

# SKYLINE COLLEGE TRANSPORTATION STUDY



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## INTRODUCTION

Skyline College offers outstanding education and workforce training to more than 16,000 students each year and employs over 500 compassionate staff, faculty, and administrators who are dedicated *to empowering and transforming a global community of learners*. Called “a true jewel of the community college system” by the Accrediting Commission for Community and Junior Colleges, Western Association of Schools and Colleges (ACCJC), Skyline College leads by example in its commitment to learning, its spirit of innovation and creativity, and its vision of social justice, diversity, and access. Skyline College also sets a high standard for sustainability among community colleges and has been recognized with awards and accolades for achievements in energy efficiency, curriculum development, and student/faculty campus initiatives.

Overlooking the Pacific Ocean at more than 660 feet above sea level, Skyline College boasts breathtaking views of the Pacific coastline, the Golden Gate National Recreation Area, and the City of Pacifica. Ideally situated for classroom nature hikes, inspirational trail runs, and captivating vistas, Skyline College’s geographic isolation from major population centers in North San Mateo County can also present a challenge to current and prospective students and employees, particularly those who live farther away. The campus is a 4.0 mile drive from the closest Bay Area Rapid Transit (BART) station and a 3.8 mile drive from the closest Caltrain station. Locally, Skyline College is served by three bus lines (Routes 49, 121, and 140) operated by the San Mateo Transit District (SamTrans) that provide direct service from Colma, Daly City, Pacifica, and San Bruno as well as three BART stations (Colma, Day City, and San Bruno) and one Caltrain station (San Bruno). However, the quickest way to travel within the county for most students and employees is by personal automobile. On average, county residents taking public transit require 45 minutes to arrive at their destination versus 24 minutes using a personal automobile.<sup>1</sup> Because of this uneven ratio, an overwhelming proportion of the Skyline College population elects to drive alone to campus as part of their normal commute.

Disparate magnitudes of travel speed that are so dependent on access to personal automobiles can introduce the potential to, 1) limit access for many prospective students to Skyline College’s academic and workforce programs, 2) threaten the College’s commitment to a socioeconomically diverse campus population, and 3) curtail the College’s level of engagement and interaction within the greater North San Mateo County community. Overreliance on single-occupancy vehicles (SOVs) also contributes to a host of wider issues affecting the region. Approximately 527,000 workers commute into, out of, and within San Mateo County on an average work day, and 71% of county residents drive alone to work.<sup>2</sup> An additional 8,000 students commute to Skyline College on an average school day, most of them by car.<sup>3</sup> The resulting traffic congestion lengthens commute times, lowers worker productivity, and reduces regional air quality. Perhaps more importantly, overreliance on SOVs challenges our efforts to curb greenhouse gas (GHG) emissions and mitigate the increasingly urgent problem of anthropogenic climate change. On-road transportation accounts for 36% of GHG emissions in the San Francisco Bay Area and 34% of GHG emissions in California, and it is the largest source of GHG emissions both regionally and statewide.<sup>4</sup>

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<sup>1</sup> Sustainable San Mateo County (SSMC), *18<sup>th</sup> Annual Indicators for a Sustainable San Mateo County* (2014).

<sup>2</sup> *Ibid.*

<sup>3</sup> Estimated from campus transportation survey results and 2014 Skyline College Factsheet.

<sup>4</sup> Bay Area Air Quality Management District, *Source Inventory of Bay Area Greenhouse Gas Emissions* (2010), 9-10; SSMC, *18<sup>th</sup> Annual Indicators*

As a leader among community colleges, Skyline College strives to improve access and make travel to campus more efficient and affordable for students, employees, and the greater community while addressing the rising concerns of climate change. This study is a first step that attempts to discern the travel behavior, attitudes, and awareness of the campus population, assess the service area of existing public transit infrastructure, and identify deficiencies as well as opportunities in the way students and employees commute to and from Skyline College.

## **METHODOLOGY**

This transportation study combines two approaches to both capture and present information on the transportation needs of the campus community: 1) spatial and network analyses using a geographic information system (GIS) application, and 2) population sampling using survey questionnaires. The surveys are used to assess travel behavior among Skyline College students and employees, identify prevailing attitudes on alternative transportation options, and determine campus awareness of alternative transportation resources and services. GIS is used to determine density distribution of the campus population over commute sheds and its relationship to current public transit infrastructure and service areas. These two tools are also combined to help visualize differences in travel behavior and attitudes across different commute sheds throughout the San Francisco Bay Area that are served by Skyline College.

### **GIS Mapping**

The San Mateo County Community College District (SMCCCD) provided student and employee address information needed to conduct a spatial analysis of the Skyline College campus population commute sheds. During the 2013-2014 academic year, residential addresses from 16,661 registered students and employees at Skyline College (16,116 and 545, respectively) were on record as of December 2013. 16,356 addresses (98.2%) were successfully geocoded and mapped within the San Francisco Bay Area (consisting of the nine counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma ), and this figure (16,356) will represent and be referred to as the campus population for the remainder of this report. Of the remaining 305 addresses, the majority were incomplete or unrecognizable, and the rest were outside of the San Francisco Bay Area

The County of San Mateo's Open Data Portal provided the data files used to map public transit services, but the SamTrans map needed to be updated to reflect service changes made in January 2014, including the newly added Route 49. The new route was added in mapping software accordingly for this study. Additional publicly available data files used for this study were acquired from DataSF, the Stanford Geospatial Center, and the U.S. Census Bureau. All maps for this study were created using Esri's ArcGIS 10.1 software. Population density was mapped using the kernel density tool within the spatial analyst toolbox in ArcGIS. Street networks and transit system service areas were created using the network analyst toolbox in ArcGIS. A transit station's service area is the walkable area from the station into the surrounding community (and vice versa) within a specified amount of time using publicly accessible roadways. For example, a 5-minute service area for a transit station is the area that can be walked to within 5 minutes using the network of streets leading away from the station.

## Survey Method

A campus-wide survey was conducted during the Spring 2014 semester with assistance from the Office of Planning, Research, and Institutional Effectiveness (PRIE) and support from the Skyline College Academic Senate, Classified Senate, and the Instructional Leadership Team. The 16-question Skyline College Transportation Survey was based on 511.org's Employee Transportation Survey and drew additional influence from other college transportation questionnaires.<sup>5</sup> The leadership team at the Peninsula Traffic Congestion Relief Alliance (the Alliance) helped to review a draft of the survey before it was finalized for distribution. Two versions of the questionnaire were created, one for students and one for employees (see Appendix B). The two versions are almost exactly identical except for one unique response under Question 11 in the employee version and one unique response under Question 12 in the student version. Both versions of the survey included a prompt that instructed respondents who have already completed the survey to not take it again.

The employee survey was administered as an online, voluntary questionnaire. All Skyline College employees were notified by email about the transportation survey. The email included a link that led respondents to the online questionnaire. The survey website ensured that respondents answered each question appropriately (i.e. entering the requested number of responses for each question). Employees received weekly email announcements reminding them about the survey and were given a four-week window to complete the questionnaire.

The student survey was administered during class time by faculty in paper form. 1,488 questionnaires were distributed along with instructions to 50 classes via instructors' campus mailboxes during a four-week period. Class selection was influenced by location (i.e. only classes held on the Skyline College campus were considered), class size (i.e. course sections with more than 20 students were favored to facilitate survey administration, minimize multiple counting, and reduce the effect of student withdraws or absentees) and stratified by both the time of day (to accurately reflect the number of students on campus at all times) and by academic division (to ensure a proportionate cross-section of all academic programs). Approximately 30 of the classes were chosen based on input from PRIE, the Instructional Leadership Team, and the Academic Senate. The remaining classes were randomly selected by call number within each stratum. Of course, strata are not truly exclusive, since students can be enrolled in classes throughout the day and across multiple disciplines. For the purposes of this study however, the desired effect of the class selection was sufficient. Class sizes were determined using enrollment figures obtained from Argos.

Total student enrollment at the time when the student survey concluded was 10,858, and there were 545 current employee records on file at the time of the employee surveys. These figures were used as the total population sizes for each respective group. 837 student questionnaires were returned, representing 7.7% of the enrolled student population. 168 employee questionnaires were submitted, representing 30.8% of the total employee population.

An unfortunate characteristic of campus surveys is that they do not capture potential students and employees who wish to attend or work on campus but do not have the means to travel to campus within a reasonable amount of time. Their feedback on current transportation options and services would be invaluable for any campus transportation initiative.

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<sup>5</sup> See Terrence Willett, *Cabrillo College Transportation Study* (2001); Terrence Willett, *Gavilan College Parking and Transportation Study Final Report* (2002); and *Portland Community College Transportation Study Final Report* (2007).

## FINDINGS AND DISCUSSION

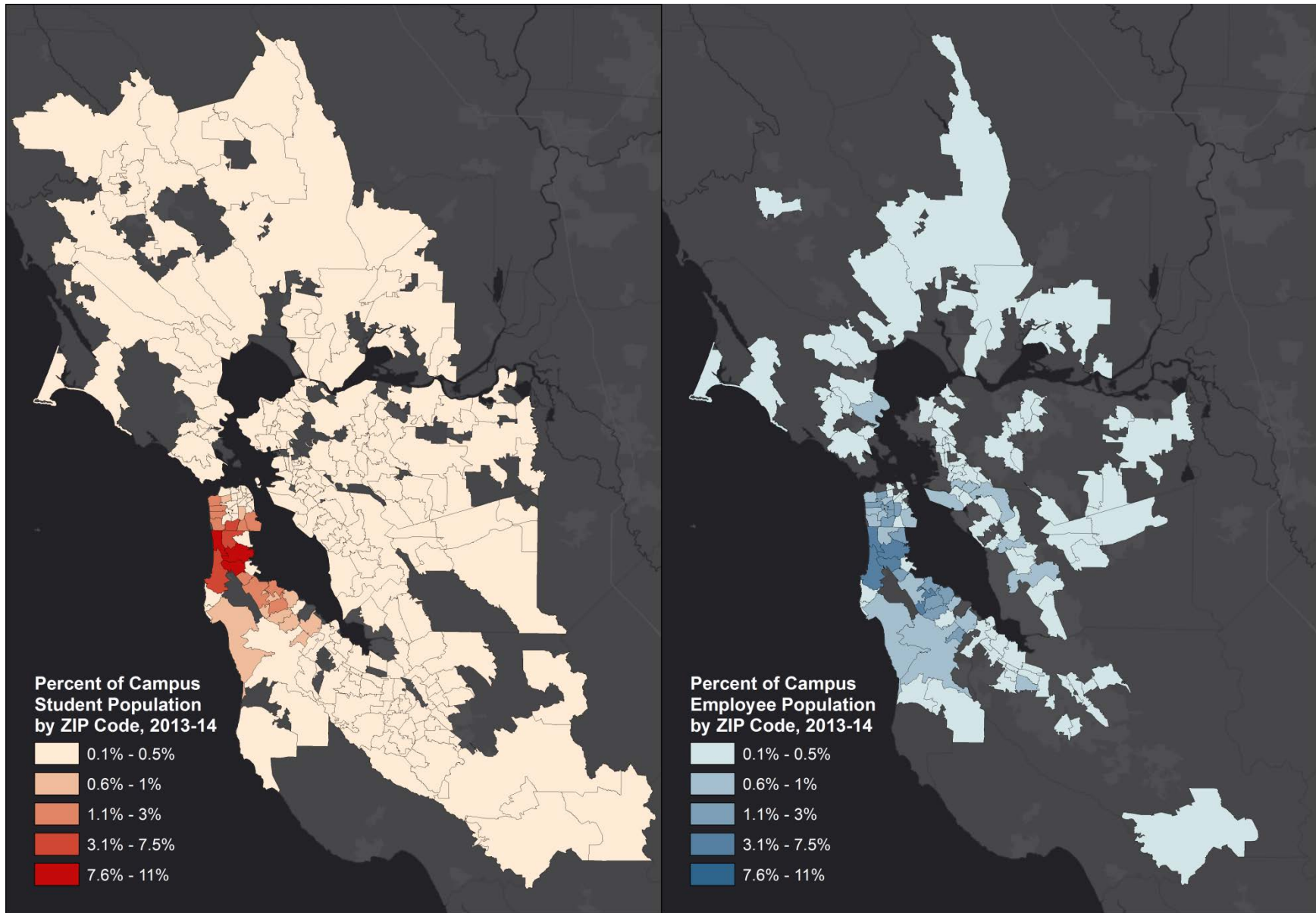
### Spatial Analysis

Based on student and employee address data on record during the 2013-2014 academic year, 94.1% of the campus population live within the City and County of San Francisco or San Mateo County. As expected for a community college, a majority of the campus population, 58.6%, live locally within North San Mateo County (delineated along the south by the cities of Pacifica, San Bruno, and Millbrae). Table 1 provides a summary of the general distribution of the campus population.

**Table 1. Distribution of Campus Population in SF Bay Area, 2013-2014**

<b>Area of Residence</b>	<b>Number of Residents</b>	<b>% of Campus Population</b>
<b>San Mateo County</b>	<b>11,994</b>	<b>73.3%</b>
North San Mateo County	9,590	58.6%
Rest of San Mateo County	2,404	14.7%
<b>City &amp; County of San Francisco</b>	<b>3,389</b>	<b>20.7%</b>
<b>Rest of San Francisco Bay Area</b>	<b>973</b>	<b>5.9%</b>

Figures 1 and 2 on the following pages show the distribution of Skyline College student and employee populations across the Bay Area by residential ZIP code as a percentage of their respective total population. The student population covers a greater swath of ZIP codes in the Bay Area, representing 273 ZIP codes to the employee population's 149. Despite the greater coverage, no ZIP code outside of San Francisco and San Mateo County contain more than 0.5% of the student population. North San Mateo County is home to 58.1% of students, with three ZIP Codes (primarily covering South San Francisco, Broadmoor/Daly City West, and San Bruno) each hosting more than 7.5% of the total student population. The employee population, by contrast, is more uniformly spread across its represented ZIP codes. Only 28.8% of campus employees live in North San Mateo County, and no ZIP code hosts more than 7.5% of the total employee population. Both figures present population data in percentages, allowing for direct comparison between the two maps. However, it is important to note that the employee population represents only 3.3% of the total campus population. This distinction should be kept in mind when comparing data between the two population groups.



**Figure 1. Distribution of Skyline College student and employee populations across the San Francisco Bay Area by residential ZIP code**

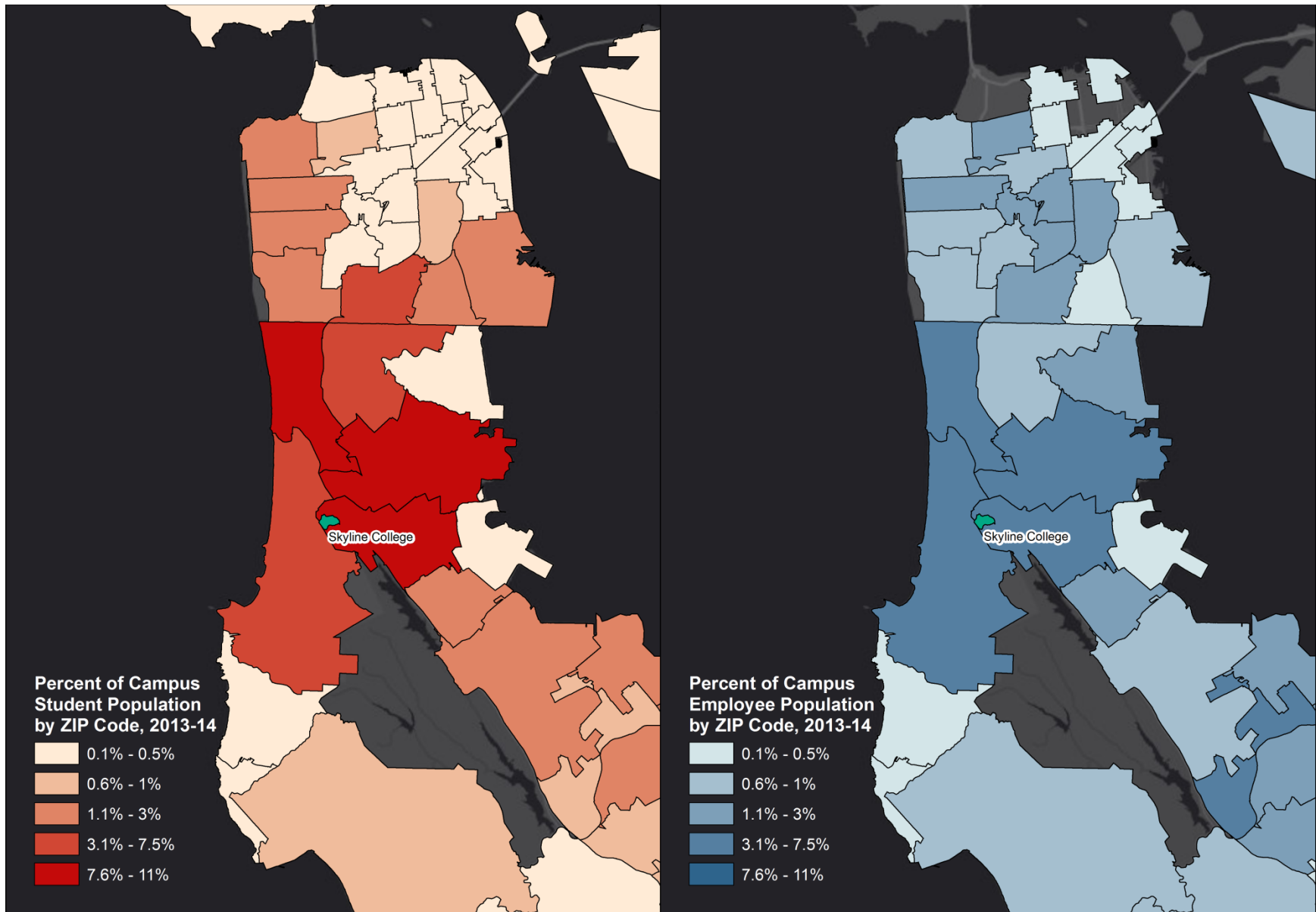


Figure 2. Distribution of Skyline College student and employee populations across San Francisco and North San Mateo County by residential ZIP code

Spatial and network analyses using GIS provide more precise information about where populations live and how they relate to existing transit infrastructure. Figure 3 shows the density distribution of the campus population across the Bay Area along with ZIP code boundaries. Compared to the previous figures, this map reveals more information about campus population sources, indicating the areas within each ZIP code where the population is most concentrated. When paired with information on local and regional transit services, relationships between population density and transit use (both actual and potential) can be established. Figure 4 on the following page shows the same map along with an overlay of the three transit systems that serve San Mateo County: Bay Area Rapid Transit (BART), Caltrain, and San Mateo County Transit (SamTrans). This report will look at the service area of each transit system as it pertains to campus population sources.

