SJSU Associated Students Transportation Solutions Fall 2020 Commute Survey Report
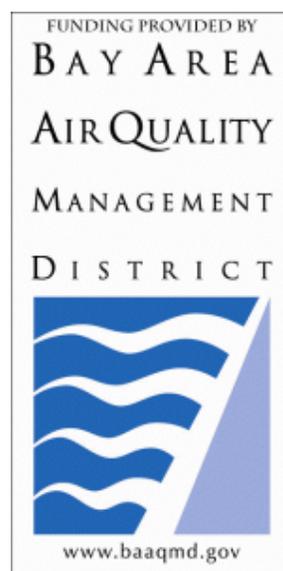
AS-SJSU Transportation Solutions
Fall 2020 Student Commute Survey Report

1   Introduction

Associated Students Transportation Solutions (TS) conducted its nineteenth annual commute survey. The survey was conducted using the Qualtrics Experience Management software.

The survey was carried out from November 1st to November 15th, 2020, The survey was distributed via email and was sent to 37,227 students including Regular Session, Special Session, and Open University.

A total of 3,906 SJSU students responded to the survey indicating a response rate of 10.5%.

The survey was conducted during the Covid-19 Pandemic. A mandatory stay at home order was instated in March 2020. As a result, SJSU moved its classes online, with in person classes being reserved only for activities that could not be completed remotely. Because of the format change, the student population on campus on any given day varied with the majority of students not having to commute to campus at all.

With the majority of the campus population being remote, TS made changes to their services and programs to meet the new commuting relaties. These program changes included the VTA SmartPass program (university transit pass) that provided students with unlimited rides on all non- express VTA bus and light rail lines. Prior to the pandemic, all matriculated students were eligible to receive the SmartPass. However, for the Fall 2020 semester the eligibility parameters were changed to exclude those who lived outside the VTA service area (i.e. Santa Clara County). In order to continue to support student's mobility needs TS implemented a VTA transfer reimbursement program where students who needed to commute to campus by a regional transit service (i.e. Caltrain, Altamont Corridor Express, BART, Capitol Corridor, Highway 17 Express) that required a transfer to VTA to complete their trip could apply to be reimbursed for their VTA fare.

This survey attempted to capture and analyze student commute behaviors during the pandemic, highlighting significant changes from previous commute surveys when possible.

1.1   Survey Design

The survey underwent a major redesign from its predecessor with the goal of gaining a more in depth understanding of how students commute to campus. Respondents were able to report more commute information by detailing up to four legs of their journey to campus. For example, someone who biked to a Caltrain station and then took a VTA bus from Diridon station to campus would enter trip information for three legs. Similarly, if a respondent transferred from one VTA route to another, they would enter trip information for two legs.

Each leg of the journey was treated as a separate question, and respondents were asked to identify the mode they took in each leg, providing the distance they traveled on that mode. If respondents took VTA, they were asked to select either the bus route or light rail line they took; if a respondent selected VTA light rail, they were asked to identify their start and end stations. If respondents selected BART or Caltrain, they were asked to identify just their start stations – it was assumed that the end stations were Berryessa Station for BART and Diridon Station for Caltrain.

Respondents who stated that they drove or carpooled to campus were asked a series of questions related to parking, including their parking location and the length of time it took to find parking. All respondents were asked to answer a number of background questions, including their place of residence and the format in which they were attending classes (i.e. Entirely in-person, entirely online, or both online and in-person).

1.2   Data Clean Up and Data Restructuring

As described in the survey design section, the format of the online survey made it possible for respondents to record multiple legs of their trip in one field. However, a number of survey respondents did not input the legs of their trip to campus in a logical or feasible way to create an analysis. In order to clean up the data, students were assigned one commute mode. Note: The commute mode was represented in the same way in previous surveys. The commute mode was identified in this survey by doing the following:

1. In cases where it was clear that the respondent was duplicating their trip journey (for example: the exact same response is duplicated for each of the trip legs), all duplicates and follow up questions relating to their journey were removed from their records.
2. In cases where it was evident that the respondent stated the different travel options they take to campus, instead of the single journey they most often use, the records were adjusted so that only the first leg(s) that would complete their commute remained. See part 2a for further explanation. Please note this may not fully and accurately reflect the commute mode and represents a small margin of error.
   a. To determine whether the respondent's intent was to list all the different journeys they have used to commute to campus, we used the zip code and the average distance from campus, and journey legs responses for mode type and distance traveled on each mode, to determine if there were any logical inconsistencies or lack of feasibility for the journey as whole.
      i. For example: A respondent's start zip code was about 6 miles away from campus, and they stated they drove alone for leg 1, took a bus on leg 2, and bicycled on leg 3, all while stating they traveled 6 miles for each leg. The likelihood that the respondent traveled 18 miles to commute to campus from a zip code that was 6 miles away is very unlikely; therefore, legs 2 and 3 were removed, and leg 1 was counted as their commute mode.
3. If the respondent stated that they used Caltrain, BART, Altamont Corridor Express (ACE), Highway 17 Express, or Amtrak Capitol Corridor for any of their trip legs, this was assigned as their commute mode.
4. If the respondent stated that they both drove alone and used VTA, they were assigned to VTA Park and Ride as their commute mode.
5. If the respondent stated that they used VTA and walked, used a bicycle, used a personal mobility device, or used an e-scooter, they were assigned VTA as their commute mode, unless they also drove alone, in which case they were assigned VTA Park and Ride.

6. If the respondent stated that they drove alone and walked, used a bicycle, used a personal mobility device, or used an e-scooter, they were assigned drove alone as their commute mode.
7. If the respondent used another mode and then walked for their last trip leg, the earlier mode was assigned as their commute mode, as the walking likely indicates their travel from their end point to campus, not getting to campus. For example if they stated they took VTA then walked, VTA was assigned as their mode.

2.   Analysis

The following section discusses the results from the analysis of the online survey.

