

Santa Clara County Transportation Survey: Findings Report



Driving to Net Zero

Submitted to: Santa Clara County

Submitted by: ICF

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County of Santa Clara Office of Sustainability

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A. Executive Summary

This report describes the implementation and results of the 2017 Santa Clara Transportation Survey, conducted on behalf of Santa Clara County by ICF, a research and consulting firm with expertise in transportation and energy-related surveys.

The study's primary goal was to determine the perceptions and purchase intentions surrounding electric vehicles (EVs) among the County's general population. The survey also included questions about transportation habits as well as demographics. The questionnaire was developed in partnership with the County of Santa Clara.

The target population was Santa Clara County residents aged 18 and older. We asked that the respondent be involved in decisions about buying or leasing vehicles for the household.

Using an address-based sample, we invited respondents to respond to the survey either by mail—by returning a paper questionnaire, or by web—by accessing a URL and entering a unique code assigned to them. We obtained a total of 529 completed surveys, which we processed and analyzed.

General Transportation Habits

- The vast majority of Santa Clara residents currently drive a vehicle for work or personal use. More than 80 percent of residents reported that drive less than 40 miles per day round trip on an average week day. A majority expected to make up to five long trips of over 100 miles in the next 12 months.
- Almost three-quarters of residents expect that gasoline prices will increase compared to current prices.
- Use of ridesharing and car-sharing apps among residents was relatively low.
- Residents reported low familiarity with the BART Silicon Valley extension.

Vehicle-buying Intentions and Preferences

- Almost two-thirds of residents planned on acquiring their next vehicle more than two years in the future. Nearly half planned on purchasing a *new* vehicle, as opposed to a pre-owned one. The most popular model choices were mid-or full size cars and mini or compact SUVs.
- Two thirds of respondents said that gasoline was their preferred fuel type for their next vehicle purchase, but electricity was close behind. Nearly 60% of residents said that electricity was either their preference or a fuel type they would strongly consider for their next vehicle purchase.
- The most important vehicle features respondents reported in selecting their next primary vehicle were safety, brand reliability and miles per gallon.
- The most popular makes based on intention to buy were Toyota, Honda, Tesla, Ford and Nissan.

Electric Vehicle Ownership, Experience and Perceptions

- When residents were asked to think about EVs, what came to mind was the Tesla brand, concepts related to charging and range, and attributes related to environmental-friendliness. The most common EV brand to come to mind was Tesla, specifically the Model S.
- EV ownership of survey respondents is relatively high, with 9% of residents reporting that they currently drive a plug-in EV as their primary vehicle. The most popular models that respondents had driven most recently were the Tesla Model S, Toyota Prius, Nissan Leaf, Chevy Volt and Ford CMax.
- When asked to rate certain statements about EVs, residents strongly agreed or agreed with the statements that EVs are very quiet, save money on fuel and that sales of these vehicles will continue to increase in California.
- A majority of residents are not at all familiar with the financial incentives offered at the state or Federal level to encourage EV sales.
- The most common source of information about EVs was family, friends or neighbors.

B. Background

Transportation is the single largest contributor to greenhouse gas (GHG) emissions in California (39% of total emissions in 2015), and about 70% of emissions within the transportation sector come from light-duty vehicles like cars, motorcycles and light-duty trucks.¹ The transportation sector thus has a major role to play in meeting state GHG reduction targets and other climate, air and energy goals. Electric vehicles (EVs) are a key component of California's petroleum and GHG reduction goals, and as the nation's leader in EV sales, California has been making progress in growing EV infrastructure and addressing some of the challenges faced in the deployment of charging stations.²

Rates of EV adoption are expected to continue to increase as battery prices fall and electric models become more economical; some estimates show that 54% of new car sales in 2040 will be electric.³ California is the national leader in plug-in sales and ownership, with 50% of plug-in sales occurring in the state.⁴ In fact, California is the second largest EV car market in the world after China.⁵ Within California, Santa Clara is a leader in EV sales and ownership: six of the top ten EV cities by market share are located in the county (Palo Alto, Los Altos, Saratoga, Los Gatos, Cupertino and Mountain View).⁶ In 2016, Palo Alto led the state in EV market share, with EVs accounting for 22% of new vehicle sales.

C. Research Purpose and Objectives

While there clearly is a relatively high rate of EV adoption in Santa Clara County, this survey aimed to better understand how residents perceived EVs and how likely they would be to buy or lease an EV in the future. The study's main research questions were developed in partnership with the County and included:

1. What kinds of features matter most to Santa Clara residents when they think about purchasing or leasing a vehicle?
 - a. How much is electric power a factor in this decision?
 - b. What are the most popular car makes and models?
2. What kind of experience do Santa Clara residents have with EVs? What proportion of county residents have driven EVs and what proportion of households currently own an EV?
3. How do residents of Santa Clara perceive EVs?

The survey also afforded an opportunity to gather general information on transportation habits and preferences.

¹ California Air Resources Board (CARB), "California Greenhouse Gas Emission Inventory – 2017 Edition," www.arb.ca.gov/cc/inventory/data/data.htm; CARB, California Greenhouse Gas Emissions for 2000 to 2014 – Trends of Emissions and Other Indicators, www.arb.ca.gov/cc/inventory/pubs/reports/2000_2014/ghg_inventory_trends_00-14_20160617.pdf

² California Energy Commission, "2014 Integrated Energy Policy Report Update," www.energy.ca.gov/2014publications/CEC-100-2014-001/CEC-100-2014-001-CMF.pdf

³ *Bloomberg Finance*, "Electric Vehicle Outlook 2017," data.bloomberglp.com/bnef/sites/14/2017/07/BNEF_EVO_2017_ExecutiveSummary.pdf

⁴ EV Volumes, "USA Plug-in Vehicle Sales for 2016 – Final," www.ev-volumes.com/news/usa-plug-in-vehicle-sales-for-2016/

⁵ Busch, Chris, "California Wants More Than 4.2 Million Electric Vehicles By 2030; A New Plan Charts The Road Ahead," *Forbes*, 12/14/2017: www.forbes.com/sites/energyinnovation/2017/12/14/california-wants-4-2-million-electric-vehicles-by-2030-a-new-state-plan-charts-the-road-ahead/#11f6d96a4b44

⁶ The International Council on Clean Transportation, "Update: California's electric vehicle market," www.theicct.org/sites/default/files/publications/CA-cities-EV-update_ICCT_Briefing_30052017_vF.pdf

D. Methodology

The Santa Clara County Transportation Survey was developed with input and approval from the Santa Clara County Office of Sustainability. The questionnaire consisted of four main sections: Transportation and Driving Habits; BART Silicon Valley; Car Buying or Leasing; Demographics.

Sampling

To accurately represent the target population of households in Santa Clara County, California, ICF developed a survey design consisting of an address-based sampling approach coupled with a web/paper survey data collection protocol. We designed and selected a simple random sample that would yield more than 400 completed surveys, the target sample size necessary to provide precise overall estimates (within +/-5% at the 95% confidence level). In all, 529 Santa Clara County residents completed the survey over a 7 week period between October and December 2017. We obtained 285 mail completes and 244 web completes, one of which was in Spanish.

Data Collection

Survey data were collected using an online web survey and a printed survey mailed to residents' households. To maximize response, we employed up to four contacts to potential respondents.⁷ Our first contact was a one-page letter mailed to each selected household directing them to a website to complete the survey. The letter was mailed in both English (one side) and Spanish (reverse side). The invitation contained the website URL (www.SCTransportationSurvey.com), a unique password to securely access the online survey and a \$1 bill. The letter was mailed in a white, standard-sized window envelope. Residents receiving the survey invitation were instructed that someone 18 or older, who is involved in decisions about buying or leasing vehicles for the household, should complete the survey.

The second contact was an English-language paper surveyed mailed to residents selected into the sample who had not responded to the web survey. A one-page cover letter in both English (one side) and Spanish (reverse side) was also included. The letter provided an email address in case residents had questions about the survey. This was mailed in a large, white, windowed envelope. The third contact was an English-language reminder postcard to non-responders asking them to complete the survey online. The postcard included one sentence in Spanish instructing residents to e-mail the survey help desk if they wanted to complete the survey in Spanish. The fourth contact was a second English-language paper survey mailed to non-responders, also sent in a large, white, windowed envelope.

