey Report

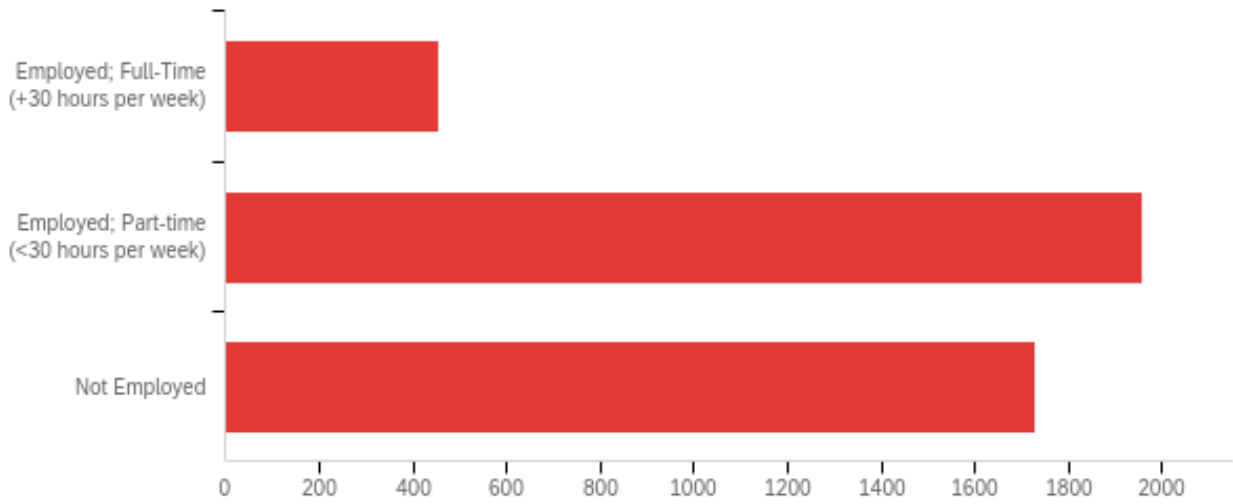
Student Commute Survey - Version B - True
February 27th 2020, 1:12 pm MST

Q3 - Is this your first semester at San Jose State University (SJSU)?



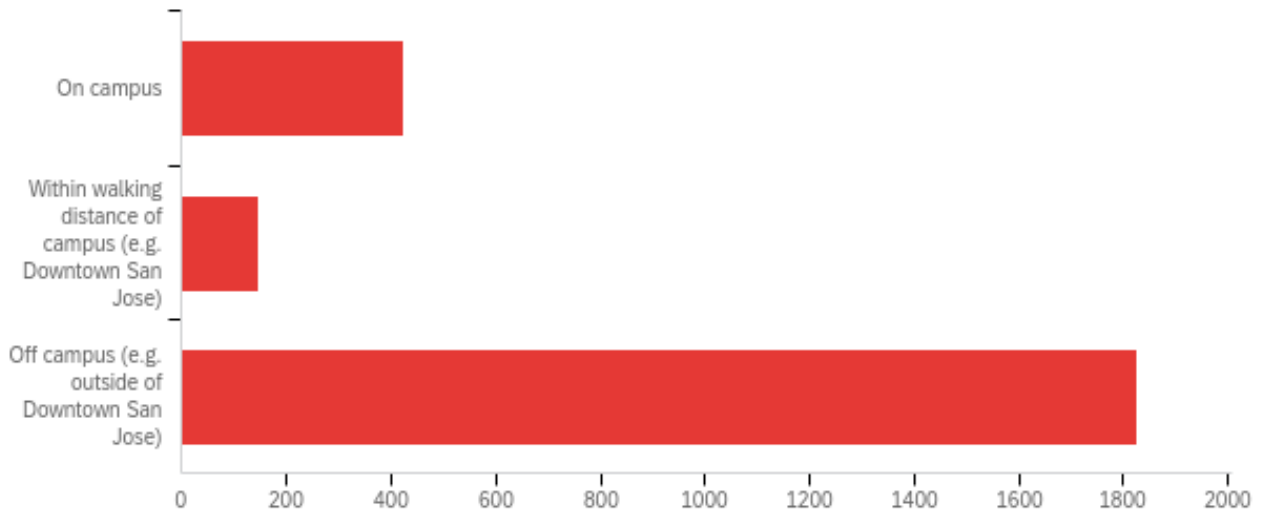
#	Answer	%	Count
1	Yes	32.91%	1362
2	No	67.09%	2776
	Total	100%	4138

Q4 - What is your employment status?



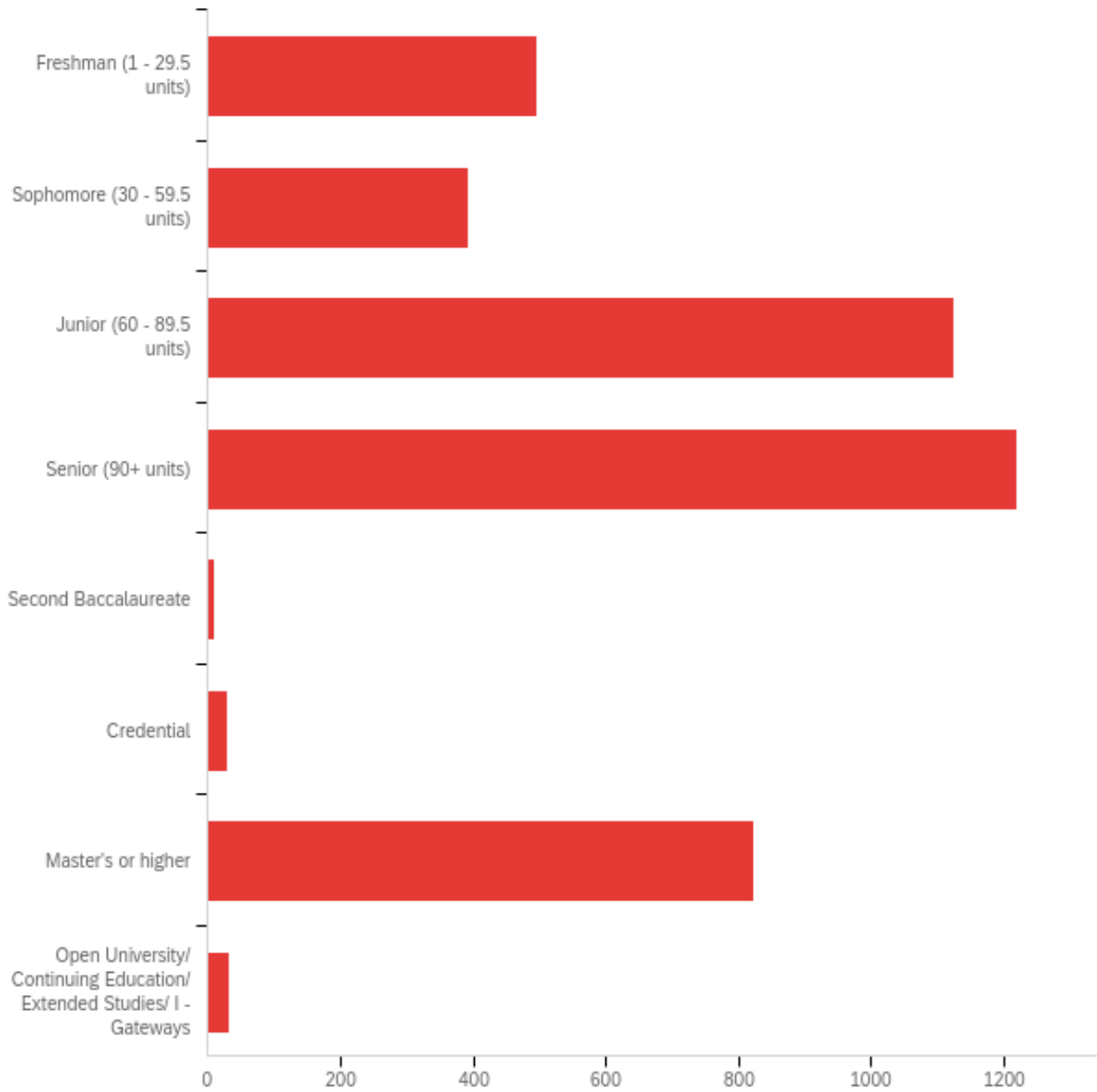
#	Answer	%	Count
1	Employed; Full-Time (+30 hours per week)	10.95%	453
2	Employed; Part-time (<30 hours per week)	47.29%	1957
3	Not Employed	41.76%	1728
	Total	100%	4138

Q5 - Where do you work in respect to campus?



#	Answer	%	Count
1	On campus	17.74%	426
2	Within walking distance of campus (e.g. Downtown San Jose)	6.16%	148
3	Off campus (e.g. outside of Downtown San Jose)	76.09%	1827
	Total	100%	2401

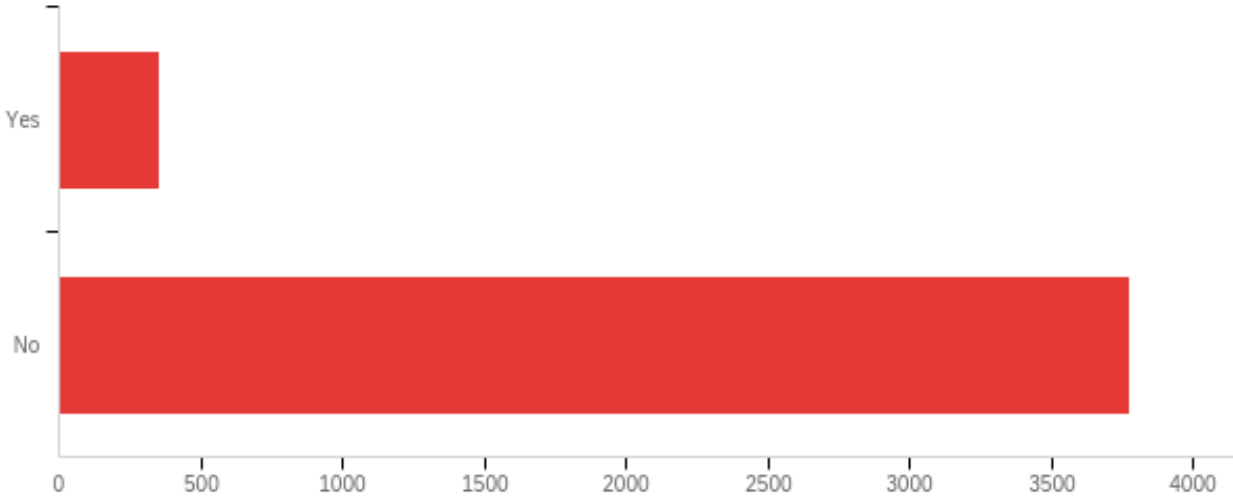
Q6 - What is your class level?



