MEMORANDUM

Date: September 14, 2016 (Revised March, 3, 2017)
To: Wendy Bloom, San Francisco State University
CC: Ann Sansevero, Dudek
From: Ingrid Ballus Armet and Matt Goyne, Fehr & Peers
      Anais Schenk, Dudek
Subject: SF State Creative Arts and Holloway Mixed-Use Project, Traffic and Circulation Analysis

This memorandum presents a study of travel demand at San Francisco State University (SF State) and the transportation-related effects and impacts of the proposed Creative Arts and Holloway Mixed-Use Project (herein referred to as “Project”). The Project is consistent with the SF State Campus Master Plan (CMP) completed in 2007 and the transportation-related effects and impacts identified in its Environmental Impact Review in 2007 (herein referred to as “2007 CMP EIR”).

This memorandum includes a description and assessment of existing transportation conditions at the Project site followed by a travel demand analysis and assessment of potential impacts of the Project on traffic, transit, bicyclists, and pedestrians. This evaluation is consistent with the 2007 CMP EIR Standards of Significance and the California State University’s Transportation Impact Study Manual (November 2012) (herein “CSU’s TIS Manual”). The evaluation also includes methods from the City and County of San Francisco’s Transportation Impact Analysis Guidelines (October 2002) (herein “SF Guidelines”).

The travel demand analysis includes an assessment of changes in campus travel demand since the completion of the 2007 CMP EIR as a result of changes in SF State’s campus population and their travel behavior, and its effects on the Trip Envelope established by the 2007 CMP EIR. The Adjusted CMP Trip Envelope is compared to the Project’s trip generation to determine if the Project would result in any additional significant impacts not presented and evaluated within the 2007 CMP EIR.
EXECUTIVE SUMMARY

The Project, located on the south side of the SF State campus (Figure 1), includes the construction of a new student housing building with 550 beds and campus-serving retail, a new Creative Arts replacement building, and an associated 800-seat concert hall. The student housing/mixed-use building will replace seven apartments with 22 beds and an existing student housing building with 173 beds, resulting in a net increase of 355 beds.

Based on the results of the 2016 SF State Travel Survey (Attachment B) and the San Francisco Guidelines, on an event day the Project would generate 233 net new vehicle trips and 70 net new transit trips during the PM peak hour. On a non-event day the Project would result in a decrease in trips with a total of -18 vehicle trips and -39 transit trips. This decrease in Project trips is a result of locating students who would otherwise live off campus into on campus housing.

The 2007 CMP EIR estimated an increase in travel demand to campus of 466 additional vehicle trips and 387 additional public transit trips during the PM peak hour by 2020. These additional trips, referred to as the CMP Trip Envelope in this memo, were added to existing conditions and analyzed in the 2007 CMP EIR. The total number of trips analyzed under the 2020 scenario of the 2007 CMP EIR is the threshold that projects are evaluated against to determine whether they would generate additional impacts beyond what was analyzed in the 2007 CMP EIR. The CMP Trip Envelope is the number of additional trips above existing conditions that can occur before trips exceed the 2020 conditions analyzed in the 2007 CMP EIR. Because the 2007 CMP EIR was completed in 2007 the Trip Envelope was adjusted to account for changes in existing conditions.

Since the completion of the 2007 CMP EIR, the campus population has remained steady or even declined in some years. In addition, fewer students, staff, and faculty currently drive to campus compared to 2007 due to the successful implementation of TDM measures. The combination of these two factors has reduced the number of campus-generated vehicle trips since the completion of the 2007 CMP and 2007 CMP EIR. ¹ Due to the changing demographics and travel behaviors, the total number of campus-generated vehicle trips has decreased while the number of

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¹ This is comparison to the 2007/2008 academic year which was the year the EIR was certified and the year that baseline counts for implementation of CMP EIR Mitigation Measure TRA-1 were conducted. Data on the campus population for every year is provided by the University Communications department and can be found on the SF State website at http://puboff.sfsu.edu/sfsufact/archive. (Accessed August, 2016.)
campus-generated public transit trips has increased. Thus, the Trip Envelope from the 2007 CMP EIR was adjusted to account for changed conditions. The resulting Trip Envelope is the difference between current conditions (2016) and the number of trips analyzed in the 2007 CMP EIR for the 2020 scenario. The Adjusted Trip Envelope is 1,027 vehicle trips and 163 public transit trips during the PM peak hour, which is greater than the number of vehicle and transit trips generated by the Project.

Further, given that the number of PM peak hour vehicle trips campus wide has declined by 561 trips between 2007 (CMP EIR base year) and 2016, the net new PM peak hour vehicle trips associated with the event-day Project conditions, would not result in an increase in PM peak hour vehicle trips over the 2007 CMP EIR baseline conditions. Since the estimated number of Project related trips is less than the Adjusted CMP Trip Envelope and the campus has reduced vehicle trips to below 2007 levels, the severity of impacts on traffic and transit conditions would be less than those presented in the 2007 CMP EIR.

The Project would also close Tapia Drive to vehicles (except for commercial loading and deliveries). Holloway Avenue and Font Boulevard would be able to accommodate rerouted traffic and passenger loading needs for the existing surrounding land uses and the Project’s concert hall. The Project is directly accessible to 19th Avenue and the M Line as well as Routes 28/28R, 29 and 57, as shown in Figure 1. As discussed above and below, the Project will not result in new or increased impacts to transit since the estimated number of Project transit trips is below what was studied for the 2020 scenario in the 2007 CMP EIR. The Project will include a number of bicycle and pedestrian improvements including secure bicycle parking, wider sidewalks, pedestrian bulb-outs and new access ramps. While pedestrian and bicycle trips are expected to increase due to the Project, existing and proposed facilities would be able to accommodate these trips and the Project is expected to have a less-than-significant impact on bicycle and pedestrian conditions.

PROJECT DESCRIPTION

The Project site includes two parcels on the south side of the SF State campus, as shown on Figure 1. One parcel is located on the south side of Holloway Avenue between Cardenas and Varela Avenues, while the other parcel, known as the Tapia Triangle, is bounded by Tapia Drive, Holloway Avenue, and Font Boulevard. The Project site is part of University Park South, an area that extends beyond the central campus boundaries to the south. University Park South currently includes existing residential units occupied by SF State students, affiliates and non-affiliates.
The CMP adopted in 2007 addresses all aspects of future physical development and land use on the campus to accommodate the enrollment ceiling of 25,000 full-time equivalent (FTE) students. The adopted CMP also accommodates a building program of 0.9 million gross square feet (GSF) of new and replacement non-residential building space and the development or conversion of about 1,200 additional units of housing for faculty, staff, and students. The Project is consistent with the CMP building program. However, a master plan map revision is required to allow for the proposed uses on the identified sites.

HOUSING

The Project includes the construction of new apartment-style student housing, campus-serving retail, and student support services on the south side of Holloway Avenue. The redevelopment of the block will allow for a more compact and dense configuration to increase the supply of on-campus housing in conformance with the CMP objectives. This development pattern is also in alignment with Parkmerced’s redevelopment plans. The retail and support services space will include campus-serving retail, student support services, bike storage, study rooms, a copy center, retail dining, and a modest amount of underground parking to replace parking being removed elsewhere on-campus in the vicinity of the Project. The retail and student support services space will serve SF State affiliates, as well as neighbors in the immediate vicinity of the campus.

CREATIVE ARTS AND CONCERT HALL BUILDINGS

The Project will also include constructing the Creative Arts replacement building and concert hall in the Tapia Triangle. This development assumes a relocation of the existing Department of Broadcast & Electronic Communication Arts (BECA) program from the existing Creative Arts building, but does not increase the enrollment or full-time employees above current levels. The 800-seat concert hall will be located adjacent to the Creative Arts replacement building. The concert hall will have recording and broadcast capabilities that will provide hands-on learning for BECA students and will serve as a performance venue and state-of-the-art recording studio for chamber orchestras, choral/vocal music, instrumental ensembles, and music groups. It also could host and simulcast lecture series, film festivals, and debates. Some events may be open to the campus community only while others will cater to the neighborhood and larger community, similar to the University’s current program of performing arts and lectures housed in McKenna and Knuth Theaters.
CHANGES TO TAPIA DRIVE AND VARELA AVENUE

SF State is applying to the City to close, or “vacate”, Tapia Drive to vehicles. This would allow SF State to incorporate the street right-of-way into the Project site and to integrate the site into the campus and, specifically, the academic core. SF State owns the property on both sides of Tapia Drive, and closing the street is consistent with the 2007 CMP, which envisioned a major east/west walkway connecting the central academic core with sites to the west, including the Mashouf Wellness Center. The current Tapia Drive right-of-way would be developed as part of the site for the proposed Creative Arts replacement building and concert hall and would be used primarily by pedestrians, although some vehicular access would be required for loading at the existing Creative Arts and Humanities building.

Varela Avenue is envisioned as a shared street. The Project would be designed to connect to the future Parkmerced transit station by adding pedestrian amenities and a courtyard that opens towards the transit hub. The alignment of the courtyard to this potential transit hub would promote movement of visitors through the courtyard from the new transit hub, ultimately connecting pedestrians to the SF State campus via Holloway Avenue. Once the future transit hub is completed, Varela Avenue may be restricted to shuttles and Muni buses as part of that future project such that pedestrians would be prioritized and the courtyard would act as an extension of the transit hub on the opposite side of the street. Improvements will include eliminating parking on Varela Avenue, a strategy to modify and reduce curbs so that ease of movement is promoted across Varela Avenue, and pavers that strengthen the pedestrian connection as well as provide a safe street crossing.

TDM AND TRANSPORTATION IMPROVEMENTS

The addition of housing and neighborhood retail services supports SF State’s goal to minimize drive-alone auto trips to reduce traffic congestion and GHG emissions. Consistent with the SF State transportation demand management (TDM) plan (Nelson/Nygaard 2009), new residential and retail development should use strategies that minimize the need for parking, such as car sharing, bike facilities, and access to transit.

The new student housing/mixed-use building at the southeast corner of Holloway Avenue and Varela Avenue would include secure, covered bicycle storage on the first floor of the building. Approximately 185 Class 1 secure, covered bicycle storage spaces would be provided in the
building. Approximately 12 Class 1 or Class II bicycle parking spaces would also be provided in the vicinity of the Creative Arts replacement building and concert hall.

The Project will include direct bicycle and pedestrian access from Block 1 to paths accessing the campus core, pedestrian bulb outs and wider sidewalks consistent with the Better Streets Plan, improved crosswalks and new access ramps. The Project is directly accessible to 19th Avenue and the M Line as well as Routes 28/28R, 29 and 57. Additionally, the Project is by nature a TDM strategy to reduce vehicle trips as it relocates students who would otherwise live off-campus into on-campus housing.

Parking will be provided in the basement of the new student housing/mixed-use building on Holloway Avenue and will serve SF State affiliates, concert hall events, and visitors to campus. Student residential parking will be limited to accessible spaces. Consistent with the 2007 CMP, the parking on Holloway will relocate a portion of the campus parking supply to the perimeter of campus, removing existing parking along Tapia Drive and from on-campus lots, and will constitute no net increase in the overall campus parking supply.

The absence of available parking spaces, the available alternatives to vehicular travel (transit, bicycling, and walking), and the dense pattern of urban development would induce many drivers to seek other modes of travel or change their overall travel behavior. Any such resulting shifts to transit service in particular would be in keeping with the City’s “Transit First” policy. The City’s Transit First Policy (CCSF 2007) provides that parking policies for areas well-served by public transit, such as the SF State campus, be designed to encourage travel by public transportation and alternative transportation. The table below provides a summary of the key elements of the Project.
## TABLE 1: PROJECT DESCRIPTION SUMMARY

<table>
<thead>
<tr>
<th>Project Element</th>
<th>Existing Site Conditions</th>
<th>Proposed Site Conditions</th>
<th>Net Change with Project</th>
</tr>
</thead>
</table>
| Student housing                      | 173 beds
7 units\(^1\)       | 550 beds                  | 355 beds\(^1\)          |
| Campus-serving retail/               | none                     | 33,000 25,000 GSF       | 33,000 25,000 GSF      |
| Student support services             |                          |                          |                         |
| Parking facilities                   | 53 auto spaces
9 motorcycle spaces\(^2\) | 72 70 parking spaces    | 0 parking spaces\(^3\) |
| Academic                             | none                     | 76,350 25,000 GSF       | 76,350 25,000 GSF      |
| Theater seats                        | none                     | 60,000 GSF 800 seats    | 60,000 GSF 800 seats   |

Notes:

1. The seven units are occupied by approximately 3.1 people per unit which is equivalent to 22 beds. Therefore the net new beds is 550 less 195, for a total of 355 beds.
2. Parking located on Tapia Drive.
3. Parking will be removed from Tapia Drive and elsewhere on campus to provide for no net increase in parking with the Project.

Figure 1

Project Sites and Existing Bicycle and Transit Network

- Project Sites
- Class 1 Bicycle Facilities
- Class 2 Bicycle Facilities
- Class 3 Bicycle Facilities
- Muni Light Rail Station
- Muni Bus Stop
- Passenger Loading Zone
- Commercial Loading Zone
- Continental Yellow Crosswalk
- Standard Crosswalk

Note: Crosswalks only shown along Holloway Avenue and Font Boulevard for pedestrian access to campus near the Project Sites.
EXISTING CONDITIONS

ROADWAY NETWORK

As shown in Figure 1, the Project site is located to the west of the California State Route 1 (CA SR-1)/19th Avenue at its intersection with Holloway Avenue. The student housing/mixed-use building site is located to the immediate west of this intersection and the Creative Arts building and concert hall site is located at the intersection of Holloway Avenue and Font Boulevard, approximately 0.3 mile from 19th Avenue.

19th Avenue is a north-south arterial road with three travel lanes in each direction and on-street parking and sidewalks on both sides. Muni light rail lines travel through the center of 19th Avenue in both directions in a dedicated right-of-way. 19th Avenue provides the primary north-south connection between the west side of San Francisco and I-280. I-280 is located approximately one mile away and provides the primary regional connection to the Project site.

Holloway Avenue is a two-way east-west road that provides primary local access to the Project site. Holloway Avenue has one travel lane in each direction, a narrow concrete median, on-street parking, and sidewalks, and Class 2 bicycle facilities (i.e. painted bike lanes).

Adjacent to the Creative Arts building and concert hall site, Font Boulevard is a two-way northwest-southeast road with one wide travel lane in each direction, angled parking on both sides, and a wide planted median and standard concrete sidewalks on both sides.

Tapia Drive is a one-way neighborhood street with one travel lane and one lane of on-street parking on both sides adjacent to the Creative Arts building and concert hall site. Tapia Drive is northbound north of Holloway Avenue and westbound east of Font Boulevard. From Holloway Avenue, Tapia Drive can only be accessed from the westbound direction.

Adjacent to the student housing/mixed-use building site, Varela Avenue and Cardenas Avenue are neighborhood streets with one travel lane in each direction as well as on-street parking and sidewalks on both sides. Serrano Drive is also a neighborhood street with one-way operations (westbound) between Varela Avenue and Cardenas Avenue. Between Cardenas Avenue and Arellano Avenue, Serrano Drive is two-way with one travel lane in each direction, angled parking on both sides and sidewalks on both sides.
The intersection of 19th Avenue and Holloway Avenue is signalized and includes marked white standard crossings with push-buttons and signals with countdowns for pedestrians. The intersection of Holloway Avenue, Tapia Drive (northbound) and Font Boulevard has a traffic circle with marked yellow continental pedestrian crossings. There is another traffic circle at the intersection of Font Boulevard and Tapia Drive (westbound), with marked yellow continental crossings across the northeast and southeast legs of the intersection, across Tapia Drive and Font Boulevard, respectively; all other crossings are unmarked.

**Traffic Operating Conditions**

Field observations of current traffic conditions on Holloway Avenue, Font Boulevard and Tapia Drive around the Project site were conducted by Fehr & Peers on Tuesday, May 24th, 2016, during the evening peak period (4:00 PM – 6:00PM).

During the weekday evening peak period, low-to-moderate vehicle volumes and congestion were observed on Holloway Avenue and Font Boulevard whereas low vehicle volumes were observed on Tapia Drive and the neighborhood streets adjacent to the student housing/mixed-use building site. Higher vehicle volumes and congestion were observed on 19th Avenue, consistent with findings from the 2007 CMP EIR.

**TRANSIT NETWORK**

Transit services near the Project site are shown in Figure 1. Primary public transit access to the Project site is provided by San Francisco Municipal Railway ("Muni") bus and light rail services. Four Muni bus routes run in proximity to the Project site: 28/28R 19th Avenue, 29 Sunset, 57 Parkmerced and 91 Owl. Bus stops nearest to the Project site are located at 19th Avenue/Holloway Avenue (serving the 28/28R 19th Avenue, 29 Sunset and 91 Owl), Crespi Drive/Varela Avenue (serving the 29 Sunset), Font Boulevard/Tapia Drive (serving the 57 Parkmerced) and Font Boulevard/Arballo Drive (serving the 57 Parkmerced). The M Ocean View Muni light rail line also runs near the Project site, with a stop on the north side of the 19th Avenue/Holloway Avenue intersection, in the center of 19th Avenue's right-of-way. Additionally, the Daly City and Balboa BART stations are approximately 1.5 miles and 2.0 miles, respectively, away from the Project site and serve the four BART lines running through San Francisco: Richmond-SFO/Millbrae, Pittsburg/Baypoint-SFO/Millbrae, Dublin/Pleasanton-Daly City, and Fremont-Daly City.

The northbound and southbound bus stops at 19th Avenue/Holloway Avenue (serving the 28/28R 19th Avenue, 29 Sunset and 91 Owl) are both located on the north side of the intersection.
Notably, the 29 Sunset south/eastbound stops are located east of the Crespi Drive/Varela Avenue intersection, at a traffic circle, and nearside, south of the 19th Avenue/Holloway Avenue intersection. The northbound and southbound bus stops for the 57 Parkmerced are located at opposite sides of the traffic circles on Font Boulevard.

**Existing Muni Ridership Data**

The availability of existing local and regional transit service near the Project site was analyzed using the screenline method to determine if screenline corridors that serve the SF State area have adequate capacity to serve demand and operate at or below the 85 percent capacity utilization threshold.

Table 2 presents the existing ridership and capacity utilization at the maximum loading point for the routes crossing the Southwest Screenline. All corridors within the screenline currently operate under the 85 percent performance standard.

<table>
<thead>
<tr>
<th>Outbound Screenline</th>
<th>PM Peak Hour* Ridership</th>
<th>PM Peak Hour* Capacity</th>
<th>PM Peak Hour* Capacity Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subway lines</td>
<td>4,904</td>
<td>6,164</td>
<td>80%</td>
</tr>
<tr>
<td>Haight/Noriega</td>
<td>977</td>
<td>1,554</td>
<td>63%</td>
</tr>
<tr>
<td>Other lines</td>
<td>555</td>
<td>700</td>
<td>79%</td>
</tr>
<tr>
<td><strong>Southwest Screenline Total</strong></td>
<td><strong>6,435</strong></td>
<td><strong>8,418</strong></td>
<td><strong>76%</strong></td>
</tr>
</tbody>
</table>

* PM peak hour; outbound (i.e. away from Downtown) only

Source: San Francisco Planning Department, May 2015; Fehr & Peers, 2016.

**Proposed Changes to Transit Service**

In March 2014, the SFMTA Board of Directors approved many recommendations that emerged from the Muni Forward Program, a review of the City’s public transit system, and were designed to make Muni service faster, more reliable, and more frequent. These recommendations include new routes and route extensions, service-related capital improvements, more service on busy routes, designation of rapid transit routes and travel time reduction proposals on those routes, and elimination or consolidation of certain routes or route segments with low ridership. The Muni Forward Implementation Strategy anticipates that many of the service improvements would be implemented between 2016 and 2017, pending resource availability. Muni Forward proposes the following changes for lines in the Project vicinity:
• **28(R) 19th Avenue (Rapid)** – The 28 19th Avenue would increase frequency during AM and PM peak from 10 to 9 minutes and during midday from 12 to 9 minutes. The 28R 19th Avenue Rapid service would increase operations, operating seven days a week between 6:00 AM and 8:00 PM with 9 minute headways during the AM and PM peak periods. The route for these two services would be modified near Fort Mason, by eliminating a section on Laguna, Beach, Buchanan and Bay streets. In addition, new transit and pedestrian bulbs are planned for the intersection of 19th Avenue/Holloway Avenue, near the Project site.

• **29 Sunset** – The 29 Sunset would increase in frequency during the AM peak from 9 to 8 minutes. The route has been modified (in 2014) so that buses make a left from Lincoln Way to Crossover Drive (instead of a series of three right turns). In addition, part of the route – on Geneva Avenue and Mission Street south of Ocean Avenue – would be eliminated; buses would travel directly on Ocean Avenue.

**Muni Subway Expansion Project**

In addition, the MTA is planning to combine the 28R Line with the Geneva Harney bus rapid transit (BRT) to provide a one-seat ride between the 19th Avenue corridor/SF State and Balboa Park as well as other major growth areas in southeast San Francisco. The new combined route would include exclusive lane treatments for BRT and would terminate in Candlestick/Hunters Point Shipyard. Implementation is planned for as early as 2023.

The MTA is also studying options to improve the M Ocean View Muni light rail line (M-line). The options under consideration were prompted by the Parkmerced development project, approved by the San Francisco Board of Supervisors in May 2011. The City and County of San Francisco and the owners of Parkmerced entered into a Development Agreement that governs each parties’ roles and responsibilities over a 20 to 25 year buildout of the site. One component of the Development Agreement relates to options for changes to the M-line.

The default improvement plan for the M-line is to realign it to Parkmerced. In this alignment option, the M-line would leave the 19th Avenue median at Holloway, cross 19th Avenue’s southbound lanes, run through the Parkmerced development on a dedicated transitway and return to the existing M-line alignment at 19th Avenue and Junipero Serra. This option would also include re-locating the existing M-line station at Holloway from the 19th Avenue median to west of 19th Avenue between Holloway and Crespi, as well as introducing two new stations within the Parkmerced site.
At the time the Development Agreement was executed, there was interest in a few long-term alternatives for the M-line that had not yet undergone any feasibility study or planning. Such ideas included grade separating the M-line at 19th Avenue, either above or below the street, as well as extending the M-line to Daly City BART. Since 2011, SFCTA and SFMTA have carried out the 19th Avenue Transit Study and the Pre-Environmental Study to define and evaluate these alternatives. In addition to the at-grade crossing alignment, two grade-separation options - the Longer Subway and Bridge, and the Full Subway have also been defined as alternatives that could be advanced to an environmental review stage.²

None of these options have yet received the required project approvals and permits. If none of these alternatives receives approval by July 2018, the Development Agreement provides for extension of the deadline or defining an alternative investment that replicates the public benefits.

The San Francisco Municipal Transportation Agency (SFMTA) is studying options to improve the M Ocean View Muni light rail line. In 2011, as part of Parkmerced’s Development Agreement, an alternative was developed to extend the existing M-line into Parkmerced and add an M-line crossing at 19th Avenue. In 2015, as part of the Pre-Environmental Study, another alternative was developed that would build a subway under 19th Avenue between West Portal and Parkmerced and introduces a new transfer at SF State for the M- and J-lines.³ The 19th Avenue Transit Study (SFCTA 2014), developed for the Muni Subway Expansion Project considers several alternatives for building a subway: Baseline, Longer Subway and Bridge, and Shorter Subway and Tunnel. The alternatives studied for the M-line included simplifying the crossing at 19th Avenue and Winston Avenue or 19th Avenue and Holloway, with a shorter distance across the street and fewer light-rail tracks to cross. In addition, the Longer Subway and Bridge alternative would add a new protected bike connection over Junipero Serra in the southern part of the corridor as a part of the light-rail bridge, a connection seen as particularly important for improving the bike connection between SF State and Daly City BART.

While the 19th Avenue Transit Study (SFCTA 2014) does include initial analysis of options for improving transit connections to the Daly City BART station, the Study’s main focus was on

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assessing the feasibility and benefits of grade-separating the M-Ocean View crossings of 19th Avenue. All alternatives considered in the Study for the M-line include a trail track which would enable a future extension of the light-rail to Daly City BART. However, because of the time sensitive need to advance the grade-separation project as it relates to Parkmerced Development Agreement timeline provisions, and because of the significant and independent benefit the grade separation project would provide, the next phase of project development will focus exclusively on advancing the grade-separation project, while leaving next steps on the question of Daly City transit access upgrades as a future phase of work that could be turned to. The potential improvements to the M-line have not undergone environmental review yet.

BICYCLE & PEDESTRIAN FACILITIES

Pedestrian facilities within the vicinity of the Project site include sidewalks, crosswalks, directional or diagonal curb ramps, pedestrian signals, and streetscape and landscape features (i.e. trees, planters, street lighting). The intersection of 19th Avenue and Holloway Avenue is signalized and includes marked white standard crossings with push-buttons and signals with countdowns for pedestrians. The pedestrian crossings across Holloway Avenue at Varela Avenue, Cardenas Avenue and Arellano Avenue are marked, standard crosswalks. However, the south leg of the crossing at Holloway Avenue/Cardenas Avenue, across Cardenas Avenue, is not marked. The marked crosswalks at the traffic circles on Font Boulevard – at Holloway Avenue/Tapia Drive and at Arballo Drive/Tapia Drive – are high-visibility crosswalks, with yellow continental pattern striping. However, only about half of the crossings at these two traffic circles are marked. Crossings are generally not marked on neighborhood streets such as Varela Avenue, Cardenas Avenue, Arellano Avenue and Serrano Drive.

There are Class 2 bicycle lanes in both directions on Holloway Avenue adjacent to the Project site, between Font Boulevard and Junipero Serra Boulevard (Figure 1). Font Boulevard between Holloway Avenue and Lake Merced Boulevard is designated as a Class 3 bicycle route that does not have painted “sharrows.”

There are a number of bicycle parking facilities on the SF State campus. Near the Project site, there are Class 2 bicycle racks (i.e. unsecured outdoor racks) adjacent to the existing Creative Arts Building on Tapia Drive (where the road curves) and near the intersection of Font Boulevard and the access road to the Village parking lot. These bicycle racks can accommodate 80 and 40 bicycles, respectively.
Existing pedestrian conditions were evaluated during field visits to the Project site during the evening peak period (4:00 PM to 6:00 PM) on Tuesday, May 24, 2016. Pedestrian activity was observed to be moderate along Holloway Avenue and Font Boulevard. Fewer pedestrians were observed on Tapia Drive and the residential streets south of Holloway Avenue. Pedestrian activity was observed to be higher at the 19th Avenue/Holloway Avenue intersection due to activity surrounding the highly-used Muni bus stops on 19th Avenue and M Ocean View light rail station. Few cyclists were observed traveling along Font Boulevard and Holloway Avenue during the evening peak period. On Holloway Avenue, cyclists were observing using the bicycle lanes. One cyclist was observed using the sidewalk on 19th Avenue at Holloway Avenue.

There are no near-term planned changes to bicycle and pedestrian infrastructure in the area, aside from the Project’s proposed closure of Tapia Drive. The M-Line improvement project would include new pedestrian and bicycle amenities such as a Class I mixed-use pathway on the west side of 19th Avenue, wider sidewalks, and shorter and more frequent pedestrian crossings across 19th Avenue.

ON-STREET PARKING CONDITIONS

Fehr & Peers conducted on-street parking surveys in the vicinity of the Project site (within one block of the Project site) on Holloway Avenue between 19th Avenue and Font Boulevard, Tapia Drive between Holloway Avenue and Font Boulevard, Font Boulevard between Serrano Drive and the campus access road to the Village/Mary Ward Hall, Serrano Drive between Varela Avenue and Font Boulevard, Varela Avenue between Holloway Avenue and Serrano Drive, Crespi Drive between Serrano Drive and Cardenas Avenue, Cardenas Avenue between Holloway Avenue and Crespi Drive, and Arellano Avenue between Holloway Avenue and Serrano Drive. The survey was conducted during a weekday evening peak period (4:00 PM to 6:00 PM), on Tuesday, May 24, 2016.