Weighting

We weighted the survey data to account for differential sampling probabilities and response propensities. The sampling weight was computed as the inverse of the selection probability for the random sample of household addresses and also accounts for the subsampling within households. The probability for each sampled adult is the probability of selecting each household (the number of sampled households divided by the number of households in the frame) multiplied by the probability of selecting each adult within household (the reciprocal of the number of adults in each household). Due to the simple random sampling design, household selection probabilities are all the same, so the sampling weight for each sampled adult is the number of adults in each household.

Sampling weights were adjusted for non-response using a simple ratio adjustment. The adjustment was computed as the ratio of two sums: a) the total of the sampling weights over the set of sampled households, and b) the total of the sampling weights over the subset of participating households.

As a final step, the weights were post-stratified to known population control totals available from the American Community Survey (2016 ACS 5-year estimates) population estimates for adults (18+) in Santa Clara County. Post-stratum cells were defined by age group and Hispanic ethnicity, and cell population totals were computed from the ACS data. Since the age and Hispanic variables have some missing values in the survey data, the missing responses were imputed at random with the probabilities estimated

⁷ Dillman, DA, Smyth, JD, Christian, LM. (2014). Internet, Phone, Mail, and Mixed Mode Surveys: The Tailored Design Method. 4th Ed.

from the non-missing data. The adjustment made the final adjusted weights sum to the total number of adults in Santa Clara County as reported in the ACS data.

E. Results

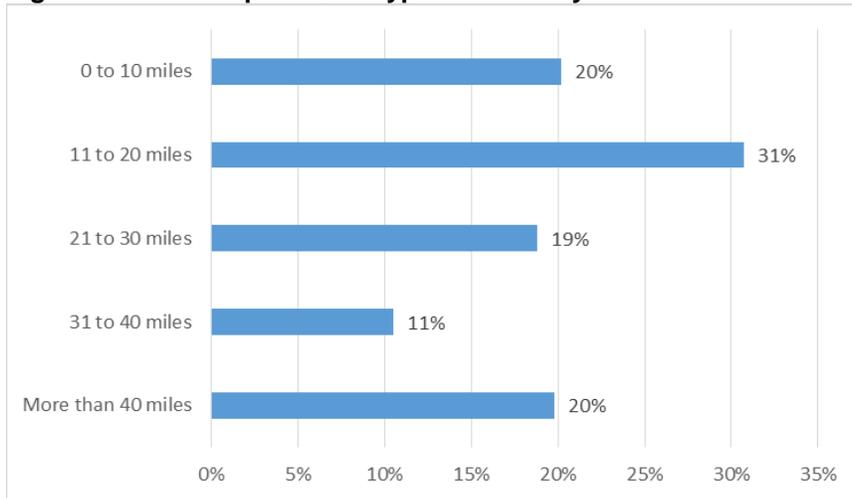
In the pages that follow, we present survey results following the order of the questionnaire, which can be found in Appendix A. For each topic, we provide the question number from the survey so that readers can reference the entire text of the question.

Transportation Characteristics

Current Driving Characteristics (Q1-Q3)

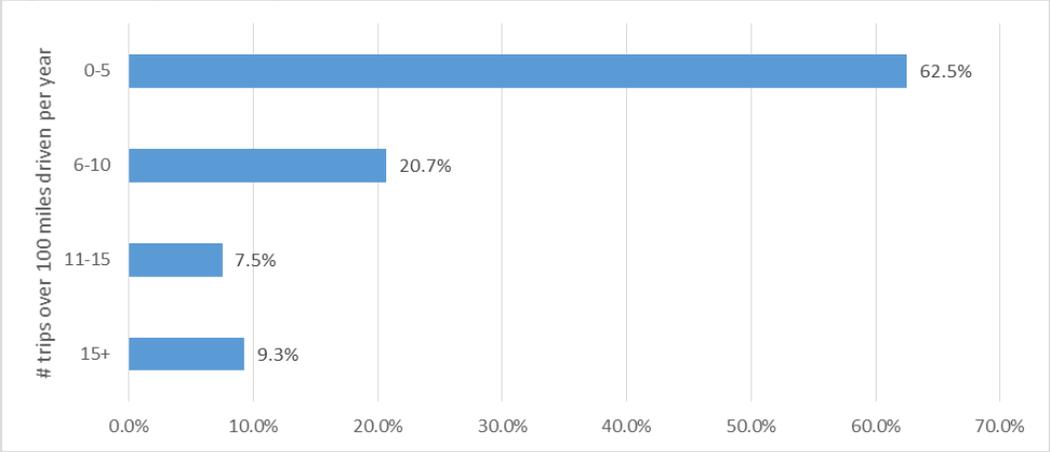
The vast majority of Santa Clara residents currently drive a vehicle for work or personal use (93.6%). Drivers reported their weekly travel distance, with a plurality traveling 11 to 20 miles in a week day (31%). How often people need to drive and how far is an important factor in understanding the potential for electrifying travel segments. More than 80% of residents reported that drive less than 40 miles per day round trip on an average week day. These short distance trips have the potential to be electrified as they are well within the electric range of most electric vehicles on the market today.

Figure 1: Round-trip travel in typical week day



Drivers were asked to self-report the number of trips over 100 miles they expected to make over the next 12 months. A majority expected to make between 0 and 5 of these trips (62.5%) while one in five expected to travel this distance between 6 and 10 times in the coming year (20.7%).

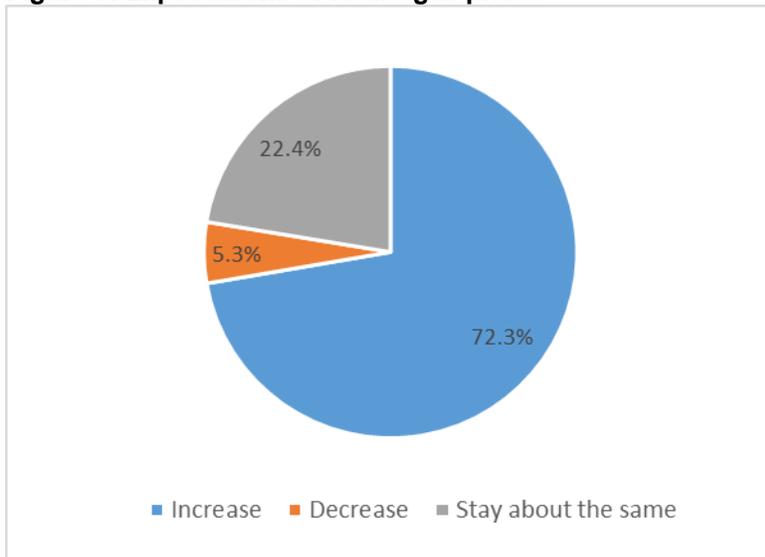
Figure 2: Expected trips over 100 miles



Expectations of Future Gas Prices (Q4)

Almost three-quarters of residents (72.3%) expect that gasoline prices will increase compared to current prices. Only 5.3% expected prices to go down, while just over one in five thought that prices would stay about the same (22.4%).

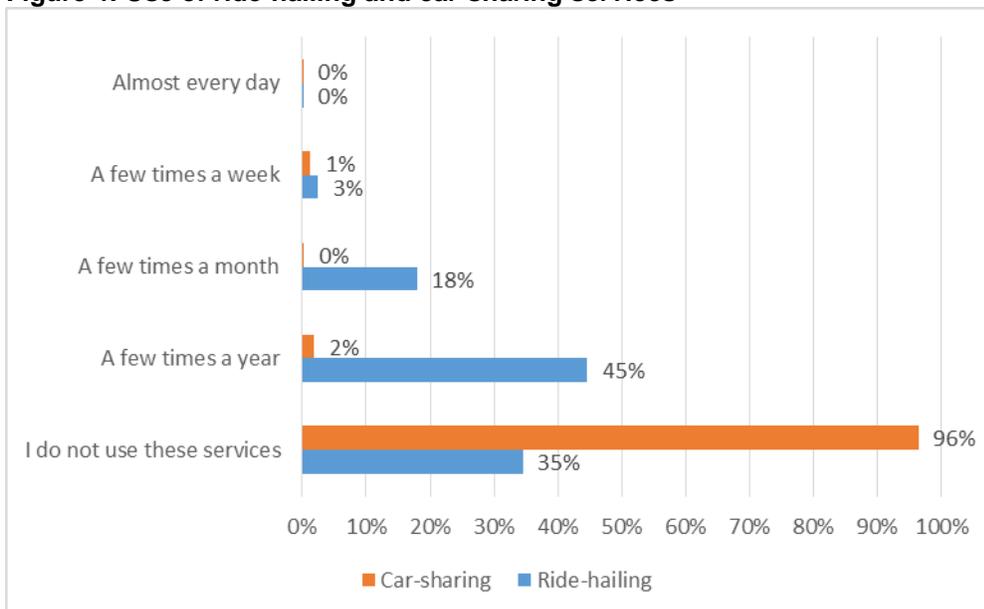
Figure 3: Expectations of future gas prices



Use of Ride-hailing and Car-sharing Services (Q5-Q6)

Santa Clara County residents used ride-hailing services like Uber and Lyft in a limited way, with 18% saying they used them a few times a month, and nearly half (45%) reporting using these apps only a few times a year. Use of car-sharing services was even less widespread, with 96% of residents reporting not using car-sharing services like Zipcar.

