SURVEY FINDINGS: Demographics

Disparities in vehicle ownership, commute mode and parking access by age, income, race/ethnicity, household structure and gender

Public policies may have disproportionate impacts across households, depending on their income, structure, race/ethnicity, or age. Understanding these disparities could help mitigate unintended impacts due to possible reforms to the RPP program. For this analysis, we looked at how age, income, race, the presence of children and gender affect vehicle ownership, travel behavior and parking choices.

Age

The study area's median age is approximately forty and the citywide average age is about thirty-eight. Most survey respondents were in the "30-39" age category.

As seen in the following tables, vehicle ownership rates and commute patterns differ significantly among age groups. Policies that would limit access to residential parking would disproportionately impact middle-age and older workers more as they are more likely to own a vehicle and drive to work.

Vehicle ownership

Young adults and seniors are least likely to have access to a personal vehicle. The survey asked respondents to provide the number of vehicles available to the entire household. On average, 65% of all households have access to a personal vehicle but persons in the 18-29 and over 65 age groups are less likely to have a vehicle, 56% and 51% respectively. In the 18-29 age group, 44% have only one vehicle, while 10% have two vehicles. In contrast, for residents in the 40-49 age group, 78% have a personal vehicle and nearly 20% have two or more vehicles.

Vehicle Ownership by Age

	Total Motorized Vehicles in Household					
	Avg / Hshld	0	1	2	3+	No answer
All	0.65	34.5%	49.9%	12.9%	2.3%	0.5%
18-29	0.56	44.4%	43.7%	10.4%	1.5%	0.0%
30-39	0.69	31.2%	56.4%	9.7%	2.6%	0.2%
40-49	0.78	21.7%	57.4%	19.4%	1.4%	0.0%
50-65	0.68	31.1%	49.4%	14.8%	4.1%	0.6%
65+	0.51	47.9%	38.7%	11.3%	1.4%	0.7%
No answer	0.67	27.9%	55.7%	11.5%	0.0%	4.9%

Source: SFMTA Large Building Study, 2019; N = 2207

Travel behavior

Personal decisions regarding travel to work are driven by many factors, including income, work location, household composition and available commute alternatives. As with vehicle ownership, the mode of transportation to work also varies by age. Younger workers are most likely to walk, take the train or

bicycle to work. The drive-alone rate for all households is 27% but for respondents in the 18-29 age group, the drive alone rate was significantly less, at 17%. By contrast, 41% of respondents in the 40-49 age group were most likely to drive alone and least likely to bicycle (12%), take the train (9%) or walk (40%).

Commute Mode by Age

		Age					
Commute Mode	All	18-29	30-39	40-49	50-65	65+	Prefer not to answer
All	2207	268	587	345	512	434	61
Bicycle	12.3%	17.5%	18.4%	12.2%	10.0%	3.7%	11.5%
Bus	27.9%	26.1%	21.6%	24.6%	32.4%	33.9%	32.8%
Drive alone	26.6%	17.2%	27.3%	40.6%	30.5%	14.7%	32.8%
Employer shuttle/car-vanpool	6.4%	10.4%	11.2%	5.5%	2.9%	1.2%	14.8%
Train	33.2%	48.5%	40.2%	32.5%	28.5%	20.5%	31.1%
Taxi or ride share	13.5%	21.6%	17.4%	9.3%	11.5%	9.4%	9.8%
Walk	40.9%	56.7%	49.7%	40.0%	39.6%	22.4%	32.8%
Other	4.1%	6.3%	3.9%	4.1%	4.3%	3.0%	3.3%
Don't commute/work at home	6.3%	1.9%	2.7%	4.6%	7.6%	14.1%	4.9%
No answer	6.1%	0.0%	0.0%	1.7%	3.3%	24.9%	4.9%

SFMTA Large Building Study, 2019; Survey respondents were asked to select all modes of travel used to get to work or school. Many respondents selected multiple modes. For instance, while many respondents selected only walk, more selected walk and another mode, such as train, shuttle or bus.

Income

Probably the greatest determinant of vehicle ownership is affluence. The study area's median household income is higher than that of the city overall. Over half of respondents from the survey reported that their annual income was over $100,000, with only a third of respondents stating their incomes were below that threshold Analysis of census data indicates that there is great variation in income across census tracts within the study area, with Dogpatch and Rincon Hill (census tracts 226 and 615) reporting average household incomes over $150,000 (see Census Analysis Section) and some areas in SoMa reporting incomes under $50,000 which is roughly half of the median area income (AMI) for a two-person household in San Francisco. This variation is likely due to the high number of subsidized housing units within these SoMa census tracts.