Table 3 presents the on-street parking supply and demand (occupancy) near the Project site by street during the PM peak period. There are a total of 381 on-street parking spaces within one block of the Project site, with the majority of spaces located on Holloway Avenue (101 spaces) and Font Boulevard (105 spaces). In general, parking within one block of the Project site is highly utilized, with an overall occupancy of 94% during the evening peak period. During the observation period, a few parked cars appeared to be engaged in moving loading activities (i.e. moving students out of student housing).
Parking on the south side of Holloway Avenue between 19th Avenue and Varela Avenue as well as on the north side of Holloway Avenue between Varela Avenue and Font Boulevard is metered. Although most of these metered parking spaces have a two-hour maximum, approximately 40% of these spaces have a 30-minute maximum. On the south side of Holloway Avenue between Varela Avenue and Font Boulevard as well as on most of Font Boulevard parking is unmetered short-term/residential parking (one-hour maximum Monday through Friday 8:00 AM to 6:00 PM except residential ‘E’ permits). Similar to Holloway Avenue, Tapia Drive has metered parking on its north and east sides and unmetered short-term/residential parking (two-hour maximum Monday through Friday 8:00 AM to 6:00 PM) on its south and west sides. Residential streets like Varela Avenue, Cardenas Avenue, Arellano Avenue and Crespi Drive have unmetered short-term/residential parking (one-hour maximum Monday through Friday 8:00 AM to 6:00 PM except residential ‘E’ permits). However, there are two 30-minute spaces on the eastside of Varela Avenue between Holloway Avenue and Serrano Drive, adjacent to intersection with Holloway Avenue. Serrano Drive is unmetered short-term/residential parking but with two-hour maximums (Monday through Friday 8:00 AM to 6:00 PM except residential ‘E’ permits).

### TABLE 3: ON-STREET PARKING UTILIZATION NEAR PROJECT SITE

<table>
<thead>
<tr>
<th>Street</th>
<th>From – To</th>
<th>Supply</th>
<th>Parking Utilization (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holloway Avenue</td>
<td>19th Avenue – Font Boulevard</td>
<td>101</td>
<td>95%</td>
</tr>
<tr>
<td>Tapia Drive</td>
<td>Holloway Avenue - Font Boulevard</td>
<td>20</td>
<td>90%</td>
</tr>
<tr>
<td>Font Boulevard</td>
<td>Campus Road (Access to Village &amp; Mary Ward Hall) – Serrano Drive</td>
<td>105</td>
<td>94%</td>
</tr>
<tr>
<td>Varela Drive</td>
<td>Holloway Drive - Serrano Drive</td>
<td>11</td>
<td>91%</td>
</tr>
<tr>
<td>Cardenas Avenue</td>
<td>Holloway Avenue – Crespi Drive</td>
<td>35</td>
<td>97%</td>
</tr>
<tr>
<td>Arellano Avenue</td>
<td>Holloway Drive - Serrano Drive</td>
<td>21</td>
<td>76%</td>
</tr>
<tr>
<td>Serrano Drive</td>
<td>Varela Avenue – Font Boulevard</td>
<td>80</td>
<td>98%</td>
</tr>
<tr>
<td>Crespi Drive</td>
<td>Serrano Drive - Cardenas Avenue</td>
<td>8</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>381</strong></td>
<td><strong>94%</strong></td>
</tr>
</tbody>
</table>

LOADING CONDITIONS

Fehr & Peers observed passenger loading activities at the Project site during the May 24th site visit. As indicated in Figure 1, there are two passenger loading zones within one block of the Project site, located at:

- North side of Holloway Avenue between Varela Avenue and 19th Avenue: 130 feet long, active from 7:00 AM to 10:00 PM Monday-Friday;
- North side of Holloway Avenue between Tapia Drive and Arellano Avenue: 90 feet long, active between from 8:00 AM to 11:00 PM daily.

At the time of observations, no loading activities were observed at these two locations. However, passenger loading (pick-up/drop-off) was observed at the location of two ADA parking spaces on the northeast side of the traffic circle on Font Boulevard at Tapia Drive/Arballo Drive.

A commercial loading zone was observed on the east side of Cardenas Avenue (30 feet long). There is also a commercial loading zone located on campus at the northeast corner of Tapia Drive (20 feet long) for the existing College of Liberal and Creative Arts. At the time of observations, no commercial loading activities were observed.

METHODOLOGY

The analysis presented herein is based on the methodology set forth in the CSU’s TIS Manual and the SF Guidelines.

The CSU TIS Manual states that a full TIS, including Level of Service (LOS) analysis, would be required if an assessment of the project’s trip generation indicated potential new significant impacts to traffic conditions based on the CEQA Guidelines Appendix G checklist. As presented later in this memorandum, the Project’s trip generation would not exceed the 2007 CMP EIR Trip Envelope, which indicates no potential new significant impacts to traffic conditions. Additionally, the number of vehicle trips generated by the campus in the PM peak hour has declined due to an effective TDM program and changing demographics and population. Therefore, even with event day conditions for the Project, the number of vehicle trips generated would not result in an increase in PM peak hour vehicle trips over the 2007 CMP EIR baseline conditions. Thus, a LOS analysis was not conducted for the Project.
Additionally, this memorandum presents a Downtown transit screenline analysis as described in the SF Guidelines. A screenline is an imaginary line on a map, composed of one or more straight line segments. Various screenlines were created by the City of San Francisco that intercept groups of transit lines at or near their maximum load point. The SF Guidelines establishes that a project would have a significant effect on the transit provider if project-related transit trips would cause the capacity utilization standard to be exceeded during the peak hour at those screenlines. For the Muni transit screenlines, the capacity utilization standard is 85 percent.

The impact analysis section presented in this memorandum reviews the potential transportation impacts due to the Project and compares them to what was presented in the 2007 CMP EIR. The 2007 CMP EIR found that the increased campus population by 2020 would result in a significant traffic impact to two study intersections and a significant transit impact. These significant impacts were found to be less than significant following implementation of several mitigation measures, including a Transportation Demand Management program and an associated trip survey and monitoring program that includes extensive coordination between SF State, BART, and SFMTA.

TRAVEL DEMAND ANALYSIS

The section presents the Project’s travel demand and the changes in SF State’s campus travel demand between 2007 and 2016 on the 2020 Trip Envelope presented in the 2007 CMP EIR.

SF State has conducted an online Travel Survey at least every three years starting in April 2008; the latest survey having been conducted in April 2016. The survey asked SF State students, faculty, and staff (both on and off-campus residents) a series of questions about their commutes and general travel behavior for trips to and from SF State’s campus, including trip time and mode of travel to/from campus. The 2016 Travel Survey instrument is presented in Attachment A. Nelson/Nygaard prepared a report presenting the 2016 Travel Survey results, which is included in Attachment B.

STUDENT HOUSING/MIXED-USE BUILDING TRIP GENERATION

The Project’s new on-campus student housing/mixed-use building would provide a net increase of 382 beds. These units are expected to be occupied by students that are currently living off-campus. PM peak hour trip rates and mode splits for the new student housing were estimated for students living both on- and off-campus based on the results of the 2016 Travel Survey. This summary is inclusive of both internal trips (e.g. a student traveling from on-campus student
housing to an evening class) and external trips (e.g. a staff member traveling home from the concert hall). Table 4 presents the net change in trips by mode to/from and within campus during the PM peak hour that would result from the addition of the 382 on-campus beds. With respect to external campus trips - vehicle and transit trips would decrease as students currently living off-campus move on-campus while walk and bike trips within the campus would increase. Overall, the total number of person trips generated by on-campus students during the PM peak hour is slightly less than for off-campus students. In net, the Project’s new on-campus student housing/mixed-use building would reduce trips external to the campus by 18 vehicle trips and 39 public transit trips.

<table>
<thead>
<tr>
<th>TABLE 4: PM PEAK HOUR STUDENT HOUSING TRIP GENERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Existing 355 Off-Campus Students</strong></td>
</tr>
<tr>
<td><strong>Trips</strong></td>
</tr>
<tr>
<td>Total Person Trips</td>
</tr>
<tr>
<td>Trip Rate²</td>
</tr>
<tr>
<td>Drive Alone, Motorcycle</td>
</tr>
<tr>
<td>Carpool³</td>
</tr>
<tr>
<td>Taxi, Transportation Network Company (TNC), Pick up/Drop off⁴</td>
</tr>
<tr>
<td>Public Transit</td>
</tr>
<tr>
<td>Walk/Bike</td>
</tr>
<tr>
<td>Other⁵</td>
</tr>
<tr>
<td>Vehicle Trips⁶</td>
</tr>
<tr>
<td>Public Transit Trips⁷</td>
</tr>
</tbody>
</table>

Notes:
1. Net change in trip generation due to the Project, i.e. trips generated by 355 students living on-campus minus trips generated by 355 students living off-campus.
2. The 2016 Travel Survey asked about trip making behavior during the two hour PM peak period for a typical day on campus. Therefore, the PM peak hour trip rates shown here include the following assumptions: the PM peak hour generates 60 percent of the trips from the two-hour PM peak period (based on the peak hour factors in SF-CHAMP, the City of San Francisco’s travel demand model), and 80 percent of students will be present on-campus on any one day (based on the responses to the SF State 2016 Travel Survey and survey data from other university campuses in San Francisco).
3. Vehicle trips include drive alone, motorcycle, carpool, and taxi/TNC/pick-up and drop-off. Vehicle occupancy for carpool trips is 2.2 people per vehicle, based on cordon counts performed on April 6, 2016. Because so few students are currently using carpool, this number was rounded down for a conservative assessment.
4. Transportation Network Companies, or TNCs, connect paying passengers with drivers who transport people in their own private vehicles. Examples include Lyft, Uber, and Cabify.
5. Mode for ‘Other’ trips were not specified by 2016 Travel Survey respondents. These are assumed to be people using skateboards or other active modes typically used on university campuses. i.e. not vehicle or transit trips.
6. Public transit trips include the SF State campus shuttle.

The mixed-use component of the Project includes campus-serving retail, student support services, bike storage, study rooms, a copy center, and retail dining. These land uses supplement or replace existing on-campus services and primarily cater to SF State affiliates, although the retail options will also be open to nearby residents of the adjacent Parkmerced neighborhood (similar to existing on-campus retail services). As a result of these new on-campus services, SF State affiliates may choose to stay on campus for activities they would have otherwise done off campus. This effect may decrease the number of trips from campus. In contrast, nearby residents may travel to these new on-campus services whereas they would not previously have traveled to campus. These effects have not been quantified as part of this analysis, although patrons of the businesses are expected to be from the campus or within walking or biking distance in the adjacent neighborhood. Thus, the campus-serving retail and student support services are assumed not to generate new vehicle or transit trips to campus.

CREATIVE ARTS BUILDING AND CONCERT HALL TRIP GENERATION

The Project will also include the construction of the Creative Arts replacement building. This building will provide a new home for the existing BECA program. There are not currently any plans to use the old Creative Arts building to add new programs, students, staff, or faculty to the existing services provided at SF State. Therefore, this building would not increase the enrollment or full-time employees above current levels nor result in an increase in the number of trips to/from campus.

The Project will also include an 800-seat concert hall that would provide hands-on learning for BECA students and would also serve as a performance venue and state of the art recording studio. On a typical day, the concert hall will function as a teaching and learning environment for existing BECA students. The addition of the concert hall will not result in additional students or faculty and staff on non-event days. Therefore, when there are no events at the concert hall, the concert hall will not result in additional vehicle trips.

Events at the concert hall will vary in size and purpose. Some events will cater only to students while others will have a regional draw. In order to calculate the trip generation for the concert hall on an event day, a large event scenario was assumed based on input from SF State. The large event scenario assumes full capacity, or 800 attendees, with 85% of attendees coming from off-
campus and 15% of attendees coming from on-campus. Four additional employees will be needed to staff the concert hall on event days. Most weekday events would not begin until 7:30 PM or 8:00 PM, in which case attendees would not be traveling to campus during the PM peak hour. However, for the purpose of presenting a “worst-case” analysis, the event day trip generation assumes that all attendees and staff would travel during the PM peak hour.

Table 5 presents the resulting number of person trips by mode on event days related to the new concert hall. Assuming the worst-case large event scenario – the event is at full capacity and all attendees travel during to the concert hall during the PM peak – the concert hall would result in 251 249 new vehicle trips and 109 new transit trips during the PM peak hour of an event day.

### Table 5: Event Day PM Peak Hour Trip Generation Due to New Concert Hall

<table>
<thead>
<tr>
<th></th>
<th>Person Trips</th>
<th>Mode Split</th>
<th>Vehicle &amp; Transit Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff (Drive Alone Trips)</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Event Attendees</td>
<td>800</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Person Trips</strong></td>
<td><strong>804</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Off-Campus Person Trips</strong></td>
<td><strong>684</strong></td>
<td><strong>85% of attendees and 100% of staff</strong></td>
<td>-</td>
</tr>
<tr>
<td>Vehicle</td>
<td>523</td>
<td>76.3%</td>
<td>251 249</td>
</tr>
<tr>
<td>Transit</td>
<td>109</td>
<td>16.1%</td>
<td>109</td>
</tr>
<tr>
<td>Walk</td>
<td>37</td>
<td>5.4%</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>2.2%</td>
<td>-</td>
</tr>
<tr>
<td><strong>On-Campus Person Trips</strong></td>
<td><strong>120</strong></td>
<td><strong>15% of attendees</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

**Notes:**
1. Based on information provided by SF State regarding existing on-campus events, 85 percent of event attendees are assumed to come from off-campus. It is assumed that on-campus attendees will walk, bicycle or use a form of transportation other than driving or transit.
2. Modes splits are based on Table E-17 from the City and County of San Francisco Transportation Impact Analysis Guidelines.
3. Vehicle occupancy is 2.1 for Visitors to “Other” land uses, based on the City and County of San Francisco Transportation Impact Analysis Guidelines. The number of vehicle trips also includes four additional staff, all of which are assumed to be living off campus and driving alone.
4. Since these trips are generated by on-campus attendees it is assumed that they will bike or walk to the event.

**Source:** Fehr & Peers, 2016; Dudek, 2016.

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4 Provided by SF State staff. These percentages are based on attendance data from existing events at other comparable theaters on-campus.
PROJECT TRIP GENERATION SUMMARY

The total number of net new trips generated by the Project (student housing/mixed-use building and Creative Arts replacement building and concert hall) is shown in Table 6 below. The Project would generate a total of 233 231 net new vehicle trips and 70 net new public transit trips during the PM peak hour on an event day assuming the worst-case large event scenario described above. On typical, non-event days, the Project would contribute to further reducing vehicle trips on campus during the PM peak hour, as existing students living off campus relocate to the student housing/mixed use building.

<table>
<thead>
<tr>
<th>TABLE 6: PM PEAK HOUR PROJECT TRIP GENERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Person Trips</td>
</tr>
<tr>
<td>Vehicle Trips³</td>
</tr>
<tr>
<td>Public Transit Trips</td>
</tr>
<tr>
<td>Walk/Bike⁴</td>
</tr>
<tr>
<td>Other⁵</td>
</tr>
</tbody>
</table>

Notes:
1. As presented in Table 4.
2. As presented in Table 5.
3. Vehicle occupancy is 2.2 for carpool trips to/from the new student housing and 2.1 for visitor trips to concert hall, as presented in Tables 4 and 5.
4. Mode split was obtained from two different sources and each categorizes mode split differently. The housing land use mode split was used from the 2016 Travel Survey. The concert hall mode split was obtained from the SF Guidelines using “visitor trips” because campus specific mode split for events was not collected in the 2016 Travel Survey. Due to the differences in how mode split is collected, this row includes walking and bicycle trips for the student housing/mixed-use land use, whereas it only includes walking trips for the Creative Arts Building land use. Biking trips are characterized under “other” and cannot be extracted based on available data.


CMP TRIP ENVELOPE

The 2007 CMP EIR estimated that the projected campus expansion by 2020 would result in an additional 466 vehicle trips and 387 public transit trips during the PM peak hour by 2020. The 2007 CMP EIR evaluated transportation impacts based on this “CMP Trip Envelope” for vehicle and transit trips. However, since 2007, the campus population has decreased from 33,612 to 33,563 students, faculty, and staff. In addition, fewer students, staff, and faculty currently drive to campus compared to 2007. The combination of these two factors has reduced the number of
campus-generated vehicle trips since the completion of the 2007 CMP. Table 7 shows the estimated PM peak hour travel demand for the campus in 2007 and in 2016, and calculates the change in the number of trips generated by the campus between 2007 and 2016. During the PM peak hour, SF State generates 561 fewer vehicle trips and 224 additional public transit trips during the PM peak hour in 2016 compared to 2007.

<table>
<thead>
<tr>
<th>TABLE 7: SF STATE CAMPUS PM PEAK HOUR TRAVEL DEMAND 2007-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Trips</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Headcount Students, Faculty, and Staff&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Total Person Trips</td>
</tr>
<tr>
<td>Trip Rate&lt;sup&gt;3,4&lt;/sup&gt;</td>
</tr>
<tr>
<td>Drive Alone, Motorcycle</td>
</tr>
<tr>
<td>Carpool</td>
</tr>
<tr>
<td>Taxi, TNC, Pick up/Drop off</td>
</tr>
<tr>
<td>Public Transit</td>
</tr>
<tr>
<td>Walk/Bike</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Vehicle Trips</td>
</tr>
<tr>
<td>Public Transit Trips</td>
</tr>
</tbody>
</table>

Notes:
2. Mode splits are based on Travel Survey results analyzed by Nelson/Nygaard in 2008 and 2016. See Nelson/Nygaard report in Attachment B.
3. The 2016 Travel Survey asked about trip making behavior during the two hour PM peak period for a typical day on campus. Therefore, the PM peak hour trip rates shown here include the following assumptions: the PM peak hour generates 60% of the trips from the two-hour PM peak period (based on the peak hour factors in SF-CHAMP, the City of San Francisco’s travel demand model), and 80% of students will be present on campus on any one day (based on the responses to the SF State 2016 Travel Survey and survey data from other university campuses in San Francisco).
4. Trip rate is a weighted average for students, faculty, and staff. It is assumed to be the same for 2007 as for 2016, i.e. assumes the number of trips generated per person were the same in 2007 as they are in 2016.
5. Vehicle occupancy for carpool trips in 2007 is assumed to be 2.4, based on travel survey results presented in the Transportation Demand Management Plan, Fall 2009.
6. Vehicle occupancy for carpool trips in 2016 is assumed to be 2.2, based on cordon counts performed on April 6, 2016.

Table 8 presents the changes in travel demand from 2007 to 2016 due to changes in SF State's campus population and the Adjusted CMP Trip Envelope to reflect these changes. This Adjusted CMP Trip Envelope represents the number of trips that could be added to the campus between 2016 and 2020 without creating new impacts to the roadway and transit networks beyond those presented in the 2007 CMP EIR. As indicated in Table 8, the Adjusted CMP Trip Envelope is 1,027 vehicle trips and 163 public transit trips during the PM peak hour. In comparison, the Project generates a total of 233,231 vehicle trips and 70 public transit trips during the PM peak hour on event days. On a typical day the Project would result in a decrease of 18 vehicle trips and a decrease of 39 transit trips.

<table>
<thead>
<tr>
<th></th>
<th>2007 CMP EIR Trip Envelope</th>
<th>SF State Campus Travel Demand Change 2007-2016</th>
<th>Adjusted CMP Trip Envelope</th>
<th>Event Day Project Trip Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Trips</td>
<td>466</td>
<td>-561</td>
<td>1,027</td>
<td>233,231</td>
</tr>
<tr>
<td>Public Transit Trips</td>
<td>387</td>
<td>224</td>
<td>163</td>
<td>70</td>
</tr>
</tbody>
</table>


**IMPACT ASSESSMENT**

This section summarizes the assessment of transportation impacts resulting from the travel demand generated by the Project. The impacts are grouped into three potential impact areas: (1) traffic, (2) transit, and (3) bicycle and pedestrian. Additionally, an assessment of loading conditions is provided for informational purposes.

**TRAFFIC IMPACTS**

The Project would close Tapia Drive to vehicles. During site observations, vehicle volumes on Tapia Drive were low as it does not provide through access to any destinations. Existing vehicles on Tapia Drive are typically looking for parking spaces or picking-up or dropping-off passengers. Therefore, the closure of Tapia Drive would cause that parking and pick-up/drop-off activity to shift to other locations on campus or the new parking area provided as a part of the Project, but would not cause congestion on adjacent streets. Passenger loading for the Project’s concert hall
would be provided in the existing Holloway Avenue passenger-loading zone (see Figure 1) or along Font Boulevard, since it is a wide street and through vehicles would be able to maneuver around double-parked vehicles.

As presented in the travel demand analysis section, the Project would add 233 net new vehicle trips during the PM peak hour, which is less than the Adjusted CMP Trip Envelope of 1,027 vehicle trips. This increase in vehicle trips would occur during Concert Hall event days only (up to 80 per year or about 7 per month), and only in the rare occasion when there is an early evening, full-capacity event that attracts mostly off-campus attendees. Most evening events are expected to begin at 7:30 or 8pm, after the PM peak hour. On most days during the year, the Project would result in fewer vehicle trips to SF State’s campus. Additionally, the number of vehicle trips generated by the campus has declined since the 2007 base year. Therefore, even under the event day scenario, the Project and the campus as a whole would still be generating fewer trips than the 2007 base year. Thus, the Project will not result in any additional vehicle traffic or significant traffic impacts beyond those identified in the 2007 CMP EIR.

TRANSIT IMPACTS

As presented in Table 8, the Project would add 70 net new public transit trips during the PM peak hour, which is less than the Adjusted CMP Trip Envelope of 163 public transit trips during the PM peak hour. Therefore, the Project would not result in any additional transit ridership beyond that identified in the 2007 CMP EIR.

In addition to the comparison to the Adjusted CMP Trip Envelope, the Project’s contribution to Downtown transit screenlines were evaluated using the SF Guidelines methodology to determine whether the Project would cause an existing transit line to exceed its capacity. The SF Guidelines methodology requires analysis of outbound trips away from Downtown. As indicated in Table 4, the proposed student housing/mixed-use building would generate a net decrease of 39 public transit trips in the PM peak hour. Based on the 2016 Travel Survey results, only eight percent of these trips (i.e. three trips) represent trips towards the SF State campus (i.e. Muni’s outbound direction, away from downtown), which would affect the PM peak hour Muni screenline analysis. This small reduction in transit trips would have a negligible effect on the Downtown transit screenline analysis and will therefore not be taken into account in this analysis.

On the other hand, the concert hall would generate 109 transit trips on an event day assuming the worst-case large event scenario. Based on the 2016 Travel Survey, of the 109 transit trips
generated by the concert hall during the PM peak hour, 33 percent of the trips would use the M line to SF State (i.e. Muni’s outbound direction, away from downtown). This represents 36 additional trips on the M line across the Downtown screenline. The remainder of the transit trips would use the SF State shuttle or other Muni lines that do not cross any of the screenlines – routes 28/28R 19th Avenue, 29 Sunset, and 57 Parkmerced.

As presented in Table 9, based on the worst-case large event scenario, Project trips represent a less than one percent increase in the number of transit riders crossing the Downtown screenline. Even with the addition of these 36 trips, neither the individual M line nor the Southwest screenline would exceed the 85 percent PM peak hour capacity utilization. Therefore, the Project would not result in any additional significant public transit impacts beyond those identified in the 2007 CMP EIR.

<table>
<thead>
<tr>
<th>Outbound Screenline</th>
<th>Existing</th>
<th>Existing Plus Project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PM Peak Hour 1 Ridership</td>
<td>PM Peak Hour 1 Capacity</td>
</tr>
<tr>
<td>Subway lines</td>
<td>4,904</td>
<td>6,164</td>
</tr>
<tr>
<td>Haight/Noriega</td>
<td>977</td>
<td>1,554</td>
</tr>
<tr>
<td>Other lines</td>
<td>555</td>
<td>700</td>
</tr>
<tr>
<td>Southwest Screenline Total</td>
<td>6,435</td>
<td>8,418</td>
</tr>
</tbody>
</table>

Notes:
1. PM peak hour outbound (i.e. away from Downtown, inbound to SF State) only.
2. Data is based on the 2016 Travel Survey. Transit riders using BART (the subway) have to use another mode to arrive to campus because the nearest BART stop is over 1.5 miles away. Some of these BART riders are likely to take MUNI. Therefore, the total number of transit trips will be greater than 109 as some people will take both BART and MUNI to get to campus.


BICYCLE & PEDESTRIAN IMPACTS

As presented in the travel demand analysis section of this memorandum (see Table 8), the Project would add 77,197 net new pedestrian and bicycle trips on event days and 40 net new on-campus pedestrian and bicycle trips on non-event days. The Project’s closure of Tapia Drive to through vehicular traffic would create a more pleasant pedestrian and bicycle environment on campus near the Project site. Commercial loading access to the Concert Hall and College of Liberal and
Creative Arts on Tapia Drive and vehicle access the parking garage at new student housing/mixed-use building along Holloway Avenue would be designed to minimize conflicts with pedestrians and bicyclists by providing adequate sight distance and conforming to the SF Planning Code. At the vacated Tapia Drive, access to most vehicles would be limited through the provision of bollards or signage, similar to the designs of other mixed commercial loading and pedestrian spaces on campus.

The proposed changes to Tapia Drive due to the Project would improve conditions for pedestrians and bicyclists by reducing intermodal conflicts. Sidewalks installed as part of the Project would be consistent with the Better Streets Plan and would be able to accommodate the new pedestrians. Other pedestrian improvements as part of the Project would improve access and add more space for the pedestrians. Further, the existing facilities near the Project site would be able to accommodate the new bicyclists associated with the Project.

The Project would be designed to connect to the future Parkmerced transit station by adding pedestrian amenities and a courtyard that opens towards the transit hub. The alignment of the courtyard to this potential transit hub would promote movement of visitors through the courtyard from the new transit hub, ultimately connecting pedestrians to the SF State campus via Holloway Avenue. The project would also include improved pedestrian crossings on Varela Avenue. The final design of the Project’s proposed modifications in the public right-of-way, including pedestrian crossings, would be completed in consultation with City staff as part of the Project’s approval process for a street improvement permit and sidewalk legislation through the City. Once the future transit hub is in the design phase additional pedestrian amenities and improvements could be considered as part of that future project. Varela Avenue would be designed to prioritize pedestrians. Improvements will include eliminating parking on Varela Avenue, a strategy to modify and reduce curbs so that ease of movement is promoted across Varela Avenue, and pavers that strengthen the pedestrian connection as well as provide a safe street crossing.

The new student housing/mixed-use building would also include secure, covered bicycle storage on the first floor of the building. Approximately 185 Class I secure, covered bicycle storage spaces would be provided in the building. Approximately 12 Class II bicycle parking spaces would also be provided in the vicinity of the Creative Arts replacement building and concert hall and will be in a visible location, easily accessible to the buildings. These spaces are part of a campus-wide planning effort to improve bicycle infrastructure and access to campus, addressing routes, safety, and centralized bike parking areas that include a mix of racks and secure facilities.
While pedestrian and bicycle trips are expected to increase due to the Project, the Project would not create unsafe conditions for pedestrians or bicyclists, nor would the additional walk and bike trips cause crowding on nearby sidewalks. Campus facilities are designed to accommodate high pedestrian and bicycle volumes and these facilities would not experience crowding due to the Project. In addition, the Project’s closure of Tapia Drive to vehicles (except commercial loading and deliveries) and other pedestrian improvements along nearby roadways would improve pedestrian conditions on campus near the Project site. These improvements include new access ramps, bulb-outs, crosswalks, improved sidewalks, and other pedestrian amenities that will ensure safer access. Therefore, the Project would not result in any additional significant impacts to pedestrians and bicyclists beyond those identified in the 2007 CMP EIR.

