

**FACILITATING
LOW INCOME UTILIZATION
OF ELECTRIC VEHICLES:
A FEASIBILITY STUDY**



Puget Sound Clean Air Agency

Report prepared for: Washington State Department of
Transportation, Innovative Partnerships Office

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- ECOSS
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- Greenlining Institute
- King County Housing Authority
- Lopez Community Land Trust
- Mt. Baker Housing Village
- OPAL Community Land Trust
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EXECUTIVE SUMMARY

INTRODUCTION

Addressing barriers and providing underserved communities with more opportunities to access electric vehicles is the focus of this study and proposal. We considered affordability and sustainability in designing the pilot projects with a focus on shared mobility to reduce costs. To gain a robust understanding of the national landscape of electric vehicle and infrastructure incentives, the transportation barriers and opportunities in our region, and evaluate opportunities to pilot an electric car-sharing service, the Puget Sound Clean Air Agency undertook an extensive review of existing programs and incentives pertaining to electric vehicle adoption and car-share models and conducted a mobility needs assessment in the Puget Sound region.

HIGHLIGHTS OF STUDY:

- There is a strong interest in electric car-share from the low-income communities in the study.
- Accessible electric vehicle charging is essential to electric vehicle adoption.
- Most people are not knowledgeable about electric vehicles.
- A large percentage of respondents are comfortable with the idea of driving electric vehicles.
- Younger residents are more likely to try electric car-sharing.
- Nine low-income organizations and eleven properties participated in the survey; 603 residents responded to the survey, which was translated into seven different languages.
- The proposal includes two potential pilot project models that could successfully introduce electric car share to low-income communities.

Transportation is the number one source of air and climate pollution in the Puget Sound region, accounting for over 40 percent of greenhouse gas (GHG) emissions into the atmosphere. Outdoor air pollution can cause heart attacks, asthma, strokes, cancer, and premature death.¹ An estimated 1,100 people die prematurely each year in Washington State due to outdoor air pollution.² These effects have disproportionate impacts in underserved communities and people of color.

In our region, the communities that bear the highest impact of air pollution also tend to be those with greater socioeconomic challenges. For example, housing developments near high traffic areas are often occupied by lower-income residents and people of color. These communities face higher exposure to diesel exhaust.³ These communities have been frequently left out of finding solutions to air quality issues.

¹ "2016 'State of the Air' Report Finds More than Half of Americans Live with Unhealthy Levels of Air Pollution." American Lung Association, 20 Apr. 2016, www.lung.org/about-us/media/press-releases/2016-state-of-the-air.html.

² Taylor, Marsh. "Health Effects and Economic Impacts of Fine Particle Pollution in Washington." Department of Ecology State of Washington, 15 Dec. 2009, fortress.wa.gov/ecy/publications/documents/O902021.pdf.

³ Kay, Jane. "Pollution, Poverty and People of Color: Living with Industry." Scientific American, 4 June 2012, www.scientificamerican.com/article/pollution-poverty-people-color-living-industry/.

Electric vehicles (EVs) offer one solution to reducing GHG emissions and health impacts. These vehicles draw electricity directly from the grid and store it in batteries. Vehicles that run only on electricity produce no tailpipe emissions. Electricity generation in the Pacific Northwest has a large portfolio of renewable sources of power, making it one of the cleanest grids in the nation. Therefore, using an electric vehicle makes it one of the cleanest options for vehicle travel. In addition, the cost of “fueling” with electricity is considerably less than the cost of gasoline – Washington has the least expensive electricity in the nation – so families can save money over time by using EVs instead of gas-powered cars.

Although EVs significantly reduce air and climate pollution and provide cost savings, there is unequal access to the technology. There are barriers that make the vehicles less accessible to some drivers, including low-income communities. New EVs can have slightly higher up-front costs than traditional vehicles and can be out of reach for most families and individuals in lower-income bracket. Access to charging infrastructure is another barrier since many low-income drivers often live in multi-unit dwellings that do not provide EV charging accessibility. Other barriers associated with adopting EVs include the cost of insurance, lack of financing options, range anxiety, and lack of model availability.

Policies promoting electrification have the potential to improve the quality of life for low-income communities. Providing charging infrastructure at affordable rates in multi-family housing would reduce barriers to electric vehicle adoption, and incentives for electric vehicle purchasing could be prioritized for lower income households. Another option is providing electric car-share options.

SHARED MOBILITY

Car-sharing is a mobility service that offers drivers’ access to a shared vehicle for short-term rentals. A study at the University of California, Berkeley⁴ that surveyed 9,500 car-share users documented several benefits from car-sharing:

- 25 percent of members sold a vehicle and 25 percent postponed a vehicle purchase.
- Each car-sharing vehicle replaces between nine and 13 vehicles.

Other research indicates that households save \$154 to \$435 monthly after joining a car-share program. These savings benefit families that spend a disproportionate share of their income on transportation.⁵

According to the Shared-Use Mobility Center⁶, car- sharing can also:

- Provide more mobility choices
- Offer last mile and first mile solutions
- Reduce traffic congestion
- Mitigate various forms of pollution
- Reduce transportation costs
- Create accessible mobility options for those with limited physical ability

⁴ Martin, Elliot, and Susan Shaheen. Greenhouse Gas Emission Impacts of Carsharing in North America. 4 Dec. 2011.

⁵ Espino, Joel, and Vien Truong. “Electric Carsharing in Underserved Communities: Considerations for Success.” The Greenlining Institute, 4 May 2018, [greenlining.org/issues/2015/electric-carsharing-underserved-communities-considerations-program-success/](https://www.greenlining.org/issues/2015/electric-carsharing-underserved-communities-considerations-program-success/).

⁶ “What Is Shared Mobility?” Shared-Use Mobility Center, [sharedusemobilitycenter.org/what-is-shared-mobility/](https://www.sharedusemobilitycenter.org/what-is-shared-mobility/).

Most car-share programs primarily offer vehicles with internal combustion engines. Although the above benefits are realized when using a car-sharing service, utilizing an electric vehicle can increase some of these benefits including mitigating emissions and transportation costs.

PURPOSE

The Puget Sound Clean Air Agency (PSCAA) undertook this study to identify opportunities and barriers pertaining to the use and purchase of electric vehicles by low-income residents of Washington State, and to develop a pilot project to address barriers to electric vehicle adoption and to promote electric car-sharing. The study also addresses how to affordably provide electric vehicle transportation on a broad scale that meets the needs of low-income communities.

This study:

- Evaluated incentives and programs designed to promote electric vehicle transportation options for the general public, with a specific focus on low-income populations.
- Assessed the mobility needs of low-income communities associated with nine organizations in the Puget Sound region and San Juan Islands to explore whether a car-share program would provide a useful transportation option.
- Conceptualized a pilot electric car-sharing program for low-income communities. This project focused efforts on areas where public transportation is limited. This included:
 - Identifying and evaluating prospective low-income housing sites.
 - Developing a project framework, budget, and timeline, and exploring partnerships with community stakeholders.

KEY FINDINGS

This report's key findings:

FINDINGS FROM AFFORDABLE HOUSING ORGANIZATIONS

- **There is a strong interest in electric car-share from the affordable housing organizations surveyed.** Most of the organizations we engaged with during this project were highly interested in developing a program. There are also many other stakeholders who are supportive of this concept.
- **Housing authorities face challenges in funding new program.** In most cases, their budgets are already allocated to other programs. Through our interviews and discussions with affordable housing organizations, we heard frequently that there is little funding or extra staff capacity to add a new program to their properties.

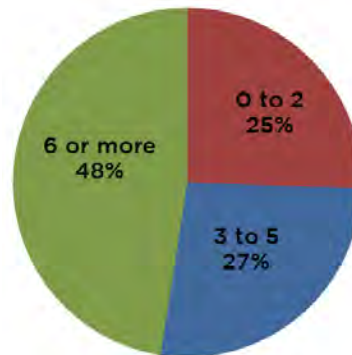
FINDINGS FROM LITERATURE REVIEW

- **Accessible electric vehicle charging is essential to electric vehicle adoption.** The most convenient and affordable method of charging is to charge at home however, the vast majority of individuals who live in multi-family housing do not have access to adequate charging infrastructure at home. Multi-family housing needs to provide charging infrastructure by requiring all new construction to include charging infrastructure and providing incentives for retrofits for existing development.

FINDINGS FROM SURVEYED COMMUNITIES

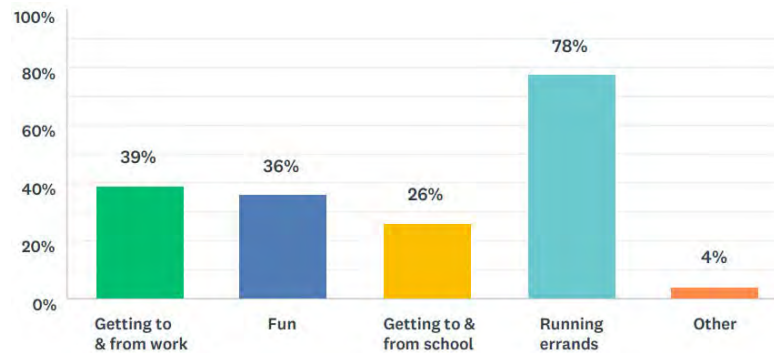
- **Single occupancy vehicles are the most common mode of travel.** The survey results indicated that single occupancy vehicles used for the purposes of taking family to appointments, children to activities, and other errands like grocery shopping is the most common way people are moving around.

Car alone each week



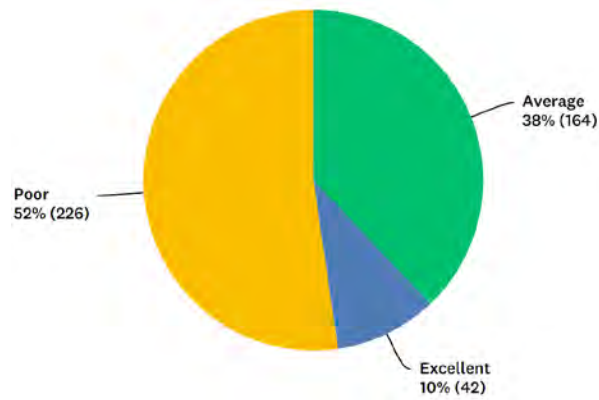
Trips per week alone in a car

- **Transporting family and buying groceries is the highest vehicle usage.** Most respondents indicated that they primarily need a car for running errands such as transporting family to medical appointments, transporting children to activities, and grocery shopping.



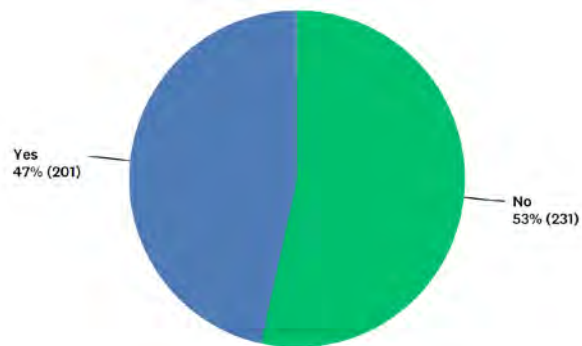
When Do You Most Need A Car?

- **Most people are not knowledgeable about electric vehicles.** One of the largest barriers to electric vehicle adoption is lack of knowledge about the technology. For electric vehicle adoption to increase in the low-income sector, community-based education and outreach on the benefits of electric vehicles and how they work are essential.



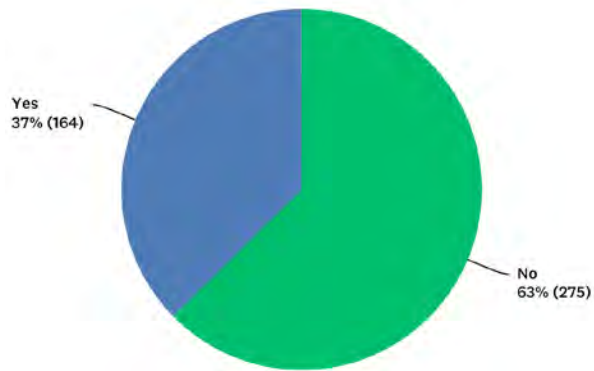
How Much Do You Know About Electric Cars?

- **A large percentage of respondents are comfortable with the idea of driving electric vehicles.** Although there is little knowledge of electric vehicles, there is high interest in driving them. Targeted education and outreach to low-income communities could enhance their understanding of electric vehicles and their potential benefits.



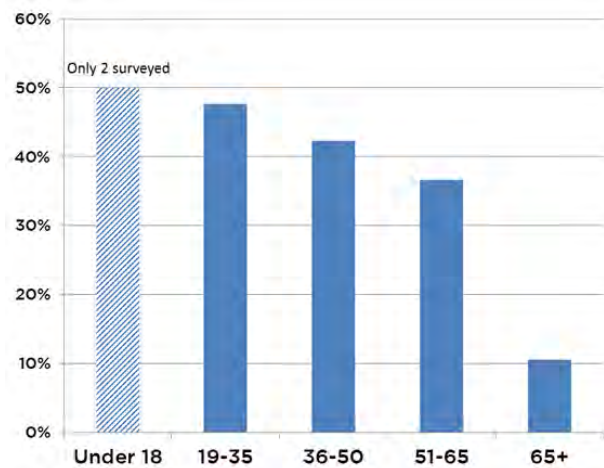
Would You Be Comfortable Driving An Electric Car?

- **Affordability and convenience in transportation.** When asked about the top concerns about using a car-sharing service, the cost and ease of accessing the vehicle were top priorities.
- **Car-sharing is more accepted in locations that are not adjacent to alternative modes of transportation.** Electric car-share programs are most sought after by low-income communities that do not have regular access to public transportation.
- **Car-sharing program have some interest among residents.** Existing usage of car-share services is low in these communities. But there is a modest interest in utilizing car-sharing services near housing properties.



Would You Use A Car-Sharing Service If It Was Close By?

- **Younger residents are more likely to try electric car-sharing.** Residents surveyed who were more than 65 years old were significantly less interested in taking advantage of an electric car-sharing program.



Percent Of Age Group That Would Use A Car-share Service That Hasn't Before

RECOMMENDATIONS

Our research concludes that a car-share program would be a useful service for many of the low-income housing communities we surveyed. A car-share program would augment existing transportation options, and provide an affordable alternative to car ownership. Offering an electric car share provides additional cost-savings over the long run, in the form of reduced operating, maintenance and fuel costs. Electric car share also contributes to regional air quality and climate protection goals. Familiarity with electric cars is low, however many participants in our study expressed openness to driving electric vehicles.

We found four organizations that are ready to move forward based on the organization's interest, resident interest, and transportation needs. South Park Information Resource Center has a transportation need that can be filled by utilizing electric vehicles. Lopez Community Land Trust already has charging infrastructure installed and is interested in developing a car-sharing program. King County Housing Authority is installing an electric charging station on-site. OPAL Community Land Trust is in the planning phase for a new community that will include an electric car-share option. These properties range in transportation needs and have the ability to fill a transportation gap in properties that are not served well by transit. Seattle House Authority properties also generated a lot of interest in a car-sharing service, although not every property we surveyed was interested.

Based on input gathered through this study, we've developed two car-share model concepts that we recommend piloting in these communities that are ready to go. One model entails a community-owned, shared vehicle. Management of the vehicle would be the responsibility of the host property and its community members. In the second model, the host property would commission a third party car-sharing service that owns and manages the vehicle. Both models emphasize outreach and education as an essential component of success.

The other organizations that we spoke with are interested but do not yet have the capacity to take on this type of project at this time. For these properties, we recommend additional outreach to residents and evaluation of different properties before a car-share pilot program is launched. There are many properties at these organizations and have the opportunity to expand a pilot project to many other communities.

POLICY RECOMMENDATIONS

There are several state-wide policy recommendations that could greatly enhance the utilization of electric vehicles on a large scale for low to middle-income communities. These include the following:

- Multi-Family Housing EV Charging: Modify building codes to require the installation of electric vehicle charging infrastructure for all new Multi-Family housing.
- Electric Vehicle Charging Stations: Authorize utilities to provide and incentivize construction and operation of EV charging stations.
- Zero Emission Vehicle (ZEV) Standard: Require automakers to make a broad range of ZEVs available in our state, which would greatly enhance the current types of EVs available to consumers. Ten states currently have a ZEV Standard. This will increase the number of ZEVs in our state and make electric vehicles more accessible for everyone.

- ZEV incentives. Provide low-income incentives for the purchase of light-duty zero-emission vehicles and revise and re-enact electric vehicle tax incentives.
- Clean Fuel Standard. Implement a Clean Fuel Standard that will incentivize cleaner transportation fuels, such as electricity. This will support additional charging infrastructure and, through the credit market, could provide incentives for lower-income buyers.

Lastly, we recommend continued dialogue amongst all stakeholders interested in advancing electric mobility within low-income communities. Community-based organizations can help educate communities about the car-sharing program and electric vehicles uses. These programs are intended to be sustainable and create a sense of ownership by the community. Providing multi-language services and working with the communities at large can help strengthen the benefits of an electric car-sharing program.

SECTION 1: INCENTIVES AND RESEARCH

This first section is a summary evaluation of our initial findings related to incentives and programs designed to promote electric vehicle transportation options for the general public, with a specific focus on low-income populations. The objective is to gain an understanding of existing, planned or past incentives and programs geared toward low-income electric vehicle utilization. We have expanded this search to also include broad-based incentives and programs for the general public. These types of opportunities, while not specifically focused on low income, can benefit low-income individuals and communities and facilitate low-income utilization of electric vehicles.

Transportation, and especially access to automobiles, plays an important role in shaping the economic outcomes of low-income households.⁷ Automobiles can enable individuals to have better access to potential employment and retain employment, as well as achieve higher levels of school performance and reduce racial disparity in employment rates.⁸ This is especially true for low-income women who often have household and childcare responsibilities along with paid work. The ability to drive provides them with extra time and flexibility.⁹ In addition, lower-income families increasingly live farther away from public transportation, which can create an added challenge for the first and last portion of their trips.¹⁰

Our research identified numerous pilot projects focused on low-income utilization of electric vehicles, many just getting underway and too new to evaluate effectiveness. We have also discovered similar evaluation work underway through other organizations and are communicating with them on an ongoing basis to share information and ideas. Our intent is to continue to monitor developments within these new pilot programs and evaluation efforts and to use that information to update our findings as appropriate.

Car-sharing can increase access to affordable mobility options; however, it is highly dependent on the fees and level of use. EV shared-use mobility programs can also increase exposure to the EV technology in underserved communities. There are many shared mobility models ranging from the small-scale community focused to large-scale region-wide focus. It is encouraging to identify numerous forward-looking jurisdictions, utilities, and public transit systems across the US that are moving towards equitable models with a climate-friendly and environmentally conscious focus.

A consortium of transportation experts developed the Shared Mobility Principles for Livable Cities to guide urban decision-makers and stakeholders in developing transportation models that are equitable and climate-friendly. C40 Cities Climate Leadership Group, ICLEI – Local Governments for Sustainability, Institute for Transportation and Development Policy, Natural Resources Defense Council, Partnership on

⁷ Alexander Walsh and Nick Nigro, Atlas Public Policy, April 2017. EV Shared-Use Mobility Program: A Transportation Electrification Concept. <https://atlaspolicy.com/>

⁸ Raphael and Stoll, 2001. Can Boosting Minority Car-Ownership Rates Narrow Inter-Racial Employment Gaps? Brookings-Wharton Papers on Urban Affairs. Brookings Institution Press

⁹ Blumenberg, 2004. Beyond the Spatial Mismatch: Welfare Recipients and Transportation Policy. Journal of Planning Literature. <https://journals.sagepub.com/doi/10.1177/0885412204269103>

¹⁰ The Greenlining Institute, January 2015. Electric Car-sharing in Underserved Communities: Considerations for Program Success.

Sustainable Low Carbon Transport (SLoCaT), Rocky Mountain Institute, Shared-Use Mobility Center, and WRI Ross Center for Sustainable Cities have all endorsed these principles and have developed the following vision statement:

“Sustainable, inclusive, prosperous, and resilient cities depend on transportation that facilitates the safe, efficient, and pollution-free flow of people and goods, while also providing affordable, healthy, and integrated mobility for all people.”¹¹

This project is in alignment with this vision and we hope the outcomes will contribute to the shared goals of equitable prosperity and sustainability. The social benefits gained through the programs outlined below provide sufficient reasons to pursue projects and programs in this realm. Proposals for potential projects will be addressed in Deliverable 2.

METHODOLOGY

We conducted an extensive review of existing programs and incentives pertaining to electric vehicle adoption and car-share models across the country. The primary methods used for this component of the evaluation are:

- Literature review of former, planned, and existing incentives and programs to promote electric vehicle adoption for the general public, with a focus on lower income populations.
- Literature review of car-sharing platforms with a focus on lower income users.
- Conversations with organizations that are designing, implementing, and evaluating shared mobility programs. Primary questions asked of these organizations were:
 - What have you identified as barriers?
 - What ideas do you have to overcome barriers?
 - What incentives, policies, and actions have worked?

We also conducted a mobility needs assessment survey of low-income residents, along with focus group discussions, to help us identify and understand any other considerations. We provide the findings from the survey and focus groups in Section 2 of this report.

¹¹ Shared Mobility Principles for Livable Cities. <https://www.sharedmobilityprinciples.org/>

BARRIERS AND OPPORTUNITIES FOR INDIVIDUAL OWNERSHIP, CAR-SHARING, AND RIDESHARE PLATFORMS

Research from the literature review indicated that a majority of car-share consumers rarely use a car-sharing service for daily commutes, such as trips to work and school. Most common uses are for grocery and other shopping, medical appointments, personal errands, and recreation. Some of the fundamental barriers to electric vehicle access for low-income residents are affordability, ability to charge, and awareness of options. Other barriers include access to technology, banking, and the need for family-size vehicles (i.e. mini-vans). We have outlined identified barriers and challenges below, as well as best practices, opportunities, and incentives from existing, planned, and past programs.

BARRIERS

COST

Cost is a barrier for many low-income drivers. The initial purchase price of new electric vehicles can be higher than an internal combustion engine vehicle. Cost is also a barrier with many of the for-profit shared vehicle platforms. There are some government and utility subsidized models that are trying to address this barrier. These are described in more detail below, and in Table 1.

CHARGING INFRASTRUCTURE

Industry-wide, EV drivers do more than 80 percent of their charging at home. A majority of low-income households are within multi-family housing developments that do not provide the ability to charge electric vehicles at home. Charging at home is usually the lowest cost method of charging. Without this ability, lower-income households are at a disadvantage for electric vehicle adoption.

LEVEL OF AWARENESS

The level of awareness of electric vehicle technology is low for the general public. There are many misperceptions about electric vehicles, including a misunderstanding that electric vehicles are more expensive. Studies have shown that the overtime lifetime cost of an electric vehicle is considerably less than a conventional internal combustion engine vehicle.

Much of the cost savings is from the lower cost of electricity to charge versus the cost of gasoline, however, there are also significant savings from the lack of maintenance that is required for an electric vehicle. Replacing an internal combustion engine with an induction motor greatly reduces the number of parts that need to be maintained and replaced. For instance, electric vehicles require no oil changes, spark plugs, or transmission fluid. There are no belts, mufflers, or tailpipes. In addition, electric vehicles utilize regenerative braking, which results in the brakes lasting much longer before needing replacement.

TECHNOLOGY

Another common barrier to car-sharing models is the lack of availability of technology to manage reservations. Car-sharing models almost exclusively depend on online reservation systems. Many low-income individuals do not own smartphones or computers and are not able to operate in an online platform.

INSURANCE

For several smaller start-ups and pilot programs, the cost and availability of insurance have been a barrier to affordable and sustainable operations. Buffalo Car-share, described below, was one casualty of insurance restrictions. Shared mobility has challenged conventional insurance models. The major insurance risks associated with car-sharing are the members' driving ability and theft and vandalism while vehicles are parked. Risk management can address some of these concerns, such as requiring members to have a clean driving record, providing the technological capacity to help prevent accidents, and cameras that could monitor car-sharing parking spaces.¹²

OPPORTUNITIES

There are numerous programs and projects underway across the US to address equitable climate-friendly transportation needs. California is a leader in this arena with policies and funding being provided to further EV adoption throughout the state, with incentives for lower-income populations. Austin Energy is another example of a leader in providing affordable vehicle electrification incentives.

INCENTIVES AND BEST PRACTICES

Time of Sale Incentives: Studies have shown that time-of-sale incentives are the largest contributor to the increase in electric vehicle sales. Twenty-two states are currently offering a time-of-sale incentives such as tax exemption or rebates. Washington's sales tax exemption expired in 2018.

Beyond time-of-sale incentives, charging infrastructure availability and consumer awareness are the strongest EV market drivers for the general public.

Charging infrastructure: The availability of charging stations reduces range anxiety and studies show this is a strong driver of adoption. Currently, 27 states have provided incentives and financing to reduce the cost of constructing electric vehicle charging stations. There are hundreds of charging stations available for public use in the Puget Sound region. In Seattle, a program to provide Electric Vehicle Charging in the Public Right-of-Way (EVCROW) allows the installation of publically available Electric Vehicle (EV) charging stations at curbside locations in the public right-of-way.

The least expensive and most convenient option for "refueling" electric vehicles is to plug in at home if there is an outlet that is accessible. In most single-family homes, this works well, however, in multi-family developments, this is usually a barrier. Incentivizing charging infrastructure in multi-family housing would greatly reduce one of the barriers to adoption.

AUSTIN ENERGY

Austin Energy's Electric Vehicle program provides cost-effective charging city-wide as well as incentives to encourage new and existing multi-family development to install EV charging infrastructure. Over 40 percent of Austin's population lives in multi-family properties. Austin Energy has recognized that affordable and reliable access to electric vehicle charging is essential for EV ownership in lower-income

¹² The Greenlining Institute, January 2015. Electric Car-sharing in Underserved Communities: Considerations for Program Success. <http://greenlining.org/wp-content/uploads/2015/01/Electric-Carsharing-in-Underserved-Communities-spreads.pdf>

communities. In addition, all charging stations within the Austin Energy program are powered by 100 percent renewable wind energy.

Austin Energy provides rebates up to \$4,000, or 50 percent of the cost to install approved Level 2 (240V) charging stations and/or EV Level One (120V) outlets. They also provide rebates up to \$10,000 to entities who want to install a DC Fast Charger. EVs growth rate in Austin is nearly 200 percent over the last few years.

Austin Energy's Plug-in EVerywhere network allows unlimited charging at public stations for just \$4.17 per month, including fast charging. This is the most affordable charging network we have identified.

PUGET SOUND ENERGY

In 2018, Puget Sound Energy filed a portfolio of pilot programs to promote market transformation in the light-duty electric vehicle market. In designing these pilot programs, PSE has strived to meet the letter and intent of the Washington Utilities and Transportation Commission's (WUTC) Final Policy Statement¹³ on EV charging services, while also meeting the Washington Legislature's direction to promote EVSE on a regulated basis, in order to accelerate EV adoption to serve multiple public policy purposes.¹⁴

Included in their portfolio is a pilot program designed to support and improve customer access to transportation electrification targeted at low-income customers. Puget Sound Energy created a partnership with Community Action Program Agencies that provide transportation services to low-income customers. There are three proposed programs including medical transportation, dial-a-ride, and multi-family housing services. Each of these programs targets a large demographic of their customer base and address various needs of the community.

Scrap and replacement: California's Clean Cars 4 All program provides incentives to lower-income drivers to scrap their older, high-polluting car and replace it with zero or low emission replacement. The program also focuses on the education of the new technologies.

Public awareness: Broadening consumer awareness of the advantages and availability of electric vehicles is imperative for EV adoption. There are many misunderstandings and misperceptions about EVs. For instance, most people who have never driven an electric vehicle do not realize that the EV technology requires far less maintenance than a standard internal combustion engine vehicle and that EVs cost far less to operate. Promoting an education and public awareness initiative to help Washingtonians discover the benefits of electric driving will boost EV adoption.

POLICIES

There are numerous policies that are being implemented in California and other jurisdictions to address barriers to low-income utilization of electric vehicles. Reducing cost and making charging more accessible is the most common.

¹³ Policy and Interpretive Statement Concerning Commission Regulation of Electric Vehicle Charging Services, Docket UE-160799. <https://www.utc.wa.gov/docs/Pages/ElectricVehicleSupplyEquipment,DocketUT-160799.aspx>

¹⁴ Policy and Interpretive Statement Concerning Commission Regulation of Electric Vehicle Charging Services, Docket UE-160799, Paragraph 22. SHB 1853, Section 1, Paragraph 3.

- California's Green Building Standards require new multifamily housing developments with 17 units + to install EV charging infrastructure in at least 3 percent of parking spaces.
- California prioritizes EV rebates for low-income individuals and the 'Clean Cars 4 All' program provides low-income eligible applicants compensation of \$2,500 towards replacing high-emission vehicles.
- Oregon provides purchase rebates to all low-moderate income drivers and an additional rebate for individuals who live in an area with elevated concentrations of air pollution.

CAR-SHARE AND RIDESHARE PROGRAMS

A study completed by the Transportation Sustainability Research Center at the University of California, Berkeley of approximately 9,500 participants in car-sharing programs in U.S. and Canada documented numerous benefits of car-sharing, including:

- 25 percent of members sold a vehicle and 25 percent postponed a vehicle purchase due to car-sharing;
- Each car-sharing vehicle replaced between nine to 13 vehicles (including sold vehicles and postponed purchases);
- Car-sharing participants reduced vehicle miles traveled and greenhouse gas emissions by up to 43 percent, including vehicles sold and postponed purchases.
- Other research has indicated that households typically save money after joining car-sharing.

We have provided a summary below of some of the more noteworthy efforts we have identified that have provided increased EV access to low-income drivers who choose car and ridesharing opportunities.

CALIFORNIA

In 2014, California launched the Charge Ahead Initiative, with the goal of deploying one million electric vehicles by the year 2023. As part of the initiative, the California Air Resources Board (CARB) created electric vehicle sharing pilot projects in low-income and moderate-income communities. The intent was to simultaneously improve low-income transportation access while mitigating climate change and reducing air pollution. Two of the projects that are outcomes of this initiative are the Watts Community Revitalization and BlueLA.

WATTS COMMUNITY REVITALIZATION

On The Watts Rising Collaborative is comprised of 16 co-applicant organizations led by the Housing Authority of the City of Los Angeles (HACLA). The project includes construction of 81 affordable housing units for the Phase 2A of the Jordan Downs redevelopment. The project will electrify ten DASH buses serving Watts and will launch an electric vehicle car sharing and shuttle program to serve the community.

There was significant community engagement undertaken to develop the \$35 million proposal, which approved January 2018 by the California Strategic Growth Council (SGC). Funding is being provided through the Transformative Climate Communities (TCC) grant program.

BLUELA

The BlueLA Electric Car Sharing Program, in partnership with the City of Los Angeles DOT, is the nation's largest EV car-sharing program for underserved communities. The focus of the program is to reduce greenhouse gas emissions and provide low-income communities with clean, affordable transportation options. Extensive outreach and education were conducted with over 140 community events to increase awareness of affordable, clean transportation options. Low-income users receive reduced rates of 15 cents a minute.

They have deployed 100 electric vehicles and 200 charging stations in lower-income neighborhoods surrounding downtown. This is a public-private partnership with funding from CARB, the City of Los Angeles, and a French car-sharing company Bolloré group.

CITY CARSHARE

City CarShare is a nonprofit “with a mission to improve the environment and quality of life in our communities by promoting innovative mobility options.” City CarShare in San Francisco has 45 percent all-electric and hybrid vehicles. City CarShare reduces membership service and rental fees for low/moderate-income residents. It has operated primarily in San Francisco’s low-income neighborhood of Bayview and is expanding affordable car-sharing services to other low-income neighborhoods. Members save an estimated average of \$8,400 per year in costs associated with car ownership.

COMMUNITY ELECTRIC VEHICLE PROJECT

On a much smaller scale, Forth, in partnership with Hacienda CDC purchased three Honda Fit EVs to develop a low-income car-sharing pilot program. One vehicle was set aside for staff use and two for residents through a peer-to-peer car sharing platform. The overall number of participants was low, with a total number of 66 rides. Other concerns identified during the program were insurance, software, banking, and technology barriers. The project achieved some level of success but was not sustainable.

LOPEZ COMMUNITY LAND TRUST – COMMON GROUND

Another small-scale project was initiated by Lopez Community Land Trust (LCLT), a non-profit located on Lopez Island in Washington State. LCLT’s Common Ground, completed in 2009, is a sustainable net zero energy project. Features include straw bale construction with earthen plaster, rainwater catchment, solar hot water, and a grid-tied solar electric system. This is a mixed-income development of 24 homes along with an office/resource center.

In 2012 LCLT purchased a used GEM EV as a community shared vehicle. They set-up a simple hard-copy calendar inside the vehicle with the key (this is a very low-crime neighborhood). Drivers recorded their mileage on a tracking sign-in sheet. It was largely run on an honor system. They charged a per mile fee that was determined by including the cost of electricity, maintenance, replacement, and insurance. The vehicle had a high use pattern of daily trips. The program was in place for eight months. The failure of the program resulted from too many maintenance concerns that could not be easily remedied by a local mechanic. Lopez Island is in a remote area with a lack of mechanical expertise for GEM vehicles.

BUFFALO CARSHARE

Buffalo CarShare was a nonprofit community-driven organization with the mission to advance affordable and environmentally friendly transportation. Buffalo CarShare’s business model was developed to serve the community at large, with over half of its customers in the low-income range. The service included some electric vehicles. Buffalo CarShare estimated savings of over \$377,000 on transportation costs for its very low-income members. They initiated operations in 2009 and, although growth was steady, issues with insurance forced them to close and they sold their assets to ZipCar in November 2015.

Philadelphia Insurance ended their coverage in part because they couldn't make the profits they wanted from Buffalo CarShare due to the state's insurance laws. In New York, the personal injury protection law requires the insurance carrier to pay for the medical bills. There was no other insurance carrier willing to offer them coverage because of the no-fault law and the volume of drivers and use.

CITY OF SEATTLE

The City of Seattle has been heavily involved in the transportation electrification space. Through an aggressive initiative called Drive Clean Seattle, the city has led by example with rapid fleet electrification and now has one of the largest municipal fleets of electric vehicles in the nation. This initiative also calls for significant infrastructure investment by Seattle City Light, identifying opportunities for public/private partnerships, and pilot projects to help accelerate transportation electrification. To maximize the benefits of a clean transportation system for disadvantaged communities, the City has worked closely with the Environmental Justice Committee for guidance on how to implement electrification projects in marginalized communities. The Environmental Justice Committee has provided a comprehensive list of recommendations to inform future initiatives in the transportation electrification space.