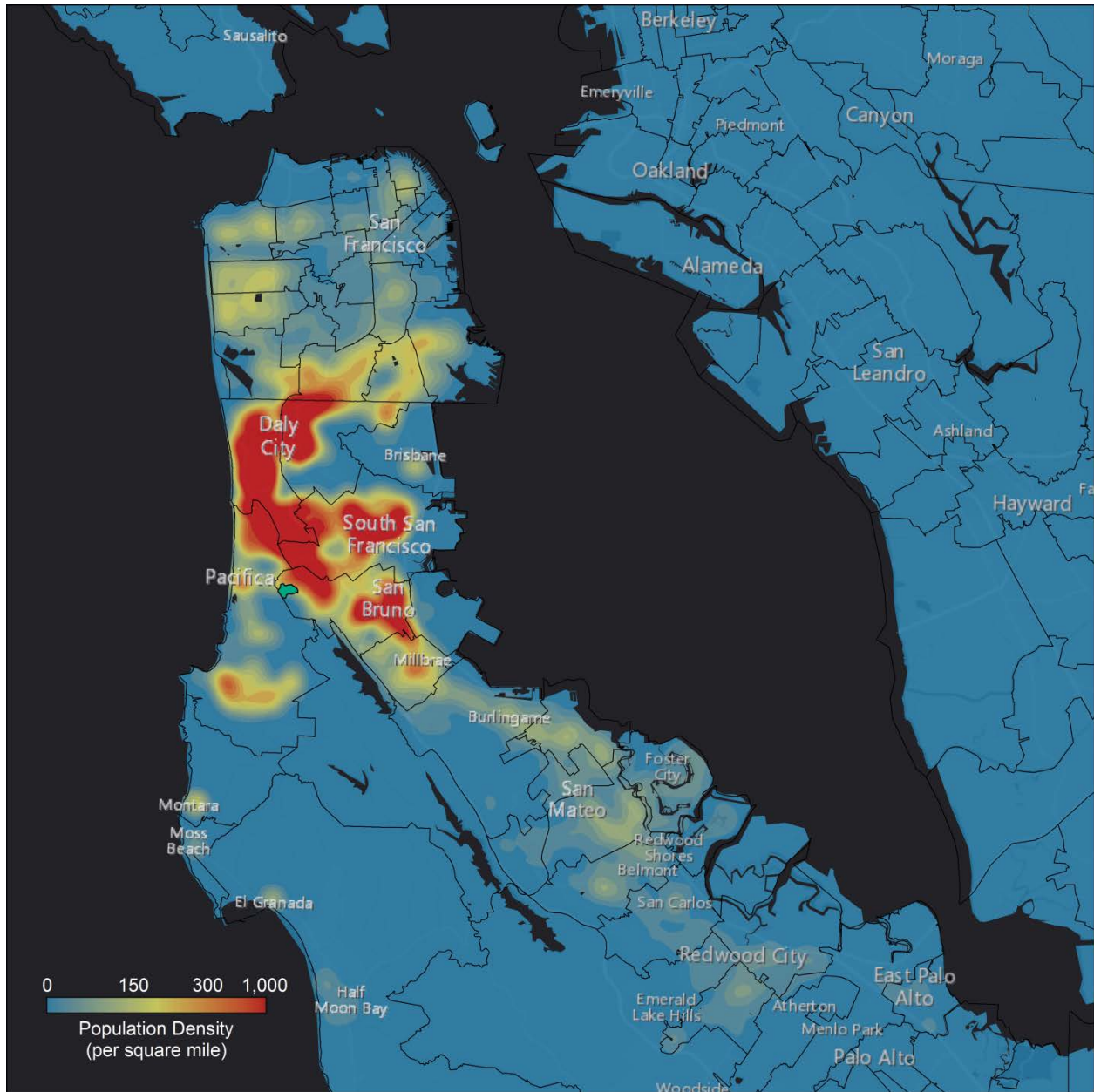
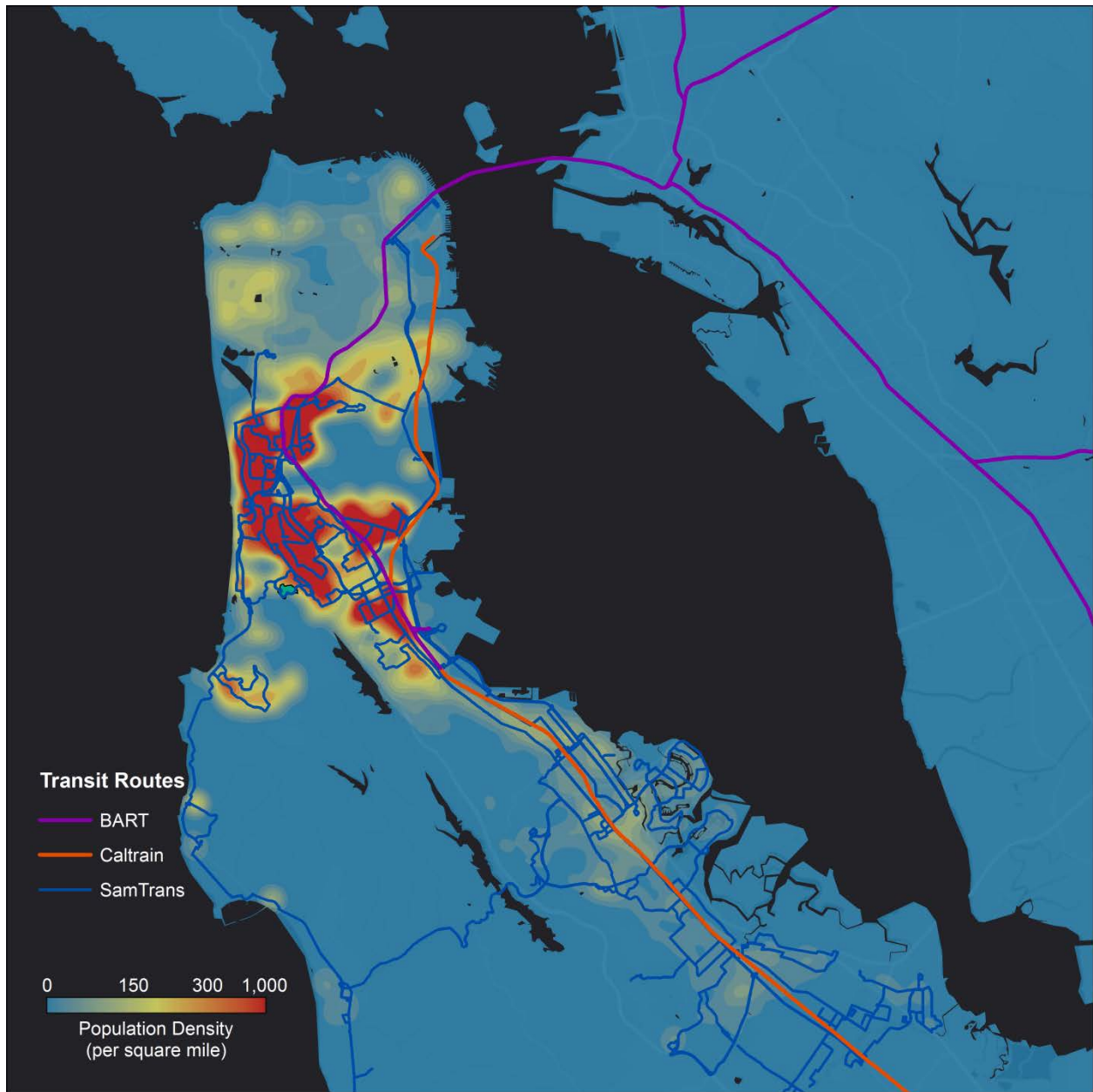


Figure 3. Campus population density map and ZIP code boundaries. Skyline College is in green. The density scale is not linear.





**Figure 4. Campus population density map and transit routes**

While other local transit agencies such as the San Francisco Municipal Transportation Agency (SFMTA), the Alameda-Contra Costa Transit District (AC Transit), and the Santa Clara Valley Transit Authority (VTA) do serve a portion of the campus population, none of them directly serve San Mateo County (apart from several Muni lines that provide service from San Francisco to Daly City). While incorporating these agencies' routes would provide useful information on inter-service transfer points and connection options, it is outside the scope of this study. However, Skyline College may wish to dialogue with SFMTA officials in the future to improve transportation options for the sizeable campus population (20.7%) that live in San Francisco, especially since several Muni lines do already provide service to Daly City.

## **San Mateo County Transit (SamTrans)**

Figure 5 overlays SamTrans routes and bus stops that serve San Francisco and North San Mateo County on the population density map along with a map of SamTrans' service area. Comparing the service area with campus population residential addresses reveals that 52.4% of Skyline College students and employees live within a 5 minute (quarter mile) walk from a SamTrans bus stop, while 70.7% live within a 10 minute (half mile) walk. SamTrans also provides direct service to the Skyline College campus on three of their bus routes: 49, 121, and 140. Figure 6 overlays these direct service routes and bus stops along with a map of the routes' service area. 12.9% of students and employees live within a 5 minute walk from a direct service bus stop, while 23.7% live within a 10 minute walk.

## **Bay Area Rapid Transit (BART)**

Figure 7 overlays BART lines and stations that serve San Francisco and North San Mateo County on the population density map along with a map of BART's service area. Comparing the service area with campus population residential addresses reveals that 1.4% of Skyline College students and employees live within a 5 minute walk from a BART station, while 5.4% live within a 10 minute walk. If the BART service area is extended farther out by assuming that people are willing to walk farther to travel farther (e.g. students living farther away) or faster (e.g. BART being faster than SamTrans), then further analysis shows that 11.7% of students and employees live within a 15 minute (three-quarter mile) walk from a BART station, and 20.4% live within a 20 minute (1 mile) walk. Note that these findings slightly undercount the total campus population within BART's service area because the analysis used to derive the findings includes only the road networks in San Francisco and San Mateo County and therefore does not consider BART stations in the East Bay. However, since 94.1% of students and employees reside in either San Francisco or San Mateo County, the impact of East Bay BART stations on the campus population would not be substantial (approximately several tenths of a percent).

## **Caltrain**

Figure 8 overlays Caltrain lines and stations that serve San Francisco and North San Mateo County on the population density map along with a map of Caltrain's service area. Comparing the service area with campus population residential addresses reveals that 0.8% of Skyline College students and employees live within a 5 minute walk from a Caltrain station, while 6.0% live within a 10 minute walk. If the Caltrain service area is extended farther out by assuming that people are willing to walk farther to travel farther or faster, we find that 8.5% of students and employees live within a 15 minute walk from a Caltrain station, and 13.0% live within a 20 minute walk. Note that these findings, like the ones for BART, slightly undercount the total campus population within Caltrain's service area because the analysis used to derive the findings includes only the road networks in San Francisco and San Mateo County and therefore does not consider Caltrain stations south of San Mateo County. Again, given that 94.1% of students and employees reside in either San Francisco or San Mateo County, the impact of South Bay Caltrain stations on the campus population would not be substantial.