**Loading Assessment**

The existing commercial loading zone located on Tapia Drive for the College of Liberal and Creative Arts would remain, with access through the bollard or sign controlled pedestrian zone via Holloway Avenue. Therefore, the Project would not change the existing commercial loading access for College of Liberal and Creative Arts. Commercial loading for the Creative Arts Building and Concert Hall would occur within Tapia Drive and typically include delivery of materials for the Creative Arts Building or preparing for concerts at the Concert Hall, which would occur throughout the day. The new pedestrian plaza would be designed to accommodate the commercial loading trucks, providing a clear pathway from Holloway Avenue to the loading zone and from the loading zone to Font Boulevard, including adequate curb radii. This would be similar to other loading facilities on campus where the loading zone is located within a shared loading and pedestrian/bicycle zone. Access to these loading zones would conform to SF Planning Code and Better Streets Plan.

Passenger loading for the concert hall should be provided on Font Boulevard. The passenger loading zone would need to be similar in size to the existing passenger loading zone on Holloway Avenue in front of the McKenna theatre, which is approximately 100 feet. This passenger loading zone would be subject to SFMTA approval.

Residential loading (deliveries and passenger loading) would be accommodated within the existing commercial loading zone on Cardenas Avenue and the new parking garage in the proposed student housing/mixed-use building. San Francisco’s Planning code (section § 152)
requires one off-street loading space to be provided for the student housing/mixed-use building\(^5\). In addition, there are passenger loading zones along Holloway as shown on Figure 1.

As the Project will be designed to accommodate commercial and passenger loading demand and meet the Code requirements, it would not create new hazards for other roadway users, including pedestrians and bicyclists. Therefore, the Project would not result in any additional significant impacts to pedestrians and bicyclists beyond those identified in the 2007 CMP EIR due to loading facilities.

CONCLUSION

The Creative Arts and Holloway Mixed-Use Project would not create new significant impacts or worsen the severity of impacts identified in the 2007 CMP EIR. The new student housing portion of the Project would reduce the total number of vehicle and transit trips to the campus during the PM peak; the number of students living on campus – who would otherwise live off-campus and arrive to campus via car, public transit, or other means – would increase and therefore reduce the number of trips from off-campus student residences. The Creative Arts replacement building would not include an increase in enrollment or full-time employees and thus would not result in any changes in travel demand to/from campus. The new concert hall would not result in additional trips on non-event days. On event days, vehicle and transit trips related to the concert hall during the PM peak hour would increase, but the added number of trips would be below the Adjusted Trip Envelope presented in this memorandum. Additionally, the total number of vehicle trips generated by the campus even with event day traffic of the Project is well below the total number of vehicle trips studied in the baseline year of the 2007 CMP EIR. Therefore, the Project would not result in new or additional impacts beyond those identified in the 2007 CMP EIR.

While pedestrian and bicycle trips are expected to increase due to the Project, the Project would not create unsafe conditions for pedestrians or bicyclists, nor would the additional walk and bike trips cause crowding on nearby sidewalks or bicycle facilities. In addition, the Project’s closure of Tapia Drive to vehicles (except commercial loading and deliveries) and additional pedestrian and bicycle amenities would improve pedestrian and bicycle conditions on campus near the Project.

\(^5\) San Francisco Planning Code, section 152, states that new buildings between 100,001 and 200,000 square feet shall provide one off-street freight loading space. The student housing/mixed-use building would approximately be 140,00 square feet.
site. Thus, the Project would not result in any additional significant impacts to pedestrians and bicyclists beyond those identified in the 2007 CMP EIR.

**Attachments**

Attachment A – 2016 Travel Survey Instrument
Attachment B – San Francisco State University 2016 Transportation Survey Results Report by Nelson/Nygaard - DRAFT
ATTACHMENT A – 2016 TRAVEL SURVEY INSTRUMENT
General Information

SF State Transportation Survey

Please complete this survey about your commute and general travel to and from SF State's main campus at 1600 Holloway on **Wednesday, April 6, 2016**.

The survey takes approximately 5 minutes to complete, and your response is greatly appreciated. The survey will close on April 14, 2016.

Upon completing the survey you will have an opportunity to enter for **a chance to win a $100 gift card to the SF State Bookstore**.

Thank you for helping us improve the quality of our campus!

What is your primary affiliation with SF State?
- Freshman
- Other undergraduate
- Graduate student
- Staff or Administrator
- Faculty
- Visitor/contractor
- Other

Are you full-time or part-time?
- Full-time
- Part-time
- Not Applicable

On average, how many days a week do you come to the **SF State main campus at 1600 Holloway**?

Where do you live?
- On campus
- Off campus
Specify dorm/apartment

Specify zip code

What is your average cost for your round trip commute to and from SF State? Please round to the nearest dollar.

Were you on campus on **Wednesday, April 6th 2016**?
- Yes
- No

Have you participated in or used / do you currently participate in or use any of the following programs and services?

<table>
<thead>
<tr>
<th>Service</th>
<th>I wasn't aware of this service</th>
<th>I've heard of this service but never used it</th>
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**For Employees:** Have you participated in or used / do you currently participate in or use any of the following programs and services?

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<td>☐</td>
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<td>☐</td>
</tr>
</tbody>
</table>
Do you know where to go if you have questions about your commute or need other transportation information?
- Yes, and I have used the resources available to me before
- Yes, but I have not used the resources available to me
- No, I do not know what resources are available to me

Which resources have you used to get transportation and commute information? (please check all that apply)
- SF State Website home page
- Parking & Transportation Website
- Word of mouth (fellow student or coworker)
- My manager
- Human resources
- Hiring materials
- A distribution list that I signed up for
- Digital screens found around campus
- Other (please specify)

In an effort to reduce parking demand and to expand affordable transportation options, SF State is exploring the possibility of pursuing discounts for our students, faculty, and staff for on-demand taxi services known as TNCs such as Uber and Lyft.

Would you be interested in such a benefit?
- Yes
- No

Please provide any additional comments about transportation issues that relate to SF State.

If you would like to be entered for a chance to receive a $100 gift card to the SF State Bookstore, please enter your email address.
Your Trip to Campus

The following questions are about your trip to the main campus at 1600 Holloway. You will be asked to describe your commute by indicating the mode of transportation used for each segment of the trip.

For example, your commute might have only one segment if you drove, walked, or biked directly to campus. Or, it might have three segments if you 1) drove and parked at your closest BART station, 2) took BART to Daly City, and 3) took the shuttle to campus.

Please describe your commute to the main campus on **Wednesday, April 6, 2016**.

If you took more than one mode/ have multiple segments, please start the survey by selecting your first segment.

For your trip to the main campus, where did you start your trip?

(For example, Main Campus and On-Campus Dorms = 94132).

**Zipcode**

For your trip to the main campus, what time did you arrive at the main campus?

Please enter time in the following format: HH:MM AM

<table>
<thead>
<tr>
<th>HH</th>
<th>MM</th>
<th>AM/PM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Select the mode of transportation for your **first** segment:

- Walk, bike, or other active transport
- Public transportation / shuttle
- Private vehicle (cars, carpool, motorcycle, etc.)
- Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs

Which mode of transportation did you use?

- Walk
- Bicycle
- Other
Please estimate (in miles) the distance you traveled for this segment of your trip
(E.g. If you traveled 1 1/2 miles, enter 1.5)

Specify Muni Line

Please estimate (in miles) the distance you traveled in this segment of your trip
(E.g. If you traveled 1 1/2 miles, enter 1.5)

Specify BART start station

Specify BART end station

Specify Caltrain start station
Specify Caltrain end station

Please estimate (in miles) the distance you traveled for this segment of your trip (E.g. If you traveled 1 1/2 miles, enter 1.5)

I was the:
- Passenger
- Driver

Number of people in the carpool/vanpool on Wednesday April 6, 2016:

Please estimate (in miles) the distance you traveled for this segment of your trip (E.g. If you traveled 1 1/2 miles, enter 1.5)

Please estimate (in miles) the distance you traveled for this segment of your trip (E.g. If you traveled 1 1/2 miles, enter 1.5)

Your Trip Segments to Campus

On your trip to SF State's main campus, what was the mode of transportation for your second segment?

If you used BART previously, please use this question to tell us how you got from BART to campus.
- Walk, bike, or other active transport
- Public transportation / shuttle
- Private vehicle (cars, carpool, motorcycle, etc.)
Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs

None

Which mode of transportation did you use?

- Walk
- Bicycle
- Other
- Muni
- BART
- SF State Shuttle
- Caltrain
- Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans)
- Drove Alone
- Dropped Off / Picked Up
- Motorcycle/Moped
- Carpool/Vanpool
- Taxi
- Uber
- Lyft
- Other on-demand taxi or real-time ride-sharing service

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Specify Muni Line

Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Specify BART start station
Specify BART end station

Specify Caltrain start station

Specify Caltrain end station

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

I was the:

- Passenger
- Driver

Number of people in the carpool/vanpool on **Wednesday April 6, 2016**: 

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)
On your trip to SF State's main campus, what was the mode of transportation for your third segment?

If you used BART previously, please use this question to tell us how you got from BART to campus.

- Walk, bike, or other active transport
- Public transportation / shuttle
- Private vehicle (cars, carpool, motorcycle, etc.)
- Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs
- None

Which mode of transportation did you use?

- Walk
- Bicycle
- Other
- Muni
- BART
- SF State Shuttle
- Caltrain
- Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans)
- Drove Alone
- Dropped Off / Picked Up
- Motorcycle/Moped
- Carpool/Vanpool
- Taxi
- Uber
- Lyft
- Other on-demand taxi or real-time ride-sharing service

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Specify Muni Line

Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)
Specify BART start station

Specify BART end station

Specify Caltrain start station

Specify Caltrain end station

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

I was the:
- Passenger
- Driver

Number of people in the carpool/vanpool on Wednesday April, 6, 2016:

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)
Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

On your trip to SF State’s main campus, what was the mode of transportation for your fourth segment?

If you used BART previously, please use this question to tell us how you got from BART to campus.

- Walk, bike, or other active transport
- Public transportation / shuttle
- Private vehicle (cars, carpool, motorcycle, etc.)
- Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs
- None

Which mode of transportation did you use?

- Walk
- Bicycle
- Other
- Muni
- BART
- SF State Shuttle
- Caltrain
- Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans)
- Drove Alone
- Dropped Off / Picked Up
- Motorcycle/Moped
- Carpool/Vanpool
- Taxi
- Uber
- Lyft
- Other on-demand taxi or real-time ride-sharing service

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Specify Muni Line
Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Specify BART start station

Specify BART end station

Specify Caltrain start station

Specify Caltrain end station

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

I was the:
- Passenger
- Driver

Number of people in the carpool/vanpool on Wednesday April 6, 2016:
Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Parking

Did you park on the street or in a parking lot / garage?

- Parking lot / garage
- On the street
- I did not drive today.

Where did you park when you came to the main campus on Wednesday, April 6, 2016?

- On Campus
- Near Campus
- Near Daly City BART station
- Near another BART station
- Park & Ride lot
- Other

Please choose a zone where you parked (map below)
How much did it cost you to park on \textit{Wednesday, April 6, 2016}?

- Free
Which of the following programs, if any, would encourage you to commute to campus via a mode of travel other than driving alone?

Please rank your first, second, and third choices.

First choice: 

Second choice: 

Third choice: 

Your Trip Segments From Campus

Your Trip from Campus

The following questions are about your trip from the main campus at 1600 Holloway. You will be asked to describe your commute away from campus by indicating the mode of transportation used for each segment of your trip.

For example, your trip might have only one segment if you drove, walked, or biked directly from campus. Or, it might have three segments if you 1) took the shuttle to BART, 2) took BART to the East Bay and 3) walked home.

Please describe your trip from campus on Wednesday, April 6, 2016.

If you took more than one mode/ have multiple segments, please start the survey by selecting your first segment.
For your trip from the main campus, what time did you depart from the main campus?

Please enter time in the following format: HH:MM AM

HH
MM
AM/PM

Did you use the exact same means of transportation when you left the campus on Wednesday, April 6, 2016 as you did when coming to campus?

If any segment of your trip from campus was different from your trip to campus, please select No.

○ Yes
○ No

For your trip from the main campus, where did you end your trip?

Zipcode

Select the mode of transportation for your first segment:

If your next segment is via BART, please use this question to tell us how you got from campus to the BART station.

○ Walk, bike, or other active transport
○ Public transportation / shuttle
○ Private vehicle (cars, carpool, motorcycle, etc.)
○ Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs

Which mode of transportation did you use?

○ Walk
○ Bicycle
○ Other
○ Muni
○ BART
○ SF State Shuttle
○ Caltrain
○ Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans)
○ Drove Alone
○ Dropped Off / Picked Up
Motorcycle/Moped
Carpool/Vanpool
Taxi
Uber
Lyft
Other TNC

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Specify Muni Line

Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Specify BART start station

Specify BART end station

Specify Caltrain start station

Specify Caltrain end station
Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

I was the:

- Passenger
- Driver

Number of people in the carpool/vanpool on **Wednesday, April 6, 2016**:

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

On your trip **from** SF State’s main campus, what was the mode of transportation for your **second** segment?

If your next segment is via BART, please use this question to tell us how you got from campus to the BART station.

- Walk, bike, or other active transport
- Public transportation / shuttle
- Private vehicle (cars, carpool, motorcycle, etc.)
- Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs
- None

Which mode of transportation did you use?

- Walk
- Bicycle
- Other
- Muni
-
BART
SF State Shuttle
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Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans)
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I was the:
  ○ Passenger
  ○ Driver

Number of people in the carpool/vanpool on Wednesday, April 6, 2016:

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On your trip from SF State's main campus, what was the mode of transportation for your third segment?

If your next segment is via BART, please use this question to tell us how you got from campus to the BART station.
  ○ Walk, bike, or other active transport
  ○ Public transportation / shuttle
  ○ Private vehicle (cars, carpool, motorcycle, etc.)
  ○ Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs
  ○ None
Which mode of transportation did you use?

- Walk
- Bicycle
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- Muni
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Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Specify Muni Line

Specify BART start station

Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Specify BART end station
Passenger

Driver

Specify Caltrain start station

Specify Caltrain end station

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

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- Passenger
- Driver

Number of people in the carpool/vanpool on Wednesday, April 6, 2016:

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If your next segment is via BART, please use this question to tell us how you got from campus to the BART station.
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Which mode of transportation did you use?
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I was the:
- Passenger
- Driver

Number of people in the carpool/vanpool on Wednesday, April 6, 2016:

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)
Transportation Patterns Questions

How many round trips, other than those already reported in this survey, did you take to/from campus (or home for on-campus residents) on Wednesday, April 6, 2016? Please do not include trips taken within campus.

What was your primary mode of travel for these trips?

If this includes an auto trip for any segment, please select that option.

- Walk, bike, or other active transport
- Public transportation / shuttle
- Private vehicle (cars, carpool, motorcycle, etc.)
- Taxi, Uber, Lyft, or other on-demand taxi services known as TNCs

How many of these trips occurred (arrived or departed campus) between the hours of 7-9 AM?

How many of these trips occurred (arrived or departed campus) between the hours of 4-6 PM?

Have you participated in or used / do you currently participate in or use any of the following programs and services?

<table>
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**For Employees:** Have you participated in or used / do you currently participate in or use any of the following programs and services?

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<td>Pre-Tax Parking Benefit (pre-tax purchase of parking)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Do you know where to go if you have questions about your commute or need other transportation information?

- Yes, and I have used the resources available to me before
- Yes, but I have not used the resources available to me
- No, I do not know what resources are available to me

Which resources have you used to get transportation and commute information? (please check all that apply)

- SF State Website home page
- Parking & Transportation Website
- Word of mouth (Fellow student or Coworker)
- My manager
- Human Resources
- Hiring Materials
- A distribution list that I signed up for
- Digital Screens found around campus
- Other (please specify)

In an effort to reduce parking demand and to expand affordable transportation options, SF State is exploring the possibility of pursuing discounts for our students, faculty, and staff for on-demand taxi services known as TNCs such as Uber and Lyft.

Would you be interested in such a benefit?

- Yes
- No
Last Questions

Please provide any additional comments about transportation issues that relate to SF State.

If you would like to be entered for a chance to receive a $100 gift card to the SF State Bookstore, please enter your email address.
ATTACHMENT B – SAN FRANCISCO STATE UNIVERSITY 2016 TRANSPORTATION SURVEY RESULTS REPORT BY NELSON/NYGAARD
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</tbody>
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1 EXECUTIVE SUMMARY

In October 2007, the City and County of San Francisco and San Francisco State University (SF State) entered into a Memorandum of Understanding (MOU) to address the impact on the City and County of San Francisco from the implementation of the University’s campus master plan and anticipated increase in enrollment on the campus. The MOU identifies a number of measures that the University must take, including the establishment of a traffic monitoring and mitigation program.

In response to the requirements of the MOU, SF State has conducted an online transportation survey and cordon count at least every three years beginning in April 2008 with subsequent surveys taking place in April 2011, April 2014, and April 2016. The most recent survey was conducted in April 2016 instead of 2017 to align with ongoing CEQA analysis. There was a 9% response rate to the survey. Survey data is used to track a number of key factors such as mode split, peak hour vehicle trips, peak hour Muni ridership, and GHG emissions.

Key Findings

Key findings from the 2016 transportation survey include the following:

- Since 2008, the drive-alone rate for commute trips to the University has decreased by 23%, with 26% of campus affiliates driving alone to campus in 2008 compared to 20% in 2016.
- The percentage of campus affiliates who arrive on campus on foot has increased by 42% between 2008 and 2014.
- Transit usage has increased, with 45% of campus affiliates using Muni and 27% using BART for a portion of their trip to campus. This is an increase of 24% and 25% respectively, since 2008. Muni is also the most common arrival mode to campus for all students.
- Between 2008 and 2014, the number of automobile trips per day has decreased by 22%. The number of peak hour trips has decreased by 3%.
- On a typical travel day in 2016, University affiliates commuted approximately 201,400 miles to and from the campus, a 1.2% decrease in daily passenger miles between 2014 and 2016 and a 1.7% decrease in daily passenger miles between 2008 and 2016.
- Private vehicles have the highest levels of CO₂-e emissions per passenger mile. Drive-alone commuters are the largest contributors to San Francisco State University’s CO₂-e commute travel emissions, representing approximately 80% of the total daily pounds of CO₂-e emissions.
BART commuters travel only slightly fewer total miles per day than car drivers but emit far lower levels of CO\textsubscript{2}e per day; BART commuters emit an estimated 650 pounds of CO\textsubscript{2}e in a day, compared to approximately 6,000 pounds of CO\textsubscript{2}e emitted by those who drive alone.
2 INTRODUCTION

In 2007, San Francisco State University developed its campus master plan to accommodate a 25% increase in its student population through infill and renovation of its compact campus. Many community members raised concerns that campus growth would result in traffic congestion and parking scarcity.

Nelson\Nygaard helped SF State and the City and County of San Francisco negotiate a Memorandum of Understanding (MOU) in October 2007. The MOU includes the University’s “fair share” funding commitment to address the impacts of campus growth on the surrounding neighborhood and the transportation network. The University committed to almost $2 million in transit improvements, along with an extensive list of programs and projects to minimize vehicle trips.

The MOU includes the establishment of a traffic monitoring and mitigation program to determine whether the University’s expanded Transportation Demand Management (TDM) efforts are successfully minimizing or avoiding new peak hour trips. As part of the traffic monitoring and mitigation program, the University was required to conduct a baseline cordon count and intercept survey no less than 12 months after the certification of the master plan EIR. Furthermore, additional cordon counts must be conducted at intervals of no more than every three years, and no later than when enrollment grows by 1,000 students by headcount.

In fulfillment of the requirements, SF State conducted the baseline cordon count and intercept survey on the main campus at 1600 Holloway Avenue on Wednesday, April 30, 2008. A Wednesday was selected to ensure that the cordon count and intercept survey would be representative of a typical day on campus, when classes are in session and most affiliates are on campus. The cordon count covered 15 vehicle, pedestrian, and bicycle entry points to campus. Intercept surveys were conducted at seven entrances to campus, and a total of 1,400 surveys were completed.

A subsequent cordon count was conducted on Wednesday, April 27, 2011. The second cordon count covered 16 vehicle, pedestrian, and bicycle entry points to campus. In 2014, the cordon count methodology was revised significantly to focus on vehicle entry points to campus. The third cordon count was conducted on Wednesday, April 23, 2014 at nine locations, and the fourth cordon count was conducted on Wednesday, April 7, 2016 at nine locations.

In addition to the cordon count, the University conducted online surveys in 2008, 2011, 2014, and 2016. The online survey, sent to all University affiliates, replaced the intercept survey, per discussions between the University and the San Francisco Municipal Transportation Agency (SFMTA). An online survey can provide more detailed information on travel behavior than can be collected during an intercept survey or cordon count.

This report presents the findings from the online survey and cordon count efforts on Wednesday, April 6, 2016. In total, 3,090 University affiliates responded to the online survey. The report provides an in-depth analysis of the online survey, with a discussion of methodology and a comparison of 2016 survey results to those from previous surveys. The report concludes with a carbon footprint analysis for commute trips using data gathered from the online survey.
3 ONLINE SURVEY

San Francisco State University conducted an online survey that asked University affiliates how they travelled to and from campus on Wednesday, April 6, 2016. A total of 3,090 University affiliates responded to the survey, and of the total, 2,358 stated that they were on campus on Wednesday, April 6.

SURVEY DESIGN

Survey respondents were asked a series of questions about their commutes and general travel behavior for trips to and from SF State’s main campus at 1600 Holloway on Wednesday, April 6, 2016. All respondents were asked a number of background questions, such as their primary affiliation with the University and their zip code. Respondents were then asked to provide travel information for up to four legs of their journey to and from campus.

Each leg of the journey was treated as a separate question, and respondents were asked to identify the mode they took for each leg. For example, someone who drove to BART and then took the SF State shuttle from the Daly City BART station to campus would enter trip information for three legs. Similarly, if a respondent transferred from one Muni route to another Muni route, they would enter trip information for two legs. If respondents took Muni, they were asked to select the Muni route they took, and if a respondent selected BART or Caltrain, they were asked to identify their start and end stations. For each leg, respondents were asked to estimate the distance they traveled, in miles, for that segment of the trip.

Respondents who stated that they drove or carpooled to campus were asked a series of questions related to parking, including their parking location and how much they paid for parking. Respondents were also asked their arrival and departure time to campus, as well as participation and knowledge of different TDM programs and services.

The 2016 survey was similar to the 2014 version. To accommodate the rise of Transportation Network Companies (TNCs) such as Lyft and Uber, TNCs were added as a mode choice option in the 2016 survey. The 2016 survey also included arrival and departure times, which had been left out of the 2014 survey inadvertently. The 2016 survey also included updated Muni routes and names, given SFMTA’s Muni Forward initiative that has included substantial route changes since 2014.

The survey was implemented in the Qualtrics survey platform. A copy of the online survey instrument is provided in the Appendix A for reference.

Constraints and Limitations

In 2016, a total of 3,090 University affiliates responded to the survey, and out of the 3,090 total respondents, 2,358 persons (76% of respondents) stated they were on campus on Wednesday,
April 6. Only those people who stated they were on campus are included in this analysis unless otherwise noted.

The response rate in 2016 (9%) were lower than in previous years (12% in 2014, 11% in 2011, and 13% in 2008), which might be primarily attributed to the timing and marketing of the survey. Other major campus efforts, such as the student transit pass referendum and the anticipation of a possible, but avoided, strike may have added to survey fatigue among campus affiliates. Despite a lower response rate than previous years, the survey sample is still statistically valid. For a campus population of 33,563, a minimum of 1,753 responses is needed to generate results at a 99% confidence level with a confidence interval of +/-3%. The 3,090 survey responses received exceeds this minimum number of survey responses needed for statistical significance.

**METHODOLOGY**

The online survey collected rich data on trip patterns. Data clean-up and restructuring was necessary to allow for data analysis. This section describes the data clean-up and restructuring processes, including assignment of weights to make the survey response distribution among students, staff, and faculty reflect the distribution of those groups among the campus population as a whole.

**Data Clean-up and Data Restructuring**

A number of steps were taken to clean and restructure the online survey responses to properly format them for analysis. Duplicates were removed, and data was cleaned to ensure ease of analysis.

The format of the online survey made it possible for respondents to select up to four legs of their trip. A few respondents did not report on the legs of their trip to campus in a logical or feasible way. For example, a total of 42 respondents stated that they arrived on campus via Caltrain or BART. Since that is not physically possible, the last leg of their journey was adjusted. For respondents with a last leg mode of Caltrain, their record was adjusted to reflect taking BART from Millbrae to Daly City and then transferring to the SF State Shuttle or Muni Route 28. For respondents stating that they arrived on campus via BART, their records were adjusted to reflect the SF State Shuttle or Muni Route 28 as their last mode.¹

**Mode Split**

In order to determine the mode split for University affiliates commuting to and from campus, it was necessary to create several new variables. The newly created variables are as follows:

1. Arrival Mode – The “arrival mode” is the mode by which respondents arrived on campus.
2. Mode prior to arrival mode – The “mode prior to arrival mode” is the mode respondents used before their arrival mode. This trip may have occurred on leg 1, 2, or 3 of their trip, depending on the total number of legs. Respondents who used only one mode of transportation to arrive on campus have no recorded “mode prior to arrival mode.”

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¹ Respondents who stated they arrived by BART or Caltrain were assigned to Muni Route 28 or the SF State Shuttle based on the percentage breakdown of those respondents who said they took BART and selected a mode of arrival of either Muni Route 28 or the SF Shuttle.
3. **Departure Mode** – The “departure mode” is the mode by which respondents left campus, the first leg of the trip from campus.

In addition to creating new variables, the existing data needed to be restructured in order to meet the requirements of the MOU between the University and the City and County of San Francisco. The MOU requires that all respondents who park and walk within 10 minutes of campus be classified as drivers rather than walkers when determining the mode split and peak hour auto trips. The following steps were taken to address this requirement:

1. Respondents with an arrival mode of walking and a mode prior to arrival of driving or carpooling were identified using the arrival mode variable and the mode prior to arrival variable.

2. An arrival mode distance variable was then calculated using the responses given in the survey to the question “Please estimate the distance you travelled in this segment of your trip.” People whose walk segment was a half mile or less were classified with an auto arrival mode. Half a mile was used because the average speed of walkers is three miles per hour, meaning a 10 minute walk is equivalent to approximately a half mile.

3. For people who did not provide a distance, the location where they parked their car was used. Respondents who drove or carpooled and parked on or near campus were asked to select the zone that corresponded to their parking location on a map of the area surrounding campus. The map covered the area bounded by 1-280, Lake Merced Boulevard, Sloat Boulevard, Santa Clara Avenue, Victoria Street, and Head Street. Respondents were given 19 zones from which to choose. Using a half-mile radius, the zones that are within a 10-minute walk to campus were identified. Zones where part but not all of the zone is within a 10-minute walk were considered to be within the half-mile radius. Of the 19 zones, only three are not within the half-mile radius.

4. The same steps were then repeated for the trips from campus.

A similar methodology was applied to people whose arrival mode was “walk” and their mode prior to arrival was Muni in order to more accurately determine the number of peak-hour Muni trips, as required by the MOU. The following steps were taken to address this requirement:

1. Using the arrival mode distance variable, respondents whose walk segment was a half-mile or less were reclassified with a Muni arrival mode. For respondents who did not provide an arrival mode distance, the “Muni route taken” was used. People travelling on routes directly serving campus (M-Ocean View, 57-Parkmerced, 18-46th Avenue, 28-19th Avenue, 28R-19th Avenue Rapid, and 29-Sunset) were reclassified with a Muni arrival mode. Persons travelling on any other Muni routes retained “walk” as their arrival mode.

2. The same steps were then repeated for the trips from campus.

**Weights**

Based on the distribution of responses between students and faculty/staff, a weight was created and applied to all responses for the analysis.