2.1   Mode Split

Of the 3,906 survey respondents, 1,150 reported they commuted to campus, and 2,756 reported they did not commute to campus. Of these, 106 lived in on campus housing.

Table 1 below illustrates the usage rate of all transportation modes used by respondents at any part of their journey to campus, counting all trip legs, and including respondents who did not commute to campus in Fall 2020, excluding housing students (N=3,800).

The mandated shelter in place order resulted in significant decreases in usage across all commute modes compared to 2019. Drive alone was the most used mode, at 12.8%, followed by VTA at 5%, and walking at 3.4%.

Commute Mode	2020 % of All Respondents (n=3,800)	2019 % of All Respondents (n=3,735)	% Change 2019 - 2020	% Point Change 2019 - 2020
Amtrak Capitol Corridor	0.0%	0.1%	-100.0%	-0.1%
Altamont Corridor Express (ACE)	0.2%	1.6%	-87.5%	-1.4%
BART	0.8%	2.7%	-70.0%	-1.9%
Baywheels/Other Bikeshare	0.5%	0.6%	-16.6%	-0.1%
Bicycles	0.6%	2.5%	-76.0%	-1.9%
Caltrain	0.6%	1.9%	-68.4%	-1.3%
Carpool/Vanpool	1.5%	4.0%	-62.5%	-2.5%
Dropped Off/Picked-Up	2.0%	3.5%	-42.9%	-1.5%
Drive Alone	12.8%	35.4%	-63.8%	-22.6%
E-scooter Sharing Service (e.g. Lime, Bird, etc.)	0.2%	N/A	N/A	N/A
Highway 17 Express	0.1%	0.8%	-87.5%	-0.7%
Lyft/Uber	0.2%	0.7%	-71.4%	-0.5%

Motorcycle/Moped	0.1%	0.5%	-80.0%	-0.4%
Other Transit Provider (e.g. AC Transit, SamTrans, Muni, etc.)	0.2%	N/A	N/A	-N/A
Paratransit (e.g. VTA Access)	0.1%	0.3%	-66.6%	-0.2%
Personal Mobility Device (e.g. skateboard, scooters, etc.)	0.4%	1.3%	-69.2%	-0.9%
SJSU Park & Ride Shuttle	0.8%	5.8%	-86.2%	-5.0%
VTA	6.0%	29.3%	-79.5%	-23.3%
Walk	3.0%	9.3%	-67.7%	-6.3%
Did Not Commute to Campus	69.9%			

Table 1 Commute Mode Usage Rate Across 2020 and 2019

Figure 1 below shows the transport mode reported in the final leg of the commuter's journey to arrive to campus. Of the 1,150 respondents that commuted to campus, drive alone was the most common mode used at approximately 44.8 percent. VTA (including VTA, VTA Park and Ride, and Paratransit) was the second most common mode used at 20.1%. Walking followed as the third most common commute mode at 10%.
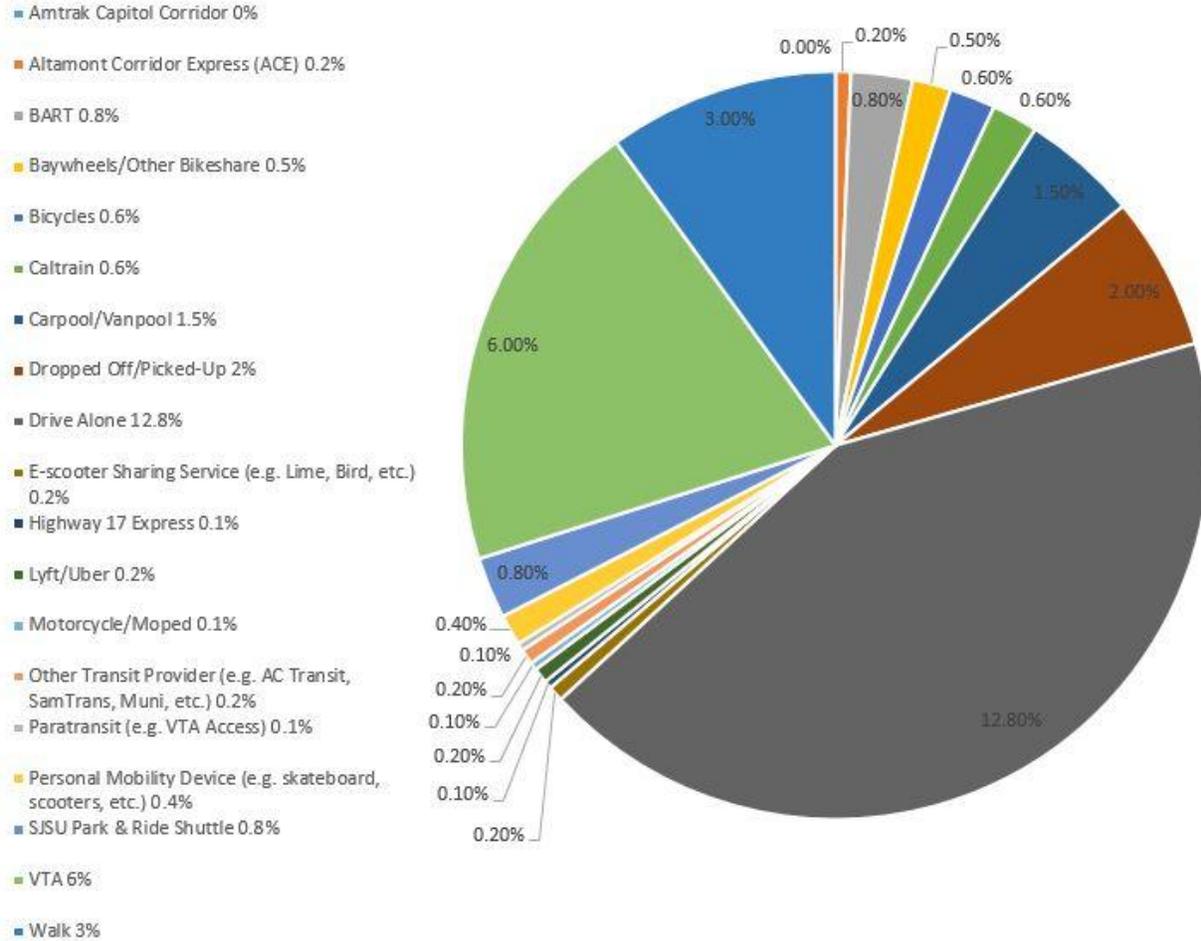
2020 Commute Mode to Campus