Figure 4: Use of ride-hailing and car-sharing services



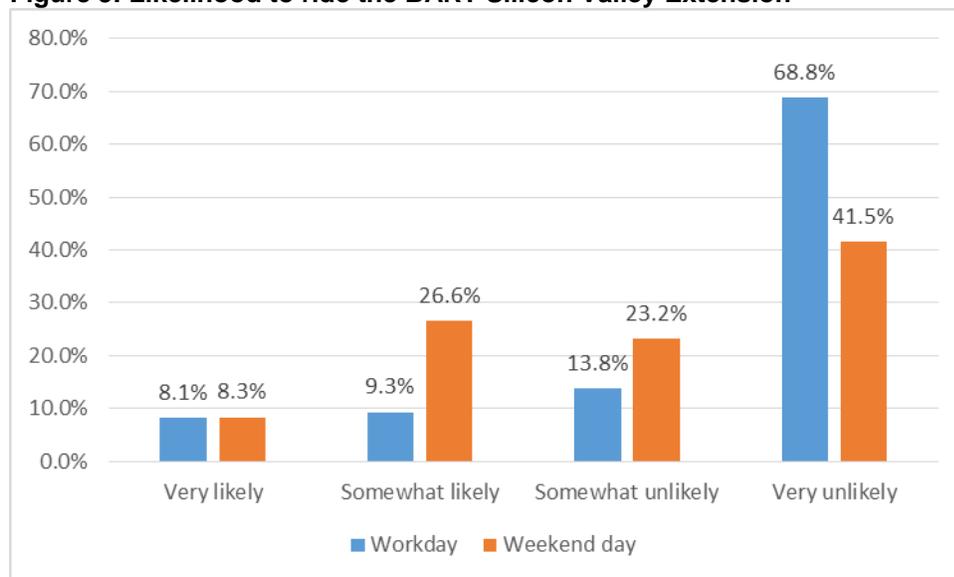
BART Silicon Valley

The Bart Silicon Valley Extension is an extension of the Bay Area Rapid Transit (BART) system into Santa Clara County. Portions of the extension have been completed while others are still under development.

Familiarity with BART Silicon Valley extension and likelihood to ride (Q7-Q9)

Nearly half of residents reported not being at all familiar with the BART Silicon Valley Extension (44.6%) and only 8.4% said they were very familiar with the service. When asked how likely they would be to ride the BART Silicon Valley on a typical workday, more than two-thirds of residents said they were very unlikely to do so (68.8%), and only 8.1% said it was very likely they would use the transit service. At the same time, residents reported greater likelihood to ride to ride the BART Silicon Valley on a weekend day. Just over a third of residents said they were very or somewhat likely to ride the BART Silicon Valley on a weekend (34.9%), compared to 17.4% for a workday.

Figure 5: Likelihood to ride the BART Silicon Valley Extension



Car Buying or Leasing

Current Vehicle Ownership and Use Patterns (Q10-Q13)

The vast majority of residents reported that they or someone in their household owns or leases a car (97.3%); only 2.7% of residents were in a car-free household. In an open-ended question, respondents were asked to report the make, model and model year of the vehicle they drive most frequently. As shown in Table 1 below, residents are most likely to drive a Toyota, Honda or Ford, while 3.6% of residents reported driving a Tesla. Popular models include Prius, Accord and Camry. The most popular model years were 2016 and 2015, with about one-quarter of respondents reporting these model years.

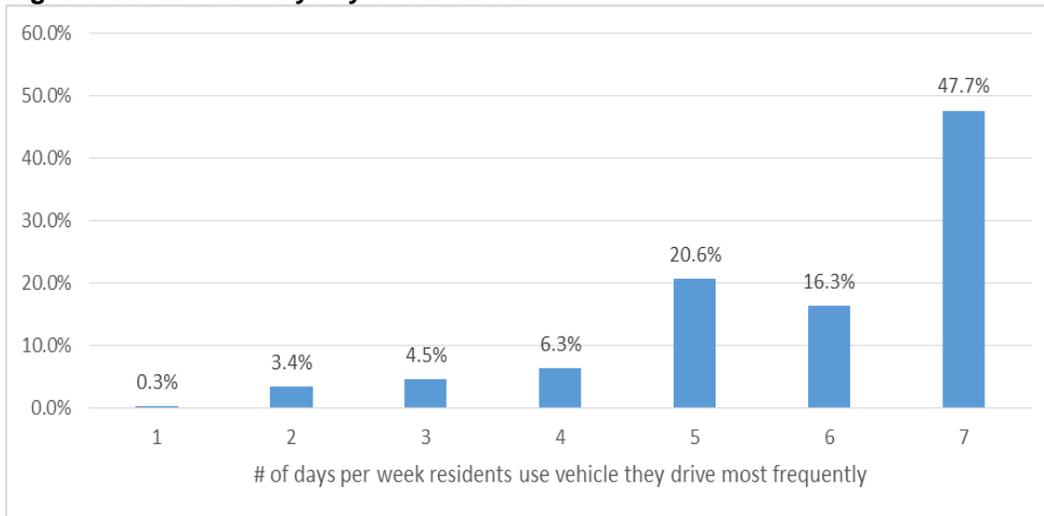
Table 1: Current vehicle ownership by make of car

Value	Weighted Percent
TOYOTA	20.8%
HONDA	13.2%
FORD	7.3%
CHEVROLET	6.7%
NISSAN	4.7%

VOLKSWAGEN	4.2%
LEXUS	4.0%
BMW	3.7%
TESLA	3.6%
JEEP	3.3%
SUBARU	3.1%
MAZDA	3.0%
SCION	3.0%
HYUNDAI	2.5%
ACURA	2.4%
MERCEDES	2.4%
MITSUBISHI	1.9%
AUDI	1.4%
INFINITI	1.4%

Eighty-three percent of residents use the vehicle they drive most frequently to commute to work or school. Nearly half of residents use this primary vehicle every day of the week (47.7%), while one in five drive this vehicle five days a week (20.6%).

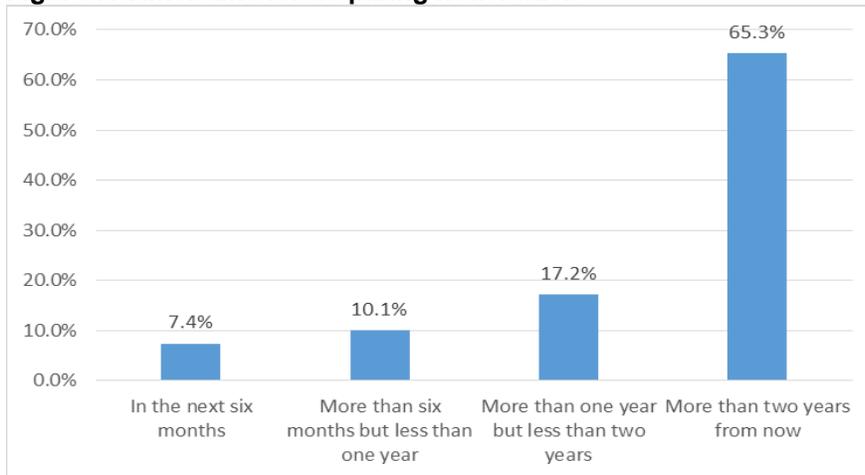
Figure 6: Vehicle use by days of the week



Buying/Leasing Next Vehicle (Q14-Q16)