As of Spring 2016, there were approximately 30,000 students and 3,300 faculty and staff members are on campus (Figure 3-1 and **Figure 3-2**). The analysis team weighted survey responses to yield an equivalent ratio. It should be noted weights were applied to responses from people who stated they were on
campus on Wednesday, April 6, 2016, as respondents who stated they were not on campus on April 6 were not included in this analysis.

Figure 3-1: Adjusted Faculty/Staff and Student Responses

<table>
<thead>
<tr>
<th></th>
<th>Total Population</th>
<th>Online Responses (On Campus April 6)</th>
<th>Adjusted Weight</th>
<th>Weighted Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>30,256</td>
<td>1,670</td>
<td>1.2658</td>
<td>2,114</td>
</tr>
<tr>
<td>Faculty/Staff</td>
<td>3,307</td>
<td>675</td>
<td>0.3423</td>
<td>231</td>
</tr>
<tr>
<td>Total</td>
<td>33,563</td>
<td>2,345</td>
<td></td>
<td>2,345</td>
</tr>
</tbody>
</table>

Scaling to the Campus Population

In order to scale the online survey data to represent the San Francisco State University population as a whole, it was necessary to determine how many faculty, staff, and students are on campus on an average day. The total campus population was obtained from the University Facts brochure, and the online survey was used to determine the percentage breakdown by affiliation of those who were on campus. From this, an adjustment factor was established.

Figure 3-2: Population Scale

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>Total Population²</th>
<th>Adjustment Factor³</th>
<th>Daily Population on Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>30,256</td>
<td>75%</td>
<td>22,692</td>
</tr>
<tr>
<td>Faculty/Staff</td>
<td>3,307</td>
<td>82%</td>
<td>2,712</td>
</tr>
<tr>
<td>Total</td>
<td>33,563</td>
<td></td>
<td>25,404</td>
</tr>
</tbody>
</table>

The total population was then multiplied by the adjustment factor to determine the daily population for students and faculty/staff. The daily population was used to scale the survey results to represent the actual San Francisco State University population and estimate total trips by mode and greenhouse gas emissions.

² Source: Faculty and staff population numbers courtesy of University Facts brochure at http://puboff.sfsu.edu/sfsufact/archive/1516/students and http://puboff.sfsu.edu/sfsufact/archive/1516/facstaff
³ Adjustment factor determined by survey responses sample. In the 2016 sample, 25% of students said they were not on campus on the survey day; 18% of faculty or staff said they were not on campus on the survey day.
RESULTS

The following section discusses the high-level results of the online survey, focusing on mode split, Muni ridership on the lines that directly serve the campus, parking, and demographics. At the end of the chapter, results for a number of demographic questions that were asked of all respondents—regardless of whether they were on campus that day—are presented. Unless otherwise noted, results shown in this section only include those respondents who stated that they were on campus on Wednesday, April 6, 2016, with weights for the student to faculty/staff ratio taken into account.

Commute

Figure 3-3 shows the mode people used to arrive to campus. Muni was the most common mode, at approximately 31.3%, followed by driving alone at 20.1%.

Mode split results from the 2016 survey were generally consistent with the 2014 results, with a slight increase in Muni, drive alone, walk, and shuttle rates a small drop in the bicycling rate, and a larger drop in carpooling and drop-offs.4 “Taxi or TNCs” was a new option in 2016, and it represents 1.7% of the mode split.

From 2008 and 2016, the percentage of respondents driving alone has decreased by nearly 23%. Walking has increased by 42%, and represents the fourth most popular way to arrive on campus, after Muni, drive alone, and the SF State shuttle.

Table 3-2: Mode of Arrival to Campus

<table>
<thead>
<tr>
<th>How Online Survey Respondents Get to SF State</th>
<th>2016 (n=2,238)</th>
<th>2014 (n=3,013)</th>
<th>2011 (n=2,684)</th>
<th>2008 (n=3,292)</th>
<th>% Change 2008 - 2016</th>
<th>% Point Change 2008 - 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muni</td>
<td>31.3%</td>
<td>29.8%</td>
<td>29.4%</td>
<td>30.6%</td>
<td>2.3%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Drive alone</td>
<td>20.1%</td>
<td>19.7%</td>
<td>23.0%</td>
<td>26.0%</td>
<td>-22.6%</td>
<td>-5.9%</td>
</tr>
<tr>
<td>Walk</td>
<td>17.5%</td>
<td>17.0%</td>
<td>13.7%</td>
<td>12.3%</td>
<td>42.2%</td>
<td>5.2%</td>
</tr>
<tr>
<td>SF State Shuttle</td>
<td>17.9%</td>
<td>16.7%</td>
<td>18.7%</td>
<td>16.9%</td>
<td>6.1%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Bike</td>
<td>3.4%</td>
<td>3.8%</td>
<td>4.1%</td>
<td>3.5%</td>
<td>-2.5%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Carpool</td>
<td>1.8%</td>
<td>3.9%</td>
<td>4.5%</td>
<td>4.9%</td>
<td>-62.7%</td>
<td>-3.1%</td>
</tr>
<tr>
<td>Dropped off</td>
<td>2.4%</td>
<td>4.7%</td>
<td>3.0%</td>
<td>2.4%</td>
<td>-0.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other bus provider (AC Transit/Golden Gate Transit/SamTrans)</td>
<td>2.1%</td>
<td>2.8%</td>
<td>2.0%</td>
<td>1.5%</td>
<td>41.3%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Taxi or TNC</td>
<td>1.7%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.7%</td>
</tr>
<tr>
<td>Other</td>
<td>1.2%</td>
<td>1.0%</td>
<td>0.5%</td>
<td>1.1%</td>
<td>7.8%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Motorcycle/Moped</td>
<td>0.6%</td>
<td>0.4%</td>
<td>1.2%</td>
<td>0.7%</td>
<td>-17.6%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 The slight increase in Muni, drive alone, walk, and shuttle rates in 2016 are all within the margin of error of 3%, and may be attributed to sampling error.
Figure 3-4 summarizes the unweighted number of legs in respondents' journeys to campus. The majority of respondent's reported using two get to campus (approximately 39%). After that the second most common number of legs used by respondent's was four legs (approximately 35%). About 24% reported their trip taking 3 legs and only 1% reported their trip to campus taking only one leg.

**Figure 3-4: Number of Legs in Journey to Campus**

<table>
<thead>
<tr>
<th>Number of Legs</th>
<th>Percentage of Respondents (n=2,255)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>2</td>
<td>39%</td>
</tr>
<tr>
<td>3</td>
<td>24%</td>
</tr>
<tr>
<td>4</td>
<td>35%</td>
</tr>
</tbody>
</table>

Figure 3-5 shows the weighted percent of all modes used in all legs for students, faculty, and staff respondents’ on their trips to campus. Respondents could select up to four legs for their journey to campus. In 2016, approximately 45.1% of all respondents used Muni for a portion of their journey to campus compared to 36% in 2008. The percentage of respondents stating they drove alone for a portion of their trip to San Francisco State University increased marginally from 34% in 2008 to 38% in 2016. In 2016, approximately 28% of respondents took BART compared to 21% in 2008, and 25% took the San Francisco State University shuttle for one leg of their trip compared to 21% in 2008.

Interestingly, the percentage of respondents who reported walking as a part of their commute dramatically increased in 2016. This may be due to a clarification of the commute mode question and example of trip segments in the survey instrument, which made selecting a segment for walking more explicit In past years, walking may have been overlooked as a commute mode.
**Figure 3-5: All Modes Used to Get to Campus**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Muni</td>
<td>45.1%</td>
<td>46.8%</td>
<td>38.9%</td>
<td>36.3%</td>
<td>24.2%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Drive alone</td>
<td>36.0%</td>
<td>29.9%</td>
<td>31.1%</td>
<td>33.6%</td>
<td>7.1%</td>
<td>2.4%</td>
</tr>
<tr>
<td>SF State Shuttle</td>
<td>23.8%</td>
<td>24.7%</td>
<td>23.2%</td>
<td>20.7%</td>
<td>15.0%</td>
<td>3.1%</td>
</tr>
<tr>
<td>BART</td>
<td>26.7%</td>
<td>26.4%</td>
<td>22.7%</td>
<td>21.3%</td>
<td>25.4%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Walk</td>
<td>46.9%</td>
<td>32.4%</td>
<td>21.2%</td>
<td>18.6%</td>
<td>152.2%</td>
<td>28.3%</td>
</tr>
<tr>
<td>Bike</td>
<td>4.8%</td>
<td>7.3%</td>
<td>7.1%</td>
<td>5.5%</td>
<td>-12.7%</td>
<td>-0.7%</td>
</tr>
<tr>
<td>Dropped off</td>
<td>3.1%</td>
<td>6.7%</td>
<td>5.8%</td>
<td>6.8%</td>
<td>-54.4%</td>
<td>-3.7%</td>
</tr>
<tr>
<td>Other bus provider (AC Transit/Golden Gate Transit/SamTrans)</td>
<td>7.8%</td>
<td>6.6%</td>
<td>4.7%</td>
<td>3.2%</td>
<td>143.8%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Motorcycle/Moped</td>
<td>0.9%</td>
<td>0.9%</td>
<td>2.0%</td>
<td>1.0%</td>
<td>-10.0%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Other</td>
<td>2.3%</td>
<td>1.7%</td>
<td>1.0%</td>
<td>1.6%</td>
<td>43.8%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Caltrain</td>
<td>1.7%</td>
<td>2.0%</td>
<td>0.7%</td>
<td>1.1%</td>
<td>54.5%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Taxi or TNC</td>
<td>3.1%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Figure 3-6** provides a mode split breakdown by campus affiliation and commute mode used to arrive at campus. Muni was the most common mode of transport for students of all kinds. Nearly a third of freshman walk to campus, likely a result of the fact that freshmen live on campus in larger numbers than do other groups.

Drive alone rates for all students decreased between 2008 and 2016. For freshman, drive alone rates dropped by nearly half, while for other undergraduates, drive alone rates decreased by a little less than a quarter. For graduate students, driving alone is no longer the most popular mode to arrive to campus; between 2008 and 2016, driving alone decreased from 31% to 28%, and commuting by Muni increased from 28% to 31%.

Driving alone remained the most popular mode for faculty and staff, marginally increasing between 2008 and 2016.

Reported use of the SF State Shuttle increased for undergraduates but decreased among all other groups. Reported participation in carpools and vanpools decreased among all groups. Bicycling mode share stayed below 5% for all groups. However, bicycling among faculty and staff doubled from 2008 to 2016, while bicycling marginally dropped or remained the same among all other groups.
Figure 3-6: Mode Split by Affiliation

<table>
<thead>
<tr>
<th>How Online Survey Respondents Get to SF State</th>
<th>Freshman</th>
<th>Other Undergraduate</th>
<th>Graduate Student</th>
<th>Staff/Admin Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muni</td>
<td>32.2%</td>
<td>34.6%</td>
<td>33.6%</td>
<td>31.7%</td>
</tr>
<tr>
<td>Drove Alone</td>
<td>5.9%</td>
<td>5.3%</td>
<td>8.5%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Walk</td>
<td>31.1%</td>
<td>23.9%</td>
<td>24.3%</td>
<td>25.3%</td>
</tr>
<tr>
<td>SF State Shuttle</td>
<td>18.7%</td>
<td>18.4%</td>
<td>21.6%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Bike</td>
<td>1.7%</td>
<td>1.9%</td>
<td>3.1%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Car/Vanpool</td>
<td>0.7%</td>
<td>4.1%</td>
<td>2.7%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Dropped off</td>
<td>1.7%</td>
<td>6.0%</td>
<td>4.2%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Other bus provider (AC Transit/Golden Gate Transit/SamTrans)</td>
<td>3.8%</td>
<td>3.8%</td>
<td>1.2%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Taxi/TNC</td>
<td>2.1%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>2.1%</td>
<td>2.1%</td>
<td>0.4%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Motorcycle/Moped</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.4%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
All University affiliates participating in the survey were asked how much they spend each day on their commute to and from campus, regardless of whether they traveled to the main campus on April 6. As displayed in Figure 3-7, 16% reported not spending anything on their commute, while nearly 50% reported spending between $1 to $9 on their commute per day.

**Figure 3-7: Cost of Commute**

<table>
<thead>
<tr>
<th>Amount Spent on Daily Commute (roundtrip)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>15.7%</td>
</tr>
<tr>
<td>$1 - $4</td>
<td>17.0%</td>
</tr>
<tr>
<td>$5 - $9</td>
<td>32.9%</td>
</tr>
<tr>
<td>$10 - $14</td>
<td>19.0%</td>
</tr>
<tr>
<td>$15 - $19</td>
<td>7.4%</td>
</tr>
<tr>
<td>$20 - $24</td>
<td>4.6%</td>
</tr>
<tr>
<td>More than $25</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

**Transit**

Muni and BART are the transit systems most heavily utilized by the campus population, with an estimated 45% of SF State commuters riding Muni and 27% riding BART for some portion of their journey to campus. An estimated 80% of campus affiliates take some form of public transportation to get to campus.\(^5\)

**Muni**

*Figure 3-8* shows the estimated percentage of Muni trips that were taken to and from campus via the six Muni routes that directly serve the University. Of those commuters who ride Muni to campus, the most heavily traveled route is estimated to be the M-Ocean View, which made up 33% of all Muni trips. The percentage of commuters coming to campus by Muni routes 28-19th Avenue/28R-19th Avenue Rapid decreased between 2014 and 2016, most likely due to Muni Forward rerouting on the rapid line (the line no longer serves BART’s Daly City Station). The percentage of commuters taking the M-Ocean View continued to decline, from a high of 45% in 2008 to 33% in 2016. The decrease may be in part related to changes in where SF State affiliates are living. Increased frequencies and longer buses on the SF State Shuttle may also have caused some BART riders from the East Bay to transfer to the shuttle at Daly City instead of transferring to the M-Ocean View downtown.

---

\(^5\) This calculation includes BART, Muni, Caltrain, and other bus providers. It does not include the SF State Shuttle.
### Figure 3-8: Daily Estimated Number of Muni trips by Muni Route

<table>
<thead>
<tr>
<th>Muni Route</th>
<th>Estimated Number of trips 2016</th>
<th>% of all Muni Trips 2016</th>
<th>Number of trips 2014</th>
<th>% of all Muni Trips 2014</th>
<th>Number of trips 2011</th>
<th>% of all Muni Trips 2011</th>
<th>Number of trips 2008</th>
<th>% of all Muni Trips 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-46th Avenue</td>
<td>650</td>
<td>6%</td>
<td>620</td>
<td>5%</td>
<td>520</td>
<td>4%</td>
<td>600</td>
<td>4%</td>
</tr>
<tr>
<td>28-19th Avenue and 28R-19th Avenue Rapid</td>
<td>1,800</td>
<td>16%</td>
<td>4,300</td>
<td>34%</td>
<td>5,400</td>
<td>38%</td>
<td>4,800</td>
<td>32%</td>
</tr>
<tr>
<td>29-Sunset</td>
<td>2,800</td>
<td>24%</td>
<td>2,800</td>
<td>22%</td>
<td>2,500</td>
<td>18%</td>
<td>2,200</td>
<td>15%</td>
</tr>
<tr>
<td>57-Parkmerced</td>
<td>300</td>
<td>3%</td>
<td>300</td>
<td>2%</td>
<td>130</td>
<td>1%</td>
<td>160</td>
<td>1%</td>
</tr>
<tr>
<td>M-Ocean View</td>
<td>3,700</td>
<td>33%</td>
<td>4,000</td>
<td>31%</td>
<td>5,000</td>
<td>35%</td>
<td>6,700</td>
<td>45%</td>
</tr>
</tbody>
</table>

Note: N = Total Campus Population

For campus affiliates arriving or departing campus via Muni, the 2016 morning peak hour for Muni trips was estimated to be between 8:00 a.m. to 9:00 a.m., a shift from 2014 and 2011 when the peak hour of Muni trips was estimated to be between 9:00 a.m. and 10:00 a.m.. Figure 3-9 and Figure 3-10 show the estimated number of trips to and from campus on the routes serving campus during both the San Francisco State University Muni peak and the system-wide Muni peak. Estimated peak-hour use by line mirrored daily patterns, with the M and 29 estimated to be the most heavily utilized.

### Figure 3-9: Peak Hour Estimated Number of Muni Trips for the SF State Peak Period

<table>
<thead>
<tr>
<th>Muni Route</th>
<th>Number of trips 8:00 AM – 9:00 AM 2016</th>
<th>Number of trips 9:00 AM – 10:00 AM 2014</th>
<th>Number of trips 9:00 AM – 10:00 AM 2011</th>
<th>Number of trips 8:00 AM – 9:00 AM 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-46th Avenue</td>
<td>250</td>
<td>70</td>
<td>60</td>
<td>70</td>
</tr>
<tr>
<td>28-19th Avenue</td>
<td>330</td>
<td>450</td>
<td>560</td>
<td>560</td>
</tr>
<tr>
<td>28R-19th Avenue Rapid</td>
<td>40</td>
<td>30</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>29-Sunset</td>
<td>350</td>
<td>310</td>
<td>270</td>
<td>260</td>
</tr>
<tr>
<td>57-Parkmerced</td>
<td>50</td>
<td>30</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>M-Ocean View</td>
<td>620</td>
<td>440</td>
<td>540</td>
<td>800</td>
</tr>
<tr>
<td>Total</td>
<td>1,640</td>
<td>1,330</td>
<td>1,460</td>
<td>1,720</td>
</tr>
</tbody>
</table>

Note: N = Total Campus Population
Figure 3-10: Peak Hour Estimated Number of Muni Trips for the Muni System Wide Peak Period of 5:00 PM to 6:00 PM

<table>
<thead>
<tr>
<th>Muni Route</th>
<th>Number of trips 2016</th>
<th>Number of trips 2014</th>
<th>Number of trips 2011</th>
<th>Number of trips 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-46th Avenue</td>
<td>100</td>
<td>50</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>28-19th Avenue</td>
<td>100</td>
<td>290</td>
<td>390</td>
<td>290</td>
</tr>
<tr>
<td>28R-19th Avenue Rapid</td>
<td>50</td>
<td>20</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>29-Sunset</td>
<td>190</td>
<td>200</td>
<td>180</td>
<td>130</td>
</tr>
<tr>
<td>57-Parkmerced</td>
<td>60</td>
<td>20</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>M-Ocean View</td>
<td>120</td>
<td>280</td>
<td>370</td>
<td>410</td>
</tr>
<tr>
<td>Total</td>
<td>620</td>
<td>860</td>
<td>1,010</td>
<td>880</td>
</tr>
</tbody>
</table>

Note: N = Total Campus Population

Figure 3-11: Peak Hour, Estimated Number of Peak Direction Riders for M Line shows the AM and PM peak-hour ridership estimates for the M-Ocean View. It appears that more people are coming to and leaving campus earlier in 2016 than they were in 2014 or 2011, which could be related to schedule changes. This shift is particularly important in the inbound direction, as it is the overall peak direction in the morning (into Downtown San Francisco) and the 8 a.m. hour is the generally more crowded than the 9 a.m. hour. This might simply mean that more SF State affiliates are dealing with crowded conditions in the morning peak and that they are contributing to a greater extent to the overall morning inbound crowding issues at Castro and Church stations.

Figure 3-11: Peak Hour, Estimated Number of Peak Direction Riders for M Line

<table>
<thead>
<tr>
<th>M Line</th>
<th>Inbound Trips</th>
<th>Outbound Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM – 9:00 AM</td>
<td>270</td>
<td></td>
</tr>
<tr>
<td>9:00 AM – 10:00 AM</td>
<td>190</td>
<td>240</td>
</tr>
<tr>
<td>5:00 PM – 6:00 PM</td>
<td>80</td>
<td>190</td>
</tr>
</tbody>
</table>

Note: N = Total Campus Population

---

6 There were insufficient data points regarding arrival times, departure times, zip codes, and transit use in 2016 and 2014 so 2011 directionality percentages were used for the analysis. Inbound and outbound trips for the M line during the AM peak hour were determined by applying a 44% inbound - 56% outbound ratio to the total number of M line trips, scaled to represent the campus population, during the AM peak hour. This ratio was determined by using the home zip codes of online survey respondents to determine their direction of travel and the number of trips in each direction. The same methodology was used in the PM peak and a ratio of 66% inbound – 34% outbound was applied.
The changes in Muni ridership levels on different routes, including the increases seen on the 18-46th Avenue and 57-Parkmerced, may be attributed to changes in SF State affiliates' residential choices as well as service changes made as part of the Muni Forward initiative. For example, as of September 2015, the 57 (previously the 17-Parkmerced route) runs every 20 minutes instead of every 30 minutes. The 57 also now serves Daly City BART. **Figure 3-13** shows the changes for routes 18 and 57. A free roundtrip transfer loaded to one’s Clipper card when exiting Daly City BART now also applies to the 57, as it does to all Muni lines serving Daly City BART Station. This free transfer is no longer available when transferring from the 28R to BART – Muni Forward re-routed the 28R to serve Balboa Park BART, rather than Daly City BART.

Note: N = Total Campus Population

---

7 There were insufficient data points regarding arrival times, departure times, zip codes, and transit use in 2016 and 2014 so 2011 directionality percentages were used for the analysis. Northbound and southbound trips for the 28/28R line during the AM peak hour were determined by applying a 48% northbound - 58% southbound ratio to the total number of 28/28L line trips, scaled to represent the campus population, during the AM peak hour. This ratio was determined by using the home zip codes of online survey respondents to determine their direction of travel and the number of trips in each direction. The same methodology was used in the PM peak and a ratio of 49% northbound – 51% southbound was applied.
The lower number of trips on the 28 and 28R may also be attributed to service changes as part of the Muni Forward initiative. As of April 23, 2016, the 28R provides rapid service every 10 minutes between 7 a.m. and 7 p.m. Monday through Friday. However, 28R service to Daly City is discontinued and is to be covered by the 28 local. A series of changes were also proposed for the 28 route, which is in progress. **Figure 3-14** presents Muni's approved proposal for 28.
Figure 3-14: Muni 28-19th Avenue Proposal, Approved July 2015

Source: San Francisco Municipal Transportation Agency 2015. The 28 19th Avenue Rapid Project was approved on July 7, 2015. Next steps include detailed design through summer 2016, construction following through 2018, and a street repaving in summer 2018.
BART

An estimated 27% of respondents used BART for some portion of their journey to campus. **Figure 3-15** shows the home end of BART riders’ trips to and from campus. The majority of SF State BART riders reported living in Alameda County (38.4%), followed by Contra Costa County (29%). Approximately 21% reported living in San Francisco, and 12% reported living in San Mateo County.

**Figure 3-15: Home County of BART Riders**

<table>
<thead>
<tr>
<th>County</th>
<th>Percentage of BART Riders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alameda</td>
<td>38.4%</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>29.1%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>20.9%</td>
</tr>
<tr>
<td>San Mateo</td>
<td>11.6%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Parking

An estimated 20% of commuters arrived on campus by single-occupancy vehicle. Forty nine percent of those University affiliates who reported driving parked on campus, and 32% reported parking near campus. Three percent of drivers stated that they parked at Daly City BART, while two percent of drivers said they parked at a park and ride lot. Approximately three percent of drivers selected “other” with regards to their parking location.

The survey asked respondents who stated that they parked on or near campus to identify where they parked. The number of responses was scaled to reflect the entire population of the University. Figure 3-16 provides a breakdown of parkers by location. Nearly 49% of on-campus parkers reported parking in the main parking garage at the center of campus. Close to campus, approximately 11% parked in Parkmerced, and 10% parked along Junipero Serra Boulevard. This marks a shift in where campus affiliates are predominantly parking near campus. In 2014, a higher percentage of parkers were parking on Holloway Avenue or Font Boulevard, and Lake Merced Boulevard. The decrease in the number of people parking on Font Boulevard may be attributed to the construction of the Mashouf Wellness Center. In 2011, a higher percentage of drivers parked on 19th Avenue.
Figure 3-16: Estimated Parking On and Near Campus

[Map showing estimated parking on and near campus with parking zones labeled A to S and numbers indicating the number of drivers by zone.]
Survey respondents who stated that they drove to campus were also asked how much they paid to park. Figure 3-17 presents the weighted percentage of students, faculty, and staff who drove to campus, including those who parked either on-campus and off-campus. Per the weighted data, a majority of campus affiliates did not pay to park. An estimated quarter of students, faculty, and staff had a SF State Semester or Yearly Pass, which is a 13% increase from 2008.

Figure 3-17: Parking Costs

<table>
<thead>
<tr>
<th>Cost</th>
<th>% of Respondents 2016 (n=492)</th>
<th>% of Respondents 2014 (n=845)</th>
<th>% of Respondents 2011 (n=1,042)</th>
<th>% of Respondents 2008 (n=1,373)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free</td>
<td>48.8%</td>
<td>52.1%</td>
<td>56.7%</td>
<td>53.8%</td>
</tr>
<tr>
<td>Less than $1</td>
<td>0.6%</td>
<td>1.3%</td>
<td>1.2%</td>
<td>0.7%</td>
</tr>
<tr>
<td>$1 - $2</td>
<td>1.0%</td>
<td>1.5%</td>
<td>3.8%</td>
<td>3.9%</td>
</tr>
<tr>
<td>$2 - $4</td>
<td>1.4%</td>
<td>3.0%</td>
<td>5.9%</td>
<td>6.5%</td>
</tr>
<tr>
<td>$4 - $7</td>
<td>12.7%</td>
<td>19.9%</td>
<td>18.1%</td>
<td>20.0%</td>
</tr>
<tr>
<td>$7 - $10</td>
<td>11.2%</td>
<td>0.4%</td>
<td>0.6%</td>
<td>0.5%</td>
</tr>
<tr>
<td>More than $10</td>
<td>0.5%</td>
<td>1.1%</td>
<td>0.5%</td>
<td>0.8%</td>
</tr>
<tr>
<td>SF State Semester/Yearly Pass</td>
<td>23.8%</td>
<td>20.7%</td>
<td>13.3%</td>
<td>13.8%</td>
</tr>
</tbody>
</table>

Incentives to Use Other Modes

University affiliates participating in the online survey who stated that they drove to campus on April 6 were asked what programs would encourage them to use a mode other than driving alone to get to campus. They were asked to select their first, second, and third choices from the list of programs shown in Figure 3-18.

Figure 3-18: Programs to Encourage Drivers to Use Alternative Modes

<table>
<thead>
<tr>
<th>Incentives (n=1,030)</th>
<th>1st Choice</th>
<th>2nd Choice</th>
<th>3rd Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rideshare or carpool with someone who lives near me</td>
<td>31.7%</td>
<td>17%</td>
<td>12%</td>
</tr>
<tr>
<td>Reduced transit fare pass for MUNI and BART</td>
<td>29.8%</td>
<td>24%</td>
<td>12%</td>
</tr>
<tr>
<td>Improved shuttle service from BART to the university</td>
<td>12.0%</td>
<td>19%</td>
<td>14%</td>
</tr>
<tr>
<td>Improved bicycle amenities</td>
<td>4.9%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Emergency guaranteed ride home program</td>
<td>3.3%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Improved pedestrian amenities</td>
<td>0.9%</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>None</td>
<td>17.3%</td>
<td>23%</td>
<td>39%</td>
</tr>
</tbody>
</table>
“Rideshare or carpool with someone who lives near me” was the top choice. While the mode share for carpooling and ridesharing has gone down since 2008, there is openness for this option. The high interest in the rideshare and carpool modes suggests that the university could strengthen its rideshare program. In 2014 and 2011, a reduced transit fare pass for Muni and BART was the most popular first choice. In 2016, this also ranked highly. Improved shuttle service from BART to the university is another factor that may encourage people who drive alone to use a mode other than drive alone.

**Background Information for All Survey Respondents**

All survey respondents, regardless of whether they were on campus on Wednesday, April 6th, were asked to provide their affiliation with the University as well as information on where they live. In **Figure 3-19** and **Figure 3-20** respondents who were not on campus on the 6th are referred to as “No Respondents,” and respondents who traveled to the main campus on the 6th are referred to as “Yes Respondents.”