- Amtrak Capitol Corridor 0%
- Altamont Corridor Express (ACE) 0.2%
- BART 0.8%
- Baywheels/Other Bikeshare 0.5%
- Bicycles 0.6%
- Caltrain 0.6%
- Carpool/Vanpool 1.5%
- Dropped Off/Picked-Up 2%
- Drive Alone 12.8%
- E-scooter Sharing Service (e.g. Lime, Bird, etc.) 0.2%
- Highway 17 Express 0.1%
- Lyft/Uber 0.2%
- Motorcycle/Moped 0.1%
- Other Transit Provider (e.g. AC Transit, SamTrans, Muni, etc.) 0.2%
- Paratransit (e.g. VTA Access) 0.1%
- Personal Mobility Device (e.g. skateboard, scooters, etc.) 0.4%
- SJSU Park & Ride Shuttle 0.8%
- VTA 6%
- Walk 3%

Figure 1 Commute Mode to Campus

2.2   Public Transportation Utilization

25% of all commuting respondents took some form of public transportation as a part of their journey to get to campus. For the commuting student population, VTA was the most utilized transit mode with 22.4% of commuters utilizing the bus and/or light rail for a portion of their journey to SJSU. BART was the second most used transit mode followed by Caltrain with, respectively, 1.3% and 1.1% of respondents utilizing them for a portion of their journey. Tables 2 and 3 below summarize transit usage rates.

Services Type	Self-Reported Transit Riders	Percent of Total Commuters (n=1,150)
All Transit Services - Unique Riders	297	25.8%
VTA	231	20.1%

| Regional Transit Service | 60 | 5.2% |
| Other Transit provider (e.g. AC Transit, SamTrans, Muni, etc.) | 6 | 0.5% |

Table 2 Public Transit Usage Rates

Service	Riders	Percentage of Transit Riders (n=297)
VTA	227	76.4%
Altamont Corridor Express (ACE)	6	2.0%
Highway 17 Express	3	1.0%
Caltrain	23	7.7%
BART	29	9.8%
Other Transit provider (e.g., AC Transit, SamTrans, Muni, etc.)	6	2.0%
Paratransit (e.g. VTA Access)	3	1.0%

Table 3 Public Transit Usage Rates Part 2

2.3 Total Alternative Transportation Usage

Figure 2 below shows the trends for total alternative transportation use (includes local and regional transportation, carpool/vanpools, non-ride-hail related drop offs, bicycling, VTA Park and Ride, and bike- and scooter share usage) and VTA ridership (including VTA Park and Ride and VTA Access) over the past 10 years. This is out of 1,150 respondents in 2020.
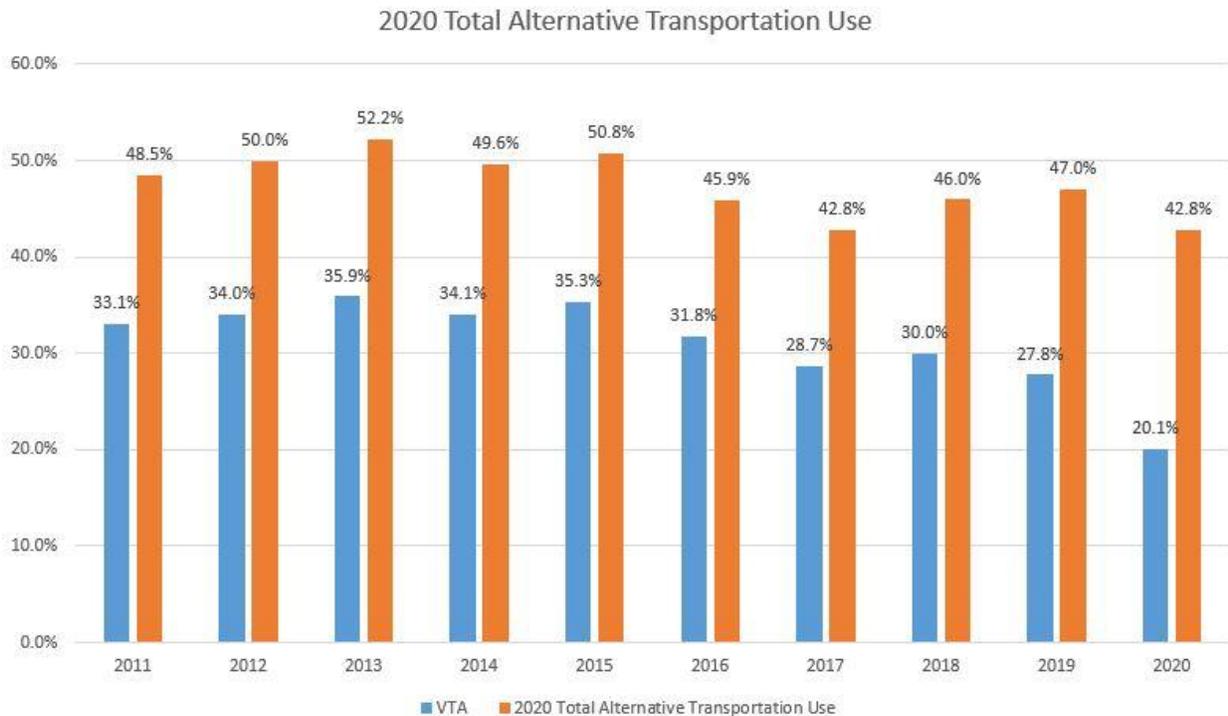
Figure 2 Total Alternative Transportation and VTA Use

2.4   VTA Ridership

Table 4 below shows the percentage of VTA trips that were taken by each VTA route directly serving campus. About two-thirds of all VTA trips were taken by bus and about a third of trips were taken by light rail. The three most utilized routes/line by VTA riders were Blue Line Light Rail (17.1%), Bus Route 22 (11.7%), and Rapid Bus Route 522 (11.1%).