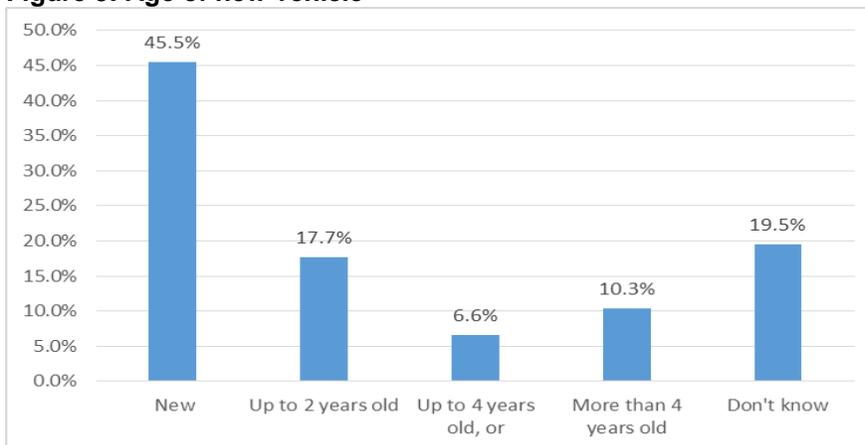
Thinking about the next primary vehicle that they will buy or lease, nearly one-third of residents (27.3%) planned to acquire a new vehicle in the next two years, while two-thirds of residents planned on acquiring a new vehicle more than two years in the future (65.3%).

Figure 7: Timeframe for acquiring new vehicle



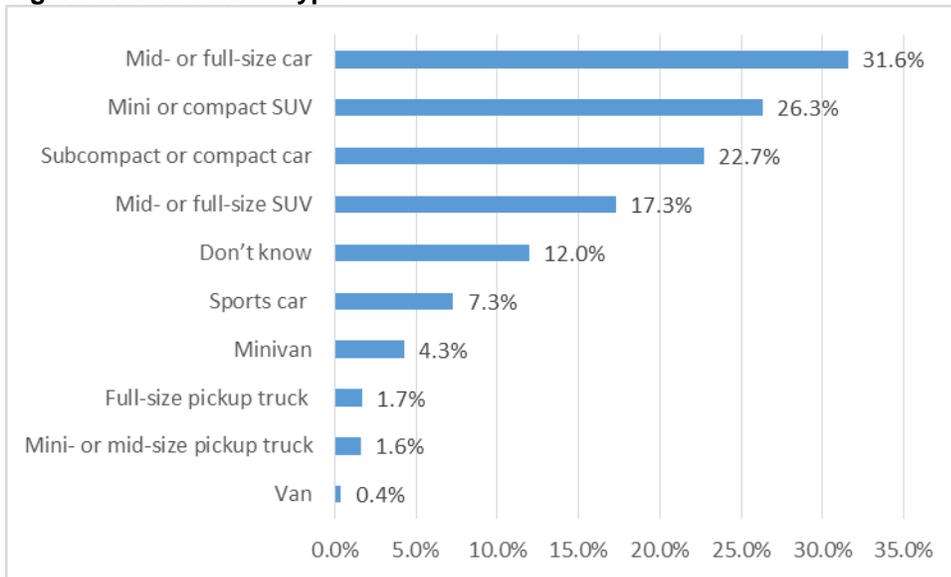
Almost half of residents planned to acquire a *new* vehicle (45.5%), while nearly one-third planned to acquire a pre-owned vehicle (34.6%). The remaining residents were not sure how old they expected their next vehicle to be (19.5%).

Figure 8: Age of new vehicle



When thinking about the next vehicle they would buy or lease to drive regularly, 31.6% of residents preferred a mid- or full-size car like a Toyota Camry or Hyundai Genesis, and just over one-quarter selected a mini or compact SUV such as a Honda CR-V or Toyota Rav4 (26.3%). Note that in this question we asked respondents to select up to two answers.

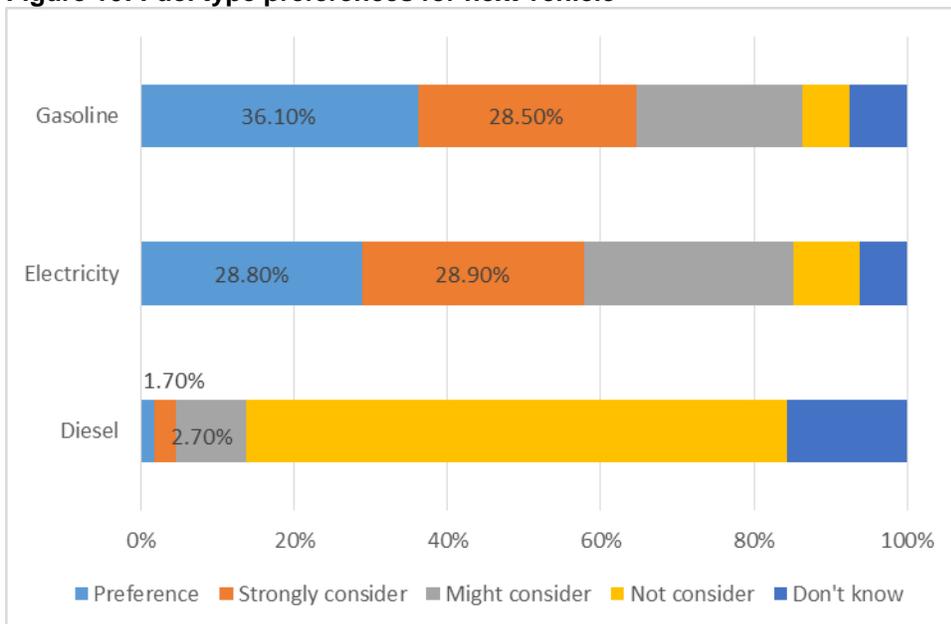
Figure 9: Next vehicle type



Fuel Type for Next Vehicle (Q17)

Respondents were asked to evaluate different fuel types for their next vehicle purchase. Nearly two-thirds of respondents said that gasoline was their preferred fuel type or they would strongly consider it (64.6%), but electricity was close behind: a combined 57.7% of residents ranked EVs as being their preference or as something they would strongly consider. Diesel was largely unpopular, with 69.8% of residents saying they would not consider this fuel type.