The community car share pilot will deploy at least one pilot project for community EV car share that is designed in partnership with community members. Level 2 charging stations and supporting vehicles will likely be provided in a location identified by the community to increase access to electrified mobility particularly around affordable daycare sites or near home health care workers and/or other industry workers who work non-standard shifts or rely on vehicles to travel longer distances. If the community feels this pilot is successful, it can serve as a model that could scale to other neighborhoods or user groups.

CAPITAL CARSHARE

Capital Carshare is located in Albany, New York and does not charge application fees for students. Their fleet currently exists of six vehicles. Their intent in their business model is to provide subsidized plans to underserved populations; however, there is no indication of those programs on their website, other than waiver for students.

WAIVECAR

WaiveCar is a 100 percent electric, an ad-supported car-sharing program that lets users rent from a fleet of 20 Chevy Spark EVs with two hours of free driving. A fee is charged if drivers use more than two hours. The idea is that they subsidize the cost with advertising dollars. Businesses pay to display their ads on roof-mounted screens and body wraps.

EVERCAR

Evercar's ride-sharing service launched in 2014 and closed doors in 2016 due to financing constraints. The service rented EVs and hybrids to drivers for ride-hailing services like Uber and Lyft and delivery companies like Postmates and Doordash. The rental cost was \$5 to \$8 hourly, depending on the car type and location. The company operated out of Los Angeles and expanded its operations to San Francisco

just before shutting down. Evercar’s original business, providing electric vehicles and fleet management tools to cities and agencies is still in operation.

BLUEINDY

BlueIndy is an all-electric service with approximately 240 vehicles and 80 charging stations with additional sites under construction. They offer discounts to youth ages 18-25 but no other low-income specific discounts.

TABLE 1. BARRIERS AND OPPORTUNITIES

Identified Barriers	Identified Opportunities and Incentives	Level of Effectiveness	Low Income Specific
Cost	Numerous time of sale incentives, such as rebates and tax exemptions.	High	Yes, in some areas
Charging Infrastructure	Necessary for large-scale expansion and acceptance of EV technology. Numerous examples of effective programs, with many more in the planning phase. Austin Energy has the most affordable program we have identified.	High	Largely no, but efforts are underway in many states to focus on low-income areas.
Level of Awareness	Numerous programs in at least 27 states are focusing on increasing awareness of electric vehicles.	High	Largely no, but efforts are underway to focus on low-income areas and under-served populations.

SUMMARY OF INITIAL FINDINGS

There is a lot of movement in the electric vehicle and equity space. It started with incentives and tax credits but has blossomed into an area of interest within the industry. The incentives now have a low-income focus that is being adopted along the West coast. California is ahead of the curve on investments into low-income communities with their cap-and-trade funds. Their model is being researched and studied across the nation. Oregon was able to adopt the Charge Ahead Rebate that also included extra rebates for low-income communities. Although Washington does not have any state specific incentives or rebates for low-income communities, this research highlights the need for additional funding to develop the markets and increase adoption of electric vehicles. Funding is not only needed to assist in purchasing infrastructure and vehicles but for outreach and education opportunities for low-income communities.

There have been several car-share pilot projects deployed with low-income communities as their target market. Some have been successful, while others have not been able to overcome the barriers that are still cited today. Insurance and ownership of the vehicles is the most commonly cited concern in existing programs. It is still the most common concern we have heard from Housing Authorities in our area. Despite concerns, there is a lot of work happening in Washington to bring electric vehicles to low-income communities. Puget Sound Energy is taking a step forward to deploy low-income electric vehicle pilot projects as well. The City of Seattle is also working on gathering information about equity and electric vehicles, with plans to launch their own community car-share pilot project.

Overall, most stakeholders in Washington are in the same phase of gathering research and data in order to deploy community focused car-share programs. There still needs to be a focus on the communities by deploying a mobility needs assessment at identified locations in order to understand the needs of the community.

SECTION 2: SHARED ELECTRIC MOBILITY PILOT PROJECTS

This pilot project proposal is the second section of the Feasibility Study to Facilitate Low-Income Utilization of Electric Vehicles funded through the Washington State Department of Transportation. This section includes a Mobility Needs Assessment and a suite of proposed pilot projects to test effective methods for facilitating low-income utilization of electric vehicles. We propose two separate models in low-income housing and resource center venues encompassing urban and rural areas. If funded, we intend to administer and manage the proposed pilot projects.

METHODOLOGY

To better understand the current mobility needs and challenges of people living in low-income communities, as well as the readiness of low-income housing service providers to offer a car share program, we conducted the following study:

- Conducted a mobility needs assessment survey and focus group discussions in select low-income communities.
- Interviewed low-income housing providers to assess their interest and capacity with regard to car-share and pilot projects.

PURPOSE

The overall purpose of this project is to address equity concerns and assist in making electric vehicles accessible for everyone. The up-front costs of purchasing a new electric vehicle are out of reach for most people in the low-income bracket. Figuring out a way to affordably provide electric vehicle transportation on a broad scale that meets the needs of low-income communities is the focus of this proposal.

PROJECT GOALS

Our goal was to understand the mobility needs of low-income communities and explore whether a car-share program would be useful. We further wanted to probe the feasibility of an electric car-share program. With that understanding, we then aimed to conceptualize potential projects to pilot in those communities.

SCOPE

This study focused on nine organizations that provide resources for lower income and underserved populations, including affordable housing programs, a community association, and a resource program. The Puget Sound Clean Air Agency (PSCAA) contacted organizations that provide affordable housing and resources for low-income populations to gauge interest in participating in an electric car-share pilot program. These organizations included housing authorities in Bremerton, Everett, Tacoma, Renton, Seattle, Kitsap, King County, and Pierce County; affordable housing organizations; a Neighborhood Association; and a Resource Center. Three housing authorities, (King County, Everett, and Seattle), four affordable housing organizations (Compass Housing Alliance, Lopez Community Land Trust, Mt. Baker

Village Housing, and OPAL Community Land Trust), one Neighborhood Association (South Park) and one Resource Center (South Park Information and Resource Center) opted to participate in this study and proposal.

These organizations span urban and suburban areas in King, Pierce, and Snohomish Counties and rural areas in San Juan County. Collectively, the initial proposed pilot project includes eight communities with over 1,000 residents.

CHALLENGES

Many challenges to low-income utilization of electric vehicles were identified during this study, with the primary being cost of vehicle or vehicle use, access to charging infrastructure, and understanding of technology. Additionally, the need for convenience was identified during the study. Studies on low-income populations show that an increased level of stress is often present due to the lack of financial security and associated challenges. A lower socioeconomic status often means more difficulty attaining education, less ability to advance professionally, more time spent working and/or commuting, less time available for personal and family needs, and limited opportunities and privileges afforded to people within society with higher income levels. Creating a car-share model that provided increased convenience could serve to alleviate stress.

ANTICIPATED BENEFITS

Expanding access to electric mobility and ride-sharing to low-income communities offers many social, economic and environmental benefits, which includes improved convenience, making transportation more affordable, improving air quality, and reducing congestion.

ACCESS

As noted in the earlier section on challenges, lower income individuals and families often have higher levels of stress due in part to more demands on their time. Consequently, convenience is often a high priority for mobility. This pilot project proposal is mindful of this need and seeks to provide convenient access to vehicles that will relieve stress related to time constraints.

ECONOMIC

Decreasing the cost of transportation for low-income individuals and families has direct and indirect benefits to quality of life. Directly, it allows for limited funds to be directed to other needs. Indirectly, it can have far-reaching positive economic outcomes related to increased mobility and the ability to search for jobs, get to work or go to school. It can also help families be more selective of where they shop for groceries and other necessities, saving them time and allowing them to find what they need at potentially more affordable prices.

HEALTH

This effort can also improve health outcomes by providing efficient transportation modes for getting to medical appointments, especially if health issues make public transportation challenging.

ENVIRONMENTAL JUSTICE

A large-scale transition to electric vehicles has the potential to greatly benefit lower-income communities near major roads where transportation pollution is at its worst. The health impacts from diesel and gas emissions are well documented and greatly exacerbated for individuals that live within 100 yards of a major highway.

AIR QUALITY AND CLIMATE

The underlying goal of electric vehicle adoption is to reduce greenhouse gas emissions. Facilitating the utilization of EVs for low-income communities is an important component of addressing equity in this intended market transformation with the underlying benefit of reducing emissions.

CONGESTION MITIGATION

Promoting ride-sharing and shared vehicle use reduces the numbers of vehicles on the road and vehicle miles driven. It can also encourage a behavioral shift towards multi-modal, sustainable transport which complements public transit.

MOBILITY NEEDS ASSESSMENT

OVERVIEW

To better understand the mobility needs and challenges of low-income communities, PSCAA conducted a survey at 11 sites. The surveys explored the travel options and behaviors for people living in these communities; how well they perceived their transportation needs being met; and their awareness of, and receptiveness to, electric cars and the concept of a car-share. We received a total of 603 survey responses. Many of the respondents represented communities rarely seen or addressed in this kind of survey. For example, respondents included many South East Asian, West African, Russian, and Latino individuals for which English is a second language. To accommodate this diversity in languages spoken, we translated the survey into seven languages and provided interpreters.

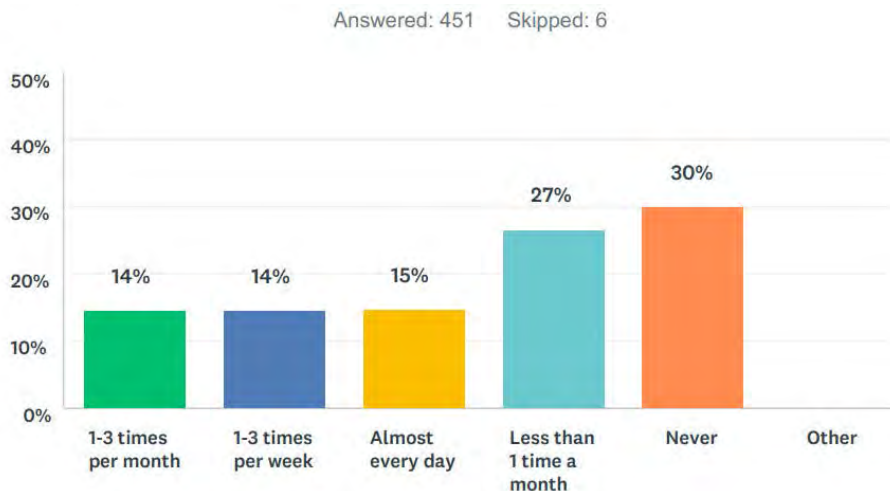
Eight of the sites took the same survey, yielding 456 responses. Due to some changes in questions and language, not every community answered the same questions. OPAL Community Land Trust, Everett Housing Authority, and South Park Information and Resource Center (SPIARC) chose different questions to ask their residents. These three organizations totaled 147 responses. The surveys that covered different questions are outlined below in each of their respective sections.

This section will cover the eight sites that completed the same survey. The organizations that are encompassed in this section include Birch Creek, Hoa Mai Gardens, High Point, Lake City Court, Mt. Baker Village, New Holly, Plaza Seventeen, and South Park Neighborhood Association.

SURVEY FINDINGS

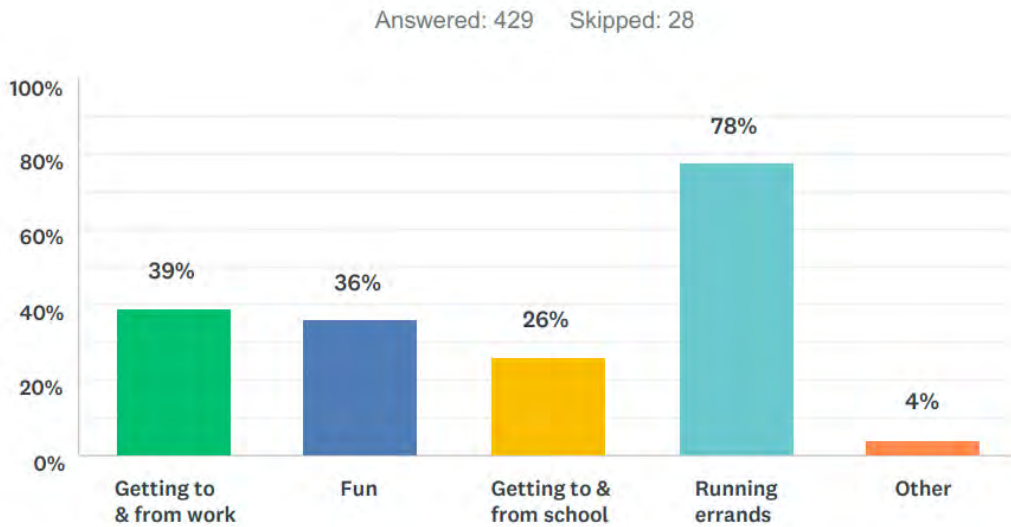
The majority of participants (57%) take short distance trips and do not travel over 50 miles on a consistent basis, as illustrated in Figure 1. This suggests that a car-share service, where short-term trips are most beneficial, could be viable in these communities.

FIGURE 1: How Often Do You Travel More Than 50 Miles Per Day?



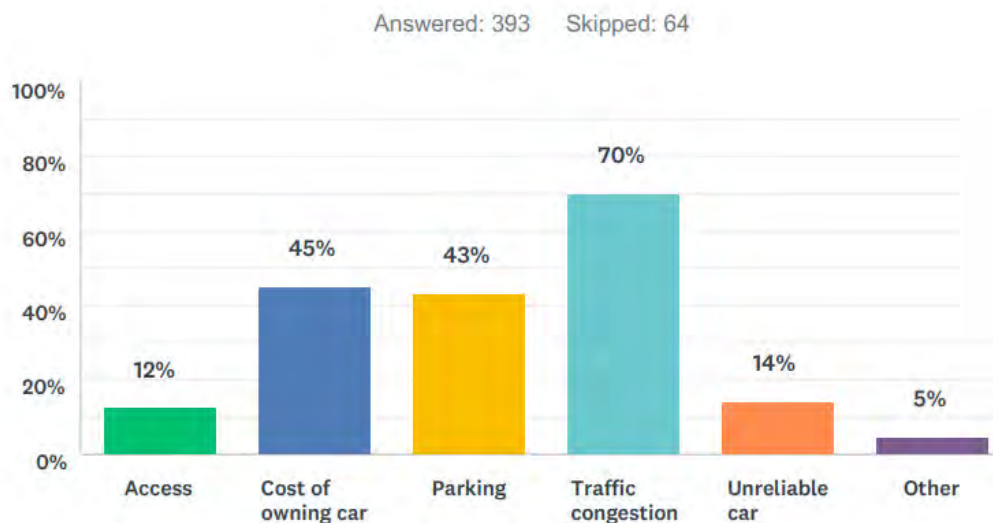
Running errands such as grocery shopping, medical appointments, and child activities are identified as the top reason people need a vehicle, as shown in Figure 2. This would indicate that there is a high usage of vehicles for short-term trips. This indicates that a car-share service might be utilized for these local destinations.

FIGURE 2: When Do You Most Need A Car?



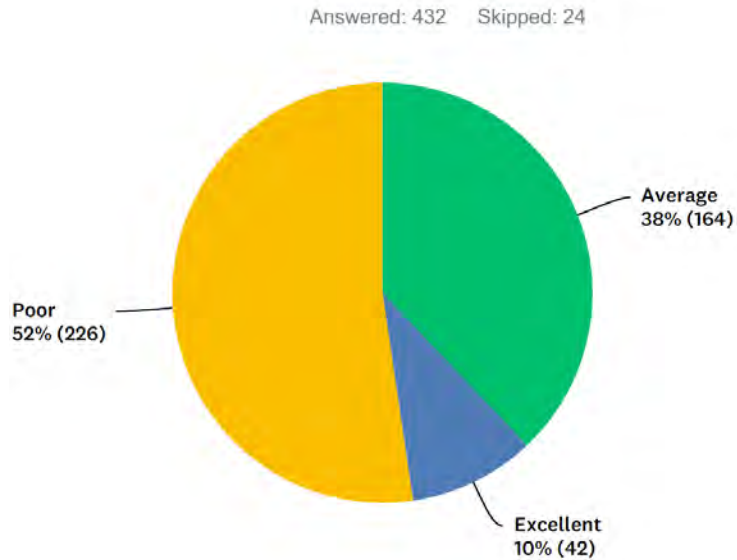
Congestion, cost of owning a vehicle, and parking availability are the biggest challenges respondents face. A car-share program can help alleviate these problems, while addressing the smaller group who do not have access or have unreliable transportation, as shown in Figure 3.

FIGURE 3: If You Travel By Car, What Challenges Do You Face?



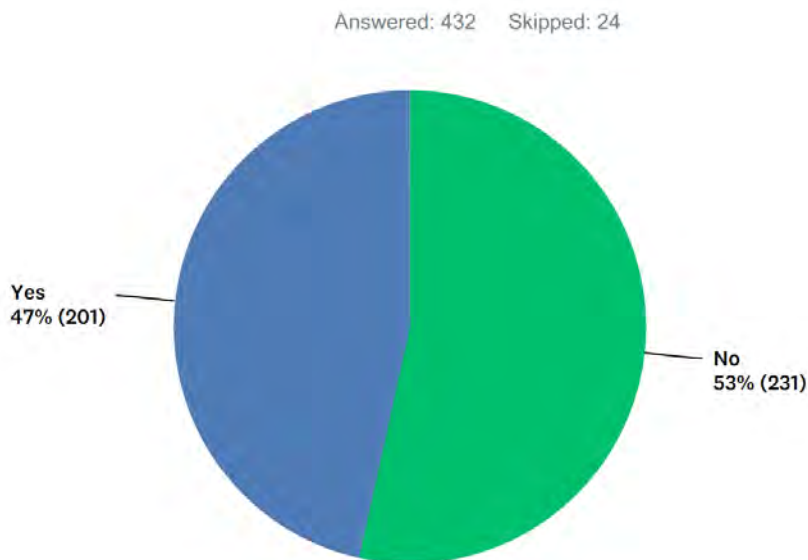
The majority of participants have little knowledge of electric vehicles, as shown in Figure 4. This shows there is an opportunity for more education and outreach in these communities about electric vehicles and their benefits.

FIGURE 4: How Much Do You Know About Electric Cars?



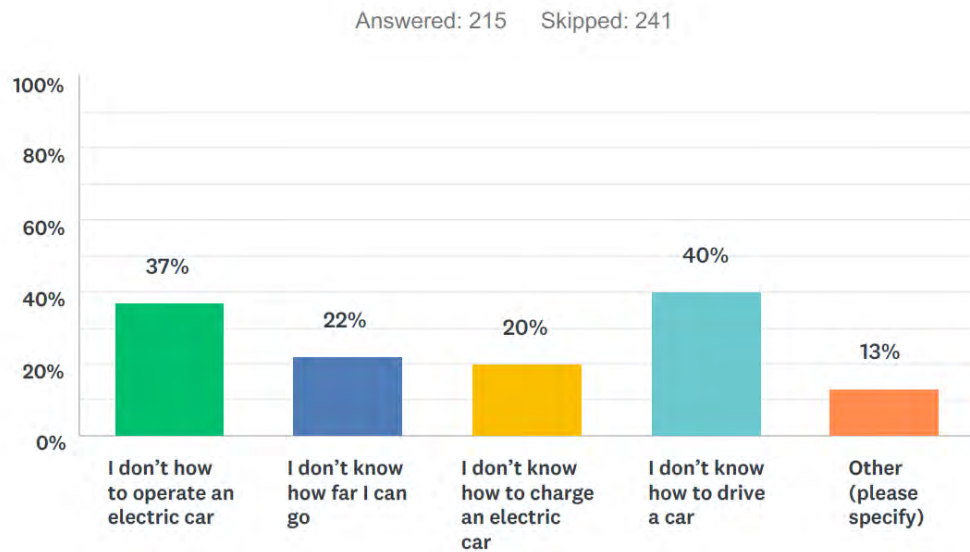
When asked if participants would be comfortable driving an electric vehicle, 47 percent said that they would drive an electric vehicle, as shown in Figure 5. Even though a majority of our participants know only a little about electric vehicles, there is a lot of interest in them.

FIGURE 5: Would You Be Comfortable Driving An Electric Car?



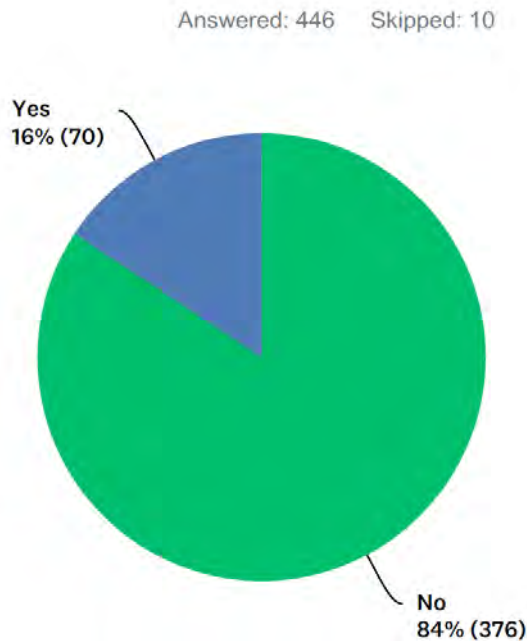
Participants expressing reservations about driving an electric car were asked why. Figure 6 below shows some of their top concerns, which include not knowing how to operate a motor vehicle in general, nor an electric vehicle in particular.

FIGURE 6: Why Are You Not Comfortable Driving An Electric Vehicle?



Few participants report using car-sharing services, as shown in Figure 7.

FIGURE 7: Have You Ever Used A Car-Sharing Service?



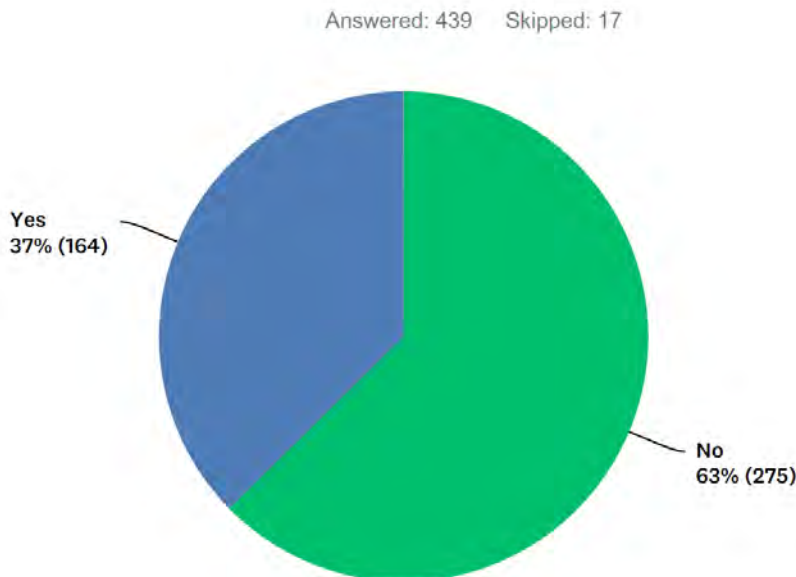
Of those who reported using a car-sharing service, car2go was the most utilized, as shown in Figure 8.

FIGURE 8: Which Car-Sharing Service Have You Used?



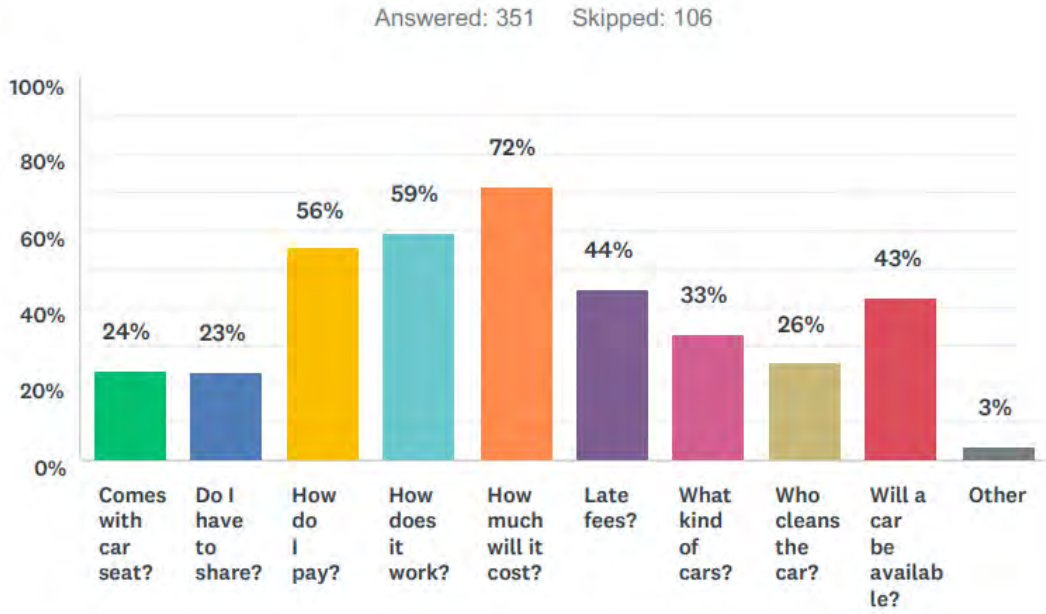
When asked whether they would utilize a car-sharing service if it was located close to their homes, 37 percent of respondents said that they would, as shown in Figure 9. This is a significant number considering only 16 percent of the participants reported ever using a car-sharing service.

Figure 9: Would You Use A Car-Sharing Service If It Was Close By?



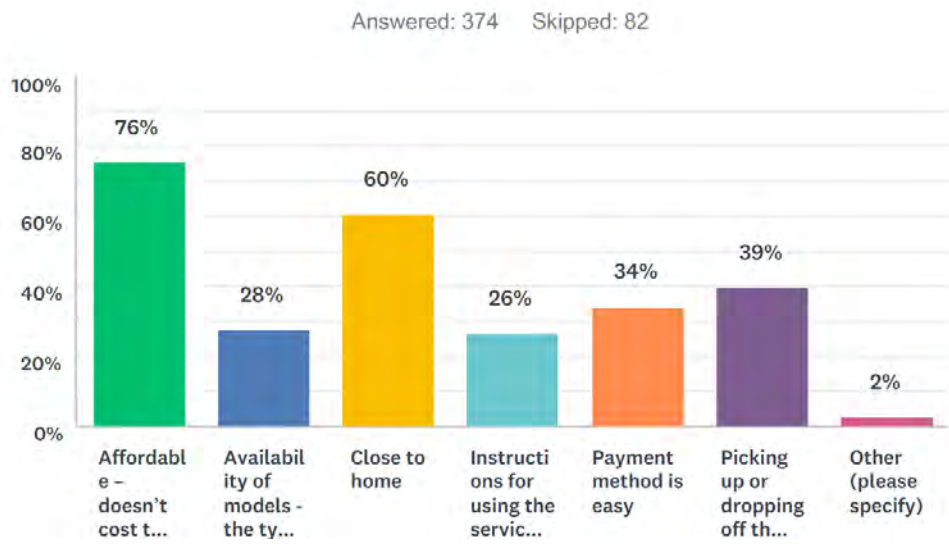
This suggests an opportunity to provide outreach and information to these communities about car-sharing services. The top questions that people had were about the payment process, cost, and how car-share works, as shown in Figure 10.

FIGURE 10: What Questions Do You Have About Using A Car-Sharing Service?



When asked what car-share features would be important, should such a service become available to them, respondents cited affordability, proximity, and convenience, among others, as shown in Figure 11.

FIGURE 11: If You Had A Car-Sharing Service Available, What Are The Most Important Features?



PARTICIPATING ENTITIES

The following provides a description of each of the entities that are included in the pilot project proposal, as well as some detailed survey results relevant to their communities. The criteria for partner organizations in this project include longevity, stability, and a number of individuals served. They need to serve the needs of lower income families or individuals, be well established in their programs and financially sound, be interested in promoting electric vehicles, and serve at least 100 or more individuals on an annual basis.

In addition, the needs and interests of the community, as identified by the survey results, focus group discussions, and conversations with the partner organizations must be in alignment with the goals of the pilot project. In selecting the proposed pilot projects, we also considered how the projects would supplement transit, as well as the lack of transportation options available for the communities.

EVERETT HOUSING AUTHORITY

Everett Housing Authority (EHA) has been committed to serving the citizens of Everett, Washington and their housing needs since 1942. As a consistent and reliable source of assistance for affordable housing, they have focused their efforts on creating housing options for a variety of income levels in the Greater Everett area.

The Everett Housing Authority has 12 affordable housing properties for family, elderly and disabled households earning between 50 percent and 60 percent of Snohomish County's Area Median Income. There are 340 units consisting of one-, two- and three-bedroom apartments. These properties are offered at below-market rents. They have another 21 subsidized properties that include Section 8 Project Based Vouchers for a variety of households and Section 202 Supportive Housing for very low-income elderly persons. There are 1,128 of these units.

DELTA NEIGHBORHOOD

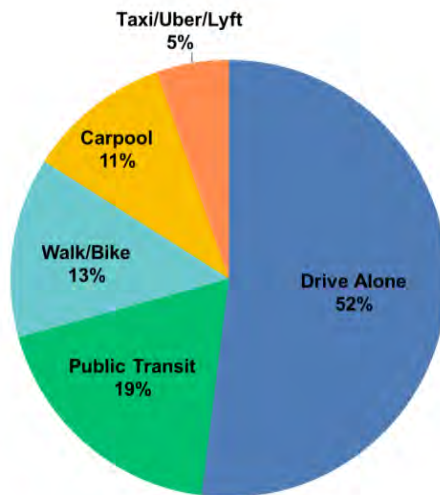
The EHA took the initiative to submit their own transportation survey to their residents. This created an opportunity to tailor questions to their community.

Everett Housing Authority currently does not have any charging infrastructure installed on their properties. Using some of the criteria above, staff identified two large properties within the Everett Delta Neighborhood. The Grandview and Wiggums Park Place properties have a combined 228 units and are not serviced well by transit. The residents are mostly families of multiple generations with a diverse population from Russia, Ukraine, Vietnam, Iraq, Iran, and Mexico. This Delta Neighborhood includes other housing locations nearby, with the potential to increase the utilization of a car-share program. These include the Bakerview & Meadows properties with another 303 units. Each of these properties could potentially access a car-share program that is centrally located on the Everett Housing Authority property.

During interviews with EHA staff, we learned that there have been past experiences from residents who are unable to meet rent expenses due to the high prices of owning/leasing vehicles. This causes great stress for the residents who are unable to meet living and transportation expenses. Some residents also do not qualify for medical taxis, which creates hardships getting to and from medical appointments. A car-share program here could provide access to transportation, without the financial burden of buying, owning and maintaining a vehicle. This location is also about to break ground on a clubhouse for the community, creating an opportunity to install electric vehicle infrastructure with significant cost reduction.

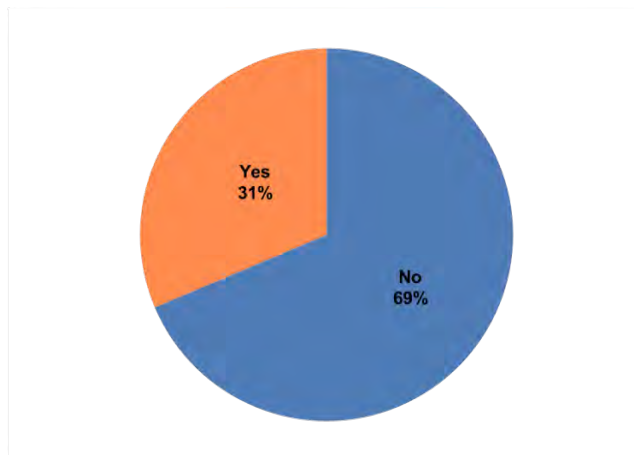
Residents in the Delta Neighborhood community mostly rely on single occupancy vehicles to get around, as shown in Figure 12.

FIGURE 12: What Is The Most Common Way You Get Around?



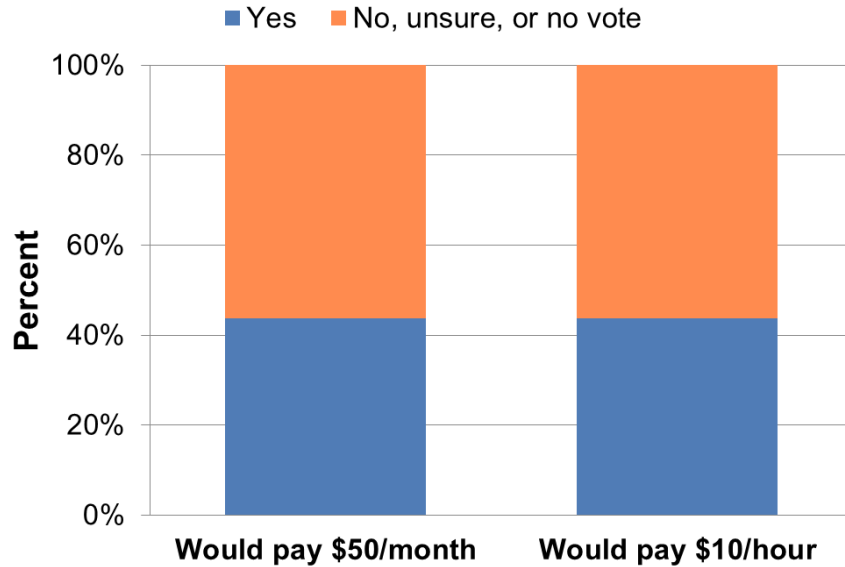
The percentage of residents interested in a car-share program, as shown in Figure 13, is slightly below the average for all the properties surveyed, which is 37 percent.

FIGURE 13: Would You Use A Car-Share?



In the survey, EHA wanted to gather information about how residents would prefer to pay for a car-share service if it were available. Two options were proposed in the survey: a monthly rate and an hourly rate. Fourteen individuals responded, with seven saying they would pay a flat rate of \$50 per month and seven saying they would pay a flat rate of \$10 per hour, as shown in Figure 14. This finding left us with more questions about what the best price point would be for a car-sharing model, which we intend to ask in the next phase of this project, if funded.

FIGURE 14: If Interested In A Car-Share, Which Payment Method Would You Prefer?



KING COUNTY HOUSING AUTHORITY

The King County Housing Authority (KCHA) provides rental housing and rental assistance to more than 19,000 households. KCHA serves low-income people in 33 cities—not including Seattle and Renton—as well as in unincorporated areas of King County. KCHA's service area includes 1.2 million of the county's residents and the majority of its low-income households.

KCHA owns and manages 4,269 units of federally-funded housing for families, the elderly, and people with disabilities. KCHA also owns 133 properties with 10,215 units including 4,284 units of subsidized housing for families, the elderly and disabled people. An additional 6,000 units of low- and moderate-income housing are financed through tax credits or tax-exempt bonds. Federally funded Section 8 Vouchers help more than 10,000 households rent affordable housing on the private market.