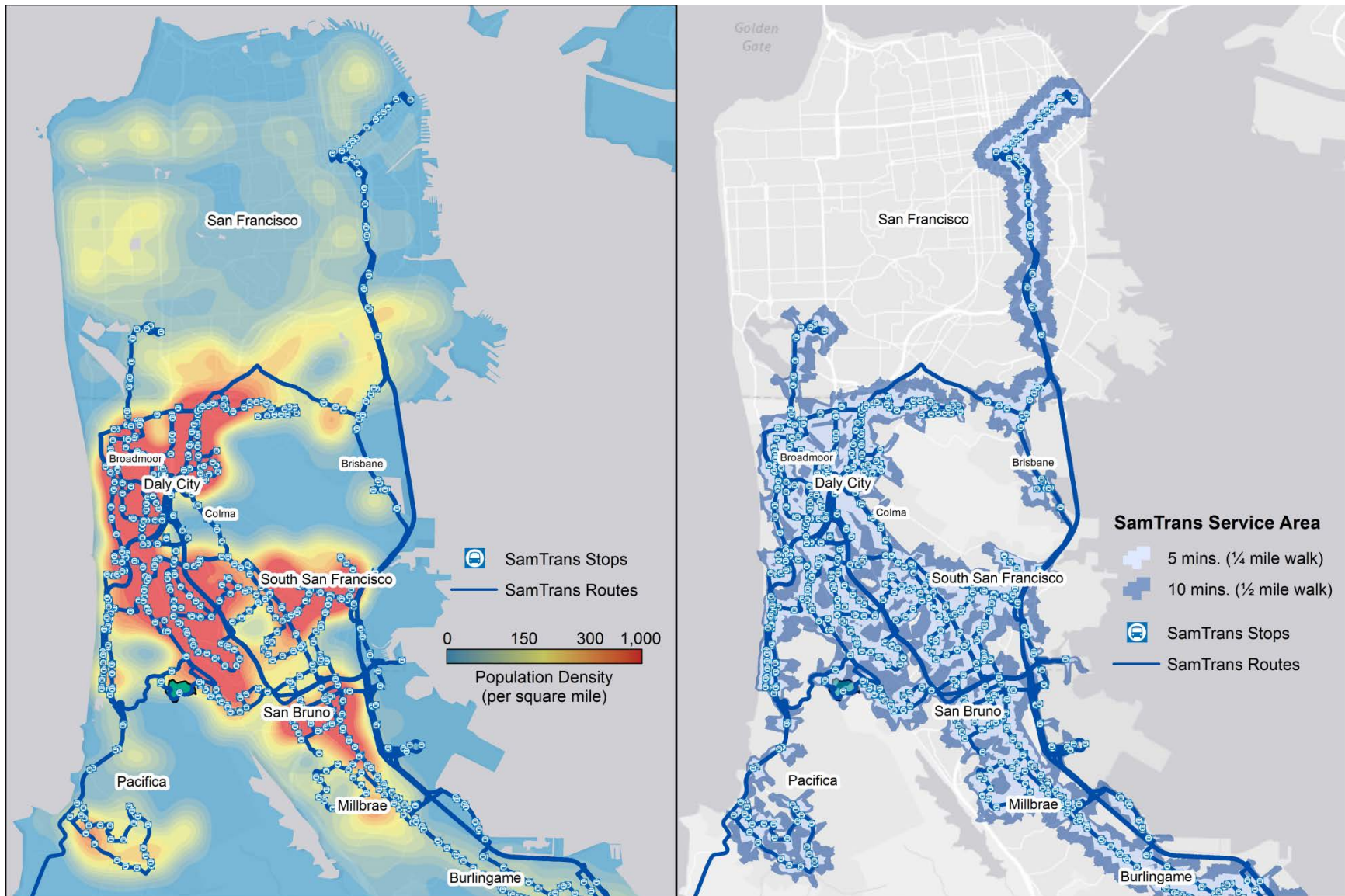


Figure 5. SamTrans service area within San Francisco and North San Mateo County

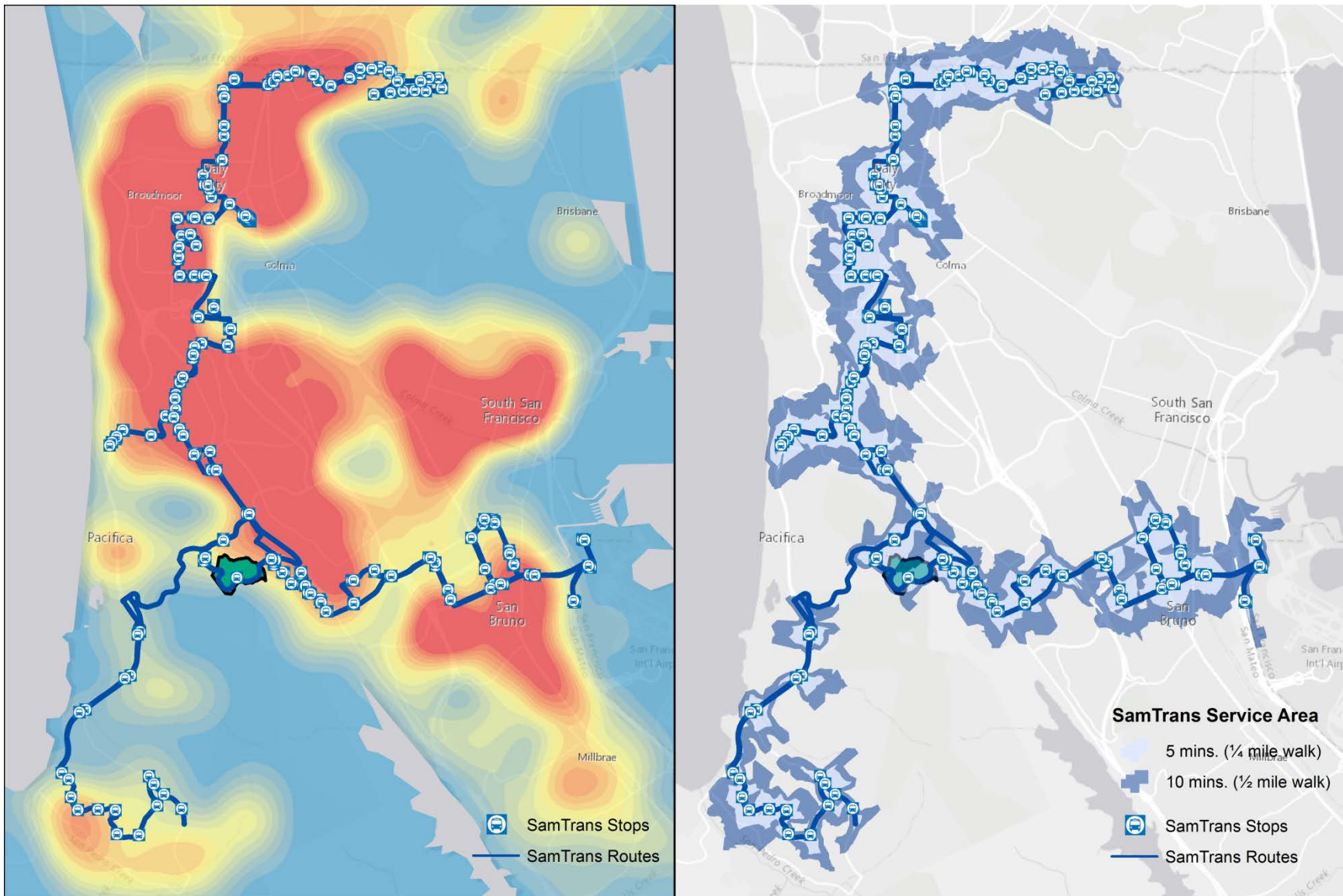


Figure 6. SamTrans direct route service area

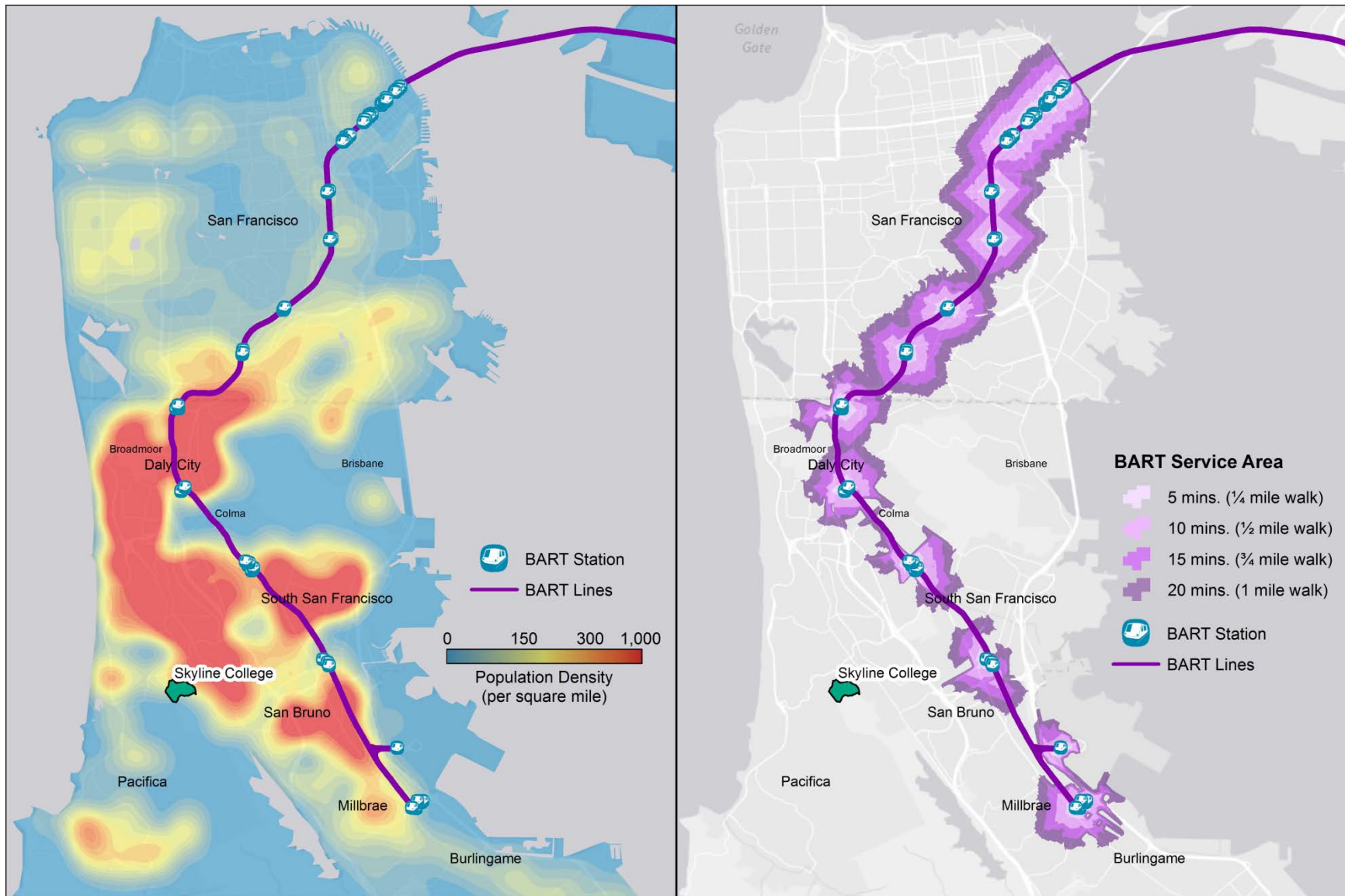


Figure 7. BART service area within San Francisco and North San Mateo County

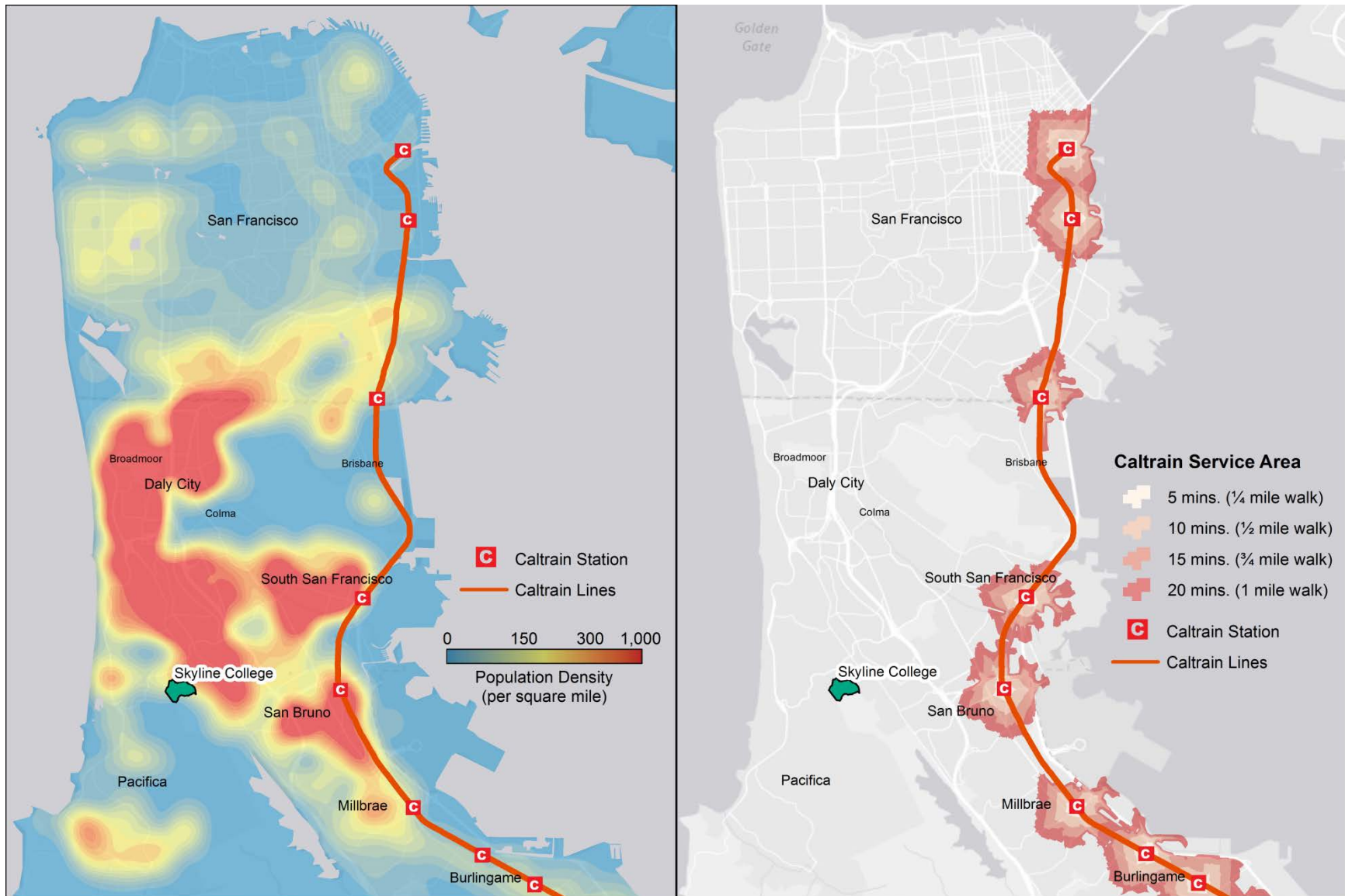


Figure 8. Caltrain service area within San Francisco and North San Mateo County

Table 2 summarizes the service area coverage of the campus population for SamTrans, BART, and Caltrain. The finding that the majority of Skyline College students and employees live within a 5-minute service area of a SamTrans bus stop is significant. SamTran’s broad coverage suggests a potential for greater utilization of the service by the campus population. Why actual ridership is not nearly as high will be discussed in the next section. The density of the campus population in neighborhoods surrounding Skyline College explains why service area coverage is so high. Figure 5 shows that the areas with the highest concentration of student and employee residences are thoroughly crisscrossed by SamTran’s service network. In contrast, relatively few students and employees live within comparable walking distance to BART or Caltrain stations, reducing the likely hood of their use by the campus population.

**Table 2. Transit Service Area Summary for SamTrans, BART, and Caltrain**

Transit Service	Service Area			
	5-minute	10-minute	15-minute	20-minute
SamTrans (all routes)	52.4%	70.7%	--	--
SamTrans (Routes 49,121,140)	12.9%	23.7%	--	--
BART	1.4%	5.4%	11.7%	20.4%
Caltrain	0.8%	6.0%	8.5%	13.0%

It could be argued that students and employees who live farther away can use a local transit service such as Muni, AC Transit, or VTA and then transfer to BART or Caltrain, so the services areas described in this report do not accurately reflect these users. It could also be argued that ridership on both BART and Caltrain have the potential to improve if the last leg of the trip from the transit station to campus is made more efficient. While these arguments have some truth to them, the assumption that there exists a large proportion of users who are willing to pay for three separate transit services and wait for multiple service transfers grossly underestimates users’ value of time as well as their willingness to pay, as survey analysis in the next section will show. Of course, users’ value of time and their unwillingness to wait for transfers also help to explain why SamTrans ridership is nowhere close to its service area coverage. The information presented in Table 2 strongly suggests that the low use of regional transit services (BART and Caltrain) as part of the campus population’s commute is, in fact, a “first mile” problem rather than a “last mile” problem. Too few students and employees live close enough to a BART or Caltrain station to use it.

Assessing SamTrans’ direct service routes to Skyline College, Figure 6 reveals that these routes tend to be situated along the edges of densely populated areas, skirting around large populations of students and employees in Broadmoor/Daly City West and San Bruno while completely neglecting South San Francisco. SamTrans’ new Route 49, created in January 2014, connects Pacifica with San Bruno via Skyline College. The route east of campus mostly follows Route 140, duplicating service, while the route west of campus meanders through areas with low-to-moderate density of students and employees. Route 49 began service at the same time former Route 123, which provided a faster alternative to Route 121 from campus through the southern half of Daly City, was discontinued. Whatever combination of reasons that led to low ridership on Route 123, poor service area coverage was not one of them. Survey analysis in the next section will explore other possible reasons.

## Survey Data Analysis

A total of 837 student questionnaires and 169 online employee surveys were collected in this study, representing 7.7% of the enrolled student population at the time and 5.2% of the total registered student population in 2013-2014 as of December 2013 as well as 30.8% of employees on record. A summary of survey questions and responses can be found in Appendix A.

Question 1 discerns the respondents' ZIP code from where they commute to campus. Tables 3 and 4 summarize the survey samples' representation across Bay Area ZIP codes. The survey samples reflect the same distribution patterns observed across the entire population. Students are densely concentrated in North San Mateo County while employees are more evenly dispersed across the Bay Area with no ZIP code hosting more than 7.5% of employee respondents. At first glance, it may seem that the student survey over-represents North County residents by a good degree (69.8% of the sample population versus 58.1% of the total registered student population). However, survey respondents were asked the ZIP code of the location from which they typically commute to campus, not the ZIP code of their residence. A sizeable portion of the Skyline College student population works while attending school, and many of them are employed within North San Mateo County. A follow-up question asking whether the given ZIP code is a workplace or residence was considered but left out due to privacy concerns. Figure 9 shows the distribution of student and employee survey respondent ZIP codes, which could be either residential or workplace locations, across the Bay Area as a percentage of the total number of respondents.

**Table 3. Student survey respondent commute shed ZIP codes by region**

	Count	% of Resp'ts		Count	% of Resp'ts
North San Mateo County	584	69.8%	South San Francisco	144	17.2%
Central San Mateo County	30	3.6%	Broadmoor/Daly City West	141	16.8%
Coastal San Mateo County	11	1.3%	Pacifica	115	13.7%
South San Mateo County	9	1.1%	San Bruno	85	10.2%
San Francisco	174	20.8%	Colma/Daly City East	77	9.2%
East Bay	15	1.8%	Millbrae	17	2.0%
South Bay	2	0.2%	Brisbane	5	0.6%
North Bay	1	0.1%	<b>Total</b>	<b>584</b>	<b>69.8%</b>
(blank/unknown)	11	1.3%			
<b>Total</b>	<b>837</b>	<b>100.0%</b>			

**Table 4. Employee survey respondent commute shed ZIP codes by region**

	Count	% of Resp'ts		Count	% of Resp'ts
North San Mateo County	53	31.5%	South San Francisco	15	8.9%
South San Mateo County	19	11.3%	Pacifica	13	7.7%
Central San Mateo County	14	8.3%	San Bruno	11	6.5%
Coastal San Mateo County	5	3.0%	Broadmoor/Daly City West	10	6.0%
San Francisco	38	22.6%	Brisbane	2	1.2%
East Bay	26	15.5%	Millbrae	2	1.2%
South Bay	7	4.2%	<b>Total</b>	<b>53</b>	<b>31.5%</b>
North Bay	4	2.4%			
(blank/unknown)	2	1.2%			
<b>Total</b>	<b>168</b>	<b>100.0%</b>			



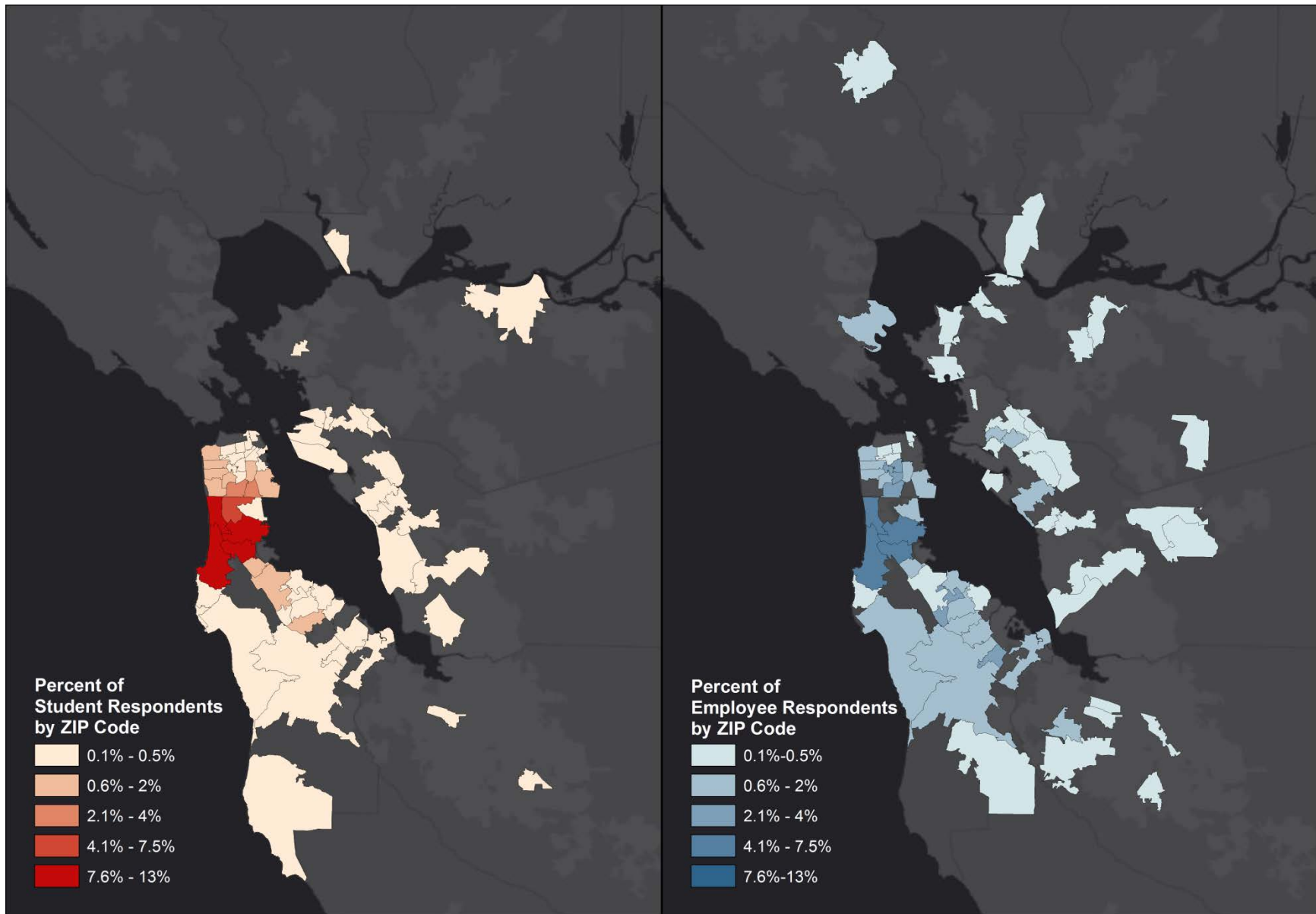


Figure 9. Distribution of student and employee survey respondents across the San Francisco Bay Area by commute shed ZIP code

The following discussion will sometimes break down student survey responses and organize them according to different geographic regions based on the respondent's ZIP code that he or she provided in Question 1. This regional map will be used to present each region's top three student responses to certain survey questions. Each response, if it makes it to the top three in any region, will be individually color-coded. A complete list of all responses by region for these specified questions are included in Appendix A. Figure 10 summarizes the regions and their corresponding ZIP codes below. This approach is not used for employee responses due to the resulting small sample sizes if respondents are separated by ZIP code.

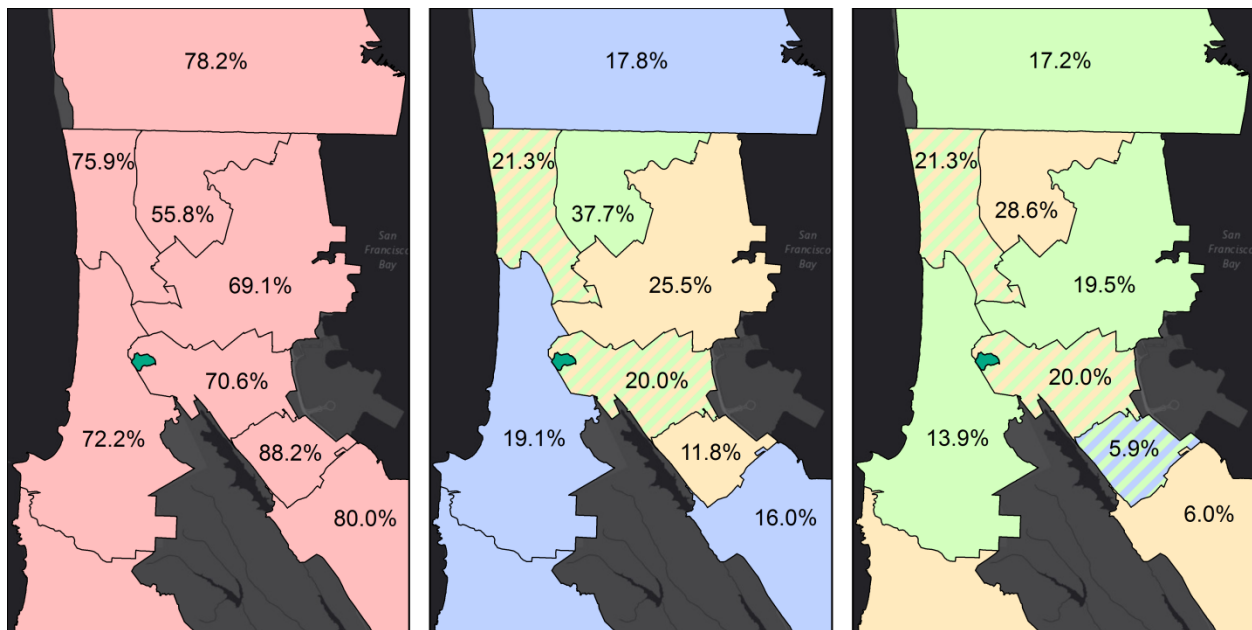


**Figure 10. Student survey regions based on ZIP code.** Responses will be color-coded and organized into one of eight regions based on the ZIP code provided by each student respondent in Question 1. The regions are: Brisbane/South San Francisco (ZIP codes 94005 & 94080), Broadmoor/Daly City West (94015), Pacifica (94044), San Bruno (94066), Colma/Daly City East (94014), Millbrae (94030), San Francisco (all ZIP codes within San Francisco), and the rest of San Mateo County (all zip codes in San Mateo County excluding North County).

Questions 2, 3, and 4 support previously existing information, including student enrollment data, which show that the student population on campus typically peak at noon and again in the early evening, with a trough during the afternoon and that a plurality of students commute to campus five days a week. Any potential transit solution or set of solutions will need to be tailored to students' commute schedules, both daily and weekly, to develop effective transportation demand management. The employee commute schedule follows a more typical 8 a.m. to 5 p.m. or 9 a.m. to 5 p.m. work schedule, and a large majority of employees commute to campus five days a week.