Figure 10: Fuel type preferences for next vehicle

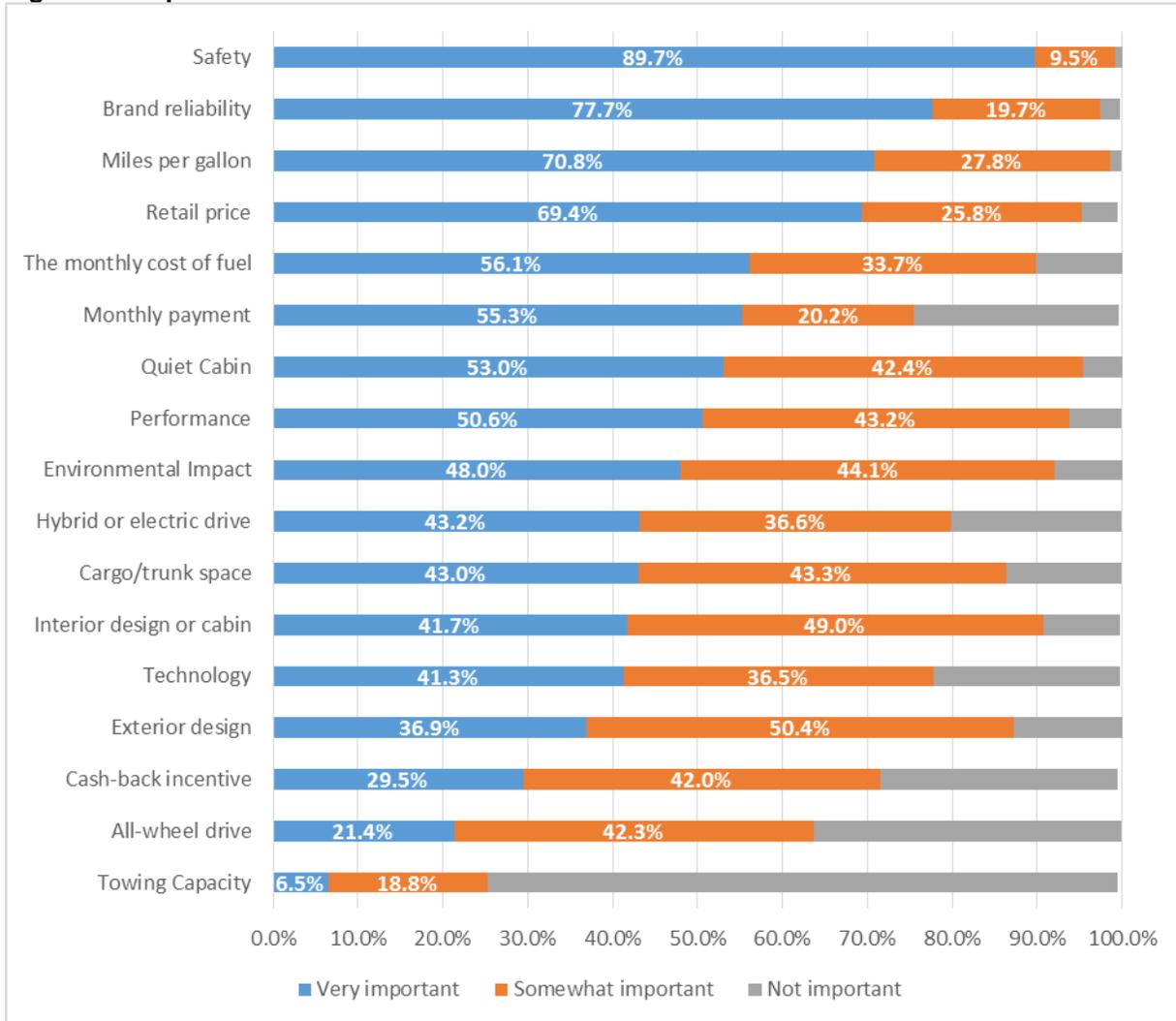


For those who do not currently drive an EV, gasoline was the preference of just under two in five respondents (39.2%), while just under one in five non-EV drivers said electricity was their preferred fuel type (22.8%). For current EV drivers, electricity was by far the preferred fuel source, with 81.9% rating it as their preference. Only 5.8% of EV drivers rated gasoline as their preference.

Important Features (Q18)

Respondents rated 17 vehicle features as very important, somewhat important, or not important in selecting their next primary vehicle. The most important features to residents are safety (99.2% rated this as very or somewhat important), brand reliability (97.4%), and miles per gallon (98.6%). Features least likely to be important are towing capacity (74.2% rated this feature “not important”) and all-wheel drive (36.2%). Hybrid or electric drive ranked in the middle of the features available: 79.8% said this was very or somewhat important to them.

Figure 11: Importance of vehicle features



Brand Consideration (Q19)

When asked which brands respondents would consider buying for their next primary vehicle, the most popular options were Toyota and Honda, matching the most popular vehicles residents currently own (see Table 1). Note that respondents could select more than one vehicle here. In the “other” category, the most popular makes were Subaru, Audi and Mazda.

Table 2: Most popular makes based on intention to buy or lease

Vehicle Make	Weighted Percent
Toyota	61.0%
Honda	52.9%

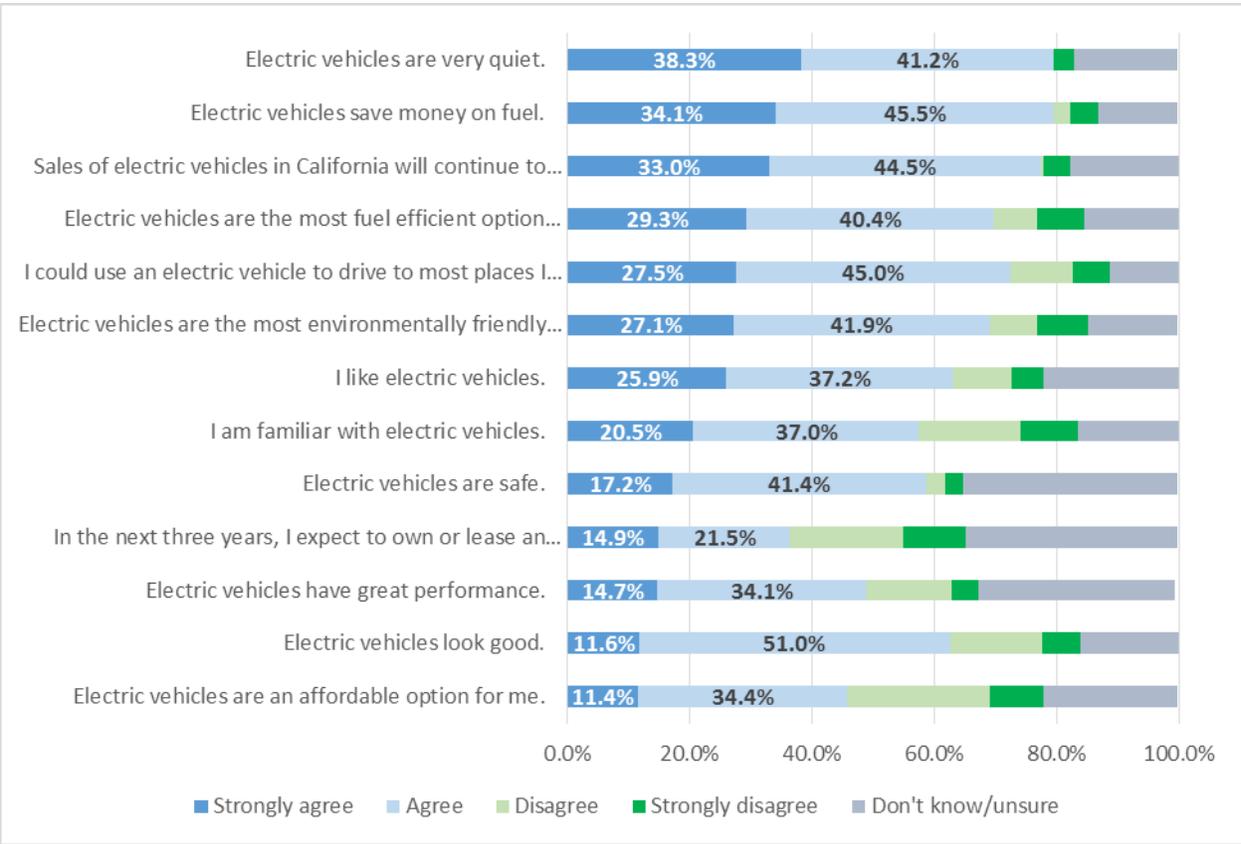
Current and Past EV Ownership and Experience (Q22-Q24)

EV ownership of survey respondents is relatively high, with 9% of residents reporting that they currently drive a plug-in EV as their primary vehicle. For context, less than 1% of all drivers in California own or lease an EV.⁸ Non-EV owners (n=421) were asked if they, or someone in their household, had ever owned or leased an EV. Only 1.9% of non-EV owners reported owning or leasing one in the past. Additionally, 29.3% of respondents reported having driven an EV at some point. The most popular models that respondents had driven most recently were the Tesla Model S, Nissan Leaf, Chevy Volt and Ford CMax.⁹

Perceptions of EVs (Q25)

Figure 13 below shows the level of agreement with different statements about EVs. Residents strongly agreed or agreed with the statement that EVs are very quiet (79.5%), save money on fuel (79.6%) and that sales of these vehicles will continue to increase in California (77.5%).

Figure 13: Perceptions of EVs



As shown in Figure 13, some of the highest levels of disagreement and uncertainty relate to:

- **Intention to buy EVs in the future:** 63.3% of all respondents either disagree with the statement that they expect to own or lease an EV in the next three years, or are unsure. Just over one third strongly agree or agree with the statement (36.4%). For the subset of respondents who plan to

⁸ CVRP statistics coupled with ICF analysis of DMV registration data provided by IHS Markit.
⁹ Note that if survey respondent answered “Yes” to having driven an EV at some point, but reported that the type of EV they drove was in fact not a plug-in electric vehicle (like a Prius or other hybrid), then we considered them as never driven an EV at some point.

buy or lease their next primary vehicle *in the next two years*, a combined 49.2% either agree or strongly agree with the statement that they expect to own or lease an EV in the next three years.