VTA Route	% of all VTA Trips (n=350)
22	11.7%
23	6.9%
64A	4.9%
64B	.9%
66	6%
68	3.1%
72	7.1%
73	4.3%
168	.9%
500	3.1%
522	11.1%
523	2%

Other	6.3%
Blue Line	17.1%
Green Line	9.7%
Orange Line	4.9%

Table 4 VTA Route Usage

2.5 BART Ridership

Most BART riders lived in Alameda County, while a quarter lived in Contra Costa County, and 8% of riders lived in San Francisco County. Of all BART riding respondents, four utilized stations within the Oakland-Berkeley area, two used stations within the Fremont city limits, and two used stations within the San Leandro-Hayward area. Table 5 below shows the distribution by counties, and Table 6 shows the origin cities.

County	Percentage of BART Riders (n=29)
Alameda County	69.0%
Contra Costa	10.3%
San Francisco	3.4%
San Mateo	3.4%
Santa Clara	13.8%

Table 5 Distribution of BART Rider Commute's Starting Point - County

BART Stations	Count of BART Riders (n=29)
19th Street Oakland	1
Ashby	1
Bay Fair	2
Civic Center/UN Plaza	1
Daly City	1
El Cerrito del Norte	1
Fremont	6
Fruitvale	3
Hayward	2
Lake Merritt	1
Milpitas	4
Pittsburg/Bay Point	1
Richmond	1

San Leandro	1
Union City	1
Warm Springs/South Fremont	2

Table 6 Count of BART Station Usage

2.6 Caltrain Ridership

The majority of Caltrain riders lived in San Mateo County, while 30% of riders lived in Santa Clara County, and 10% of Caltrain riders lived in San Francisco County. Station usage was evenly distributed across the Caltrain network on the peninsula. Table 7 below shows the distribution by county, and Table 8 by city.

County	Percentage of Caltrain Riders (n=23)
San Francisco	30.4%
San Mateo	47.8%
Santa Clara	21.7%

Table 7 Distribution of Caltrain Rider Commute's Starting Point - County

Caltrain Stations	Count of Caltrain Riders (n=23)
22nd Street	2
Atherton	1
Bayshore	3
Belmont	1
Burlingame	1
Gilroy	2
Hillsdale	1
Millbrae	2
Mountain View	1
Redwood City	3
San Bruno	1
San Francisco	2
San Mateo	1
Sunnyvale	1
Tamien	1

Table 8 Count of Caltrain Station Usage

2.7   Bicycle Ridership & Commute Distance

1.8% of commuters rode their own bicycle to SJSU, while a further 1.8% used a bikeshare service, for a total of 3.6% of trips to SJSU being made by bicycle. Bikeshare rates were not measured separately from bicycle rates until 2019. In 2018 and 2019, e-scooters and e-bikes were measured together under the same category, so some e-scooter ridership is counted below in these two years. In 2020, we began counting bikeshare and e-scooters as separate categories, while e-bikes were counted under the main bicycle category. Figure 3 below shows bicycle ridership over the past 10 years. This is out of 41 respondents in 2020, including both the bicycle and bikeshare categories. Figure 4 below shows the biking distance to campus in Fall 2020.The average biking distance was 1.9 miles. This was calculated using the median value for each distance category.
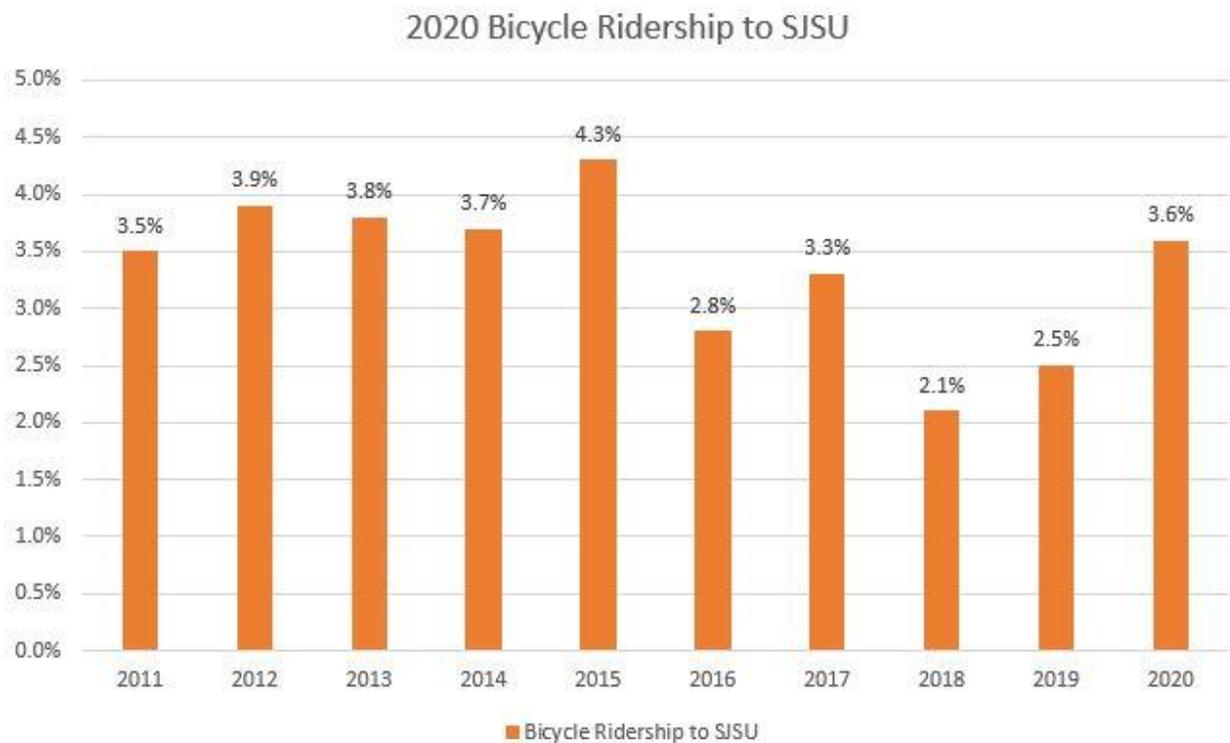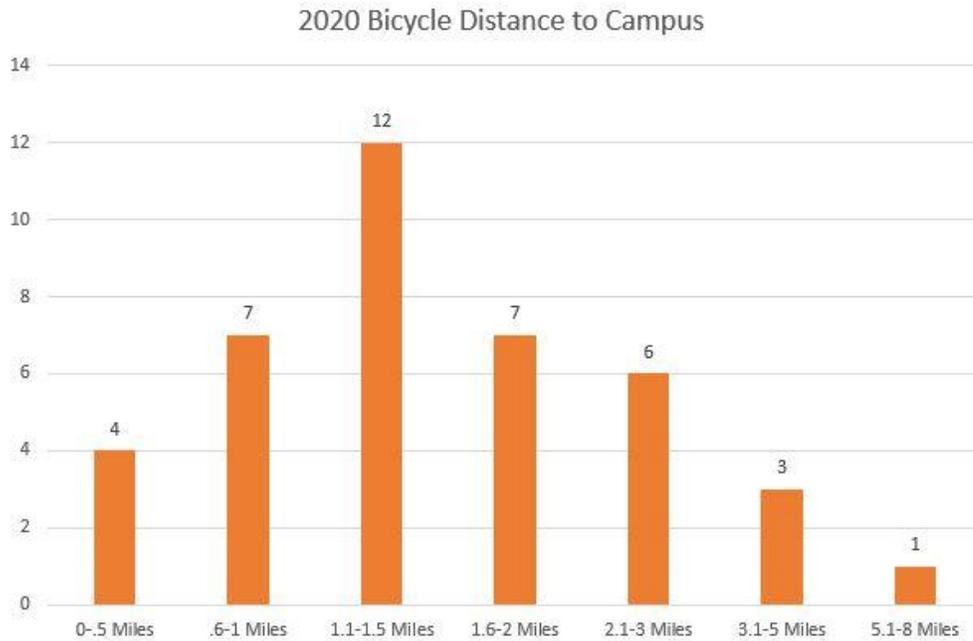