#	Answer	%	Count
1	Freshman (1 - 29.5 units)	12.02%	496
2	Sophomore (30 - 59.5 units)	9.50%	392
3	Junior (60 - 89.5 units)	27.26%	1125

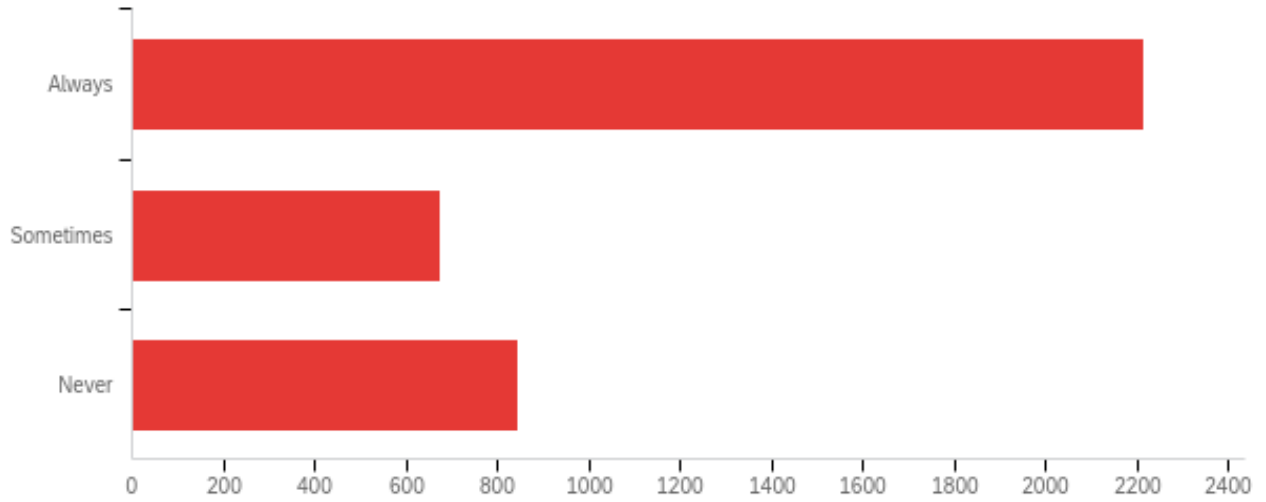
4	Senior (90+ units)	29.54%	1219
5	Second Baccalaureate	0.22%	9
6	Credential	0.73%	30
7	Master's or higher	19.94%	823
8	Open University/ Continuing Education/ Extended Studies/ I - Gateways	0.80%	33
	Total	100%	4127

Q7 - Do you live in on-campus housing?



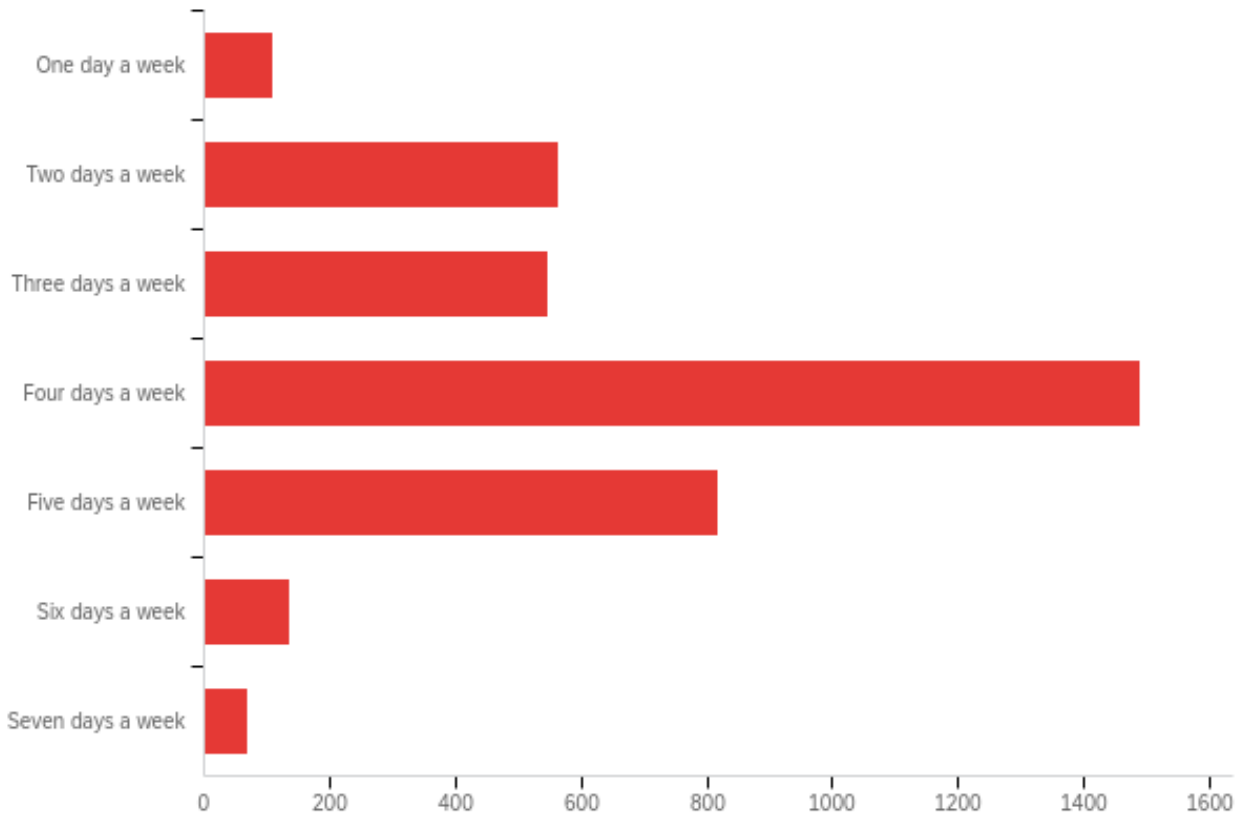
#	Answer	%	Count
1	Yes	8.55%	353
2	No	91.45%	3774
	Total	100%	4127

Q8 - Do you have a car available for getting to SJSU?



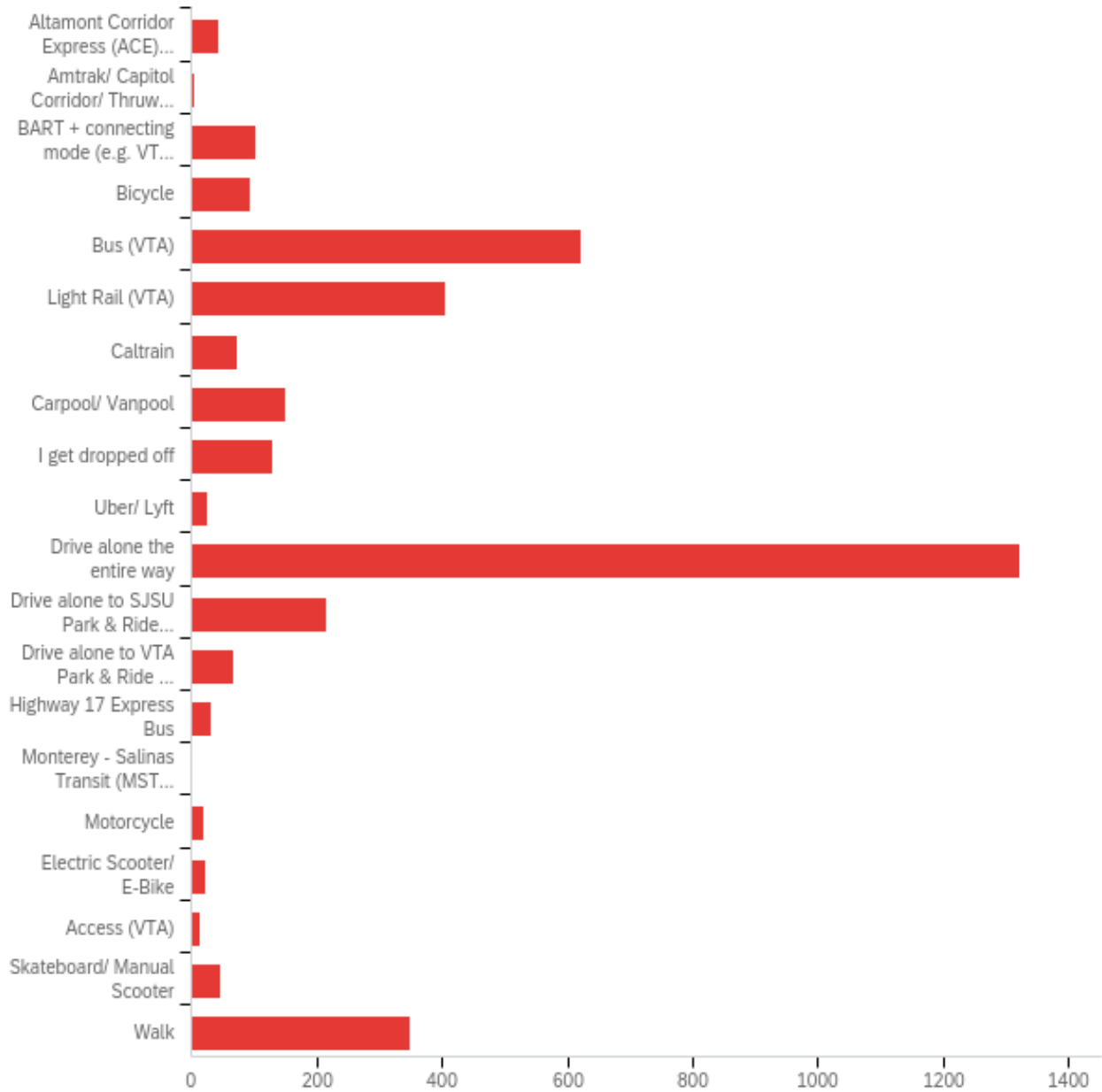
#	Answer	%	Count
1	Always	59.33%	2216
2	Sometimes	18.10%	676
3	Never	22.57%	843
	Total	100%	3735

Q9 - In a typical week, how many days do you come to SJSU?