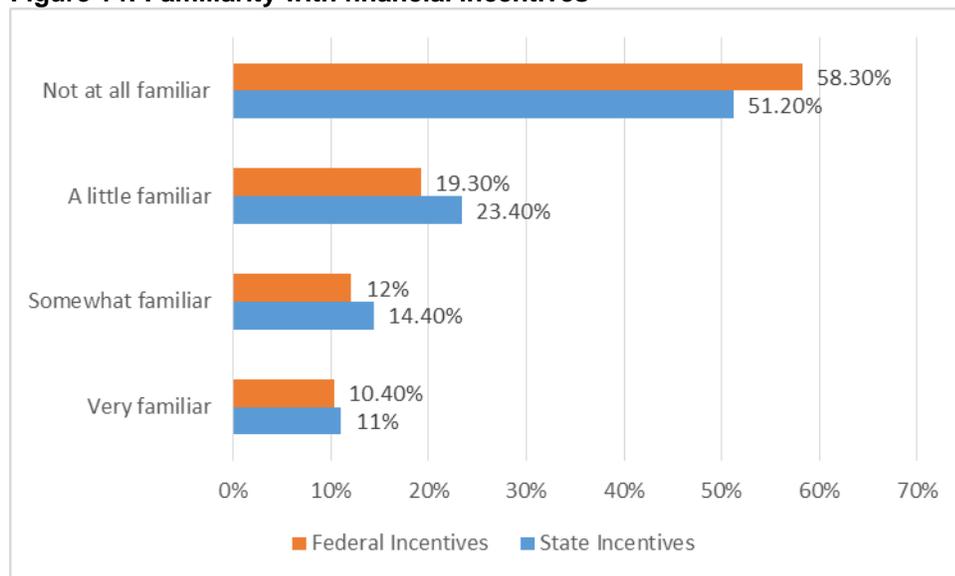
- **EV affordability:** 53.9% of residents disagree with the statement that EVs are an affordable option for them, or are unsure. This finding shows that there may be a lack of awareness among residents on the more affordable EV models on the market today and/or understanding of the total cost of owning an EV compared to a conventional vehicle.
- **EV performance:** 50.6% of residents either disagree that EVs have great performance, or are unsure.
- **EV safety:** As shown in Figure 11, respondents rated safety is the single most important feature when selecting their next primary vehicle. And yet over one-third of respondents were unsure whether electric vehicles are safe (34.9%).

The results of these questions about perceptions show there is clear room for marketing and outreach to educate the public about EV performance, safety and affordability.

Financial Incentives (Q26-Q27)

Despite relatively high levels of EV ownership in Santa Clara County, it is notable that a majority of residents are not at all familiar with the financial incentives offered by either the state of California or the Federal government to buy or lease EVs. This shows there may be some room for educating the public on the incentives available to them.

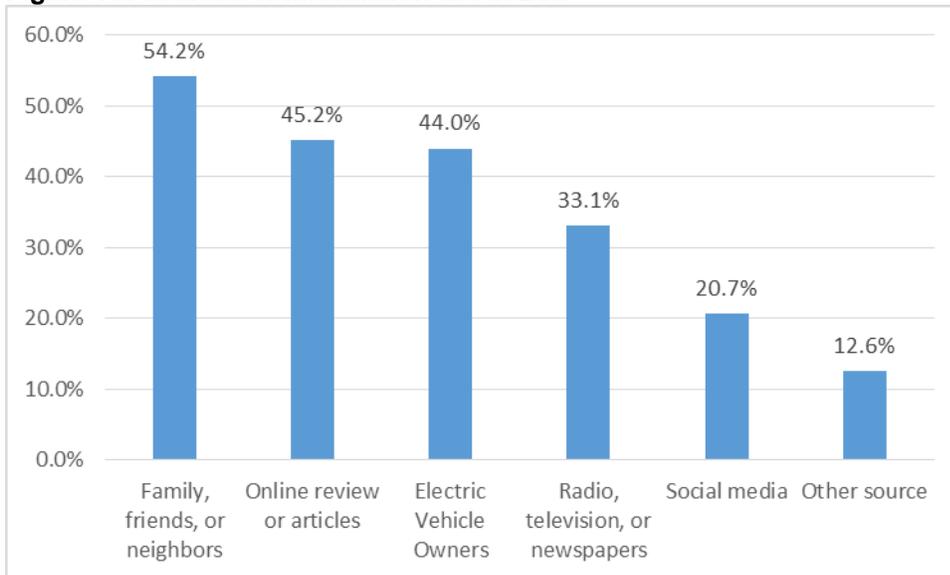
Figure 14: Familiarity with financial incentives



Sources of Information (Q27)

Residents reported that the most common source of information about EVs was family friends or neighbors (54.2%). This finding confirms what is reported in other studies on EVs in California – that early adopters of EVs have been key to disseminating information through word of mouth and act as informal brand ambassadors. Online reviews or articles and EV owners were also important sources.

Figure 15: Sources of Information about EVs



Demographics

The final section of the questionnaire included demographic questions. Demographics are an important part of any survey: they characterize the respondent population and are used in weighting to known population totals (see D. Methodology, Weighting, above).

Household characteristics (Q29-Q31)

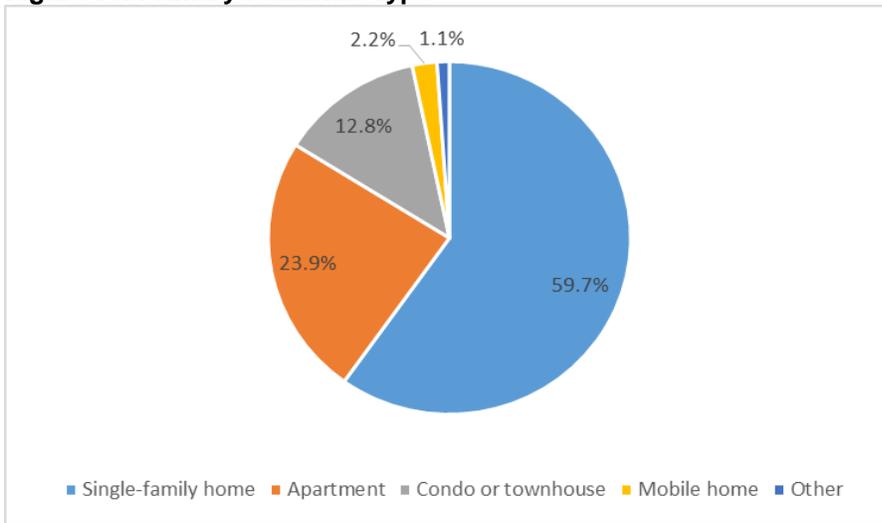
About two out of five respondents were the only adult in their household (40.2%), while nearly half lived in households with one or two other adults (45.3%). A majority of households reported having no children living with them (60.9%), while 15.6% reported one child under 18 and 17.5% reported two children under 18.

A majority of respondents lived in households where two people regularly drove (58.4%) and about one in seven had just one driver (14.4%).

Residential characteristics (Q32-Q34)

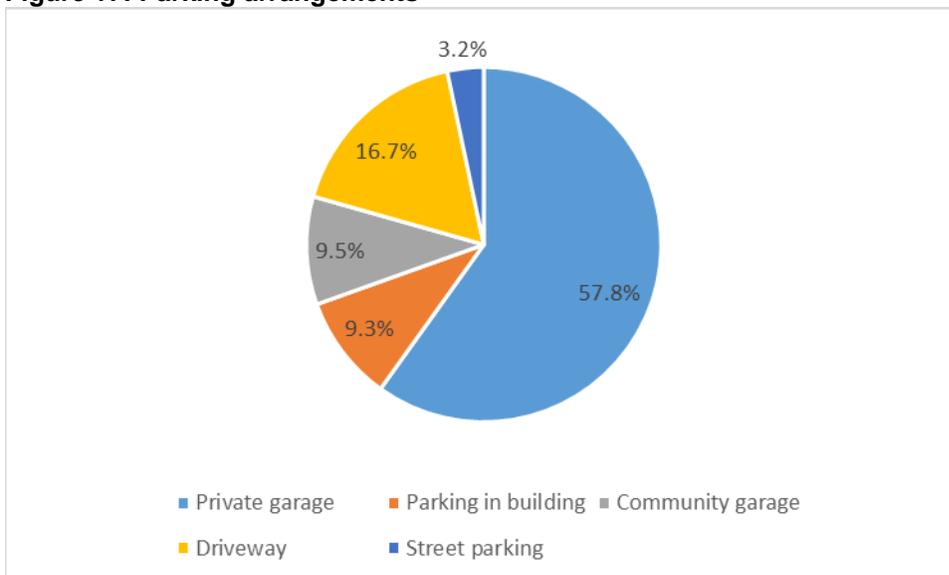
As shown in the Figure below, a majority of respondents lived in single-family homes (59.7%), while just under one-quarter lived in apartments (23.9%).