The majority of “Yes Respondents” were undergraduates (62%). “Staff or administrator” was the second most common affiliation at 19%, followed by faculty at 9%. Undergraduates also made up a majority of “No Respondents” (54%), followed by graduate students at 22%. **Figure 3-19** presents a breakdown of survey responses by affiliation.

**Figure 3-19: Affiliation with San Francisco State University**

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>Percentage Yes Respondents (n=2,358)</th>
<th>Percentage No Respondents (n=732)</th>
<th>Percentage Overall (n=3,090)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>12.9%</td>
<td>6.0%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Other Undergraduate</td>
<td>49.4%</td>
<td>48.0%</td>
<td>49.0%</td>
</tr>
<tr>
<td>Graduate Student</td>
<td>8.5%</td>
<td>21.7%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Staff/Admin</td>
<td>19.1%</td>
<td>5.7%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Faculty</td>
<td>9.3%</td>
<td>14.9%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Visitor/Contractor</td>
<td>0.2%</td>
<td>0.8%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Other</td>
<td>0.6%</td>
<td>2.9%</td>
<td>1.1%</td>
</tr>
</tbody>
</table>

The majority of respondents stated that they reside off-campus, as shown in **Figure 3-20**.

**Figure 3-20: Place of Residence**

<table>
<thead>
<tr>
<th></th>
<th>Percentage Yes Respondents</th>
<th>Percentage No Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Campus</td>
<td>10.0%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Off-Campus</td>
<td>90.0%</td>
<td>97.7%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
All survey respondents were asked their home zip code. Responses to this question were mapped to show what parts of the Bay Area SF State affiliates live in. As shown in Figure 3-21, the largest concentration of SF State affiliates reported living within San Francisco. Outside of San Francisco, the largest concentration of University affiliates are estimated to be in Oakland, Daly City, Berkeley, South San Francisco, San Mateo, Pacifica, and Hayward.
Figure 3-21: Campus Affiliates by County

The map illustrates the percentage of survey respondents by county, with different colors indicating the percentage ranges: 0-5%, 6-10%, 11-25%, and 25-49%. The map covers San Francisco, Contra Costa, Alameda, Marin, Solano, and Santa Clara counties. The percentages are as follows:

- San Francisco: 48%
- Contra Costa: 8%
- Alameda: 24%
- Marin: 2%
- Solano: 1%
- Santa Clara: 3%

The map also includes symbols indicating BART coverage and other transportation routes. The data sources are MTC, US Census, and SF State.
Using the zip code data, University affiliates were grouped into four geographic regions: San Francisco, East Bay, North Bay, and Peninsula. As illustrated in Figure 3-21 and Figure 3-22, the largest concentration of SF State affiliates is in San Francisco, with nearly half living in the same city as the University. Nearly a third of affiliates live in the East Bay, and approximately 15% live on the Peninsula. Only 5% of SF State affiliates live to the north of San Francisco in Sonoma or Marin counties.

**Figure 3-22: Location of SF State University Affiliates**

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage Yes Respondents (n=1,715)</th>
<th>Percentage No Respondents (n=587)</th>
<th>Percentage Overall (n=2,302)</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Bay</td>
<td>28.4%</td>
<td>44.3%</td>
<td>32.5%</td>
</tr>
<tr>
<td>North Bay</td>
<td>4.3%</td>
<td>5.5%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Peninsula</td>
<td>15.3%</td>
<td>14.5%</td>
<td>15.1%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>52.0%</td>
<td>35.8%</td>
<td>47.8%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

---

8 Respondents who did not provide a zip code or are located outside of the Bay Area are not included in this analysis. Approximately 17% of respondents are not included in this analysis.
4 CORDON COUNT

INTRODUCTION

As part of the University’s effort to comply with the MOU, the University sponsored a cordon count on Wednesday, April 6, 2016 to accompany the survey effort. The cordon count provides information on where University affiliates are entering and exiting the campus, and at what times of day they enter and exit. The data collected from the cordon count provides a sense of how many people come to campus each day. This year’s count represents the fourth conducted in recent years per the MOU between the University and City and County of San Francisco.

METHODOLOGY

The count was conducted from 7:00 a.m. to 7:30 p.m. at nine locations around the campus, as shown in Figure 4-1. This is the same time period used in 2014 and 2011. The locations were selected as they represent all public vehicle entry access points, including access to interior roadways and parking facilities. Eight of the nine locations used for the cordon counts in 2016 were in the same locations as those used in 2014 and 2011. The only location that changed can be seen in Figure 4-1.

At each location, vehicles were counted in 15-minute increments. Surveyors were instructed to distinguish between vehicles with only a single driver, carpools (vehicles with two or more persons), motorcycles, and other vehicles. Other vehicles included campus vehicles, delivery trucks, transit vehicles, and security vehicles. Surveyors were instructed to include drop-offs as a carpool vehicle. One surveyor was stationed at each location.
The cordon count locations are the same in 2016 as in 2014, with the exception of location 9, which has moved southwest on Winston Drive.
RESULTS

A total of 10,201 unique vehicle entries were counted entering and exiting campus during the count period. This is an approximate 6% increase in vehicle activity from the last cordon count, in 2014.

Figure 4-2 provides a breakdown of vehicles entering and exiting the campus by the nine cordon locations. Similar to 2014, the entry point at State Drive and Lake Merced Boulevard saw the largest number of vehicles entering and exiting, largely due to the fact that State Drive connects to the primary parking facility on campus. Holloway Avenue at Tapia Drive and Font Boulevard at Tapia Drive saw the second highest number of vehicle trips, partially due to the fact the area is a popular area for drop-offs. These three locations all saw increases in vehicle entries and exits from 2014 to 2016. The greatest increase in vehicle entries and exits occurred at Holloway Avenue and Administration Building, nearly doubling in activity.

Figure 4-2: Number of Vehicles Entering and Exiting by Location

<table>
<thead>
<tr>
<th>Location</th>
<th>2016</th>
<th>2014</th>
<th>% Change in Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Entering</td>
<td>Exiting</td>
<td>Total</td>
</tr>
<tr>
<td>1 Holloway Ave &amp; Administration Bldg</td>
<td>108</td>
<td>106</td>
<td>214</td>
</tr>
<tr>
<td>2 Holloway Ave &amp; Cardenas</td>
<td>54</td>
<td>44</td>
<td>98</td>
</tr>
<tr>
<td>3 Holloway Ave &amp; Arella</td>
<td>93</td>
<td>93</td>
<td>186</td>
</tr>
<tr>
<td>4 Holloway Ave &amp; Tapia Dr¹⁰</td>
<td>1,210</td>
<td>--</td>
<td>1,211</td>
</tr>
<tr>
<td>5 Font Blvd &amp; Tapia Dr¹¹</td>
<td>--</td>
<td>1,181</td>
<td>1,181</td>
</tr>
<tr>
<td>6 Font Blvd &amp; Mary Wald Hall</td>
<td>110</td>
<td>82</td>
<td>192</td>
</tr>
<tr>
<td>7 State Dr. &amp; Lake Merced Blvd</td>
<td>3,311</td>
<td>2,669</td>
<td>5,980</td>
</tr>
<tr>
<td>8 N. State Dr. &amp; Lake Merced Blvd</td>
<td>394</td>
<td>681</td>
<td>1,075</td>
</tr>
<tr>
<td>9 Winston Dr. &amp; Lot 25¹²</td>
<td>32</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,312</strong></td>
<td><strong>4,889</strong></td>
<td><strong>10,201</strong></td>
</tr>
</tbody>
</table>

¹⁰ Vehicles may only enter at Holloway Avenue and Tapia
¹¹ Vehicles may only exit at Font and Tapia
¹² Location 9 changed in 2016 from 2014.
The distribution of vehicles entering and exiting by time varied by cordon count location. However, at most locations, vehicles peaked between 9:00 a.m. and 11:00 a.m. and 5:00 p.m. to 7:30 p.m.. Figure 4-3 highlights the number of vehicles entering and exiting by time for the 2016 cordon count, and Figure 4-4 illustrates the percent change in the count of vehicles entering and exiting from 2014 to 2016.

**Figure 4-3: Count of Vehicles Entering and Exiting by Location and Time in 2016**

<table>
<thead>
<tr>
<th>Location</th>
<th>7:00 AM - 9:00 AM</th>
<th>9:00 AM - 11:00 AM</th>
<th>11:00 AM - 1:00 PM</th>
<th>1:00 PM - 3:00 PM</th>
<th>3:00 PM - 5:00 PM</th>
<th>5:00 PM - 7:30 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Holloway Ave &amp; Administration Bldg</td>
<td>24</td>
<td>23</td>
<td>47</td>
<td>23</td>
<td>45</td>
<td>52</td>
</tr>
<tr>
<td>2 Holloway Ave &amp; Cardenas</td>
<td>19</td>
<td>15</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>41</td>
</tr>
<tr>
<td>3 Holloway Ave &amp; Arella</td>
<td>14</td>
<td>26</td>
<td>34</td>
<td>37</td>
<td>37</td>
<td>38</td>
</tr>
<tr>
<td>4 Holloway Ave &amp; Tapia Dr</td>
<td>111</td>
<td>274</td>
<td>189</td>
<td>184</td>
<td>188</td>
<td>265</td>
</tr>
<tr>
<td>5 Font Blvd &amp; Tapia Dr</td>
<td>71</td>
<td>268</td>
<td>194</td>
<td>170</td>
<td>197</td>
<td>281</td>
</tr>
<tr>
<td>6 Font Blvd &amp; Mary Wald Hall</td>
<td>23</td>
<td>17</td>
<td>26</td>
<td>31</td>
<td>42</td>
<td>53</td>
</tr>
<tr>
<td>7 State Dr. &amp; Lake Merced Blvd</td>
<td>1,061</td>
<td>1,043</td>
<td>951</td>
<td>807</td>
<td>1,090</td>
<td>1,028</td>
</tr>
<tr>
<td>8 N. State Dr. &amp; Lake Merced Blvd</td>
<td>169</td>
<td>140</td>
<td>120</td>
<td>112</td>
<td>220</td>
<td>314</td>
</tr>
<tr>
<td>9 Winston Dr. &amp; Lot 25</td>
<td>5</td>
<td>13</td>
<td>8</td>
<td>13</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>1,497</td>
<td>1,819</td>
<td>1,577</td>
<td>1,384</td>
<td>1,842</td>
<td>2,082</td>
</tr>
</tbody>
</table>

For the entry point at State Drive and Lake Merced Boulevard, which has the largest numbers of vehicles entering and exiting, there was an increase in the number of vehicles entering and exiting between 7:00 a.m. – 9:00 a.m., as well as 1:00 p.m. – 7:30 p.m., from 2014 to 2016. This may suggest that students, faculty, staff, and visitors to campus may be shifting driving behaviors earlier to secure a parking space at the primary parking facility on campus. This pattern is also notable at the Holloway Avenue at Tapia Drive and Font Boulevard at Tapia Drive entry and exit points.

**Figure 4-4: Percent Change in the Count of Vehicles Entering and Exiting from 2014 to 2016**

<table>
<thead>
<tr>
<th>Location</th>
<th>7:00 AM - 9:00 AM</th>
<th>9:00 AM - 11:00 AM</th>
<th>11:00 AM - 1:00 PM</th>
<th>1:00 PM - 3:00 PM</th>
<th>3:00 PM - 5:00 PM</th>
<th>5:00 PM - 7:30 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Holloway Ave &amp; Administration Bldg</td>
<td>41%</td>
<td>-18%</td>
<td>194%</td>
<td>15%</td>
<td>400%</td>
<td>117%</td>
</tr>
<tr>
<td>2 Holloway Ave &amp; Cardenas</td>
<td>-27%</td>
<td>15%</td>
<td>0%</td>
<td>0%</td>
<td>14%</td>
<td>8%</td>
</tr>
<tr>
<td>3 Holloway Ave &amp; Arella</td>
<td>-30%</td>
<td>-19%</td>
<td>-15%</td>
<td>76%</td>
<td>12%</td>
<td>100%</td>
</tr>
</tbody>
</table>
When counting vehicles entering and exiting campus, surveyors noted if they were single occupancy vehicles (drive alone), carpools, motorcycles, or other vehicles such as campus vehicles, delivery trucks, or security vehicles. **Figure 4-5** provides a count of vehicles by vehicle type for every hour of the cordon count. While the largest percentage of vehicle trips were single occupancy vehicle trips (77%), carpool trips made up more than 17% of all vehicle trips. Additionally, this was nearly a 4% reduction in single occupancy vehicle trips from 2014.

Overall, the highest number of vehicles entering and exiting campus occurred between 9:00 a.m. and 10:00 a.m., with 9.8% of vehicle trips occurring during this time period. This is slightly different to the peak hour for traffic in the area, which according to 511.org is about 7:45 am to 8:45 am. The afternoon/evening peak period for vehicle trips occurred between 4:00 p.m. and 5:00 p.m., with 9.5% of vehicle trips occurring during this time period. This overlaps with area’s peak hour, which 511.org reports as 4:30 pm to 5:30 pm.

Surveyors also noted the number of people in each vehicle, including the number of people for each carpool or in other campus vehicles. **Figure 4-6** provides a count of person trips by vehicle type for every hour of the cordon count. In considering the number of person trips, 64% of all person trips were drive alone, while 30% of all person trips were carpools. In other words, from the cordon count, nearly a third of all person trips were conducted by carpool.
Figure 4-5: Count of Vehicles Entering and Exiting by Mode and by Hour

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Drive Alone Enter</th>
<th>Drive Alone Exit</th>
<th>Carpool Enter</th>
<th>Carpool Exit</th>
<th>Motorcycle Enter</th>
<th>Motorcycle Exit</th>
<th>Other Enter</th>
<th>Other Exit</th>
<th>Total Enter</th>
<th>Total Exit</th>
<th>Total Trips</th>
<th>% Trips by Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 - 7:59</td>
<td>362</td>
<td>58</td>
<td>132</td>
<td>31</td>
<td>10</td>
<td>2</td>
<td>17</td>
<td>10</td>
<td>521</td>
<td>101</td>
<td>622</td>
<td>5.0%</td>
</tr>
<tr>
<td>8:00 - 8:59</td>
<td>655</td>
<td>135</td>
<td>256</td>
<td>28</td>
<td>4</td>
<td>1</td>
<td>41</td>
<td>17</td>
<td>956</td>
<td>181</td>
<td>1,137</td>
<td>9.1%</td>
</tr>
<tr>
<td>9:00 - 9:59</td>
<td>590</td>
<td>219</td>
<td>216</td>
<td>48</td>
<td>2</td>
<td>2</td>
<td>53</td>
<td>23</td>
<td>861</td>
<td>292</td>
<td>1,153</td>
<td>9.3%</td>
</tr>
<tr>
<td>10:00 - 10:59</td>
<td>452</td>
<td>205</td>
<td>180</td>
<td>78</td>
<td>4</td>
<td>9</td>
<td>28</td>
<td>25</td>
<td>664</td>
<td>317</td>
<td>981</td>
<td>7.9%</td>
</tr>
<tr>
<td>11:00 - 11:59</td>
<td>286</td>
<td>231</td>
<td>116</td>
<td>103</td>
<td>2</td>
<td>3</td>
<td>26</td>
<td>25</td>
<td>430</td>
<td>362</td>
<td>792</td>
<td>6.4%</td>
</tr>
<tr>
<td>12:00 - 12:59</td>
<td>315</td>
<td>334</td>
<td>244</td>
<td>179</td>
<td>4</td>
<td>1</td>
<td>17</td>
<td>70</td>
<td>580</td>
<td>584</td>
<td>1,164</td>
<td>9.4%</td>
</tr>
<tr>
<td>1:00 - 1:59</td>
<td>294</td>
<td>281</td>
<td>152</td>
<td>183</td>
<td>5</td>
<td>3</td>
<td>11</td>
<td>9</td>
<td>462</td>
<td>476</td>
<td>938</td>
<td>7.5%</td>
</tr>
<tr>
<td>2:00 - 2:59</td>
<td>227</td>
<td>272</td>
<td>126</td>
<td>148</td>
<td>3</td>
<td>0</td>
<td>9</td>
<td>6</td>
<td>365</td>
<td>426</td>
<td>791</td>
<td>6.4%</td>
</tr>
<tr>
<td>3:00 - 3:59</td>
<td>293</td>
<td>390</td>
<td>137</td>
<td>175</td>
<td>5</td>
<td>6</td>
<td>9</td>
<td>33</td>
<td>444</td>
<td>604</td>
<td>1,048</td>
<td>8.4%</td>
</tr>
<tr>
<td>4:00 - 4:59</td>
<td>251</td>
<td>520</td>
<td>196</td>
<td>176</td>
<td>0</td>
<td>7</td>
<td>13</td>
<td>37</td>
<td>460</td>
<td>740</td>
<td>1,200</td>
<td>9.7%</td>
</tr>
<tr>
<td>5:00 - 5:59</td>
<td>206</td>
<td>541</td>
<td>107</td>
<td>236</td>
<td>4</td>
<td>6</td>
<td>18</td>
<td>68</td>
<td>335</td>
<td>851</td>
<td>1,186</td>
<td>9.5%</td>
</tr>
<tr>
<td>6:00 - 6:59</td>
<td>162</td>
<td>391</td>
<td>114</td>
<td>204</td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>18</td>
<td>289</td>
<td>619</td>
<td>908</td>
<td>7.3%</td>
</tr>
<tr>
<td>7:00 - 7:30</td>
<td>72</td>
<td>210</td>
<td>79</td>
<td>133</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>11</td>
<td>154</td>
<td>356</td>
<td>510</td>
<td>4.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,165</strong></td>
<td><strong>3,787</strong></td>
<td><strong>2,055</strong></td>
<td><strong>1,722</strong></td>
<td><strong>47</strong></td>
<td><strong>48</strong></td>
<td><strong>254</strong></td>
<td><strong>352</strong></td>
<td><strong>6,521</strong></td>
<td><strong>5,909</strong></td>
<td><strong>12,430</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td>% of Total</td>
<td><strong>77.2%</strong></td>
<td><strong>17.2%</strong></td>
<td><strong>0.9%</strong></td>
<td><strong>4.7%</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>100%</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Figure 4-6: Count of Persons Entering and Exiting by Mode and by Hour

<table>
<thead>
<tr>
<th>Time Slot</th>
<th>Drive Alone Enter</th>
<th>Drive Alone Exit</th>
<th>Carpool Enter</th>
<th>Carpool Exit</th>
<th>Motorcycle Enter</th>
<th>Motorcycle Exit</th>
<th>Other Enter</th>
<th>Other Exit</th>
<th>Total Enter</th>
<th>Total Exit</th>
<th>Total Trips</th>
<th>% Trips by Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 - 7:59</td>
<td>362</td>
<td>58</td>
<td>132</td>
<td>31</td>
<td>10</td>
<td>2</td>
<td>17</td>
<td>10</td>
<td>521</td>
<td>101</td>
<td>622</td>
<td>5.0%</td>
</tr>
<tr>
<td>8:00 - 8:59</td>
<td>655</td>
<td>135</td>
<td>256</td>
<td>28</td>
<td>4</td>
<td>1</td>
<td>41</td>
<td>17</td>
<td>956</td>
<td>181</td>
<td>1,137</td>
<td>9.1%</td>
</tr>
<tr>
<td>9:00 - 9:59</td>
<td>590</td>
<td>219</td>
<td>216</td>
<td>48</td>
<td>2</td>
<td>2</td>
<td>53</td>
<td>23</td>
<td>861</td>
<td>292</td>
<td>1,153</td>
<td>9.3%</td>
</tr>
<tr>
<td>10:00 - 10:59</td>
<td>452</td>
<td>205</td>
<td>180</td>
<td>78</td>
<td>4</td>
<td>9</td>
<td>28</td>
<td>25</td>
<td>664</td>
<td>317</td>
<td>981</td>
<td>7.9%</td>
</tr>
<tr>
<td>11:00 - 11:59</td>
<td>286</td>
<td>231</td>
<td>116</td>
<td>103</td>
<td>2</td>
<td>3</td>
<td>26</td>
<td>25</td>
<td>430</td>
<td>362</td>
<td>792</td>
<td>6.4%</td>
</tr>
<tr>
<td>12:00-12:59</td>
<td>315</td>
<td>334</td>
<td>244</td>
<td>179</td>
<td>4</td>
<td>1</td>
<td>17</td>
<td>70</td>
<td>580</td>
<td>584</td>
<td>1,164</td>
<td>9.4%</td>
</tr>
<tr>
<td>1:00 - 1:59</td>
<td>294</td>
<td>281</td>
<td>152</td>
<td>183</td>
<td>5</td>
<td>3</td>
<td>11</td>
<td>9</td>
<td>462</td>
<td>476</td>
<td>938</td>
<td>7.5%</td>
</tr>
<tr>
<td>2:00 - 2:59</td>
<td>227</td>
<td>272</td>
<td>126</td>
<td>148</td>
<td>3</td>
<td>0</td>
<td>9</td>
<td>6</td>
<td>365</td>
<td>426</td>
<td>791</td>
<td>6.4%</td>
</tr>
<tr>
<td>3:00 - 3:59</td>
<td>293</td>
<td>390</td>
<td>137</td>
<td>175</td>
<td>5</td>
<td>6</td>
<td>9</td>
<td>33</td>
<td>444</td>
<td>604</td>
<td>1,048</td>
<td>8.4%</td>
</tr>
<tr>
<td>4:00 - 4:59</td>
<td>251</td>
<td>520</td>
<td>196</td>
<td>176</td>
<td>0</td>
<td>7</td>
<td>13</td>
<td>37</td>
<td>460</td>
<td>740</td>
<td>1,200</td>
<td>9.7%</td>
</tr>
<tr>
<td>5:00 - 5:59</td>
<td>206</td>
<td>541</td>
<td>107</td>
<td>236</td>
<td>4</td>
<td>6</td>
<td>18</td>
<td>68</td>
<td>335</td>
<td>851</td>
<td>1,186</td>
<td>9.5%</td>
</tr>
<tr>
<td>6:00- 6:59</td>
<td>162</td>
<td>391</td>
<td>114</td>
<td>204</td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>18</td>
<td>289</td>
<td>619</td>
<td>908</td>
<td>7.3%</td>
</tr>
<tr>
<td>7:00 - 7:30</td>
<td>72</td>
<td>210</td>
<td>79</td>
<td>133</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>11</td>
<td>154</td>
<td>356</td>
<td>510</td>
<td>4.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,165</strong></td>
<td><strong>3,787</strong></td>
<td><strong>2,055</strong></td>
<td><strong>1,722</strong></td>
<td><strong>47</strong></td>
<td><strong>48</strong></td>
<td><strong>254</strong></td>
<td><strong>352</strong></td>
<td><strong>6,521</strong></td>
<td><strong>5,909</strong></td>
<td><strong>12,430</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td>% of Total</td>
<td>64.0%</td>
<td>30.4%</td>
<td>0.8%</td>
<td>4.9%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The data collected in April 2008 was used to establish a baseline number of automobile trips for the entire campus population. Figure 4-7 shows the number of peak hour and total daily auto trips. The peak hour has changed throughout the years, from 4:00 p.m. to 5:00 p.m. in 2008, to 5:00 p.m. to 6:00 p.m. in 2011, to 3:00 p.m. to 4:00 p.m. in 2014, and back to 4:00 p.m. to 5:00 p.m. in 2016.

The number of peak hour trips decreased by 3\% between 2008 and 2016, and the number of automobile trips per day decreased by 22\% between 2008 and 2016.

Figure 4-7: Peak Hour and Total Auto Trips

<table>
<thead>
<tr>
<th>Time</th>
<th>Peak Hour Auto Trips</th>
<th>% of Total Daily Auto Trips</th>
<th>Total Daily Auto Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:00 PM – 4:00 PM</td>
<td>1,107</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00 PM – 5:00 PM</td>
<td>1,200</td>
<td>1,239</td>
<td>10%</td>
</tr>
<tr>
<td>5:00 PM – 6:00 PM</td>
<td>1,198</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5 CARBON EMISSIONS

INTRODUCTION

San Francisco State University has committed to pursuing greenhouse gas (GHG) emissions reductions since 2007, a commitment that was reasserted in August 2012 when President Les Wong signed the American College & University Presidents Climate Commitment (ACUPCC). The University created an inventory of greenhouse gas (GHG) emissions from 1990 to 2006 and conducted a second GHG inventory with data through 2008.

The GHG inventory shows that commuting accounts for almost 49% of the total emissions generated by the campus. After the 2008 GHG emissions inventory, Nelson\Nygaard analyzed surveys from 1970 and 1992 to compare results to historical patterns. Compared to the 2008 travel survey commute related emissions had decreased by an estimated 53% from 1990 levels. Recognizing the important role that transportation plays in GHG emissions and the potential for reducing GHG emissions through changes in travel behavior, the online survey was designed to provide data which could be used to better understand University affiliates’ travel behavior, and help develop a strategic action plan for reducing GHG emissions.

Utilizing the data gathered in the online survey, this chapter provides an analysis of GHG emissions resulting from commute trips to and from campus. GHG emissions were measured in carbon dioxide equivalents (CO$_2$-e), which is a total of all GHGs converted into CO$_2$ at a rate based on the gas’ impact on ozone depletion.

METHODOLOGY

The online survey was designed in part to enable the University to calculate the emissions related to transportation. For each leg of their commute journeys, respondents were asked to provide both the mode they used and the distance travelled. The average distance traveled by students and staff on each mode was calculated, and each resulting value was multiplied by the weighted number of students and staff taking each mode on April 6, 2016. Data from the survey was scaled to estimate travel behavior for the entire population of students, faculty, and staff at the university in order to determine distances collectively traveled on each mode.

Carbon intensities (pounds of emissions per vehicle mile traveled measured in pounds of CO$_2$-e ) were then calculated for each mode (assumptions are listed in the following section).

[1] www.presidentsclimatecommitment.org
[13] San Francisco State University Climate Action Plan 2010
The product of distance traveled on each mode and the mode’s carbon intensity provide the total emissions attributable to the SF State commute for that mode on a given day.

\[
\text{Miles} \times \text{CO}_2\text{-e/mile} = \text{CO}_2\text{-e (for each mode)}
\]

Using the daily CO\textsubscript{2}-e inventory, an annual CO\textsubscript{2}-e inventory was determined.\textsuperscript{14}

The scaling factor used in the previous reports was adjusted this year in order to reflect a per mode weighted scaling factor. All data from previous years was adjusted under the same methodology. In addition, the unit of measurement for CO\textsubscript{2} emissions was changed in 2014 to metric tons, which is the industry standard. This was maintained in the 2016 analysis. In previous survey years, short tons was used as the unit of measurement. The 2008 and 2011 numbers shown in this report reflect this change in metrics.