Figure 3 Bicycling Ridership

Figure 4 Bicycling Distance to Campus

2.8 Drive Alone

Approximately 44.8% of respondents who commuted arrived on campus via driving alone (n=532). This excludes the students who indicated they did not commute to campus. This does not include students who use VTA Park and Ride. 62.4% of all respondents who drove alone for a portion of their journey to campus parked at an SJSU affiliated parking area (e.g. garage & lot). The second most common location students parked their vehicles was on the street, where 22.2% of driving respondents parked. Table 9 below shows the parking locations of respondents. Figure 5 below shows the drive alone rate over the past 10 years. Up until 2019, the drive alone rate included all respondents, including housing and students who are fully remote. In 2019, the housing students were excluded from the survey, and were not included in the drive alone rate. In 2020, the housing and fully remote students were excluded from the commute related questions, and were not included in the drive alone rate.

Parking Locations	Percentage of Vehicles (n=532)
City of San Jose Downtown Parking Garage	1.3%
On the Street	22.2%
Other	3.4%
Private/City Parking Lot	1.5%
Residential Driveway	1.7%
SJSU Park & Ride Lot	5.5%
SJSU Parking	57.0%

Table 9 Parking Location Percentage of Commuter's Vehicles
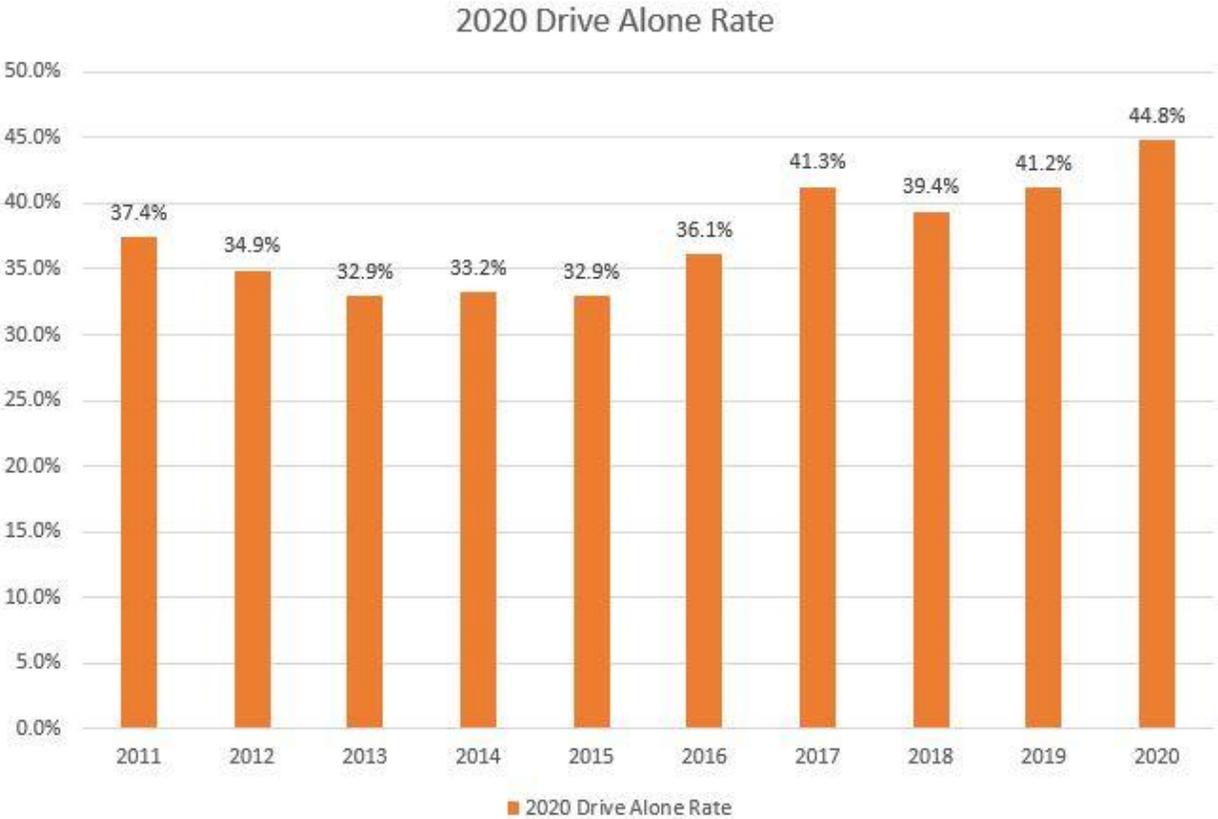
2020 Drive Alone Rate