Figure 16: Primary residence type



A majority of respondents had a private garage, either attached or separate from their residence (57.8%). About 1 in 6 used a covered or uncovered driveway next to their residence (16.6%) to park their vehicle.

Figure 17: Parking arrangements



More than two-thirds of respondents own their home (68.1%) and just under one-third rent their residence (31.6%).

Other Demographics (Q35-Q41)

Residents were asked to report their year of birth. Their age in 2017 was calculated from that response and are show in ranges in Table 3.

Table 3: Respondent age ranges

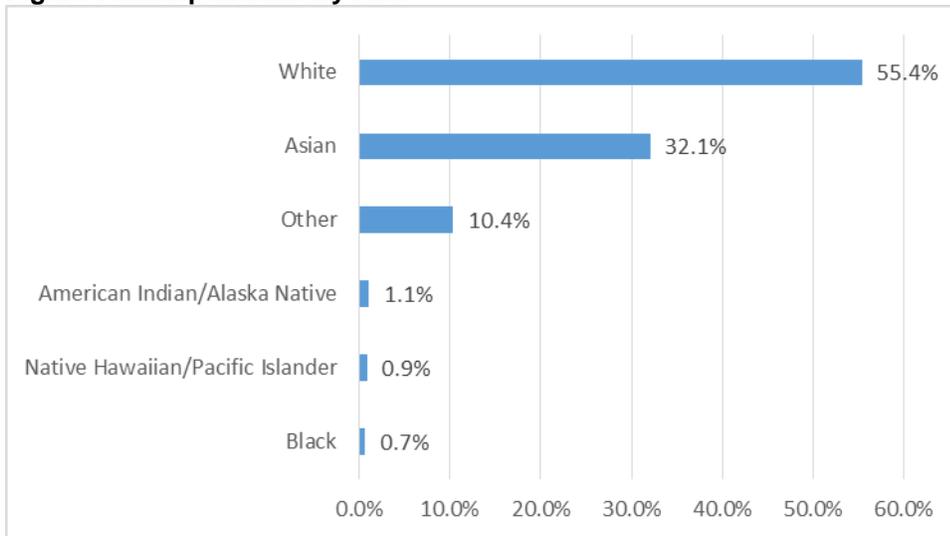
Age Range	Percentage
20 to 29	11.7%
30 to 39	29.9%

40 to 49	17.5%
50 to 59	19.3%
60 to 69	12.4%
70 to 79	5.7%
80+	3.6%

In terms of gender, 54.1% of respondents were male and 43.6% were female. About one percent reported their gender as “Other.”

In regards to ethnicity, just under one-quarter of respondents reported being of Hispanic, Latino or Spanish origin. For the race question, respondents could select all the options that applied to them. Over half of respondents reported being white (55.4%) while just under one-third were Asian (32.1%). Just over one in ten selected “Other” and in the open-ended space, most of these reported being “Hispanic” or “Mexican.”¹⁰ Some said they were “Indian” or “Indian-American” and others took offence at the question.

Figure 18: Respondents by race



When asked what language they mostly spoke at home, nearly three-quarters of respondents selected English (74.2%) and 6.4% selected Spanish. (As noted in the Methodology section, only one respondent completed the survey in Spanish). An additional 15.6% selected “Other,” and the most common responses in the write-in section were Chinese/Mandarin and Vietnamese.

As shown in the table below, about a quarter of respondents made less than \$75,000 per year. Respondents reported living in relatively high-income households, with 42.5% making \$150,000 per year or more.

Table 4: Respondents by income

Income bracket	Percentage
Less than \$15,000	5.3%
\$15,000 to 49,999	9.0%
\$50,000 to 74,999	9.6%

¹⁰ Many Hispanic Americans consider their Hispanic or Latino background as part of their racial identity. The Census is working to improve survey questions to address this. See Pew Research Center, “Is being Hispanic a matter of race, ethnicity or both?” <http://www.pewresearch.org/fact-tank/2015/06/15/is-being-hispanic-a-matter-of-race-ethnicity-or-both>

\$75,000 to 99,999	14.9%
\$100,000 to 149,999	13.4%
\$150,000 to 199,999	11.7%
\$200,000 to 299,999	16.1%
\$300,000 or more	14.7%

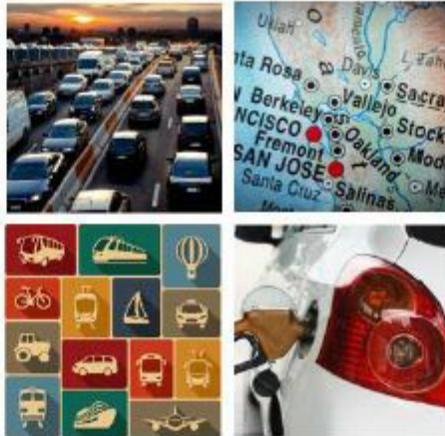
The final demographic question asked about educational attainment. Respondents tended to be highly-educated, with just under three-quarters of respondents having obtained a Bachelor's degree or higher.

Table 5: Respondents by educational attainment

Degree	Percentage
Some high school	2.20%
High school or GED	4.90%
Some college or trade school	17.50%
Bachelor's degree	39.20%
Master's degree	25.10%
Terminal degree (PhD, JD, etc.)	10.30%

F. Appendices

Mail Questionnaire



Santa Clara County Transportation Survey

This survey is sponsored by the County of Santa Clara. Your participation in this survey will contribute to a better understanding of regional transportation trends. Thank you for your participation!

MARKING INSTRUCTIONS

- Please use a No. 2 pencil or a blue or black ink pen.
- Please do not use pens with ink that soaks through the paper.
- Please make solid marks that fill the response completely.
- Please make no stray marks on this form

CORRECT: ● INCORRECT: ☒ ☓ ○ ⊖

Your Transportation

We'd like to begin by asking a few questions about your driving habits.

Q1. Do you drive a motor vehicle, regardless of whether it is for work or for personal use?

- Yes → CONTINUE TO Q2
 No → SKIP TO Q4

Q2. How many miles do you drive round-trip on a typical week day (ONE day between Monday and Friday)?

Please consider activities such as driving to work, running errands, dropping children at school or taking children to after-school activities.

- 0 to 10 miles
 11 to 20 miles
 21 to 30 miles
 31 to 40 miles
 More than 40 miles

Q3. Over the next 12 months, how many trips over 100 miles will you drive?

Driving from San Jose to Santa Rosa or from San Jose to Sacramento would be a trip that is 100 miles or more.

Q4. Compared to now, do you expect that the price of a gallon of gasoline will...

- Increase
 Decrease
 Stay about the same

Q5. How often do you use ridesharing/ride-hailing services, like Uber and Lyft? With these services, typically users request a ride, are picked up and driven in a private car, and payment and tipping are handled through an app or website.

- Almost every day
 A few times a week
 A few times a month
 A few times a year
 I do not use ridesharing/ride-hailing services

Q6. How often do you use car sharing services, like Zipcar? With these services, typically members use an access card to unlock and use a vehicle for a set amount of time.

- Almost every day
 A few times a week
 A few times a month
 A few times a year
 I do not use car sharing services

BART Silicon Valley

BART Silicon Valley is an extension of the San Francisco Bay Area Rapid Transit (BART) system. It is 16 miles and extends to Santa Clara. These next few questions ask you about BART Silicon Valley.

Q7. In general, how familiar are you with the BART Silicon Valley extension?

- Very familiar
 Familiar
 Somewhat familiar
 Not at all familiar
- Continue to Q8

IF YOU DRIVE A VEHICLE FOR WORK OR PERSONAL USE, SKIP TO Q10.
IF YOU DON'T DRIVE A VEHICLE FOR WORK OR PERSONAL USE, SKIP TO Q20.

Q8. How likely are you to ride BART Silicon Valley on a typical workday?