Household Median Income	
Census Estimate	
Study Area	$105,747
San Francisco	$96,519
Survey Esitmate	
Less than $100,000	29%
Above $100,000	54%
Prefer not to answer	17%

SFMTA, Large Building Study, 2019. ACS Table B19013, 5-year Estimates, 2017.

Higher income households are more likely to afford not only the cost of owning a vehicle, but also the cost of operating and parking that vehicle. Higher income households are also more likely to have multiple vehicles. The table below shows that, on average, 34% of all households have no access to a personal vehicle, but for households with an annual income of less than $100,000, that rate increases to 53%. For this group, 36% of households have one vehicle and 9% have two vehicles. By contrast, for households with incomes at or above $100,000 75% have at least one vehicle; 57% have one vehicle and 17% have two or more vehicles.

Vehicle Ownership by Household Income

	Vehicles Available to Household				
Income	0	1	2	3+	No answer
All Households	34%	50%	13%	2%	0%
Less than $100,000	53%	36%	9%	2%	1%
$100,000 or more	25%	57%	15%	2%	0%
Prefer not to answer	33%	51%	12%	3%	1%

Source: SFMTA Large Building Study, 2019; N = 2207

Travel behavior

Reflecting their lower vehicle ownership rates, lower income households were less likely to drive alone to work and more likely to take the bus. While 27% of all respondents drive alone to work, significantly fewer, 22% of respondents in households with less than $100,000 income, drive alone to work.

Commute Mode by Household Income

Commute Mode	All	Household Income: Less than $100,000	Household Income: $100,000 or more	Household Income: Prefer not to answer
All	2207	634	1195	378
Bicycle	12.3%	9.8%	14.9%	8.2%
Bus	27.9%	47.9%	16.5%	30.2%
Drive alone	26.6%	21.8%	28.4%	28.8%
Employer shuttle/ car or vanpool	6.4%	1.9%	9.0%	6.1%
Train	33.2%	30.9%	36.0%	28.0%
Taxi or ride share	13.5%	13.7%	14.1%	11.4%
Walk	40.9%	33.8%	46.2%	36.0%
Other	4.1%	3.9%	4.0%	4.8%
Don't commute/work at home	6.3%	7.1%	5.6%	7.4%
No answer	6.1%	9.1%	3.1%	10.3%

SFMTA Large Building Study, 2019; Survey respondents were asked to select all modes of travel used to get to work or school. Many respondents selected multiple modes. For instance, while many respondents selected only walk, more selected walk and another mode, such as train, shuttle or bus.

Parking access

In 2008, the City enacted legislation that required the cost of residential parking provided with housing be charged separately from the cost of the housing unit. This is referred to as un-bundling the cost of parking. Of the 134 buildings in the study area, 45 are subject to these requirements. Analysis of survey responses combined with data obtained through property manager interviews indicate a large share (41%) of respondents live in buildings with unbundled parking and slightly fewer, 38% have bundled parking available.

Bundled v. Unbundled Parking

Bundled	38%
Unbundled	41%
Not Applicable	12%
Unknown	9%

SFMTA Large Building Study, 2019 and interviews of property managers.

Survey respondents were asked to indicate, if applicable, where they parked their vehicle(s). Respondents could select more than one answer. For instance, if a respondent had 2 vehicles, but only one space available in their building, they could select both "in my building" and "on the street near my building." 57% of all respondents indicated that they parked one of more vehicles in their building, 11%

parked a vehicle on the street and another 3% parked in a nearby facility. Thirty-two percent indicated that the question was "not applicable" meaning that they did not have a vehicle.

Off-street parking

Overall, 80% of respondents indicated that they park within their building's garage. For respondents in households with annual incomes of $100,000 or more, 86% park in their building's garage. In contrast, lower income households are less likely to have parking available in their building. Fifty-nine percent indicated that they park in their building and 32% park on the street. Only 10% of respondents from higher-income households park a vehicle on the street.

Parking Access by Household Income

	Household Income			
Where Residents Park by Income	Less than $100,000	$100,000 or more per year	Prefer not to answer	All
In my building's parking facility	59%	86%	80%	80%
In a nearby parking facility	8%	4%	3%	5%
On the street near building	32%	10%	16%	16%

Source: SFMTA Large Building Study, 2019; N = 2207

Residential Parking Permits

While households with incomes below or above the median are equally likely to have a Residential Parking Permit for one vehicle, households with incomes above $100,000 are twice as likely to have 2 permits.