KCHA is already implementing electric vehicle charging infrastructure in its housing sites. These have been selected by demand from the third-party property management groups and residents. They plan to have 15 chargers in place by the end of the year. KCHA is interested in deploying a car-share program and has been working with the PSCAA to identify barriers for the past two years.

Surveyed properties included Plaza Seventeen and Birch Creek.

PLAZA SEVENTEEN

Plaza Seventeen provides subsidized housing for seniors age 62+ and disabled persons. There are 70 one-bedroom units. This community has an overall walk score of 78 out of 100¹⁵.

PSCAA and KCHA conducted a focus group discussion at Plaza Seventeen, which included a short presentation on air quality, electric vehicles, and car-sharing. Approximately 40 residents attend this meeting. A Russian interpreter helped translate the presentation and Q&A session afterward. This group had a lot of interest in this idea due to the lack of parking spaces and transit options. Top takeaways included:

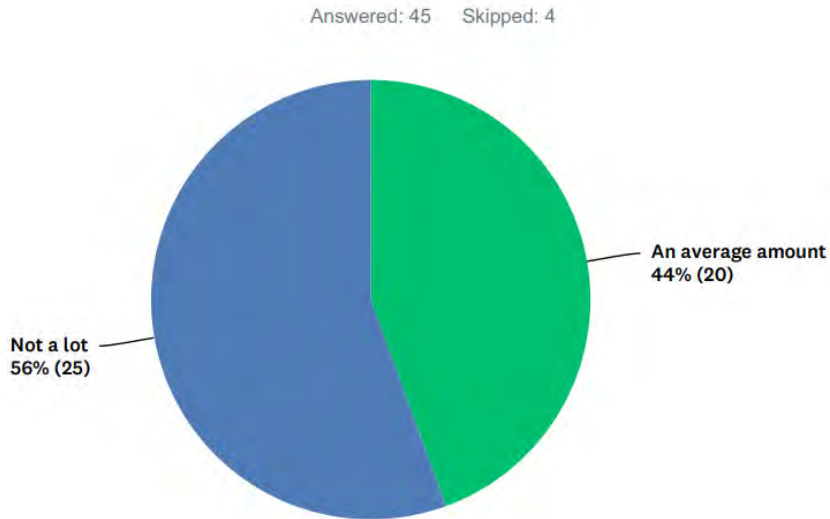
- Residents were concerned about the reservation process and if vehicles would be available when needed.
- There are several residents who don't have cars because of affordability issues and several more who can't afford the cars they already have.
- When it comes to electric cars, residents questioned how far they can travel on a charge.
- They also expressed concern about the costs of a car-share, and what the expectations are surrounding insurance.
- Some residents were familiar with the electric charging station that was located at the nearby Walgreens.

¹⁵ <https://www.kcha.org/housing/property.aspx?PropertyID=81>

According to the survey data collected, the most common ways residents move around are driving alone, walking, and carpooling. Roughly 70 percent of residents do not own a vehicle and 36 percent do not know how to drive a car.

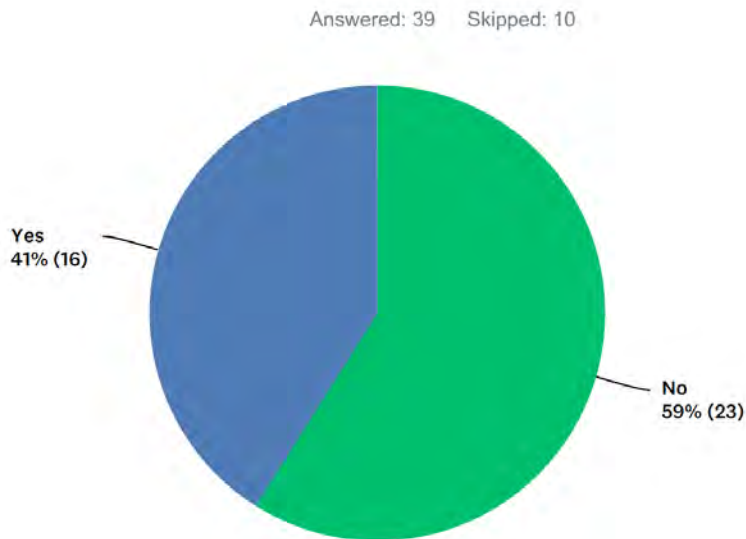
When asking about electric vehicles, this community did not have any participants who have an excellent understanding of electric vehicles, as shown in Figure 15.

FIGURE 15: How Much Do You Know About Electric Cars?



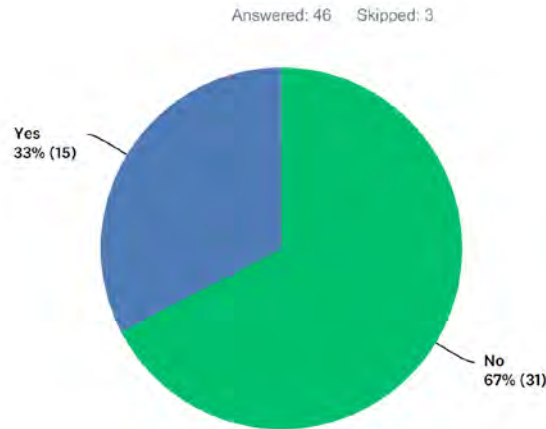
When asked if they'd be comfortable driving an electric vehicle, a large portion of participants said yes, as shown in Figure 16.

FIGURE 16: Would You Be Comfortable Driving An Electric Car?



Plaza Seventeen residents showed some interest in using a car-sharing service if it was located nearby, as shown in Figure 17.

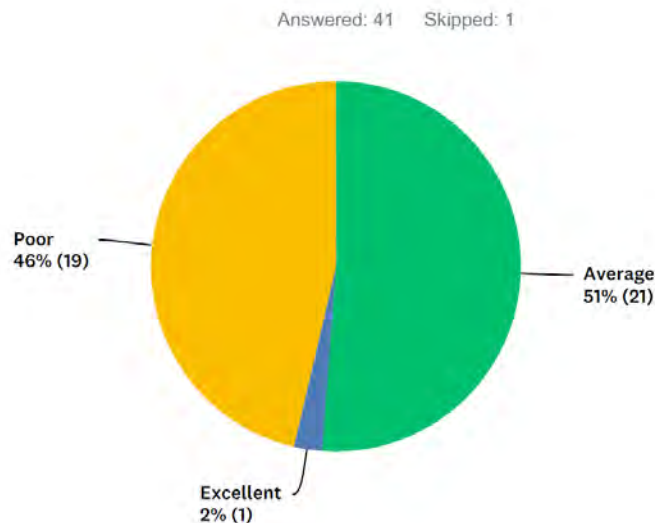
FIGURE 17: Would You Use A Car-Sharing Service If It Was Close By?



BIRCH CREEK

Birch Creek is a large complex with 262 units that provide subsidized housing for families; seniors age 55+, and disabled persons. KCHA has already installed a Level 2 charging station at this property. This community has an overall walk score of 57 out of 100¹⁶. This community is not served well by transit options. At this property, we mailed surveys to residents on KCHA letterhead and provided an option for translated surveys. According to the survey results, the most common way that participants travel is by driving alone. About 80 percent of participants own one or more vehicles. The biggest barrier to car travel is traffic congestion (73%) and the cost of owning a vehicle (65%). This community overall has a little understanding of electric vehicles, as shown in Figure 18.

FIGURE 18: How Much Do You Know About Electric Cars?



¹⁶ <https://www.kcha.org/housing/property.aspx?PropertyID=10>

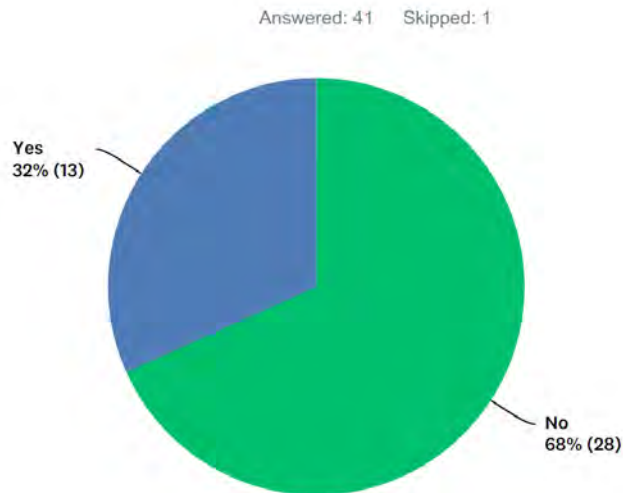
However, this community has high interest and comfort level to drive electric vehicles, as illustrated in Figure 19.

FIGURE 19: Would You Be Comfortable Driving An Electric Car?



Two respondents said that it would be great as a backup vehicle, while others commented that high costs would be a barrier. This site could benefit from a follow-up education and outreach event to discuss some of the benefits of car-sharing and how it could help reduce the cost of owning a vehicle. The residents at this site were moderately interested in a car-sharing service, as shown in Figure 20.

FIGURE 20: Would You Use A Car-Sharing Service If It Was Close By?



MT. BAKER HOUSING ASSOCIATION

Mt. Baker Housing began as a community redevelopment project focused on the Mt. Baker Village Apartments. The complex had been poorly maintained by the previous owner, leaving hundreds of low-income residents living in unsafe conditions. In March of 1988, the City of Seattle purchased the property and sold it to the newly established Mt. Baker Housing Association. Rehabilitation on the nine-building complex began in 1988 and was completed in 1990.

To date, Mt. Baker Housing Association owns and operates seven low-income and affordable housing properties with just over 300 units. Mt. Baker Housing plans to add up to 150 new affordable, workforce- and market-rate units two blocks from a mass transit light rail station. The project started in April 2017 and will be completed in 2019.

The Puget Sound Clean Air Agency and Mt. Baker Village Apartments have been working together on transportation and air quality issues for over two years. Mt. Baker residents have been a strong voice in the larger community to advocate for transportation access and affordability. They have been actively seeking alternative transportation solutions for their residence. This work has allowed them to help subsidize their residence bus fares. Residents receive about 12 bus tickets a month.

MT. BAKER VILLAGE APARTMENTS

During our study, we conducted outreach and education at the Mt. Baker Village Apartments complex, which is part of the Mt. Baker Housing Association. Mt. Baker Village is within two blocks of the Mt. Baker light rail station. It has 256 units across nine buildings and features one-, two-, three- and four-bedroom apartments. This community has an overall walk score of 66 out of 100¹⁷.

Mt. Baker has an active resident group that has been at the forefront of advocating for their transportation access needs. This group meets on a regular basis to address the needs of the community and relay information back to the community. PSCAA conducted two outreach events with Mt. Baker. The first included a presentation about air quality, electric vehicles, and car-share information for six members of the Resident's Coordinator Group who assisted in conducting the survey outreach to the other residents. During this event, a Vietnamese translator helped convey the information and a team member from the Environmental Coalition of South Seattle (ECOSS) spoke about his experiences with a used Nissan LEAF. Top takeaways of this first session included:

- This group was already knowledgeable about the benefits of electric vehicles and sources of air pollution.
- It is hard for individuals to conceptualize car-share if they haven't had that experience before.
- Strong interest in developing a program to help individuals learn how to receive their driver's license.

¹⁷ <https://www.walkscore.com/score/1423-31st-ave-s-seattle-wa-98144>

The second outreach event that PSCAA and Mt. Baker hosted was open to all residents. Twenty-five people attended this focus group, which also had a Vietnamese translator present. A shorter version of the above-mentioned presentation was given with a Q&A session. Some of the interesting findings include:

- The majority of people are very satisfied with public transportation.
- The residents receive some subsidized bus tokens.
- The average cost of public transportation for a senior in this community is about \$36/month
- The community suggested a vanpool system with a driver to shuttle them to and from appointments. The Residence Task Force expressed interest in managing this program.
- The community suggested that there be a rent-to-own electric vehicle purchasing plan.

According to the data we collected from this community, the most common transportation methods are walking and taking public transportation, as shown in Figure 21. More than half of the respondents do not own any vehicles (Figure 22) and about 40 percent do not know how to operate a car. During the focus group discussion, residents stated that they were happy with their public transportation access.

FIGURE 21: What Is The Most Common Way You Move Around?

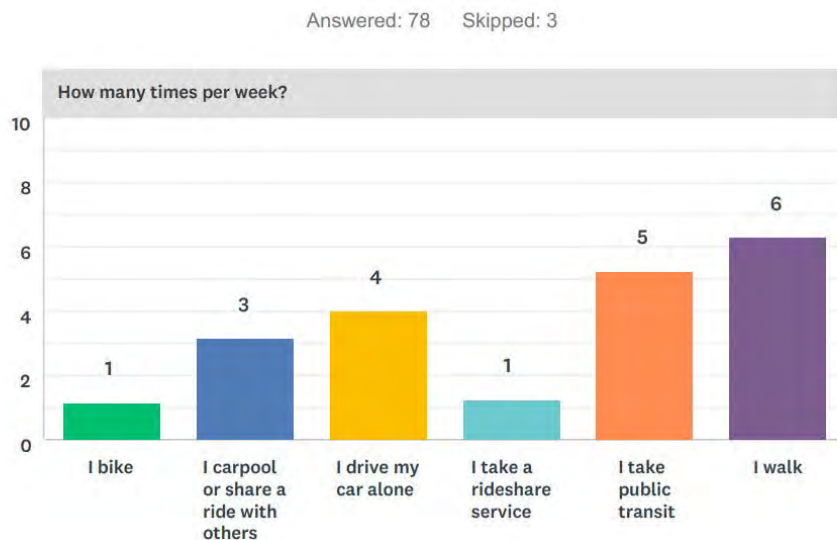
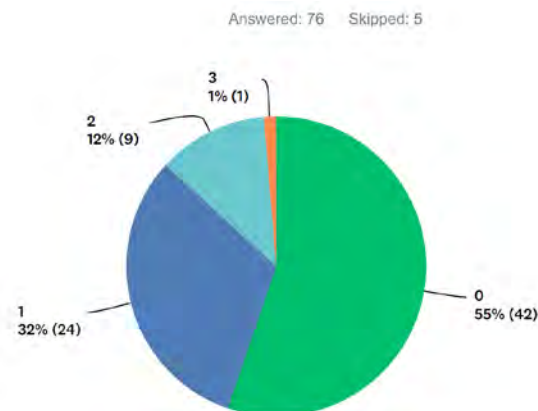
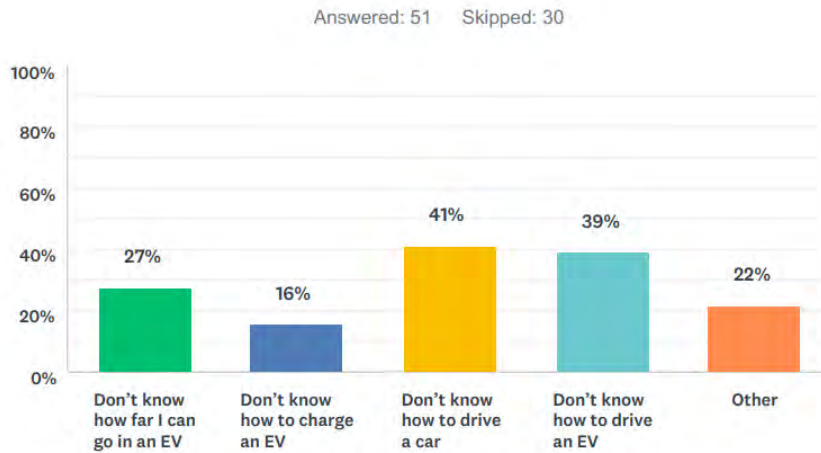


FIGURE 22: How Many Vehicles Are Available In Your Household For You To Use?



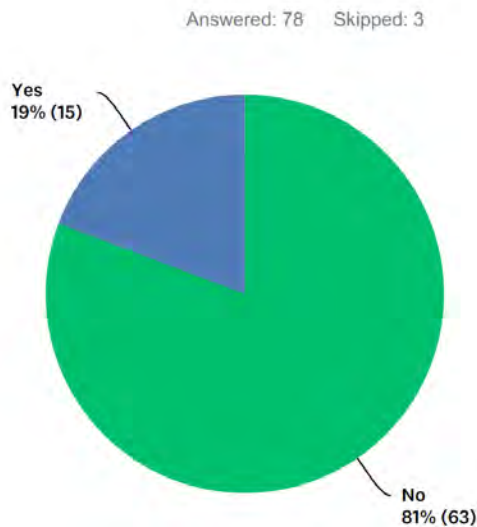
Although the majority surveyed does not own a vehicle or know how to drive, the community is still interested in electric vehicles and their benefits. There is an opportunity to provide outreach and information about electric vehicles. The second top reason people are not comfortable driving electric vehicles is that people do not know how to operate an electric vehicle, as shown in Figure 23. This indicates that there needs to be more education and outreach on the basics of operating an electric vehicle. This could be addressed by hosting a ride-and-drive event with this community, where members could experience the similarities and differences of electric vehicles and a gas vehicle.

FIGURE 23: Why Are You Not Comfortable Driving An Electric Vehicle?



Mt. Baker ranked lowest in their interest in a car-sharing service, as shown in Figure 24. This community heavily relies on public transportation as their main source of transportation. Also, large populations of this community do not drive or own a vehicle.

FIGURE 24: Would You Use A Car-Sharing Service If It Was Close By?



OPAL COMMUNITY LAND TRUST

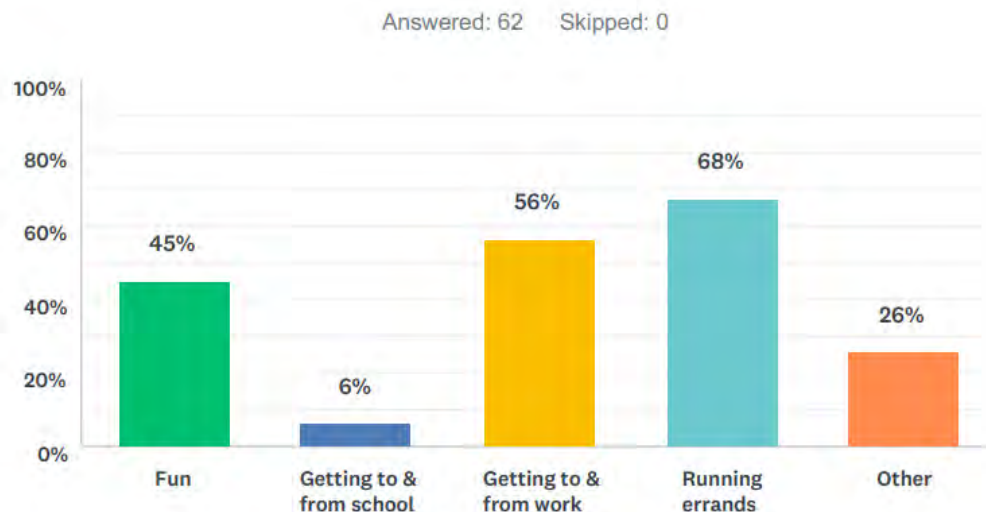
OPAL Community Land Trust is similar to the Lopez Island Community Land Trust in that it is also located in the remote community of the San Juan Islands where transit options are not available. OPAL was one of the first community land trusts in the West, established in 1989 to help maintain the character, vibrancy, and diversity of the Orcas Island community by addressing the ongoing need for permanently affordable housing. They help bridge the gap between the island's high property values and the modest incomes of many who live and work on the island. OPAL households currently represent nearly 5 percent of estimated full-time residences on Orcas Island.

OPAL is a member-based, registered 501(c) (3) nonprofit corporation with the following community assets, which includes 135 households in eight neighborhoods:

- 105 permanently affordable ownership homes
- 30 permanently affordable rental apartments
- 55.7 acres of land
- 5 community gardens

The development of a new neighborhood of 45 affordable rental townhomes is underway on four acres in Eastsound. The neighborhood will feature an electric vehicle charging station. OPAL is highly interested in participating in a pilot project to provide a shared electric vehicle for resident use. Consistent with the mobility needs assessments in other communities, the survey showed that the highest need for a vehicle in the collective OPAL communities is for running errands, such as grocery shopping, medical appointments, and taking family and children places (Figure 25). The second highest need is getting to and from work, and the third is for fun and outdoor activities.

FIGURE 25: When Do You Most Need A Car?



The most significant and relevant finding from the survey in this community is the large percentage (73%) that identified the cost of owning a car as a challenge (Figure 26). The respondents also indicated that the most important features of a car-sharing program would be affordability and convenience, as identified in Figure 27.

FIGURE 26: If You Travel By Car, What Challenges Do You Face?

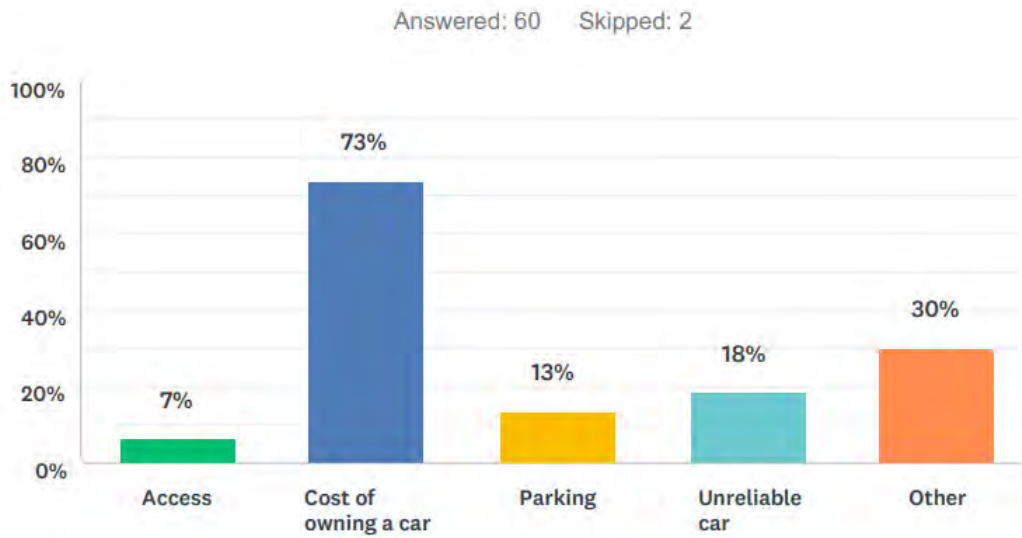
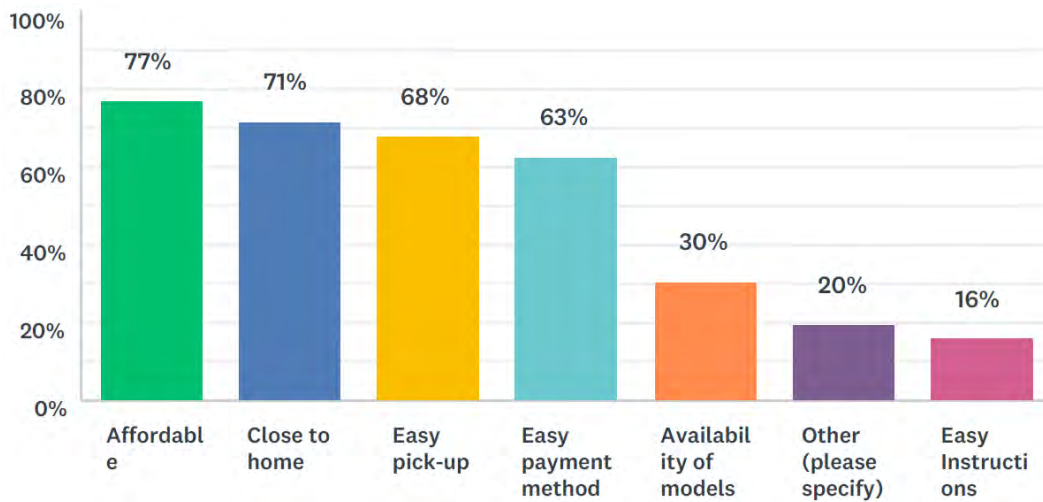


FIGURE 27: If You Had Car-Sharing Available, What Are The Most Important Features?



SEATTLE HOUSING AUTHORITY

Seattle Housing Authority (SHA) was established in 1939. It was then and remains today, a separate public corporation that has ties to but is not under the jurisdiction of the city, state or federal government. SHA provides long-term, low-income rental housing and rental assistance to approximately 34,000 people, representing more than 17,000 households, in the City of Seattle. SHA owns and operates more than 8,000 apartments and single-family homes at nearly 400 sites throughout the city. Additionally, SHA administers more than 10,000 Housing Choice Vouchers, enabling low-income tenants to receive rental assistance with other landlords in Seattle. Nearly 80 percent of those served are children, elderly or disabled.

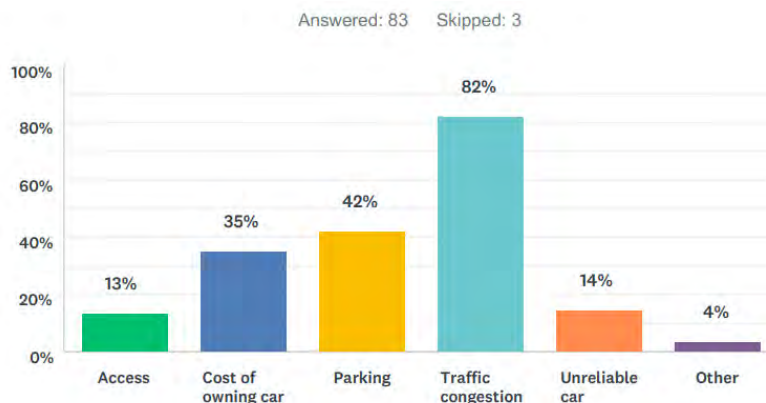
Working with SHA's Sustainability of Housing Operations team, we surveyed four different properties, with help from their interns. The interns were introduced to the concept of a low-income car share and provided some education and training prior to the outreach and surveying events. SHA identified that many residents pay rent by submitting payments to the management offices. This was the best time to capture many residents in the buildings and have face-to-face interactions as well. Staff was provided with seven different translated surveys and some EV basics literature. Surveyed properties included High Point, New Holly, Hoa Mai Gardens, and Lake City Court.

HIGH POINT

High Point is a mixed-income community. There are 600 units with a variety of buildings and layouts. This community has an overall walk score of 61 out of 100¹⁸. SHA administered a mobility survey among High Point residents to assess the transportation needs of the community. The information gathered will inform the development of a car-share pilot in High Point. SHA's survey provided supplemental data including household financial information, technology access, and demographics (Appendix I).

Residents of this community indicated that traffic congestion is the biggest challenge they face when traveling by car, followed by parking availability and the cost of owning a vehicle, as shown in Figure 28. A car-sharing service at this location could help alleviate these challenges.

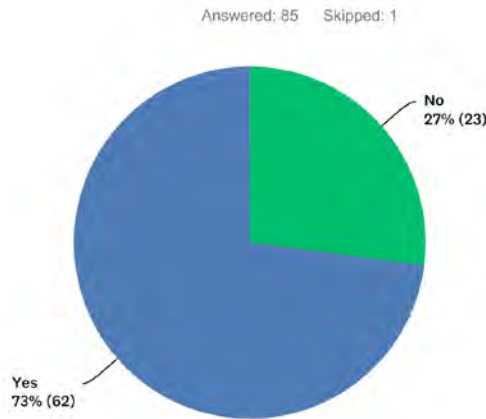
FIGURE 28: If You Travel By Car, What Challenges Do You Face?



¹⁸ <https://www.seattlehousing.org/properties/high-point>

Almost three-quarters of the community would be comfortable driving an electric vehicle, as shown in Figure 29. This community also has a high percentage who own vehicles, with 90 percent reporting they own one or more vehicles. This could be an opportunity to replace existing vehicles with electric.

FIGURE 29: Would You Be Comfortable Driving An Electric Car?



The majority of respondents had not used a car-sharing service before, but over half said they would use a car-share service if it was close by, as shown in Figure 30. Many commented that it would be more convenient, cost-effective and better for traffic congestion. This is the second highest community interested in a car-sharing service of the properties that were surveyed.

FIGURE 30: Would You Use A Car-Sharing Service If It Was Close By?



NEWHOLLY

NewHolly is a mixed-income community with 620 units and a variety of building sizes and layouts. This community has an overall walk score of 68 out of 100¹⁹. According to our survey, NewHolly residents predominately rely on driving a vehicle alone. Approximately 83 percent of participants own one or more vehicles, with only 18 percent who do not have access to a vehicle. When asked when a vehicle is needed most, running errands (72%) and commuting for work (61%) were the highest ranked.

¹⁹ <https://www.seattlehousing.org/properties/newholly>

Transportation challenges faced by this community include traffic congestion (70%), the cost of owning a vehicle (52%), and parking availability (52%). These factors suggest a car-sharing service could improve access to, and reduce the cost of, transportation for residents.

While NewHolly residents did not express a lot of understanding about electric vehicles (Figure 31), many indicated they'd be comfortable driving one (Figure 32). Their top reservation about driving electric is a lack of knowledge in how to operate them (Figure 33). This is an opportunity to provide information about electric vehicles and offer ride-and-drives to address the knowledge gap of electric vehicles.

FIGURE 31: How Much Do You Know About Electric Cars?



FIGURE 32: Would You Be Comfortable Driving An Electric Car?

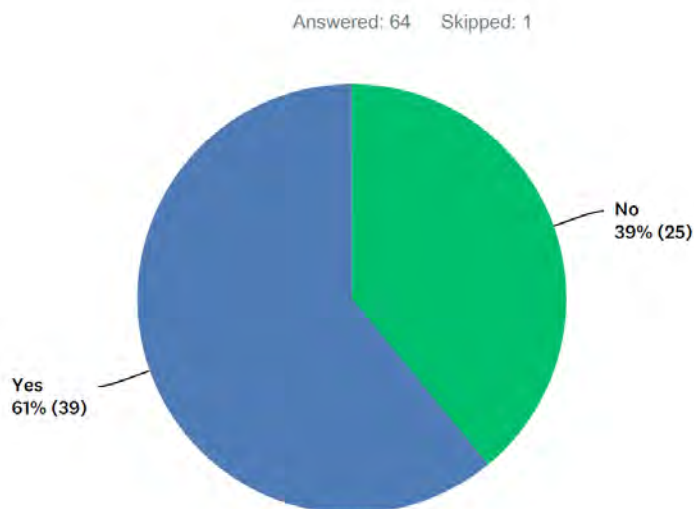
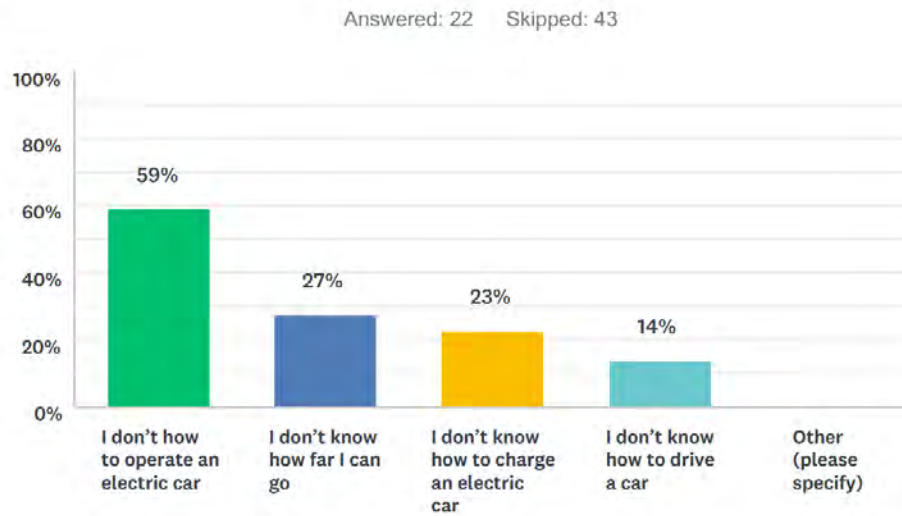
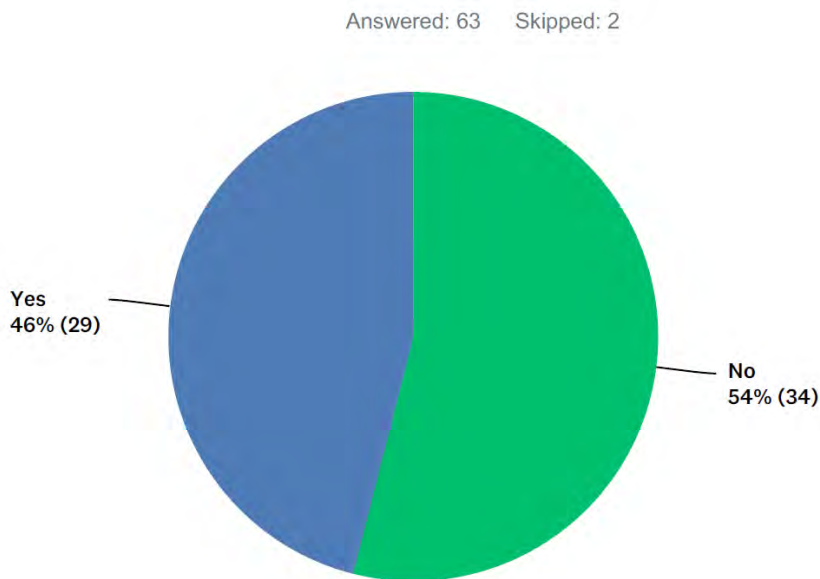


FIGURE 33: Why Are You Not Comfortable Driving An Electric Car?



Only 16 percent of participants have used a car-sharing service; however, 46 percent said they would use one if it was close by, as shown in Figure 34. Many cited convenience, cheaper cost of ownership, and parking as reasons why they would use a car-share service.

FIGURE 34: Would You Use A Car-Sharing Service If It Was Close By?