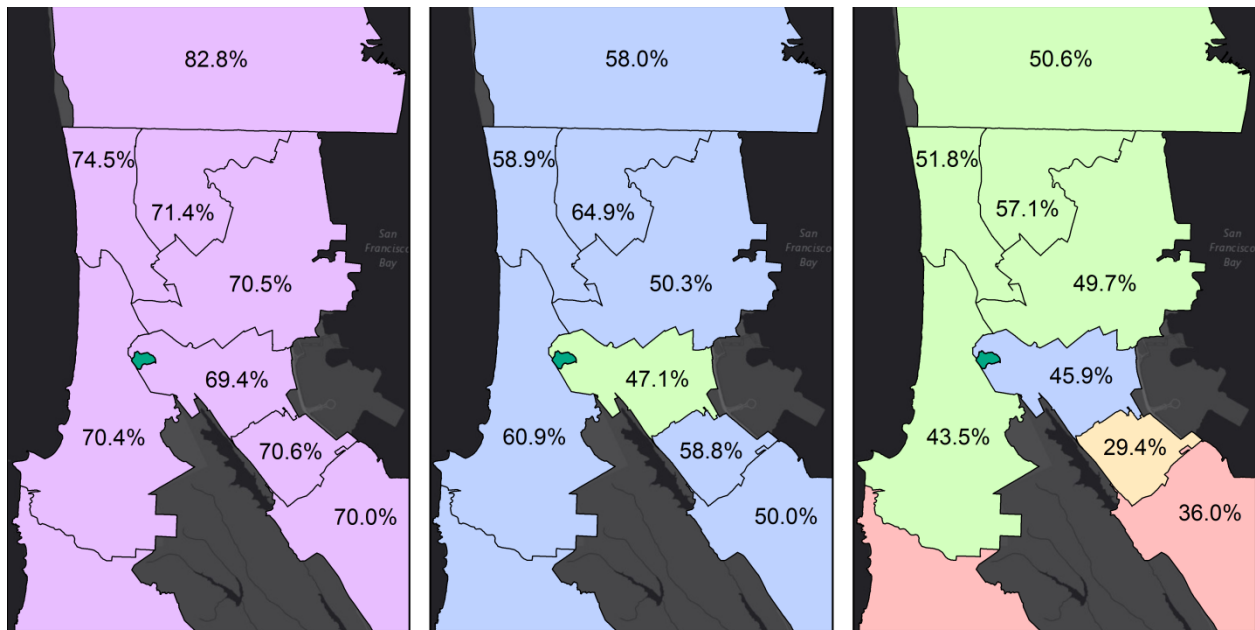
Regarding Question 5, 82.4% of student respondents have access to a personal automobile regardless of whether or not they use it during their commute to campus, while 95.2% of employees responded the same. Question 6 indicates that 72.5% of students drive alone as part of their usual commute to campus, and 88.1% of employees do the same. Combining the two sets of information reveals that 88.0% of students who have access to a car drive it alone to campus as part of their usual commute and 92.5% of employees with access to a car do the same. With so many single-occupancy vehicles on the road, there is potential to turn some of them into carpools.

Question 6 deserves a closer look because it becomes more interesting when student responses are sorted by region. Figure 10 shows the top three student responses in each region. The response of driving alone still tops each region. However, the percentage of students who drive alone from Colma/Daly City East is 16.2% less than the regional average among student respondents in North San Mateo County. Similarly, SamTrans ridership in Colma/Daly City East is also 18.0% higher than the regional average. One explanation is that fewer students in that area have access to a personal automobile (12.9% less than the regional average).

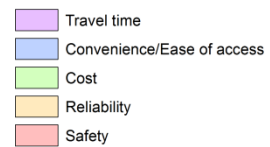


**Figure 11. Top three student responses by region to Question 6:** *How do you usually travel to Skyline College?* The left map shows each region's top response, the middle map shows the region's second highest response, and the right map shows the region's third highest response. Ties are indicated with colors representing both responses. The percentage of respondents within each region who answered that response is also shown. Skyline College is in dark green.

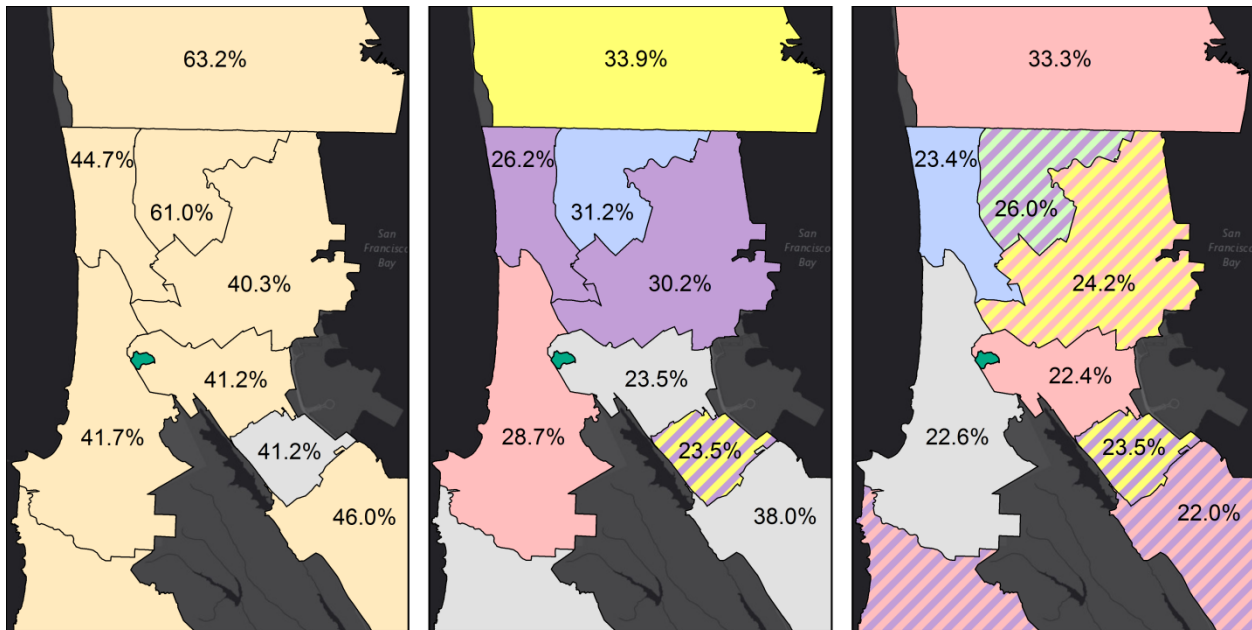
- I drive alone.
- Someone drives me and drops me off.
- I am a driver or passenger in a carpool/vanpool.
- I ride SamTrans.



**Figure 12. Top three student responses by region to Question 7:**  
**What is most important to you when you choose how to travel to Skyline College?** *The left map shows each region's top response, the middle map shows the second highest response within each region, and the right map shows the third highest response within each region. Ties are indicated with colors representing both responses. The percentage of respondents within each region who answered that response is also shown.*



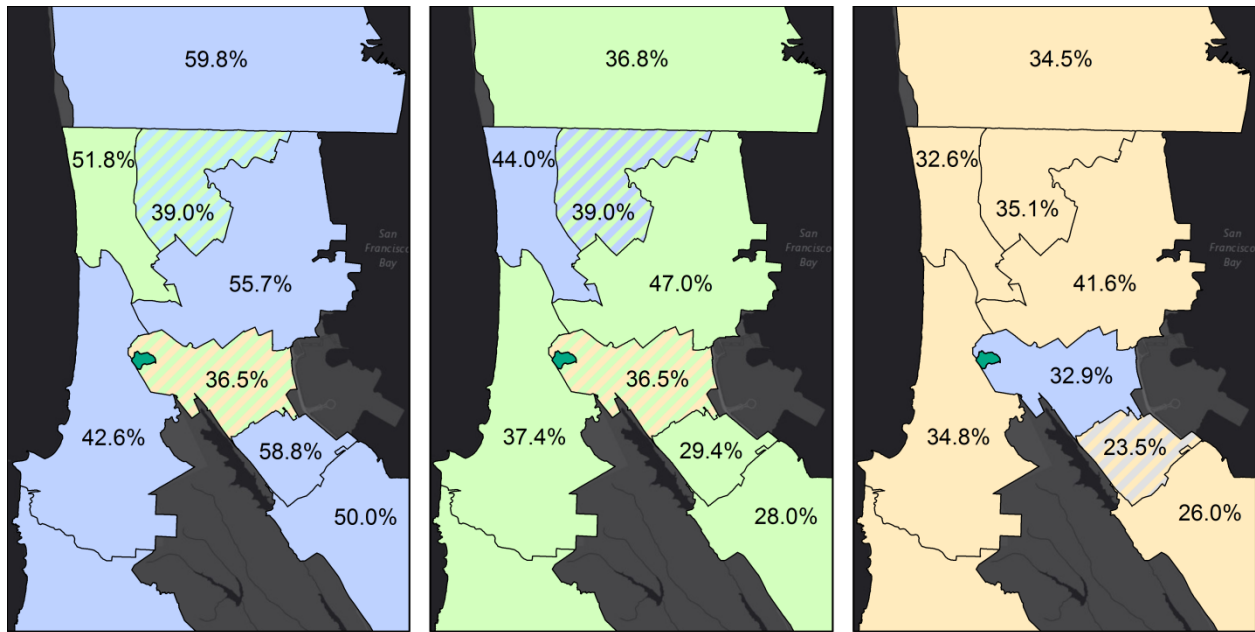
Responses to Question 7 confirm that the most important consideration for students and employees when they decide how to commute to campus is travel time. Separating responses by region confirms the same result in each region with a fairly uniform response rate across San Mateo County (see Figure 12). Convenience/ease of access ranks second most important across both student and employee respondents and within almost every region. Cost ranks third for student respondents in a majority of regions, while it is not as important a factor among employee respondents. Note that regions where cost is either the second or third most important factor also exhibit the highest student and employee residential densities (see Figure 3).



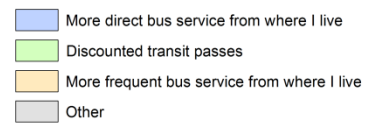
**Figure 13. Top three student responses by region to Question 8:**  
**If you do not use public transportation for travel to Skyline College, what are the main reasons why? Top response within each region, left map. Second highest response, middle map. Third highest response, right map. Ties are indicated with colors representing both responses. The percentage of respondents within each region who gave the response is also shown.**

- The trip takes too long.
- The wait for transfer between transit services is too long.
- The bus stop or transit station is too far from where I live.
- Other
- The transit service does not run frequently enough.
- The bus/train is too crowded.

Question 8 was designed with redundancy in mind to either corroborate or contradict results from the preceding question. Responses to Question 8 confirm the importance of travel time, with the trip taking too long as the most selected reason among both students and employees and across almost all regions for why respondents do not use public transportation when traveling to Skyline College (see Figure 13). A majority of other top three responses pertain to travel time indirectly, either due to waiting for transfers or infrequent service. The nearest transit stop being too far is the second or third most cited reason in three regions, suggesting a “first mile” problem within those regions, and crowded busses seem to be an issue within Daly City. “Other,” the free response option, tops responses from Millbrae and ranks second or third in San Bruno and Pacifica as well. Approximately half of the respondents within these regions who selected this option state car ownership as their main reason for not using public transportation.

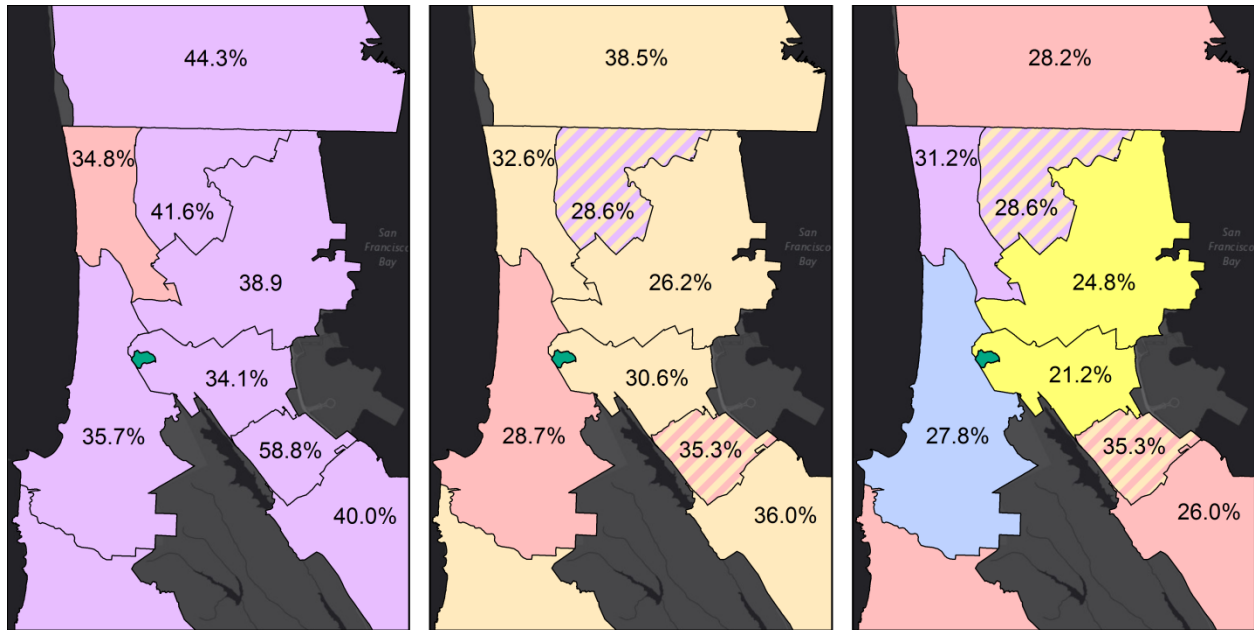


**Figure 14. Top three student responses by region to Question 9:**  
**If you usually drive alone to Skyline College, what would encourage you to take public transportation to campus?** Top response within each region, left map. Second highest response, middle map. Third highest response, right map. Ties are indicated with colors representing both responses. The percentage of respondents within each region who gave the response is also shown.



Question 9 explores possible solutions that could increase transit use among respondents. The top three solutions among student respondents are clear: More direct bus service, discounted transit passes, and more frequent bus service. This pattern holds up very well at the regional level as well (see Figure 14). Employee respondents differ on the best solution depending on where they commute from. San Mateo County residents prefer more direct and more frequent bus service from where they live while employees who commute from outside of the county prefer a direct shuttle service between local transit stations and campus.

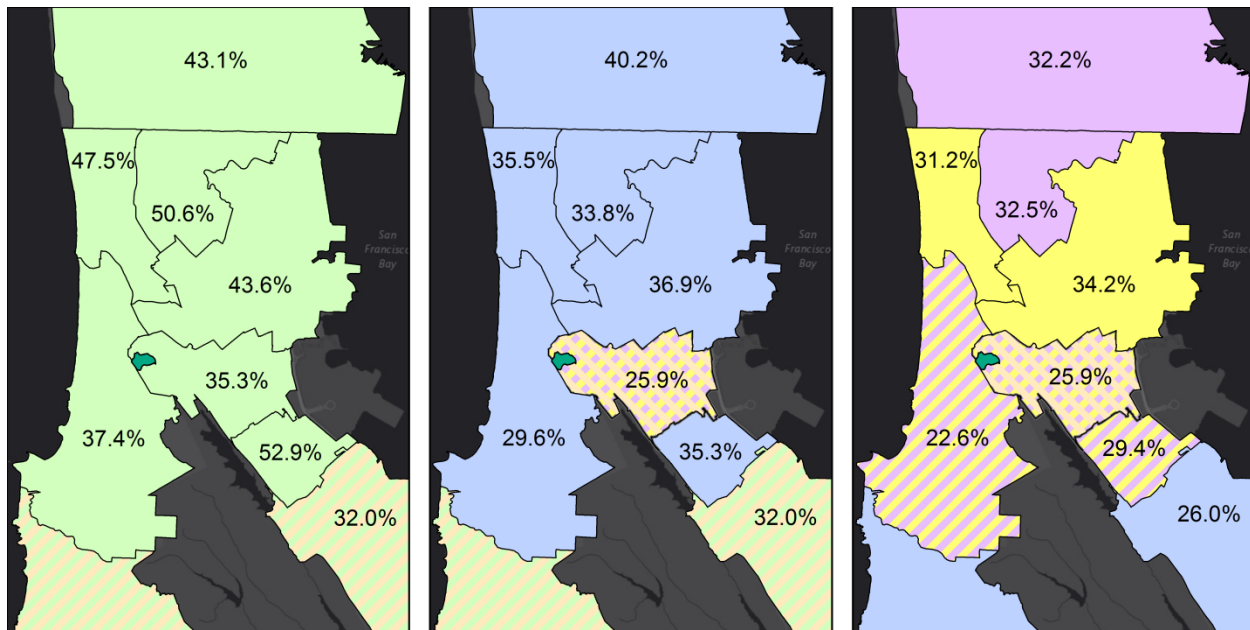
Question 10 assess respondents' willingness to pay to use a direct shuttle service between the campus and local BART/Caltrain stations. Ignoring the "not applicable" and "other" options, employee responses exhibit a median of \$1.25, mean of \$1.37, and standard deviation of \$0.53, though the distribution is bimodal with peaks of equal magnitude at both \$1.00 and \$2.00. Student responses average \$1.17, a standard deviation of \$0.52, and a median of \$1.00.



**Figure 15. Top three student responses by region to Question 11: If you usually drive alone to Skyline College, why don't you carpool/vanpool?** Top response within each region, left map. Second highest response, middle map. Third highest response, right map. Ties are indicated with colors representing both responses. The percentage of respondents within each region who gave the response is also shown.

- I cannot find other people to carpool/vanpool with.
- I prefer driving alone.
- I travel to a location other than home before or after my day at Skyline College
- I cannot get home in an emergency.
- I come to campus during irregular hours.

The responses to Question 11 reveal an opportunity to expand and promote carpooling among students as part of their commute as well as several formidable barriers that would make such effort difficult. The most cited reason for student respondents not taking part in a carpool or vanpool is the inability to find other people to carpool with. This suggests potential growth in carpools on campus if a more robust ride-matching service existed for students other than 511.org, which itself is practically unknown to students (see Question 16). However, two other highly cited reasons were a personal preference to drive alone and the need to travel to locations other than home. Both reasons require significant personal change (either in attitude or behavior) to overcome, and the latter reason in some cases is insurmountable. Employees cite a wider variety of top reasons why they do not carpool, including irregular commute hours, but the inability to find other people to carpool with ranks second overall.



**Figure 16. Top three student responses by region to Question 12: If you usually drive alone to Skyline College, what would encourage you to join a carpool or vanpool to campus? Top response within each region, left map. Second highest response, middle map. Third highest response, right map. Ties are indicated with colors representing both responses. The percentage of respondents within each region who gave the response is also shown.**

- Discounted parking permit for carpool/vanpool vehicles
- Financial assistance for carpool/vanpool gasoline
- Assistance finding carpool/vanpool passengers
- Guaranteed ride home in an emergency
- Assistance finding carpool/vanpool drivers and vehicles

Financial incentives seem to be the preferred form of encouragement among student respondents to join a carpool or vanpool (see Figure 16). Discounted parking permits for carpool/vanpool vehicles tops each region among students while financial assistance for carpool/vanpool gasoline ranks second among most. Assistance finding carpool drivers or passengers and offering a guaranteed ride in an emergency round out the top incentives. Employees, in contrast, want more assistance finding carpool/vanpool drivers or passengers. An internal ride-match service may be able to satisfy this demand and also help overcome the challenge of matching users with irregular commute hours.

Question 13 may have been misunderstood by respondents, particularly among students. Although only 17.2% of students claim in Question 6 that they usually carpool to campus, either as a driver or passenger, three times as many responses claim to travel with at least one other person in a carpool in Question 13. A small fraction of these responses can be attributed to respondents submitting more than one response to the question. However, even if all students who are driven to campus and dropped off are counted as carpooling, the total number of students would still fall shy of the total responses given in Question 13. The employee responses are more reasonable but still require the assumption that some respondents consider getting dropped off as carpooling.

The next two questions assess SamTrans bus usage and may be useful in any discussions with SamTrans officials. SamTrans keeps its own ridership figures, and determining if Route 121 has fully adsorbed the ridership of the discontinued Route 123 would help with future transportation planning.