#	Answer	%	Count
1	One day a week	2.92%	109
2	Two days a week	15.07%	563
3	Three days a week	14.67%	548
4	Four days a week	39.89%	1490
5	Five days a week	21.90%	818
6	Six days a week	3.67%	137
7	Seven days a week	1.87%	70
	Total	100%	3735

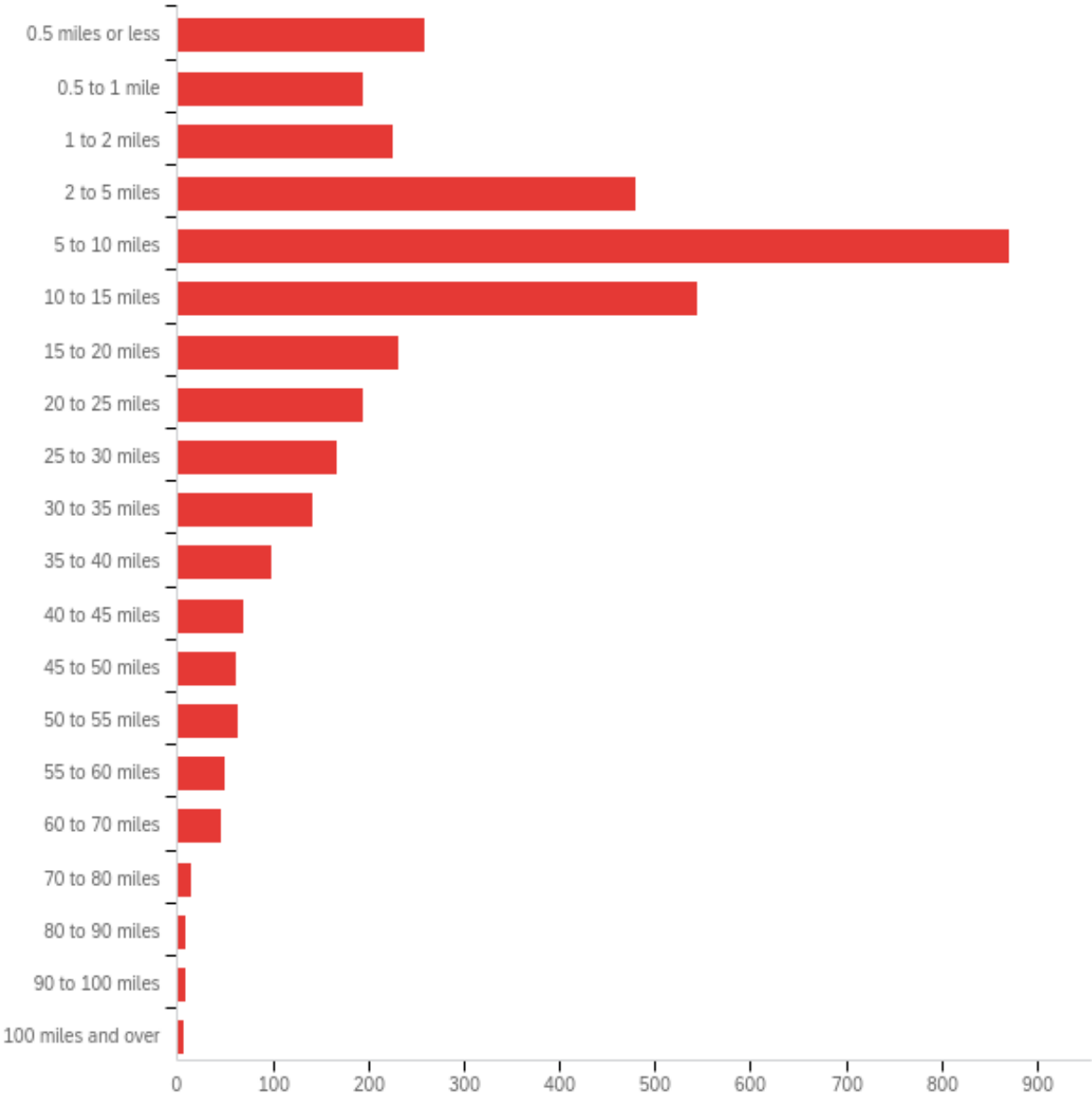
Q10 - In a typical week, which transportation mode do you mostly use to come to SJSU? (Mark only one mode you use in the longest part of your trip to campus)



#	Answer	%	Count
1	Altamont Corridor Express (ACE) train	1.15%	43
2	Amtrak/ Capitol Corridor/ Thruway Bus	0.13%	5

3	BART + connecting mode (e.g. VTA Bus 181)	2.73%	102
4	Bicycle	2.49%	93
5	Bus (VTA)	16.68%	623
6	Light Rail (VTA)	10.82%	404
7	Caltrain	1.93%	72
8	Carpool/ Vanpool	4.02%	150
9	I get dropped off	3.48%	130
10	Uber/ Lyft	0.70%	26
11	Drive alone the entire way	35.42%	1323
12	Drive alone to SJSU Park & Ride Lot and take Shuttle	5.78%	216
21	Drive alone to VTA Park & Ride lot and take VTA bus or light rail	1.82%	68
14	Highway 17 Express Bus	0.83%	31
15	Monterey - Salinas Transit (MST) Bus 55	0.00%	0
16	Motorcycle	0.54%	20
17	Electric Scooter/ E-Bike	0.56%	21
18	Access (VTA)	0.32%	12
19	Skateboard/ Manual Scooter	1.26%	47
20	Walk	9.34%	349
	Total	100%	3735

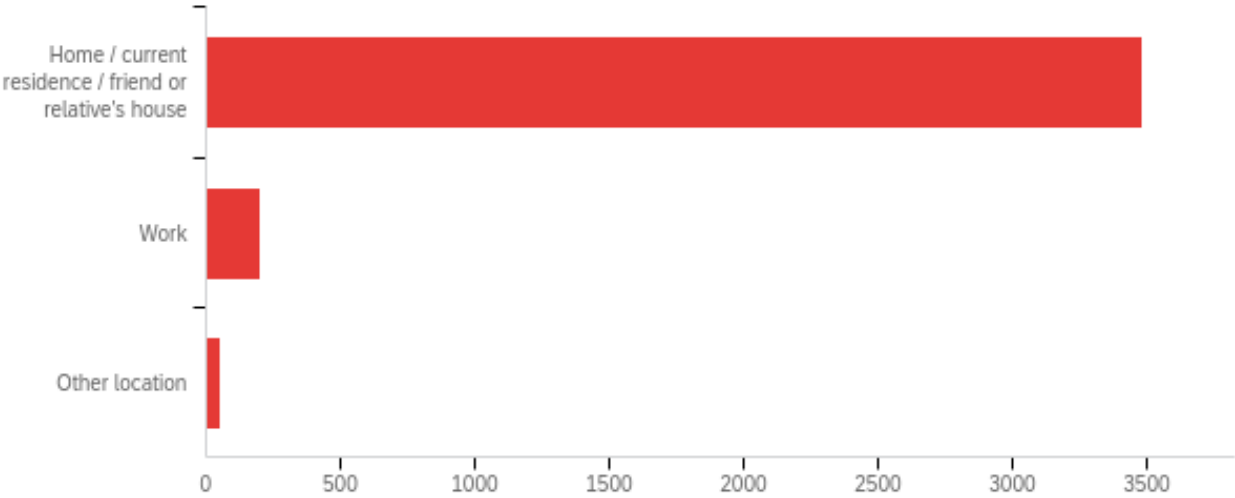
Q11 - How far is your daily one-way trip to SJSU? (Need Help? Use Google Map to determine your commute distance)



#	Answer	%	Count
1	0.5 miles or less	6.93%	259
2	0.5 to 1 mile	5.19%	194
3	1 to 2 miles	6.02%	225

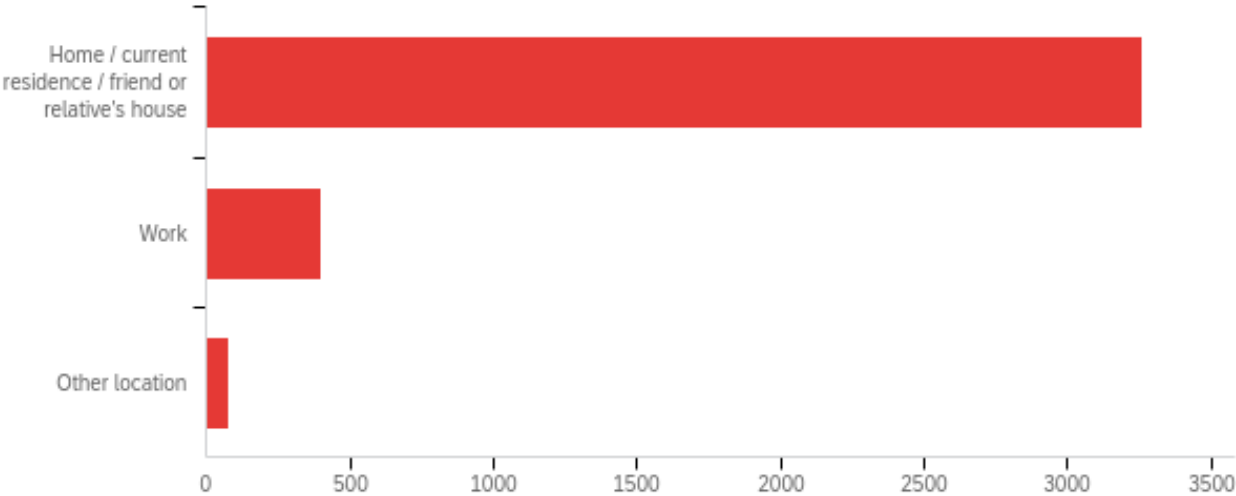
4	2 to 5 miles	12.85%	480
5	5 to 10 miles	23.32%	871
6	10 to 15 miles	14.56%	544
7	15 to 20 miles	6.21%	232
8	20 to 25 miles	5.19%	194
9	25 to 30 miles	4.50%	168
10	30 to 35 miles	3.80%	142
11	35 to 40 miles	2.62%	98
12	40 to 45 miles	1.87%	70
13	45 to 50 miles	1.66%	62
14	50 to 55 miles	1.71%	64
15	55 to 60 miles	1.31%	49
16	60 to 70 miles	1.23%	46
17	70 to 80 miles	0.37%	14
18	80 to 90 miles	0.21%	8
19	90 to 100 miles	0.21%	8
20	100 miles and over	0.19%	7
	Total	100%	3735

Q12 - Your trip to SJSU normally starts from:



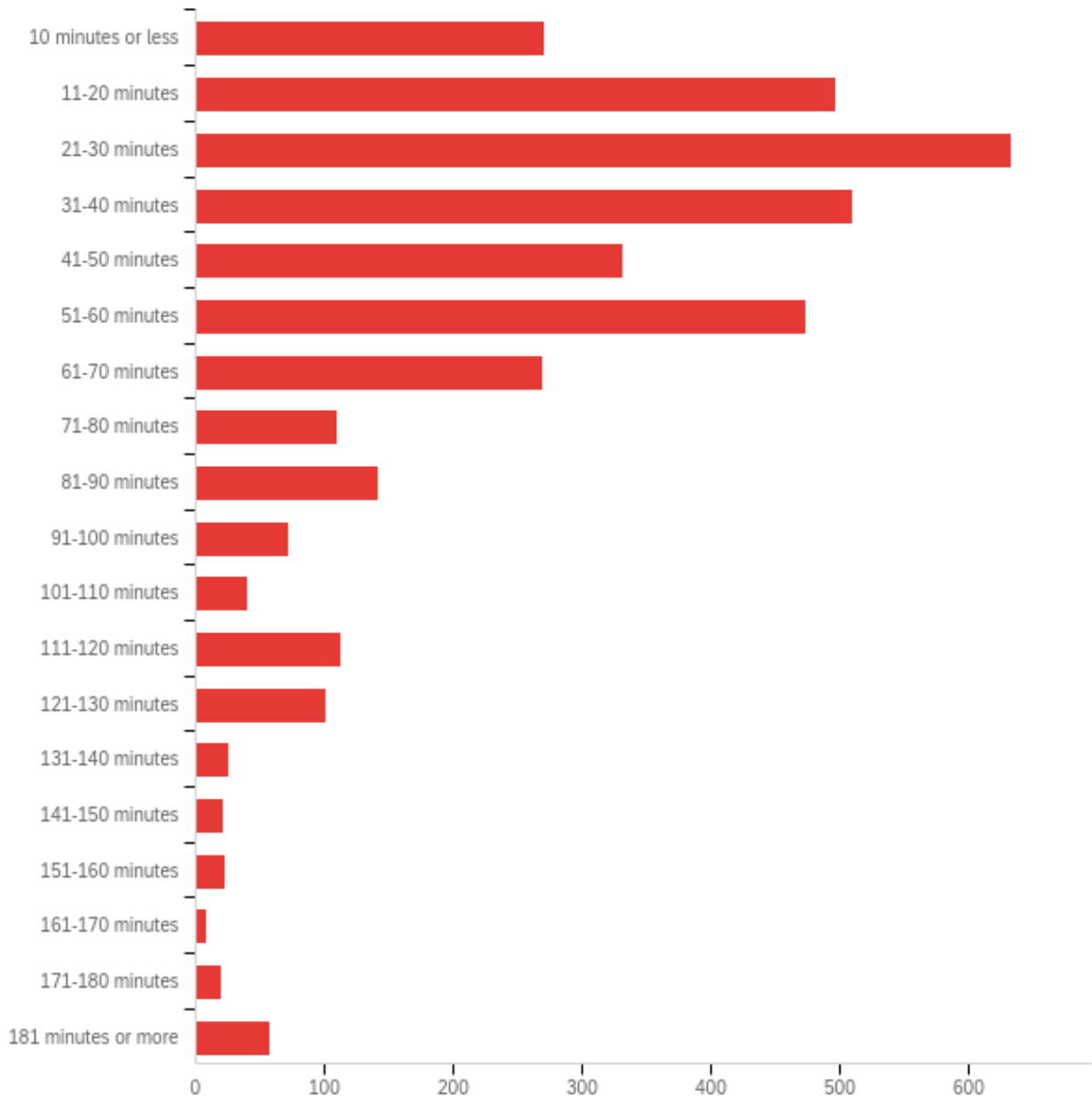
#	Answer	%	Count
1	Home / current residence / friend or relative's house	93.28%	3484
2	Work	5.27%	197
3	Other location	1.45%	54
	Total	100%	3735

Q13 - Where do you go after leaving the University?



#	Answer	%	Count
1	Home / current residence / friend or relative's house	87.28%	3260
2	Work	10.60%	396
3	Other location	2.12%	79
	Total	100%	3735

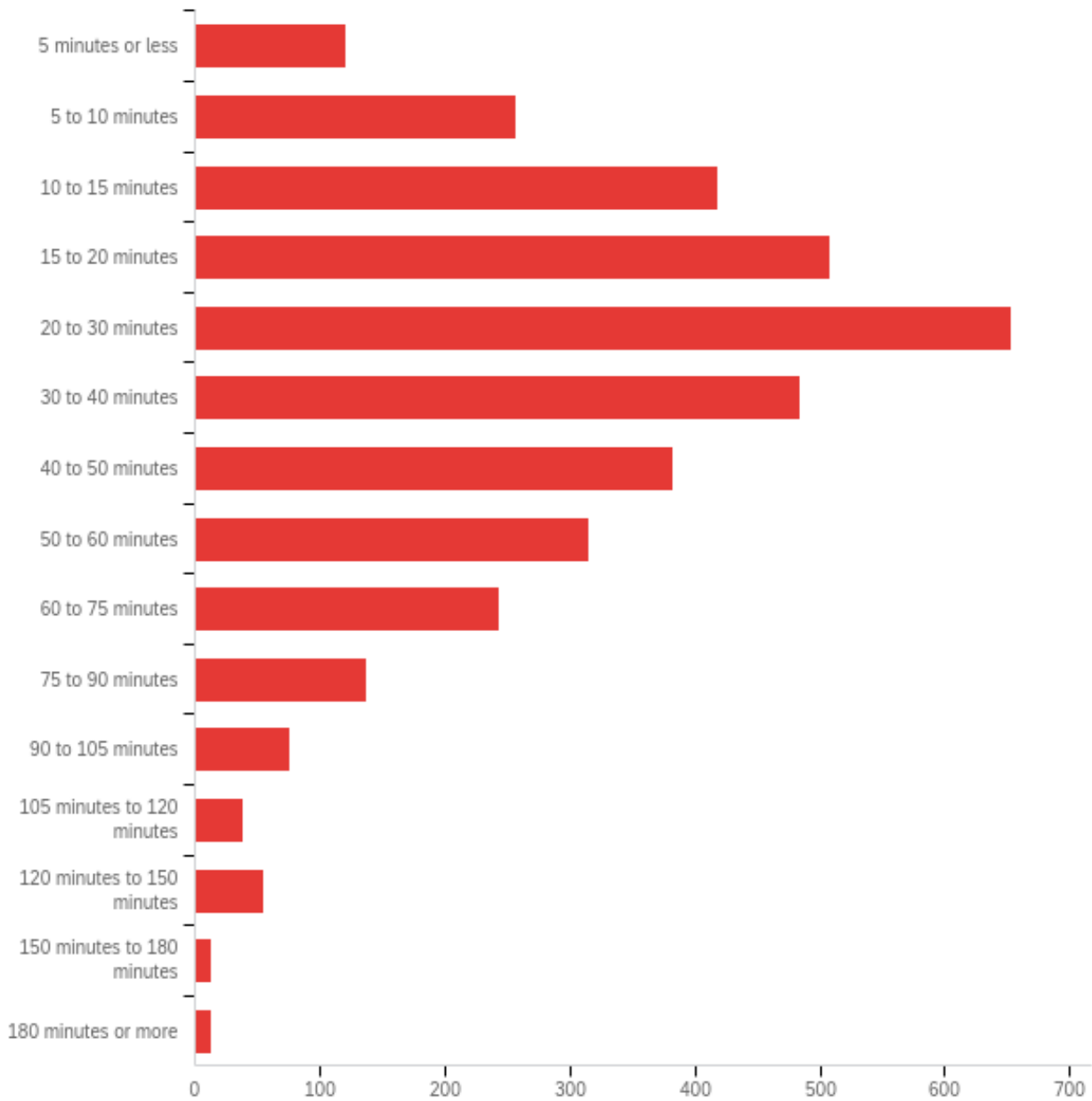
Q14 - What is the total time you usually allocate for your commute to SJSU?



#	Answer	%	Count
1	10 minutes or less	7.29%	271
6	11-20 minutes	13.38%	497
2	21-30 minutes	17.04%	633

3	31-40 minutes	13.73%	510
4	41-50 minutes	8.91%	331
5	51-60 minutes	12.73%	473
7	61-70 minutes	7.24%	269
8	71-80 minutes	2.96%	110
9	81-90 minutes	3.80%	141
10	91-100 minutes	1.94%	72
11	101-110 minutes	1.08%	40
12	111-120 minutes	3.04%	113
13	121-130 minutes	2.72%	101
14	131-140 minutes	0.70%	26
15	141-150 minutes	0.57%	21
16	151-160 minutes	0.59%	22
17	161-170 minutes	0.22%	8
18	171-180 minutes	0.54%	20
19	181 minutes or more	1.53%	57
	Total	100%	3715

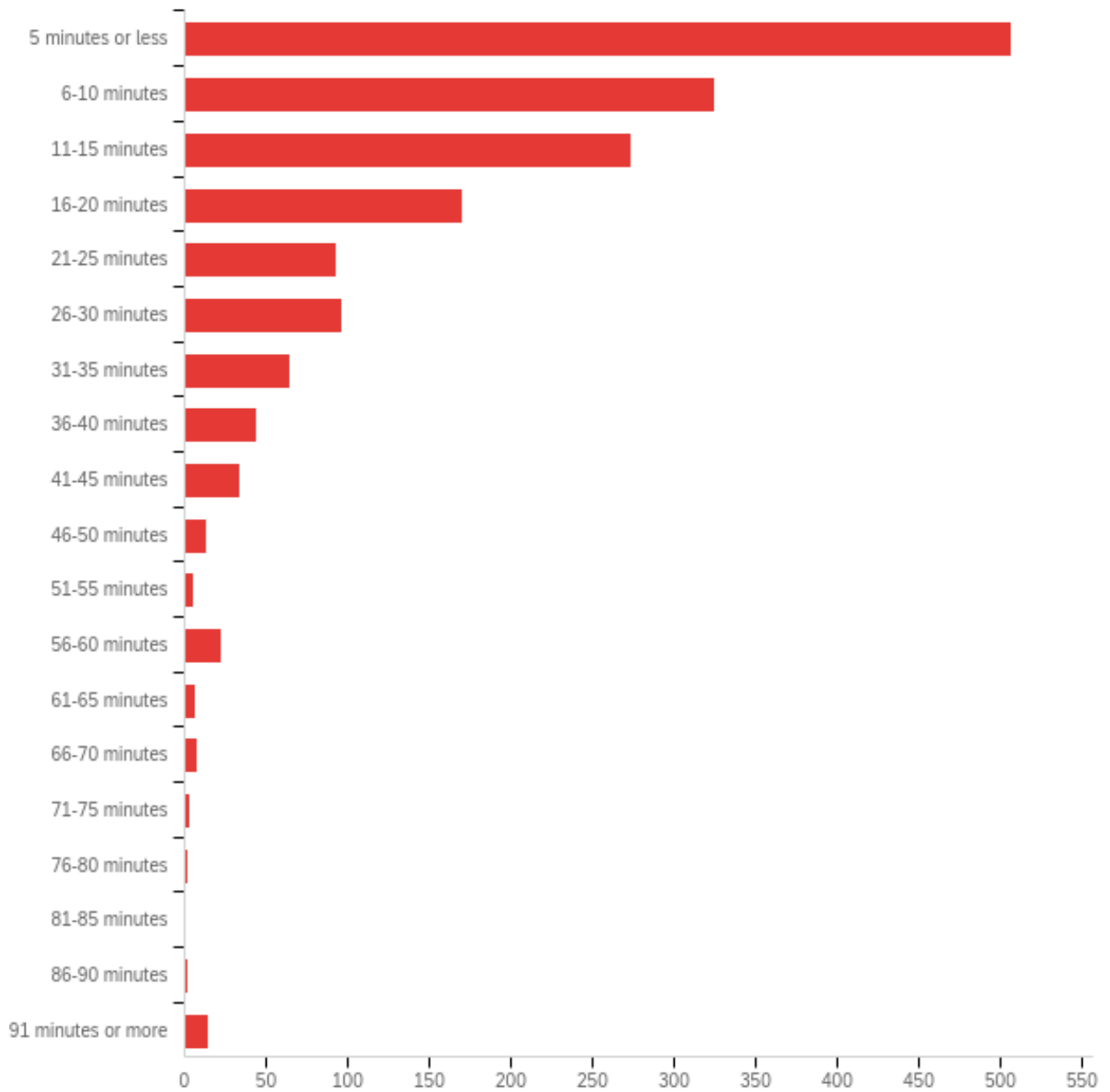
Q15 - On average, how long is your daily one-way trip to campus? (Not including time spent looking for parking, if applicable; door-to-campus)