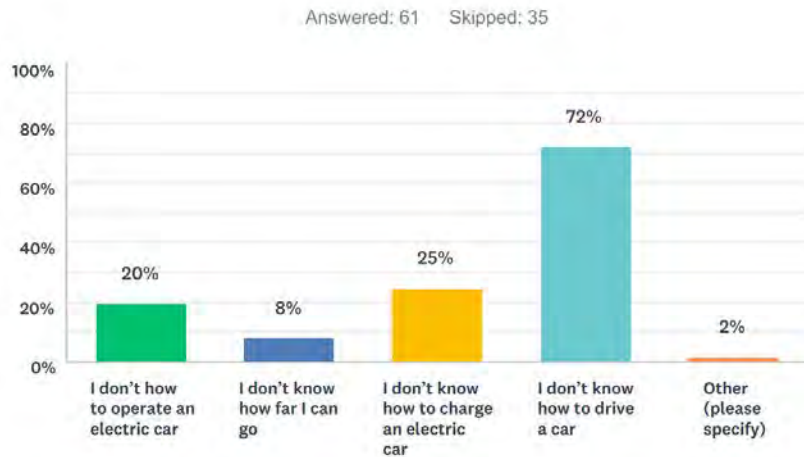


HOA MAI GARDENS

Hoai Mai Gardens is open to individuals and families with children. There are 111 units with a variety of layouts. This community has an overall walk score of 93 out of 100. Due to the close proximity to other SHA properties, nearby residents from Raven Terrace, Rainer Vista, and Leschi House also participated in the survey. SHA had also previously administered a mobility survey during their Go SEA! Mobility Fair at the Yesler Terrace Community Center. Their survey yielded results similar to the findings below, and also covered household financial information and budgets, technology access, and demographics. A copy of SHA's survey is included in Appendix I.

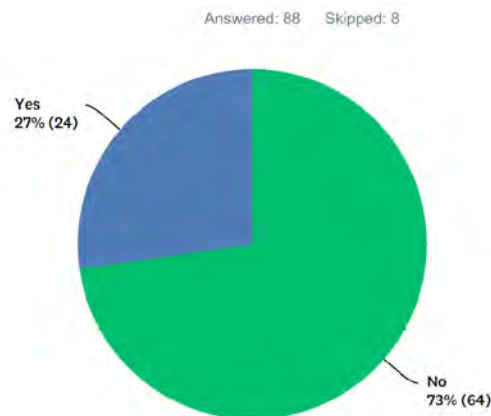
This community predominantly gets around by walking and taking public transportation. Sixty-seven percent do not own vehicles and 72 percent do not know how to operate a vehicle (Figure 35). Many responses indicated that they were too old to drive. This community has 60 percent of participants that are 65+.

FIGURE 35: Why Are You Not Comfortable Driving An Electric Car?



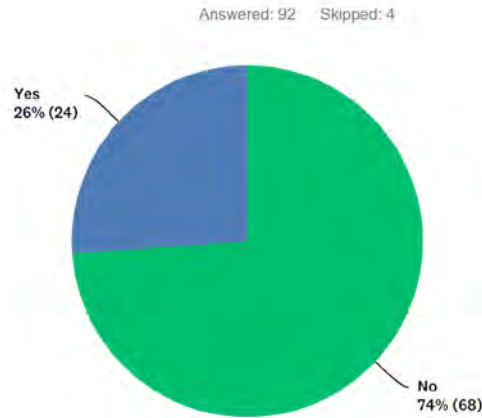
This also translated to low comfort in driving electric vehicles (Figure 36).

FIGURE 36: Would You Be Comfortable Driving An Electric Car?



This community has some familiarity with car-share, with 20 percent of respondents reporting they have used a car-share service. Car2go and Zipcar were the most used organizations. A few respondents listed Uber as a car-sharing service, which suggests there is confusion between ride-hailing and car-sharing. Although some individuals have used car-share, 74 percent said that they would not use a car-sharing service if it was nearby, as shown in Figure 37.

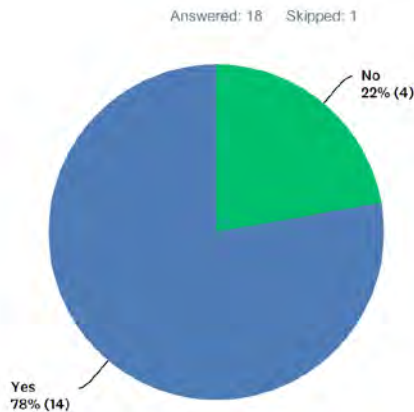
FIGURE 37: Would You Use A Car-Sharing Service If It Was Close By?



LAKE CITY COURT

Lake City Court is a mixed-income community. There are 86 units with a variety of layouts. This community has an overall walk score of 85 out of 100²⁰. We had a small sample size for Lake City Court, with 18 respondents, but the results are still important. Those who took our survey indicate they predominately get around by driving alone in a vehicle. There is a wider range of vehicle ownership with 71 percent owning one vehicle and 30 percent owning two or more vehicles. The majority drive when commuting for work (89%) and running errands (79%). This community indicated a high level of comfort in driving an electric vehicle, as shown in Figure 38.

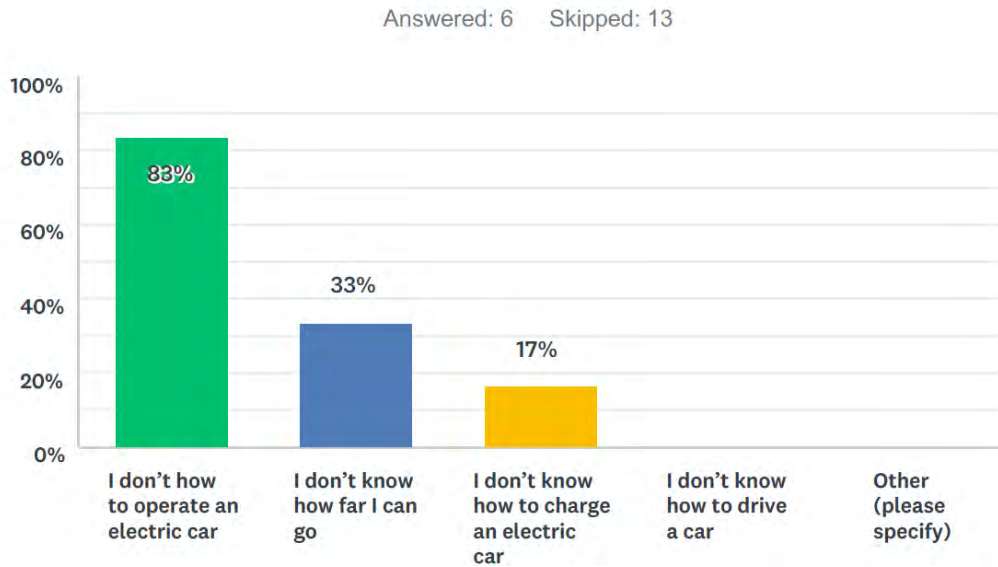
FIGURE 38: Would You Be Comfortable Driving An Electric Car?



²⁰ <https://www.seattlehousing.org/properties/lake-city-court>

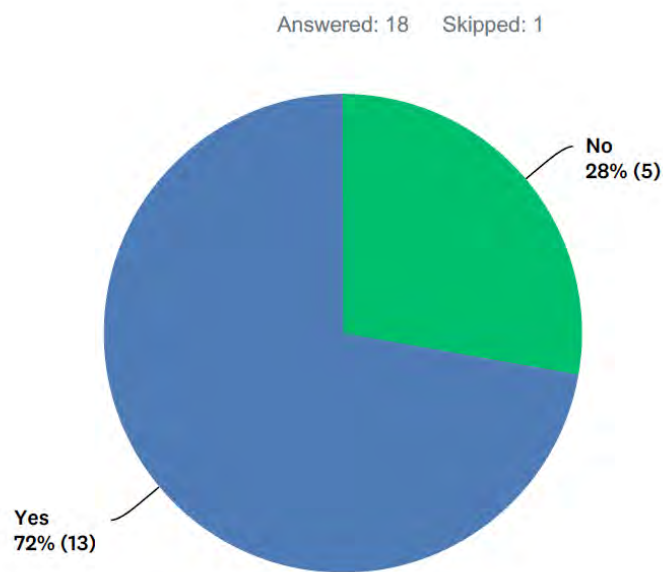
They also ranked not knowing how to operate an electric vehicle as a top challenge, as shown in Figure 39. This is another opportunity to offer a ride-and-drive event for education.

FIGURE 39: Why Are You Not Comfortable Driving An Electric Car?



A small sample said they had utilized car-share before, but when reviewing responses we noticed that there was confusion between car-sharing and ride-hailing services. Overall, general interest in a car-sharing service is high in this community (Figure 40), the highest, in fact, of all the communities we surveyed.

FIGURE 40: Would You Use A Car-Sharing Service If It Was Close By?



SOUTH PARK NEIGHBORHOOD ASSOCIATION

South Park is in close proximity to the main lines of the BNSF Railway and Union Pacific Railroad, Boeing Field, manufacturing facilities, and major roadways. This community is a hub of transportation, industry, and residential spaces. Because of the major transportation corridors and active industry in the area, air quality is greatly impacted. PSCAA has identified this community as a focus area to address air quality and environmental justice and has undertaken numerous efforts to address concerns, including:

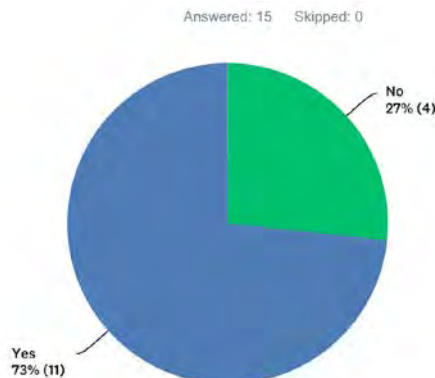
- Participating in a process to relocate the South Park Children's Playground and advocating moving it to the east side of the park, away from the major polluting roadway.
- Helping retrofit a number of diesel engines (trucks and boats) that traverse the community by replacing older, dirty engines with cleaner, more efficient technologies. Developed a training video series for truck drivers on proper maintenance of the cleaner and newer trucks.
- Partnering with Seattle Parks and Recreation's RecTech on a summer youth program that raises awareness of environmental justice issues while providing career development through technology.

On October 9, 2018, PSCAA attended a South Park Neighborhood Association meeting and presented information on air quality, electric vehicles, and car-sharing. Seventeen people attended our presentation. We asked a few open-ended questions about electric vehicles and learned that no one owned an electric vehicle, although three people knew someone who drove one. Several people expressed interest in driving an electric car. We also learned that the community is already familiar with car-share programs, citing Car2Go as the main company that they utilize in the area.

This is another community that we surveyed that had a small sample size – 15 respondents – but we still gathered valuable input. Survey respondents predominately use vehicles to get around. Everyone who took the survey owned one or more vehicles and one household had six vehicles. Running errands and commuting for work are the highest needs for vehicles, both at 53 percent.

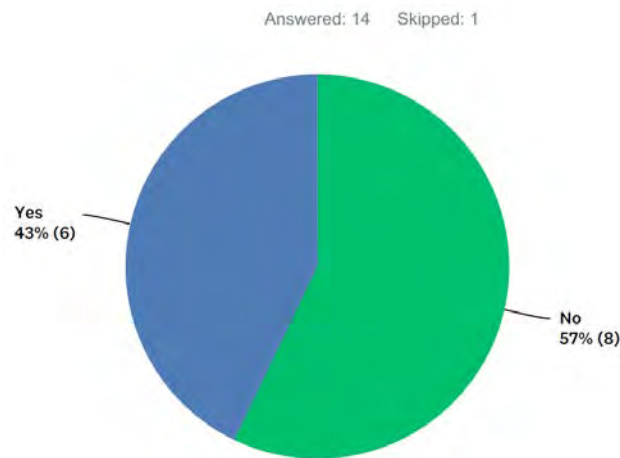
Respondents expressed high interest and comfort in driving an electric vehicle, as shown in Figure 41. The battery range of electric vehicles was cited as the top concern.

FIGURE 41: Would You Be Comfortable Driving An Electric Car?



This community had the largest percentage of individuals that had used a car-share service (Figure 42), with Car2go as the main organization.

FIGURE 42: Have You Ever Used A Car-Sharing Service?



South Park respondents showed a high interest in a car-sharing service, as shown in Figure 43. Some of the top questions that were asked about the car-share program were about cost, available accessories (car seat, bike rack, etc.) and how the program might work.

FIGURE 43: Would You Use A Car-Sharing Service If It Was Close By?



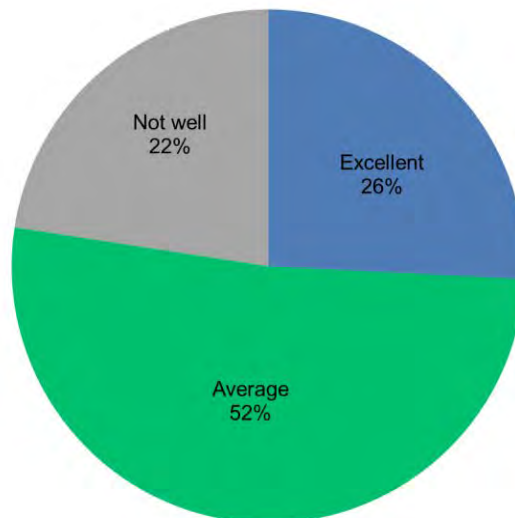
SOUTH PARK INFORMATION AND RESOURCE CENTER

The South Park Information and Resource Center (SPIARC) was created in 2005 to promote a culture of leadership, resiliency, and community involvement through bi-lingual and bi-cultural programs, information and resources. SPIARC serves the South end of Seattle and King County, connecting non-English speaking neighbors and community to resources and programs. Their services include direct assistance, education and leadership programs, workshops, and training that serve the low-income and diverse population of the South Park neighborhood.

SPIARC is located at the South Park Neighborhood Center. The Center is active and vibrant with over 1,000 people participating in programs and activities each week. Since 2014, SPIARC has provided a six-week workshop series three times a year to teach Latina women how to obtain a driver's license. The *Mujer al Volante* (Woman Behind the Wheel) workshops focus on Washington State traffic rules, laws, and safe driving. SPIARC also identifies financial, social, and family hurdles and develops strategies and resources to successfully assist the women to gain mobility. Each workshop series is fully subscribed and has 35-40 participants.

In interviews with the director of the resource center and program director, we identified the need for a vehicle to teach the class participants how to drive. We also surveyed 31 class participants and learned that nearly 75 percent of respondents do not feel that their transportation needs are met well (Figure 44).

FIGURE 44: How Well Are Your Transportation Needs Met?



The following entities participated in the study but did not undertake a community survey.

LOPEZ COMMUNITY LAND TRUST

Lopez Community Land Trust (LCLT) is a 501(c) 3 non-profit incorporated in 1989 with the mission to build a diverse, sustainable Lopez Island community through affordable housing, sustainable agriculture, and other dynamic rural development programs. LCLT completed their first affordable housing project in 1992 and was featured in the New York Times (“Low-Cost Houses on a High-Price Island,” New York Times, May 2, 1993).

LCLT now has six affordable housing neighborhoods, three of which are designed to be net zero in energy usage, for a total of 42 households. One of the neighborhoods, LCLT’s Common Ground, is a net zero energy development with 24 homes and an office/resource center, completed in 2009.

In 2012, LCLT purchased a used GEM EV as a community shared vehicle for Common Ground. The project was successful in that the vehicle had high use, but the project was terminated after eight months due to maintenance concerns that could not be easily remedied. They are very interested in participating in a pilot project with a more reliable vehicle. Lopez Island is located in the remote San Juan Islands where there is not any transit available, so the availability of a shared vehicle is highly desirable.

COMPASS HOUSING ALLIANCE

Compass Housing Alliance helps people in need and has provided affordable housing for almost 100 years. Their portfolio includes 11 locations that offer essential services and affordable housing for men, women, veterans, and families who are low-income or experiencing homelessness in the Puget Sound region. Most residents have an average household income of under \$20,000.

SUMMARY – MOBILITY NEEDS ASSESSMENT

The survey results indicate that traveling alone in a vehicle is still the most common way people are moving around. Traveling alone in a vehicle, however, exacerbates regional traffic congestion, which makes it more challenging and time-consuming for people to meet their everyday transportation needs. Unstable fuel costs create financial uncertainty for people living on limited budgets. Providing access to a car-share service for low-income populations could ease congestion, emissions, and the cost of fuel. In general, there is a lot of interest in electric vehicles, but not a great understanding of the basics of them. Targeted education and outreach to low-income communities could enhance their understanding of electric vehicles and their potential benefit as well as information about the alternative modes of transportation that are available. The general interest in a car-sharing service is also fairly high, as shown in Figures 45 and 46.

FIGURE 45: Would Use A Car-Share But Never Have Before

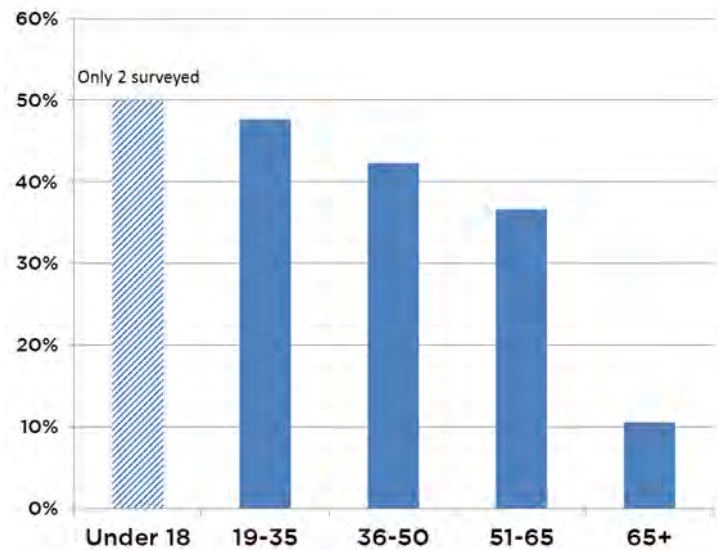
Location	Yes	No
Birch Creek	31%	69%
High Point	51%	49%
Hoa Mai Gardens	14%	86%
Lake City Court	67%	33%
Mt. Baker	17%	83%
New Holly	42%	58%
Plaza Seventeen	37%	63%
South Park	38%	63%

FIGURE 46: Would You Use A Car-Sharing Service If It Was Nearby?

Location	Would use a car-sharing service if it was nearby
Lake City Court	72%
High Point	55%
OPAL	54%
South Park	53%
New Holly	46%
Plaza Seventeen	33%
Birch Creek	32%
Everett	31%
Hoa Mai Gardens	26%
Mt. Baker	19%
SPIARC	N/A

Our findings showed that properties that had good access to public transit and mostly relied on public transportation or walking scored lower in their interest with a car-sharing service. These properties, Mt. Baker and Hoa Mai Gardens, also exhibited high portions of the elderly population, as shown in Figure 47.

FIGURE 47: Percent Of Age Group That Would Use A Car-share Service That Hasn't Before



OVERVIEW

PSCAA is proposing to administer and manage the pilot projects detailed below. Our staff has extensive experience working in low-income communities as well as experience with electric vehicle transportation. Based on in-person interviews and surveys, site visits, focus group discussions, and an extensive literature review we have identified challenges and opportunities for expanding access to electric vehicles for low-income residents. Here we propose two possible models that we believe meet the needs of the communities with which we consulted. This pilot project proposal includes an overarching education strategy and two different models tailored to the needs of each community. Model A provides a community-owned shared vehicle while Model B provides an easily accessible low-rate shared vehicle service.

PILOT PROJECT MODEL A: SUBSIDIZED COMMUNITY-OWNED SHARED VEHICLE

There are two primary barriers to the utilization of electric vehicles in low-income communities: the initial cost and lack of understanding of the technology. This pilot project model seeks to address both barriers. The basic premise is that the housing authority or community organization would own an electric vehicle that would be shared amongst residents/community members. Participants would pay a modest fee for the use of the vehicle that would offset the cost of charging, insurance, maintenance, and replacement cost.

COMPONENTS OF THIS MODEL:

1. Ownership and liability. The association will own, insure, and maintain the vehicle.
2. Education and experience. Educational and driving sessions will be held with each community so every member that is interested in participating has the opportunity to learn the details of the program and experience driving the vehicles.
3. Voucher. All licensed drivers in the community will receive a voucher for one free drive to test it out on their own. Community members who volunteer to help coordinate scheduling and to maintain the cleanliness of the vehicle will also receive a free weekly voucher.
4. Fee. Members will be assessed a fee that covers the cost of charging, insurance, maintenance (such as new tires and brakes), and eventual replacement. We propose a rate of \$0.15 a mile and \$2 an hour.
5. Shared EV Committee. Each community will form a Shared EV Committee to coordinate management of the vehicle. A member of the organization's staff will also serve on the committee. The committee will be responsible for schedule management and developing community rules for use of the car. PSCAA will provide suggested guidelines for each of the committees.
6. Carpool option. Each Shared EV Committee will consider offering carpooling options on the schedule, such as shared trips to grocery stores or city centers on certain days of the week. This would allow those with transportation needs, but who cannot or do not want to drive, to get where they need to go.

BENEFITS OF THIS MODEL:

1. Lower cost for drivers. Current shared car models have rates as low as \$.15 a minute and \$9 an hour. While this rate is intended for lower-income individuals and families, it is still outside the reach of many people living at the poverty level. The rates for this program will be approximately half of what the car-sharing service programs are charging for lower-income populations.
2. More decision-making power for community members. Having the ability to participate on the coordinating committee provides the option for community members to have a voice in how the program operates.
3. Community members can receive a certain amount of free use if they help coordinate the schedule and clean the car.
4. Sense of ownership. The car is owned by the organization for the benefit of community members who will develop a shared sense of ownership. They will also drive the same car every time, which will increase their understanding and comfort level of the technology.
5. Increased awareness. Members of the community will increase knowledge of EVs.

CHALLENGES OF THIS MODEL:

1. Capacity. This model requires the organization to administer and be responsible for the vehicle. Most affordable housing communities run on tight budgets without a lot of extra time or funding.

PILOT PROJECT MODEL B: MOBILITY AS AN AMENITY

One of the biggest themes in deploying a car-sharing service at affordable housing is the capacity of the staff. Currently, most affordable housing properties do not have additional staff or capacity to manage a new program and reservation system for the residents. The recent trend and movement towards mobility as an amenity offers a potential solution to these barriers. Mobility as an amenity is a community-based shared vehicle located at residential sites. It allows property management groups to offer shared transportation model to its residents. In this model, a third-party company would install, maintain, and manage a car-share program at the housing site.

COMPONENTS OF THIS MODEL:

1. Education and outreach. A comprehensive outreach program will provide all residents the opportunity to learn about the program and how to use it.
2. Turnkey solution. This service includes electric vehicles and infrastructure.
3. On-demand service. You can receive more cars as they are utilized and exchange models.
4. Fee. Rates are set by third-party management.
5. Revenue cost-sharing potential. Site hosts will be able to share revenues and can be invested back into the community.
6. Location. Car-share would be located on-site at multi-unit dwelling.

BENEFITS OF THIS MODEL:

1. Capacity. Takes the burden off the property to manage cars and reservation
2. Easy access. Online reservations system. Kiosks can be offered as an alternative reservation method for those without smartphones or computers.

3. Variety of models available. Can offer a whole suite of vehicles that are interchangeable based on community needs.
4. Reduced upfront cost. This model helps reduce the upfront installation and procurement costs.
5. Increased awareness. Members of the community will increase their knowledge of EVs.

CHALLENGES OF THIS MODEL:

1. Higher cost. Because this model is utilizing a for-profit business, it will likely cost users more per trip than Model A.
2. Payment. Because this model requires credit cards for payment, this model could be more difficult for unbanked users, as compared to Model A.

PILOT PROJECT PROPOSAL SUMMARY

The pilot project proposal includes the following components:

- Over-arching outreach and education program for all communities participating in the pilot projects.
- Implementation of multiple community-owned car-share projects as detailed in the Model A description.
- Facilitating implementation of a car-sharing service at one location, as detailed in the description of Model B.
- Monitoring, data gathering, assessment, and reporting.

The intent of the project is to identify methods to promote EV utilization in low-income communities. At the end of the pilot project, the final report will provide an assessment of how well the models worked, at what level the goals were achieved, lessons learned, and, if successful, how the models could be replicated at a broader scale in other communities.

PRIORITIZING POTENTIAL PILOT PROJECTS

The following proposal summary includes a weighted matrix that shows the prioritization of projects based on the decision making criteria described below. Based on our work with each of these communities, we have concluded that a successful pilot program can be implemented with each of the organizations, however, the higher ranked projects we believe will have a higher likelihood of success. Values were assigned to each organization on a 1-5 scale, with 1 being low and 5 being high. The projects are listed in order of the scores – highest to lowest.

FIGURE 48: Pilot Project Proposal Summary

	Entity	Elements of Importance for Selection	Recommended Model and Actions	Readiness to Proceed Categories and Ranking	Readiness to Proceed	Air Quality Concerns	Transportation Needs	Overall Score
				Weight:	50%	10%	40%	
1	South Park Information and Resource Center (South Park Neighborhood Association)	SPIARC has expressed a strong interest in car-sharing and air pollution reduction and has a program coordinator in place. The Mujer al Volante Program does not have a vehicle to teach class participants, so transportation needs are high. The mobility needs survey showed that only 18 percent of respondents had a vehicle consistently available for driving practice. This area is considered one of the top six areas of concern for air pollution, as identified using the Community Air Tool. The vehicle could also be made available to staff and community residents.	Model A. Install level 2 charging station at South Park Community Center and purchase one EV for shared use by class participants.	Capacity – High Level of Interest – High Strategic Alignment – High Resource Commitments – Medium	4	5	5	4.5
2	Lopez Community Land Trust	LCLT has an EV charger installed. The community has demonstrated interest through a previous pilot project. The community’s over-arching strategic vision of zero net energy use and sustainability is in alignment with this project. There is not any public transit on Lopez Island, making it difficult for residents without vehicles to get to appointments and run errands, such as grocery shopping.	Model A. Purchase one EV for shared use by residents.	Capacity – High Level of Interest – High Strategic Alignment – High Resource Commitments – High	5	1	4	4.2
3	King County Housing Authority: Plaza Seventeen & Birch Creek	EV installation is already happening in several locations. Plaza Seventeen and Birch Creek had the same level of interest in a car-share service. Plaza Seventeen residents generated a lot of interest and inquiry with their property manager. Plaza Seventeen is not served well by transit and is in the top six areas of concern using the CAT tool.	Model B. Coordinate with a third-party company to install, maintain, and manage a car-share program at the housing site.	Capacity – High Level of Interest – High Strategic Alignment – High Resource Commitments – High	5	5	3	4.2
4	OPAL Community Land Trust	OPAL is developing a new neighborhood of 45 affordable rental townhomes in Eastsound. The neighborhood will feature an electric vehicle charging station and they have identified interest in piloting a community shared EV within their existing strategy. There is not any public transit on Orcas Island, making it difficult for residents without vehicles to get to appointments and run errands, such as grocery shopping. In the survey, a large percentage (73%) identified the cost of owning a car as a challenge.	Model A. Purchase one EV for shared use by residents.	Capacity – High Level of Interest – High Strategic Alignment – High Resource Commitments – Medium	4	1	4	3.7
5	Seattle Housing Authority – High Point	SHA has sustainability goals, strong interest, and adequate staffing to implement. High Point has one of the highest levels of interest in a car-sharing service. Traffic congestion, parking availability, and cost of owning a vehicle are the highest barriers to vehicle travel.	Model A. Install level 2 charging station and purchase one EV for shared use by residents.	Capacity – High Level of Interest – High Strategic Alignment – High Resource Commitments – Medium	4	4	3	3.6
6	Everett Housing Authority	Everett Housing will be constructing a new clubhouse in 2019, which provides an opportunity to lay the conduit for the EV charging station. This clubhouse will also be centrally located for several other properties to utilize. This area is not serviced well by public transportation. EHA has expressed concerns about capacity to manage a project.	Model B. Coordinate with a third-party company to install, maintain, and manage a car-share program at the housing site.	Capacity – Low Level of Interest – Medium Strategic Alignment – Medium Resource Commitments – Low	2	4	4	3
7	Mt. Baker	Strong interest from MBHA and alignment with their overall strategy. Residents of the property we surveyed were largely happy with public transit. Although there are other properties that could be evaluated.	Model B. Coordinate with a third-party company to install, maintain, and manage a car-share program at the housing site.	Capacity – High Level of Interest – High Strategic Alignment – High Resource Commitments – Medium	4	2	1	2.6
8	Compass Housing Alliance	CHA expressed interest, but lacked the capacity to participate fully in the study and had minimal resources to commit. Some locations are identified in the top areas of concern using the CAT tool.	Model A. Install level 2 charging station and purchase one EV for residents and field staff to utilize at one of the locations.	Capacity – Low Level of Interest – Medium Strategic Alignment – Low Resource Commitments – Low	1	4	3	2.1

CONSIDERATIONS AND CRITERIA FOR PRIORITIZATION

To prioritize the proposed pilot projects, we have developed a weighted scoring matrix with the following categories and decision-making criteria.

READINESS TO PARTICIPATE

To determine each community's readiness to participate in the pilot project we had in-depth discussions with each organization to assess their capacity, level of interest, strategic alignment with the goals of the program, and resource commitments. This category carries the most weight (50 percent) because it encompasses the components that are essential to the success of the project. Ranking was based on the four categories above using the following scale:

5 = 4 High

4 = 3 High + 1 Medium

3 = 1-2 High + 2-3 Medium

2 = 0-1 High + 3-4 Medium, or 2-3 Medium + 1-2 Low, or 1 High + 3 Low

1 = 1-2 Medium + 2-3 Low

TRANSPORTATION NEEDS

This category considers how well survey respondents' transportation needs were met, as determined by the survey. This category has a weight of 40 percent.

AIR QUALITY CONCERNS

While the primary purpose of this project is to increase utilization of EVs, the underlying goal is to improve air quality and reduce carbon emissions from transportation. Several of the communities identified within this project are within areas of poor air quality from transportation emissions as identified using Puget Sound Clean Air Agency's Community Air Tool (CAT). The CAT assesses the geographic impacts of air pollution, populations sensitive to air pollution, and other demographic factors that have led to economic or historic barriers to participation in clean air decisions and solutions. Some of the types of information include proximity to traffic volumes, industrial sources, asthma and heart-related hospitalization rates, underrepresented minority races, and income. This category has a weight of 10 percent.

Ranking for this category was based on the following scale:

5 = 27-32

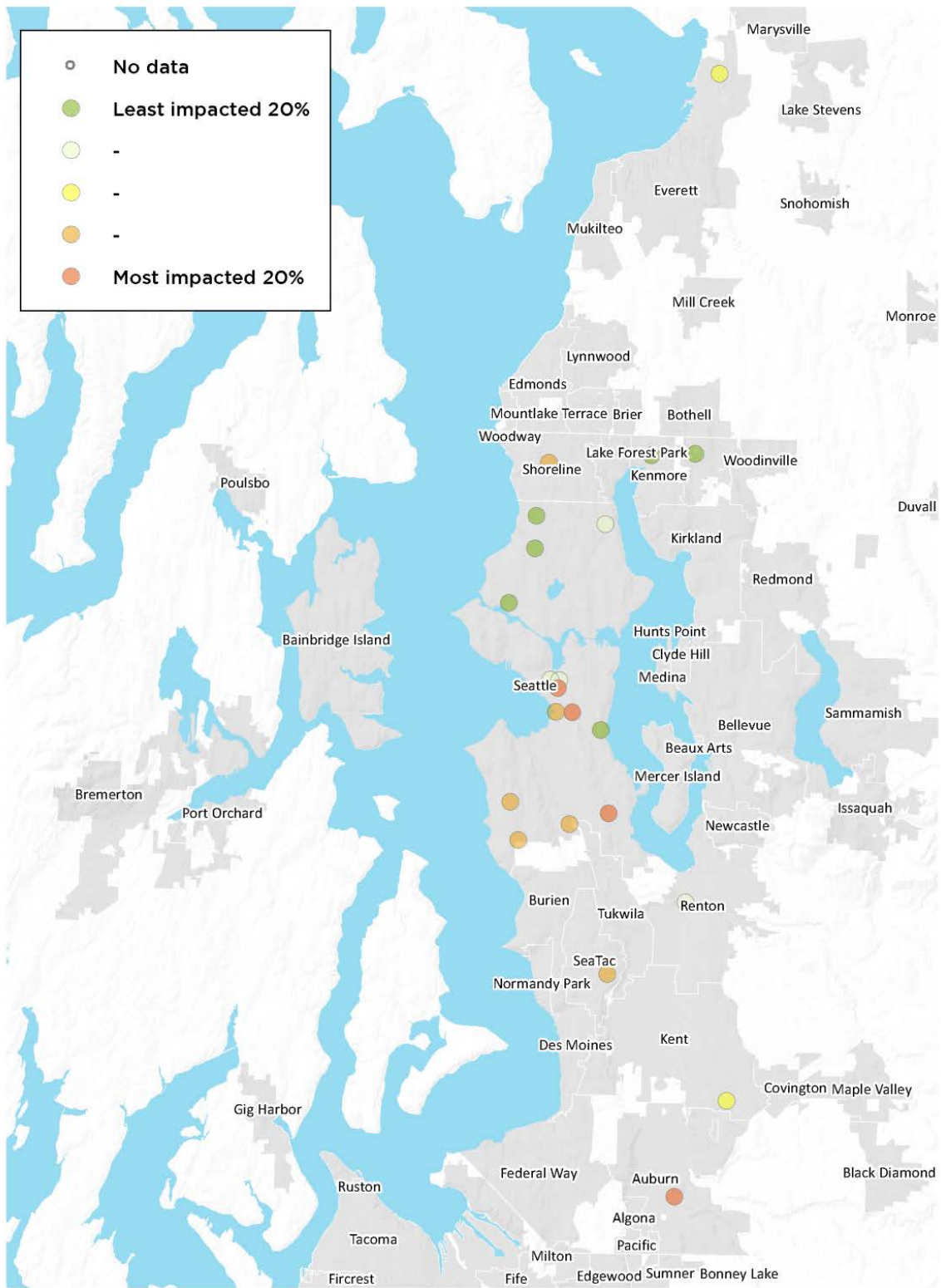
4 = 23-26.9

3 = 19-22.9

2 = 15-18.9

1 = less than 15

FIGURE 49: Community Air Tool Map of Potential Pilot Projects



The locations on the Community Air Tool map are ranked in the table below. Rankings for the Community Air Tool range from 0-39, with 0 being the least impacted by air pollution, to 39 being the most impacted.

FIGURE 51: Community Air Tool Rankings

Organization	Name of Facility	CAT score
Seattle Housing Authority	Hoa Mai Gardens	32
King County Housing Authority	Plaza Seventeen	31
Seattle Housing Authority	NewHolly	29
Compass Housing Alliance	Dekko Place	28
South Park Information and Resource Center	South Park Neighborhood Association	27
Compass Housing Alliance	Angle Lake Court	27
Compass Housing Alliance	Ronald Commons	26
Seattle Housing Authority	High Point	26
Compass Housing Alliance	Karlstrom Apartments	26
Compass Housing Alliance	The Courts	26
Everett Housing Authority	Grandview Apartments	25
King County Housing Authority	Birch Creek	24
Compass Housing Alliance	Compass on Dexter	21
Seattle Housing Authority	Lake City Court	19
Compass Housing Alliance	Easternwood Co-op Apartments	16
Mt. Baker Village Apartments	Mt. Baker Village Apartments	16
Compass Housing Alliance	Compass Broadview	16
Lopez Community Land Trust	Common Ground	No data
OPAL Community Land Trust	April's Grove	No data

Reference: Puget Sound Clean Air Agency, Community Air Tool, version 2, 2018.