The last question gauges respondents' awareness of existing transportation incentives and services from both Skyline College as well community partners. The District Office and MCPR team have done a commendable job spreading awareness about the electric vehicle charging stations on campus, particularly among employees. Student awareness lags behind that of employees, but this is to be expected since the campus turnover rate for students is much higher. Unfortunately, less than 5% of respondents are aware of carpool and transit incentive programs provided by the Peninsula Traffic Congestion Relief Alliance. There is plenty of room for improvement for marketing programs and services provided by community partners.

## RECOMMENDATIONS AND CONCLUSION

This transportation study incorporates two different methods to assess student and employee travel behavior, discover hidden opportunities for improving transportation to campus, and uncover potential obstacles that may limit the success of certain solutions. Commute shed analysis indicates that both a problem and an opportunity lie close to campus. The communities with the highest density of students and employees are also the communities closest to campus. The opportunity lies within SamTrans' large service area blanketing a significant portion of the campus population. More than 7 in 10 students and employees live within a 10-minute service area of a SamTrans bus stop, and a majority live with a 5-minute service area. However, the same extensive coverage is also indicative of the problem.

Many public bus services design their routes to serve the needs of transit-dependent populations rather than for populations who have other transportation options and choose to ride the bus at their discretion. Bus routes are therefore often designed to maximize coverage at the expense of speed and efficiency. As a result, people with access to cars choose to drive because doing so saves them time.<sup>6</sup> This study's survey results make it readily apparent that the SamTrans routes serving Skyline College are too slow, too infrequent, and make too many stops while meandering through surrounding neighborhoods. At the same time, SamTrans' ridership has room to grow, as evidenced by the discontinuation of several routes due to low ridership. With less than 20% of Skyline College students and employees riding their buses, SamTrans may not see an incentive to improve service or provide express service to campus even though they know their route territory covers much of the campus population. With infrequent, slow service and poor rider experience, students understandably turn to faster alternatives like driving and do not give SamTrans a second thought. This is a harmful, but avoidable positive feedback loop.

Offering students unlimited access to SamTrans service through a campus transit pass program (often called a U-Pass), would provide both parties with a clear incentive to alter behavior. Students could ride for free (or at a greatly reduced rate), giving them a financial incentive to use transit, and SamTrans would increase ridership, fill unused capacity, reduce operating cost per ride, and gain a guaranteed source of revenue, giving them an incentive to improve or expand service.<sup>7</sup> This cycle generates a more beneficial positive feedback loop, with better service and more frequent or direct routes further increasing

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<sup>6</sup> Will Toor, S.W. Havlick, *Transportation & Sustainable Campus Communities: Issues, Examples, Solutions* (Washington: Island Press, 2004); 119

<sup>7</sup> Jeffrey Brown, D.B. Hess, D. C. Shoup, "Unlimited Access," *Transportation* (2001) 28; 251-256

ridership. Survey results in this study suggest a higher student ridership on SamTrans should these incentives exist.

Offering a campus transit pass program could also generate several important co-benefits for the campus, including reduced demand for on-campus parking (benefiting students and employees who do drive), avoided opportunity cost of new or existing parking lots, reduced local traffic congestion, and improved campus relations with surrounding communities that would also benefit from improved transit service. A campus transit pass program could also help the campus attract students who otherwise would not be able to attend by reducing the cost of attending college and improving student access to housing and employment. Most importantly, U-Pass programs have proven to consistently save college and university campuses money from the avoided capital, debt, and maintenance costs of building new parking structures.<sup>8</sup>

This study recommends active dialogue between Skyline College and SamTrans to discuss financial feasibility, rate options, and ridership estimates for a campus transit pass program. The expense of U-Pass program implementation is considerable but comparable to launching a campus shuttle program. The most common source of funding U-Pass programs at other colleges and universities has been with student fees passed through referendum, which have historically demonstrated high passage rates.<sup>9</sup> This will require bringing student leadership within the Associated Students of Skyline College and the Skyline Organization and Club Council on board to engage the campus electorate. Alternative or supplementary funding sources include parking fees and parking fines, and an increase in parking permit fees may be a necessary, if politically unpopular, source of funding.

In the meantime, survey results from this study show some potential in expanding carpool use and awareness. The largest obstacle is the difficulty in matching drivers with passengers, and a dedicated website or smartphone app for the campus community could help overcome this barrier, reducing reliance on SOVs among students and employees who do not mind sharing a ride with others. This option could provide a short term solution that would be available to students and employees while the campus works toward starting a campus transit pass program, but it could and should remain an important part of campus transportation demand management even after a transit pass program has been established.

Pursuing an unlimited access campus transit pass program would improve transportation equity at Skyline College while expanding higher education access and affordability and improve local transit service and performance, benefiting the campus population, the local transit agency, and neighboring communities. Reducing campus reliance on single-occupancy vehicles by incentivizing students and employees to use an improved transit system would also significantly reduce the adverse impact that Skyline College has on climate change and regional air quality. A U-Pass program would be yet another example of Skyline College continuing to lead at the forefront of campus sustainability among the nation's community colleges.

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<sup>8</sup> Toor, *Transportation*, 78-82

<sup>9</sup> Brown, et al. "Unlimited Access" (2001)

## APPENDIX A. TRANSPORTATION SURVEY RESULTS

A summary of survey results from the Skyline College Transportation Survey are presented here. Because the student and employee versions were administered differently, responses to multiple-choice questions between the two versions are not directly comparable. While the online employee survey had effective controls for limiting the number of responses per question, this response limit could not be enforced on the paper format student survey. Student respondents often wrote more responses than questions prompted for. Only questions with ‘Yes/No’ response options escaped this behavior. Bar charts showing survey responses are presented individually for each survey version. Blank responses are noted as “not answered” but not graphed. Response options that received no votes are not graphed either. Written responses for “other” can be found in the original Novi survey summary files.

### 1. What is the 5-digit ZIP code of the location from which you typically come to Skyline College?

Student Responses	Count	% of Resp'ts	Employee Responses	Count	% of Resp'ts
94080	144	17.2%	(other)	39	23.2%
94015	141	16.8%	94080	14	8.3%
94044	115	13.7%	94044	13	7.7%
(other)	97	11.6%	94015	10	6.0%
94066	85	10.2%	94066	10	6.0%
94014	77	9.2%	94061	7	4.2%
94112	42	5.0%	94402	7	4.2%
94134	25	3.0%	94114	6	3.6%
94132	21	2.5%	94131	6	3.6%
94030	17	2.0%	94112	6	3.6%
94122	13	1.6%	94122	3	1.8%
94116	12	1.4%	94025	3	1.8%
94124	12	1.4%	94062	3	1.8%
94121	10	1.2%	94401	3	1.8%
94010	10	1.2%	94121	3	1.8%
94127	8	1.0%	94577	3	1.8%
(not answered)	8	1.0%	94002	3	1.8%
<b>Total</b>	<b>837</b>	<b>100.0%</b>	94110	3	1.8%
			94019	2	1.2%
			94610	2	1.2%
			94024	2	1.2%
			94005	2	1.2%
			94116	2	1.2%
			94070	2	1.2%
			94403	2	1.2%
			94124	2	1.2%
			94602	2	1.2%
			94127	2	1.2%
			94901	2	1.2%
			94030	2	1.2%
			94018	2	1.2%
			<b>Total</b>	<b>168</b>	<b>100.0%</b>

Note: ‘Other’ comprises of responses representing less than 1.0% of respondents and is not, itself, a response to this question.

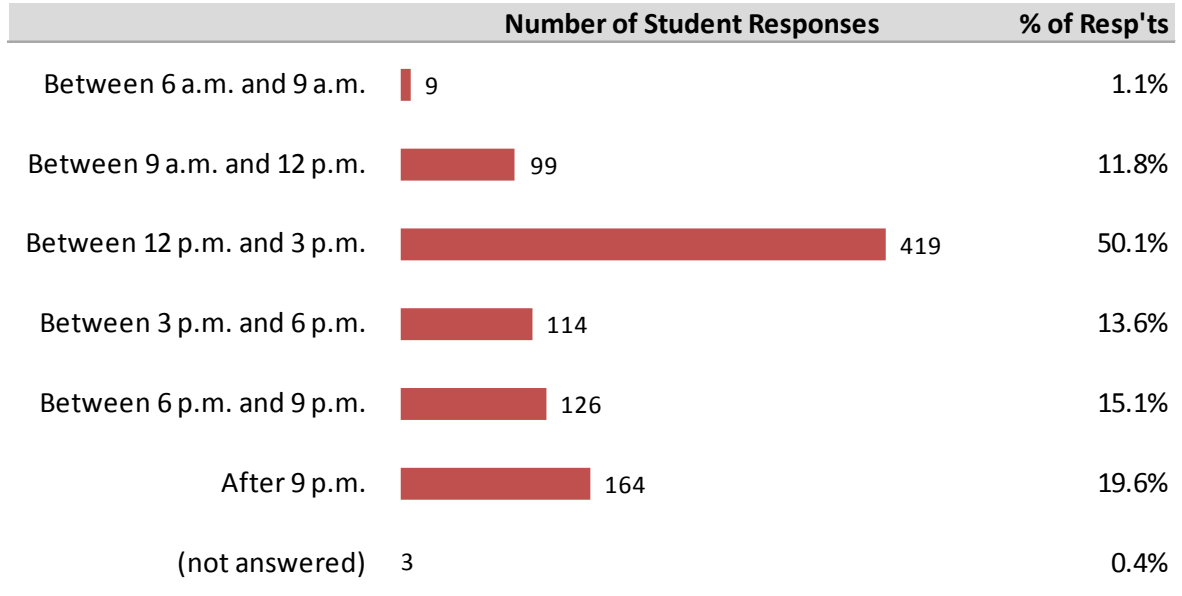
2. What time of day do you typically arrive at Skyline College?

	Number of Student Responses	% of Resp'ts
Before 6 a.m.	5	0.6%
Between 6 a.m. and 9 a.m.	314	37.5%
Between 9 a.m. and 12 p.m.	313	37.4%
Between 12 p.m. and 3 p.m.	47	5.6%
Between 3 p.m. and 6 p.m.	47	5.6%
Between 6 p.m. and 9 p.m.	186	22.2%
After 9 p.m.	2	0.2%
(not answered)	2	0.2%

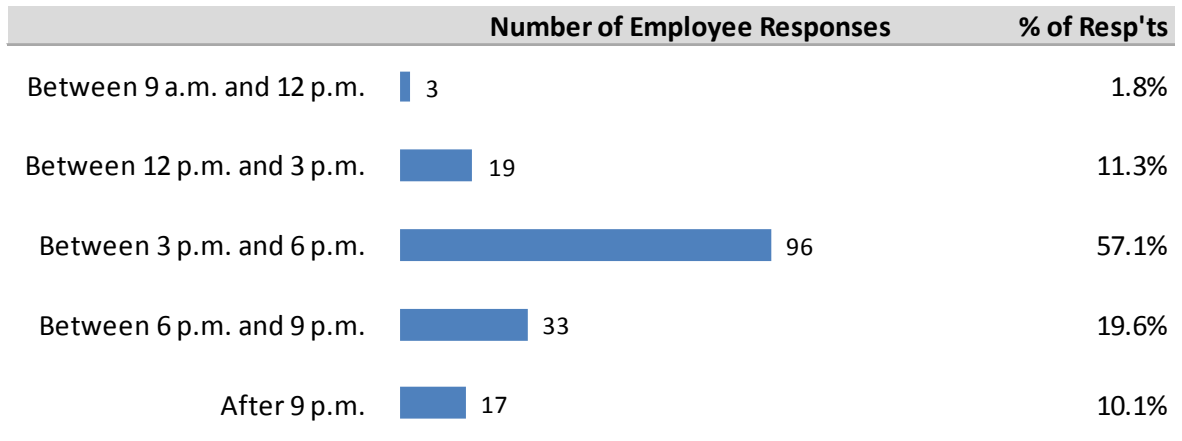
Note: Total percentage of student respondents is greater than 100% due to some respondents selecting more than one response option.

	Number of Employee Responses	% of Resp'ts
Before 6 a.m.	2	1.2%
Between 6 a.m. and 9 a.m.	98	58.3%
Between 9 a.m. and 12 p.m.	45	26.8%
Between 12 p.m. and 3 p.m.	10	6.0%
Between 3 p.m. and 6 p.m.	12	7.1%
Between 6 p.m. and 9 p.m.	1	0.6%

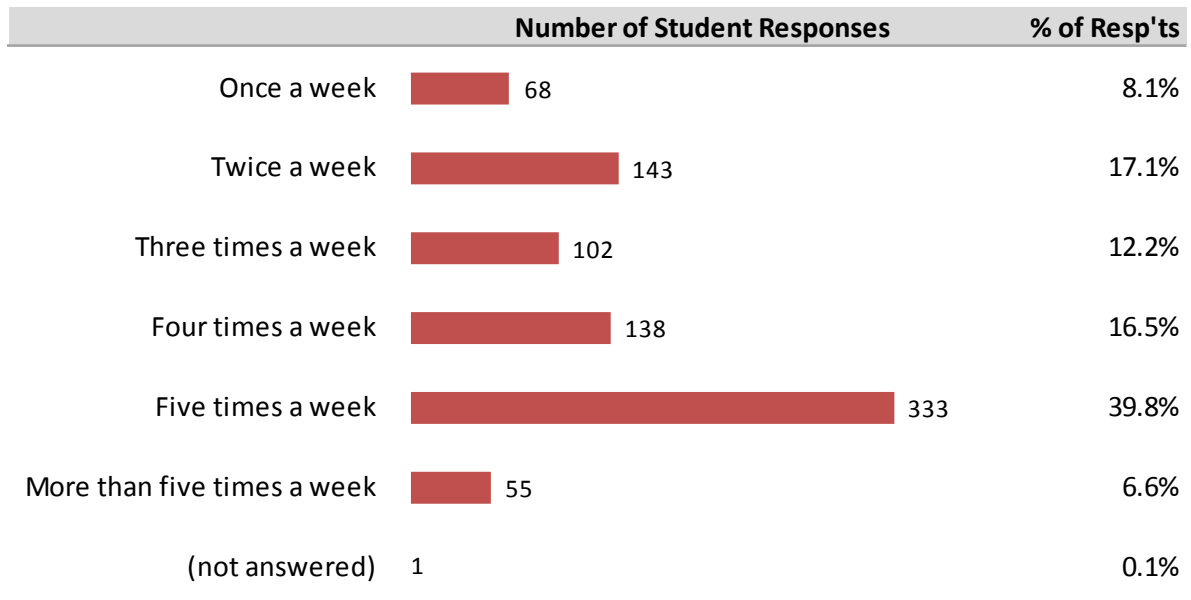
3. What time of day do you typically leave Skyline College?



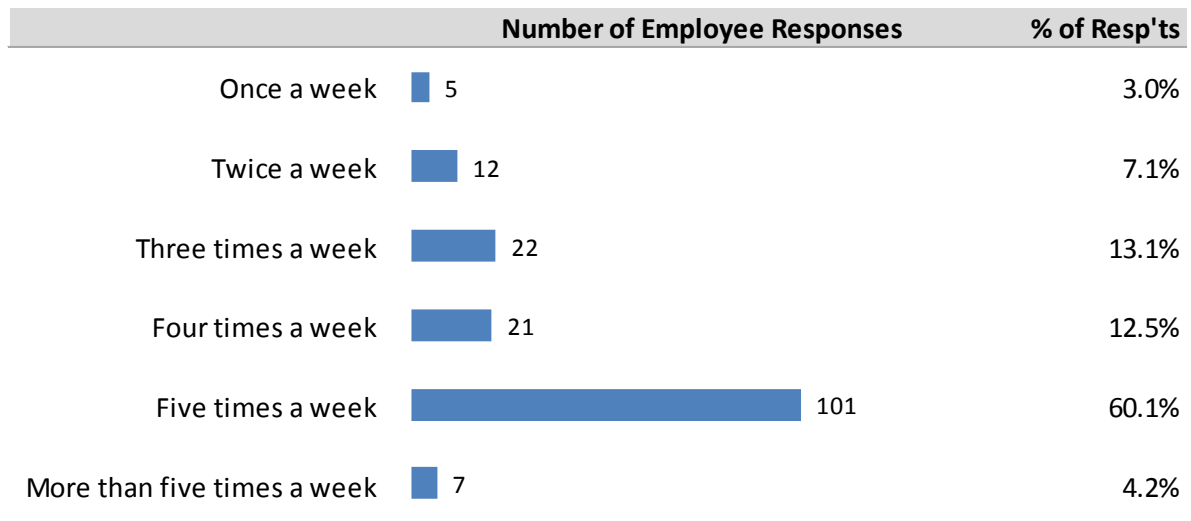
Note: Total percentage of student respondents is greater than 100% due to some respondents selecting more than one response option.



**4. How many times do you travel to Skyline College in a typical week?**



Note: Total percentage of student respondents is greater than 100% due to some respondents selecting more than one response option.