#	Answer	%	Count
1	5 minutes or less	3.23%	120
2	5 to 10 minutes	6.93%	257
3	10 to 15 minutes	11.27%	418

4	15 to 20 minutes	13.69%	508
5	20 to 30 minutes	17.60%	653
6	30 to 40 minutes	13.05%	484
7	40 to 50 minutes	10.30%	382
8	50 to 60 minutes	8.49%	315
9	60 to 75 minutes	6.55%	243
10	75 to 90 minutes	3.69%	137
11	90 to 105 minutes	2.05%	76
12	105 minutes to 120 minutes	1.02%	38
13	120 minutes to 150 minutes	1.46%	54
14	150 minutes to 180 minutes	0.35%	13
15	180 minutes or more	0.32%	12
	Total	100%	3710

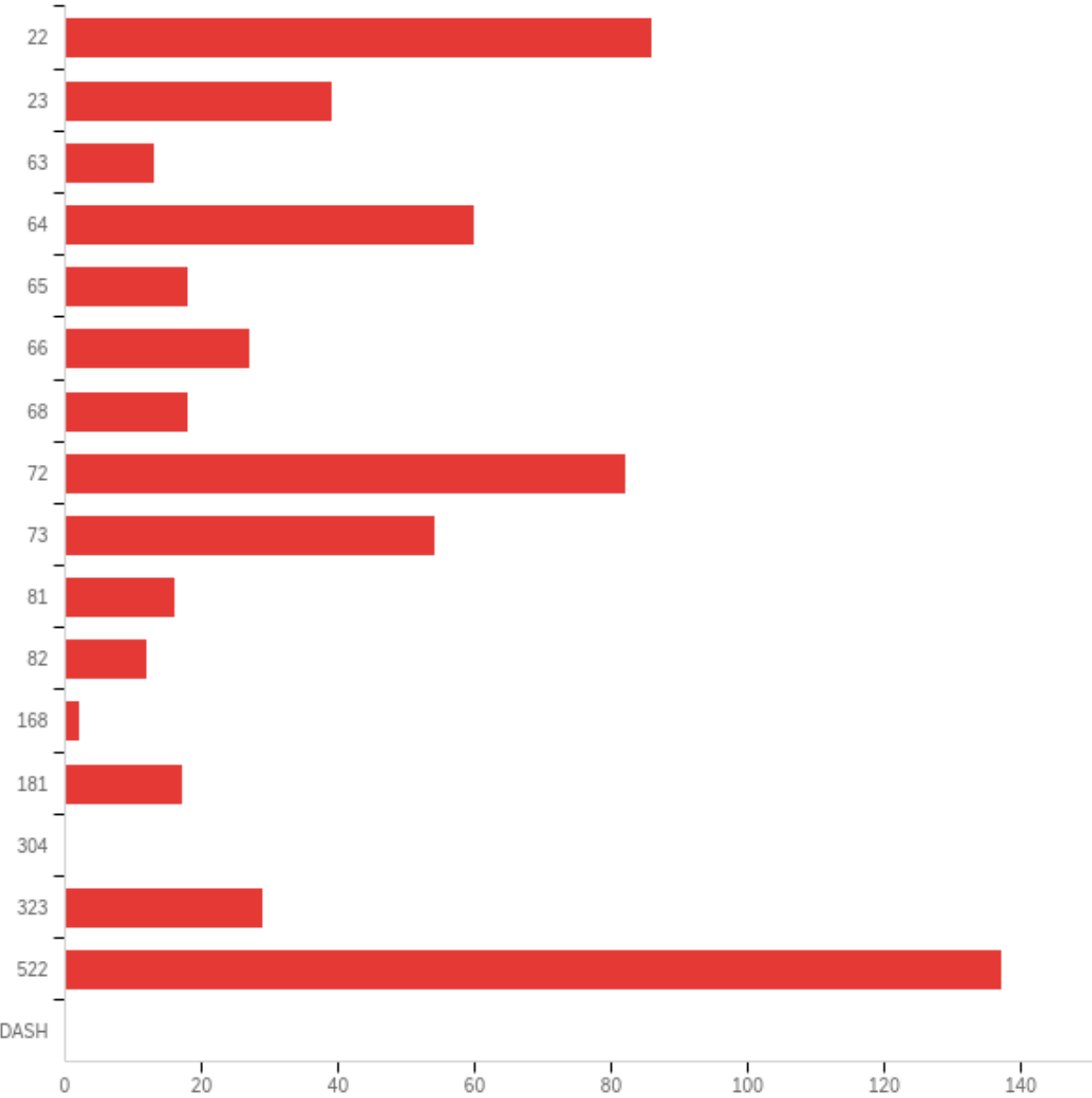
Q16 - On average, how long does it take to find a parking spot (Entrance-to-spot)



#	Answer	%	Count
1	5 minutes or less	30.16%	507
4	6-10 minutes	19.33%	325
5	11-15 minutes	16.30%	274

6	16-20 minutes	10.11%	170
7	21-25 minutes	5.53%	93
8	26-30 minutes	5.71%	96
9	31-35 minutes	3.81%	64
10	36-40 minutes	2.62%	44
11	41-45 minutes	1.96%	33
12	46-50 minutes	0.77%	13
13	51-55 minutes	0.30%	5
14	56-60 minutes	1.31%	22
15	61-65 minutes	0.36%	6
16	66-70 minutes	0.42%	7
17	71-75 minutes	0.18%	3
18	76-80 minutes	0.12%	2
19	81-85 minutes	0.06%	1
20	86-90 minutes	0.12%	2
21	91 minutes or more	0.83%	14
	Total	100%	1681

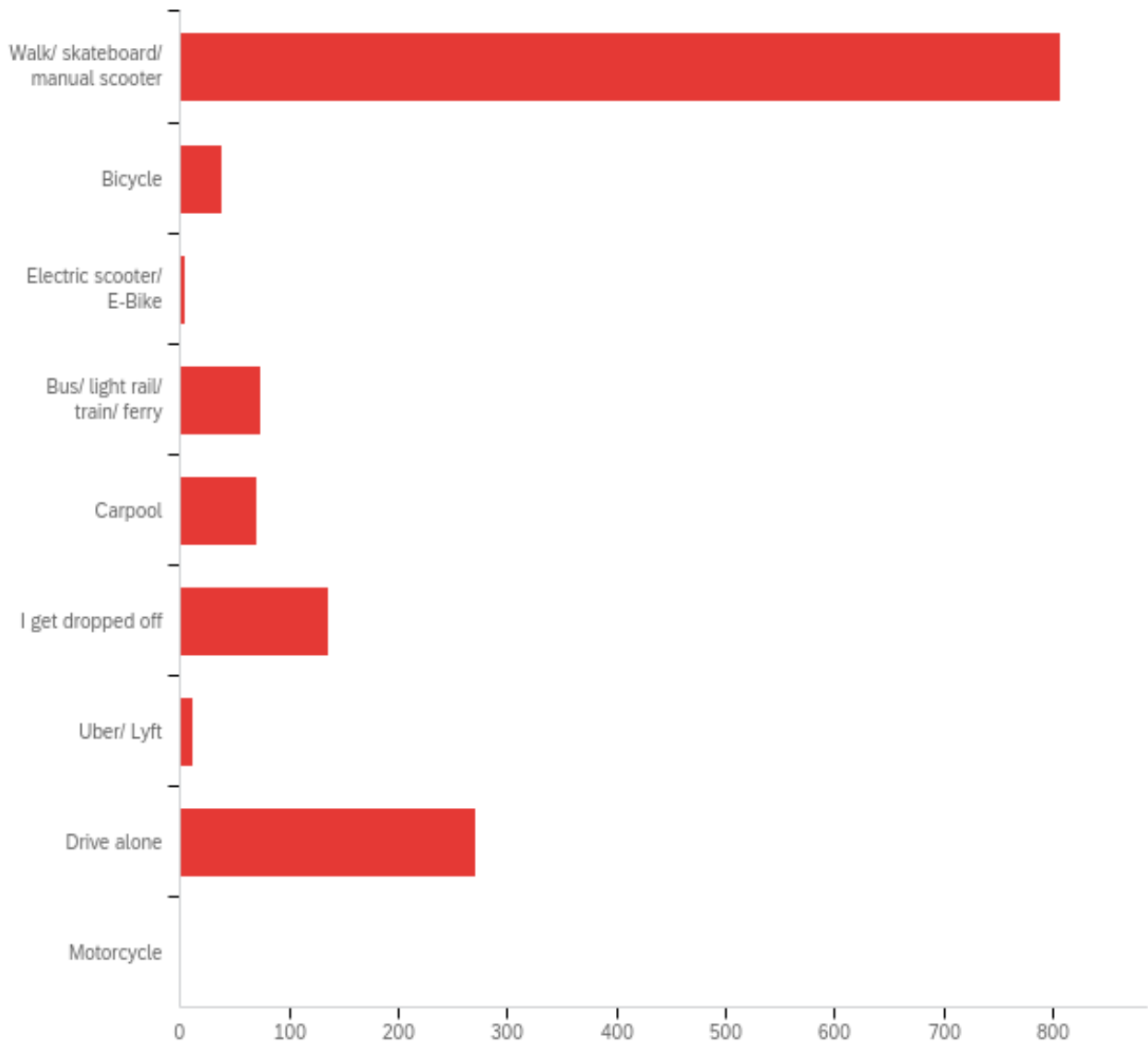
Q17 - Which VTA Bus do you take?