Figure 5 Drive Alone Rate

2.9   Commute Distance and Frequency

The average commute distance traveled by respondents (n=1,150) to campus was approximately 16.9 miles. Table 3 below lists the average distance traveled in each journey by each mode. Distance traveled on passenger vehicles observed a significant increase since the Fall 2019 survey. For those who were dropped off at a portion of their journey, the average distance traveled nearly doubled, from 11.1 miles in 2019 to 21.6 miles in 2020.

Distance traveled on VTA services nearly halved since the previous year commute survey. Regional Transportation modes observed less of a change than VTA. BART was the exception where it observed a significant increase in average distance traveled; a 23% increase from an average distance traveled of 30.2 mi to 37.3 mi. This increase in distanced traveled on BART was most likely the result of the opening of the Berryessa BART station in San Jose, which began operating in June 2020. From Fremont BART – the former final stop for BART riders -- to Berryessa BART, approximately another 14.5 miles of tracks were extended.

Commute Mode	2020 Average One-Way Commute Distance (mi) (n=1150)	2019 Average One-Way Commute Distance (mi) (n=3,735)	% Change 2019-2020
Altamont Corridor Express (ACE)	51.8	49	5.7%
BART	41.2	30.2	36.4%
Baywheels bikeshare/Other Bikeshare Service	1.64	2.7	-39.3%
Bicycles	2.21	2.8	-21.1%
Caltrain	30.9	34.6	-10.7%
Carpool/Vanpool	31.4	20.5	53.2%
Dropped Off/Picked-Up	24.2	11.1	118%
Drive Alone	22.9	18	27.2%
e-scooter sharing service (e.g. Lime, Bird, etc.)	2.1	2.7	-22.3%
Highway 17 Express	25.8	34.6	-25.5%
Lyft/Uber	15.3	9.5	61.1%
Motorcycle/Moped	6.0	14.1	-57.5%
Other Transit provider (e.g. AC Transit, SamTrans, Muni, etc.)	35.2		
Paratransit (e.g. VTA Access, Uber WAV)	3.3		
Personal mobility device (e.g. skateboard, scooters, etc.)	1.4	2.6	-46.2%
SJSU Park & Ride Shuttle	1.1		
VTA	8.0	9.4	-14.9%
Walk	2.0	2.2	-9.1%

Table 10 Average One-Way Commute Distance of All Transportation Mode

The average commute frequency of this survey's respondents was 2.01 days/week and it was estimated that on average commuters traveled to campus 30 days out of the 16 weeks of Fall semester. Comparing the average frequency between the Fall 2020 and Fall 2019 commute survey, travel frequency was been nearly halved across all transport modes.

Three modes observed decrease in frequency that were greater than 50%: Amtrak, SJSU Park & Ride Shuttle, and Dropped off/Picked up. Highway 17 Express observed a slight increase in frequency of usage since Fall 2019, however, note that due to the small sample size (n=2), we cannot draw conclusions from this. Table 11 below shows the average commute frequency for each mode. Estimated number of days commuted is the average days per semester all students

using that mode commuted to campus. The average commute frequency was calculated by dividing this number by 16 to convert from semester to days per week, then the estimated number of days commuted was rounded to the nearest whole number.

Commute Mode	Average Commute Frequency (days/week) Fall Survey 2020	Average Commute Frequency (days/week) Fall Survey 2019	Estimated # of Days Commuted In Fall 2020 Semester	Estimated # of Days Commuted In Fall 2019 Semester
Altamont Corridor Express (ACE)	2	3.4	32	51
Amtrak	0.00	3.6	0	54
BART	2.3	3.7	37	56
Baywheels bikeshare/Other Bikeshare Service	2.5	4.2	40	63
Bicycles	2.5	4.1	41	62
Caltrain	1.4	3.5	22	53
Carpool/Vanpool	2.5	3.7	41	56
Dropped Off/Picked-Up	1.3	4.0	20	60
Drive Alone	1.7	3.5	27	53
e-scooter sharing service (e.g. Lime, Bird, etc.)	1.3	4.2	21	63
Highway 17 Express	3.5	3.4	56	51
Lyft/Uber	1.9	3.5	30	53
Motorcycle/Moped	0.75	3.7	12	56
Other Transit provider (e.g. AC Transit, SamTrans, Muni, etc.)	2.1	N/A	34	N/A
Personal mobility device (e.g. skateboard, scooters, etc.)	2.6	4.9	41	74
SJSU Park & Ride Shuttle	1	3.7	16	56
VTA	2.3	4.1	37	62
Walk	2.4	4.4	38	66
All Transportation Modes	2.0	4.0	31	59

Table 11 Average Commute Frequency of All Transportation Modes

3   TS Effectiveness

The overall trips reduction among new and continuing student commuters:

Total transit (7.14%) plus half of carpool (.74%) = 7.88%

VTA ridership among new students was at 11.7% for those who said they were commuting to campus. 18.6% of the commuters who "always have access to a car" and 57.5% who "sometimes have access to a car" chose to take alternative transportation to campus. VTA ridership among "always have access to a car" was 6.7%, and among "sometimes have access to car" was 24.7%.