**Assumptions**

The following assumptions were used in creating the emissions inventory for SF State:

- For all modes except BART, only tailpipe emissions are counted. Other emissions, such as those associated with fuel production and refining, vehicle manufacture, construction and maintenance of roadway/ guideway, etc., are excluded. It should be noted that, taken together, these add approximately 30\% (bus) to 60\% (private motor vehicle) to a mode’s average per-mile emissions (Chester & Horvath, 2008). In the one exception to this, emissions from the production of electricity used to power the BART system, including stations, trains, and other facilities, was counted.
- Average automobile fuel efficiency in 2016 is 21.6 MPG (Source: US EPA)
- Electric vehicle usage is assumed to be integrated into the US EPA MPG average fuel efficiency.
- Average carbon coefficients for a typical passenger vehicle in 2016 is 19.59 lbs CO\textsubscript{2} per gallon, respectively (Source: US EPA)
- Bus emissions:
  - Emissions from bus facilities excluded (due to lack of data)
  - Bus fuel efficiency of 4.5 MPG (typical for a 40-seat bus)
  - Trolleybus operation is assumed to produce zero emissions due to Muni’s use of exclusively hydroelectric power (Source: Muni)
  - Average overall bus ridership is calculated from Muni surveys on routes which directly serve the SF State campus (calculated per bus average on those lines was 14.4 passengers). Bus emissions divided by average load factor gives per passenger-mile emissions. It was assumed that the SamTrans line feeding SF State has similar ridership
  - Bus emissions were calculated from these assumptions to be 0.30 lbs of CO\textsubscript{2}-e per passenger mile (Source: Muni)
- BART pounds of CO\textsubscript{2}-e emissions per passenger mile are 0.11394. These include facilities energy use. (Source: BART)

\textsuperscript{14} The annual CO2 emissions inventory is based on 174 days. This includes all regular school days and excludes weekends, holidays, summer break, winter break and spring break.
- Caltrain emissions of 0.12018 lbs of CO$_2$-e per passenger mile (Source: Caltrain)
- SF State Shuttle buses were upgraded in January 2015 to CNG buses with a capacity of 60 passengers. Assumptions were made that there are 6,000 daily rides (Source: SFSU campus shuttle improved bigger better buses), an assumed average of two miles traveled on the shuttle, a calculated average occupancy of 48 passengers. Occupancy was calculated by dividing the average daily rides, noted above, by the number of buses per day (hourly frequency by the number of hours of operation). An emissions of 8.06 lbs of CO$_2$-e per mile was used for SF State Shuttle was assumed (Source: US Department of Energy Wells-to-wheels GHG emissions)
RESULTS

On a typical travel day in 2016, University affiliates travelled approximately 201,400 miles commuting to and from the SF State compared to approximately 203,900 in 2014, approximately 185,200 miles in 2011, and approximately 204,900 miles in 2008 (Figure 5-1). This represents a 1.23% decrease in daily passenger miles between 2014 and 2016 and a 1.7% decrease in daily passenger miles between 2008 and 2016.

Of the total miles traveled in 2016, 38% (75,800 miles) were travelled on BART, which is the same percentage as in 2014. This represents a slight increase in mode share from 2008, when approximately 37% of daily miles were on BART. Forty-one percent of the average 2016 day’s miles are travelled in private vehicles, slightly more than 2014 and 2008 when 37% of daily miles were travelled in private vehicles. However, the overall numbers of miles travelled by drive alone vehicles has increased.
Figure 5-1: Total Passenger Miles Travelled per Day by Mode

- **Carpool**: 68,300 (2008), 76,000 (2011), 68,300 (2014), 76,000 (2016)
- **TNC/Taxi**: 0 (2008), 0 (2011), 0 (2014), 0 (2016)
- **Muni (Electric Vehicles)**: 11,300 (2008), 14,500 (2011), 21,600 (2014), 26,100 (2016)
- **Muni (Diesel Vehicles)**: 5,500 (2008), 5,500 (2011), 23,600 (2014), 21,600 (2016)
BART commuters to SF State travel about 7,500 fewer miles per day than car drivers, but each emit only 650 pounds of CO\textsubscript{2}-e in a day compared to approximately 6,000 pounds of CO\textsubscript{2}-e emitted by those who drive alone. There was a decrease of approximately 20 pounds of CO\textsubscript{2}-e emitted per day by BART riders between 2008 and 2016, which correlates with a decrease in BART ridership over the same time period (Figure 5-2).

The SF State Shuttle emits 75 pounds of CO\textsubscript{2}-e per day, an almost one to 10 relationship to the number of passenger miles travelled (5,500 miles). The 2016 total represents a decrease in miles travelled over the last few years and a decrease in emissions. Part of the decrease could also be attributed due to the University obtaining new 60-passenger CNG buses in January of 2015. Muni electric vehicles do not produce any CO\textsubscript{2}-e emissions given that they use hydroelectric power produced by Hetch Hetchy Dam. CO\textsubscript{2}-e emissions generated by Caltrain are about the same as in 2016 as they were in 2008, as daily passenger miles have increased.
Figure 5-2: Total Pounds of CO2-e per Day by Mode
Private vehicles have the highest levels of average-day CO₂-e emissions per passenger mile (Figure 5-3) of all the modes evaluated. More than half of all daily passenger miles are travelled on BART, but only 12% of the total daily pounds of CO₂-e emissions are generated by BART. Thirty-eight percent of the total daily passenger miles are from drive alone, however persons driving alone are the largest contributors to SF State’s CO₂-e commute travel emissions, representing 70% of the total daily pounds of CO₂-e emissions (Figure 5-4).

Figure 5-3: Pounds of CO₂ Emissions per Passenger Mile

![CO₂ Emissions Chart](chart.png)
On an annual basis in 2016, University affiliates commute more than 35 million miles, compared to the approximately 35.4 million miles in 2014, 32.2 million miles in 2011, and 35.6 million miles in 2008. This represents a 65% change between 2008 and 2016 (Figure 5-4).

As result, in 2016, a total of 7,500 metric tons of CO₂-e were produced by university affiliates’ commutes compared to 7,700 metric tons of CO2-e in 2014, 7,000 metric tons of CO₂-e in 2011, and 8,000 metric tons of CO₂-e in 2008, a 6% decrease in CO₂-e emissions between 2008 and 2016.

With the increase in the population, the raw number of University affiliates driving for some portion of their journey has increased, though the overall percentage of the population that drives alone has increased by 11% since 2008. The number of miles travelled by BART commuters has decreased by approximately 1,000 miles since 2008 but only resulted in a decrease of approximately 20 metric tons of CO₂-e since 2008.
### Figure 5-5: Passenger-miles travelled, pounds CO$_2$ per mile, and total CO$_2$ per year\(^{15}\) by mode

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>83,300</td>
<td>76,000</td>
<td>68,300</td>
<td>75,000</td>
<td>14,499,400</td>
<td>13,229,400</td>
<td>11,891,900</td>
<td>13,047,700</td>
<td>5,980</td>
<td>5,740</td>
</tr>
<tr>
<td>BART</td>
<td>75,800</td>
<td>77,100</td>
<td>74,200</td>
<td>76,500</td>
<td>13,184,800</td>
<td>13,413,900</td>
<td>12,907,200</td>
<td>13,318,200</td>
<td>650</td>
<td>660</td>
</tr>
<tr>
<td>Muni (Diesel Vehicles)</td>
<td>16,800</td>
<td>23,600</td>
<td>21,600</td>
<td>26,100</td>
<td>2,919,100</td>
<td>4,106,300</td>
<td>3,756,200</td>
<td>4,541,000</td>
<td>450</td>
<td>640</td>
</tr>
<tr>
<td>Muni (Electric Vehicles)</td>
<td>10,100</td>
<td>3,800</td>
<td>2,500</td>
<td>3,400</td>
<td>1,755,500</td>
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<td>438,700</td>
<td>589,600</td>
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<td>0</td>
</tr>
<tr>
<td>Carpool</td>
<td>4,900</td>
<td>14,500</td>
<td>11,300</td>
<td>16,400</td>
<td>844,500</td>
<td>2,530,000</td>
<td>1,970,200</td>
<td>2,861,300</td>
<td>130</td>
<td>460</td>
</tr>
<tr>
<td>SF State Shuttle Bus</td>
<td>5,500</td>
<td>5,500</td>
<td>5,500</td>
<td>5,500</td>
<td>964,300</td>
<td>952,600</td>
<td>955,300</td>
<td>951,200</td>
<td>70</td>
<td>210</td>
</tr>
<tr>
<td>Caltrain</td>
<td>2,600</td>
<td>3,300</td>
<td>1,700</td>
<td>1,900</td>
<td>460,300</td>
<td>578,200</td>
<td>298,700</td>
<td>338,300</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>TNC/Taxi</td>
<td>2,400</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>412,600</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>170</td>
<td>N/A</td>
</tr>
<tr>
<td>Walk</td>
<td>11,600</td>
<td>9,500</td>
<td>4,100</td>
<td>3,800</td>
<td>2,019,800</td>
<td>1,658,600</td>
<td>716,300</td>
<td>654,000</td>
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<tr>
<td>Bike</td>
<td>4,600</td>
<td>5,800</td>
<td>5,300</td>
<td>4,400</td>
<td>797,800</td>
<td>1,004,500</td>
<td>914,900</td>
<td>771,500</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>217,600</strong></td>
<td><strong>219,200</strong></td>
<td><strong>194,500</strong></td>
<td><strong>213,100</strong></td>
<td><strong>37,858,000</strong></td>
<td><strong>38,139,200</strong></td>
<td><strong>33,849,400</strong></td>
<td><strong>37,072,800</strong></td>
<td><strong>7,490</strong></td>
<td><strong>7,740</strong></td>
</tr>
</tbody>
</table>

\(^{15}\) The annual CO$_2$ emissions inventory is based on 174 days. This includes all regular school days and excludes weekends, holidays, summer break, winter break and spring break.
Appendix A  Survey Instruments
ONLINE SURVEY

SF State Transportation Survey 2016 - Nelson\Nygaard

SF State Transportation Survey. Please complete this survey about your commute and general travel to and from SF State's main campus at 1600 Holloway on Wednesday, April 6, 2016. The survey takes approximately 5 minutes to complete, and your response is greatly appreciated. The survey will close on April 14, 2016. Upon completing the survey you will have an opportunity to enter for a chance to win a $100 gift card to the SF State Bookstore. Thank you for helping us improve the quality of our campus!

q1 What is your primary affiliation with SF State?
   Freshman (1)
   Other undergraduate (2)
   Graduate student (3)
   Staff or Administrator (4)
   Faculty (5)
   Visitor/contractor (6)
   Other (7)

q2 Are you full-time or part-time?
   Full-time (1)
   Part-time (2)
   Not Applicable (3)

q3 On average, how many days a week do you come to the SF State main campus at 1600 Holloway?
   0 (0)
   1 (1)
   2 (2)
   3 (3)
   4 (4)
   5 (5)
   6 (6)
q4 Where do you live?
On campus (1)
Off campus (2)

Answer If Where do you live? On campus Is Selected
q4a Specify dorm/apartment
  Mary Ward Hall (1)
  Mary Park Hall (2)
  Towers at Centennial Square (3)
  Science & Technology Theme Community (4)
  University Park North (5)
  University Park South (6)
  Village at Centennial Square (7)

Answer If Where do you live? Off campus Is Selected
q4b Specify zip code

q4c What is your average cost for your round trip commute to and from SF State? Please round to the nearest dollar.
  No Cost (0)
  $1 (1)
  $2 (2)
  $3 (3)
  $4 (4)
  $5 (5)
  $6 (6)
  $7 (7)
  $8 (8)
  $9 (9)
  $10 (10)
  $11 (11)
Q151 Were you on campus on Wednesday, April 6th 2016?
   Yes (1)
   No (2)

Answer If Were you on campus on Wednesday, April 6th 2016? No Is Selected

Q159 Have you participated in or used / do you currently participate in or use any of the following programs and services?
   I wasn't aware of this service (1)
   I've heard of this service but never used it (2)
   I occasionally (1-2 times a week) use this service (3)
   I frequently (3-5 days a week) use this service (4)

Free round trip transfer on Muni 28/28R from Daly City BART when using Clipper Card (1)

Bike Barn (2)
Bike Racks (7)
511 RideMatch Service (3)
Zipcar (9)
Electric Vehicle Charging Stations (10)
Answer If What is your primary affiliation with SF State? Staff or Administrator Is Selected Or What is your primary affiliation with SF State? Faculty Is Selected And Were you on campus on Wednesday, April 6th 2016? No Is Selected

Q160 For Employees: Have you participated in or used / do you currently participate in or use any of the following programs and services?

   I wasn't aware of this service (1)
   I've heard of this service but never used it (2)
   I occasionally (1-2 times a week) use this service (3)
   I frequently (3-5 days a week) use this service (4)

Commuter Check Pre-Tax Transit Benefit (pre-tax purchase of transit passes) (1)

Vanpool (2)

Emergency Ride Home Program (3)

Pre-Tax Parking Benefit (pre-tax purchase of parking) (4)

Answer If Were you on campus on Wednesday, April 6th 2016? No Is Selected

Q156 Do you know where to go if you have questions about your commute or need other transportation information?

   Yes, and I have used the resources available to me before (1)
   Yes, but I have not used the resources available to me (2)
   No, I do not know what resources are available to me (3)

Answer If Were you on campus on Wednesday, April 6th 2016? No Is Selected

Q157 Which resources have you used to get transportation and commute information? (please check all that apply)

   " SF State Website home page (1)
   " Parking & Transportation Website (2)
   " Word of mouth (fellow student or coworker) (3)
   " My manager (5)
   " Human resources (6)
   " Hiring materials (7)
   " A distribution list that I signed up for (8)
   " Digital screens found around campus (9)
   " Other (please specify) (10) ____________________
Q158 In an effort to reduce parking demand and to expand affordable transportation options, SF State is exploring the possibility of pursuing discounts for our students, faculty, and staff for on-demand taxi services known as TNCs such as Uber and Lyft. Would you be interested in such a benefit?

   Yes (1)
   No (2)

Q153 Please provide any additional comments about transportation issues that relate to SF State.

Q154 If you would like to be entered for a chance to receive a $100 gift card to the SF State Bookstore, please enter your email address.

Your Trip to Campus The following questions are about your trip to the main campus at 1600 Holloway. You will be asked to describe your commute by indicating the mode of transportation used for each segment of the trip. For example, your commute might have only one segment if you drove, walked, or biked directly to campus. Or, it might have three segments if you 1) drove and parked at your closest BART station, 2) took BART to Daly City, and 3) took the shuttle to campus. Please describe your commute to the main campus on Wednesday, April 6, 2016. If you took more than one mode/ have multiple segments, please start the survey by selecting your first segment.

Q133 For your trip to the main campus, where did you start your trip?(For example, Main Campus and On-Campus Dorms = 94132).

   Zipcode (1)

Q136 For your trip to the main campus, what time did you arrive at the main campus? Please enter time in the following format: HH:MM AM

   HH (9)
   MM (10)
   AM/PM (11)

q5pre Select the mode of transportation for your first segment:

   Walk, bike, or other active transport (1)
q5 Which mode of transportation did you use?
If Select your first mode of transportation: Walk, bike, or other active transport Is Selected
   Walk (1)
   If Describe your trip to the main campus on Wednesday, April 23, 2014. If you used more than one mode of transportation, please start with the first mode. Select your first mode of transport: Walk, Bike, or Other-Self Propelled Is Selected
   Bicycle (2)
   If Describe your trip to the main campus on Wednesday, April 23, 2014. If you used more than one mode of transportation, please start with the first mode. Select your first mode of transport: Walk, Bike, or Other-Self Propelled Is Selected
   Other (3)
   If Describe your trip to the main campus on Wednesday, April 23, 2014. If you used more than one mode of transportation, please start with the first mode. Select your first mode of transport: Walk, Bike, or Other-Self Propelled Is Selected
   Muni (4)
   If Describe your trip to the main campus on Wednesday, April 23, 2014. If you used more than one mode of transportation, please start with the first mode. Select your first mode of transport: Walk, Bike, or Other-Self Propelled Is Selected
   BART (5)
   If Describe your trip to the main campus on Wednesday, April 23, 2014. If you used more than one mode of transportation, please start with the first mode. Select your first mode of transport: Walk, Bike, or Other-Self Propelled Is Selected
   SF State Shuttle (6)
   If Describe your trip to the main campus on Wednesday, April 23, 2014. If you used more than one mode of transportation, please start with the first mode. Select your first mode of transport: Walk, Bike, or Other-Self Propelled Is Selected
   Caltrain (7)
   If Describe your trip to the main campus on Wednesday, April 23, 2014. If you used more than one mode of transportation, please start with the first mode. Select your first mode of transport: Walk, Bike, or Other-Self Propelled Is Selected
   Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) (8)
If Describe your trip to the main campus on Wednesday, April 23, 2014. If you used more than one mode of transportation, please start with the first mode. Select your first mode of tran...

5. Select your first mode of transportation: Private Vehicle Is Selected

Drove Alone (9)

If Describe your trip to the main campus on Wednesday, April 23, 2014. If you used more than one mode of transportation, please start with the first mode. Select your first mode of transportation: Private Vehicle Is Selected

Dropped Off / Picked Up (10)

If Describe your trip to the main campus on Wednesday, April 23, 2014. If you used more than one mode of transportation, please start with the first mode. Select your first mode of transportation: Private Vehicle Is Selected

Motorcycle/Moped (11)

If Describe your trip to the main campus on Wednesday, April 23, 2014. If you used more than one mode of transportation, please start with the first mode. Select your first mode of transportation: Private Vehicle Is Selected

Carpool/Vanpool (12)

If Select your first mode of transportation: Taxi or TNC (Uber, Lyft, etc.) Is Selected

Taxi (19)

If Select your first mode of transportation: Taxi or TNC (Uber, Lyft, etc.) Is Selected

Uber (20)

If Select your first mode of transportation: Taxi or TNC (Uber, Lyft, etc.) Is Selected

Lyft (21)

If Select your first mode of transportation: Taxi or TNC (Uber, Lyft, etc.) Is Selected

Other on-demand taxi or real-time ride-sharing service (22)

Answer If Which mode of transportation did you use? Walk Is Selected Or Which mode of transportation did you use? Bicycle Is Selected Or Which mode of transportation did you use? Other Is Selected

q5a Please estimate (in miles) the distance you traveled for this segment of your trip (E.g. If you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? Muni Is Selected

q5b Specify Muni Line

1-California (1)

1AX-California 'A' Express (2)

1BX-California 'B' Express (3)
2-Clement (4)
3-Jackson (5)
5-Fulton (7)
5R-Fulton Rapid (98)
6-Haight-Parnassus (8)
7-Haight-Noriega (61)
7R-Haight-Noriega Rapid (62)
7X-Noriega Express (75)
8AX Bayshore 'A' Express (90)
8BX Bayshore 'B' Express (91)
8-Bayshore (92)
9-San Bruno (10)
9R-San Bruno Rapid (93)
10-Townsend (14)
12-Folsom/Pacific (15)
14-Mission (16)
14R-Mission Rapid (17)
14X-Mission Express (18)
18-46th Avenue (94)
19-Polk (23)
21-Hayes (25)
22-Fillmore (26)
23-Monterey (27)
24-Divisadero (28)
25-Treasure Island (76)
27-Bryant (30)
28-19th Avenue (77)
28R-19th Avenue Rapid (32)
29-Sunset (78)
30-Stockton (30)
30X-Marina Express (35)
31-Balboa (36)
31AX-Balboa 'A' Express (37)
31BX-Balboa 'B' Express (38)
33-Ashbury-18th (39)
35-Eureka (40)
36-Teresita (41)
37-Corbett (42)
38-Geary (43)
38AX-Geary 'A' Express (44)
38BX-Geary 'B' Express (45)
38R-Geary Rapid (46)
39-Coit Tower (47)
41-Union (48)
43-Masonic (49)
44-O'Shaughnessy (50)
45-Union-Stockton (51)
47-Van Ness (52)
48-24th Street (53)
49-Van Ness-Mission (54)
52-Excelsior (55)
54-Felton (57)
55-16th Street (101)
56-Rutland (58)
57-Parkmerced (12)
66-Quintara (59)
67-Bernal Heights (60)
76X-Marin Headlands Express (63)
81X-Caltrain Express (65)
82X-Levi Plaza Express (66)
83X-Mid-Market Express (99)
88-BART Shuttle (67)
90-San Bruno Owl (69)
91-Owl (70)
108-Treasure Island (73)
F-Market & Wharves (79)
J-Church (80)
KT-Ingleside/Third Street (100)
L-Taraval (82)
M-Ocean View (74)
N-Judah (84)
California-Cable Car (87)
Powell-Hyde-Cable Car (88)
Powell-Mason-Cable Car (89)

Answer If Which mode of transportation did you use? Muni Is Selected
q5c Please estimate (in miles) the distance you traveled in this segment of your trip (E.g. If you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? BART Is Selected
q5d Specify BART start station
   12th St. Oakland City Center (1)
   16th St. Mission (2)
   19th St. Oakland (3)
   24th St. Mission (4)
   Ashby (5)
   Balboa Park (6)
   Bay Fair (7)
   Castro Valley (8)
   Civic Center (9)
   Coliseum/Oakland Airport (10)
   Colma (11)
   Concord (12)
   Daly City (13)
   Downtown Berkeley (14)
   Dublin/Pleasanton (15)
   El Cerrito del Norte (16)
   El Cerrito Plaza (17)
   Embarcadero (18)
Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of transportation did you use? BART Is Selected

q5e Specify BART end station
   12th St. Oakland City Center (1)
   16th St. Mission (2)
   19th St. Oakland (3)
   24th St. Mission (4)
Ashby (5)
Balboa Park (6)
Bay Fair (7)
Castro Valley (8)
Civic Center (9)
Coliseum/Oakland Airport (10)
Colma (11)
Concord (12)
Daly City (13)
Downtown Berkeley (14)
Dublin/Pleasanton (15)
El Cerrito del Norte (16)
El Cerrito Plaza (17)
Embarcadero (18)
Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer: If Which mode of transportation did you use? Caltrain Is Selected
q5f Specify Caltrain start station
   22nd Street (1)
   Atherton (2)
   Bayshore (3)
   Belmont (4)
   Blossom Hill (5)
   Broadway (6)
   Burlingame (7)
   California Ave (8)
   Capitol (9)
   College Park (10)
   Diridon (11)
   Gilroy (12)
   Hayward Park (13)
   Hillsdale (14)
   Lawrence (15)
   Menlo Park (16)
   Millbrae (17)
   Morgan Hill (18)
   Mountain View (19)
   Palo Alto (20)
   Redwood City (21)
   San Antonio (22)
   San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer If Which mode of transportation did you use? Caltrain Is Selected
q5g Specify Caltrain end station
  22nd Street (1)
  Atherton (2)
  Bayshore (3)
  Belmont (4)
  Blossom Hill (5)
  Broadway (6)
  Burlingame (7)
  California Ave (8)
  Capitol (9)
  College Park (10)
  Diridon (11)
  Gilroy (12)
  Hayward Park (13)
  Hillsdale (14)
  Lawrence (15)
  Menlo Park (16)
  Millbrae (17)
  Morgan Hill (18)
  Mountain View (19)
  Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer If Which mode of transportation did you use? Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) Is Selected

q5h Please estimate (in miles) the distance you traveled for this segment of your trip (E.g. If you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? Carpool/Vanpool Is Selected

q5i I was the:
   Passenger (1)
   Driver (2)

Answer If Which mode of transportation did you use? Carpool/Vanpool Is Selected

q5i Number of people in the carpool/vanpool on Wednesday April, 6, 2016:
   2 (2)
   3 (3)
   4 (4)
   5 (5)
   6 (6)
   7 (7)
   More than 7 (8)
Answer If Select your first mode of transportation: Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

q5j Please estimate (in miles) the distance you traveled for this segment of your trip (E.g. If you traveled 1 1/2 miles, enter 1.5)

Answer If Select your first mode of transportation: Taxi, Uber, Lyft, or other on-demand taxi or real-time ridesharing services known as TNCs Is Selected

Q137 Please estimate (in miles) the distance you traveled for this segment of your trip (E.g. If you traveled 1 1/2 miles, enter 1.5)

Q230 On your trip to SF State's main campus, what was the mode of transportation for your second segment? If you used BART previously, please use this question to tell us how you got from BART to campus.

- Walk, bike, or other active transport (1)
- Public transportation / shuttle (2)
- Private vehicle (cars, carpool, motorcycle, etc.) (3)
- Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs (4)
- None (5)

If None Is Selected, Then Skip To End of Block

Q231 Which mode of transportation did you use?

If On your trip to SF State's main campus, what was your second mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us how you g... Walk, bike, or other active transport Is Selected

- Walk (1)

If On your trip to SF State's main campus, what was your second mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us how you g... Public transportation / shuttle Is Selected

- Bicycle (2)

If On your trip to SF State's main campus, what was your second mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us how you g... Public transportation / shuttle Is Selected

- Other (3)

If On your trip to SF State's main campus, what was your second mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us how you g... Public transportation / shuttle Is Selected

- Muni (4)
If On your trip to SF State's main campus, what was your second mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us how you got there...)

**Public transportation / shuttle**
- **BART** (5)
- **SF State Shuttle** (6)
- **Caltrain** (7)
- **Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans)** (8)

**Private vehicle (cars, carpool, motorcycle, etc.)**
- **Drove Alone** (9)
- **Dropped Off / Picked Up** (10)
- **Carpool/Vanpool** (12)

**Taxi, Uber, Lyft, or other on-demand taxi or real-time ridesharing services known as TNCs**
- **Taxi** (19)

If On your trip to SF State's main campus, what was your second mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us how you got there...)

**Motorcycle/Moped** (11)
If on your trip to SF State's main campus, what was your second mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us how you got there. Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected)

Lyft (21)

If on your trip to SF State's main campus, what was your second mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us how you got there. Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected)

Other on-demand taxi or real-time ride-sharing service (22)

Answer If Which mode of transportation did you use? Walk Is Selected Or Which mode of transportation did you use? Bicycle Is Selected Or Which mode of transportation did you use? Other Is Selected

Q232 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? Muni Is Selected

Q205 Specify Muni Line

1-California (1)
1AX-California 'A' Express (2)
1BX-California 'B' Express (3)
2-Clement (4)
3-Jackson (5)
5-Fulton (7)
5R-Fulton Rapid (98)
6-Haight-Parnassus (8)
7-Haight-Noriega (61)
7R-Haight-Noriega Rapid (62)
7X-Noriega Express (75)
8AX Bayshore 'A' Express (90)
8BX Bayshore 'B' Express (91)
8-Bayshore (92)
9-San Bruno (10)
9R-San Bruno Rapid (93)
10-Townsend (14)
12-Folsom/Pacific (15)
14-Mission (16)
14R-Mission Rapid (17)
14X-Mission Express (18)
18-46th Avenue (94)
19-Polk (23)
21-Hayes (25)
22-Fillmore (26)
23-Monterey (27)
24-Divisadero (28)
25-Treasure Island (76)
27-Bryant (30)
28-19th Avenue (77)
28R-19th Avenue Rapid (32)
29-Sunset (78)
30-Stockton (30)
30X-Marina Express (35)
31-Balboa (36)
31AX-Balboa 'A' Express (37)
31BX-Balboa 'B' Express (38)
33-Ashbury-18th (39)
35-Eureka (40)
36-Teresita (41)
37-Corbett (42)
38-Geary (43)
38AX-Geary 'A' Express (44)
38BX-Geary 'B' Express (45)
38R-Geary Rapid (46)
39-Coit Tower (47)
41-Union (48)
Answer: If Which mode of transportation did you use? Muni Is Selected
Q234 Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? BART Is Selected

Q235 Specify BART start station

12th St. Oakland City Center (1)
16th St. Mission (2)
19th St. Oakland (3)
24th St. Mission (4)
Ashby (5)
Balboa Park (6)
Bay Fair (7)
Castro Valley (8)
Civic Center (9)
Coliseum/Oakland Airport (10)
Colma (11)
Concord (12)
Daly City (13)
Downtown Berkeley (14)
Dublin/Pleasanton (15)
El Cerrito del Norte (16)
El Cerrito Plaza (17)
Embarcadero (18)
Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of transportation did you use? BART Is Selected
Q236 Specify BART end station
   12th St. Oakland City Center (1)
   16th St. Mission (2)
   19th St. Oakland (3)
   24th St. Mission (4)
   Ashby (5)
   Balboa Park (6)
   Bay Fair (7)
   Castro Valley (8)
   Civic Center (9)
   Coliseum/Oakland Airport (10)
   Colma (11)
   Concord (12)
   Daly City (13)
   Downtown Berkeley (14)
Dublin/Pleasanton (15)
El Cerrito del Norte (16)
El Cerrito Plaza (17)
Embarcadero (18)
Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of transportation did you use? Caltrain Is Selected
Q237 Specify Caltrain start station
22nd Street (1)
Atherton (2)
Bayshore (3)
Belmont (4)
Blossom Hill (5)
Broadway (6)
Burlingame (7)
California Ave (8)
Capitol (9)
College Park (10)
Diridon (11)
Gilroy (12)
Hayward Park (13)
Hillsdale (14)
Lawrence (15)
Menlo Park (16)
Millbrae (17)
Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)
Answer If Which mode of transportation did you use? Caltrain Is Selected

Q238 Specify Caltrain end station

- 22nd Street (1)
- Atherton (2)
- Bayshore (3)
- Belmont (4)
- Blossom Hill (5)
- Broadway (6)
- Burlingame (7)
- California Ave (8)
- Capitol (9)
- College Park (10)
- Diridon (11)
- Gilroy (12)
- Hayward Park (13)
- Hillsdale (14)
- Lawrence (15)
- Menlo Park (16)
- Millbrae (17)
- Morgan Hill (18)
- Mountain View (19)
- Palo Alto (20)
- Redwood City (21)
- San Antonio (22)
- San Bruno (23)
- San Carlos (24)
- San Francisco (25)
- San Jose (26)
- San Martin (27)
- San Mateo (28)
- Santa Clara (29)
- South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer If Which mode of transportation did you use? Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) Is Selected
Q239 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? Carpool/Vanpool Is Selected
Q240 I was the:
   Passenger (1)
   Driver (2)

Answer If Which mode of transportation did you use? Carpool/Vanpool Is Selected
Q241 Number of people in the carpool/vanpool on Wednesday April, 6, 2016:
   2 (2)
   3 (3)
   4 (4)
   5 (5)
   6 (6)
   7 (7)
   More than 7 (8)

Answer If On your trip to SF State's main campus, what was your second mode of transportation? (If your last... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected
Q242 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If On your trip to SF State's main campus, what was your second mode of transportation? (If your last... Taxi, Uber, Lyft, or other on-demand taxi or real-time ridesharing services known as TNCs Is Selected
Q243 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)
Q122 On your trip to SF State's main campus, what was the mode of transportation for your third segment? If you used BART previously, please use this question to tell us how you got from BART to campus.