#	Answer	%	Count
1	22	14.10%	86
2	23	6.39%	39
3	63	2.13%	13

4	64	9.84%	60
5	65	2.95%	18
6	66	4.43%	27
7	68	2.95%	18
8	72	13.44%	82
9	73	8.85%	54
10	81	2.62%	16
11	82	1.97%	12
12	168	0.33%	2
13	181	2.79%	17
14	304	0.00%	0
15	323	4.75%	29
16	522	22.46%	137
17	DASH	0.00%	0
	Total	100%	610

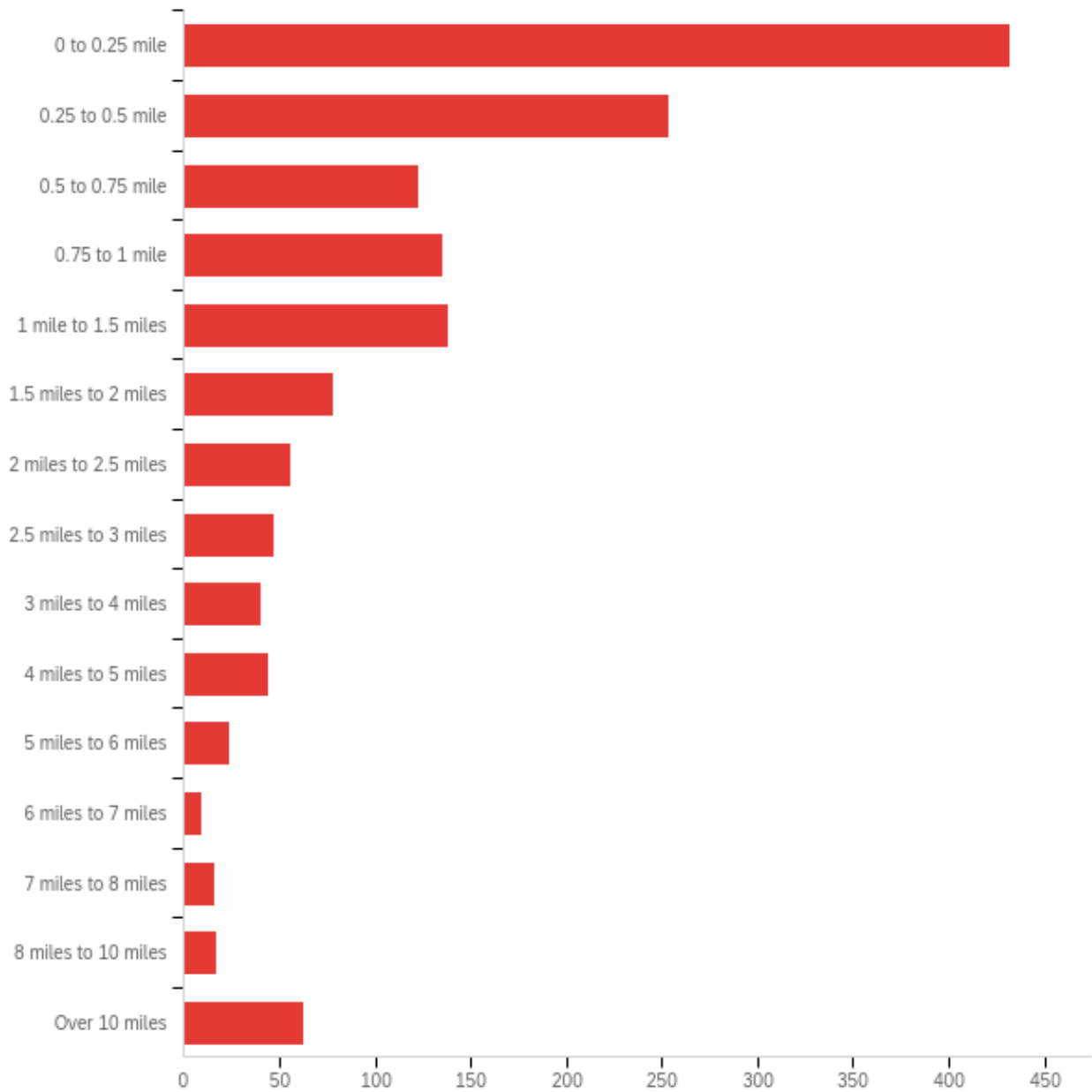
Q18 - How do you typically get to your bus stop, train station or carpool location?



#	Answer	%	Count
1	Walk/ skateboard/ manual scooter	57.27%	807
2	Bicycle	2.70%	38
3	Electric scooter/ E-Bike	0.28%	4
4	Bus/ light rail/ train/ ferry	5.18%	73

5	Carpool	4.97%	70
6	I get dropped off	9.65%	136
7	Uber/ Lyft	0.78%	11
8	Drive alone	19.16%	270
9	Motorcycle	0.00%	0
	Total	100%	1409

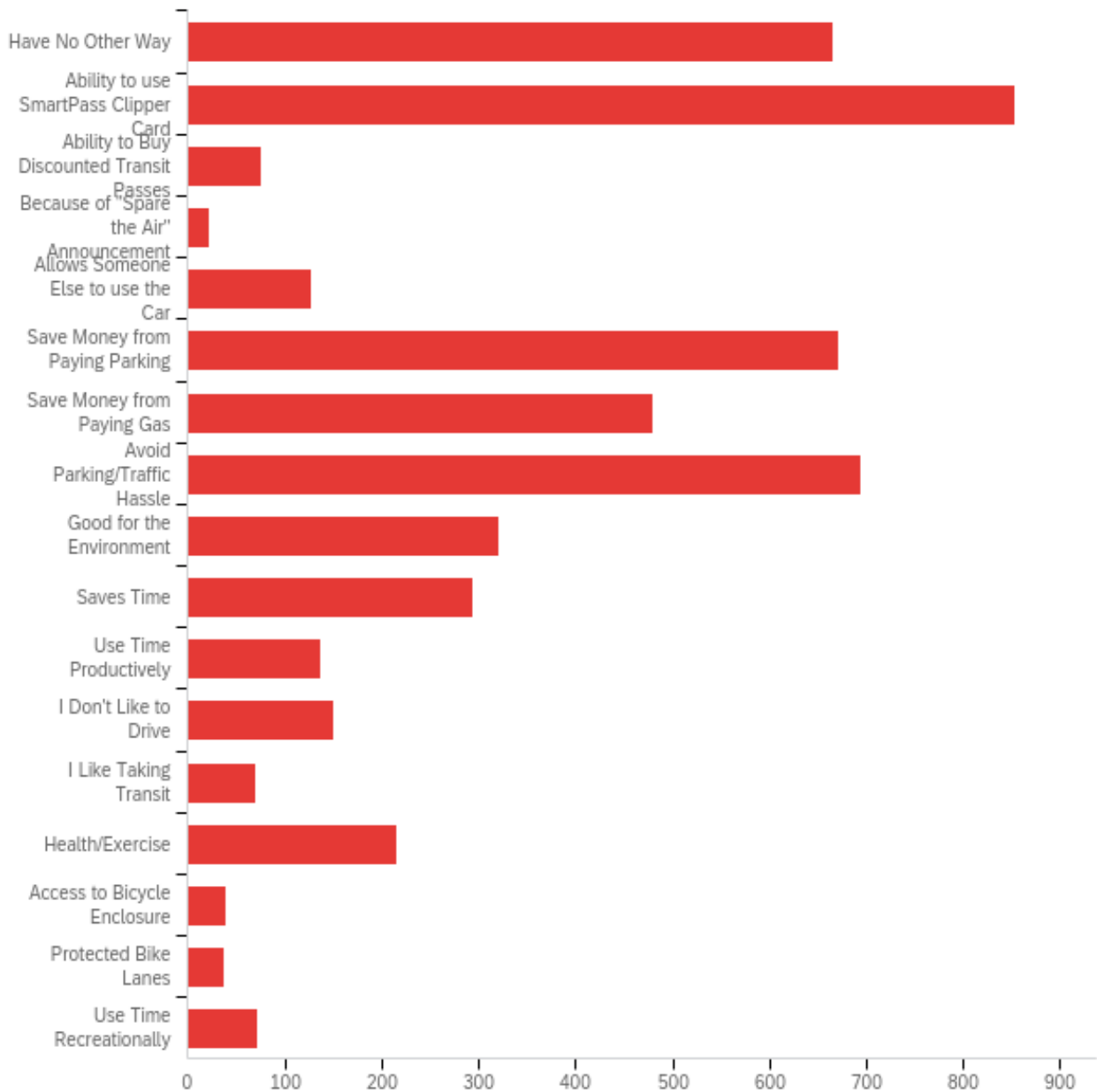
Q19 - How far do you travel to this bus stop, train station or carpool pick-up location (miles)



#	Answer	%	Count
1	0 to 0.25 mile	29.27%	432
2	0.25 to 0.5 mile	17.21%	254
3	0.5 to 0.75 mile	8.33%	123

4	0.75 to 1 mile	9.15%	135
5	1 mile to 1.5 miles	9.35%	138
6	1.5 miles to 2 miles	5.28%	78
7	2 miles to 2.5 miles	3.79%	56
8	2.5 miles to 3 miles	3.18%	47
9	3 miles to 4 miles	2.71%	40
10	4 miles to 5 miles	2.98%	44
11	5 miles to 6 miles	1.63%	24
12	6 miles to 7 miles	0.61%	9
13	7 miles to 8 miles	1.08%	16
14	8 miles to 10 miles	1.15%	17
15	Over 10 miles	4.27%	63
	Total	100%	1476

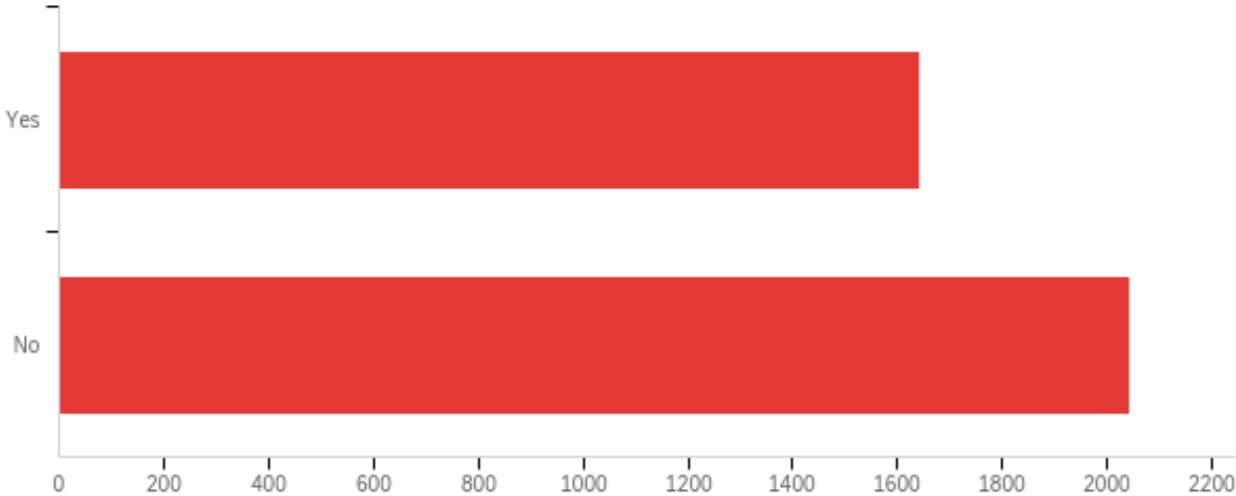
Q20 - If you commute by an alternative transportation, what are your top reasons for choosing so (Maximum: 3 choices)