Number of RPP Permits

		Household Income		
Vehicles with RPP Permits	Total	Less than $100,000	$100,000 or more per year	Prefer not to answer
Total	2207	634	1195	378
0	82.1%	83.6%	82.5%	78.0%
1	14.5%	13.7%	14.0%	17.2%
2	1.8%	0.8%	2.4%	1.6%
3	0.1%	0.2%	0.1%	0.3%
No answer	1.4%	1.7%	0.8%	2.9%

Source: SFMTA Large Building Study, 2019; N = 2207

Race

Race and income together have a significant influence on vehicle ownership, access to parking and travel behavior.

Overall, the racial and ethnic composition of the study area is similar to citywide population averages (see Census Analysis Section). The study area is predominately comprised of white and Asian residents, though survey respondents were most likely to be white (over forty percent), while there appeared to be less representation from communities of color. The survey distinguished between persons of Filipino heritage and all other Asians to reflect the large Filipino community in SoMa.

Household income

Household income varies significantly by race and ethnicity in the study area. Twenty-nine percent of households have incomes less than $100,000, 54% have incomes at $100,000 or higher and 17% preferred not to disclose their income. Blacks, Latinx and Pacific Islander/Filipino households had significantly more households earning below the median of $100,000: 61% of Blacks, 41% of Latinx and 49% of Pacific Island/Filipino households had incomes below the median.

Household Income by Race and Ethnicity

Race and Ethnicity	Total	Household Income: Less than $100,000	Household Income: $100,000 or more per year	Household Income: Prefer not to answer
All Households		29%	54%	17%
African American/Black	4%	61%	19%	19%
Asian American	29%	32%	52%	17%
Caucasian/White	42%	22%	66%	12%
Latinx/Hispanic	5%	41%	44%	14%
Native American	1%	43%	36%	21%
Pacific Islander/Filipino	4%	49%	32%	19%
Two or more ethnicities	4%	27%	60%	13%
Other	3%	31%	49%	20%
Prefer not to answer	8%	18%	36%	46%

Source: SFMTA Large Building Study, 2019; N = 2207

Vehicle ownership

Though household income appears to be the greatest predictor of vehicle ownership, race and ethnicity also have some influence. As noted above, 61% of African American households have annual incomes below $100,000 and 61% state they do not have a personal vehicle. This contrasts with the 34% of all households that have no access to a personal vehicle for all race and income groups. Latinx households are most likely to have two or more vehicles. This may be related to their larger household size and higher number of employed workers in the household.

Vehicle Ownership by Race and Ethnicity						
Race / Ethnicity		Total Motorized Vehicles in Household				
	All	0	1	2	3+	No answer
All Races & Ethnicities		**34%**	**50%**	**13%**	**2%**	**0%**
African American/Black	4%	61%	33%	1%	1%	0%
Asian American	29%	32%	52%	13%	2%	0%
Caucasian/White	42%	33%	53%	12%	1%	1%
Latinx/Hispanic	5%	35%	46%	16%	2%	0%
Native American	1%	57%	36%	0%	7%	0%
Pacific Islander/Filipino	4%	53%	31%	11%	3%	2%
Two or more ethnicities	4%	38%	46%	15%	0%	0%
Other	3%	33%	48%	18%	2%	0%
Prefer not to answer	8%	26%	50%	19%	1%	2%
SFMTA, Large Building Study, 2019						

Travel behavior

There are race and ethnicity differences in not only vehicle ownership, but also in location of work. So it follows that race and ethnicity will also affect travel behavior and decisions about how to get to work or school. Asian-American, white and Latinx respondents were equally likely to drive alone with rates ranging between 24% and 29%. Blacks (16%) and Filipinos (18%) were significantly less likely to drive alone. And while 12% of all respondents bicycled to work for at least part of their trip, Latinx respondents were the most likely to bike (19%), Pacific Islanders/Filipinos were the least likely to bike (7%). Forty-nine percent of Blacks and Pacific Islander/Filipino respondents ride the bus compared to 28% for the entire sample.

Parking access

Access to parking varies not only by income, but also by race and ethnicity. Those who either don't live in a building with on-site parking or who cannot afford to park in their building must park on the street. Twenty-four percent of Blacks indicated they parked a vehicle in their building's garage. In contrast, 62% of whites and 57% of Asian-Americans parked a vehicle in their building's garage. Forty-six percent of Latinx and 37% of Pacific Islanders/Filipinos had access to parking in their building. Though whites and Latinx households have similar rates of vehicle ownership, whites are more likely to have off-street parking. While 7% of whites park a vehicle on-street near their home, 23% of Latinx park a vehicle on-street near their home.