5. Do you have access to a personal automobile (even if you do not use it for travel to Skyline College)?

	Number of Student Responses	% of Resp'ts
Yes	690	82.4%
No	138	16.5%
(not answered)	9	1.1%

	Number of Employee Responses	% of Resp'ts
Yes	160	95.2%
No	8	4.8%

**6. How do you usually travel to Skyline College? (select all travel modes that are part of your usual trip)**

	Number of Student Responses	% of Resp'ts
I drive alone.	607	72.5%
I ride SamTrans.	166	19.8%
Someone drives me and drops me off.	152	18.2%
I am a driver in a carpool/vanpool.	77	9.2%
I am a passenger in a carpool/vanpool.	67	8.0%
I ride BART.	34	4.1%
Other	15	1.8%
I ride a bicycle.	9	1.1%
I walk to campus and do not use any other transportation method.	6	0.7%
I ride CalTrain.	3	0.4%
(not answered)	4	0.5%

	Number of Employee Responses	% of Resp'ts
I drive alone.	148	88.1%
I ride SamTrans.	18	10.7%
Someone drives me and drops me off.	16	9.5%
I ride BART.	12	7.1%
I am a driver in a carpool/vanpool.	11	6.5%
I am a passenger in a carpool/vanpool.	6	3.6%
I ride a bicycle.	4	2.4%
Other	3	1.8%
I ride CalTrain.	1	0.6%
I walk to campus and do not use any other transportation method.	1	0.6%



**6. How do you usually travel to Skyline College? (select all travel modes that are part of your usual trip)**

<b>Brisbane/South San Francisco Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
I drive alone.	103	69.1%
Someone drives me and drops me off.	38	25.5%
I ride SamTrans.	29	19.5%
I am a passenger in a carpool/vanpool.	13	8.7%
I am a driver in a carpool/vanpool.	10	6.7%
Other	2	1.3%
I walk to campus and do not use any other transportation method.	1	0.7%
I ride a bicycle.	1	0.7%
I ride BART.	1	0.7%

<b>Broadmoor/Daly City West Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
I drive alone.	107	75.9%
I ride SamTrans.	30	21.3%
Someone drives me and drops me off.	30	21.3%
I am a driver in a carpool/vanpool.	15	10.6%
I am a passenger in a carpool/vanpool.	13	9.2%

<b>Pacifica Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
I drive alone.	83	72.2%
I ride SamTrans.	16	13.9%
I am a driver in a carpool/vanpool.	15	13.0%
Someone drives me and drops me off.	15	13.0%
I am a passenger in a carpool/vanpool.	7	6.1%
Other	1	0.9%

<b>San Francisco Students</b>	<b>Count of Responses</b>	<b>% of Responses</b>
I drive alone.	136	78.2%
I ride SamTrans.	30	17.2%
Someone drives me and drops me off.	21	12.1%
I ride BART.	19	10.9%
I am a driver in a carpool/vanpool.	16	9.2%
I am a passenger in a carpool/vanpool.	15	8.6%
Other	7	4.0%
I ride a bicycle.	2	1.1%

<b>San Bruno Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
I drive alone.	60	70.6%
Someone drives me and drops me off.	17	20.0%
I ride SamTrans.	17	20.0%
I am a driver in a carpool/vanpool.	7	8.2%
I am a passenger in a carpool/vanpool.	5	5.9%
I walk to campus and do not use any other transportation method.	5	5.9%
I ride a bicycle.	3	3.5%
Other	1	1.2%

<b>Colma/Daly City Easts</b>	<b>Count</b>	<b>% of Resp'ts</b>
I drive alone.	43	55.8%
I ride SamTrans.	29	37.7%
Someone drives me and drops me off.	22	28.6%
I am a passenger in a carpool/vanpool.	9	11.7%
I am a driver in a carpool/vanpool.	6	7.8%
I ride a bicycle.	2	2.6%
I ride CalTrain.	1	1.3%
I ride BART.	1	1.3%

<b>Millbrae Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
I drive alone.	15	88.2%
Someone drives me and drops me off.	2	11.8%
I am a driver in a carpool/vanpool.	1	5.9%
I ride SamTrans.	1	5.9%

<b>San Mateo County (excluding North County) Students</b>	<b>Count</b>	<b>% of Responses</b>
I drive alone.	40	80.0%
I am a driver in a carpool/vanpool.	5	10.0%
Someone drives me and drops me off.	3	6.0%
I am a passenger in a carpool/vanpool.	3	6.0%
Other	2	4.0%
I ride SamTrans.	2	4.0%
I ride BART.	1	2.0%

<b>East Bay Students</b>	<b>Count</b>	<b>% of Responses</b>
I drive alone.	9	60.0%
I ride BART.	8	53.3%
I ride SamTrans.	7	46.7%
Someone drives me and drops me off.	2	13.3%
I am a driver in a carpool/vanpool.	2	13.3%
I am a passenger in a carpool/vanpool.	2	13.3%
Other	1	6.7%
I ride CalTrain.	1	6.7%

**6. How do you usually travel to Skyline College? (select all travel modes that are part of your usual trip)**

<b>North San Mateo County Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
I drive alone.	47	88.7%
Someone drives me and drops me off.	7	13.2%
I ride SamTrans.	7	13.2%
I ride a bicycle.	2	3.8%
Other	1	1.9%
I walk to campus and do not use any other transportation method.	1	1.9%
I am a driver in a carpool/vanpool.	1	1.9%
I am a passenger in a carpool/vanpool.	1	1.9%
I ride BART.	1	1.9%

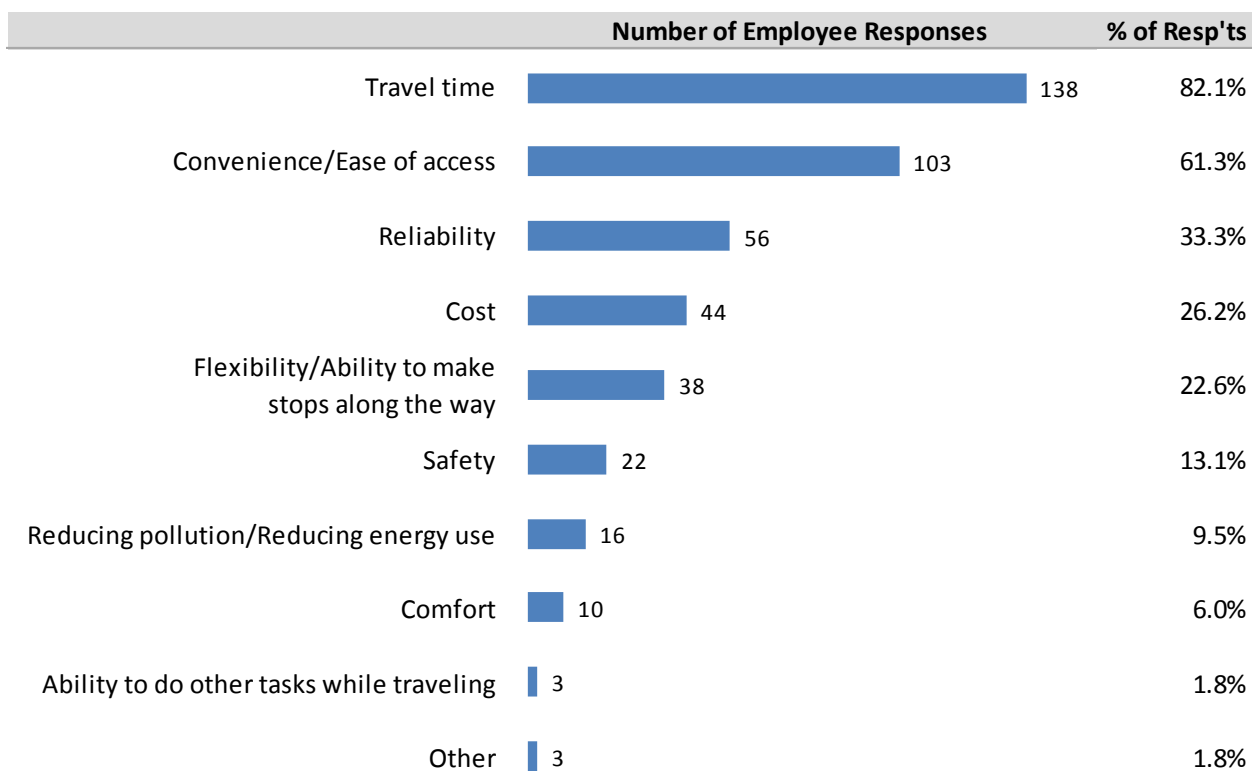
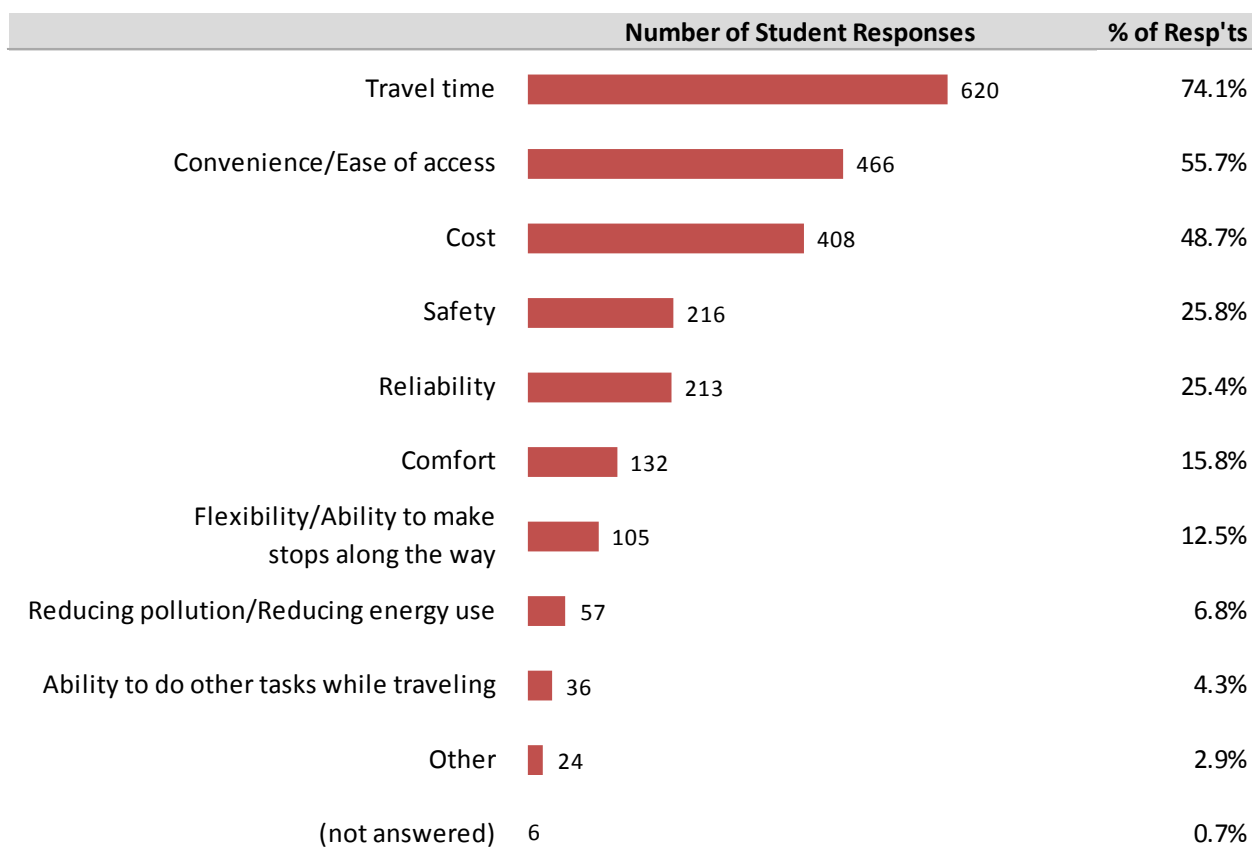
<b>San Mateo County (excluding North County) Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
I drive alone.	37	97.4%
I ride SamTrans.	2	5.3%
Someone drives me and drops me off.	2	5.3%
I ride BART.	2	5.3%
I ride CalTrain.	1	2.6%
I am a driver in a carpool/vanpool.	1	2.6%
I ride a bicycle.	1	2.6%

<b>San Francisco Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
I drive alone.	35	92.1%
I ride SamTrans.	4	10.5%
I ride BART.	4	10.5%
Someone drives me and drops me off.	3	7.9%
Other	1	2.6%
I am a driver in a carpool/vanpool.	1	2.6%
I ride a bicycle.	1	2.6%

<b>East Bay Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
I drive alone.	19	73.1%
I am a driver in a carpool/vanpool.	6	23.1%
I ride BART.	5	19.2%
I am a passenger in a carpool/vanpool.	4	15.4%
I ride SamTrans.	3	11.5%
Someone drives me and drops me off.	2	7.7%
Other	1	3.8%

<b>North Bay/South Bay Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
I drive alone.	9	81.8%
I am a driver in a carpool/vanpool.	2	18.2%
I am a passenger in a carpool/vanpool.	1	9.1%
Someone drives me and drops me off.	1	9.1%
I ride SamTrans.	1	9.1%

**7. What is most important to you when you choose how to travel to Skyline College? (select up to three)**



**7. What is most important to you when you choose how to travel to Skyline College? (select up to three)**

<b>Brisbane/South San Francisco Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	105	70.5%
Convenience/Ease of access	75	50.3%
Cost	74	49.7%
Reliability	50	33.6%
Safety	46	30.9%
Comfort	32	21.5%
Flexibility/Ability to make stops along the way	20	13.4%
Reducing pollution/Reducing energy use	14	9.4%
Ability to do other tasks while traveling	10	6.7%
Other	5	3.4%

<b>San Bruno Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	59	69.4%
Cost	40	47.1%
Convenience/Ease of access	39	45.9%
Safety	18	21.2%
Reliability	15	17.6%
Flexibility/Ability to make stops along the way	13	15.3%
Reducing pollution/Reducing energy use	10	11.8%
Comfort	10	11.8%
Ability to do other tasks while traveling	5	5.9%
Other	2	2.4%

<b>Broadmoor/Daly City West Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	105	74.5%
Convenience/Ease of access	83	58.9%
Cost	73	51.8%
Safety	48	34.0%
Reliability	37	26.2%
Comfort	28	19.9%
Flexibility/Ability to make stops along the way	23	16.3%
Reducing pollution/Reducing energy use	13	9.2%
Ability to do other tasks while traveling	9	6.4%
Other	1	0.7%

<b>Colma/Daly City East</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	55	71.4%
Convenience/Ease of access	50	64.9%
Cost	44	57.1%
Reliability	18	23.4%
Safety	15	19.5%
Comfort	13	16.9%
Flexibility/Ability to make stops along the way	7	9.1%
Other	2	2.6%
Ability to do other tasks while traveling	1	1.3%

<b>Pacifica Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	81	70.4%
Convenience/Ease of access	70	60.9%
Cost	50	43.5%
Reliability	33	28.7%
Safety	22	19.1%
Flexibility/Ability to make stops along the way	13	11.3%
Reducing pollution/Reducing energy use	10	8.7%
Comfort	10	8.7%
Other	3	2.6%
Ability to do other tasks while traveling	1	0.9%

<b>Millbrae Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	12	70.6%
Convenience/Ease of access	10	58.8%
Reliability	5	29.4%
Flexibility/Ability to make stops along the way	4	23.5%
Cost	3	17.6%
Comfort	2	11.8%
Safety	2	11.8%
Other	1	5.9%

<b>San Francisco Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	144	82.8%
Convenience/Ease of access	101	58.0%
Cost	88	50.6%
Safety	42	24.1%
Reliability	41	23.6%
Comfort	26	14.9%
Flexibility/Ability to make stops along the way	17	9.8%
Ability to do other tasks while traveling	9	5.2%
Reducing pollution/Reducing energy use	9	5.2%
Other	5	2.9%

<b>San Mateo County (excluding North County) Student</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	35	70.0%
Convenience/Ease of access	25	50.0%
Safety	18	36.0%
Cost	14	28.0%
Reliability	8	16.0%
Comfort	8	16.0%
Other	5	10.0%
Flexibility/Ability to make stops along the way	5	10.0%

<b>East Bay Students</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	7	46.7%
Cost	7	46.7%
Convenience/Ease of access	4	26.7%
Reliability	3	20.0%
Safety	3	20.0%
Comfort	2	13.3%
Flexibility/Ability to make stops along the way	1	6.7%

**7. What is most important to you when you choose how to travel to Skyline College? (select up to three)**

<b>North San Mateo County Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	38	71.7%
Convenience/Ease of access	32	60.4%
Reliability	17	32.1%
Flexibility/Ability to make stops along the way	13	24.5%
Cost	12	22.6%
Safety	8	15.1%
Reducing pollution/Reducing energy use	6	11.3%
Comfort	5	9.4%
Ability to do other tasks while traveling	1	1.9%
Other	1	1.9%

<b>San Mateo County (excluding North County) Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	32	84.2%
Convenience/Ease of access	23	60.5%
Reliability	16	42.1%
Flexibility/Ability to make stops along the way	10	26.3%
Cost	8	21.1%
Safety	6	15.8%
Comfort	3	7.9%
Other	1	2.6%

<b>San Francisco Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
Travel time	33	86.8%
Convenience/Ease of access	24	63.2%
Reliability	11	28.9%
Cost	11	28.9%
Reducing pollution/Reducing energy use	6	15.8%
Flexibility/Ability to make stops along the way	6	15.8%
Safety	3	7.9%
Comfort	1	2.6%

<b>East Bay Employees</b>	<b>Count of Value</b>	<b>% of Resp'ts</b>
Travel time	21	80.8%
Convenience/Ease of access	16	61.5%
Cost	8	30.8%
Reliability	7	26.9%
Flexibility/Ability to make stops along the way	5	19.2%
Reducing pollution/Reducing energy use	3	11.5%
Ability to do other tasks while traveling	2	7.7%
Safety	1	3.8%
Other	1	3.8%

<b>North Bay/South Bay Employees</b>	<b>Count of Value</b>	<b>% of Resp'ts</b>
Travel time	9	81.8%
Convenience/Ease of access	6	54.5%
Reliability	2	18.2%
Cost	2	18.2%
Flexibility/Ability to make stops along the way	2	18.2%
Reducing pollution/Reducing energy use	1	9.1%
Comfort	1	9.1%

**8. If you do not use public transportation for travel to Skyline College, what are the main reasons why? (select up to three)**

	Number of Student Responses	% of Resp'ts
The trip takes too long.	401	47.9%
The transit service does not run frequently enough.	214	25.6%
The wait for transfer between transit services is too long.	212	25.3%
Other	181	21.6%
The bus stop or transit station is too far from where I live.	168	20.1%
The fare costs too much.	145	17.3%
The transit route is often delayed or behind schedule.	123	14.7%
The bus/train is too crowded.	115	13.7%
The transit service schedules and routes are too confusing.	79	9.4%
The transit service does not run late at night and/or on weekends.	59	7.0%
(not answered)	102	12.2%

**8. If you do not use public transportation for travel to Skyline College, what are the main reasons why? (select up to three)**

	Number of Employee Responses	% of Resp'ts
The trip takes too long.	116	69.0%
The transit service does not run frequently enough.	55	32.7%
The bus stop or transit station is too far from where I live.	40	23.8%
Other	40	23.8%
The wait for transfer between transit services is too long.	29	17.3%
The fare costs too much.	17	10.1%
The transit service does not run late at night and/or on weekends.	15	8.9%
The transit service schedules and routes are too confusing.	12	7.1%
The transit route is often delayed or behind schedule.	11	6.5%
The bus/train is too crowded.	3	1.8%
(not answered)	2	1.2%

**8. If you do not use public transportation for travel to Skyline College, what are the main reasons why? (select up to three)**

Brisbane/South San Francisco Students	Count	% of Resp'ts
The trip takes too long.	60	40.3%
The wait for transfer between transit services is too long.	45	30.2%
The bus stop or transit station is too far from where I live.	36	24.2%
The transit service does not run frequently enough.	36	24.2%
Other	32	21.5%
The fare costs too much.	31	20.8%
The transit route is often delayed or behind schedule.	24	16.1%
The transit service schedules and routes are too confusing.	23	15.4%
The bus/train is too crowded.	21	14.1%
The transit service does not run late at night and/or on weekends.	11	7.4%

San Bruno Students	Count	% of Resp'ts
The trip takes too long.	35	41.2%
Other	20	23.5%
The transit service does not run frequently enough.	19	22.4%
The bus stop or transit station is too far from where I live.	16	18.8%
The wait for transfer between transit services is too long.	15	17.6%
The fare costs too much.	15	17.6%
The transit service schedules and routes are too confusing.	9	10.6%
The transit route is often delayed or behind schedule.	9	10.6%
The transit service does not run late at night and/or on weekends.	7	8.2%
The bus/train is too crowded.	4	4.7%

Broadmoor/Daly City West Students	Count	% of Resp'ts
The trip takes too long.	63	44.7%
The wait for transfer between transit services is too long.	37	26.2%
The bus/train is too crowded.	33	23.4%
The transit service does not run frequently enough.	32	22.7%
The transit route is often delayed or behind schedule.	30	21.3%
Other	29	20.6%
The fare costs too much.	28	19.9%
The bus stop or transit station is too far from where I live.	17	12.1%
The transit service does not run late at night and/or on weekends.	13	9.2%
The transit service schedules and routes are too confusing.	8	5.7%

Colma/Daly City East Students	Count	% of Resp'ts
The trip takes too long.	47	61.0%
The bus/train is too crowded.	24	31.2%
The wait for transfer between transit services is too long.	20	26.0%
The fare costs too much.	20	26.0%
The transit service does not run frequently enough.	16	20.8%
The transit route is often delayed or behind schedule.	12	15.6%
The bus stop or transit station is too far from where I live.	10	13.0%
Other	8	10.4%
The transit service does not run late at night and/or on weekends.	8	10.4%
The transit service schedules and routes are too confusing.	4	5.2%

Pacifica Students	Count	% of Resp'ts
The trip takes too long.	48	41.7%
The transit service does not run frequently enough.	33	28.7%
Other	26	22.6%
The wait for transfer between transit services is too long.	25	21.7%
The transit route is often delayed or behind schedule.	15	13.0%
The fare costs too much.	14	12.2%
The bus stop or transit station is too far from where I live.	12	10.4%
The transit service schedules and routes are too confusing.	11	9.6%
The bus/train is too crowded.	9	7.8%
The transit service does not run late at night and/or on weekends.	7	6.1%