MONITORING, ADAPTATION, AND EVALUATION PLAN

SUCCESS CRITERIA

The success of this pilot project will be determined by the level of utilization of electric vehicles by low-income communities. Measurement variables will be slightly different for the different models. A high level of success would be at least one-quarter of the members of each community using the vehicle, carpool option, or ride-share service at least once a week. Success criteria for all pilot project models include the total numbers on the following measures. Number of:

- People utilizing vehicles/service.
- Vehicle miles traveled.
- Trips.
- Carpool trips.
- Greenhouse gas reduction.
- People participating in EV education workshops.
- Staff hours for the agency and participating organizations.

PSCAA will conduct a survey of all participants at the beginning and end of the pilot to capture changes in other variables, such as:

- Improvement to the quality of life (i.e., less time spent commuting, increased level of convenience, increased level of comfort, increased ability to work or go to school).
- Level of understanding and acceptance of EV technology.
- Number of people replacing personal gas vehicles with electric vehicles.
- Number of people delaying the purchase of a vehicle, or opting to not purchase a vehicle.

Additionally, through the post-pilot survey and through interviews with the partner organization staff, we will seek to identify any concerns or challenges that arose, to capture lessons learned, and to gather suggestions for improvement. The partner organizations will be consulted and requested to provide input in developing the surveys.

THREATS TO VALIDITY OF PILOT RESULTS

We recognize that some of the variables can be impacted by external factors, such as the replacement of gas cars with EVs could be influenced by a financial incentive offered through a different program. For variables with potential external factors, we will attempt to gather that information during the survey.

ADAPTATION

Partner organizations will be required to provide monthly reports to PSCAA with a summary of usage data, identification of any issues or challenges, and any ideas for improvement. As issues or challenges arise or ideas for improvement are considered, the PSCAA staff will confer with the partner organizations to determine if any modifications are needed to the pilot program. If it is determined that a modification is needed, PSCAA will document changes made, reasons why, and modify the agreement with the partner organization.

DATA COLLECTION PROCESS

1. Each partner organization, in collaboration with the Shared EV Committees, will be required to provide a monthly report that includes usage data, challenges or issues, and ideas for improvement. PSCAA will review these reports for data accuracy and follow-up with partner organizations as needed on issues or suggested modifications.
2. PSCAA will conduct a debriefing at the end of the pilot with all partner organizations, Shared EV Committees, and interested community members to collect feedback and lessons learned.
3. PSCAA will store and aggregate all data for reporting to the legislature.

PROJECTS ON THE HORIZON FOR FUTURE CONSIDERATION

OVERVIEW

In undertaking this study we communicated with multiple organizations with similar goals to better serve our low-income communities, to promote electric vehicle transportation options, and to look for strategic solutions to address equity and air quality concerns. There are many communities that were not surveyed and should also be considered for future projects. An over-arching need that we identified is for significantly more outreach and education about electric transportation and car-sharing options. We also identified a lot of good work in the planning phase and a lot of ideas that need further exploration.

COMMUNITY EDUCATION AND OUTREACH

To promote low-income utilization of electric vehicles and car-sharing, there needs to be community focused outreach and education. In developing an outreach program, it is important to consider the needs of each community by seeking input from members. Suggestions include:

- Hosting workshops to provide more in-depth information about car sharing and its benefits.
- Hosting ride and drive events for the communities to learn about electric vehicle benefits.
- Conduct further research to identify car-share program needs and develop models to fit the community. Create a resident focus group to help develop project goals and strategy.

TACOMA HOUSING AUTHORITY

One of the exciting projects on the horizon is Tacoma Housing Authority's development of James North, an equitable mixed-use, a mixed-income apartment complex in a transit-oriented development area. Tacoma Public Utilities is interested in potentially partnering to bring electric vehicle charging infrastructure capacity to the site and Envoy is potentially interested in providing electric vehicle car-sharing. This project is currently in the planning phase.

Another of Tacoma Housing Authority's properties of interest is Salishan. There were initial conversations with the Tacoma Housing Authority about including this property in our study, but we were not able to survey residents. We would recommend surveying residents to identify mobility needs and interest in electric vehicles or car share programs.

SEATTLE HOUSING AUTHORITY

We received a small sample size from Lake City Court, but also a high-interest level in a car share. We would recommend another round of surveying to improve the data and the validity of the results for this community.

MT. BAKER HOUSING

Although Mt. Baker Village residents were generally not interested in a car-share program, there are still opportunities at other Mt. Baker housing locations. There are new properties that will be developed in the next few years, where the installation of electric infrastructure will be significantly cheaper. Parking availability could be a concern and a car-share program could alleviate shortages on parking. A car-share program will offer access to mobility while reducing the burden of owning a vehicle.

KING COUNTY HOUSING AUTHORITY

King County is already installing electric charging stations on its properties. We recommend expanded outreach to residents at other properties to identify if there is any interest in an electric car-sharing service on-site.

APPENDICES

APPENDIX A – EV LAWS AND INCENTIVES: GRANTS

APPENDIX B – EV LAWS AND INCENTIVES: LOANS AND LEASES

APPENDIX C – EV LAWS AND INCENTIVES: REBATES

APPENDIX D – EV LAWS AND INCENTIVES: CHARGING INFRASTRUCTURE

APPENDIX E – EV LAWS AND INCENTIVES: TAXES

APPENDIX F – EV LAWS AND INCENTIVES: EXEMPTIONS

APPENDIX G – PUGET SOUND CLEAN AIR AGENCY MOBILITY SURVEY RESULTS

APPENDIX H – SDOT HIGH POINT MOBILITY SURVEY RESULTS

APPENDIX I – SDOT YESLER TERRACE MOBILITY SURVEY RESULTS

Appendix A – EV Laws and Incentives: Grants

State	Title	Text
US	Advanced Energy Research Project Grants	The Advanced Research Projects Agency-Energy (ARPA-E) was established within the U.S. Department of Energy with the mission to fund projects that will develop transformational technologies that reduce the nation's dependence on foreign energy imports; reduce U.S. energy-related emissions, including greenhouse gases; improve energy efficiency across all sectors of the economy; and ensure that the United States maintains its leadership in developing and deploying advanced energy technologies. The ARPA-E focuses on various concepts in multiple program areas including, but not limited to, vehicle technologies, biomass energy, and energy storage. For more information, visit the ARPA-E (http://arpa-e.energy.gov/) website.
CO	Advanced Industries (AI) Accelerator Program Grants	The Accelerator Programs promote growth and sustainability in Colorado's advanced industries. Grants may be available for advanced industries such as vehicle and component manufacturing and biofuels. Four types of grants are available, including Proof of Concept, Early-Stage Capital & Retention, Infrastructure Funding, and AI Exports. For more information on each grant program, including eligibility requirements and how to apply, see the Colorado Office of Economic Development & International Trade's [Advanced Industries Accelerator Programs] (http://choosecolorado.com/doing-business/incentives-financing/advanced-industries/) website.
US	Airport Zero Emission Vehicle (ZEV) and Infrastructure Incentives	The Zero Emissions Airport Vehicle and Infrastructure Pilot Program provides funding to airports for up to 50% of the cost to acquire ZEVs and install or modify supporting infrastructure for acquired vehicles. Grant funding must be used for airport-owned, on-road vehicles used exclusively for airport purposes. Vehicles and infrastructure must meet the Federal Aviation Administration's Airport Improvement Program requirements, including Buy American requirements. To be eligible, an airport must be for public use. The program will give priority to applicants located in nonattainment areas, as defined by the Clean Air Act, and projects that achieve the greatest air quality benefits, as measured by the amount of emissions reduced per dollar of funds spent under the program. For more information, see the [Zero Emissions Airport Vehicle and Infrastructure Pilot Program](http://www.faa.gov/airports/environmental/zero_emissions_vehicles/) website. (Reference [Public Law](http://thomas.loc.gov/home/LegislativeData.php?&n=PublicLaws&c=112) 112-95 and 49 [U.S. Code](http://www.gpo.gov/fdsys/) 47136a)

- NC Alternative Fuel and Alternative Fuel Vehicle (AFV) Fund The North Carolina State Energy Office administers the Energy Policy Act (EPAc) Credit Banking and Selling Program, which enables the state to generate funds from the sale of EPAc 1992 credits. The funds that EPAc credit sales generate are deposited into the Alternative Fuel Revolving Fund (Fund) for state agencies to offset the incremental costs of purchasing biodiesel blends of at least 20% (B20) or ethanol blends of at least 85% (E85), developing alternative fueling infrastructure, and purchasing AFVs and hybrid electric vehicles. Funds are distributed to state departments, institutions, and agencies in proportion to the number of EPAc credits generated by each. For the purposes of this program, alternative fuels include 100% biodiesel (B100), biodiesel blends of at least B20, ethanol blends of at least E85, compressed natural gas, propane, and electricity. The Fund also covers additional projects approved by the Energy Policy Council. (Reference [North Carolina General Statutes](<http://www.ncleg.net/gascripts/Statutes/Statutes.asp>) 143-58.4, 143-58.5, 143-341, and 136-28.13)
- NC Alternative Fuel and Idle Reduction Grants The North Carolina Department of Environment and Natural Resources Division of Air Quality provides grants for the incremental cost of original equipment manufacturer alternative fuel vehicles, vehicle conversions, and implementing idle reduction programs. Funding is not currently available for this incentive (verified August 2016). For more information see the [Diesel Emission Reductions Grants](<http://ncair.org/motor/grants/>) website.

CA Alternative Fuel and Vehicle Incentives

The California Energy Commission (CEC) administers the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) to provide financial incentives for businesses, vehicle and technology manufacturers, workforce training partners, fleet owners, consumers, and academic institutions with the goal of developing and deploying alternative and renewable fuels and advanced transportation technologies. The CEC must prepare and adopt an annual [Investment Plan](<http://www.energy.ca.gov/2013publications/CEC-600-2013-003/CEC-600-2013-003-CMF.pdf>) for the ARFVTP to establish funding priorities and opportunities that reflect program goals and to describe how program funding will complement other public and private investments. Funded projects include:

- Commercial alternative fuel vehicle (AFV) demonstrations and deployment;
- Alternative and renewable fuel production;
- Research and development of alternative and renewable fuels and innovative technologies;
- AFV manufacturing;
- Workforce training; and
- Public education, outreach, and promotion.

The program will be available until January 1, 2024. For more information, see the [ARFVTP](<http://www.energy.ca.gov/drive/>) website. (Reference [California Health and Safety Code](<http://www.oal.ca.gov/>) 44270-44274.7 and [California Code of Regulations](<http://www.oal.ca.gov/>), Title 13, Chapter 8.1)

PA Alternative Fuel
Corridor
Infrastructure
Funding

The Alternative Fuels Incentive Grant (AFIG) Program provides reimbursement grants for the installation of alternative fuel infrastructure along Pennsylvania interstate highway corridors. Grants are available for a reimbursement of 50%, up to \ \$500,000, to install public electric, hydrogen, propane, and compressed natural gas fueling infrastructure along "Signage Ready" or "Signage Pending" highway corridors in Pennsylvania, as defined by the U.S. Federal Highway Administration. Eligible applicants include Pennsylvania municipal authorities, political subdivisions, non-profit entities, corporations, and limited liability companies or partnerships incorporated or registered in the Commonwealth. Applicants may submit more than one application if they are seeking funding to install fueling installations on separate highway segments. Applications will be accepted until 4:00 pm on December 15, 2017. For more information, including grant guidelines and application requirements, see the [AFIG Program](<http://www.dep.pa.gov/Citizens/GrantsLoansRebates/Alternative-Fuels-Incentive-Grant/Pages/default.aspx#.VI9OeHarSuk>) website.

MD Alternative Fuel Infrastructure Grants The Maryland Energy Administration administers the Maryland Alternative Fuel Infrastructure Program (AFIP), which provides grants to plan, install, and operate public access alternative fueling and charging infrastructure. Private access natural gas and propane fueling stations are eligible for funding. Only Maryland-based private businesses are eligible, and projects must take place in the state. Grant award amounts are based on the alternative fuel technology and are capped at 50% of project costs. Applicant cost share must be at least 50%.

Station Type

Maximum Grant Award per Station

DC Fast Charger

\\$55,000

Ethanol

\\$35,000

Hydrogen

\\$300,000

Natural Gas

\\$500,000

Propane

\\$100,000

Applications are accepted through December 31, 2018. For more information, including application requirements, see the [Maryland AFIP Program](<http://energy.maryland.gov/transportation/Pages/afip.aspx>) website.

CA Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Grants The Motor Vehicle Registration Fee Program (Program) provides funding for projects that reduce air pollution from on- and off-road vehicles. Eligible projects include purchasing AFVs and developing alternative fueling infrastructure. Contact [local air districts](<http://www.arb.ca.gov/capcoa/roster.htm>) and see the [Program](<http://www.arb.ca.gov/planning/tsaq/mvrfp/mvrfp.htm>) website for more information about available grant funding and distribution from the Program. (Reference [California Health and Safety Code](<http://www.oal.ca.gov/>) 44220 (b))

PA Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Funding	<p>The Alternative Fuels Incentive Grant (AFIG) Program provides financial assistance for qualified projects; information on alternative fuels, AFVs, and HEVs; and advanced vehicle technology research, development, and demonstration. Projects that result in product commercialization and the expansion of Pennsylvania companies are favored in the selection process.</p> <p>The AFIG Program also offers rebates to assist eligible residents with the incremental cost of the purchase of new AFVs, including all-electric vehicles (EVs), plug-in hybrid electric vehicles (PHEVs), natural gas vehicles (NGVs), and propane vehicles. The rebate amounts are \ \$1,750 for qualified EVs and \ \$1,000 for qualified PHEVs, NGVs, and propane vehicles.</p> <p>For more information, including forms and detailed requirements, see the [AFIG Program](http://www.dep.pa.gov/Citizens/GrantsLoansRebates/Alternative-Fuels-Incentive-Grant/Pages/default.aspx#.VI9OeHarSUK) and [Alternative Fuel Vehicle Rebates](http://www.dep.pa.gov/Citizens/GrantsLoansRebates/Alternative-Fuels-Incentive-Grant/Pages/Alternative-Fuel-Vehicles.aspx#.VI9K83arSUK) websites. (Reference Title 73 [Pennsylvania Statutes](http://government.westlaw.com/linkedslice/default.asp?SP=pac-1000), Chapter 18E, Section 1647.3)</p>
NC Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Support	<p>The Clean Fuel Advanced Technology (CFAT) project provides grant funding to reducing transportation-related emissions in nonattainment and maintenance counties for National Ambient Air Quality Standards. A project that is adjacent to these areas may also be eligible for funding if the project will reduce emissions in eligible counties. The North Carolina Department of Transportation funds the CFAT project, which covers three broad areas: education and outreach; project funding; and recognition of exemplary activities. For 2016-2017 funding cycles, financial support is available for AFVs, fueling infrastructure, idle reduction technologies, vehicle telematics, and diesel retrofits. For more information, including current requests for proposals, see the [CFAT](http://nccleantech.ncsu.edu/clean-transportation/clean-transportation-projects/clean-fuel-advanced-technology-project/) website.</p>
NV Alternative Fuel Vehicle (AFV) and Infrastructure Grants	<p>The Nevada Office of Energy will establish the Nevada Clean Energy Fund to fund qualified clean energy projects, including any program, technology, product, or service that supports the deployment of AFVs and related infrastructure. Technologies that involve the combustion of fossil fuels are not eligible for funding. (Reference [Senate Bill](https://www.leg.state.nv.us/) 407, 2017)</p>

CA	Alternative Fuel Vehicle (AFV) Incentives - San Joaquin Valley	<p>The San Joaquin Valley Air Pollution Control District administers the Public Benefit Grant Program, which provides funding to cities, counties, special districts (such as water districts and irrigation districts), and public educational institutions for the purchase of new AFVs, including electric, natural gas, and propane vehicles, as well as hybrid electric vehicles. The maximum grant amount allowed per vehicle is \$20,000, with a limit of \$100,000 per agency per year. Projects are considered on a first-come, first-serve basis. For more information, see the [Public Benefit Grant Program](http://valleyair.org/grants/content/publicbenefit.html) website.</p>
UT	Alternative Fuel Vehicle and Fueling Infrastructure Grants and Loans	<p>The Utah Clean Fuels and Vehicle Technology Grant and Loan Program, funded through the Clean Fuels and Vehicle Technology Fund, provides grants and loans to assist businesses and government entities to include:</p> <ul style="list-style-type: none"> - Up to 50% of the incremental cost of purchasing original equipment manufactured clean fuel vehicles, - Up to 50% of the cost of converting vehicles to a cleaner burning fuel, and - The cost of fueling equipment for public/private sector business and government vehicles (grants require federal and non-federal matching funds). <p>This program does not support E85 or biodiesel projects. For the purpose of this program, clean fuels include propane, compressed natural gas, and electricity. The program is not currently funded (verified February 2018). For more information, see the [Utah Clean Fuels Program](https://deq.utah.gov/ProgramsServices/programs/air/cleanfuels/grants/grantsintro.htm) website.</p> <p>(Reference [Utah Code](http://le.utah.gov/xcode/code.html) 19-1-401 through 19-1-405)</p>
MA	Alternative Fuel Vehicle and Infrastructure Grants	<p>The Massachusetts Department of Energy Resources' Clean Vehicle Project offers grant funding for public and private fleets to purchase alternative fuel vehicles and infrastructure, as well as idle reduction technology. Eligible vehicles include those fueled by natural gas, propane, and electricity, including hybrid electric, solar electric, and hydraulic hybrid vehicles. Eligible infrastructure includes natural gas and hydrogen fueling stations as well as electric vehicle supply equipment. For information about how to apply for funding, visit the [Massachusetts Clean Cities](http://www.mass.gov/eea/energy-utilities-clean-tech/alternative-transportation/clean-cities-coalition.html) website.</p>

- UT Alternative Fuel Vehicle Conversion Grants for Businesses The Utah Conversion to Alternate Fuel Grant Program, funded through the Clean Fuels and Vehicle Technology fund, provides grants to businesses that install conversion equipment on eligible vehicles. Businesses are required to pass these savings along to the individual who purchases the converted vehicle. Grants are available for 50% of the cost of conversion, up to \ \$2,500. This program does not support E85 or biodiesel projects. This program defines clean fuels to include propane, compressed natural gas, and electricity. For more information, see the [Utah Conversion to Alternative Fuel Grant Program](<http://air.utah.gov/altfuel/index.php>) website.
- (Reference [Utah Code](<http://le.utah.gov/xcode/code.html>) 19-1-401, 19-1-402, 19-1-403.3, and 19-1-405)
- NY Alternative Fuel Vehicle Research and Development Funding The New York State Energy Research and Development Authority's (NYSERDA) Clean Transportation Program provides funding for projects that enhance mobility, improve efficiency, reduce congestion, and diversity transportation methods and fuels through research and development of advanced technologies. NYSERDA offers annual solicitations that support new product development and demonstration as well as research on new transportation policies and strategies. NYSERDA also supports projects that demonstrate the benefits of commercially available products that are underutilized in New York State. Once developed, NYSERDA provides incentives to accelerate the market introduction of emerging technologies through its Alternative Fuel Vehicle Program. For more information and funding opportunities, see the NYSERDA [Clean Transportation Program](<https://www.nysERDA.ny.gov/All-Programs/Programs/Clean-Transportation-Program>) website.
- CO Alternative Fuel Vehicles and Infrastructure Grant Program The Colorado Energy Office (CEO), the Regional Air Quality Council (RAQC), and the Colorado Department of Transportation (CDOT), have partnered to provide grants through the ALT Fuels Colorado program for new, publicly accessible compressed natural gas (CNG) fueling equipment; co-located electric vehicle charging and propane station equipment at funded CNG stations; and CNG, propane, and electric vehicles. CEO will administer the station grants to advance infrastructure development along major state-wide transportation corridors. RAQC will administer the vehicle grants for fleets operating within counties with air quality nonattainment and maintenance areas. For more information, including application deadlines and annual award amounts, see the [Refuel Colorado](<https://www.colorado.gov/refuelcolorado>) and [Clean Air Fleets](<http://cleanairfleets.org/>) websites.

- OH Alternative Fueling Infrastructure Incentive The Ohio Development Services Agency administers the Alternative Fuel Transportation Program (Program), which provides financial assistance to businesses, non-profit organizations, school districts, and local governments for the purchase and installation of alternative fueling, blending, and distribution facilities or terminals. For more information, see the [Program](http://development.ohio.gov/bs/bs_altfueltrans.htm) website. (Reference [Ohio Revised Code](<http://codes.ohio.gov/>) 122.075 and 125.831)
- US Clean Agriculture Clean Agriculture is a voluntary program that promotes the reduction of diesel exhaust emissions from agricultural equipment and vehicles by encouraging proper operations and maintenance by farmers, ranchers, and agribusinesses, use of emissions-reducing technologies, and use of cleaner fuels. Clean Agriculture is part of the U.S. Environmental Protection Agency's [National Clean Diesel Campaign](<http://www.epa.gov/cleandiesel/>), which offers funding for clean diesel agricultural equipment projects. For more information, see the [Clean Agriculture](<https://www.epa.gov/cleandiesel/construction-and-agriculture>) website.
- US Clean Cities The mission of Clean Cities is to advance the energy, economic, and environmental security of the United States by supporting local initiatives to adopt practices that reduce the use of petroleum in the transportation sector. Clean Cities carries out this mission through a network of nearly 100 volunteer coalitions, which develop public/private partnerships to promote alternative fuels and advanced vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction. Clean Cities provides information about financial opportunities, coordinates technical assistance projects, updates and maintains databases and websites, and publishes fact sheets, newsletters, and related technical and informational materials. For more information, see the [Clean Cities](<https://cleancities.energy.gov/>) website.
- US Clean Construction Clean Construction is a voluntary program that promotes the reduction of diesel exhaust emissions from construction equipment and vehicles by encouraging proper operations and maintenance, use of emissions-reducing technologies, and use of cleaner fuels. Clean Construction is part of the U.S. Environmental Protection Agency's [National Clean Diesel Campaign](<http://www.epa.gov/cleandiesel/>), which offers funding for clean diesel construction equipment projects. For more information, see the [Clean Construction](<https://www.epa.gov/cleandiesel/construction-and-agriculture>) website.

- TX Clean Fleet Grants The Texas Commission on Environmental Quality (TCEQ) administers the Texas Clean Fleet Program (TCFP) as part of the Texas Emissions Reduction Plan (TERP). TCFP encourages owners of fleets containing diesel vehicles to permanently remove the vehicles from the road and replace them with alternative fuel vehicles (AFVs) or hybrid electric vehicles (HEVs). Grants are available to fleets to offset the incremental cost of such replacement projects. An entity that operates a fleet of at least 75 vehicles and commits to placing 10 or more qualifying vehicles in service for use in the Clean Transportation Zone may be eligible. Qualifying AFV or HEV replacements must reduce emissions of nitrogen oxides or other pollutants by at least 25% as compared to baseline levels and must replace vehicles that meet operational and fuel usage requirements. Neighborhood electric vehicles do not qualify. For more information, including current application periods, see the TCEQ [TERP](<https://www.tceq.texas.gov/airquality/terp>) website. (Reference [Senate Bill](<http://www.capitol.state.tx.us/BillLookup/BillNumber.aspx>) 1731, 2017, [Texas Statutes](<http://www.statutes.legis.state.tx.us/>), Health and Safety Code 386 and 392, and [Texas Administrative Code](<http://www.sos.state.tx.us/tac/index.shtml/>) 114.650-114.658)
- OR Clean School Bus Grants The Oregon Department of Environmental Quality must use funds awarded to Oregon through the [Volkswagen Clean Air Act Civil Settlement](<https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement>) and deposited in the Clean Diesel Engine Fund, to award grants to owners and operators of at least 450 school buses powered by diesel engines. Eligible vehicles include buses that have at least three years of remaining useful life. Grants will be available for 30%, up to \$50,000, for the purchase of a new bus or up to 100% of the cost to retrofit a school bus with emissions-reducing parts or technology that reduce diesel particulate matter emissions by at least 85%. (Reference [Oregon Revised Statutes](<https://www.oregonlegislature.gov/>) 468A.795-468A.803)

- TX Clean School Bus Program Any school district or charter school may receive a grant through the Texas Commission on Environmental Quality (TCEQ) to pay for the incremental costs to replace school buses or install diesel oxidation catalysts, diesel particulate filters, emission-reducing add-on equipment, and other emissions reduction technologies in qualified school buses. Furthermore, funds may also be used to purchase qualifying fuels, including any liquid or gaseous fuel or additive registered or verified by the U.S. Environmental Protection Agency (other than standard gasoline or diesel) that provides particulate matter emission reductions. Additional rules and conditions apply. For more information, see the TCEQ [Texas Emissions Reduction Plan](<https://www.tceq.texas.gov/airquality/terp>) website. (Reference [Senate Bill](<http://www.capitol.state.tx.us/BillLookup/BillNumber.aspx>) 1731, 2017, [Texas Statutes](<http://www.statutes.legis.state.tx.us/>), Health and Safety Code 390, and [Texas Administrative Code](<http://www.sos.state.tx.us/tac/index.shtml/>) 114.640-114.648)
- TX Clean Vehicle and Infrastructure Grants The Texas Commission on Environmental Quality (TCEQ) administers the Emissions Reduction Incentive Grants (ERIG) Program and Rebate Grants Program as part of the Texas Emissions Reduction Plan (TERP). The ERIG Program provides grants for various types of clean air projects to improve air quality in the state's nonattainment areas and other affected counties. Eligible projects include those that involve replacement, retrofit, repower, or lease or purchase of new heavy-duty vehicles; alternative fuel dispensing infrastructure; idle reduction and electrification infrastructure; and alternative fuel use. The Rebate Grants Program provides grants to upgrade or replace diesel heavy-duty vehicles and non-road equipment. Qualifying projects must reduce emissions of nitrogen oxides or other pollutants by at least 25% as compared to baseline levels and must meet operational and fuel usage requirements. Applications must be submitted by August 15, 2018. For more information, including eligibility and the application form, see the TCEQ [TERP](<https://www.tceq.texas.gov/airquality/terp>) website. (Reference [Texas Statutes](<http://www.statutes.legis.state.tx.us/>) Health and Safety Code 386 and [Texas Administrative Code](<http://www.sos.state.tx.us/tac/index.shtml/>) 114.620-114.629)

US	Congestion Mitigation and Air Quality (CMAQ) Improvement Program	<p>The CMAQ Program provides funding to state departments of transportation (DOTs), local governments, and transit agencies for projects and programs that help meet the requirements of the Clean Air Act by reducing mobile source emissions and regional congestion on transportation networks. Eligible activities include transit improvements, travel demand management strategies, congestion relief efforts (such as high occupancy vehicle lanes), diesel retrofit projects, and alternative fuel vehicles and infrastructure. Projects supported with CMAQ funds must demonstrate emissions reductions, be located in or benefit a U.S. Environmental Protection Agency-designated nonattainment or maintenance area, and be a transportation project. For more information, see the [FAST Act CMAQ](http://www.fhwa.dot.gov/fastact/factsheets/cmaqfs.cfm) fact sheet and [CMAQ Improvement Program](http://www.fhwa.dot.gov/environment/air_quality/cmaq/) website. (Reference [Public Law](http://thomas.loc.gov/home/LegislativeData.php?&n=PublicLaws&c=112) 112-141, 23 [U.S. Code](http://www.gpo.gov/fdsys/) 149, and 23 [U.S. Code](http://www.gpo.gov/fdsys/) 151)</p>
ME	Diesel Emission Reduction Project Funding	<p>The Maine Department of Transportation (MaineDOT) is accepting applications for funding of heavy-duty on-road new diesel or alternative fuel repowers and replacements, as well as off-road all-electric repowers and replacements, through September 15, 2018. Both government and non-government entities are eligible for funding. Vehicles that qualify for replacement or repower include:</p> <ul style="list-style-type: none"> - Model Year (MY) 1992-2009 Class 8 local freight trucks and port drayage trucks; - MY 1992-2009 Class 4-7 local freight trucks; - MY 2009 or older Class 4-8 school buses, shuttle buses, and transit buses; - Forklifts with greater than 8,000 pounds of lift capacity; - Port cargo handling equipment; and - High emissions diesel-powered or spark ignition airport ground support equipment. <p>Eligible alternative fuels include, but are not limited to, compressed natural gas, propane, and electricity. This grant program is funded by Maine's portion of the [Volkswagen Environmental Mitigation Trust](https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement). For more information, including how to apply, see the MaineDOT [VW Settlement Application for Funding](https://www1.maine.gov/mdot/vw/application/) website.</p>

MO Diesel Emission Reduction Project Funding The Missouri Department of Natural Resources (DNR) is accepting applications through September 14, 2018 for funding to replace diesel school buses with new cleaner burning vehicles. The DNR will provide funding up to \$22,000 per vehicle, and will replace 29 buses with new diesel buses or those that use alternative fuels including propane, natural gas, and electricity. This grant program is funded by Missouri's portion of the [Volkswagen Environmental Mitigation Trust](<https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement>). For more information, including how to apply, see the DNR's [Volkswagen Trust](<https://dnr.mo.gov/env/apcp/vw/apply-for-funding.htm>) website.

OH Diesel Emissions Reduction Grant Program The Ohio Environmental Protection Agency administers a [Diesel Emissions Reduction Grant Program](<http://www.epa.ohio.gov/oeef/EnvironmentalEducation.aspx#131364252-diesel-emission-reduction-grants>) for the purpose of reducing emissions from diesel engines in trucks, school and transit buses, marine fleets, and locomotives, as well as highway construction equipment. Eligible entities may use this funding for:

- Projects related to certified engine configurations, including new, rebuilt, or remanufactured engine configurations the U.S. Environmental Protection Agency or the California Air Resources Board has certified;
- The purchase or use of hybrid electric and alternative fuel vehicles that are allowed under U.S. Federal Highway Administration Congestion Mitigation and Air Quality (CMAQ) Improvement program guidance; or
- Installation of verified technology including pollution control devices, retrofits, and development of truck stop electrification and auxiliary power units.

To be eligible for funding, fleets must operate at least 65% of the time in Ohio counties that have been designated nonattainment or maintenance for particulate matter (PM) 2.5 and/or ozone. Private fleets are eligible, but they must establish a public-private partnership with a government organization that is eligible for CMAQ funds in order to apply for funding. A minimum 20% non-state and non-federal funding match is required.

- IN Diesel Vehicle Retrofit and Improvement Grants The Indiana Department of Environmental Management (IDEM) administers the DieselWise Indiana grant programs to support projects that reduce diesel emissions. The Clean Diesel Across Indiana program provides grants ranging from \ \$10,000 to \ \$75,000 for projects throughout the state. Eligible applicants include private and public entities that operate equipment serving the public, including private bus fleets and sanitation fleets. Eligible projects include replacing or converting a diesel vehicle or vehicle component with one that operates on alternative fuel, as well as installing exhaust retrofit technologies, idle reduction technologies, aerodynamic technologies, and low rolling resistance tires. For more information see the IDEM [DieselWise](<http://www.in.gov/idem/airquality/2561.htm>) website.
- CT Electric Vehicle Supply Equipment (EVSE) Grants The Connecticut Department of Energy and Environmental Protection (DEEP) provides funding to municipalities, state agencies, and private businesses for the cost and installation of eligible EVSE. Funding is available for 50% of project costs (up to \ \$2,000 per unit and \ \$4,000 per site) to 100% of project costs (up to \ \$10,000 per site), depending on how well the project matches program criteria. For EVSE that is available to the public 24 hours a day, 7 days a week, and located in a major downtown area or other central destination currently underserved by EVSE, DEEP will provide up to \ \$5,000 per unit or up to \ \$10,000 per site. All EVSE must be available to the public at no cost for three years, with further criteria required for maximum funding. The program is not currently accepting applications (verified June 2018). For more information, including application submission deadlines, refer to the Connecticut DEEP [Electric Vehicle Charging Station Incentive Program & Resources](http://www.ct.gov/deep/cwp/view.asp?a=2684&q=527866&deepNav_GID=1619) website.
- MN Electric Vehicle Supply Equipment (EVSE) Grants The Minnesota Pollution Control Agency (MPCA) is accepting applications through August 21, 2018, to install public direct current (DC) fast charging EVSE along Minnesota highways and interstates. Grants are available for 80% of the project costs, up to \ \$170,000 per 150 kilowatt (kW) EVSE (eligible in Albert Lea only) and up to \ \$70,000 per 50kW EVSE. A total of twenty-one 50kW EVSE and one 150kW EVSE will be funded. Other terms and conditions apply. This grant program is funded by Minnesota's portion of the [Volkswagen Environmental Mitigation Trust](<https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement>). For more information, including how to apply, see the MPCA [EV Fast-Charging Station Grants](<https://www.pca.state.mn.us/air/ev-fast-charging-station-grants>) page.

- CA Electric Vehicle Supply Equipment (EVSE) Incentives - San Joaquin Valley The San Joaquin Valley Air Pollution Control District (SJVAPCD) administers the Charge Up! Program, which provides funding for public agencies and businesses for the purchase and installation of new, publicly accessible EVSE. A single port Level 2 station is eligible for up to \ \$5,000 per unit, and a dual port Level 2 station may receive up to \ \$6,000 per unit. There is an annual funding cap of \ \$50,000 per applicant. Applicants interested in funding for DC fast charging infrastructure should contact SJVAPCD to review project eligibility. For more information, including application requirements and restrictions, see the [Charge Up! Program](<http://valleyair.org/grants/chargeup.htm>) website.
- CA Electric Vehicle Supply Equipment (EVSE) Pilot Programs The California Public Utilities Commission (PUC) will provide funding for pilot utility programs to install EVSE at a school facilities, other educational institutions, and state parks or beaches. Priority will be given to locations in disadvantaged communities, as defined by the California Environmental Protection Agency. Utilities may submit project proposals until July 20, 2018. (Reference [Assembly Bills](<http://leginfo.legislature.ca.gov/faces/home.xhtml>) 1082 and 1083, 2017 and [California Public Utilities Code](<http://leginfo.legislature.ca.gov/faces/home.xhtml>) 740.13-740.14)
- PA Electric Vehicle Supply Equipment and Hydrogen Fuel Cell Infrastructure Grants The Pennsylvania Department of Environmental Protection offers competitive grants for the acquisition, installation, operation, and maintenance of DC fast charging equipment and hydrogen fuel cell infrastructure. The DC fast chargers must be installed at public locations, workplaces, or multi-unit dwellings. The hydrogen fuel cell equipment must be available to the public. Grant reimbursement amounts and additional terms and conditions will be provided in the forthcoming program guidelines (verified June 2018). This grant program is funded by Pennsylvania's portion of the [Volkswagen Environmental Mitigation Trust](<https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement>). For more information, see the [Driving Pennsylvania Forward](<http://www.depghis.state.pa.us/DrivingPAForward/>) website.
- CA Employer Invested Emissions Reduction Funding - South Coast The South Coast Air Quality Management District (SCAQMD) administers the Air Quality Investment Program (AQIP). AQIP provides funding to allow employers within SCAQMD's jurisdiction to make annual investments into an administered fund to meet employers' emissions reduction targets. The revenues collected are used to fund alternative mobile source emissions and trip reduction programs, including alternative fuel vehicle projects, on an on-going basis. Programs such as low emission, alternative fuel, or zero emission vehicle procurement and old vehicle scrapping may be considered for funding. For more information, including current requests for proposals and funding opportunities, see the [AQIP](<http://www.aqmd.gov/home/programs/business/business-detail?title=air-quality-investment-program>) website.