Commute to Work or School by Race and Ethnicity

Commute Mode	Total	African American/ Black	Asian American	Caucasian/ White	Latinx/ Hispanic	Pacific Islander/ Filipino	Two or more ethnicities	Native Am. /Other	Prefer not to answer
		Race and Ethnicity							
Total	2207	83	647	926	111	98	97	75	170
Bicycle	12.3%	10.8%	9.7%	14.4%	18.9%	7.1%	11.3%	13.3%	10.0%
Bus	27.9%	49.4%	30.9%	19.1%	39.6%	49.0%	36.1%	26.7%	29.4%
Drive alone	26.6%	15.7%	29.4%	24.4%	27.9%	18.4%	29.9%	32.0%	32.4%
Employer shuttle/carpool/vanpool	6.4%	2.4%	7.7%	6.2%	8.1%	3.1%	4.1%	5.3%	7.6%
Train	33.2%	39.8%	31.2%	32.7%	40.5%	31.6%	50.5%	30.7%	27.1%
Taxi or ride share services	13.5%	15.7%	12.4%	12.5%	18.0%	17.3%	17.5%	14.7%	14.1%
Walk	40.9%	36.1%	40.5%	43.3%	34.2%	32.7%	46.4%	41.3%	37.1%
Other	4.1%	4.8%	3.2%	4.0%	4.5%	6.1%	9.3%	0.0%	5.3%
Don't commute/work at home	6.3%	6.0%	3.2%	8.4%	5.4%	15.3%	2.1%	4.0%	5.9%
No answer	6.1%	4.8%	5.6%	7.6%	5.4%	4.1%	3.1%	3.3%	5.3%

SFMTA Large Building Study, 2019; Survey respondents were asked to select all modes of travel used to get to work or school. Many respondents selected multiple modes. For instance, while many respondents selected only walk, more selected walk and another mode, such as train, shuttle or bus.

Access to Parking by Race and Ethnicity

Where Own Vehicles are Parked	All	African American / Black	Asian American	Caucasian / White	Latinx/ Hispanic	Native American	Pacific Islander/ Filipino	Two or more ethnicities	Other	Prefer not to answer
		Race and Ethnicity								
All	2207	83	647	926	111	14	98	97	61	170
Garage	57.4%	24.1%	57.2%	62.7%	45.9%	42.9%	36.7%	57.7%	60.7%	64.1%
Nearby parking facility	3.4%	2.4%	3.9%	2.8%	5.4%	7.1%	4.1%	1.0%	3.3%	4.1%
On the street	11.4%	13.3%	13.1%	6.8%	22.5%	7.1%	16.3%	12.4%	23.0%	14.1%
Not applicable	32.4%	59.0%	30.3%	31.0%	31.5%	50.0%	48.0%	36.1%	27.9%	24.1%
No answer	1.4%	2.4%	0.8%	1.5%	1.8%	0.0%	4.1%	0.0%	0.0%	2.9%

Source: SFMTA Large Building Study, 2019; N = 2207

Households with Children

As mentioned earlier in the report, a previous SFMTA household survey showed that having children does influence vehicle ownership and travel behavior. The average household size for survey respondents is 1.84 people. The citywide average for San Francisco is significantly higher at about 2.35 people. And fewer households in the study area have children under 18. The reported percent of children under eighteen in a household within the study area is 11.5% (±4.1%), compared to 18.5% (±0.3%) for San Francisco (see Census Analysis section). Among survey respondents, only 14% reported having children in their households (and of those, the majority had only one child).

Vehicle ownership

Families with children are more likely to have vehicles and more of them. Eighty-one percent of households with children have at least one vehicle compared to 66% of the entire sample and families with children are twice as likely to have 2 or more vehicles (25%) than those with no children (13%).

Vehicle Ownership by Number of Children in Household

Children	Number of Vehicles					
	Veh/Hshld	**0**	**1**	**2**	**3+**	**Hshld w/ vehicle**
Total	1.26	34.5%	49.9%	12.9%	2.3%	66%
None	1.25	37.3%	49.1%	11.3%	2.1%	63%
1	1.31	20.4%	56.0%	20.9%	2.1%	80%
2 or more	1.35	13.3%	54.2%	25.0%	4.2%	87%

Source: SFMTA Large Building Survey, 2019. N = 2207

Parking access

Residential Parking Permits

Not only do families with children have more vehicles, they are also more likely to have RPP permits than households with no children. While 15.2% of households with no children have at least one RPP permit, 24% of households with children have an RPP permit.