Millbrae Students	Count	% of Resp'ts
Other	7	41.2%
The bus stop or transit station is too far from where I live.	4	23.5%
The wait for transfer between transit services is too long.	4	23.5%
The trip takes too long.	3	17.6%
The transit service schedules and routes are too confusing.	2	11.8%
The transit service does not run frequently enough.	2	11.8%
The bus/train is too crowded.	1	5.9%
The transit route is often delayed or behind schedule.	1	5.9%

San Francisco Students	Count	% of Resp'ts
The trip takes too long.	110	63.2%
The bus stop or transit station is too far from where I live.	59	33.9%
The transit service does not run frequently enough.	58	33.3%
The wait for transfer between transit services is too long.	51	29.3%
Other	33	19.0%
The fare costs too much.	30	17.2%
The transit route is often delayed or behind schedule.	28	16.1%
The bus/train is too crowded.	19	10.9%
The transit service schedules and routes are too confusing.	15	8.6%
The transit service does not run late at night and/or on weekends.	9	5.2%

San Mateo County (excluding North County) Students	Count	% of Resp'ts
The trip takes too long.	23	46.0%
Other	19	38.0%
The wait for transfer between transit services is too long.	11	22.0%
The transit service does not run frequently enough.	11	22.0%
The bus stop or transit station is too far from where I live.	9	18.0%
The fare costs too much.	6	12.0%
The transit service schedules and routes are too confusing.	6	12.0%
The transit route is often delayed or behind schedule.	4	8.0%
The transit service does not run late at night and/or on weekends.	3	6.0%
The bus/train is too crowded.	2	4.0%

East Bay Students	Count	% of Resp'ts
The trip takes too long.	6	40.0%
The transit service does not run frequently enough.	5	33.3%
The bus stop or transit station is too far from where I live.	3	20.0%
The wait for transfer between transit services is too long.	2	13.3%
The bus/train is too crowded.	2	13.3%
The transit service schedules and routes are too confusing.	1	6.7%
Other	1	6.7%
The fare costs too much.	1	6.7%



**8. If you do not use public transportation for travel to Skyline College, what are the main reasons why?  
(select up to three)**

<b>North San Mateo County Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
The trip takes too long.	31	58.5%
Other	18	34.0%
The transit service does not run frequently enough.	15	28.3%
The bus stop or transit station is too far from where I live.	11	20.8%
The transit service schedules and routes are too confusing.	5	9.4%
The wait for transfer between transit services is too long.	4	7.5%
The transit service does not run late at night and/or on weekends.	4	7.5%
The fare costs too much.	3	5.7%
The transit route is often delayed or behind schedule.	3	5.7%
The bus/train is too crowded.	1	1.9%

<b>San Mateo County (excluding North County) Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
The trip takes too long.	27	71.1%
The transit service does not run frequently enough.	14	36.8%
The bus stop or transit station is too far from where I live.	11	28.9%
Other	7	18.4%
The wait for transfer between transit services is too long.	6	15.8%
The transit service schedules and routes are too confusing.	4	10.5%
The transit service does not run late at night and/or on weekends.	4	10.5%
The transit route is often delayed or behind schedule.	2	5.3%
The fare costs too much.	2	5.3%

<b>San Francisco Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
The trip takes too long.	33	86.8%
The transit service does not run frequently enough.	14	36.8%
The wait for transfer between transit services is too long.	11	28.9%
The bus stop or transit station is too far from where I live.	8	21.1%
The fare costs too much.	6	15.8%
The transit service does not run late at night and/or on weekends.	5	13.2%
Other	5	13.2%
The transit route is often delayed or behind schedule.	4	10.5%

<b>East Bay Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
The trip takes too long.	18	69.2%
The transit service does not run frequently enough.	9	34.6%
Other	9	34.6%
The wait for transfer between transit services is too long.	6	23.1%
The fare costs too much.	4	15.4%
The transit service schedules and routes are too confusing.	3	11.5%
The bus stop or transit station is too far from where I live.	3	11.5%
The bus/train is too crowded.	2	7.7%
The transit service does not run late at night and/or on weekends.	1	3.8%
The transit route is often delayed or behind schedule.	1	3.8%

<b>North Bay/South Bay Employees</b>	<b>Count</b>	<b>% of Resp'ts</b>
The trip takes too long.	6	54.5%
The bus stop or transit station is too far from where I live.	6	54.5%
The wait for transfer between transit services is too long.	2	18.2%
The fare costs too much.	2	18.2%
The transit service does not run frequently enough.	2	18.2%
The transit service does not run late at night and/or on weekends.	1	9.1%
The transit route is often delayed or behind schedule.	1	9.1%

**9. If you usually drive alone to Skyline College, what would encourage you to take public transportation to campus? (select up to three)**

	Number of Student Responses	% of Resp'ts
More direct bus service to campus from where I live	402	48.0%
Discounted transit passes	340	40.6%
More frequent bus service to campus from where I live	288	34.4%
Direct shuttle service between transit stations (BART/CalTrain) and campus	164	19.6%
Help with understanding transit information	119	14.2%
Other	99	11.8%
Direct rideshare service between transit stations (BART/CalTrain) and campus	74	8.8%
(not answered)	123	14.7%

	Number of Employee Responses	% of Resp'ts
More direct bus service to campus from where I live	84	50.0%
Direct shuttle service between transit stations (BART/CalTrain) and campus	64	38.1%
More frequent bus service to campus from where I live	48	28.6%
Discounted transit passes	39	23.2%
Other	25	14.9%
Direct rideshare service between transit stations (BART/CalTrain) and campus	21	12.5%
Help with understanding transit information	15	8.9%
(not answered)	14	8.3%

**9. If you usually drive alone to Skyline College, what would encourage you to take public transportation to campus? (select up to three)**

Brisbane/South San Francisco Students	Count	% of Resp'ts
More direct bus service to campus from where I live	83	55.7%
Discounted transit passes	70	47.0%
More frequent bus service to campus from where I live	62	41.6%
Direct shuttle service between transit stations (BART/CalTrain) and campus	27	18.1%
Help with understanding transit information	26	17.4%
Other	15	10.1%
Direct rideshare service between transit stations (BART/CalTrain) and campus	10	6.7%

San Bruno Students	Count	% of Resp'ts
Discounted transit passes	31	36.5%
More frequent bus service to campus from where I live	31	36.5%
More direct bus service to campus from where I live	28	32.9%
Direct shuttle service between transit stations (BART/CalTrain) and campus	18	21.2%
Help with understanding transit information	16	18.8%
Direct rideshare service between transit stations (BART/CalTrain) and campus	8	9.4%
Other	6	7.1%

Broadmoor/Daly City Students	Count	% of Resp'ts
Discounted transit passes	73	51.8%
More direct bus service to campus from where I live	62	44.0%
More frequent bus service to campus from where I live	46	32.6%
Help with understanding transit information	22	15.6%
Other	21	14.9%
Direct shuttle service between transit stations (BART/CalTrain) and campus	20	14.2%
Direct rideshare service between transit stations (BART/CalTrain) and campus	10	7.1%

Colma/Daly City East Students	Count	% of Resp'ts
More direct bus service to campus from where I live	30	39.0%
Discounted transit passes	30	39.0%
More frequent bus service to campus from where I live	27	35.1%
Direct shuttle service between transit stations (BART/CalTrain) and campus	23	29.9%
Help with understanding transit information	8	10.4%
Other	7	9.1%
Direct rideshare service between transit stations (BART/CalTrain) and campus	6	7.8%

Pacifica Students	Count	% of Resp'ts
More direct bus service to campus from where I live	49	42.6%
Discounted transit passes	43	37.4%
More frequent bus service to campus from where I live	40	34.8%
Help with understanding transit information	16	13.9%
Other	14	12.2%
Direct shuttle service between transit stations (BART/CalTrain) and campus	11	9.6%
Direct rideshare service between transit stations (BART/CalTrain) and campus	5	4.3%

Millbrae Students	Count	% of Resp'ts
More direct bus service to campus from where I live	10	58.8%
Discounted transit passes	5	29.4%
More frequent bus service to campus from where I live	4	23.5%
Other	4	23.5%
Help with understanding transit information	3	17.6%
Direct shuttle service between transit stations (BART/CalTrain) and campus	2	11.8%
Direct rideshare service between transit stations (BART/CalTrain) and campus	1	5.9%

San Francisco Students	Count	% of Resp'ts
More direct bus service to campus from where I live	104	59.8%
Discounted transit passes	64	36.8%
More frequent bus service to campus from where I live	60	34.5%
Direct shuttle service between transit stations (BART/CalTrain) and campus	46	26.4%
Direct rideshare service between transit stations (BART/CalTrain) and campus	29	16.7%
Other	20	11.5%
Help with understanding transit information	20	11.5%

San Mateo County (excluding North County) Students	Count	% of Resp'ts
More direct bus service to campus from where I live	25	50.0%
Discounted transit passes	14	28.0%
More frequent bus service to campus from where I live	13	26.0%
Other	9	18.0%
Direct shuttle service between transit stations (BART/CalTrain) and campus	8	16.0%
Help with understanding transit information	5	10.0%
Direct rideshare service between transit stations (BART/CalTrain) and campus	2	4.0%

East Bay Students	Count	% of Resp'ts
Direct shuttle service between transit stations (BART/CalTrain) and campus	6	40.0%
More direct bus service to campus from where I live	6	40.0%
Discounted transit passes	5	33.3%
Direct rideshare service between transit stations (BART/CalTrain) and campus	3	20.0%
More frequent bus service to campus from where I live	2	13.3%
Other	1	6.7%
Help with understanding transit information	1	6.7%

North San Mateo County Employees	Count	% of Resp'ts
More direct bus service to campus from where I live	32	60.4%
More frequent bus service to campus from where I live	21	39.6%
Other	11	20.8%
Discounted transit passes	10	18.9%
Direct shuttle service between transit stations (BART/CalTrain) and campus	9	17.0%
Direct rideshare service between transit stations (BART/CalTrain) and campus	4	7.5%
Help with understanding transit information	4	7.5%

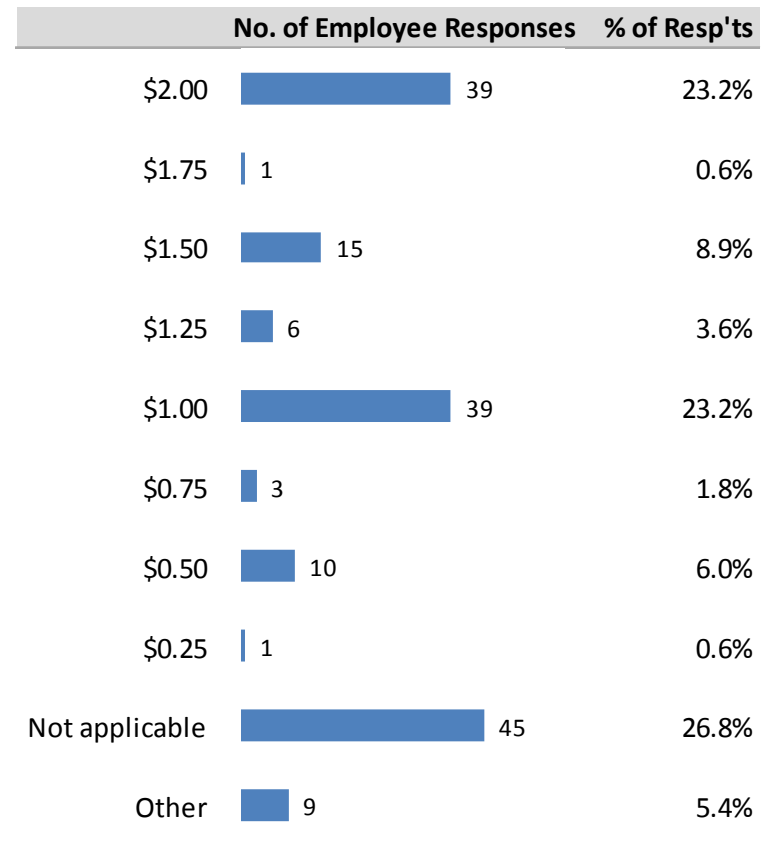
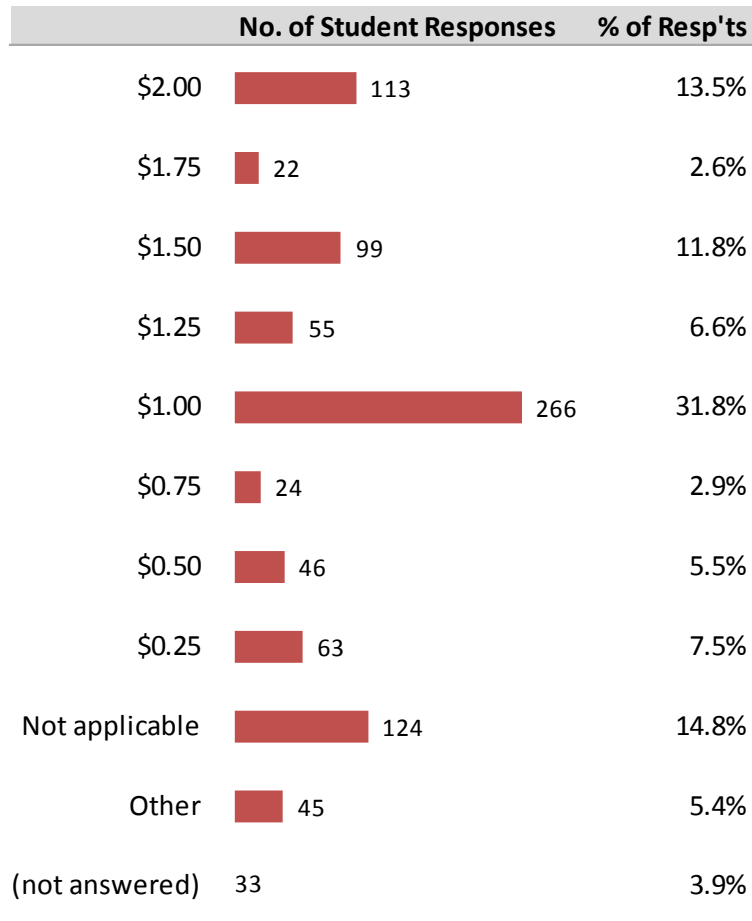
San Francisco Employees	Count	% of Resp'ts
Direct shuttle service between transit stations (BART/CalTrain) and campus	19	50.0%
More direct bus service to campus from where I live	19	50.0%
Discounted transit passes	14	36.8%
More frequent bus service to campus from where I live	8	21.1%
Direct rideshare service between transit stations (BART/CalTrain) and campus	7	18.4%
Help with understanding transit information	4	10.5%
Other	3	7.9%

San Mateo County (excluding North County) Employees	Count	% of Resp'ts
More direct bus service to campus from where I live	24	63.2%
More frequent bus service to campus from where I live	13	34.2%
Direct shuttle service between transit stations (BART/CalTrain) and campus	12	31.6%
Discounted transit passes	6	15.8%
Other	5	13.2%
Help with understanding transit information	5	13.2%
Direct rideshare service between transit stations (BART/CalTrain) and campus	2	5.3%

East Bay Employees	Count	% of Resp'ts
Direct shuttle service between transit stations (BART/CalTrain) and campus	16	61.5%
Direct rideshare service between transit stations (BART/CalTrain) and campus	7	26.9%
More direct bus service to campus from where I live	6	23.1%
More frequent bus service to campus from where I live	4	15.4%
Other	4	15.4%
Discounted transit passes	4	15.4%

North/South Bay Employees	Count	% of Resp'ts
Direct shuttle service between transit stations (BART/CalTrain) and campus	8	72.7%
Discounted transit passes	4	36.4%
More direct bus service to campus from where I live	3	27.3%
More frequent bus service to campus from where I live	2	18.2%
Other	2	18.2%
Direct rideshare service between transit stations (BART/CalTrain) and campus	1	9.1%
Help with understanding transit information	1	9.1%

**10. If direct shuttle service between local transit stations (BART/CalTrain) and Skyline College was offered, how much would you be willing to pay per one-way trip to ride the shuttle to campus?**



**11. If you usually drive alone to Skyline College, why don't you carpool/vanpool? (select up to three)**

	Number of Student Responses	% of Resp'ts
I cannot find other people to carpool or vanpool with.	319	38.1%
I travel to a location other than home before or after my day at Skyline College.	252	30.1%
I prefer driving alone.	223	26.6%
I come to campus during irregular hours.	205	24.5%
I cannot get home in an emergency.	164	19.6%
I need to make regular stops along the way.	100	11.9%
Other	63	7.5%
(not answered)	146	17.4%

	Number of Employee Responses	% of Resp'ts
I come to campus during irregular hours.	69	41.1%
I cannot find other people to carpool or vanpool with.	48	28.6%
I need to make regular stops along the way.	43	25.6%
I travel to a location other than home before or after my day at Skyline College.	42	25.0%
I need to use my car for work.	40	23.8%
I cannot get home in an emergency.	32	19.0%
I prefer driving alone.	27	16.1%
Other	13	7.7%
(not answered)	14	8.3%

## 11. If you usually drive alone to Skyline College, why don't you carpool/vanpool? (select up to three)

Brisbane/South San Francisco Students			San Bruno Students		
	Count	% of Resp'ts		Count	% of Resp'ts
I cannot find other people to carpool/vanpool with.	58	38.9%	I cannot find other people to carpool/vanpool with.	29	34.1%
I travel to a location other than home before or after my day at Skyline College.	39	26.2%	I travel to a location other than home before or after my day at Skyline College.	26	30.6%
I cannot get home in an emergency.	37	24.8%	I cannot get home in an emergency.	18	21.2%
I come to campus during irregular hours.	35	23.5%	I come to campus during irregular hours.	17	20.0%
I prefer driving alone.	33	22.1%	I prefer driving alone.	16	18.8%
I need to make regular stops along the way.	19	12.8%	I need to make regular stops along the way.	11	12.9%
Other	8	5.4%	Other	7	8.2%

Broadmoor/Daly City West Students			Colma/Daly City East Students		
	Count	% of Resp'ts		Count	% of Resp'ts
I prefer driving alone.	49	34.8%	I cannot find other people to carpool/vanpool with.	32	41.6%
I travel to a location other than home before or after my day at Skyline College.	46	32.6%	I travel to a location other than home before or after my day at Skyline College.	22	28.6%
I cannot find other people to carpool/vanpool with.	44	31.2%	I come to campus during irregular hours.	22	28.6%
I come to campus during irregular hours.	42	29.8%	I prefer driving alone.	20	26.0%
I cannot get home in an emergency.	35	24.8%	I cannot get home in an emergency.	15	19.5%
I need to make regular stops along the way.	17	12.1%	I need to make regular stops along the way.	13	16.9%
Other	9	6.4%	Other	6	7.8%

Pacifica Students			Millbrae Students		
	Count	% of Resp'ts		Count	% of Resp'ts
I cannot find other people to carpool/vanpool with.	41	35.7%	I cannot find other people to carpool/vanpool with.	10	58.8%
I prefer driving alone.	33	28.7%	I prefer driving alone.	6	35.3%
I come to campus during irregular hours.	32	27.8%	I travel to a location other than home before or after my day at Skyline College.	6	35.3%
I travel to a location other than home before or after my day at Skyline College.	23	20.0%	I cannot get home in an emergency.	5	29.4%
I cannot get home in an emergency.	18	15.7%	I come to campus during irregular hours.	4	23.5%
Other	14	12.2%	I need to make regular stops along the way.	4	23.5%
I need to make regular stops along the way.	13	11.3%			