VA Government Alternative Fuel Vehicle (AFV) Incentive

The Virginia Department of Mines, Minerals and Energy, in collaboration with the Virginia Department of Transportation, offers up to \ \$10,000 to state agencies and local governments for the incremental cost of new or converted AFVs. To be eligible, vehicles must comply with Buy America provisions or qualify for a waiver from the Federal Highway Administration, and must be garaged in areas of air quality nonattainment, as recognized by the federal [Congestion Mitigation and Air Quality Improvement (CMAQ)](https://www.fhwa.dot.gov/environment/air_quality/cmaq/) program. For more information, see the Virginia [CMAQ Incentive Program](<http://www.vacleancities.org/reports-2/cmaq-incentive-program/>) website.

CT Heavy-Duty Vehicle Emissions Reduction Grants

The Connecticut Department of Energy and Environmental Protection (DEEP) allocates a portion of its designated funds from the [Volkswagen Clean Air Act Civil Settlement](<https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement>) for the replacement or repower of eligible heavy-duty on-road vehicles through its Diesel Emissions Mitigation Program (Program). The Program provides up to 65% of the cost of new diesel or alternative fuel replacements and repowers for eligible public entities. For eligible private entities, the Program provides up to 40% of the cost of a new diesel or alternative fuel repower, up to 25% of the cost of a new diesel or alternative fuel vehicle, up to 60% of the cost of an all-electric repower, and up to 60% of the cost of a new all-electric vehicle and associated charging infrastructure. Vehicles that qualify for replacement or repower include:

Model Year	Vehicle Type
1992-2009	Class 8 Local Freight Trucks and Port Drayage Trucks
1992-2009	Class 4-7 Local Freight Trucks
2009 or older	Class 4-8 School Buses, Shuttle Buses, and Transit Buses

For more information, including application guidelines, see the [DEEP VW Grant Information](http://www.ct.gov/deep/cwp/view.asp?a=2684&q=587562&deepNav_GID=1619) website.

NV	Heavy-Duty Vehicle Emissions Reduction Grants	<p>The Nevada Division of Environmental Protection (NDEP) administers Nevada's portion of the [Volkswagen Environmental Mitigation Trust](https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement) through the Nevada Diesel Emission Fund. The fund assists publicly- and privately-owned fleets with the replacement or repower of model year (MY) 2009 or older medium- and heavy-duty diesel powered vehicles. Funding amounts vary based on vehicle type, applicant type (e.g., government or non-government), and the replacing or repowering fuel. Applications for the first round of funding are due by July 31, 2018. For more information, including application guidelines, see the NDEP [Nevada Diesel Emission Mitigation Fund](https://ndep.nv.gov/air/vw-settlement) website.</p>
VT	Heavy-Duty Vehicle Emissions Reduction Grants	<p>Through the Vermont Diesel Emissions Reduction Grants Program, the Vermont Department of Environmental Conservation (DEC) provides funding to local, state and regional agencies or departments, businesses, institutions, and nonprofit organizations for projects focused on reducing emissions from diesel engines and vehicles. Qualifying heavy-duty vehicles include buses and Class 5-8 trucks. Projects eligible for funding are as follows:</p> <ul style="list-style-type: none"> - Verified emission control technologies; - Verified idle reduction technologies; - Verified aerodynamic technologies and low rolling resistance tires; - Certified engine replacements; - Alternative fuel conversions; and - Certified vehicle or equipment replacements. <p>All technologies and engines must be certified by the U.S. Environmental Protection Agency. Alternative fuels include, but are not limited to, biodiesel, natural gas, propane, electricity, and fuel cell electric. Cost share requirements vary by project. For more information, including application details, see the DEC [Vermont Diesel Emissions Reduction Grants](http://dec.vermont.gov/air-quality/mobile-sources/diesel-emissions/vt-diesel-grant) website.</p>
CO	Impact Assistance Program for Public Fleets	<p>The Colorado Department of Local Affairs (DOLA) offers funding for the incremental cost of alternative fuel vehicles (AFVs) for public fleets. Eligible entities include municipalities, counties, and special districts. Additionally, eligible fleets may apply for DOLA funding to cover the matching funds required through the Regional Air Quality Council (RAQC) ALT Fuels Colorado program. For more information, see the DOLA [Energy Impact Assistance Fund Grant](https://www.colorado.gov/pacific/dola/energymineral-impact-assistance-fund-eiaf) website.</p>

US Low and Zero Emission Public Transportation Research, Demonstration, and Deployment Funding

Financial assistance is available to local, state, and federal government entities; public transportation providers; private and non-profit organizations; and higher education institutions for research, demonstration, and deployment projects involving low or zero emission public transportation vehicles. Funding opportunities include the [Public Transportation Innovation Program](<https://www.transit.dot.gov/funding/grants/public-transportation-innovation-5312>) and the [Low or No Emission (Low-No) Vehicle Program](<https://www.transit.dot.gov/funding/grants/low-or-no-emission-vehicle-program-5339c>).

Eligible vehicles must be designated for public transportation use and significantly reduce energy consumption or harmful emissions compared to a comparable standard vehicle. Funding is available through fiscal year 2020 (verified December 2017), but is subject to congressional appropriations thereafter. For more information, see the [FAST Act Section 5312]([https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/5312_Public_Transportation_Innovation_\(Research\)_Fact_Sheet.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/5312_Public_Transportation_Innovation_(Research)_Fact_Sheet.pdf)) fact sheet and the [MAP-21](<https://www.transit.dot.gov/regulations-and-guidance/legislation/map-21/map-21>) website. (Reference [Public Law](<http://thomas.loc.gov/home/LegislativeData.php?&n=PublicLaws&c=113>) 113-159, [Public Law](<https://www.congress.gov/public-laws/114th-congress>) 114-94, 49 [U.S. Code](<http://www.gpo.gov/fdsys/>) 5312, and 49 [U.S. Code](<http://www.gpo.gov/fdsys/>) 5339(c))

- CA Low Emission Vehicle Incentives and Technical Training - San Joaquin Valley The San Joaquin Valley Air Pollution Control District (SJVAPCD) administers the REMOVE II program, which provides incentives for cost-effective projects that result in motor vehicle emissions reductions and long-term impacts on air pollution in the San Joaquin Valley. REMOVE II is providing funding for vanpool agencies that reduce or replace single occupant vehicle commutes in the San Joaquin Valley. To participate, vanpool agencies must submit an application to SJVAPCD and sign a contract to become a Vanpool Voucher Incentive Program partner. REMOVE II also includes an Alternative Fuel Vehicle (AFV) Mechanic Training Component that provides incentives to educate personnel on the mechanics, operation safety, and maintenance of AFVs, fueling stations, and tools involved in the implementation of alternative fuel technologies. For more information, see the [REMOVE II](http://www.valleyair.org/Grant_Programs/GrantPrograms.htm) website, the [Vanpool Voucher Incentive Program](<http://valleyair.org/grants/vanpoolvoucher.htm>) and the [AFV Mechanic Training Component](<http://valleyair.org/grants/mechanictraining.htm>) website.
- CA Low Emissions School Bus Grants The Lower-Emission School Bus Program (Program) provides grant funding for the replacement of older school buses and for the purchase of air pollution control equipment for in-use buses. The California Air Resources Board must verify that the air pollution control devices reduce particulate matter emissions by at least 85% for each retrofitted school bus. Public school districts in California that own their buses are eligible to receive funding. Private school transportation providers that contract with public school districts in California to provide transportation services are also eligible to receive funding for the retrofit of in-use buses. New buses purchased to replace older buses may be fueled with diesel or an alternative fuel, provided that the required emissions standards specified in the current guidelines for the Program are met. Funds are also available for replacing on-board natural gas tanks on older school buses and for updating deteriorating natural gas fueling infrastructure. Commercially available hybrid electric school buses may be eligible for partial funding. For more information, see the [Program](<http://www.arb.ca.gov/msprog/schoolbus/schoolbus.htm>) website and contact local air districts to confirm funding availability. (Reference [California Health and Safety Code](<http://www.oal.ca.gov/>) 41081)

CO Plug-In Electric Vehicle (PEV) and Electric Vehicle Supply Equipment (EVSE) Grants The Colorado Energy Office (CEO) and Regional Air Quality Council (RAQC) provide grants through the Charge Ahead Colorado program to support PEV and EVSE adoption by individual drivers and fleets. Both CEO and RAQC grants will fund 80% of the cost of EVSE, up to \$9,000 for a dual port Level 2 station and up to \$30,000 for a DC fast charging station. Eligible DC fast stations must have both CHAdeMO and SAE CCS J1772 connectors and be capable of providing at least 50 kilowatts to one vehicle.

CEO administers grants outside the Denver Metro Area while RAQC administers grants inside the Denver Metro Area. RAQC also provides funding for 80% of the incremental cost for qualified PEVs, up to \$8,260. Eligible EVSE applicants are local governments, including school districts; state/federal agencies; public universities; public transit agencies; private non-profit or for-profit corporations; landlords of multi-family apartment buildings; and owners associations of common interest communities. For vehicle funding, priority will be given to organizations that are excluded from the Colorado Innovative Motor Vehicle Credit. Criteria and eligibility differ depending on which agency provides funding. For more information, including application deadlines, see the [Charge Ahead Colorado Grant Application](<http://cleanairfleets.org/programs/charge-ahead-colorado>) website.

(Reference [Colorado Revised Statutes](<http://www.lexisnexis.com/hottopics/Colorado/>) 24-38.5-103)

MA Plug-In Electric Vehicle (PEV) and Electric Vehicle Supply Equipment (EVSE) Grants The Massachusetts Electric Vehicle Incentive Program (MassEVIP) provides grants for the purchase or lease of qualified PEVs, zero emission electric motorcycles (ZEMs), and Level 2 EVSE. Grants are available for up to \$7,500 for the purchase or lease of a PEV, up to \$13,500 for the purchase or lease of Level 2 EVSE, and up to \$750 for the purchase or lease of a ZEM. Eligible applicants include local governments, public universities and colleges, and state agencies. For more information, including funding availability, application, and eligibility requirements, visit the [MassEVIP](<http://www.mass.gov/eea/agencies/massdep/air/grants/massevip-municipal.html>) website.

WA	Plug-In Electric Vehicle (PEV) Charging Infrastructure Funding Pilot Program	The Washington State Department of Transportation (WSDOT) has developed a pilot funding program to strengthen and expand the West Coast Electric Highway network by deploying direct current (DC) fast charging infrastructure along highway corridors in Washington. The first phase of the pilot program is July 1, 2017 through June 30, 2019. The program is not currently accepting applications (verified February 2018). For more information, see the WSDOT's [Electric Vehicle Charging Infrastructure](https://www.wsdot.wa.gov/Funding/Partners/EVIB.htm) website. (Reference [Revised Code of Washington](http://apps.leg.wa.gov/rcw/) 47.04.350)
CA	Plug-In Electric Vehicle (PEV) Credit - SDG&E	San Diego Gas & Electric (SDG&E) offers an annual credit of \ \$200 to customers who own or lease a PEV. The credit is available to qualified customers through 2020. For more information, including how to apply, see the SDG&E [Electric Vehicle Climate Credit](http://www.sdge.com/clean-energy/electric-vehicle-climate-credit) website.
MA	Plug-In Electric Vehicle (PEV) Discounts - Mass Energy	Mass Energy's Drive Green with Mass Energy program provides discounts on qualified PEVs purchased or leased from participating dealerships. The discount program is available to all consumers, including those that are not in Mass Energy's service territory. For more information, including participating dealerships and the discounts they offer, see the [Drive Green with Mass Energy](https://www.massenergy.org/drivegreen) website.
RI	Plug-In Electric Vehicle (PEV) Discounts - People's Power & Light (PP&L)	PP&L's Drive Green with PP&L program provides discounts on qualified PEVs purchased or leased from participating dealerships. The discount program is available to all consumers, including those that are not in PP&L's service territory. For more information, including participating dealerships and the discounts they offer, see the [Drive Green with PP&L](https://www.ripower.org/drivegreen) website.
US	Ports Initiative	The U.S. Environmental Protection Agency's (EPA) Ports Initiative is an incentive-based program designed to reduce emissions by encouraging port authorities and terminal operators to retrofit and replace older diesel engines with new technologies and use cleaner fuels. EPA's [National Clean Diesel Campaign](http://www.epa.gov/cleandiesel/) offers funding to port authorities and public entities to help them overcome barriers that impede the adoption of cleaner diesel technologies and strategies. For more information, see the [Ports Initiative](https://www.epa.gov/ports-initiative) website.

- OH School Bus Replacement Grant Program The Ohio Environmental Protection Agency (EPA) supports the purchase of replacement school buses in eligible Ohio counties through the Diesel Emission Reduction Grant program. Purchases are also supported with state allocated grant funding from the U.S. Environmental Protection Agency under the Diesel Emission Reduction Act. For more information, see the Ohio EPA [Clean School Bus Grants](<http://epa.ohio.gov/oee/EnvironmentalEducation.aspx#131364251-clean-school-bus-grants>) website.
- IL Smart Grid Infrastructure Development and Support The Illinois Science and Energy Innovation Trust (Trust) will provide financial and technical support to public and private entities within the state for programs and projects that support, encourage, or utilize innovative technologies and methods to modernize the state's electric grid. Technologies may include advanced electricity storage and peak-shaving technologies, such as plug-in electric vehicles (PEVs) or devices that allow PEVs to engage in smart grid functions. The Trust also offers assistance for standards development for communication and interoperability of appliances and equipment connected to the electric grid. Electric utilities may voluntarily commit to investments in smart grid advanced metering infrastructure deployment. Participating utilities must consult with the Smart Grid Advisory Council and file a Smart Grid Advanced Metering Infrastructure Deployment Plan with the Illinois Commerce Commission. (Reference 220 [Illinois Compiled Statutes](<http://www.ilga.gov/legislation/ilcs/ilcs.asp>) 5/16-108.5 through 108.7)
- US State Energy Program (SEP) Funding The SEP provides grants to states to assist in designing, developing, and implementing renewable energy and energy efficiency programs. Each state's energy office receives SEP funding and manages all SEP-funded projects. States may also receive project funding from technology programs in the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) for SEP Special Projects. EERE distributes the funding through an annual competitive solicitation to state energy offices. For more information, see the [SEP](<http://energy.gov/eere/wipo/state-energy-program>) website.

- CA Technology Advancement Funding - South Coast The South Coast Air Quality Management District's (SCAQMD) Clean Fuels Program provides funding for research, development, demonstration, and deployment projects that are expected to help accelerate the commercialization of advanced low emission transportation technologies. Eligible projects include powertrains and energy storage or conversion devices (e.g., fuel cells and batteries), and implementation of clean fuels (e.g., natural gas, propane, and hydrogen), including the necessary infrastructure. Projects are selected via specific requests for proposals on an as-needed basis or through unsolicited proposals. For more information, see the SCAQMD [Research, Development, and Demonstration](<https://www.aqmd.gov/home/technology/research-development-and-demonstration>) website.
- IN Vehicle Research and Development Grants The Indiana 21st Century Research and Technology Fund provides grants and loans to support economic development in high technology industry clusters. Incentives are available for qualified alternative fuel technologies and fuel-efficient vehicle development and production. For more information, see the Elevate Ventures [21st Century Fund](<http://www.elevateventures.com/programs/indiana-21-fund>) website. (Reference [Indiana Code](<http://www.in.gov/legislative/ic/code/>) 5-28-16-2)
- US Voluntary Airport Low Emission (VALE) Program The goal of the VALE Program is to reduce ground level emissions at commercial service airports located in designated ozone and carbon monoxide air quality nonattainment and maintenance areas. The VALE Program provides funding through the Airport Improvement Program and the Passenger Facility Charges program for the purchase of low emission vehicles, development of fueling and recharging stations, implementing gate electrification and other airport air quality improvements. For more information, see the [VALE Program](<http://www.faa.gov/airports/environmental/vale/>) website. (Reference 49 [U.S. Code](<http://www.gpo.gov/fdsys/>) 47139)

- CA Voluntary Vehicle Retirement Incentives - San Joaquin Valley and South Coast The San Joaquin Valley Air Pollution Control District and the South Coast Air Quality Management District administer the Enhanced Fleet Modernization Program (EFMP) Pilot Retire and Replace program, providing incentives to replace a vehicle eligible for retirement with a more fuel-efficient vehicle. Used vehicles must be no more than eight years old and applicants must live in the San Joaquin Valley or South Coast air basins. Eligible replacement vehicles must meet a minimum fuel economy average by model year or average at least 35 miles per gallon (mpg). Alternative fuel vehicles are also eligible, including plug-in hybrid electric vehicles (PHEV) and zero emission vehicles (ZEVs). Funding for alternative transportation mobility options, such as public transportation or car sharing, is also available in lieu of purchasing another vehicle. The incentive amounts vary by income level as compared to the Federal Poverty Level (FPL) and replacement vehicle type.
- For more information, including eligible vehicles and applicable requirements, see the [California Air Resources Board](<https://www.arb.ca.gov/msprog/aqip/efmp/efmp.htm>) website. (Reference [California Health and Safety Code](<http://www.oal.ca.gov/>) 44062.3 and 44125)
- MA Workplace Electric Vehicle Supply Equipment (EVSE) Grants The Massachusetts Electric Vehicle Incentive Program (MassEVIP) provides grants for 50% of the cost of Level 1 or Level 2 workplace EVSE, up to \$25,000. Eligible applicants include employers with 15 or more employees in a non-residential place of business. For more information, including funding availability, application, and eligibility requirements, visit the [MassEVIP](<http://www.mass.gov/eea/agencies/massdep/air/grants/workplace-charging.html>) website.
- NJ Workplace Electric Vehicle Supply Equipment (EVSE) Grants The New Jersey Department of Environmental Protection and New Jersey Board of Public Utilities provide grants through the It Pay\$ to Plug In: NJ's Electric Vehicle Workplace Charging Grant Program (the Program) to support plug-in electric vehicle and EVSE adoption. Reimbursement grants are offered on a first-come, first-served basis for the cost and installation of eligible EVSE at workplaces, government and educational facilities, non-profits, and parking facilities. Funding up to \$250 is available for each Level 1 EVSE installed and up to \$5,000 for each Level 2 EVSE installed. The Program is part of New Jersey's [Energy Master Plan](<http://www.nj.gov/emp/>). Funding for this program is not currently available (verified November 2017). For more information, including application and eligibility requirements, visit the [Drive Green NJ](<http://www.drivegreen.nj.gov/programs.html>) website.

Appendix B – EV Laws and Incentives: Loans and Leases

State	Title	Text
US	Advanced Technology Vehicle (ATV) and Alternative Fuel Infrastructure Manufacturing Incentives	<p>Through the Advanced Technology Vehicles Manufacturing Loan Program, manufacturers may be eligible for direct loans for up to 30% of the cost of re-equipping, expanding, or establishing manufacturing facilities in the United States used to produce qualified ATVs, ATV components, or alternative fuel infrastructure, including associated hardware and software. Qualified ATVs are light-duty or ultra-efficient vehicles that meet specified federal emission standards and fuel economy requirements. Ultra-efficient vehicles are fully closed compartment vehicles, designed to carry at least two adult passengers, which achieve at least 75 miles per gallon while operating on gasoline or diesel fuel, as hybrid electric vehicles operating on gasoline or diesel fuel, or as fully electric vehicles. Qualified components must be designed for ATVs and installed for the purpose of meeting ATV performance requirements, as determined by the U.S. Department of Energy.</p> <p>For more information, see the [Advanced Technology Vehicles Manufacturing Loan Program](http://energy.gov/lpo/services/atvm-loan-program) website and the [Alternative Fuel Infrastructure](https://energy.gov/sites/prod/files/2017/01/f34/FactSheet_Vehicle_Announcements_01_9_17.pdf) fact sheet. (Reference 42 [U.S. Code](http://www.gpo.gov/fdsys/) 17013)</p>
US	Alternative Fuel and Advanced Vehicle Technology Research and Demonstration Bonds	<p>Qualified state, tribal, and local governments may issue Qualified Energy Conservation Bonds subsidized by the U.S. Department of Treasury at competitive rates to fund capital expenditures on qualified energy conservation projects. Eligible activities include research and demonstration projects related to cellulosic ethanol and other non-fossil fuels, as well as advanced battery manufacturing technologies. Government entities may choose to issue tax credit bonds or direct payment bonds to subsidize the borrowing costs. For information on eligibility, processes, and limitations, see IRS Notices [2009-29](http://www.irs.gov/pub/irs-drop/n-09-29.pdf), [2010-35](http://www.irs.gov/pub/irs-drop/n-10-35.pdf), and [2012-44](http://www.irs.gov/pub/irs-drop/n-12-44.pdf) or contact local issuing agencies. (Reference 26 [U.S. Code](http://www.gpo.gov/fdsys/) 54D)</p>

CA Alternative Fuel and Vehicle Incentives The California Energy Commission (CEC) administers the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) to provide financial incentives for businesses, vehicle and technology manufacturers, workforce training partners, fleet owners, consumers, and academic institutions with the goal of developing and deploying alternative and renewable fuels and advanced transportation technologies. The CEC must prepare and adopt an annual [Investment Plan](<http://www.energy.ca.gov/2013publications/CEC-600-2013-003/CEC-600-2013-003-CMF.pdf>) for the ARFVTP to establish funding priorities and opportunities that reflect program goals and to describe how program funding will complement other public and private investments. Funded projects include:

- Commercial alternative fuel vehicle (AFV) demonstrations and deployment;
- Alternative and renewable fuel production;
- Research and development of alternative and renewable fuels and innovative technologies;
- AFV manufacturing;
- Workforce training; and
- Public education, outreach, and promotion.

The program will be available until January 1, 2024. For more information, see the [ARFVTP](<http://www.energy.ca.gov/drive/>) website. (Reference [California Health and Safety Code](<http://www.oal.ca.gov/>) 44270-44274.7 and [California Code of Regulations](<http://www.oal.ca.gov/>), Title 13, Chapter 8.1)

OR Alternative Fuel Loans The Oregon Department of Energy administers the State Energy Loan Program (SELP) which offers low-interest loans for qualified projects. Eligible alternative fuel projects include fuel production facilities, dedicated feedstock production, fueling infrastructure, and fleet vehicles. Loan recipients must complete a loan application and pay a loan application fee. SELP is not currently accepting new loan applications (confirmed April 2018). For more information, including application forms and interest rate and fee information, see the [SELP](<http://www.oregon.gov/energy/At-Work/Pages/Energy-Loan-Program.aspx>) website. (Reference [Oregon Revised Statutes](<https://www.oregonlegislature.gov/>) 470)

- NE Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Loans The Nebraska Energy Office administers the Dollar and Energy Saving Loan Program, which makes low-cost loans available for a variety of alternative fuel projects, including the replacement of conventional vehicles with AFVs; the purchase of new AFVs; the conversion of conventional vehicles to operate on alternative fuels; and the construction or purchase of fueling stations or equipment. The maximum loan amount is \ \$500,000 per borrower, and the interest rate is 5% or less. For more information, see the [Dollar and Energy Saving Loans](<http://www.neo.ne.gov/loan/index.html>) website.
- SC Alternative Fuel Vehicle (AFV) Revolving Loan Program for Private Entities The South Carolina Business Development Corporation provides low interest loans for a variety of energy efficiency improvements, including AFV conversions and incremental costs, with qualified project payback periods. Eligible recipients include business and industries; utilities, non-profit organizations, and government entities may be eligible under special conditions. The loan may cover up to 100% of the project costs ranging from \ \$50,000 to \ \$1 million and must be repaid after one and one half times the projected payback period of the loan. For more information, including application deadlines, see the [Energy Efficiency Revolving Loan](<http://www.energy.sc.gov/incentives/eerl>) website. (Reference [South Carolina Code of Laws](<http://www.scstatehouse.gov/code/statmast.php>) 48-52-650)
- SC Alternative Fuel Vehicle (AFV) Revolving Loan Program for Public Entities The South Carolina Energy Office (SCEO) provides low interest loans for a variety of energy efficiency improvements, including AFV conversions and incremental costs, with qualified project payback periods. Eligible recipients include state agencies, local governments, public colleges and universities, school districts, and private non-profit organizations. Private non-profit organizations and local government entities may be eligible for loans of up to 100% of eligible project costs ranging from \ \$25,000 to \ \$500,000 per state fiscal year. For state agencies and public educational institutions, SCEO will provide 70% of each project's funding as a loan and entities may also be eligible for ConserFund Plus grant of up to 30% project cost. For more information, see the [ConserFund](<http://www.energy.sc.gov/incentives/conserfund>) website. (Reference [South Carolina Code of Laws](<http://www.scstatehouse.gov/code/statmast.php>) 48-52-650)

UT	Alternative Fuel Vehicle and Fueling Infrastructure Grants and Loans	<p>The Utah Clean Fuels and Vehicle Technology Grant and Loan Program, funded through the Clean Fuels and Vehicle Technology Fund, provides grants and loans to assist businesses and government entities to include:</p> <ul style="list-style-type: none"> - Up to 50% of the incremental cost of purchasing original equipment manufactured clean fuel vehicles, - Up to 50% of the cost of converting vehicles to a cleaner burning fuel, and - The cost of fueling equipment for public/private sector business and government vehicles (grants require federal and non-federal matching funds). <p>This program does not support E85 or biodiesel projects. For the purpose of this program, clean fuels include propane, compressed natural gas, and electricity. The program is not currently funded (verified February 2018). For more information, see the [Utah Clean Fuels Program](https://deq.utah.gov/ProgramsServices/programs/air/cleanfuels/grants/grantsintro.htm) website.</p> <p>(Reference [Utah Code](http://le.utah.gov/xcode/code.html) 19-1-401 through 19-1-405)</p>
VA	Alternative Fuel Vehicle and Fueling Infrastructure Loans	<p>The Virginia Board of Education may use funding from the Literary Fund to provide loans to school boards that convert school buses to operate on alternative fuels or construct alternative fueling stations. (Reference [Virginia Code](http://lis.virginia.gov/000/src.htm) 22.1-146)</p>
FL	Electric Vehicle Supply Equipment (EVSE) Financing	<p>Property owners may apply to their local government for funding to help finance EVSE installations on their property or enter into a financing agreement with the local government for the same purpose. (Reference Florida Statutes (http://www.flsenate.gov/Laws/) 163.08)</p>
FL	Electric Vehicle Supply Equipment (EVSE) Incentives - Brickell Energy	<p>Brickell Energy's aFloat Program offers two different incentives to facilitate the installation of EVSE in Florida. Through the aFloat Host Agreement, Brickell Energy will cover the cost of hardware, network service plans, management service, and warranties. Eligible hosts include commercial real estate property owners and managers. Hosts must cover the cost of installation. The aFloat Rental Plan offers public and commercial locations the EVSE hardware, network service plan, management service, and warranties at a reduced fee. For more information, see Brickell Energy's [aFloat Program](https://brickellenergy.com/afloat-program/) website.</p>

CA	Electric Vehicle Supply Equipment (EVSE) Loan and Rebate Program	<p>The Electric Vehicle Charging Station Financing Program (Program), part of the California Capital Access Program (CalCAP), provides loans for the design, development, purchase, and installation of EVSE at small business locations in California. The Program may provide up to 100% coverage to lenders on certain loan defaults. Lenders must apply to the California Pollution Control Financing Authority (CPCFA) to participate and enroll each qualified EVSE loan through CalCAP. Upon approval, CPCFA will pay a premium into the lender's loan loss reserve account for up to 20% of the loan amount and contribute an additional 10% for installations in multi-unit dwellings and disadvantaged communities.</p> <p>Small businesses are eligible for a rebate of 50% of the loan loss reserve amount after the small business repays the loan in full or meets monthly payment deadlines over a 48-month period. Eligible borrowers must be small businesses with 1,000 or fewer employees and must maintain legal control of the EVSE for the entire loan period. The maximum loan amount is \ \$500,000 per qualified small business and can be insured for up to four years.</p> <p>The California Energy Commission funds the Program. For more information, including EVSE technical requirements and eligibility requirements for both borrowers and lenders, see the [Program](http://www.treasurer.ca.gov/cpcfca/calcap/evcs/index.asp) website.</p>
US	Improved Energy Technology Loans	<p>The U.S. Department of Energy (DOE) provides loan guarantees through the Loan Guarantee Program to eligible projects that reduce air pollution and greenhouse gases and support early commercial use of advanced technologies, including biofuels and alternative fuel vehicles. The program is not intended for research and development projects. DOE may issue loan guarantees for up to 100% of the amount of the loan for an eligible project. Eligible projects may include the deployment of fueling infrastructure, including associated hardware and software, for alternative fuels. For loan guarantees of over 80%, the loan must be issued and funded by the Treasury Department's Federal Financing Bank. For more information, see the [Loan Guarantee Program](http://www.energy.gov/lpo/loan-programs-office) website and the [Alternative Fuel Infrastructure](https://energy.gov/sites/prod/files/2017/01/f34/FactSheet_Vehicle_Announcements_01_9_17.pdf) fact sheet. (Reference 42 [U.S. Code](http://www.gpo.gov/fdsys/) 16513)</p>

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| CT | Loans for Plug-in Electric Vehicles (PEVs) and Residential Charging Infrastructure | The Connecticut Green Bank offers Smart-E low-interest loans of up to \ \$30,000 for Connecticut residents to purchase a new or used PEV. The vehicle must be registered with the Connecticut Department of Motor Vehicles. Loans are also available for Connecticut PEV drivers to purchase Level 2 and DC fast electric vehicle supply equipment (EVSE). To qualify, applicants must own or lease a model year 2012 or later PEV and occupy the residence at which the EVSE will be installed. For more information, see the Connecticut Green Bank [Smart-E Loan](https://www.ctgreenbank.com/smart-ev/) website. |
| IL | Plug-In Electric Vehicle (PEV) Financing and Charging - Illinois Electric Cooperative | Cooperative (Co-op) members are eligible for loan financing at 0.5% for 60 months or the purchase of new PEVs. Members must apply and be approved for financing before purchase. The Co-op also offers a PEV time-of-use electricity rate for residential customers who own PEV. The PEV rate is optional and does require installation of a separate meter. For more information, see the [Illinois Electric Cooperative](http://www.e-co-op.com/services/electric-cars) website. |
| CA | Residential Electric Vehicle Supply Equipment (EVSE) Financing Program | Property-Assessed Clean Energy (PACE) financing allows property owners to borrow funds to pay for energy improvements, including purchasing and installing EVSE. The borrower repays over a defined period of time through a special assessment on the property. Local governments in California are authorized to establish PACE programs. Property owners must agree to a contractual assessment on the property tax bill, have a clean property title, and be current on property taxes and mortgages. Financing limits are 15% of the first \ \$700,000 of the property value and 10% of the remaining property value. For more information, see the California Alternative Energy and Advanced Transportation Financing Authority [PACE](http://www.treasurer.ca.gov/caeatfa/pace/index.asp) website. (Reference [California Public Resources Code](http://www.oal.ca.gov/) 26004-26082) |

IL Smart Grid
Infrastructure
Development and
Support

The Illinois Science and Energy Innovation Trust (Trust) will provide financial and technical support to public and private entities within the state for programs and projects that support, encourage, or utilize innovative technologies and methods to modernize the state's electric grid. Technologies may include advanced electricity storage and peak-shaving technologies, such as plug-in electric vehicles (PEVs) or devices that allow PEVs to engage in smart grid functions. The Trust also offers assistance for standards development for communication and interoperability of appliances and equipment connected to the electric grid. Electric utilities may voluntarily commit to investments in smart grid advanced metering infrastructure deployment. Participating utilities must consult with the Smart Grid Advisory Council and file a Smart Grid Advanced Metering Infrastructure Deployment Plan with the Illinois Commerce Commission. (Reference 220 [Illinois Compiled Statutes](<http://www.ilga.gov/legislation/ilcs/ilcs.asp>) 5/16-108.5 through 108.7)

Appendix C – EV Laws and Incentives: Rebates

State	Title	Text
VT	All-Electric Vehicle (EV) Rebate - Green Mountain Power (GMP)	GMP customers with qualifying low and moderate household incomes are eligible for a \$600 rebate for the purchase of a qualifying new EV. Vehicles must have a manufacturer's suggested retail price (MSRP) that is less than or equal to \$50,000. Rebates are available through August 31, 2018. For more information, see the GMP [Low Income EV Rebate](https://greenmountainpower.com/product/ev-rebate/) website.
KS	All-Electric Vehicle (EV) Rebate - Kansas City Power & Light (KCP&L)	KCP&L customers and employees are eligible for a \$3,000 rebate for the purchase of a new Nissan Leaf. Rebates are available through September 30, 2018. To receive the rebate, bring the flyer and a recent KCP&L utility bill or proof of employment to a local Nissan dealer. For more information, visit KCP&L's [Clean Charge Network](https://cleanchargenetwork.com/buying-an-electric-car/nissan-leaf-special) website.
MO	All-Electric Vehicle (EV) Rebate - Kansas City Power & Light (KCP&L)	KCP&L customers and employees are eligible for a \$3,000 rebate for the purchase of a new Nissan Leaf. Rebates are available through September 30, 2018. To receive the rebate, bring the flyer and a recent KCP&L utility bill or proof of employment to a local Nissan dealer. For more information, visit KCP&L's [Clean Charge Network](https://cleanchargenetwork.com/buying-an-electric-car/nissan-leaf-special/) webpage.
IN	All-Electric Vehicle (EV) Rebate - NIPSCO	NIPSCO customers and employees are eligible for a \$3,000 rebate for the purchase of a new 2018 Nissan Leaf. To receive the rebate, show proof of NIPSCO employment or a copy of a NIPSCO bill at participating Nissan dealerships with the Fleet Certification Code B46251. Rebates are available through September 30, 2018.
VA	All-Electric Vehicle (EV) Rebate - Virginia Utilities	Current employee and customers of Virginia utilities can receive a \$3,000 rebate for the purchase of a new 2018 Nissan Leaf. To receive the rebate, show proof of employment at a Virginia utility or a copy of a current Virginia utility bill at participating Nissan dealerships with the [Nissan Leaf Rebate Flyer](http://vacleancities.org/wp-content/uploads/2018/07/NissanFleetRebate.pdf?utm_source=Nissan%26Domini on+Rebate&utm_campaign=Nissan+LEAF+rebate&utm_medium=email). Rebates are available through September 30, 2018.