RPP Permits by Number of Children in Household

Children	Vehicles With Residential Parking Permit			
	Permits / Hshld	**0**	**1**	**2+**
All households	1.06	82.1%	14.5%	2.0%
None	1.07	83.6%	13.5%	1.7%
1 child	1.08	74.9%	19.9%	3.7%
2 or more	1.12	4.8%	7.8%	5.0%

Source: SFMTA Large Building Study, 2019; N = 2207

Off-street parking

Families with children are more likely to live in homes where off-street parking is available. For the entire sample, 57% of respondents parked a vehicle in their building. In contrast, 67% of families with

one child parked a vehicle in their building and 76% of families with two or more children parked a vehicle in their building. Nearly 12% of households with 2 or more children parked in a nearby facility and 31% parked on the street.

Families with Children Tend to Select Homes with On-Site Parking

	Number of Children				
Where vehicles are parked	Total	None	1	2+	No answer
In my building's parking facility	57.4%	56.2%	67.0%	76.2%	36.8%
In a nearby parking facility	3.4%	2.8%	4.7%	11.9%	0.0%
On the street near building	11.4%	9.6%	18.3%	30.7%	21.1%

Source: SFMTA Large Building Study, 2019; N = 2207

Travel behavior

Employed parents are more likely to drive alone to work and less likely to take the train. On average, 27% of respondents drive alone to work. In comparison, 40% of families with one child and 49% of families with 2 children drive alone to work. Parents are also less likely to commute by train. Though 34% of households with no children take a train (BART, Muni or Caltrain) to work or school, only 22% of families with children take a train.

Commute Mode by Number of Children in the Household

		Children Under 18 in Household			
Commute Mode	All	None	1	2	No answer
All Modes	2207	1877	191	101	19
Bicycle	12%	13%	12%	11%	5%
Bus	28%	27%	33%	34%	32%
Drive alone	27%	24%	40%	50%	43%
Employer shuttle/carpool/vanpool	6%	7%	5%	3%	5%
Train	33%	34%	29%	26%	21%
Taxi or ride share	14%	14%	12%	10%	16%
Walk	41%	42%	37%	31%	21%
Other	4%	4%	5%	5%	7%
Don't commute/work at home	6%	7%	4%	2%	11%
No answer	6%	7%	1%	0%	16%

SFMTA Large Building Study, 2019; Survey respondents were asked to select all modes of travel used to get to work or school. Many respondents selected multiple modes. For instance, while many respondents selected only walk, more selected walk and another mode, such as train, shuttle or bus.

Gender

Of all respondents, 54% were male and 43% were female, 3% of respondents preferred not to indicate their gender and 3 respondents indicated they were non-binary.

Survey Responses by Gender

	Number	Percent
Female	946	43%
Male	1201	54%
Non-binary	3	0%
Prefer not to answer	57	3%

Source: SFMTA Large Building Study, 2019; N = 2207

Male and female respondents were equally likely to have access to a personal vehicle and just as likely to have a second vehicle.

Vehicle Ownership by Gender

	Motorized Vehicles in Household		
Gender	0	1	2+
Total	34%	50%	15%
Female	35%	49%	16%
Male	35%	51%	14%
Prefer not to answer	25%	53%	18%

Source: SFMTA Large Building Study, 2019; N = 2207

While vehicle ownership does not appear to vary by gender, commute mode varies significantly by gender. Men are more than twice as likely to ride a bicycle to work or school than women. Women were more likely to ride the bus and to drive alone. Women and men were equally likely to ride the train.

Commute Mode by Gender

	Respondent's Gender			
	Total	Female	Male	Prefer not to answer
Total	2207	946	1201	57
Bicycle	12%	7%	16%	14%
Bus	28%	32%	24%	35%
Drive alone (car or truck)	26%	27%	24%	37%
Drive alone (motorcycle)	1%	1%	1%	2%
Employer shuttle/carpool/vanpool	6%	6%	6%	12%
Ferry	1%	1%	0%	0%
Train	33%	34%	33%	33%
Taxi or ride share services	14%	16%	12%	14%
Walk	41%	42%	40%	44%
Other	3%	4%	3%	2%
Don't commute/work at home	6%	6%	7%	5%
No answer	6%	6%	6%	7%

Source: SFMTA Large Building Study, 2019; N = 2207