- Walk, bike, or other active transport (1)
- Public transportation / shuttle (2)
- Private vehicle (cars, carpool, motorcycle, etc.) (3)
- Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs (4)
- None (5)

If None Is Selected, Then Skip To End of Block

Q109 Which mode of transportation did you use?

If On your trip to SF State's main campus, what was your third mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us how you got from...)

- Walk, bike, or other active transport (1)
- Public transportation / shuttle (2)
- Private vehicle (cars, carpool, motorcycle, etc.) (3)
- Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs (4)
- None (5)

If On your trip to SF State's main campus, what was your third mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us how you got from...)

- Walk (1)
- Bicycle (2)
- Other (3)

If On your trip to SF State's main campus, what was your third mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us how you got from...)

- Public transportation / shuttle (4)
- Muni (4)
- BART (5)
- SF State Shuttle (6)
- Caltrain (7)
If On your trip to SF State’s main campus, what was your third mode of transportation? (If your prev...
Public transportation / shuttle Is Selected

Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) (8)

If On your trip to SF State’s main campus, what was your third mode of transportation? (If your prev...
Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Drove Alone (9)

If On your trip to SF State’s main campus, what was your third mode of transportation? (If your prev...
Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Dropped Off / Picked Up (10)

If On your trip to SF State’s main campus, what was your third mode of transportation? (If your prev...
Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Motorcycle/Moped (11)

If On your trip to SF State’s main campus, what was your third mode of transportation? (If your prev...
Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Carpool/Vanpool (12)

If On your trip to SF State’s main campus, what was your third mode of transportation? (If your prev...
Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected

Taxi (19)

If On your trip to SF State’s main campus, what was your third mode of transportation? (If your prev...
Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected

Uber (20)

If On your trip to SF State’s main campus, what was your third mode of transportation? (If your prev...
Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected

Lyft (21)

If On your trip to SF State’s main campus, what was your third mode of transportation? (If your prev...
Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected

Other on-demand taxi or real-time ride-sharing service (22)

Answer If Which mode of Transportation did you use? Walk Is Selected Or Which mode of Transportation did you use? Bicycle Is Selected Or Which mode of Transportation did you use? Other Is Selected

Q110 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)
Answer If Which mode of Transportation did you use? Muni Is Selected
Q206 Specify Muni Line

1-California (1)
   1AX-California 'A' Express (2)
   1BX-California 'B' Express (3)
2-Clement (4)
3-Jackson (5)
5-Fulton (7)
5R-Fulton Rapid (98)
6-Haight-Parnassus (8)
7-Haight-Noriega (61)
7R-Haight-Noriega Rapid (62)
7X-Noriega Express (75)
8AX Bayshore 'A' Express (90)
8BX Bayshore 'B' Express (91)
8-Bayshore (92)
9-San Bruno (10)
9R-San Bruno Rapid (93)
10-Townsend (14)
12-Folsom/Pacific (15)
14-Mission (16)
14R-Mission Rapid (17)
14X-Mission Express (18)
18-46th Avenue (94)
19-Polk (23)
21-Hayes (25)
22-Fillmore (26)
23-Monterey (27)
24-Divisadero (28)
25-Treasure Island (76)
27-Bryant (30)
28-19th Avenue (77)
28R-19th Avenue Rapid (32)
<table>
<thead>
<tr>
<th>Route</th>
<th>Destination</th>
<th>Number</th>
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<td>29</td>
<td>Sunset</td>
<td>(78)</td>
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<td>30</td>
<td>Stockton</td>
<td>(30)</td>
</tr>
<tr>
<td>30X</td>
<td>Marina Express</td>
<td>(35)</td>
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<tr>
<td>31</td>
<td>Balboa</td>
<td>(36)</td>
</tr>
<tr>
<td>31AX</td>
<td>Balboa 'A' Express</td>
<td>(37)</td>
</tr>
<tr>
<td>31BX</td>
<td>Balboa 'B' Express</td>
<td>(38)</td>
</tr>
<tr>
<td>33</td>
<td>Ashbury-18th</td>
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<td>38BX</td>
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<td>Coit Tower</td>
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<td>O'Shaughnessy</td>
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<td>Union-Stockton</td>
<td>(51)</td>
</tr>
<tr>
<td>47</td>
<td>Van Ness</td>
<td>(52)</td>
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<td>48</td>
<td>24th Street</td>
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<td>Van Ness-Mission</td>
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<td>67</td>
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<td>(60)</td>
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<td>76X</td>
<td>Marin Headlands Express</td>
<td>(63)</td>
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<tr>
<td>81X</td>
<td>Caltrain Express</td>
<td>(65)</td>
</tr>
<tr>
<td>82X</td>
<td>Levi Plaza Express</td>
<td>(66)</td>
</tr>
<tr>
<td>83X</td>
<td>Mid-Market Express</td>
<td>(99)</td>
</tr>
</tbody>
</table>
88-BART Shuttle (67)
90-San Bruno Owl (69)
91-Owl (70)
108-Treasure Island (73)
F-Market & Wharves (79)
J-Church (80)
KT-Ingleside/Third Street (100)
L-Taraval (82)
M-Ocean View (74)
N-Judah (84)
California-Cable Car (87)
Powell-Hyde-Cable Car (88)
Powell-Mason-Cable Car (89)

Answer If Which mode of Transportation did you use? Muni Is Selected
Q112 Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of Transportation did you use? BART Is Selected
Q113 Specify BART start station
   12th St. Oakland City Center (1)
   16th St. Mission (2)
   19th St. Oakland (3)
   24th St. Mission (4)
   Ashby (5)
   Balboa Park (6)
   Bay Fair (7)
   Castro Valley (8)
   Civic Center (9)
   Coliseum/Oakland Airport (10)
   Colma (11)
   Concord (12)
   Daly City (13)
Downtown Berkeley (14)
Dublin/Pleasanton (15)
El Cerrito del Norte (16)
El Cerrito Plaza (17)
Embarcadero (18)
Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer: If Which mode of Transportation did you use? BART Is Selected
Q114 Specify BART end station

12th St. Oakland City Center (1)
16th St. Mission (2)
19th St. Oakland (3)
24th St. Mission (4)
Ashby (5)
Balboa Park (6)
Bay Fair (7)
Castro Valley (8)
Civic Center (9)
Coliseum/Oakland Airport (10)
Colma (11)
Concord (12)
Daly City (13)
Downtown Berkeley (14)
Dublin/Pleasanton (15)
El Cerrito del Norte (16)
El Cerrito Plaza (17)
Embarcadero (18)
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MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
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Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of Transportation did you use? Caltrain Is Selected
Q115 Specify Caltrain start station
   22nd Street (1)
   Atherton (2)
   Bayshore (3)
   Belmont (4)
   Blossom Hill (5)
   Broadway (6)
   Burlingame (7)
   California Ave (8)
   Capitol (9)
   College Park (10)
   Diridon (11)
   Gilroy (12)
   Hayward Park (13)
   Hillsdale (14)
   Lawrence (15)
   Menlo Park (16)
   Millbrae (17)
   Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer If Which mode of Transportation did you use? Caltrain Is Selected

Q116 Specify Caltrain end station
   22nd Street (1)
   Atherton (2)
   Bayshore (3)
   Belmont (4)
   Blossom Hill (5)
   Broadway (6)
   Burlingame (7)
   California Ave (8)
   Capitol (9)
   College Park (10)
   Diridon (11)
   Gilroy (12)
   Hayward Park (13)
   Hillsdale (14)
   Lawrence (15)
Menlo Park (16)
Millbrae (17)
Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer If Which mode of Transportation did you use? Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) Is Selected
Q117 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of Transportation did you use? Carpool/Vanpool Is Selected
Q118 I was the:
   Passenger (1)
   Driver (2)

Answer If Which mode of Transportation did you use? Carpool/Vanpool Is Selected
Q119 Number of people in the carpool/vanpool on Wednesday April, 6, 2016:
   2 (2)
   3 (3)
   4 (4)
Answer If On your trip to SF State's main campus, what was your third mode of transportation? (If your last... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Q120 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If On your trip to SF State's main campus, what was your third mode of transportation? (If your last... Taxi, Uber, Lyft, or other on-demand taxi or real-time ridesharing services known as TNCs Is Selected

Q121 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Q123 On your trip to SF State's main campus, what was the mode of transportation for your fourth segment? If you used BART previously, please use this question to tell us how you got from BART to campus.

Walk, bike, or other active transport (1)
Public transportation / shuttle (2)
Private vehicle (cars, carpool, motorcycle, etc.) (3)
Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs (4)
None (5)
If None Is Selected, Then Skip To End of Block

Q124 Which mode of transportation did you use?
If On your trip to SF State’s main campus, what was your fourth mode of transportation? (If your pre... Walk, bike, or other active transport Is Selected

Walk (1)
If On your trip to SF State’s main campus, what was your fourth mode of transportation? (If your pre... Walk, bike, or other active transport Is Selected

Bicycle (2)
If On your trip to SF State’s main campus, what was your fourth mode of transportation? (If your pre... Walk, bike, or other active transport Is Selected
<table>
<thead>
<tr>
<th>Mode</th>
</tr>
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<tbody>
<tr>
<td>Other (3)</td>
</tr>
<tr>
<td>If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre... Public transportation / shuttle Is Selected</td>
</tr>
<tr>
<td>Muni (4)</td>
</tr>
<tr>
<td>If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre... Public transportation / shuttle Is Selected</td>
</tr>
<tr>
<td>BART (5)</td>
</tr>
<tr>
<td>If On your trip to SF State's main campus, what was the mode of transportation for your fourth segment... Public transportation / shuttle Is Selected</td>
</tr>
<tr>
<td>SF State Shuttle (6)</td>
</tr>
<tr>
<td>If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre... Public transportation / shuttle Is Selected</td>
</tr>
<tr>
<td>Caltrain (7)</td>
</tr>
<tr>
<td>If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre... Public transportation / shuttle Is Selected</td>
</tr>
<tr>
<td>Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) (8)</td>
</tr>
<tr>
<td>If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected</td>
</tr>
<tr>
<td>Drove Alone (9)</td>
</tr>
<tr>
<td>If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected</td>
</tr>
<tr>
<td>Dropped Off / Picked Up (10)</td>
</tr>
<tr>
<td>If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected</td>
</tr>
<tr>
<td>Motorcycle/Moped (11)</td>
</tr>
<tr>
<td>If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected</td>
</tr>
<tr>
<td>Carpool/Vanpool (12)</td>
</tr>
<tr>
<td>If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected</td>
</tr>
<tr>
<td>Taxi (19)</td>
</tr>
<tr>
<td>If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected</td>
</tr>
<tr>
<td>Uber (20)</td>
</tr>
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</table>
If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre...
Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected

Lyft (21)

If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your pre...
Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected

Other on-demand taxi or real-time ride-sharing service (22)

If SF State Shuttle Is Selected, Then Skip To End of Block

Answer If Which mode of transportation did you use? Walk Is Selected Or Which mode of transportation did you use? Bicycle Is Selected Or Which mode of transportation did you use?
Other Is Selected

Q125 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? Muni Is Selected

Q207 Specify Muni Line

1-California (1)
1AX-California 'A' Express (2)
1BX-California 'B' Express (3)
2-Clement (4)
3-Jackson (5)
5-Fulton (7)
5R-Fulton Rapid (98)
6-Haight-Parnassus (8)
7-Haight-Noriega (61)
7R-Haight-Noriega Rapid (62)
7X-Noriega Express (75)
8AX Bayshore 'A' Express (90)
8BX Bayshore 'B' Express (91)
8-Bayshore (92)
9-San Bruno (10)
9R-San Bruno Rapid (93)
10-Townsend (14)
12-Folsom/Pacific (15)
14-Mission (16)
14R-Mission Rapid (17)
14X-Mission Express (18)
18-46th Avenue (94)
19-Polk (23)
21-Hayes (25)
22-Fillmore (26)
23-Monterey (27)
24-Divisadero (28)
25-Treasure Island (76)
27-Bryant (30)
28-19th Avenue (77)
28R-19th Avenue Rapid (32)
29-Sunset (78)
30-Stockton (30)
30X-Marina Express (35)
31-Balboa (36)
31AX-Balboa 'A' Express (37)
31BX-Balboa 'B' Express (38)
33-Ashbury-18th (39)
35-Eureka (40)
36-Teresita (41)
37-Corbett (42)
38-Geary (43)
38AX-Geary 'A' Express (44)
38BX-Geary 'B' Express (45)
38R-Geary Rapid (46)
39-Coit Tower (47)
41-Union (48)
43-Masonic (49)
44-O'Shaughnessy (50)
45-Union-Stockton (51)
47-Van Ness (52)
48-24th Street (53)
49-Van Ness-Mission (54)
52-Excelsior (55)
54-Felton (57)
55-16th Street (101)
56-Rutland (58)
57-Parkmerced (12)
66-Quintara (59)
67-Bernal Heights (60)
76X-Marin Headlands Express (63)
81X-Caltrain Express (65)
82X-Levi Plaza Express (66)
83X-Mid-Market Express (99)
88-BART Shuttle (67)
90-San Bruno Owl (69)
91-Owl (70)
108-Treasure Island (73)
F-Market & Wharves (79)
J-Church (80)
KT-Ingleside/Third Street (100)
L-Taraval (82)
M-Ocean View (74)
N-Judah (84)
California-Cable Car (87)
Powell-Hyde-Cable Car (88)
Powell-Mason-Cable Car (89)

Answer If Which mode of transportation did you use? Muni Is Selected
Q127 Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? BART Is Selected
Q128 Specify BART start station

12th St. Oakland City Center (1)
16th St. Mission (2)
19th St. Oakland (3)
24th St. Mission (4)
Ashby (5)
Balboa Park (6)
Bay Fair (7)
Castro Valley (8)
Civic Center (9)
Coliseum/Oakland Airport (10)
Colma (11)
Concord (12)
Daly City (13)
Downtown Berkeley (14)
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El Cerrito del Norte (16)
El Cerrito Plaza (17)
Embarcadero (18)
Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int’l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of transportation did you use? BART Is Selected
Q129 Specify BART end station
  12th St. Oakland City Center (1)
  16th St. Mission (2)
  19th St. Oakland (3)
  24th St. Mission (4)
  Ashby (5)
  Balboa Park (6)
  Bay Fair (7)
  Castro Valley (8)
  Civic Center (9)
  Coliseum/Oakland Airport (10)
  Colma (11)
  Concord (12)
  Daly City (13)
  Downtown Berkeley (14)
  Dublin/Pleasanton (15)
  El Cerrito del Norte (16)
  El Cerrito Plaza (17)
  Embarcadero (18)
Answer: If Which mode of transportation did you use? Caltrain Is Selected

Q130 Specify Caltrain start station

- 22nd Street (1)
- Atherton (2)
- Bayshore (3)
- Belmont (4)
Blossom Hill (5)
Broadway (6)
Burlingame (7)
California Ave (8)
Capitol (9)
College Park (10)
Diridon (11)
Gilroy (12)
Hayward Park (13)
Hillsdale (14)
Lawrence (15)
Menlo Park (16)
Millbrae (17)
Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer If Which mode of transportation did you use? Caltrain Is Selected
Q131 Specify Caltrain end station
   22nd Street (1)
Atherton (2)
Bayshore (3)
Belmont (4)
Blossom Hill (5)
Broadway (6)
Burlingame (7)
California Ave (8)
Capitol (9)
College Park (10)
Diridon (11)
Gilroy (12)
Hayward Park (13)
Hillsdale (14)
Lawrence (15)
Menlo Park (16)
Millbrae (17)
Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
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San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)
Answer If Which mode of transportation did you use? Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) Is Selected
Q132 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? Carpool/Vanpool Is Selected
Q133 I was the:
   Passenger (1)
   Driver (2)

Answer If Which mode of transportation did you use? Carpool/Vanpool Is Selected
Q134 Number of people in the carpool/vanpool on Wednesday April, 6, 2016:
   2 (2)
   3 (3)
   4 (4)
   5 (5)
   6 (6)
   7 (7)
   More than 7 (8)

Answer If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your last... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected
Q135 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If On your trip to SF State's main campus, what was your fourth mode of transportation? (If your last... Taxi, Uber, Lyft, or other on-demand taxi or real-time ridesharing services known as TNCs Is Selected
Q136 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Select your first mode of transportation: Private vehicle (cars, carpool, motorcycle, etc.) Is Selected Or On your trip to SF State’s main campus, what was your third mode of transportation? (If your prev... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected Or On your trip to SF State’s main campus, what was your fourth mode of transportation? (If your prev... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected Or On your trip to SF State’s main
campus, what was your second mode of transportation? (If your pre... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

q9 Did you park on the street or in a parking lot / garage?
   Parking lot / garage (1)
   On the street (2)
   I did not drive today. (3)

Answer If Did you park on the street or in a parking lot / garage? Parking lot / garage Is Selected Or Did you park on the street or in a parking lot / garage? On the street Is Selected

q10 Where did you park when you came to the main campus on Wednesday, April 6, 2016?
   On Campus (1)
   Near Campus (2)
   Near Daly City BART station (3)
   Near another BART station (4)
   Park & Ride lot (5)
   Other (6) ____________________

Answer If Where did you park when you came to the main campus on Wednesday, April 6, 2016? On Campus Is Selected Or Where did you park when you came to the main campus on Wednesday, April 6, 2016? Near Campus Is Selected

q11 Please choose a zone where you parked (map below)   Enlarge SF State Parking Zones Image (New window)
   A: Lot 25 (1)
   B: SF State Parking Structure (2)
   C: SF State Campus, aside from Parking Structure or Lot 25 (3)
   D: Buckingham Way (4)
   E: Stonestown Galleria Parking Lot (5)
   F: Winston Drive (6)
   G: Lake Shore / Merced Manor (South of Eucalyptus) (20)
   H: Lake Merced Boulevard (8)
   I: Holloway Avenue or Font Boulevard (9)
   J: 19th Avenue (10)
   K: Lakeside (11)
   L: Junipero Serra Boulevard (12)
M: Ingleside Terraces / Ingleside / Oceanview / Merced Heights (13)
N: Lakeshore / Merced Manor (North of Eucalyptus) (14)
O: North of Sloat Boulevard (15)
P: Parkmerced (16)
Q: Lake Merced Hill (17)
R: Oceanview / Merced Heights (18)
S: University Park South (19)

? Answer If Where did you park when you came to the main campus on Wednesday, April 6, 2016? On Campus Is Selected Or Where did you park when you came to the main campus on Wednesday, April 6, 2016? Near Campus Is Selected

q12 How much did it cost you to park on Wednesday, April 6, 2016?

- Free (1)
- Less than $1 (2)
- $1-$2 (3)
- $2-$4 (4)
- $4-$7 (5)
- $7-$10 (6)
- More than $10 (7)
- I have a SF State Semester / Yearly Parking Pass (8)

? q12a1 Which of the following programs, if any, would encourage you to commute to campus via a mode of travel other than driving alone? Please rank your first, second, and third choices. First choice:

- Rideshare or carpool with someone who lives near me (1)
- Reduced transit fare pass for MUNI and BART (2)
- Emergency guaranteed ride home program (3)
- Improved bicycle amenities (4)
- Improved pedestrian amenities (5)
- Improved shuttle service from BART to the university (6)
- None (7)
q12a2 Second choice:
  Rideshare or carpool with someone who lives near me (1)
  Reduced transit fare pass for MUNI and BART (2)
  Emergency guaranteed ride home program (3)
  Improved bicycle amenities (4)
  Improved pedestrian amenities (5)
  Improved shuttle service from BART to the university (6)
  None (7)

q12a3 Third choice:
  Rideshare or carpool with someone who lives near me (1)
  Reduced transit fare pass for MUNI and BART (2)
  Emergency guaranteed ride home program (3)
  Improved bicycle amenities (4)
  Improved pedestrian amenities (5)
  Improved shuttle service from BART to the university (6)
  None (7)

Q155 Your Trip from Campus The following questions are about your trip from the main campus at 1600 Holloway. You will be asked to describe your commute away from campus by indicating the mode of transportation used for each segment of your trip. For example, your trip might have only one segment if you drove, walked, or biked directly from campus. Or, it might have three segments if you 1) took the shuttle to BART, 2) took BART to the East Bay and 3) walked home. Please describe your trip from campus on Wednesday, April 6, 2016. If you took more than one mode/ have multiple segments, please start the survey by selecting your first segment.

Q279 For your trip from the main campus, what time did you depart from the main campus? Please enter time in the following format: HH:MM AM
  HH (1)
  MM (2)
  AM/PM (3)

Q156 Did you use the exact same means of transportation when you left the campus on Wednesday, April 6, 2016 as you did when coming to campus? If any segment of your trip from campus was different from your trip to campus, please select No.
  Yes (1)
No (2)
If Yes Is Selected, Then Skip To End of Block

Q277 For your trip from the main campus, where did you end your trip?
Zipcode (1)

Q280 Select the mode of transportation for your first segment: If your next segment is via BART, please use this question to tell us how you got from campus to the BART station.
- Walk, bike, or other active transport (1)
- Public transportation / shuttle (2)
- Private vehicle (cars, carpool, motorcycle, etc.) (3)
- Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs (4)

Q281 Which mode of transportation did you use?
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Walk, bike, or other active transport Is Selected
- Walk (1)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Walk, bike, or other active transport Is Selected
- Bicycle (2)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Walk, bike, or other active transport Is Selected
- Other (3)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Public transportation / shuttle Is Selected
- Muni (4)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Public transportation / shuttle Is Selected
- BART (5)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Public transportation / shuttle Is Selected
- SF State Shuttle (6)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Public transportation / shuttle Is Selected
- Caltrain (7)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Public transportation / shuttle Is Selected
    Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) (8)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected
    Drove Alone (9)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected
    Dropped Off / Picked Up (10)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected
    Motorcycle/Moped (11)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected
    Carpool/Vanpool (12)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected
    Taxi (19)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected
    Uber (20)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected
    Lyft (21)
If Select your first mode of transportation: (If your next segment is via BART please use this ques... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected
    Other TNC (22)

Answer If Which mode of transportation did you use? Walk Is Selected Or Which mode of transportation did you use? Bicycle Is Selected Or Which mode of transportation did you use? Other Is Selected

Q282 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)
Answer If Which mode of transportation did you use? Muni Is Selected

Q208 Specify Muni Line

1-California (1)
1AX-California 'A' Express (2)
1BX-California 'B' Express (3)
2-Clement (4)
3-Jackson (5)
5-Fulton (7)
5R-Fulton Rapid (98)
6-Haight-Parnassus (8)
7-Haight-Noriega (61)
7R-Haight-Noriega Rapid (62)
7X-Noriega Express (75)
8AX Bayshore 'A' Express (90)
8BX Bayshore 'B' Express (91)
8-Bayshore (92)
9-San Bruno (10)
9R-San Bruno Rapid (93)
10-Townsend (14)
12-Folsom/Pacific (15)
14-Mission (16)
14R-Mission Rapid (17)
14X-Mission Express (18)
18-46th Avenue (94)
19-Polk (23)
21-Hayes (25)
22-Fillmore (26)
23-Monterey (27)
24-Divisadero (28)
25-Treasure Island (76)
27-Bryant (30)
28-19th Avenue (77)
28R-19th Avenue Rapid (32)
29-Sunset (78)
30-Stockton (30)
30X-Marina Express (35)
31-Balboa (36)
31AX-Balboa 'A' Express (37)
31BX-Balboa 'B' Express (38)
33-Ashbury-18th (39)
35-Eureka (40)
36-Teresita (41)
37-Corbett (42)
38-Geary (43)
38AX-Geary 'A' Express (44)
38BX-Geary 'B' Express (45)
38R-Geary Rapid (46)
39-Coit Tower (47)
41-Union (48)
43-Masonic (49)
44-O'Shaughnessy (50)
45-Union-Stockton (51)
47-Van Ness (52)
48-24th Street (53)
49-Van Ness-Mission (54)
52-Excelsior (55)
54-Felton (57)
55-16th Street (101)
56-Rutland (58)
57-Parkmerced (12)
66-Quintara (59)
67-Bernal Heights (60)
76X-Marin Headlands Express (63)
81X-Caltrain Express (65)
82X-Levi Plaza Express (66)
83X-Mid-Market Express (99)
88-BART Shuttle (67)
90-San Bruno Owl (69)
91-Owl (70)
108-Treasure Island (73)
F-Market & Wharves (79)
J-Church (80)
KT-Ingleside/Third Street (100)
L-Taraval (82)
M-Ocean View (74)
N-Judah (84)
California-Cable Car (87)
Powell-Hyde-Cable Car (88)
Powell-Mason-Cable Car (89)

Answer If Which mode of transportation did you use? Muni Is Selected

Q284 Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? BART Is Selected

Q285 Specify BART start station

12th St. Oakland City Center (1)
16th St. Mission (2)
19th St. Oakland (3)
24th St. Mission (4)
Ashby (5)
Balboa Park (6)
Bay Fair (7)
Castro Valley (8)
Civic Center (9)
Coliseum/Oakland Airport (10)
Colma (11)
Concord (12)
Daly City (13)
Downtown Berkeley (14)
Dublin/Pleasanton (15)
El Cerrito del Norte (16)
El Cerrito Plaza (17)
Embarcadero (18)
Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of transportation did you use? BART Is Selected
Q286 Specify BART end station
   12th St. Oakland City Center (1)
   16th St. Mission (2)
   19th St. Oakland (3)
   24th St. Mission (4)
   Ashby (5)
   Balboa Park (6)
   Bay Fair (7)
   Castro Valley (8)
   Civic Center (9)
   Coliseum/Oakland Airport (10)
   Colma (11)
   Concord (12)
   Daly City (13)
   Downtown Berkeley (14)
   Dublin/Pleasanton (15)
   El Cerrito del Norte (16)
   El Cerrito Plaza (17)
   Embarcadero (18)
   Fremont (19)
   Fruitvale (20)
   Glen Park (21)
   Hayward (22)
   Lafayette (23)
   Lake Merritt (24)
   MacArthur (25)
   Millbrae (26)
   Montgomery St. (27)
   North Berkeley (28)
   North Concord/Martinez (29)
   Orinda (30)
   Pittsburg/Bay Point (31)
   Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of transportation did you use? Caltrain Is Selected
Q287 Specify Caltrain start station
  22nd Street (1)
  Atherton (2)
  Bayshore (3)
  Belmont (4)
  Blossom Hill (5)
  Broadway (6)
  Burlingame (7)
  California Ave (8)
  Capitol (9)
  College Park (10)
  Diridon (11)
  Gilroy (12)
  Hayward Park (13)
  Hillsdale (14)
  Lawrence (15)
  Menlo Park (16)
  Millbrae (17)
  Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer If Which mode of transportation did you use? Caltrain Is Selected
Q288 Specify Caltrain end station
   22nd Street (1)
   Atherton (2)
   Bayshore (3)
   Belmont (4)
   Blossom Hill (5)
   Broadway (6)
   Burlingame (7)
   California Ave (8)
   Capitol (9)
   College Park (10)
   Diridon (11)
   Gilroy (12)
   Hayward Park (13)
   Hillsdale (14)
   Lawrence (15)
Menlo Park (16)
Millbrae (17)
Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer If Which mode of transportation did you use? Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) Is Selected
Q289 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? Carpool/Vanpool Is Selected
Q290 I was the:
   Passenger (1)
   Driver (2)

Answer If Which mode of transportation did you use? Carpool/Vanpool Is Selected
Q291 Number of people in the carpool/vanpool on Wednesday, April, 6, 2016:
   2 (2)
   3 (3)
   4 (4)
Answer If Select your first mode of transportation:  (If your next segment is via BART please use this ques... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Q292 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Select your first mode of transportation: Taxi or TNC (Uber, Lyft, etc.) Is Selected

Q293 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Q296 On your trip from SF State's main campus, what was the mode of transportation for your second segment? If your next segment is via BART, please use this question to tell us how you got from campus to the BART station.