#	Answer	%	Count
1	Have No Other Way	13.51%	665
5	Ability to use SmartPass Clipper Card	17.33%	853
2	Ability to Buy Discounted Transit Passes	1.52%	75

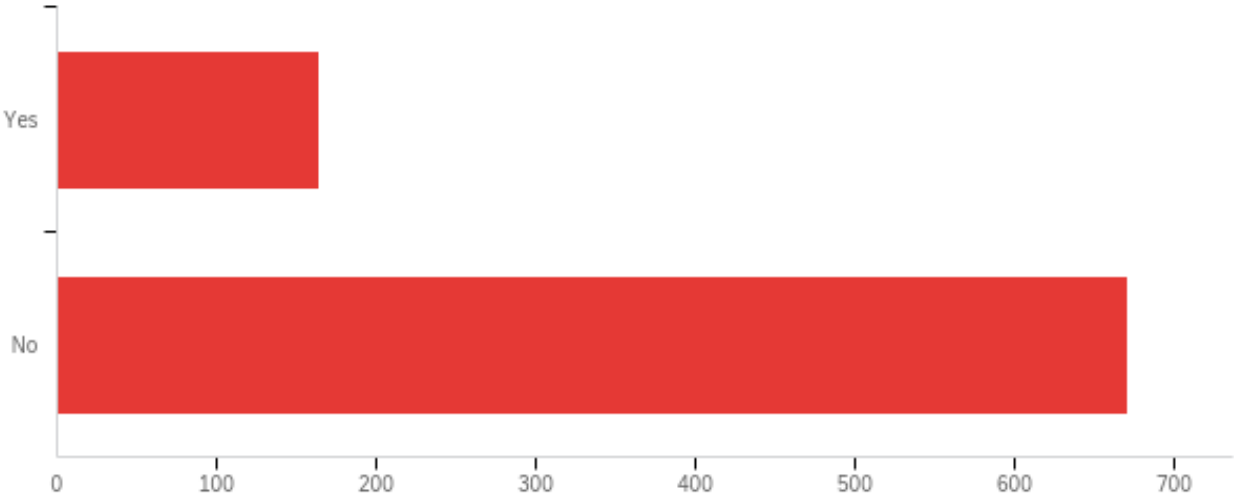
6	Because of "Spare the Air" Announcement	0.45%	22
7	Allows Someone Else to use the Car	2.58%	127
8	Save Money from Paying Parking	13.65%	672
3	Save Money from Paying Gas	9.75%	480
20	Avoid Parking/Traffic Hassle	14.10%	694
9	Good for the Environment	6.50%	320
10	Saves Time	5.97%	294
11	Use Time Productively	2.76%	136
12	I Don't Like to Drive	3.05%	150
13	I Like Taking Transit	1.42%	70
14	Health/Exercise	4.39%	216
15	Access to Bicycle Enclosure	0.79%	39
16	Protected Bike Lanes	0.77%	38
23	Use Time Recreationally	1.46%	72
	Total	100%	4923

Q21 - Do you know about "Spare the Air Alerts"?



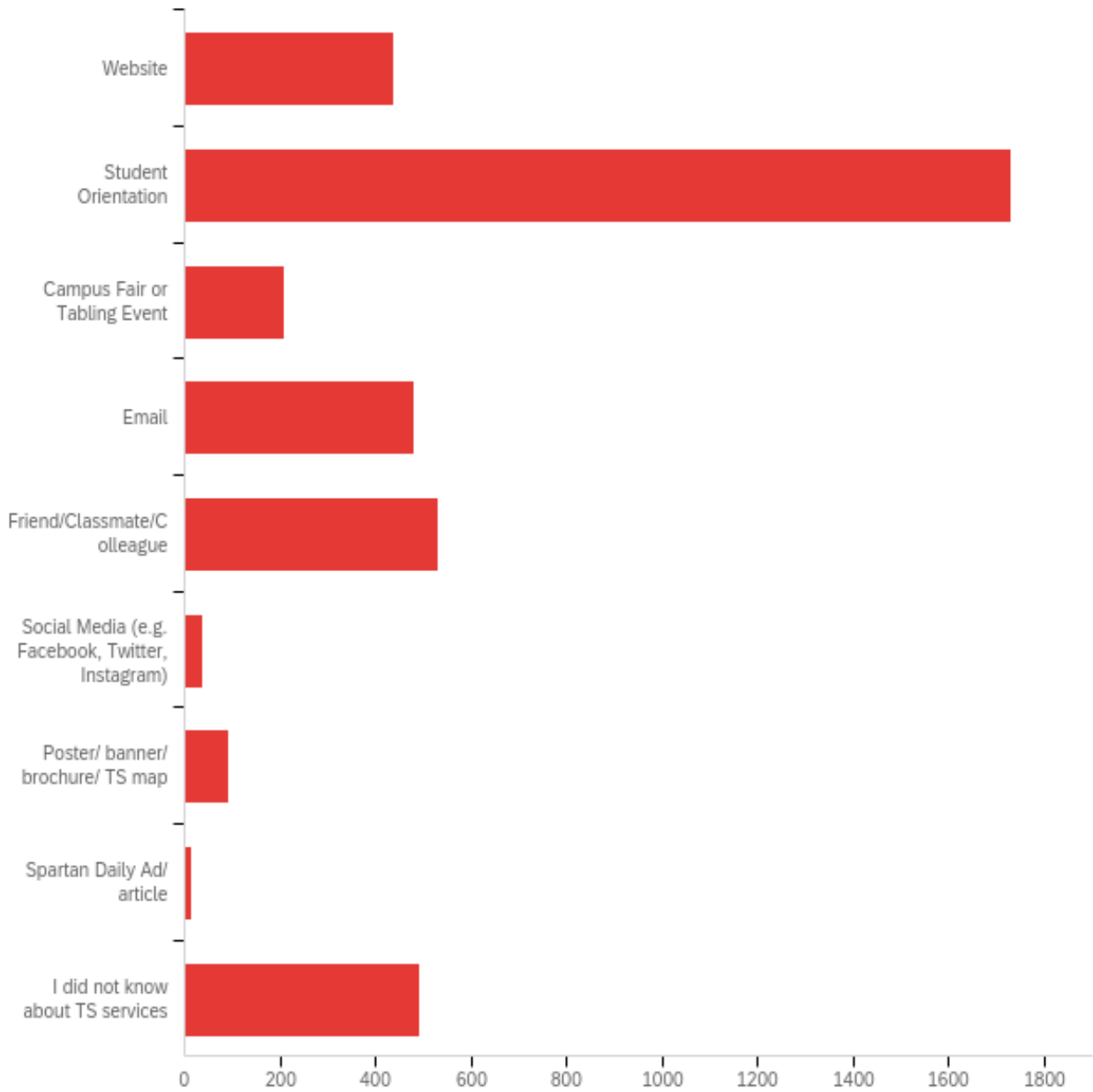
#	Answer	%	Count
1	Yes	44.59%	1644
2	No	55.41%	2043
	Total	100%	3687

Q22 - Do you use bus, rail, bicycle or carpool to when a “Spare the Air Alert” is announced ?



#	Answer	%	Count
1	Yes	19.64%	164
2	No	80.36%	671
	Total	100%	835

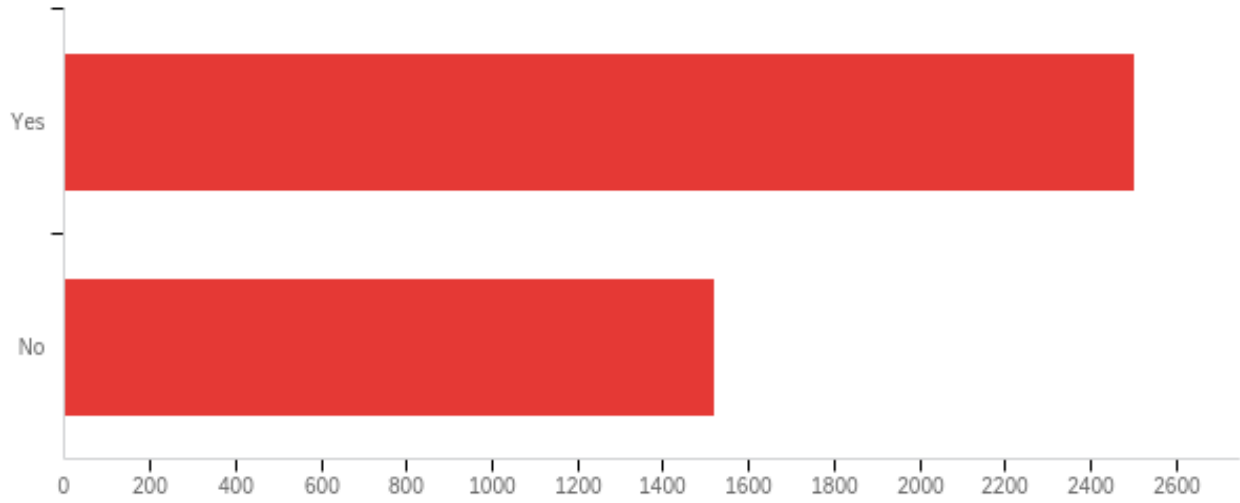
Q25 - How did you first learn about the TS services?