- Very likely
 Somewhat likely
 Somewhat unlikely
 Very unlikely

Q9. How likely are you to ride BART Silicon Valley on a typical weekend day?

- Very likely
 Somewhat likely
 Somewhat unlikely
 Very unlikely

Car Buying or Leasing

Next, we would like to know about the vehicles you currently drive, and the factors that you consider when deciding which vehicle to buy or lease. If you are unsure, please give us your best guess.

Q10. Do you or someone in your household currently own or lease a motor vehicle?

- Yes
 No → SKIP TO Q20

Q11. Think of the vehicle that you drive most frequently. What is the make, model, and year of this vehicle?

Q11a. Make: _____

Q11b. Model: _____

Q11a. Year: _____

Q12. On a typical day, do you use this vehicle to commute to work or school?

- Yes
 No

Q13. In a typical week, how many days do you drive this vehicle?

_____ days out of the week

Q14. When do you think you will buy or lease your next primary vehicle? Think of the motor vehicle that you drive most frequently.

- In the next six months
 More than six months but less than one year
 More than one year but less than two years
 More than two years from now

Q15. How old do you expect your next primary vehicle will be when you buy or lease it?

- New
 Up to 2 years old
 Up to 4 years old, or
 More than 4 years old
 Don't know

Q16. Would the next vehicle that you buy or lease to drive regularly, likely be a? Please select up to two answers.

- Subcompact or compact car (e.g., Toyota Corolla, Honda Civic, Ford Focus)
 Mid- or full-size car (e.g., Toyota Camry, Hyundai Genesis)
 Sports car (e.g., Ford Mustang, Chevrolet Camaro, Porsche 911)
 Mini or compact SUV (e.g., Honda CR-V, Ford Escape, Toyota RAV4, Lexus RX350)
 Mid- or full-size SUV (e.g., GMC Yukon, Ford Explorer, Hyundai Santa Fe, Toyota Land Cruiser, Cadillac Escalade)
 Mini- or mid-size pickup truck (e.g., Toyota Tacoma or Tundra, Ford Ranger or F150, Nissan Frontier, or Chevrolet Silverado)
 Full-size pickup truck (e.g. Dodge Ram)
 Minivan (e.g., Toyota Sienna, Honda Odyssey, Chrysler Town & Country)
 Van (e.g. Ford Econoline, Chevrolet Express)
 Don't know

Q17. Which of the following fuel types would you consider for your next primary vehicle?

Q17a. Gasoline

- This is my preference
 Would strongly consider
 Might consider
 Would not consider
 Don't know or unsure

Q17b. Diesel

- This is my preference
 Would strongly consider
 Might consider
 Would not consider
 Don't know or unsure

Q17c. Electricity

- This is my preference
 Would strongly consider
 Might consider
 Would not consider
 Don't know or unsure

Q18. How important is each of the following in selecting your next primary vehicle?

Q18a. Cargo/trunk space

- Very important
- Somewhat important
- Not important

Q18b. Towing capacity

- Very important
- Somewhat important
- Not important

Q18c. Safety

- Very important
- Somewhat important
- Not important

Q18d. Brand reliability

- Very important
- Somewhat important
- Not important

Q18e. Miles per gallon

- Very important
- Somewhat important
- Not important

Q18f. Exterior design

- Very important
- Somewhat important
- Not important

Q18g. Interior design or cabin

- Very important
- Somewhat important
- Not important

Q18h. Retail price

- Very important
- Somewhat important
- Not important

Q18i. Monthly payment

- Very important
- Somewhat important
- Not important

Q18j. Cash-back incentive

- Very important
- Somewhat important
- Not important

Q18k. Hybrid or electric drive

- Very important
- Somewhat important
- Not important

Q18l. Performance (acceleration or handling)

- Very important
- Somewhat important
- Not important

Q18m. Technology like GPS, Bluetooth, and dashboard

- Very important
- Somewhat important
- Not important

Q18n. Environmental impact

- Very important
- Somewhat important
- Not important

Q18o. Quiet cabin

- Very important
- Somewhat important
- Not important

Q18p. All-wheel drive

- Very important
- Somewhat important
- Not important

Q18q. The monthly cost of fuel

- Very important
- Somewhat important
- Not important

Q19. Which of the following brands would you consider buying or leasing for your primary vehicle? Select all that apply.

- Toyota
- Honda
- Ford
- Nissan
- Chevrolet
- Lexus
- BMW
- Mercedes
- Hyundai
- Volkswagen
- Dodge
- Kia
- Tesla
- Other: _____

Car Buying or Leasing

Q20. What words come to mind when you think about an electric vehicle?

Q21. When you think of electric vehicles, what specific model names come to mind first?

Q22. Do you, or does a member of your household, currently own/lease an electric vehicle?

- Yes → SKIP TO Q24
- No

Q23. Have you, or has a member of your household, ever owned or leased an electric vehicle?

- Yes
- No

Q24. Have you ever driven an electric vehicle?

- Yes
- No → SKIP TO Q25

Q24a. What was the make and model of the electric vehicle you have driven most recently?

Make: _____

Model: _____

Q25. How much you agree or disagree with each of the following statements?

Q25a. Electric vehicles are an affordable option for me.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q25b. Electric vehicles are the most fuel efficient option available.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q25c. Electric vehicles are the most environmentally friendly vehicles out there.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q25d. Electric vehicles have great performance.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q25e. I could use an electric vehicle to drive to most places I regularly drive.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q25f. Electric vehicles are very quiet.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure



Q25g. Electric vehicles are safe.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q25h. Electric vehicles save money on fuel.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q25i. Sales of electric vehicles in California will continue to increase.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q25j. I am familiar with electric vehicles.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q25k. In the next three years, I expect to own or lease an electric vehicle.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q25l. I like electric vehicles.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q25m. Electric vehicles look good.

- Strongly disagree
- Disagree
- Agree
- Strongly agree
- Don't know/unsure

Q26. How familiar are you with financial incentives to buy or lease an electric vehicle offered by the State of California?

- Not at all familiar
- A little familiar
- Somewhat familiar
- Very familiar

Q27. How familiar are you with financial incentives to buy or lease an electric vehicle offered by the Federal government?

- Not at all familiar
- A little familiar
- Somewhat familiar
- Very familiar

Q28. From which of the following sources have you gotten information about electric vehicles? **Mark all that apply.**

- Electric vehicle owners
- Family, friends, or neighbors
- Radio, television, or newspapers
- Social media (e.g., Facebook, Twitter, LinkedIn, and others)
- Online reviews or articles
- Other source

About You

Lastly, we'd like to ask you some questions about yourself and your household. Your answers will be combined with responses from other Santa Clara residents for analysis.

Q29. Not counting yourself, how many adults age 18 or older live in your household?

Q30. How many children under the age 18 or older live in your household?

Q31. Including yourself, how many members of your household regularly drive?

Q32. Which of the following best describes your primary residence?

- Single family home
- Apartment
- Condominium or Townhouse
- Mobile home
- Other

Q33. Which of the following best describes the type of parking at your residence?

- Private garage, either attached or separate from your residence
- Parking in your building
- Community garage/parking area detached from your residence
- A driveway, either covered or uncovered, next to your residence
- Open street parking

Q34. Do you currently own or rent your residence?

- Own
- Rent

Q35. In what year were you born?

Q36. What is your gender?

- Male
- Female
- Transgender male
- Transgender female
- Non-binary
- Genderqueer
- Other (please describe)

Q37. Are you Hispanic, Latino/a, or of Spanish origin?

- No, I am not Hispanic/Latino/of Spanish origin
- Yes, I am Hispanic/Latino/of Spanish origin

Q38. Which of the following best describes you? Please select all that apply.

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or other Pacific Islander
- Other

Q39. What language do you MOSTLY speak at home?

- English
- Spanish
- Other _____

Q40. What was your total household income from all sources in 2016 before taxes?

- Less than \$15,000
- \$15,000 to 49,999
- \$50,000 to 74,999
- \$75,000 to 99,999
- \$100,000 to 149,999
- \$150,000 to 199,999
- \$200,000 to 299,999
- \$300,000 or more

Q41. Please select your highest level of education achieved.

- Some high school
- High school or GED
- Some college or trade school
- Bachelor's degree
- Master's degree
- Terminal degree (PhD, JD, etc.)



That completes the survey. Thank you very much for your time and cooperation!
Please return this survey in the postage-paid envelope provided.