By looking at students who respond that they used either transit services or carpool/vanpool as their main commute mode and comparing this to whether they owned cars, we observe that 20.7% of commuters who rode VTA (n=338) always had access to a vehicle for getting to SJSU; and 30.2% sometimes had access to a vehicle for getting to SJSU. Overall, 50.3% of commuting respondents (n=1,150) always had access to a vehicle for getting to SJSU, and 23.8% of respondents sometimes had access to a vehicle for getting to SJSU.

Due to Pandemic conditions, driving increased among those who commuted due to safety concerns, low traffic, and a surplus of on campus parking. This increase in driving is not a true representation of measuring TS effectiveness.

Therefore, 214 respondents (18.6% of 1,150 commuters) always had access to a car to get to SJSU, but chose to commute by transit instead. The 1,150 commuters comprise 29.44% of the 3,906 survey respondents, and 29.44% extrapolated over the entire 37,229 Fall 2020 student population would give us 10,961 commuters. If 18.6% of them always have access to a car but choose not to drive, that is 2,039 students. The total number of automobile trips per day reduced would be 4,078 (2,039 x 2 one way trips).

4   Background Information of Survey Respondents

4.1 Class Breakdown

a) **Instruction Mode:** All online survey respondents were asked to provide their class status; whether they have classes entirely online, entirely in-person, or a hybrid of the two, and (optionally) the zipcode they reside in.

   Those who said they were taking classes in-person (i.e. hybrid or in-person) or traveling to campus for other purposes, and who did not live in on-campus housing, were categorized as 'commuters'; the remaining respondents were consequently categorized as non-commuters. 91.9% of survey takers have self-reported as taking their academic courses entirely online, follow by 7.9% who are taking both online and in-person classes, and 0.2% taking classes entirely in-person. Table 12 below shows the distribution of instruction mode.

Category	Percentage of Total (n=3,906)	Percentage of Total Commuter (n=1,150)	Percentage of Total Non-Commuter (n=2,756)
Online Only	91.3%	72.6%	99%
Hybrid	8.3%	26%	0.9%
In-Person	0.2%	0.6%	0.0%
Unknown	0.2%	0.6%	0.1%

Table 12 Respondent's Fall 2020 Instruction Mode

b) **Class Standing:** Survey respondents were primarily upperclassmen (i.e. Juniors and Seniors) and graduate students with each group compromising a quarter of all recorded responses, totaling 75% of all survey takers. 20% of respondents were lower classmen, evenly distributed between Freshman and Sophomores. Table 13 below shows the distribution of academic standing.

Academic Standing	Percentage of Total Respondents (n=3,905)
Freshman (1 - 29.5 units)	11.2%
Sophomore (30 - 59.5 units)	9.8%
Junior (60 - 89.5 units)	25%
Senior (90+ units)	27.3%
Master's or higher	24.8%
Credential	1.0%
Open University/ Continuing Education/ Extended Studies/ I - Gateways	0.6%
Second Baccalaureate	0.3%

Table 13 Survey Respondents' Academic Standing

4.2 Gender Breakdown

a) **Gender Highlights:** 3,845 students self-reported their gender identities on the survey, which was optional. Female identified survey respondents were the primary survey takers, compromising 63% of all recorded responses. Male identified survey respondents make up 34.6% of all respondents, follow by Gender-Queer/Non-Gender-Conforming identified respondents, at .9%. Survey respondents who identify themselves as Trans make up nearly 0.5% of all respondents. 'Nonbinary' and 'other' were the only two entries specified by those who selected 'Other' as their Gender Identity for question 1.6. Table 14 below shows the distribution.

Gender	Percentage of Total Respondents Who Are Commuters (n=1,150)	Percentage of Total Respondents Who Are Non-Commuters (n=2,763)	Percentage of Total Respondents (n=3,845)
Cis Woman	57%	64.0%	63%

Cis Man	39.0%	31.5%	34.1%
Gender Queer/Non-Gender Conforming	1.2%	0.8%	0.9%
Trans Woman	0.0%	0.1%	0.1%
Trans Man	0.2%	0.2%	0.2%
Prefer not to say	1.2%	1.4%	1.4%
Other	0.2%	0.3%	0.2%

Table 14 Commuters by Gender

b) **Commute Mode By Gender:** The sample sizes for Gender Queer/GNC, Trans, 'Prefer not to say', and 'Other' were too small to extrapolate on. Women utilized automobiles more frequently than men. 27.4% of men utilized VTA as a portion of the journey. 23.1% of all women utilized VTA as a portion of their journey. Overall, women were 15% more likely to use some form of car-based transit than men. 69.4% of women reported driving, carpooling, being dropped off, or using ride share services, compared to 54.3% of men. Women were both less likely to ride public transportation, and less likely to use alternative transportation modes. This is a nationwide correlation, not an SJSU correlation, as women were consistently less willing to ride transit or bicycles or walk alone due to having safety concerns. Table 15 shows commute mode by gender.