#	Answer	%	Count
1	Website	10.85%	436
2	Student Orientation	43.03%	1730
3	Campus Fair or Tabling Event	5.12%	206

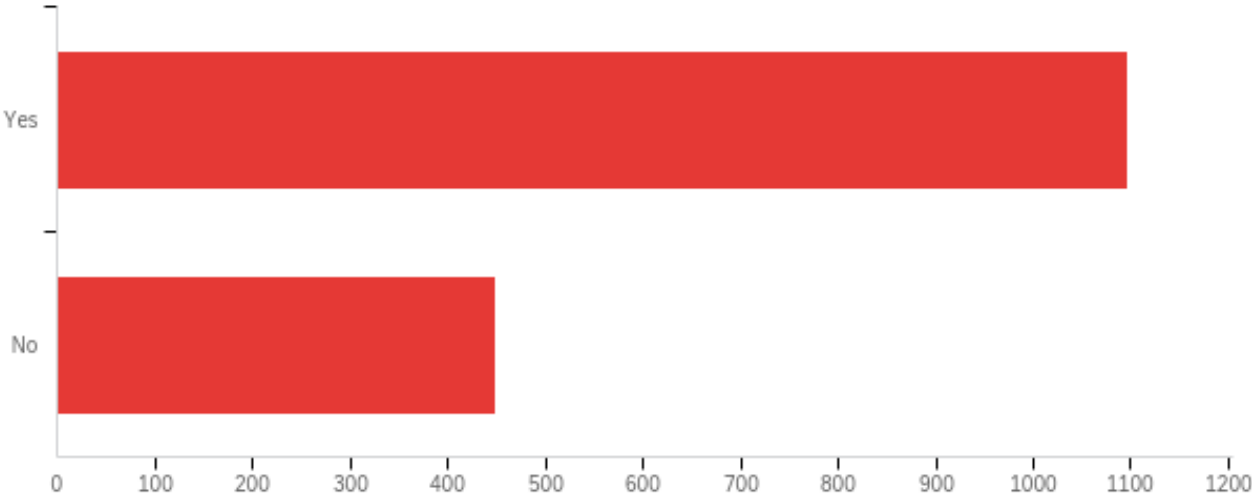
4	Email	11.97%	481
5	Friend/Classmate/Colleague	13.18%	530
6	Social Media (e.g. Facebook, Twitter, Instagram)	0.92%	37
7	Poster/ banner/ brochure/ TS map	2.31%	93
8	Spartan Daily Ad/ article	0.37%	15
9	I did not know about TS services	12.24%	492
	Total	100%	4020

Q26 - Have you ever used any of Transportation Solutions (TS) services during your time at SJSU?



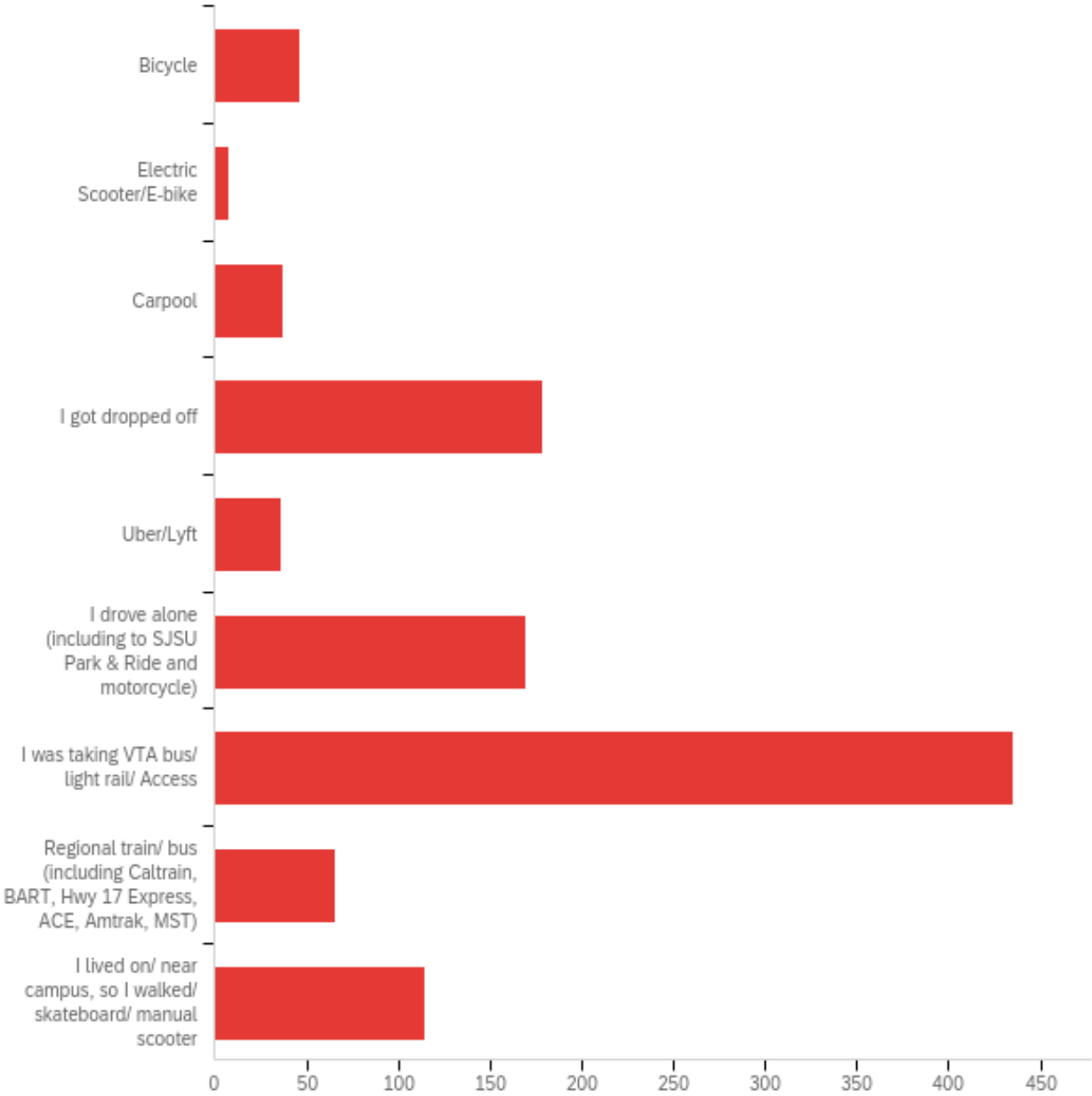
#	Answer	%	Count
1	Yes	62.21%	2501
2	No	37.79%	1519
	Total	100%	4020

Q27 - Are you using a TS service to commute to campus now?



#	Answer	%	Count
1	Yes	70.98%	1096
2	No	29.02%	448
	Total	100%	1544

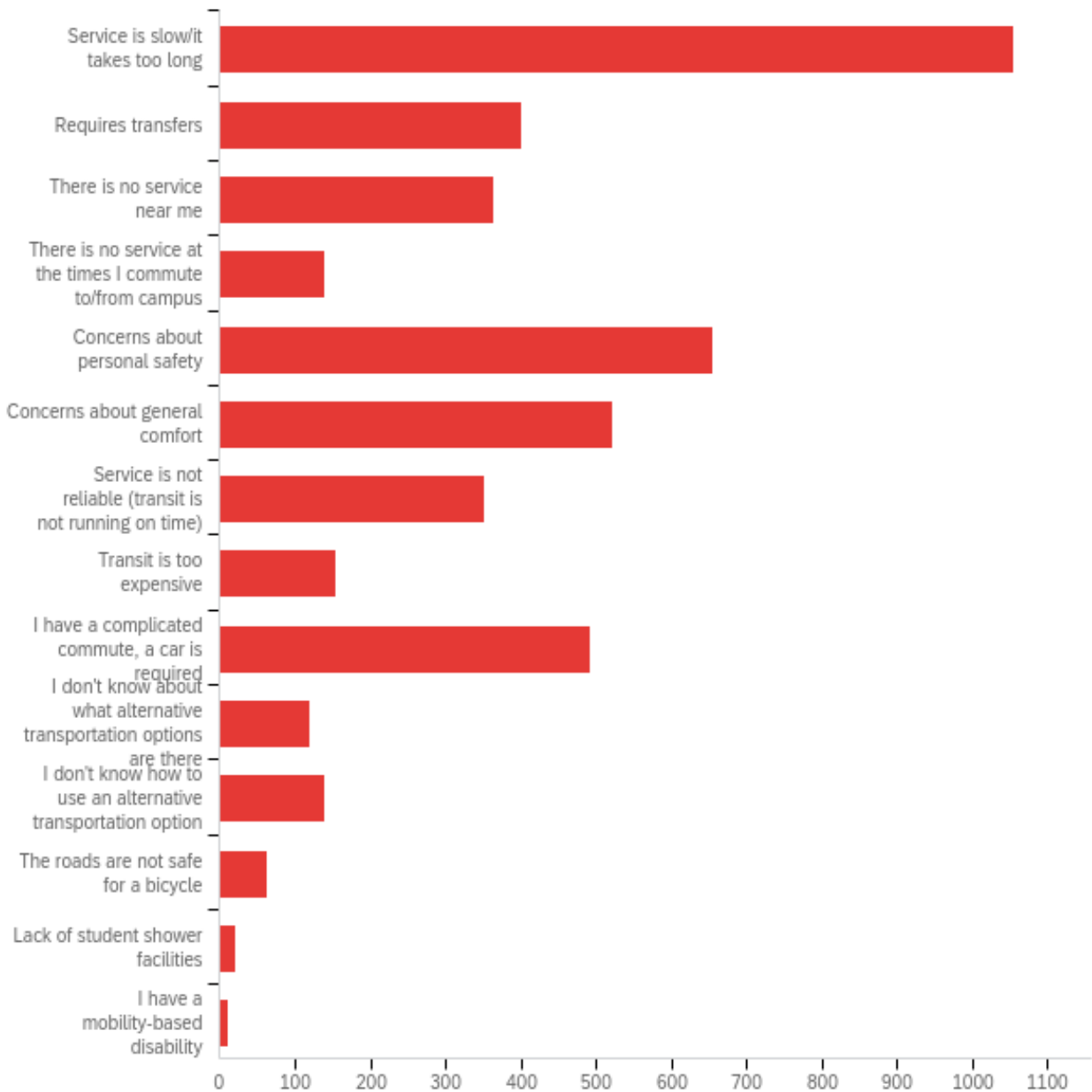
Q28 - Before using TS services, how did you get to SJSU?



#	Answer	%	Count
1	Bicycle	4.21%	46
2	Electric Scooter/E-bike	0.73%	8
3	Carpool	3.39%	37

4	I got dropped off	16.39%	179
5	Uber/Lyft	3.30%	36
6	I drove alone (including to SJSU Park & Ride and motorcycle)	15.57%	170
7	I was taking VTA bus/ light rail/ Access	39.84%	435
8	Regional train/ bus (including Caltrain, BART, Hwy 17 Express, ACE, Amtrak, MST)	6.04%	66
9	I lived on/ near campus, so I walked/ skateboard/ manual scooter	10.53%	115
	Total	100%	1092

Q29 - If you do not commute by an alternative transportation option, rank the top 3 reasons for why not.



#	Answer	%	Count
1	Service is slow/it takes too long	23.49%	1054
4	Requires transfers	8.94%	401
5	There is no service near me	8.09%	363

6	There is no service at the times I commute to/from campus	3.12%	140
7	Concerns about personal safety	14.60%	655
8	Concerns about general comfort	11.61%	521
2	Service is not reliable (transit is not running on time)	7.82%	351
3	Transit is too expensive	3.41%	153
9	I have a complicated commute, a car is required	10.99%	493
10	I don't know about what alternative transportation options are there	2.67%	120
11	I don't know how to use an alternative transportation option	3.10%	139
12	The roads are not safe for a bicycle	1.43%	64
14	Lack of student shower facilities	0.47%	21
15	I have a mobility-based disability	0.27%	12
	Total	100%	4487