Walk, bike, or other active transport (1)
Public transportation / shuttle (2)
Private vehicle (cars, carpool, motorcycle, etc.) (3)
Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs (4)
None (5)

If None Is Selected, Then Skip To End of Block

Q297 Which mode of transportation did you use?

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Walk, bike, or other active transport Is Selected

Walk (1)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Walk, bike, or other active transport Is Selected

Bicycle (2)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Walk, bike, or other active transport Is Selected

Other (3)
If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Public transportation / shuttle Is Selected

Muni (4)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Public transportation / shuttle Is Selected

BART (5)

If Select your first mode of transportation: (If your next segment is via BART please use this ques... Public transportation / shuttle Is Selected

SF State Shuttle (6)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Public transportation / shuttle Is Selected

Caltrain (7)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Public transportation / shuttle Is Selected

Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) (8)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Drove Alone (9)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Dropped Off / Picked Up (10)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Motorcycle/Moped (11)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Carpool/Vanpool (12)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected

Taxi (19)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected

Uber (20)

If On your trip from SF State's main campus, what was your second mode of transportation? (If your l... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected
Lyft (21)

If on your trip from SF State's main campus, what was your second mode of transportation? (If your l... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs is selected

Other TNC (22)

Answer if which mode of transportation did you use? Walk is selected. or which mode of transportation did you use? Bicycle is selected. or which mode of transportation did you use? Other is selected.

Q298 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer if which mode of transportation did you use? Muni is selected.

Q209 Specify Muni Line

1-California (1)
1AX-California 'A' Express (2)
1BX-California 'B' Express (3)
2-Clement (4)
3-Jackson (5)
5-Fulton (7)
5R-Fulton Rapid (98)
6-Haight-Parnassus (8)
7-Haight-Noriega (61)
7R-Haight-Noriega Rapid (62)
7X-Noriega Express (75)
8AX Bayshore 'A' Express (90)
8BX Bayshore 'B' Express (91)
8-Bayshore (92)
9-San Bruno (10)
9R-San Bruno Rapid (93)
10-Townsend (14)
12-Folsom/Pacific (15)
14-Mission (16)
14R-Mission Rapid (17)
14X-Mission Express (18)
18-46th Avenue (94)
19-Polk (23)
21-Hayes (25)
22-Fillmore (26)
23-Monterey (27)
24-Divisadero (28)
25-Treasure Island (76)
27-Bryant (30)
28-19th Avenue (77)
28R-19th Avenue Rapid (32)
29-Sunset (78)
30-Stockton (30)
30X-Marina Express (35)
31-Balboa (36)
31AX-Balboa 'A' Express (37)
31BX-Balboa 'B' Express (38)
33-Ashbury-18th (39)
35-Eureka (40)
36-Teresita (41)
37-Corbett (42)
38-Geary (43)
38AX-Geary 'A' Express (44)
38BX-Geary 'B' Express (45)
38R-Geary Rapid (46)
39-Coit Tower (47)
41-Union (48)
43-Masonic (49)
44-O'Shaughnessy (50)
45-Union-Stockton (51)
47-Van Ness (52)
48-24th Street (53)
49-Van Ness-Mission (54)
52-Excelsior (55)
54-Felton (57)
55-16th Street (101)
56-Rutland (58)
57-Parkmerced (12)
66-Quintara (59)
67-Bernal Heights (60)
76X-Marin Headlands Express (63)
81X-Caltrain Express (65)
82X-Levi Plaza Express (66)
83X-Mid-Market Express (99)
88-BART Shuttle (67)
90-San Bruno Owl (69)
91-Owl (70)
108-Treasure Island (73)
F-Market & Wharves (79)
J-Church (80)
KT-Ingleside/Third Street (100)
L-Taraval (82)
M-Ocean View (74)
N-Judah (84)
California-Cable Car (87)
Powell-Hyde-Cable Car (88)
Powell-Mason-Cable Car (89)

Answer If Which mode of $\{q://QID296/ChoiceGroup/SelectedChoices\} did you use? Muni Is Selected

Q300 Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of $\{q://QID296/ChoiceGroup/SelectedChoices\} did you use? BART Is Selected

Q301 Specify BART start station

12th St. Oakland City Center (1)
16th St. Mission (2)
19th St. Oakland (3)
24th St. Mission (4)
Ashby (5)
Balboa Park (6)
Bay Fair (7)
Castro Valley (8)
Civic Center (9)
Coliseum/Oakland Airport (10)
Colma (11)
Concord (12)
Daly City (13)
Downtown Berkeley (14)
Dublin/Pleasanton (15)
El Cerrito del Norte (16)
El Cerrito Plaza (17)
Embarcadero (18)
Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of $\{q://QID296/ChoiceGroup/SelectedChoices\} did you use? BART Is Selected

Q302 Specify BART end station
    12th St. Oakland City Center (1)
    16th St. Mission (2)
    19th St. Oakland (3)
    24th St. Mission (4)
    Ashby (5)
    Balboa Park (6)
    Bay Fair (7)
    Castro Valley (8)
    Civic Center (9)
    Coliseum/Oakland Airport (10)
    Colma (11)
    Concord (12)
    Daly City (13)
    Downtown Berkeley (14)
    Dublin/Pleasanton (15)
    El Cerrito del Norte (16)
    El Cerrito Plaza (17)
    Embarcadero (18)
    Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int’l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of $\text{QID296/ChoiceGroup/SelectedChoices}$ did you use? Caltrain Is Selected
Q303 Specify Caltrain start station
   22nd Street (1)
   Atherton (2)
   Bayshore (3)
   Belmont (4)
Blossom Hill (5)
Broadway (6)
Burlingame (7)
California Ave (8)
Capitol (9)
College Park (10)
Diridon (11)
Gilroy (12)
Hayward Park (13)
Hillsdale (14)
Lawrence (15)
Menlo Park (16)
Millbrae (17)
Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer: If Which mode of $\{q://QID296/ChoiceGroup/SelectedChoices\} did you use? Caltrain Is Selected

Q304 Specify Caltrain end station
22nd Street (1)
Atherton (2)
Bayshore (3)
Belmont (4)
Blossom Hill (5)
Broadway (6)
Burlingame (7)
California Ave (8)
Capitol (9)
College Park (10)
Diridon (11)
Gilroy (12)
Hayward Park (13)
Hillsdale (14)
Lawrence (15)
Menlo Park (16)
Millbrae (17)
Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)
Q305 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Q306 I was the:
   Passenger (1)
   Driver (2)

Q307 Number of people in the carpool/vanpool on Wednesday, April 6, 2016:
   2 (2)
   3 (3)
   4 (4)
   5 (5)
   6 (6)
   7 (7)
   More than 7 (8)

Q308 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Q309 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)
Q310 On your trip from SF State's main campus, what was the mode of transportation for your third segment? If your next segment is via BART, please use this question to tell us how you got from campus to the BART station.

- Walk, bike, or other active transport (1)
- Public transportation / shuttle (2)
- Private vehicle (cars, carpool, motorcycle, etc.) (3)
- Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs (4)
- None (5)

If None is Selected, then skip to the end of the block.

Q311 Which mode of transportation did you use?

If On your trip from SF State's main campus, what was your third mode of transportation? (If your last mode of transportation was Walk, bike, or other active transport)

- Walk (1)

If On your trip from SF State's main campus, what was your third mode of transportation? (If your last mode of transportation was Public transportation / shuttle)

- Muni (4)
- BART (5)
- SF State Shuttle (6)

If On your trip from SF State's main campus, what was your third mode of transportation? (If your last mode of transportation was Other bus provider than Muni)

- Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) (8)
If On your trip from SF State's main campus, what was your third mode of transportation? (If your la... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected  
   Drove Alone (9)  
If On your trip from SF State's main campus, what was your third mode of transportation? (If your la... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected  
   Dropped Off / Picked Up (10)  
If On your trip from SF State's main campus, what was your third mode of transportation? (If your la... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected  
   Motorcycle/Moped (11)  
If On your trip from SF State's main campus, what was your third mode of transportation? (If your la... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected  
   Carpool/Vanpool (12)  
If On your trip from SF State's main campus, what was your third mode of transportation? (If your la... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected  
   Taxi (19)  
If On your trip from SF State's main campus, what was your third mode of transportation? (If your la... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected  
   Uber (20)  
If On your trip from SF State's main campus, what was your third mode of transportation? (If your la... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected  
   Lyft (21)  
If On your trip from SF State's main campus, what was your third mode of transportation? (If your la... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected  
   Other on-demand taxi or real-time ride-sharing service (22)  

Answer If Which mode of transportation did you use? Walk Is Selected Or Which mode of transportation did you use? Bicycle Is Selected Or Which mode of transportation did you use? Other Is Selected  
Q312 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)  

Answer If Which mode of transportation did you use? Muni Is Selected  
Q210 Specify Muni Line  
   1-California (1)
1AX-California 'A' Express (2)
1BX-California 'B' Express (3)
2-Clement (4)
3-Jackson (5)
5-Fulton (7)
5R-Fulton Rapid (98)
6-Haight-Parnassus (8)
7-Haight-Noriega (61)
7R-Haight-Noriega Rapid (62)
7X-Noriega Express (75)
8AX Bayshore 'A' Express (90)
8BX Bayshore 'B' Express (91)
8-Bayshore (92)
9-San Bruno (10)
9R-San Bruno Rapid (93)
10-Townsend (14)
12-Folsom/Pacific (15)
14-Mission (16)
14R-Mission Rapid (17)
14X-Mission Express (18)
18-46th Avenue (94)
19-Polk (23)
21-Hayes (25)
22-Fillmore (26)
23-Monterey (27)
24-Divisadero (28)
25-Treasure Island (76)
27-Bryant (30)
28-19th Avenue (77)
28R-19th Avenue Rapid (32)
29-Sunset (78)
30-Stockton (30)
30X-Marina Express (35)
31-Balboa (36)
31AX-Balboa 'A' Express (37)
31BX-Balboa 'B' Express (38)
33-Ashbury-18th (39)
35-Eureka (40)
36-Teresita (41)
37-Corbett (42)
38-Geary (43)
38AX-Geary 'A' Express (44)
38BX-Geary 'B' Express (45)
38R-Geary Rapid (46)
39-Coit Tower (47)
41-Union (48)
43-Masonic (49)
44-O'Shaughnessy (50)
45-Union-Stockton (51)
47-Van Ness (52)
48-24th Street (53)
49-Van Ness-Mission (54)
52-Excelsior (55)
54-Felton (57)
55-16th Street (101)
56-Rutland (58)
57-Parkmerced (12)
66-Quintara (59)
67-Bernal Heights (60)
76X-Marin Headlands Express (63)
81X-Caltrain Express (65)
82X-Levi Plaza Express (66)
83X-Mid-Market Express (99)
88-BART Shuttle (67)
90-San Bruno Owl (69)
91-Owl (70)
108-Treasure Island (73)
F-Market & Wharves (79)
J-Church (80)
KT-Ingleside/Third Street (100)
L-Taraval (82)
M-Ocean View (74)
N-Judah (84)
California-Cable Car (87)
Powell-Hyde-Cable Car (88)
Powell-Mason-Cable Car (89)

Answer If Which mode of transportation did you use? Muni Is Selected
Q314 Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? BART Is Selected
Q315 Specify BART start station
   12th St. Oakland City Center (1)
   16th St. Mission (2)
   19th St. Oakland (3)
   24th St. Mission (4)
   Ashby (5)
   Balboa Park (6)
   Bay Fair (7)
   Castro Valley (8)
   Civic Center (9)
   Coliseum/Oakland Airport (10)
   Colma (11)
   Concord (12)
   Daly City (13)
   Downtown Berkeley (14)
   Dublin/Pleasanton (15)
   El Cerrito del Norte (16)
El Cerrito Plaza (17)
Embarcadero (18)
Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of transportation did you use? BART Is Selected
Q316 Specify BART end station
   12th St. Oakland City Center (1)
   16th St. Mission (2)
19th St. Oakland (3)
24th St. Mission (4)
Ashby (5)
Balboa Park (6)
Bay Fair (7)
Castro Valley (8)
Civic Center (9)
Coliseum/Oakland Airport (10)
Colma (11)
Concord (12)
Daly City (13)
Downtown Berkeley (14)
Dublin/Pleasanton (15)
El Cerrito del Norte (16)
El Cerrito Plaza (17)
Embarcadero (18)
Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of transportation did you use? Caltrain Is Selected
Q317 Specify Caltrain start station
   22nd Street (1)
   Atherton (2)
   Bayshore (3)
   Belmont (4)
   Blossom Hill (5)
   Broadway (6)
   Burlingame (7)
   California Ave (8)
   Capitol (9)
   College Park (10)
   Diridon (11)
   Gilroy (12)
   Hayward Park (13)
   Hillsdale (14)
   Lawrence (15)
   Menlo Park (16)
   Millbrae (17)
   Morgan Hill (18)
   Mountain View (19)
   Palo Alto (20)
   Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer If Which mode of transportation did you use? Caltrain Is Selected
Q318 Specify Caltrain end station
   22nd Street (1)
   Atherton (2)
   Bayshore (3)
   Belmont (4)
   Blossom Hill (5)
   Broadway (6)
   Burlingame (7)
   California Ave (8)
   Capitol (9)
   College Park (10)
   Diridon (11)
   Gilroy (12)
   Hayward Park (13)
   Hillsdale (14)
   Lawrence (15)
   Menlo Park (16)
   Millbrae (17)
   Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer If Which mode of transportation did you use? Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) Is Selected

Q319 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of transportation did you use? Carpool/Vanpool Is Selected

Q320 I was the:
   Passenger (1)
   Driver (2)

Answer If Which mode of transportation did you use? Carpool/Vanpool Is Selected

Q321 Number of people in the carpool/vanpool on Wednesday, April, 6, 2016:
   2 (2)
   3 (3)
   4 (4)
   5 (5)
   6 (6)
   7 (7)
More than 7 (8)

Answer If On your trip from SF State's main campus, what was your third mode of transportation? (If your la... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Q322 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If On your trip from SF State's main campus, what was your third mode of transportation? (If your la... Taxi, Uber, Lyft, or other on-demand taxi or real-time ridesharing services known as TNCs Is Selected

Q323 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Q324 On your trip from SF State's main campus, what was the mode of transportation for your fourth segment? If your next segment is via BART, please use this question to tell us how you got from campus to the BART station.

Walk, bike, or other active transport (1)
Public transportation / shuttle (2)
Private vehicle (cars, carpool, motorcycle, etc.) (3)
Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs (4)
None (5)
If None Is Selected, Then Skip To End of Block

Q325 Which mode of transportation did you use?

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If your p... Walk, bike, or other active transport Is Selected

Walk (1)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If your p... Walk, bike, or other active transport Is Selected

Bicycle (2)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If your p... Walk, bike, or other active transport Is Selected

Other (3)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If your p... Public transportation / shuttle Is Selected

Muni (4)
If On your trip from SF State's main campus, what was your fourth mode of transportation? (If
your p... Public transportation / shuttle Is Selected

BART (5)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If
your p... Public transportation / shuttle Is Selected

SF State Shuttle (6)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If
your p... Public transportation / shuttle Is Selected

Caltrain (7)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If
your p... Public transportation / shuttle Is Selected

Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) (8)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If
your p... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Drove Alone (9)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If
your p... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Dropped Off / Picked Up (10)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If
your p... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Motorcycle/Moped (11)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If
your p... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Carpool/Vanpool (12)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If
your p... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as
TNCs Is Selected

Taxi (19)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If
your p... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as
TNCs Is Selected

Uber (20)

If On your trip from SF State's main campus, what was your fourth mode of transportation? (If
your p... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as
TNCs Is Selected

Lyft (21)
If On your trip from SF State's main campus, what was your fourth mode of transportation? (If your p... Taxi, Uber, Lyft, or other on-demand taxi or real-time ride-sharing services known as TNCs Is Selected

Other on-demand taxi or real-time ride-sharing service (22)

Answer If Which mode of ${q://QID296/ChoiceGroup/SelectedChoices} did you use? Walk Is Selected Or Which mode of ${q://QID296/ChoiceGroup/SelectedChoices} did you use? Bicycle Is Selected Or Which mode of ${q://QID296/ChoiceGroup/SelectedChoices} did you use? Other Is Selected

Q326 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of ${q://QID296/ChoiceGroup/SelectedChoices} did you use? Muni Is Selected

Q211 Specify Muni Line

1-California (1)
1AX-California 'A' Express (2)
1BX-California 'B' Express (3)
2-Clement (4)
3-Jackson (5)
5-Fulton (7)
5R-Fulton Rapid (98)
6-Haight-Parnassus (8)
7-Haight-Noriega (61)
7R-Haight-Noriega Rapid (62)
7X-Noriega Express (75)
8AX Bayshore 'A' Express (90)
8BX Bayshore 'B' Express (91)
8-Bayshore (92)
9-San Bruno (10)
9R-San Bruno Rapid (93)
10-Townsend (14)
12-Folsom/Pacific (15)
14-Mission (16)
14R-Mission Rapid (17)
Answer If Which mode of ${q://QID296/ChoiceGroup/SelectedChoices} did you use? Muni Is Selected

Q328 Please estimate (in miles) the distance you traveled in this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of ${q://QID296/ChoiceGroup/SelectedChoices} did you use? BART Is Selected

Q329 Specify BART start station

12th St. Oakland City Center (1)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of ${q://QID296/ChoiceGroup/SelectedChoices} did you use? BART Is Selected
Q330 Specify BART end station
  12th St. Oakland City Center (1)
  16th St. Mission (2)
  19th St. Oakland (3)
  24th St. Mission (4)
  Ashby (5)
  Balboa Park (6)
  Bay Fair (7)
  Castro Valley (8)
  Civic Center (9)
  Coliseum/Oakland Airport (10)
  Colma (11)
  Concord (12)
  Daly City (13)
  Downtown Berkeley (14)
  Dublin/Pleasanton (15)
  El Cerrito del Norte (16)
  El Cerrito Plaza (17)
  Embarcadero (18)
  Fremont (19)
Fruitvale (20)
Glen Park (21)
Hayward (22)
Lafayette (23)
Lake Merritt (24)
MacArthur (25)
Millbrae (26)
Montgomery St. (27)
North Berkeley (28)
North Concord/Martinez (29)
Orinda (30)
Pittsburg/Bay Point (31)
Pleasant Hill/Contra Costa Centre (32)
Powell St. (33)
Richmond (34)
Rockridge (35)
San Bruno (36)
San Francisco Int'l Airport (37)
San Leandro (38)
South Hayward (39)
South San Francisco (40)
Union City (41)
Walnut Creek (42)
West Dublin/Pleasanton (44)
West Oakland (43)

Answer If Which mode of ${q://QID296/ChoiceGroup/SelectedChoices} did you use? Caltrain Is Selected
Q331 Specify Caltrain start station
   22nd Street (1)
   Atherton (2)
   Bayshore (3)
   Belmont (4)
Blossom Hill (5)
Broadway (6)
Burlingame (7)
California Ave (8)
Capitol (9)
College Park (10)
Diridon (11)
Gilroy (12)
Hayward Park (13)
Hillsdale (14)
Lawrence (15)
Menlo Park (16)
Millbrae (17)
Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)

Answer: If Which mode of Caltrain Is Selected
Q332 Specify Caltrain end station
22nd Street (1)
Atherton (2)
Bayshore (3)
Belmont (4)
Blossom Hill (5)
Broadway (6)
Burlingame (7)
California Ave (8)
Capitol (9)
College Park (10)
Diridon (11)
Gilroy (12)
Hayward Park (13)
Hillsdale (14)
Lawrence (15)
Menlo Park (16)
Millbrae (17)
Morgan Hill (18)
Mountain View (19)
Palo Alto (20)
Redwood City (21)
San Antonio (22)
San Bruno (23)
San Carlos (24)
San Francisco (25)
San Jose (26)
San Martin (27)
San Mateo (28)
Santa Clara (29)
South San Francisco (30)
Stanford (31)
Sunnyvale (32)
Tamien (33)
Answer If Which mode of \$q://QID296/ChoiceGroup/SelectedChoices\$ did you use? Other bus provider than Muni (e.g. AC Transit/Golden Gate Transit/SamTrans) Is Selected

Q333 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If Which mode of \$q://QID296/ChoiceGroup/SelectedChoices\$ did you use? Carpool/Vanpool Is Selected

Q334 I was the:
   Passenger (1)
   Driver (2)

Answer If Which mode of \$q://QID296/ChoiceGroup/SelectedChoices\$ did you use? Carpool/Vanpool Is Selected

Q335 Number of people in the carpool/vanpool on Wednesday, April, 6, 2016:
   2 (2)
   3 (3)
   4 (4)
   5 (5)
   6 (6)
   7 (7)
   More than 7 (8)

Answer If On your trip from SF State's main campus, what was your fourth mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us h... Private vehicle (cars, carpool, motorcycle, etc.) Is Selected

Q336 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)

Answer If On your trip from SF State's main campus, what was your fourth mode of transportation? (If your previous segment was via BART please use this question as an opportunity to tell us h... Taxi, Uber, Lyft, or other on-demand taxi or real-time ridesharing services known as TNCs Is Selected

Q337 Please estimate (in miles) the distance you traveled for this segment of your trip (for instance if you traveled 1 1/2 miles, enter 1.5)
Q199 How many round trips, other than those already reported in this survey, did you take to/from campus (or home for on-campus residents) on Wednesday, April 6, 2016? Please do not include trips taken within campus.

0 (No other trips made other than my commute to/from campus). (13)
1 (1)
2 (4)
3 (5)
4 (6)
5 (7)
6 (8)
7 (9)
8 (10)
9 (11)
10 or more (12)

If 0 (No other trips made other than my commute to/from campus) Is Selected, Then Skip To Have you participated in or used / do...

Q200 What was your primary mode of travel for these trips? If this includes an auto trip for any segment, please select that option.

Walk, bike, or other active transport (4)
Public transportation / shuttle (5)
Private vehicle (cars, carpool, motorcycle, etc.) (6)
Taxi, Uber, Lyft, or other on-demand taxi services known as TNCs (7)

Q201 How many of these trips occurred (arrived or departed campus) between the hours of 7-9 AM?

0 (12)
1 (1)
2 (2)
3 (3)
4 (4)
5 (5)
6 (6)
7 (7)
8 (8)
Q202 How many of these trips occurred (arrived or departed campus) between the hours of 4-6 PM?

0 (11)
1 (1)
2 (2)
3 (3)
4 (4)
5 (5)
6 (6)
7 (7)
8 (8)
9 (9)
10 or more (10)

q26 Have you participated in or used / do you currently participate in or use any of the following programs and services?

I wasn't aware of this service (1)  I've heard of this service but never used it (2)  I occasionally (1-2 times a week) use this service (3)  I frequently (3-5 days a week) use this service (4)

Free round trip transfer on Muni 28/28R from Daly City BART when using Clipper Card (1)

Bike Barn (2)
Bike Racks (7)
511 RideMatch Service (3)
Zipcar (9)
Electric Vehicle Charging Stations (10)

Answer If What is your primary affiliation with SF State? Staff or Administrator Is Selected Or What is your primary affiliation with SF State? Faculty Is Selected

Q146 For Employees: Have you participated in or used / do you currently participate in or use any of the following programs and services?
I wasn't aware of this service (1) I've heard of this service but never used it (2) I occasionally (1-2 times a week) use this service (3) I frequently (3-5 days a week) use this service (4)

Commuter Check Pre-Tax Transit Benefit (pre-tax purchase of transit passes) (1)
Vanpool (2)
Emergency Ride Home Program (3)
Pre-Tax Parking Benefit (pre-tax purchase of parking) (4)

q27 Do you know where to go if you have questions about your commute or need other transportation information?
   Yes, and I have used the resources available to me before (1)
   Yes, but I have not used the resources available to me (2)
   No, I do not know what resources are available to me (3)

Q147 Which resources have you used to get transportation and commute information? (please check all that apply)
   " SF State Website home page (1)
   " Parking & Transportation Website (2)
   " Word of mouth (Fellow student or Coworker) (3)
   " My manager (5)
   " Human Resources (6)
   " Hiring Materials (7)
   " A distribution list that I signed up for (8)
   " Digital Screens found around campus (9)
   " Other (please specify) (10) ____________________

Q116 In an effort to reduce parking demand and to expand affordable transportation options, SF State is exploring the possibility of pursuing discounts for our students, faculty, and staff for on-demand taxi services known as TNCs such as Uber and Lyft. Would you be interested in such a benefit?
   Yes (1)
   No (2)
Q212 Please provide any additional comments about transportation issues that relate to SF State.

q31 If you would like to be entered for a chance to receive a $100 gift card to the SF State Bookstore, please enter your email address.
I wasn't aware of this service (1) I've heard of this service but never used it (2) I occasionally (1-2 times a week) use this service (3) I frequently (3-5 days a week) use this service (4)

Commuter Check Pre-Tax Transit Benefit (pre-tax purchase of transit passes) (1)

Vanpool (2)
Emergency Ride Home Program (3)
Pre-Tax Parking Benefit (pre-tax purchase of parking) (4)

q27 Do you know where to go if you have questions about your commute or need other transportation information?

Yes, and I have used the resources available to me before (1)
Yes, but I have not used the resources available to me (2)
No, I do not know what resources are available to me (3)

Q147 Which resources have you used to get transportation and commute information? (please check all that apply)

" SF State Website home page (1)
" Parking & Transportation Website (2)
" Word of mouth (Fellow student or Coworker) (3)
" My manager (5)
" Human Resources (6)
" Hiring Materials (7)
" A distribution list that I signed up for (8)
" Digital Screens found around campus (9)
" Other (please specify) (10) ____________________

Q116 In an effort to reduce parking demand and to expand affordable transportation options, SF State is exploring the possibility of pursuing discounts for our students, faculty, and staff for on-demand taxi services known as TNCs such as Uber and Lyft. Would you be interested in such a benefit?

Yes (1)
No (2)
Q212 Please provide any additional comments about transportation issues that relate to SF State.

q31 If you would like to be entered for a chance to receive a $100 gift card to the SF State Bookstore, please enter your email address.