Commute Mode	Percentage of Cis Woman Commuters (n=653)	Percentage of Cis Man Commuters (n=444)	Percentage of Gender Queer/Non-Gender Conforming Commuters (n=14)	Percentage of Trans Woman Commuters (n=1)	Percentage of Trans Man Commuters (n=2)	Percentage of 'Prefer Not to Say' Commuters (n=14)	Percentage of 'Other' Commuters (n=2)
Altamont Corridor Express (ACE)	0.5%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
BART	2.9%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Baywheels bikeshare	0.5%	3.4%	0.0%	0.0%	0.0%	7.1%	0.0%
Bicycle	2.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Caltrain	1.8%	2.3%	0.0%	0.0%	0.0%	7.1%	0.0%
Carpool/ Vanpool	6.3%	2.7%	7.1%	0.0%	50.0%	0.0%	50.0%

Dropped Off/Picked-Up	8.7%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Drive Alone	43.8%	41%	50%	0.0%	50.0%	35.7%	0.0%
e-scooter sharing service (e.g. Lime, Bird, etc.)	0.5%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Highway 17 Express	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Lyft	0.6%	0.2%	7.1%	0.0%	0.0%	0.0%	0.0%
Motorcycle/Moped	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Other Bikeshare service	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other Transit provider (e.g. AC Transit, SamTrans, Muni, etc.)	0.2%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Paratransit (e.g. VTA Access)	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Personal mobility device (e.g. skateboard, scooters, etc.)	1.1%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%
SJSU Park & Ride Shuttle	2.6%	2.5%	7.1%	0.0%	0.0%	0.0%	0.0%
Uber	0.9%	0.9%	0.0%	0.0%	0.0%	7.1%	0.0%
Uber WAV (Wheelchair	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%

Accessible Vehicle)							
VTA	17.5%	24.1%	14.3%	0.0%	0.0%	21.4%	0.0%
Walk	9.2%	10.4%	14.3%	100.0%	0.0%	21.4%	50.0%

Table 15 shows the mode split by gender.

4.3   Origin by ZIP Code

As we can see from this map, the densest concentration of SJSU students was in central San Jose, followed by East San Jose. The rest of San Jose, Gilroy, northern Fremont, and Cupertino were also noteworthy clusters of students. The BART corridor was the most densely populated regional transit corridor, followed by ACE, Caltrain, and the Highway 17 Express. Overall, outside of San Jose, students were relatively spread out throughout the region. However, due to the Pandemic, large numbers of students returned to their home communities and continued their studies online, so this living pattern did not necessarily reflect living patterns during normal commute circumstances.Figure 6 below maps the locations of students by ZIP code.
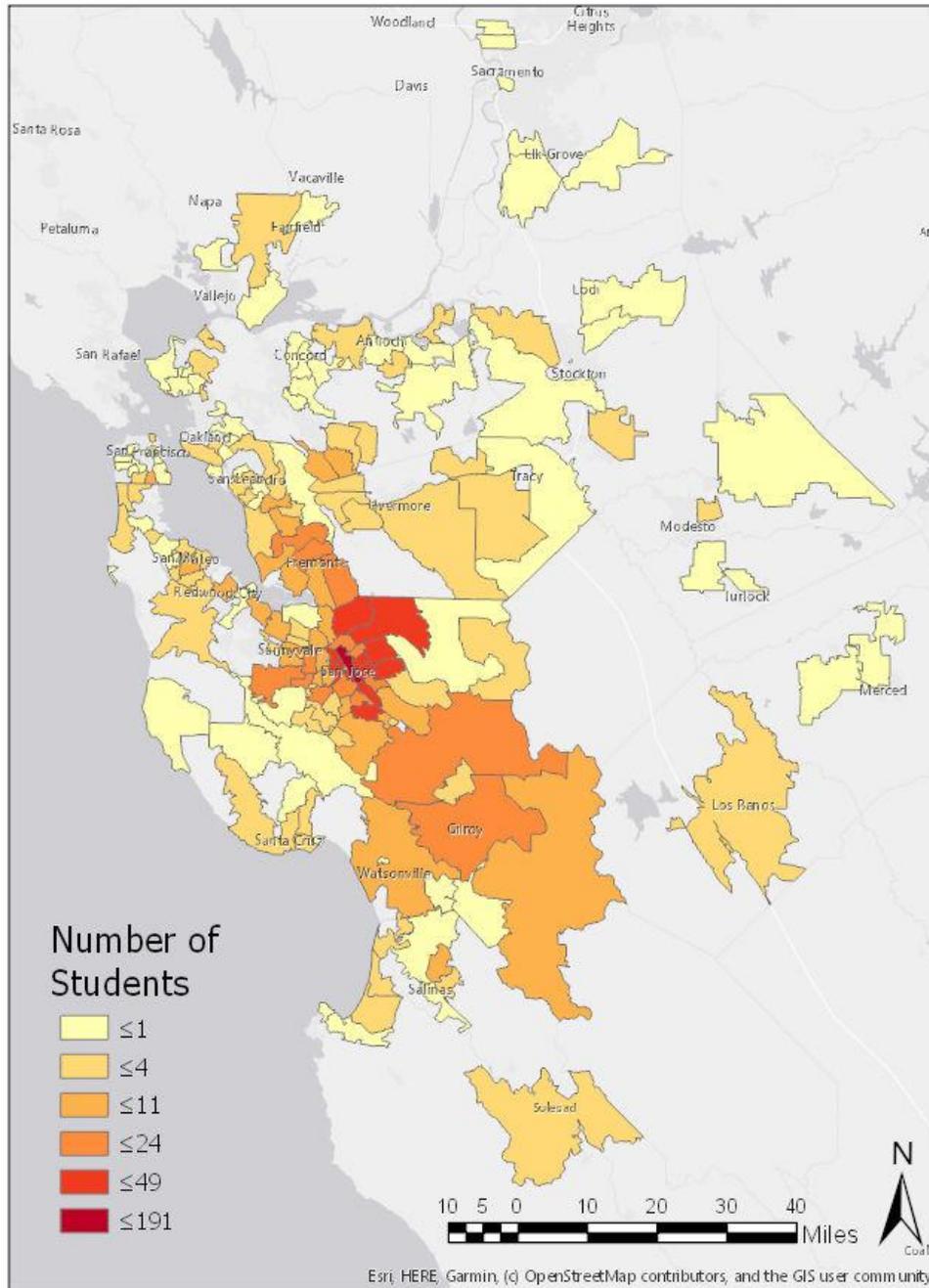
SJSU 2020 Commute Survey Respondents by ZIP Code

Figure 6 Survey Respondents by ZIP Code