- DE All-Electric Vehicle (EV) Rebates - Delmarva Power Delmarva customers are eligible for a \$10,000 rebate for the purchase of a new BMW i3 or i3s. Rebates are available through July 31, 2018. To receive the rebate, bring the [Customer Information Form](<https://www.delmarva.com/SmartEnergy/InnovationTechnology/Documents/BMW%20Delmarva%20i3%20Customer%20Offer.pdf>) and a recent Delmarva utility bill to a local dealership.
- Delmarva customers and eligible employees can receive a \$3,000 rebate for the purchase of a new 2018 Nissan LEAF. To receive the rebate, show proof of Delmarva employment or a copy of a Delmarva bill at participating Nissan dealerships with the [Nissan LEAF Rebate Flyer](<https://www.delmarva.com/SmartEnergy/InnovationTechnology/Documents/MY18NissanLEAFFlyerforFleetailDPL.pdf>). Rebates are available through June 30, 2018.
- For more information, visit Delmarva's [Electric Vehicles](<https://www.delmarva.com/SmartEnergy/InnovationTechnology/Pages/ElectricVehicles.aspx>) webpage.
- AZ All-Electric Vehicle Rebate - Salt River Project (SRP) SRP customers are eligible for a \$3,000 rebate for the purchase of a new 2018 Nissan Leaf at participating dealerships. Rebates are available through September 30, 2018. For more information, see the SRP [Nissan Leaf Rebate Flyer](https://www.srpnet.com/electric/home/cars/PDFX/NissanFleetailFlyer_Customer_2018.pdf).
- VT All-Electric Vehicle Rebate - Vermont Electric Co-op (VEC) VEC customers and employees are eligible for a \$5,000 rebate for the purchase of a new Nissan Leaf. Rebates are available through September 30, 2018. To receive the rebate, bring the flyer and a recent VEC utility bill or proof of employment to a local Nissan dealer. For more information, see the VEC [Nissan Leaf Rebate Flyer](https://www.vermontelectric.coop/images/pdf/TierIII/Fleetail_Onepager_Vermont_Electric_Coop.pdf).
- CA Alternative Fuel and Advanced Vehicle Rebate - San Joaquin Valley The San Joaquin Valley Air Pollution Control District (SJVAPCD) administers the Drive Clean! Rebate Program, which provides rebates for the purchase or lease of eligible new vehicles, including qualified natural gas, hydrogen fuel cell, propane, zero emission motorcycles, battery electric, neighborhood electric, and plug-in electric vehicles. The program offers rebates of up to \$3,000, which are available on a first-come, first-served basis for residents and businesses located in the SJVAPCD. For more information, including a list of eligible vehicles and other requirements, see the SJVAPCD [Drive Clean! Rebate Program](<http://valleyair.org/grants/driveclean.htm>) website.

PA Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Funding

The Alternative Fuels Incentive Grant (AFIG) Program provides financial assistance for qualified projects; information on alternative fuels, AFVs, and HEVs; and advanced vehicle technology research, development, and demonstration. Projects that result in product commercialization and the expansion of Pennsylvania companies are favored in the selection process.

The AFIG Program also offers rebates to assist eligible residents with the incremental cost of the purchase of new AFVs, including all-electric vehicles (EVs), plug-in hybrid electric vehicles (PHEVs), natural gas vehicles (NGVs), and propane vehicles. The rebate amounts are \$1,750 for qualified EVs and \$1,000 for qualified PHEVs, NGVs, and propane vehicles.

For more information, including forms and detailed requirements, see the [AFIG Program](<http://www.dep.pa.gov/Citizens/GrantsLoansRebates/Alternative-Fuels-Incentive-Grant/Pages/default.aspx#.VI9OeHarSUK>) and [Alternative Fuel Vehicle Rebates](<http://www.dep.pa.gov/Citizens/GrantsLoansRebates/Alternative-Fuels-Incentive-Grant/Pages/Alternative-Fuel-Vehicles.aspx#.VI9K83arSUK>) websites. (Reference Title 73 [Pennsylvania Statutes](<http://government.westlaw.com/linkedslice/default.asp?SP=pac-1000>), Chapter 18E, Section 1647.3)

DE Alternative Fuel Vehicle (AFV) Rebates

As part of the Delaware Clean Transportation Incentive Program, the Delaware Department of Natural Resources and Environmental Control offers rebates for new, leased, or converted AFVs. The following rebate amounts are applicable for vehicles purchased between November 1, 2016, and December 31, 2019:

Qualifying Vehicles	Rebate Amount
All-electric vehicle (EV)	\$3,500
Plug-in hybrid electric vehicle (PHEV; including vehicles with gasoline range extenders)	\$1,500
Converted EV and PHEV	\$1,500
EV or PHEV over \$60,000	\$1,000
Dedicated propane or natural gas vehicle (NGV)	\$1,500
Bi-fuel propane or NGV	\$1,350
Dedicated heavy-duty NGV \$20,000	

Eligible applicants include Delaware residents, businesses, organizations, and government entities. Rebate applications must be signed by both the purchaser and a dealer representative. Rebates are limited to six vehicles per fleet and one vehicle per individual. All vehicles purchased through this rebate program must be titled and registered in the state. Additional terms and conditions apply. For more information, including application guidelines and participating dealers, see the [Delaware Clean Fuel and Transportation Initiative](<http://dnrec.alpha.delaware.gov/energy-climate/clean-transportation/>) website.

AR Alternative Fuel Vehicle and Infrastructure Rebate Program	<p>The Office of Energy, a division of the Arkansas Department of Environmental Quality, administers the Arkansas Alternative Fuel Vehicle Rebate Program (Program), funded by the Alternative Motor Fuel Development Fund. The Program provides 50% of the incremental cost, up to \$4,500, to purchase a qualified hydrogen fuel cell, natural gas, or propane vehicle, 50% of the conversion cost, up to \$2,500, for converting a hydrogen fuel cell, natural gas, or propane vehicle, and 50% of the incremental cost, up to \$2,500, to purchase a qualified plug-in electric vehicle.</p> <p>Rebates are available for natural gas and propane fueling stations in the amount of 75% of qualifying costs, up to \$400,000, and up to 50% of qualifying costs for private and public electric vehicle supply equipment, up to \$900 and \$5,000 respectively. Compressed natural gas (CNG) must be delivered to a vehicle at 3,000 pounds (lbs.) per square inch and metered on a gasoline gallon equivalent (GGE); liquefied natural gas (LNG) must be metered on a diesel gallon equivalent (DGE). One GGE of CNG is equal to 5.66 lbs. and one DGE of LNG is equal to 6.22 lbs.</p> <p>The Office of Energy reviews and processes vehicle rebate applications on a first-come, first-served basis. The Program is currently closed and no funding is available (verified April 2018)</p> <p>(Reference [House Bill](http://www.arkleg.state.ar.us/assembly/2017/2017R/Pages/Home.aspx) 1735, 2017, and [Arkansas Code](http://www.lexisnexis.com/hottopics/arkcode/Default.asp) 15-10-901 to 15-10-904 and 19-5-1249)</p>
TX Clean Vehicle Replacement Vouchers	<p>The Texas Commission on Environmental Quality administers the AirCheckTexas Drive a Clean Machine program, which provides vehicle replacement assistance for qualified individuals owning vehicles registered in participating counties. Vouchers in the amount of \$3,500 are available toward the purchase of a hybrid electric, battery electric, or natural gas vehicle that is up to three model years old. For more information about participating counties, qualified vehicles, program requirements, and how to apply in specific areas, see the [AirCheckTexas Drive a Clean Machine](http://www.tceq.texas.gov/airquality/mobilesource/vim/driveclean.html) website. (Reference [Texas Statutes](http://www.statutes.legis.state.tx.us/), Health and Safety Code 382.209-220)</p>

- CA Electric Vehicle Supply Equipment (EVSE) and Charging Incentives - Sonoma Clean Power
 Qualified Sonoma Clean Power (SCP) customers are eligible to receive a free JuiceNet-enabled EVSE from [eMotorWerks](https://emotorwerks.com/special-scp-offer), which allows the EVSE to be connected to Wi-Fi and communicate with the SCP CleanCharge software. This software helps customers avoid using as much power when California's electric grid is particularly expensive or harmful to the environment. Customers with an existing standard, non-connected EVSE, are eligible to receive a free JuicePlug (smart grid adapter) to convert to a JuiceNet-enabled EVSE. Customers are responsible for shipping and installation costs. Eligible customers may also receive a \$250 rebate in JuicePoints to pay for charging. Other terms and conditions may apply. For more information, including frequently asked questions, see SCP's [Drive EverGreen](https://sonomacleanpower.org/drive-evergreen/) website.
- RI Electric Vehicle Supply Equipment (EVSE) and Plug-In Electric Vehicle (PEV) Rebates
 The Charge Up! program provides rebates to state and municipal agencies for the purchase and installation of publicly accessible Level 2 or DC fast chargers. Agencies are eligible for up to \$60,000 in incentives for EVSE that are installed and operational on or after July 1, 2016. Agencies that install EVSE also qualify for up to \$15,000 to support the purchase or lease of a new PEV acquired on or after July 1, 2016, as part of their public sector fleet. For more information, see the Rhode Island Office of Energy Resources [Charge Up!](http://www.energy.ri.gov/transportation/ev/charge-up.php) website.
- VT Electric Vehicle Supply Equipment (EVSE) Credit - Vermont Electric Co-op (VEC)
 VEC offers a bill credit of \$500 per connector, up to \$2,000, to VEC member businesses and public entities that install Level 2 or DC fast EVSE between July 2, 2017 and December 31, 2018. To qualify, the EVSE must be available for public use. Bill credits are available for up to 30 connectors total. For more information, including how to apply, see the VEC [Energy Transformation Program](http://www.vermontelectric.coop/programs-services/energy-transformation-programs) website.

- TX Electric Vehicle Supply Equipment (EVSE) Incentive - Austin Energy Plug-in electric vehicle owners in the Austin Energy service area may be eligible for a rebate of 50% of the cost to purchase and install a qualified Level 2 EVSE, up to \$1,500. For additional information, see the Austin Energy [Plug-In Rebate](http://austinenergy.com/wps/portal/ae/green-power/plug-in-austin/plug-in-austin!/ut/p/a1/jZHBTsMwDlafZYccu3iZgl5bFqZSxuiJruQyBeSllbokSIMmeHoy7QLVNuaTLX_2r9-mklZUGvXZaBUaa1R7qOXtBljKHgWwPLtjKfBMzJc35ctklk8i8PYbKBbFA-RIUfJiKSAT0yvzwsH_-afrhBgfiVWmkqnQp00Zmtp5dpexzRRfRcac4C4eZ-mEfK4RY9-3Pvovg7B3RMgcOTQoNdf4w-7I7B3HqFnfVBtbCMB7RFN4uwefWz82T-sT-nVtgu0GurQNZWXHPIFGwInXnAEzt_Y7V6r72dcp2GWN3w0-gGxgD4P/dl5/d5/L2dBISEvZ0FBIS9nQSEh/) website.
- VT Electric Vehicle Supply Equipment (EVSE) Incentives - Green Mountain Power (GMP) GMP residential customers are eligible for a free Level 2 EVSE when they purchase a new all-electric vehicle (EV). Residential customers that already own an EV may rent a Level 2 EVSE station at a low monthly fee. In addition, customers may enroll in GMP's EV Unlimited Plan for unlimited EV charging during off-peak hours at a flat monthly fee. For more information about these incentives, see GMP's [In-Home Level 2 EV Charger](<https://greenmountainpower.com/product/home-level-2-ev-charger/>) website.

CA Electric Vehicle Supply Equipment (EVSE) Loan and Rebate Program

The Electric Vehicle Charging Station Financing Program (Program), part of the California Capital Access Program (CalCAP), provides loans for the design, development, purchase, and installation of EVSE at small business locations in California. The Program may provide up to 100% coverage to lenders on certain loan defaults. Lenders must apply to the California Pollution Control Financing Authority (CPCFA) to participate and enroll each qualified EVSE loan through CalCAP. Upon approval, CPCFA will pay a premium into the lender's loan loss reserve account for up to 20% of the loan amount and contribute an additional 10% for installations in multi-unit dwellings and disadvantaged communities.

Small businesses are eligible for a rebate of 50% of the loan loss reserve amount after the small business repays the loan in full or meets monthly payment deadlines over a 48-month period. Eligible borrowers must be small businesses with 1,000 or fewer employees and must maintain legal control of the EVSE for the entire loan period. The maximum loan amount is \$500,000 per qualified small business and can be insured for up to four years.

The California Energy Commission funds the Program. For more information, including EVSE technical requirements and eligibility requirements for both borrowers and lenders, see the [Program](<http://www.treasurer.ca.gov/cpcfca/calcap/evcs/index.asp>) website.

CA Electric Vehicle Supply Equipment (EVSE) Rebate - Burbank Water and Power (BWP)

BWP provides rebates to commercial and residential customers toward the purchase of Level 2 EVSE. Commercial customers who purchase and install EVSE can receive up to \$2,000 for each charger and up to four rebates per fiscal year. Residential customers who install a charger can receive up to \$500 and will be placed on BWP's [time-of-use](<https://www.burbankwaterandpower.com/electric/residential-electric-rates-and-charges>) electric rate. Applications must be submitted no later than four months from the date of purchase. Rebates are available on a first-come, first-served basis until funds are exhausted. For program guidelines and application materials, see the [Charging Station Rebate](<https://www.burbankwaterandpower.com/incentives-for-residents/ev-charging-station-rebate>) website.

MN	Electric Vehicle Supply Equipment (EVSE) Rebate - Connexus Energy	Connexus Energy offers a \$500 rebate to residential customers towards the installation of a qualified Level 2 EVSE. Eligible applicants must enroll in a time-of-use rate. For more information, see Connexus Energy's [Electric Vehicle](https://www.connexusenergy.com/residential/programs-rates/electric-vehicle/) page.
CA	Electric Vehicle Supply Equipment (EVSE) Rebate - Fresno County	The Fresno County Incentive Project (FCIP), funded by the California Energy Commission, offers rebates of up to \$400 for single port EVSE and up to \$7,000 for dual port EVSE towards the purchase and installation of the unit. Eligible applicants include businesses, non-profit organizations, or government entities based in California, or with a California-based affiliate, as well as property owners or entities with property owner authorization to install EVSE. Qualifying installation sites are commercial, workplace, multi-unit dwelling, or public facilities located in Fresno County. For more information, see the [FCIP](https://calevip.org/incentive-project/fresno) website.
GA	Electric Vehicle Supply Equipment (EVSE) Rebate - Georgia Power	Georgia Power offers a rebate to residential customers, businesses, and builders who install Level 2 (208/240 volt) EVSE. Customers are eligible for a \$250, \$500, and \$100 rebate, respectively, for each dedicated circuit installed through December 31, 2018. Other conditions may apply. For more information, see the [Georgia Power Electric Vehicles](https://www.georgiapower.com/about-energy/electric-vehicles/home.cshhtml?nav=footer_ee_plugin&hp=bm_ci_electric_vehicles) and [Electric Vehicles & Your Business](https://www.georgiapower.com/business/industry-services/ev-charging-for-business.html) websites.
FL	Electric Vehicle Supply Equipment (EVSE) Rebate - Gulf Power	Gulf Power offers rebates of \$750 to residential customers for the purchase of EVSE. Applicants must supply proof of purchase or lease of new or preowned plug-in electric vehicle (PEV). Customers must apply for the rebate within six months of the purchase or lease of an eligible PEV. Rebates are available to the first 1,000 participants or through December 31, 2018, whichever comes first. For more information, see the Gulf Power [Electric Vehicles](https://www.gulfpower.com/residential/savings-and-energy/rebates-and-programs/electric-vehicles) page.

- CO Electric Vehicle Supply Equipment (EVSE) Rebate - Gunnison County Electric Association (GCEA) GCEA provides rebates to residential customers toward the purchase of Level 2 EVSE. Eligible customers who purchase and install EVSE can receive a rebate of 35% of the cost of the EVSE, up to \$250. Customers who purchase the EVSE directly through GCEA may receive a 5% discount on the equipment. To qualify, applicants must also sign up for a time-of-use rate. For more information, see the GCEA [EVSE Rebate](<http://gcea.coop/content/ev-charger-rebate>) website.
- CA Electric Vehicle Supply Equipment (EVSE) Rebate - LADWP The Los Angeles Department of Water and Power (LADWP) provides rebates to commercial and residential customers toward the purchase of Level 2 EVSE. Commercial customers who purchase and install EVSE for employee and public use can receive up to \$4,000 for each charger. Eligible customers may qualify for up to 20 rebate awards depending on the number of parking spaces. Residential customers who install wall-mounted chargers can receive up to \$500. EVSE must be installed within the LADWP service area; rebates do not cover the cost of installation. Rebates are available on a first-come, first-served basis through June 30, 2018, or until funds are exhausted, whichever occurs first. For program guidelines and application materials, see the [Charge Up L.A.!(https://www.ladwp.com/ladwp/faces/ladwp/residential/r-gogreen/r-gg-driveelectric?_adf.ctrl-state=1d4357epvd_4&_afLoop=472125629767806)] website.
- FL Electric Vehicle Supply Equipment (EVSE) Rebate - OUC Orlando Utilities Commission (OUC) offers rebates of \$200 per EVSE to commercial and multi-family building customers for the purchase of EVSE. For more information, see the OUC [Charging Stations](<http://www.ouc.com/business/business-rebates-programs/business-ev-charging-stations>) page.
- FL Electric Vehicle Supply Equipment (EVSE) Rebate - Sarasota County ChargeUP! Sarasota County offers rebates to businesses, non-profits, and local governments within Sarasota County for the installation of qualified Level 2 or DC fast charging EVSE. Businesses are eligible for a rebate of 25% of the cost of EVSE purchase and installation, up to \$2,000, and non-profits or government organizations are eligible for a rebate of 50% of the cost of EVSE purchase and installation, up to \$4,000. Qualified EVSE must be level 2 or DC fast charging stations, publicly available for at least 8 hours a day, and located in targeted locations that do not currently have EVSE. Additional restrictions apply, and program participants must apply for the rebate before EVSE installation. For more information and rebate request forms, see the [ChargeUP! Sarasota](<https://www.scgov.net/government/sustainability/sustainability/electric-vehicles>) website.

CA	Electric Vehicle Supply Equipment (EVSE) Rebate - SCE	Southern California Edison's (SCE) Charge Ready Home Installation Rebate Program offers rebates for residential customers of up to \$1,500 towards the installation and permitting costs for a residential Level 2 EVSE. Eligible expenses include the costs associated with electrical upgrades and permit fees, not the cost of the EVSE unit. To qualify, customers must be enrolled in a SCE time-of-use (TOU) rate. Rebate amounts vary depending on the TOU rate in which the customer is enrolled. Additional terms and conditions apply. For more information, including application guidelines, see the [Charge Ready Home Installation Rebate Program](https://evrebates.sce.com/homeinstallation?utm_source=evsp&utm_medium=email&utm_campaign=crhirp) website.
CA	Electric Vehicle Supply Equipment (EVSE) Rebate - South Coast and MSRC	The South Coast Air Quality Management District (SCAQMD) and the Mobile Source Air Pollution Reduction Review Committee's (MSRC) Residential Electric Vehicle (EV) Charging Incentive Pilot Program offers rebates of up to \$250 towards the purchase of a qualified residential Level 2 EVSE. Additional rebates of up to \$250 are available for low-income residents. Funding is available on a first-come, first-served basis to residents within the SCAQMD jurisdiction. Additional terms and conditions apply. For more information, including application guidelines, see the [Residential EV Charging Incentive Pilot Program](http://www.aqmd.gov/home/programs/community/community-detail?title=ev-charging-incentive) website.
WY	Electric Vehicle Supply Equipment (EVSE) Rebate - Yellowstone-Teton Clean Cities (YTCC)	YTCC offers a rebate of \$5,000 toward the purchase of publicly accessible EVSE. Eligible entities include businesses and municipalities in the communities surrounding Grand Teton National Park and Yellowstone National Park. Rebates are available on a first-come, first-served basis. For more information, see the [YTCC Vehicle and Infrastructure Rebates](https://ytcleancities.org/what-we-are-doing-why/services/#rebates) page.
ID	Electric Vehicle Supply Equipment (EVSE) Rebate - Yellowstone-Teton Clean Cities (YTCC)	YTCC offers a rebate of \$5,000 toward the purchase of publicly accessible EVSE. Eligible entities include businesses and municipalities in the communities surrounding Grand Teton National Park and Yellowstone National Park. Rebates are offered on a first-come, first-served basis. For more information, see the [YTCC Vehicle and Infrastructure Rebates](https://ytcleancities.org/what-we-are-doing-why/services/#rebates) website.

MD Electric Vehicle Supply Equipment (EVSE) Rebate Program

The Maryland Energy Administration (MEA) offers an EVSE rebate program to an individual, business, or state or local government entity for the costs of acquiring and installing qualified EVSE. Between July 1, 2017, and June 30, 2020, rebates for 40% of the costs of acquiring and installing qualified EVSE, or up to the following amounts:

Qualified Entity	Amount
Individual	\$700
Business or State or Local Government	\$4,000
Retail Service Station Dealer	\$5,000

Applicants must demonstrate compliance with state, local, and/or federal law that applies to the installation or operation of qualified EVSE.

Other requirements may apply. Total funding for each fiscal year will not exceed \$1,200,000. For more information, see MEA's [EVSE Rebate Program](http://energy.maryland.gov/transportation/Pages/incentives_evsebate.aspx) page.

(Reference [Maryland Statutes](<http://mgaleg.maryland.gov/webmga/frm1st.aspx?tab=home>), Business Regulation Code 10-101, and State Government Code 9-2009)

DE Electric Vehicle Supply Equipment (EVSE) Rebates

As part of the Delaware Clean Transportation Incentive Program, the Delaware Department of Natural Resources and Environmental Control offers rebates for new EVSE purchased for use at commercial and residential locations.

Rebate amounts are 50% of the cost of a residential charging station, up to \$500, and 75% of the cost of a commercial or workplace charging station, up to \$2,500 or \$5,000, respectively.

Rebates are available on a first-come, first-served basis to Delaware residents, businesses, organizations, and government entities. Rebates are limited to six EVSE per fleet and one EVSE per individual. Additional terms and conditions apply. For more information, including application guidelines, see the [Delaware Electric Vehicle Charging Equipment Rebate Program](<http://dnrec.alpha.delaware.gov/energy-climate/clean-transportation/ev-charging-equipment-rebates/>) website.

PA	Electric Vehicle Supply Equipment (EVSE) Rebates	<p>The Pennsylvania Department of Environmental Protection (DEP) offers rebates for the installation of Level 2 EVSE. Rebates will be provided for Level 2 chargers at workplaces or multi-unit dwellings. DEP must approve all project applications and will process rebates on a first-come, first-served basis. Maximum reimbursement amounts and additional terms and conditions will be provided in the forthcoming program guidelines (verified June 2018). This rebate program is funded by Pennsylvania's portion of the [Volkswagen Environmental Mitigation Trust](https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement).</p> <p>For more information, see the [Driving Pennsylvania Forward](http://www.depgis.state.pa.us/DrivingPAForward/) website.</p>
NY	Electric Vehicle Supply Equipment (EVSE) Rebates - EV Connect	<p>The New York State Energy Research and Development Authority, in partnership with EV Connect, offers rebates for municipalities, businesses, workplaces, retail locations, universities, schools, hospitals, and public parking facilities to purchase and install General Electric EVSE. Rebate amounts are up to \$8,000 per EVSE unit. EV Connect will also provide EVSE management services. EVSE must be installed within the state of New York. For more information, including application instructions, see the EV Connect [New York State of Opportunity](https://www.evconnect.com/newyork/) website.</p>
NH	Electric Vehicle Supply Equipment (EVSE) Rebates - New Hampshire Electric Co-op (NHEC)	<p>NHEC offers rebates for residential and commercial customers to install EVSE. Residential customers may receive a rebate of up to \$300 to install EVSE and a separate electric meter. Commercial customers may receive a rebate of 50% of the installed cost, up to \$2,500, per EVSE unit to install a maximum of two Level 2 or DC fast chargers and a required separate electric meter. EVSE must be installed within the NHEC service territory. For more information, including application instructions, see the NHEC [Drive Electric](https://www.nhec.com/drive-electric/#/find/nearest) website.</p>
CA	Electric Vehicle Supply Equipment and Charging Incentives - SMUD	<p>Sacramento Municipal Utility District (SMUD) offers residential customers a \$599 rebate or a free Level 2 (240 volt) plug-in electric vehicle (PEV) charger. Rebates or chargers are available to SMUD residential customers with the purchase or lease of a new PEV. To be eligible for the rebate or charger, completed applications must be postmarked within 180 days of the date of purchase or lease of the PEV. Additional terms and conditions apply. For more information, including the rebate application, please see SMUD's [Drive Electric Incentive](https://www.smud.org/en/residential/environment/plug-in-electric-vehicles/drive-electric-incentive-application.htm) website.</p>

NC EVSE Rebate and Charging Rate Reduction - Randolph Electric Membership Corporation (EMC) Randolph EMC's Electric Vehicle Utility Program (REVUP) offers rebates for residential customers of \$500 towards the purchase of residential Level 2 electric vehicle supply equipment (EVSE). To qualify, residents must be a registered owner of an electric vehicle (EV), purchase and install a Wi-Fi connected Level 2 EVSE, and agree to share the data collected by the EVSE. Rebates are available to the first 25 applicants. REVUP also offers residents an EV time-of-use (TOU) rate. For more information, see the [REVUP](https://www.randolphemc.com/content/revup) website.

NY Heavy-Duty Alternative Fuel and Advanced Vehicle Purchase Vouchers The New York State Energy Research and Development Authority (NYSERDA) provides incentives for alternative fuel trucks and buses and diesel emission controls. Incentives are released on a staggered schedule and are distributed based on the following criteria:

Class 3-8 Battery Electric Trucks & Buses Statewide nonattainment or maintenance area Public, private, and non-profit fleets 80% of the incremental cost, up to \$150,000 per vehicle

Class 2-8 Battery Electric Trucks & Buses New York City Private and non-profit fleets 80% of the incremental cost, up to \$60,000 per vehicle

Class 3-8 Compressed Natural Gas Trucks & Buses New York City Private and non-profit fleets 80% of the incremental cost, up to \$50,000 per vehicle

Class 3-8 Hybrid Electric Trucks & Buses New York City Private and non-profit fleets 80% of the incremental cost, up to \$40,000 per vehicle

Diesel Emission Reduction Equipment New York City Private and non-profit fleets 80% of the cost of purchase and installation, up to \$500,000 per recipient

Eligible vehicles must be in operation 70% of the time and be garaged in the program area. Funding for this program is not currently available (verified August 2018). For information about voucher availability and vehicle eligibility, see the NYSERDA [New York Truck Voucher Incentive Program](https://truck-vip.ny.gov/index.php) website.

CT Hydrogen and Plug-In Electric Vehicle (PEV) Rebate The Hydrogen and Electric Automobile Purchase Rebate Program (CHEAPR) offers rebates for the incremental cost of the purchase or lease of a hydrogen fuel cell electric vehicle (FCEV), all-electric vehicle (EV), or plug-in hybrid electric vehicle (PHEV). Rebates are offered based on battery range in the following amounts:

Vehicle Type	Rebate Amount	Required Battery Range
PHEV	\$2,000	40 miles or greater
	\$500	Less than 40 miles
EV	\$3,000	175 miles or greater
	\$2,000	100-174 miles
	\$500	Less than 100 miles
FCEV	\$5,000	-

Rebates are offered on a first-come, first-served basis until funds expire. For more information, see the Connecticut Department of Energy and Environmental Protection [EV Connecticut](http://www.ct.gov/deep/cwp/view.asp?a=2684&q=561422&deepNav_GID=2183) website.

TX Light-Duty Alternative Fuel Vehicle Rebates The Texas Commission on Environmental Quality (TCEQ) administers the Light-Duty Motor Vehicle Purchase or Lease Incentive Program for the purchase or lease of a new light-duty vehicle powered by compressed natural gas (CNG), propane, hydrogen, or electricity. CNG and propane vehicles are eligible for a rebate of \$5,000 for the first 1,000 applicants. Electric drive vehicles powered by a battery or hydrogen fuel cell are eligible for a rebate of \$2,500, for the first 2,000 applicants. One rebate will be available per eligible vehicle. Applications must be submitted by May 31, 2019. For more information, including eligibility requirements and the application form, see the TCEQ [Texas Emissions Reduction Plan](<https://www.tceq.texas.gov/airquality/terp>) website. (Reference [Texas Statutes](<http://www.statutes.legis.state.tx.us/>) Health and Safety Code 386 and [Texas Administrative Code](<http://www.sos.state.tx.us/tac/index.shtml>) 114.610-114.613)

- CA Low Emission Truck and Bus Purchase Vouchers Through the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) and Low NOx Engine Incentives, the California Air Resources Board provides vouchers to eligible fleets to reduce the incremental cost of qualified electric, hybrid, or natural gas trucks and buses at the time of purchase. Vouchers are available on a first-come, first-served basis and range from \$2,000 to \$300,000. Only fleets that operate vehicles in California are eligible. For more information, including a list of qualified vehicles and other requirements, see the [HVIP](<http://www.californiahvip.org/>) website.
- MA Massachusetts Plug-In Electric Vehicle (PEV) Rebates Massachusetts Department of Energy Resources' Massachusetts Offers Rebates for Electric Vehicles (MOR-EV) Program offers rebates of up to \$2,500 to customers purchasing or leasing a PEV or zero emission motorcycle. Rebates are only available to Massachusetts residents and residents must submit applications within three months of the vehicle purchase or lease date. Applicants must retain ownership of the vehicle for a minimum of 36 months. For more information, including application and eligibility requirements, visit the [MOR-EV](<https://mor-ev.org/>) website.
- MI Plug-In Electric Vehicle (PEV) Charging Rate and Infrastructure Rebate - Indiana Michigan Power Indiana Michigan Power offers a special time-of-use rate option to residential customers who own a qualified PEV. Indiana Michigan Power also provides rebates of up to \$2,500 to residential customers who purchase or lease a new PEV and install a Level 2 EVSE with a separate meter. Customers must also sign up for the Indiana Michigan Power PEV time-of-use rate. The rebate is available to the first 250 qualified customers who submit a completed application. For more information, see the Indiana Michigan Power [Rates, Programs & Incentives](<https://www.indianamichiganpower.com/environment/ElectricVehicles/incentives.aspx>) website.
- MI Plug-In Electric Vehicle (PEV) Charging Rate and Infrastructure Rebate - Lansing BWL The Lansing Board of Water & Light (BWL) offers a pilot PEV time-of-use charging rate to single- or multi-family dwellings of four units or less with separately metered Level 2 electric vehicle supply equipment (EVSE). Additional terms and conditions apply. BWL also offers a reimbursement of up to \$1,000 for the purchase and installation of EVSE for customers that have enrolled in the PEV charging rate. The program is limited to the first 10 qualified residential customers, and the deadline to apply is June 30, 2018. For more information, see the BWL [PEVs](<http://www.lbwl.com/PEV/>) page.

MN	Plug-In Electric Vehicle (PEV) Charging Rate Incentive - Connexus Energy	Connexus Energy offers reduced electric rates to residential customers in their service territory who charge PEVs. To participate, customers may contact their own electrician or Connexus Energy's electrician to install the metering equipment. The meter must be permitted and inspected. For more information, see Connexus Energy's [Electric Vehicle](https://www.connexusenergy.com/residential/programs-rates/electric-vehicle/) page.
MI	Plug-In Electric Vehicle (PEV) Charging Rate Reduction - Consumers Energy	Consumers Energy offers a special time-of-use rate option for PEV owners. For more information, see the Consumers Energy [PEV Rate Options](https://www.consumersenergy.com/residential/programs-and-services/alternative-fuel-vehicles/pev-rates) website.
CA	Plug-In Electric Vehicle (PEV) Credit - SDG&E	San Diego Gas & Electric (SDG&E) offers an annual credit of \$200 to customers who own or lease a PEV. The credit is available to qualified customers through 2020. For more information, including how to apply, see the SDG&E [Electric Vehicle Climate Credit](http://www.sdge.com/clean-energy/electric-vehicle-climate-credit) website.
MA	Plug-In Electric Vehicle (PEV) Discounts - Mass Energy	Mass Energy's Drive Green with Mass Energy program provides discounts on qualified PEVs purchased or leased from participating dealerships. The discount program is available to all consumers, including those that are not in Mass Energy's service territory. For more information, including participating dealerships and the discounts they offer, see the [Drive Green with Mass Energy](https://www.massenergy.org/drivegreen) website.
RI	Plug-In Electric Vehicle (PEV) Discounts - People's Power & Light (PP&L)	PP&L's Drive Green with PP&L program provides discounts on qualified PEVs purchased or leased from participating dealerships. The discount program is available to all consumers, including those that are not in PP&L's service territory. For more information, including participating dealerships and the discounts they offer, see the [Drive Green with PP&L](https://www.ripower.org/drivegreen) website.
IA	Plug-In Electric Vehicle (PEV) Rebate - Alliant Energy	Alliant Energy offers rebates of \$500 for the purchase or lease of a new PEV and \$250 for the purchase or lease of a used PEV. The PEV must be purchased or leased between January 1, 2018, and December 31, 2018. For more information, including how to apply, see the Alliant Energy [EV Buydown](https://www.alliantenergy.com/InnovativeEnergySolutions/SmartEnergyProducts/ElectricVehicles/EV-Buydown) website.