San Francisco Students			San Mateo County (excluding North County) Students		
	Count	% of Resp'ts		Count	% of Resp'ts
I cannot find other people to carpool/vanpool with.	77	44.3%	I cannot find other people to carpool/vanpool with.	20	40.0%
I travel to a location other than home before or after my day at Skyline College.	67	38.5%	I travel to a location other than home before or after my day at Skyline College.	18	36.0%
I prefer driving alone.	49	28.2%	I prefer driving alone.	13	26.0%
I come to campus during irregular hours.	40	23.0%	I come to campus during irregular hours.	8	16.0%
I cannot get home in an emergency.	24	13.8%	I cannot get home in an emergency.	7	14.0%
I need to make regular stops along the way.	18	10.3%	Other	4	8.0%
Other	12	6.9%	I need to make regular stops along the way.	3	6.0%

East Bay Students		
	Count	% of Resp'ts
I cannot find other people to carpool/vanpool with.	5	29.4%
I travel to a location other than home before or after my day at Skyline College.	4	23.5%
Other	2	11.8%
I cannot get home in an emergency.	2	11.8%
I come to campus during irregular hours.	2	11.8%
I prefer driving alone.	1	5.9%
I need to make regular stops along the way.	1	5.9%

North San Mateo County Employees			San Francisco Employees		
	Count	% of Resp'ts		Count	% of Resp'ts
I need to make regular stops along the way .	17	32.1%	I come to campus during irregular hours.	16	42.1%
I come to campus during irregular hours.	15	28.3%	I cannot find other people to carpool/vanpool with.	12	31.6%
I prefer driving alone.	12	22.6%	I need to use my car for work .	12	31.6%
I travel to a location other than home before or after my day at Skyline College .	12	22.6%	I need to make regular stops along the way .	10	26.3%
I need to use my car for work .	12	22.6%	I travel to a location other than home before or after my day at Skyline College .	7	18.4%
I cannot get home in an emergency.	11	20.8%	I cannot get home in an emergency.	6	15.8%
I cannot find other people to carpool/vanpool with.	9	17.0%	I prefer driving alone.	6	15.8%
Other	3	5.7%	Other	2	5.3%

SMC (excluding North County) Employees			East Bay Employees		
	Count	% of Resp'ts		Count	% of Resp'ts
I come to campus during irregular hours.	21	55.3%	I come to campus during irregular hours.	9	34.6%
I cannot find other people to carpool/vanpool with.	14	36.8%	I travel to a location other than home before or after my day at Skyline College .	8	30.8%
I travel to a location other than home before or after my day at Skyline College .	14	36.8%	I cannot find other people to carpool/vanpool with.	7	26.9%
I need to make regular stops along the way .	14	36.8%	Other	5	19.2%
I need to use my car for work .	10	26.3%	I need to use my car for work .	5	19.2%
I cannot get home in an emergency.	9	23.7%	I cannot get home in an emergency.	4	15.4%
I prefer driving alone.	6	15.8%	I prefer driving alone.	3	11.5%
Other	1	2.6%	I need to make regular stops along the way .	2	7.7%

North/South Bay Employees		
	Count	% of Resp'ts
I cannot find other people to carpool/vanpool with.	6	54.5%
I come to campus during irregular hours.	6	54.5%
I cannot get home in an emergency.	1	9.1%
Other	1	9.1%
I travel to a location other than home before or after my day at Skyline College .	1	9.1%

**12. If you usually drive alone to Skyline College, what would encourage you to join a carpool or vanpool to campus? (select up to three)**

	Number of Student Responses	% of Resp'ts
Discounted parking permit for carpool or vanpool vehicles	352	42.1%
Financial assistance for carpool or vanpool gasoline	283	33.8%
Guaranteed ride home in an emergency	227	27.1%
Assistance finding carpool or vanpool drivers and vehicles	221	26.4%
Assistance finding carpool or vanpool passengers	170	20.3%
Other	68	8.1%
(not answered)	165	19.7%

	Number of Employee Responses	% of Resp'ts
Assistance finding carpool or vanpool drivers and vehicles	61	36.3%
Assistance finding carpool or vanpool passengers	53	31.5%
Guaranteed ride home in an emergency	41	24.4%
Other	28	16.7%
Financial assistance for carpool or vanpool gasoline	25	14.9%
(not answered)	42	25.0%

**12. If you usually drive alone to Skyline College, what would encourage you to join a carpool or vanpool to campus? (select up to three)**

Brisbane/South San Francisco Students	Count	% of Resp'ts
Discounted parking permit for carpool/vanpool vehicles	65	43.6%
Financial assistance for carpool/vanpool gasoline	55	36.9%
Guaranteed ride home in an emergency	51	34.2%
Assistance finding carpool/vanpool drivers and vehicles	27	18.1%
Assistance finding carpool/vanpool passengers	26	17.4%
Other	13	8.7%

San Bruno Students	Count	% of Resp'ts
Discounted parking permit for carpool/vanpool vehicles	30	35.3%
Guaranteed ride home in an emergency	22	25.9%
Assistance finding carpool/vanpool passengers	22	25.9%
Assistance finding carpool/vanpool drivers and vehicles	22	25.9%
Financial assistance for carpool/vanpool gasoline	17	20.0%
Other	4	4.7%

Broadmoor/Daly City West Students	Count	% of Resp'ts
Discounted parking permit for carpool/vanpool vehicles	67	47.5%
Financial assistance for carpool/vanpool gasoline	50	35.5%
Guaranteed ride home in an emergency	44	31.2%
Assistance finding carpool/vanpool drivers and vehicles	36	25.5%
Assistance finding carpool/vanpool passengers	24	17.0%
Other	7	5.0%

Colma/Daly City East Students	Count	% of Resp'ts
Discounted parking permit for carpool/vanpool vehicles	39	50.6%
Financial assistance for carpool/vanpool gasoline	26	33.8%
Assistance finding carpool/vanpool drivers and vehicles	25	32.5%
Guaranteed ride home in an emergency	22	28.6%
Assistance finding carpool/vanpool passengers	16	20.8%
Other	6	7.8%

Pacifica Students	Count	% of Resp'ts
Discounted parking permit for carpool/vanpool vehicles	43	37.4%
Financial assistance for carpool/vanpool gasoline	34	29.6%
Assistance finding carpool/vanpool drivers and vehicles	26	22.6%
Guaranteed ride home in an emergency	26	22.6%
Assistance finding carpool/vanpool passengers	21	18.3%
Other	12	10.4%

Millbrae Students	Count	% of Resp'ts
Discounted parking permit for carpool/vanpool vehicles	9	52.9%
Financial assistance for carpool/vanpool gasoline	6	35.3%
Guaranteed ride home in an emergency	5	29.4%
Assistance finding carpool/vanpool drivers and vehicles	5	29.4%
Other	3	17.6%
Assistance finding carpool/vanpool passengers	2	11.8%

San Francisco Students	Count	% of Resp'ts
Discounted parking permit for carpool/vanpool vehicles	75	43.1%
Financial assistance for carpool/vanpool gasoline	70	40.2%
Assistance finding carpool/vanpool drivers and vehicles	56	32.2%
Assistance finding carpool/vanpool passengers	44	25.3%
Guaranteed ride home in an emergency	42	24.1%
Other	16	9.2%

San Mateo County (excluding North County) Students	Count	% of Resp'ts
Assistance finding carpool/vanpool drivers and vehicles	16	32.0%
Discounted parking permit for carpool/vanpool vehicles	16	32.0%
Financial assistance for carpool/vanpool gasoline	13	26.0%
Assistance finding carpool/vanpool passengers	12	24.0%
Guaranteed ride home in an emergency	9	18.0%
Other	7	14.0%

East Bay Students	Count	% of Resp'ts
Financial assistance for carpool/vanpool gasoline	7	46.7%
Assistance finding carpool/vanpool drivers and vehicles	7	46.7%
Assistance finding carpool/vanpool passengers	3	20.0%
Discounted parking permit for carpool/vanpool vehicles	3	20.0%
Guaranteed ride home in an emergency	2	13.3%

North San Mateo County Employees	Count	% of Resp'ts
Assistance finding carpool/vanpool drivers and vehicles	15	28.3%
Assistance finding carpool/vanpool passengers	13	24.5%
Guaranteed ride home in an emergency	12	22.6%
Other	12	22.6%
Financial assistance for carpool/vanpool gasoline	9	17.0%

San Francisco Employees	Count	% of Resp'ts
Assistance finding carpool/vanpool drivers and vehicles	16	42.1%
Assistance finding carpool/vanpool passengers	10	26.3%
Guaranteed ride home in an emergency	6	15.8%
Financial assistance for carpool/vanpool gasoline	4	10.5%
Other	4	10.5%

San Mateo County (excluding North County) Employees	Count	% of Resp'ts
Assistance finding carpool/vanpool drivers and vehicles	18	47.4%
Assistance finding carpool/vanpool passengers	16	42.1%
Guaranteed ride home in an emergency	15	39.5%
Financial assistance for carpool/vanpool gasoline	5	13.2%
Other	4	10.5%

East Bay Employees	Count	% of Resp'ts
Other	8	30.8%
Assistance finding carpool/vanpool passengers	7	26.9%
Assistance finding carpool/vanpool drivers and vehicles	5	19.2%
Guaranteed ride home in an emergency	4	15.4%
Incentive to carpool	3	11.5%
Financial assistance for carpool/vanpool gasoline	2	7.7%

North/South Bay Employees	Count	% of Resp'ts
Assistance finding carpool/vanpool drivers and vehicles	6	54.5%
Assistance finding carpool/vanpool passengers	6	54.5%
Financial assistance for carpool/vanpool gasoline	5	45.5%
Guaranteed ride home in an emergency	3	27.3%



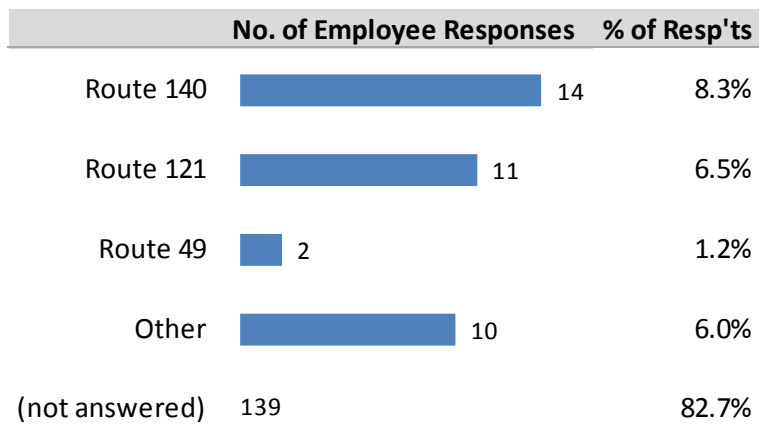
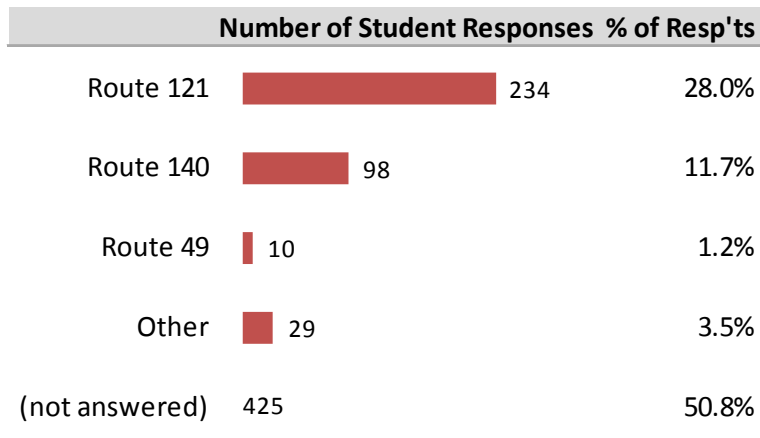
13. If you travel to Skyline College in a carpool or vanpool, how many people are in the vehicle (including yourself)?

	No. of Student Responses	% of Resp'ts
2	261	31.2%
3	80	9.6%
4	53	6.3%
5	29	3.5%
6	4	0.5%
8 or more	6	0.7%
(not answered)	425	50.8%

Note: Total percentage of student respondents is greater than 100% due to some respondents selecting more than one response option.

	No. of Employee Responses	% of Resp'ts
2	16	9.5%
3	10	6.0%
4	4	2.4%
8 or more	1	0.6%
(not answered)	137	81.5%

14. If you ride SamTrans to Skyline College, which bus route(s) do you use? (select all that apply)



15. If you ride SamTrans to Skyline College, did you normally ride Route 123 to Skyline College before it was discontinued on January 26th?

	Number of Student Responses	% of Resp'ts
Yes	115	13.7%
No	202	24.1%
(not answered)	520	62.1%

	No. of Employee Responses	% of Resp'ts
Yes	14	8.3%
No	17	10.1%
(not answered)	137	81.5%

**16. Please select all of the following programs and services of which you are aware:**

	No. of Student Responses	% of Resp'ts
Skyline College electric vehicle charging stations	241	28.8%
Skyline College fuel-efficiency vehicle parking	169	20.2%
Skyline College carpool/vanpool parking	108	12.9%
511.org RideMatch Service for carpools, vanpools, and bicycle partners	44	5.3%
Peninsula Traffic Congestion Relief Alliance (commute.org) Try Transit program	29	3.5%
Peninsula Traffic Congestion Relief Alliance (commute.org) Carpool to College program	22	2.6%
(not answered)	471	56.3%

	No. of Employee Responses	% of Resp'ts
Skyline College electric vehicle charging stations	118	70.2%
Skyline College fuel-efficient vehicle parking	93	55.4%
Skyline College carpool/vanpool parking	62	36.9%
511.org RideMatch Service for carpools, vanpools, and bicycle partners	26	15.5%
Peninsula Traffic Congestion Relief Alliance (commute.org) Try Transit program	7	4.2%
Peninsula Traffic Congestion Relief Alliance (commute.org) Carpool to College program	5	3.0%
(not answered)	29	17.3%

## APPENDIX B. SKYLINE COLLEGE TRANSPORTATION SURVEY

**This survey will take approximately 5 - 10 minutes to complete.  
Please do NOT complete this survey if you have already taken it.**

### **Survey Objective:**

This survey is designed to collect important data on the travel behavior of Skyline College students, faculty, and staff in an effort to determine the underlying reasons for travel mode selection. This data will be used to assess commuter patterns and transportation needs of the Skyline College community and will assist with future planning efforts to make travel to and from campus more affordable, accessible, and efficient.

**All information will remain confidential.**

**1. What is the 5-digit ZIP code of the location from which you typically come to Skyline College?**

5-digit ZIP code: \_\_\_\_\_

**2. What time of day do you typically arrive at Skyline College?**

- Before 6 a.m.
- Between 6 a.m. and 9 a.m.
- Between 9 a.m. and 12 p.m.
- Between 12 p.m. and 3 p.m.
- Between 3 p.m. and 6 p.m.
- Between 6 p.m. and 9 p.m.
- After 9 p.m.

**3. What time of day do you typically leave Skyline College?**

- Before 6 a.m.
- Between 6 a.m. and 9 a.m.
- Between 9 a.m. and 12 p.m.
- Between 12 p.m. and 3 p.m.
- Between 3 p.m. and 6 p.m.
- Between 6 p.m. and 9 p.m.
- After 9 p.m.

**4. How many times do you travel to Skyline College in a typical week?**

- Once a week
- Twice a week
- Three times a week
- Four times a week
- Five times a week
- More than five times a week

**5. Do you have access to a personal automobile (even if you do not use it for travel to Skyline College)?**

- Yes
- No

**Please continue on the next page. →**

**6. How do you usually travel to Skyline College? (select all travel modes that are part of your usual trip)**

- I drive alone
- Someone drives me and drops me off
- I am a driver in a carpool/vanpool
- I am a passenger in a carpool/vanpool
- I ride BART
- I ride CalTrain
- I ride SamTrans
- I ride a bicycle
- I walk to campus and do not use any other transportation method
- Other (please specify): \_\_\_\_\_

**7. What is most important to you when you choose how to travel to Skyline College? (select up to three)**

- Travel time
- Cost
- Convenience/Ease of access
- Flexibility/Ability to make stops along the way
- Ability to do other tasks while traveling (for example: read, do work, or watch videos)
- Reliability
- Comfort
- Safety
- Reducing pollution/Reducing energy use
- Other (please specify): \_\_\_\_\_

**8. If you do not use public transportation for travel to Skyline College, what are the main reasons why? (select up to three)**

- The transit service does not run frequently enough
- The transit route is often delayed or behind schedule
- The wait for transfer between transit services is too long
- The bus/train is too crowded
- The bus stop or transit station is too far from where I live
- The trip takes too long
- The fare costs too much
- The transit service does not run late at night and/or on weekends
- The transit service schedules and routes are too confusing
- Other (please specify): \_\_\_\_\_

**Please continue on the next page. →**

**9. If you usually drive alone to Skyline College, what would encourage you to take public transportation to campus? (select up to three)**

- Help with understanding transit information (for example: fare rates, routes, and schedules)
- Discounted transit passes (for example: reduced fares on SamTrans buses)
- More direct bus service to campus from where I live
- More frequent bus service to campus from where I live
- Direct rideshare service between transit stations (BART/CalTrain) and campus
- Direct shuttle service between transit stations (BART/CalTrain) and campus
- Other (please specify): \_\_\_\_\_

**10. If direct shuttle service between local transit stations (BART/CalTrain) and Skyline College was offered, how much would you be willing to pay per one-way trip to ride the shuttle to campus?**

- \$2.00
- \$1.75
- \$1.50
- \$1.25
- \$1.00
- \$0.75
- \$0.50
- \$0.25
- Other (please specify): \_\_\_\_\_
- Not applicable; I do not have access to local BART or CalTrain stations

**11. If you usually drive alone to Skyline College, why don't you carpool/vanpool? (select up to three)**

- I cannot find other people to carpool/vanpool with
- I come to campus during irregular hours
- I cannot get home in an emergency
- I need to use my car for work (for example: intercampus trips) **(option given in employee version only)**
- I need to make regular stops along the way (for example: the market, the bank, or K-12 school)
- I travel to a location other than home before or after my day at Skyline College  
(for example: another college or workplace)
- I prefer driving alone
- Other (please specify): \_\_\_\_\_

**12. If you usually drive alone to Skyline College, what would encourage you to join a carpool or vanpool to campus? (select up to three)**

- Assistance finding carpool/vanpool drivers and vehicles
- Assistance finding carpool/vanpool passengers
- Discounted parking permit for carpool/vanpool vehicles **(option given in student version only)**
- Financial assistance for carpool/vanpool gasoline
- Guaranteed ride home in an emergency
- Other (please specify): \_\_\_\_\_

**Please continue on the next page. →**

**13. If you travel to Skyline College in a carpool or vanpool, how many people are in the vehicle (including yourself)?**

- 2
- 3
- 4
- 5
- 6
- 7
- 8 or more

**14. If you ride SamTrans to Skyline College, which bus route(s) do you use? (select all that apply)**

- Route 49
- Route 121
- Route 140
- Other (please specify): \_\_\_\_\_

**15. If you ride SamTrans to Skyline College, did you normally ride Route 123 to Skyline College before it was discontinued on January 26<sup>th</sup>?**

- Yes
- No

**16. Please select all of the following programs and services of which you are aware:**

- Skyline College carpool/vanpool parking
- Skyline College fuel-efficient vehicle parking
- Skyline College electric vehicle charging stations
- 511.org RideMatch Service for carpools, vanpools, and bicycle partners
- Peninsula Traffic Congestion Relief Alliance (commute.org) Try Transit program
- Peninsula Traffic Congestion Relief Alliance (commute.org) Carpool to College program

**17. If you drive alone to Skyline College, what is the year, make, and model of the automobile that you drive? (for example: 2002 Honda Civic or 2010 Chevrolet Suburban) Your response will be used to assess greenhouse gas emissions from single occupancy vehicle trips to Skyline College.**

\_\_\_\_\_

**Feel free to provide any additional comments about your travel to Skyline College:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Thank you for completing this survey.**