- WI Plug-In Electric Vehicle (PEV) Rebate - Alliant Energy offers rebates of \$500 for the purchase or lease of a new PEV, and \$250 for the purchase or lease of a used PEV. The PEV must be purchased or leased between January 1, 2018, and December 31, 2018. For more information, including how to apply, see the Alliant Energy [EV Buydown](<https://www.alliantenergy.com/InnovativeEnergySolutions/SmartEnergyProducts/ElectricVehicles/EV-Buydown>) website.
- FL Plug-in Electric Vehicle (PEV) Rebate - Jacksonville Electric Authority (JEA) offers rebates for new PEVs purchased or leased on or after September 18, 2014. PEVs with a battery less than 15 kilowatt-hours (kWh) in capacity receive \$500, and PEVs with larger battery capacity are eligible for \$1,000. A copy of a valid Florida vehicle registration, proof of sale, and a recent JEA Electric bill are required. For more information, see JEA's [Electric Vehicle Incentives](https://www.jea.com/Ways_to_Save/Go_Green/Plug-in_Electric_Vehicles/Electric_Vehicle_Incentives/) page.
- FL Plug-In Electric Vehicle (PEV) Rebate - Orlando Utilities Commission (OUC) provides rebates of \$200 to residential customers who purchase or lease an eligible new or preowned PEV. Applicants must apply within six months of the purchase or lease of the PEV. For more information, see the OUC [Electric Vehicles at Home](<http://www.ouc.com/residential/save-energy-water-money/electric-vehicles-at-home>) page.
- PA Plug-In Electric Vehicle (PEV) Rebate - PECO provides rebates of \$50 to residential customers who purchase a new, qualified PEV. For more information, see the [PECO Driver Rebate](<https://secure.peco.com/WaysToSave/ForYourHome/Pages/PECOSmartDriverRebate.aspx>) website.
- DE Plug-In Electric Vehicle (PEV) Rebate - PECO provides rebates of \$50 to residential customers who purchase a new, qualified PEV. For more information, see the [PECO Driver Rebate](<https://secure.peco.com/WaysToSave/ForYourHome/Pages/PECOSmartDriverRebate.aspx>) website.

CA	Plug-In Electric Vehicle (PEV) Rebate - PG&E	<p>Pacific Gas and Electric (PG&E) provides rebates of \$500 to residential customers who purchase or lease an eligible PEV. Residential account holders may apply on behalf of a PEV owner in their household or their tenant in a multifamily household with the vehicle owner's permission. For more information, see the [PG&E Clean Fuel Rebate](https://www.pge.com/en_US/residential/solar-and-vehicles/options/clean-vehicles/electric/clean-fuel-rebate-for-electric-vehicles.page?WT.mc_id=Vanity_cleanfuelrebate-ev) website.</p>
CA	Plug-In Electric Vehicle (PEV) Rebate - SCE	<p>Southern California Edison (SCE) provides rebates of \$450 to residential customers who purchase or lease an eligible new or preowned PEV. Residential account holders may apply on behalf of a PEV owner in their household. For more information, see the [SCE Clean Fuel Rewards Program](https://www.scecleanfuel.com/) website.</p>
NY	Plug-In Electric Vehicle (PEV) Rebate Program	<p>The New York State Energy Research and Development Authority (NYSERDA) provides rebates of up to \$2,000 for the purchase or lease of a new eligible plug-in electric vehicle. An eligible vehicle must:</p> <ul style="list-style-type: none"> - Be a four-wheeled motor vehicle manufactured for use on public streets, roads, and highways, - Have a gross vehicle weight rating of not more than 8,500 pounds, - Have a maximum speed of at least 55 mph, and - Be propelled at least in part by an electric motor and associated power electronics that draws electricity from a hydrogen fuel cell or from a battery that has a battery capacity of at least four kilowatt-hours, and is capable of being charged from an external source of electricity. <p>Rebate amounts vary based on a vehicle's all-electric range and manufacturer's suggested retail price. For more information, see NYSEDA's [Drive Clean Rebate](https://www.nyserda.ny.gov/All-Programs/Programs/Drive-Clean-Rebate) website.</p>
NH	Plug-In Electric Vehicle (PEV) Rebates - New Hampshire Electric Co-op (NHEC)	<p>NHEC offers rebates of \$1,000 for the purchase or lease of a new or used electric vehicle (EV), and \$600 for the purchase or lease of a new or used plug-in hybrid electric vehicle. The PEV must be purchased or leased between January 1, 2018, and December 31, 2018. For more information, including how to apply, see the NHEC [Drive Electric](https://www.nhec.com/drive-electric/#/find/nearest) website.</p>

- VT Plug-In Electric Vehicle Credit - Vermont Electric Co-op (VEC) VEC offers a \$250 bill credit to members who purchase a new or used plug-in hybrid electric vehicle (PHEV) and a \$500 bill credit to members who purchase a new or used all-electric vehicle (EV). Members who lease a PHEV are eligible for an annual bill credit of \$50 for each year of the lease. For members who lease an EV, an annual bill credit of \$100 is available for each year of the lease. Credits are available through December 31, 2018. For more information, including how to apply, see the [VEC Energy Transformation Program](http://www.vermontelectric.coop/programs-services/energy-transformation-programs) website.
- VT Plug-In Electric Vehicle Rebate - Burlington Electric Department (BED) BED customers are eligible for a \$1,200 rebate on the purchase or lease of a new qualifying all-electric vehicle on or after May 30, 2017. Qualifying plug-in hybrid electric vehicles purchased or leased on or after June 8, 2017, are eligible for a \$600 rebate. Vehicles must have a manufacturer's suggested retail price (MSRP) of less than \$50,000 and be registered in Burlington, VT. Rebates are available through December 31, 2018. For more information, including how to apply, see the BED [Electric Vehicle Rebate](https://www.burlingtonelectric.com/ev) website.
- CA Plug-In Hybrid and Zero Emission Light-Duty Public Fleet Vehicle Fleet Rebates The Public Fleet Pilot Project (PFPP) offers rebates to eligible state and local public entities for the purchase of qualified light-duty fleet vehicles located in disadvantaged communities. The rebates are for up to \$5,250 for plug-in hybrid electric vehicles, \$10,000 for battery electric vehicles, and \$15,000 for fuel-cell electric vehicles the California Air Resources Board (ARB) has certified. Rebates are available on a first-come, first-served basis. Manufacturers must apply to ARB to have their vehicles included in the PFPP. Each entity may receive up to 30 rebates annually and cannot receive California Vehicle Rebate Project incentives for the same vehicle. Only individuals with low and moderate household incomes will receive rebates. All other applicants will be put on a waitlist. For more information, including a list of eligible vehicles, locations, and entities, see the [PFPP](https://energycenter.org/public-fleet-project) website. (Reference [California Health and Safety Code](http://www.oal.ca.gov/) 44274 and 44258)

CA	Plug-In Hybrid and Zero Emission Light-Duty Vehicle Rebates	<p>The Clean Vehicle Rebate Project (CVRP) offers rebates for the purchase or lease of qualified vehicles. Qualified vehicles are light-duty zero emission vehicles and plug-in hybrid electric vehicles (PHEVs) the California Air Resources Board (ARB) has approved or certified. Rebates are available on a first-come, first-served basis to individuals, business owners, and government entities in California that purchase or lease new eligible vehicles. Manufacturers must apply to ARB to have their vehicles included in the CVRP.</p> <p>For vehicles purchased on or after March 29, 2016, eligibility for the rebate for individuals is based on gross annual income, as stated on the individual's federal tax return. Individuals with a gross annual income above the following thresholds are only eligible for rebates for fuel cell electric vehicles (FCEVs):</p> <ul style="list-style-type: none"> - \$150,000 for single filers - \$204,000 for head-of-household filers - \$300,000 for joint filers <p>For individuals with low and moderate household incomes of less than or equal to 300% of the federal poverty level, rebates are increased by \$2,000, for a total rebate amount of up to \$7,000. Increased rebates are available for ARB-approved FCEVs, PHEVs, and battery electric vehicles.</p> <p>ARB determines annual funding amounts for the CVRP, which is expected to be effective through 2023. ARB must submit a report to the State Legislature on the environmental and economic impacts of the CVRP by</p>
IN	Residential Electric Vehicle Charging Incentive - NIPSCO	<p>NIPSCO's IN-Charge At Home Electric Vehicle Program (Program) offers a reduced rate for plug-in electric vehicle charging during off-peak hours for those enrolled in the Program. The Program is in effect until December 31, 2018. For more information, see the NIPSCO [IN-Charge Electric Vehicle Program](http://www.nipsco.com/en/our-services/in-charge-ev.aspx) website.</p>
IA	Residential Electric Vehicle Supply Equipment (EVSE) Rebate - Alliant Energy	<p>Alliant Energy offers a \$250 rebate to residential customers who purchase and install Level 2 EVSE. The EVSE must be purchased and installed between January 1, 2018, and December 31, 2018. For more information, including how to apply, see the Alliant Energy [Electric Vehicle Chargers](https://www.alliantenergy.com/InnovativeEnergySolutions/SmartEnergyProducts/ElectricVehicles/EVHomeChargersandRebates) website.</p>

WI	Residential Electric Vehicle Supply Equipment (EVSE) Rebate - Alliant Energy	Alliant Energy offers a \$250 rebate to residential customers who purchase and install Level 2 EVSE. The EVSE must be purchased and installed between January 1, 2018, and December 31, 2018. For more information, including how to apply, see the Alliant Energy [Electric Vehicle Chargers](https://www.alliantenergy.com/InnovativeEnergySolutions/SmartEnergyProducts/ElectricVehicles/EVHomeChargersandRebates) website.
IL	School Bus Retrofit Reimbursement	The Illinois Department of Education will reimburse any qualifying school district for the cost of converting gasoline buses to more fuel-efficient engines or to engines using alternative fuels. Restrictions may apply. (Reference 105 [Illinois Compiled Statutes](http://www.ilga.gov/legislation/ilcs/ilcs.asp) 5/29-5)
DE	Vehicle-to-Grid Energy Credit	Retail electricity customers with at least one grid-integrated electric vehicle (EV) may qualify to receive kilowatt-hour credits for energy discharged to the grid from the EV's battery at the same rate that the customer pays to charge the battery. A grid-integrated EV is defined as a battery-powered motor vehicle that has the ability for two-way power flow between the vehicle and the electric grid as well as communications hardware and software that allow for external control of battery charging and discharging. (Reference [Delaware Code](http://delcode.delaware.gov/index.shtml) Title 26, Chapter 10, Section 1001 and 1014g)
IA	Workplace and Public Electric Vehicle Supply Equipment (EVSE) Rebate - Alliant Energy	Alliant Energy offers a rebate to commercial and industrial customers who purchase and install Level 2 EVSE for use by their employees or the public. The rebate is \$1,000 for the purchase of a single connector EVSE, and \$1,500 for a dual connector EVSE. Rebates are available on a first-come, first-served basis. For more information, including eligibility requirements and how to apply, see the Alliant Energy [Electric Vehicle Workplace Charger](https://www.alliantenergy.com/WaysToSave/Rebates/RebateLocatorTool/ElectricVehicleWorkplaceCharger) website.
WI	Workplace and Public Electric Vehicle Supply Equipment (EVSE) Rebate - Alliant Energy	Alliant Energy offers a rebate to commercial and industrial customers who purchase and install Level 2 EVSE for use by their employees or the public. The rebate is \$1,000 for the purchase of a single connector EVSE, and \$1,500 for a dual connector EVSE. Rebates are available on a first-come, first-served basis. For more information, including eligibility requirements and how to apply, see the Alliant Energy [rebates](https://www.alliantenergy.com/InnovativeEnergySolutions/SmartEnergyProducts/ElectricVehicles/EVHomeChargersandRebates) website.

Workplace Electric Vehicle Supply Equipment (EVSE) Rebate - Public Service Enterprise Group (PSEG) PSEG offers a rebate to business customers that purchase and install Level 2 EVSE for use by their employees. The rebate is the lesser of \$4,000 or 80% of the invoice cost per Level 2 EVSE charging port installed, limited to 10 per business. Rebates are available on a first-come, first-served basis. For more information, including eligibility requirements and how to receive the rebate, see the PSEG [Workplace Charging Rebate](<https://www.psegliny.com/saveenergyandmoney/solarrenewableenergy/workplacechargingrebateprogram>) website.

AZ Workplace Electric Vehicle Supply Equipment (EVSE) Rebate - Salt River Project (SRP) SRP offers a rebate to business customers who purchase and install Level 2 EVSE for use by their employees. The rebate is \$500 per Level 2 EVSE charging port installed, limited to 12 per business. Rebates are available on a first-come, first-served basis. For more information, including eligibility requirements and how to receive the rebate, see the SRP [Rebates](<http://savewithsrpbiz.com/rebates/evcharger.aspx>) website.

NY Zero Emission Vehicle (ZEV) and Fueling Infrastructure Rebates for Municipalities The New York State Department of Environmental Conservation's (NYSDEC) Municipal ZEV Rebate Program offers rebates to cities, towns, villages, counties, and New York City boroughs for the purchase or lease of eligible ZEVs and the installation of eligible ZEV refueling infrastructure. To qualify, ZEVs must be purchased or leased at a dealership within the state, and leases must be at least 36 months in length. ZEV fueling infrastructure must be installed primarily for public refueling. Rebate amounts are as follows:

Maximum Rebate Amount

	Maximum Rebate Amount
ZEV Purchase or Lease	\$5,000 per vehicle (50 miles or greater electric range); \$2,500 per vehicle (10 to 50 mile electric range)
Electric Vehicle Supply Equipment (EVSE)	\$250,000 per facility
Hydrogen Fuel Cell Infrastructure	\$250,000 per facility

A single municipality may receive up to 50% of the total available funds towards ZEVs and EVSE, and up to 75% of the total available funds for hydrogen fuel cell infrastructure. Rebates are available on a first-come, first-served basis through May 31, 2018, or until funds are exhausted, whichever occurs first. Additional rules and conditions apply. For more information, including eligible projects and application instructions, see the NYSDEC's [Funding for Municipalities](<http://www.dec.ny.gov/energy/109181.html>) website.

Appendix D – EV Laws and Incentives: Charging Infrastructure

State	Title	Text	References
Maine	MAINE ELECTRIC VEHICLE CHARGING– PHASE 1	Electric Vehicle Supply Equipment Initiative Efficiency Maine is administering an initiative to expand availability of electric vehicle (EV) charging infrastructure in Maine. This initiative will install a public network of higher voltage, fast-charging infrastructure along key corridors in Maine, including: I-95/295, Rt. 1, Rt. 2, Rt. 3, Rt. 27, Rt. 201, and Rt. 302.	https://www.energymaine.com/at-work/electric-vehicle-supply-equipment-initiative/

Appendix E – EV Laws and Incentives: Taxes

State	Title	Text
CA	Advanced Transportation Tax Exclusion	The California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) provides a sales and use tax exclusion for qualified manufacturers of advanced transportation products, components, or systems that reduce pollution and energy use and promote economic development. Incentives are not available after December 31, 2020. For more information, including application materials, see the CAEATFA [Sales and Use Tax Exclusion Program](http://www.treasurer.ca.gov/caeatfa/ste/index.asp) website. (Reference [California Public Resources Code](http://www.oal.ca.gov/) 26000-26017)
GA	Alternative Fuel and Advanced Vehicle Job Creation Tax Credit	A business that manufactures alternative energy products for use in battery, biofuel, and electric vehicle enterprises may claim an annual tax credit for five years. The amount of the tax credit is based on the number of eligible new full-time employee jobs. Qualified entities must be defined as business enterprises, which do not include retail businesses. Credit amounts differ depending on how the county in which the business is located ranks based on unemployment rates and income levels. Other conditions apply. (Reference [Georgia Code](http://www.legis.state.ga.us/) 48-7-40)
NM	Alternative Fuel and Advanced Vehicle System Manufacturing Incentive	The Alternative Energy Product Manufacturers Tax Credit is a credit against combined reporting taxes (gross receipts, compensating, and withholding) for qualified manufacturers of alternative energy products, which includes hydrogen and fuel cell vehicle systems, and electric and hybrid electric vehicles. The credit is limited to 5% of qualifying expenditures, and manufacturers must fulfill job creation requirements to be eligible. Qualified manufacturers must apply for and receive approval from the New Mexico Taxation and Revenue Department before they may claim the credit. For more information, including eligibility and application details, refer to the [Alternative Energy Product Manufacturers Tax Credit Claim Form](http://realfile.tax.newmexico.gov/rpd-41331.pdf). (Reference [New Mexico Statutes](http://public.nmcompcomm.us/nmnxtadmin/NMPublic.aspx) 7-9J-1 through 7-9J-8)
AZ	Alternative Fuel and Alternative Fuel Vehicle (AFV) Use Tax Exemption	The following are exempt from the Arizona use tax: natural gas or liquefied petroleum gas (propane) used to propel a motor vehicle; AFVs, if the AFV was manufactured as a diesel fuel vehicle and converted to operate on an alternative fuel; and equipment that is installed on a conventional diesel fuel motor vehicle to convert the vehicle to operate on an alternative fuel. Recognized alternative fuels include propane, natural gas, electricity, hydrogen, and a blend of hydrogen with propane or natural gas. (Reference [Arizona Revised Statutes](http://www.azleg.gov/ArizonaRevisedStatutes.asp) 42-5159)

DC Alternative Fuel and Fuel-Efficient Vehicle Title Tax Exemption Qualified alternative fuel vehicles (AFVs) and motor vehicles with a U.S. Environmental Protection Agency estimated average city fuel economy of at least 40 miles per gallon are exempt from the excise tax imposed on an original certificate of title. The original purchaser and subsequent purchasers of the same vehicle are eligible the excise tax exemption. The District of Columbia Department of Motor Vehicles (DMV) determines which AFVs qualify. For more information, see the District of Columbia [DMV](<https://dmv.dc.gov/node/155452>) website. (Reference [District of Columbia Code](<http://www.lexisnexis.com/hottopics/dccode/>) 50-2201.03(j))

WA Alternative Fuel Commercial Vehicle Tax Credit Businesses are eligible to receive tax credits for purchasing new alternative fuel commercial vehicles. Qualified commercial vehicles must be powered primarily by natural gas, propane, hydrogen, dimethyl ether, or electricity. Tax credit amounts vary based on gross vehicle weight rating (GVWR) and are up to 50% of the incremental cost, with maximum credit values as follows:

GVWR	January 1, 2016 to December 31, 2017	January 1, 2018 to January 1, 2021
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Up to 14,000 pounds (lbs.)	\$5,000	\$25,000
14,001 to 26,500 lbs.	\$10,000	\$50,000
Over 26,500 lbs.	\$20,000	\$100,000

This exemption also applies to qualified used vehicles modified with a U.S. Environmental Protection Agency-certified aftermarket conversion, as long as the vehicle is being sold for the first time after modification. Modified vehicles are eligible for credits equal to 30% of the commercial vehicle conversion cost, up to \$25,000. The converted vehicle must be less than two years old and have an odometer reading of fewer than 30,000 miles. Beginning January 1, 2018, eligible converted vehicles must be less than ten years old and have an odometer reading of fewer than 450,000 miles.

Each entity may claim up to \$250,000 or credits for 25 vehicles per year. Credits may be earned between January 1, 2016, and January 1, 2021. All credits earned must be used in that calendar year or the subsequent year. Tax credits are available on a first-in-time basis and

- MI Alternative Fuel Development Property Tax Exemption A tax exemption may apply to industrial property that is used for, among other purposes, high-technology activities or the creation or synthesis of biodiesel fuel. High technology activities include those related to advanced vehicle technologies such as electric, hybrid electric, or alternative fuel vehicles and their components. To qualify for the tax exemption, an industrial facility must obtain an exemption certificate for the property from the Michigan State Tax Commission. (Reference Michigan Compiled Laws ([http://www.legislature.mi.gov/\(S\(kovblajtbo3pwn22ekizx255\)\)/mileg.aspx?page=home](http://www.legislature.mi.gov/(S(kovblajtbo3pwn22ekizx255))/mileg.aspx?page=home)) 207.552 and 207.803-207.809)
- IA Alternative Fuel Production Tax Credits The High Quality Jobs Program offers state tax incentives to business projects for the production of biomass or alternative fuels. Incentives may include an investment tax credit equal to a percentage of the qualifying investment, amortized over five years; a refund of state sales, service, or use taxes paid to contractors or subcontractors during construction; an increase of the state's refundable research activities credit; and a local property tax exemption of up to 100% of the value added to the property. For more information, refer to the High Quality Jobs Program (<http://www.iowaeconomicdevelopment.com/Finance/HQJ>) website.
- WI Alternative Fuel Tax Exemption No county, city, village, town, or other political subdivision may levy or collect any excise, license, privilege, or occupational tax on motor vehicle fuel or alternative fuels, or on the purchase, sale, handling, or consumption of motor vehicle fuel or alternative fuels. (Reference [Wisconsin Statutes](<http://legis.wisconsin.gov/rsb/stats.html>) 78.82)
- NC Alternative Fuel Tax Exemption The retail sale, use, storage, and consumption of alternative fuels is exempt from the state retail sales and use tax. (Reference [North Carolina General Statutes](<http://www.ncleg.net/gascripts/Statutes/Statutes.asp>) 105-164.13)
- NM Alternative Fuel Tax Exemption Alternative fuel distributed by or used for U.S. government, state government, or Indian nation, tribe, or pueblo purposes is exempt from the state excise tax. (Reference [New Mexico Statutes](<http://public.nmcompcomm.us/nmnxtadmin/NMPublic.aspx>) 7-16B-5)

- UT Alternative Fuel Tax Exemptions and Reductions Propane, natural gas, electricity, and hydrogen, also known as special fuel, used to operate motor vehicles are exempt from state fuel taxes, but subject to a special fuel tax at the rate of three-nineteenths of the conventional motor fuel tax. A reduction in special fuel tax is permissible if the fuel is already taxed by the Navajo Nation. Retailers, wholesalers, and suppliers of special fuel are eligible for a refund of the special fuel tax if dyed diesel fuel is mixed with special fuel and the mixed special fuel is returned to the refinery. For more information, see the Utah State Tax Commission [Fuel Taxes](<http://tax.utah.gov/fuel>) website. (Reference [Utah Code](<http://le.utah.gov/xcode/code.html>) 59-13-102, 59-13-201, 59-13-301, and 59-13-322)
- WI Alternative Fuel Tax Refund for Taxis A person using alternative fuel to operate a taxi used to transport passengers may be reimbursed for the paid amount of the Wisconsin state fuel tax. Refund claims must be filed within one year of the fuel purchase date and must be for a minimum of 100 gallons of alternative fuel. (Reference [Wisconsin Statutes](<http://legis.wisconsin.gov/rsb/stats.html>) 78.75(1m)(a)(1))
- LA Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Tax Credit The state offers a nonrefundable income tax credit of 30% of the cost of converting a vehicle to operate on an alternative fuel and the cost of alternative fueling equipment. For new original equipment manufacturer AFVs, a taxpayer may take a tax credit of 10% of the cost of the motor vehicle, up to \$2,500. To qualify for the tax credit, vehicles must be dedicated AFVs and registered in Louisiana. Commercial vehicles should primarily be used in Louisiana and operate for at least four years. For the purpose of this incentive, alternative fuels include natural gas; propane; non-ethanol based advanced biofuels (excluding flexible fuel vehicles); and electricity if the vehicle has at least four wheels, is primarily for on-street use, can attain a minimum speed of 55 miles per hour, has a minimum battery capacity of four kilowatt-hours, and can be charged externally. Restrictions may apply. (Reference [Senate Bill](<http://www.legis.la.gov/legis/home.aspx>) 172 and 243, 2017, [Louisiana Administrative Code](<http://www.doa.la.gov/Pages/osr/lac/books.aspx>) Title 61, Section 1913, and [Louisiana Revised Statutes](<http://www.legis.state.la.us/>) 47:6035)

- DC Alternative Fuel Vehicle (AFV) Conversion and Infrastructure Tax Credit Businesses and individuals are eligible for an income tax credit of 50% of the equipment and labor costs for the conversion of qualified AFVs, up to \$19,000 per vehicle. A tax credit is also available for 50% of the equipment and labor costs for the purchase and installation of alternative fuel infrastructure on qualified AFV fueling property. The maximum credit is \$1,000 per residential electric vehicle charging station, and \$10,000 per publicly accessible AFV fueling station. Qualified alternative fuels include, ethanol blends of at least 85%, compressed natural gas, liquefied natural gas, propane, biodiesel, electricity, and hydrogen. This incentive expires December 31, 2026. For more information, see the [Office of Tax and Revenue](<https://otr.cfo.dc.gov/publication/alternative-fuel-vehicle-infrastructure-and-conversion-credits-faqs>) website. (Reference [District of Columbia Code](<http://www.lexisnexis.com/hottopics/dccode/>) 47-1806.12 through 47-1806.13, 47-1807.10 through 47-1807.11, and 47-1808.10 through 47-1808.11)
- MT Alternative Fuel Vehicle (AFV) Conversion Tax Credit Businesses and individuals are eligible for an income tax credit of up to 50% of the equipment and labor costs for converting vehicles to operate using alternative fuels. Qualified alternative fuels are compressed and liquefied natural gas, liquefied petroleum gas (propane), hydrogen, electricity, and fuels containing at least 85% ethanol, methanol, ether, or another alcohol. The maximum credit is \$500 for the conversion of vehicles with a gross vehicle weight rating (GVWR) of 10,000 pounds (lbs.) or less and \$1,000 for vehicles with a GVWR of more than 10,000 lbs. The credit is only available for the year the business or individual converts the vehicle. An alternative fuel seller may not receive a credit for converting its own vehicles to operate on the alternative fuel it sells. (Reference [Montana Code Annotated](http://leg.mt.gov/bills/mca_toc/index.htm) 15-30-2320)
- RI Alternative Fuel Vehicle (AFV) Tax Exemption - Warren The town of Warren may allow excise tax exemptions of up to \$100 for qualified AFVs registered in Warren. Qualified vehicles must be primarily fueled with one of the following: an electric motor drawing current from rechargeable batteries or fuel cells; gas produced from biomass, where biomass is defined as any organic material other than oil, natural gas, and coal; liquid, gaseous or solid synthetic fuels produced from coal; or coke or coke gas. (Reference [Rhode Island General Laws](<http://webserver.rilin.state.ri.us/Statutes/>) 44-34-14)

OK	Alternative Fueling Infrastructure Tax Credit	For tax years beginning before January 1, 2020, a tax credit is available for up to 75% of the cost of installing commercial alternative fueling infrastructure. Eligible alternative fuels include natural gas, propane, and electricity. The infrastructure must be new and must not have been previously installed or used to fuel alternative fuel vehicles. A tax credit is also available for up to 50% of the cost of installing a residential compressed natural gas fueling system, up to \$2,500. The tax credit may be carried forward for up to five years. (Reference [Oklahoma Statutes](http://www.oklegislature.gov/) 68-2357.22)
NY	Alternative Fueling Infrastructure Tax Credit	An income tax credit is available for 50% of the cost of alternative fueling infrastructure, up to \$5,000. Qualifying infrastructure includes electric vehicle supply equipment and equipment to dispense fuel that is 85% or more natural gas, propane, or hydrogen. Unused credits may be carried over into future tax years. The credit expires December 31, 2022. For additional information, including information on how to claim the credit, please see the New York State [Department of Taxation and Finance](http://www.tax.ny.gov/pit/credits/alt_fuels_elec_vehicles.htm) page. (Reference [New York Tax Law](http://public.leginfo.state.ny.us/lawssrch.cgi?NVLWO:) 187-b)
WA	Electric Vehicle (EV) Infrastructure and Battery Tax Exemptions	Public lands used for installing, maintaining, and operating EV infrastructure are exempt from leasehold excise taxes until January 1, 2020. Additionally, the state sales and use taxes do not apply to plug-in electric vehicle (PEV) batteries; labor and services for installing, repairing, altering, or improving PEV batteries and EV infrastructure; and the sale of property used for EV infrastructure. (Reference Revised Code of Washington (http://apps.leg.wa.gov/rcw/) 82.29A.125, 82.08.816, and 82.12.816)
GA	Electric Vehicle Supply Equipment (EVSE) Tax Credit	An eligible business enterprise may claim an income tax credit for the purchase or lease of qualified EVSE provided that the EVSE is located in the state and accessible to the public. The amount of the credit is 10% of the cost of the EVSE, up to \$2,500. For more information, see the Georgia Department of Natural Resources [Alternative Fuels and Tax Credits](https://epd.georgia.gov/air/alternative-fuels-and-tax-credits) website. (Reference [Georgia Code](http://www.legis.state.ga.us/) 48-7-40.16)

MD Plug-In Electric Vehicle (PEV) Tax Credit Qualified PEV purchasers may apply for a tax credit against the imposed excise tax. The tax credit is limited to one vehicle per individual and 10 vehicles per business entity. Vehicles must be registered in Maryland, unless the vehicle manufacturer conforms to applicable state or federal laws or regulations governing clean fuel vehicles or PEVs during the year in which the vehicle was purchased, or the vehicle was originally registered in another state. A qualified vehicle must meet the following criteria:

- Have a total purchase price not exceeding \$60,000;
- Be propelled to a significant extent by an electric motor that draws electricity from a battery with a capacity of at least five kilowatt-hours (kWh);
- Have not been modified from original manufacturer specifications; and
- Be purchased on or after July 1, 2017.

Vehicles purchased new and titled for the first time between July 1, 2017, and July 1, 2020, are eligible for a credit up to \$3,000, calculated as \$100 per kWh of battery capacity.

The credit is returned to the taxpayer in the form of a check from the state. For more information, including the request form, see the Maryland Motor Vehicle Administration's [Excise Tax Credit for PEVs](<http://www.mva.maryland.gov/about-mva/info/27300/27300-71T.htm>) website.

(Reference [Maryland

CO Plug-In Electric Vehicle (PEV) Tax Credit Qualified all-electric vehicles (EVs) and plug-in hybrid electric vehicles (PHEVs), titled and registered in Colorado are eligible for a tax credit. Light-duty PEVs purchased, leased, or converted between January 1, 2017, and January 1, 2022, are eligible for a tax credit equal to the amounts below:

Category	2017-2019	2020	2021
Light-duty EV or PHEV	\$5,000 for purchase or conversion; \$2,500 for lease	\$4,000 for purchase or conversion; \$2,000 for lease	\$2,500 for purchase or conversion; \$1,500 for lease
Light-duty electric truck	\$7,000 for purchase or conversion; \$3,500 for lease	\$5,500 for purchase or conversion; \$2,750 for lease	\$3,500 for purchase or conversion; \$1,750 for lease
Medium-duty electric truck	\$10,000 for purchase or conversion; \$5,000 for lease	\$8,000 for purchase or conversion; \$4,000 for lease	\$5,000 for purchase or conversion; \$2,500 for lease
Heavy-duty electric truck	\$20,000 for purchase or conversion; \$10,000 for lease	\$16,000 for purchase or conversion; \$8,000 for lease	\$10,000 for purchase or conversion; \$5,000 for lease

The credit amount for any qualifying truck is limited to the difference in manufacturer's suggested retail price between the qualifying truck and a comparable truck that operates on either gasoline or diesel fuel. The credit claimed for converting a truck to a qualifying truck is limited to the cost of conversion.

LA Provision for Green Jobs Tax Credit Pending available funding, the Louisiana Department of Economic Development will offer a corporate or income tax credit for qualified capital infrastructure projects in Louisiana that are directly related to industries including, but not limited to, the advanced drivetrain vehicle and biofuels industries. The tax credit is for 7.2% to 18% of the project costs, calculated based on the investment costs, up to \$720,000 per state-certified green project. The portion of the base investment expended on payroll for Louisiana residents employed in connection with the construction of the project may be eligible for an additional 7.2% tax credit on the payroll. Annual credits caps apply and credits will be distributed on a first-come, first-served basis to eligible recipients. Restrictions may apply. Effective July 1, 2018, the credit amounts and total allowable funding will increase. (Reference [Louisiana Revised Statutes](http://www.legis.state.la.us/) 47:6037)

UT Qualified Heavy-Duty Alternative Fuel Vehicle (AFV) Tax Credit - Qualified taxpayers are eligible for a tax credit for the purchase of a qualified heavy-duty AFV. Qualifying fuels include natural gas, electricity, and hydrogen. Each qualified heavy-duty AFV is eligible for the following tax credit amounts:

Year	Credit Amount
2017	\$25,000
2018	\$20,000
2019	\$18,000
2020	\$15,000

At least 50% of the qualified vehicle's miles must be driven in the state. A single taxpayer may not claim credits for more than 10 AFVs annually or a total annual amount of \$500,000. If more than 30% of the total available tax credits in a single year have not been claimed by May 1, a taxpayer may apply for credits on an additional eight AFVs. Up to 25% of the tax credits are reserved for taxpayers with small fleets of less than 40 vehicles. This credit expires December 31, 2020. Additional conditions and restrictions may apply.

(Reference [Utah Code](<http://le.utah.gov/>) 59-7-618, 59-10-1033, and 59-13-201)

US Qualified Plug-In Electric Vehicle (PEV) Tax Credit A tax credit is available for the purchase of a new qualified PEV that draws propulsion using a traction battery that has at least five kilowatt-hours (kWh) of capacity, uses an external source of energy to recharge the battery, has a gross vehicle weight rating of up to 14,000 pounds, and meets specified emission standards. The minimum credit amount is \$2,500, and the credit may be up to \$7,500, based on each vehicle's traction battery capacity and the gross vehicle weight rating. The credit will begin to be phased out for each manufacturer in the second quarter following the calendar quarter in which a minimum of 200,000 qualified PEVs have been sold by that manufacturer for use in the United States. This tax credit applies to vehicles acquired after December 31, 2009. For more information, including qualifying vehicles and sales by manufacturer, see the Internal Revenue Service (IRS) [PEV Credit](<http://www.irs.gov/Businesses/Plug-In-Electric-Vehicle-Credit-IRC-30-and-IRC-30D>) website. Also refer to IRS Form 8936, which is available via the [IRS Forms and Publications](<http://apps.irs.gov/app/picklist/list/formsPublications.html>) website.

(Reference [Public Law](<http://thomas.loc.gov/home/LegislativeData.php?&n=PublicLaws&c=112>) 112-240, Section 403; and 26 [U.S. Code](<http://www.gpo.gov/fdsys/>) 30D)

AZ Reduced Alternative Fuel Vehicle (AFV) License Tax The vehicle license tax for an AFV is \$4 for every \$100 in assessed value. During the first year after initial registration, the AFV's assessed value is 1% of the manufacturer's suggested retail price (MSRP) compared to 60% for conventional vehicles. For each succeeding year, the original value of the AFV is reduced by 15%. The minimum amount of the annual AFV license tax is \$5. For the purpose of this tax, AFVs include those powered exclusively by propane, natural gas, electricity, hydrogen, or a blend of hydrogen with propane or natural gas. Beginning January 1, 2020, the vehicle license tax for a previously registered AFV will be a percentage of the MSRP set by Arizona Department of Transportation (ADOT). For each succeeding year, the original value of the AFV is reduced by 15%. The vehicle license tax for an AFV that is less than 10,000 pounds gross weight this is purchased on or after January 1, 2020, will be 30% of the MSRP. For each succeeding year, the original value of the AFV is reduced by 15%. For more information, see the ADOT [AFV](<http://www.azdot.gov/mvd/VehicleServices/Registration/alternative-fuel-vehicle>) website. (Reference [House Bill](<https://www.azleg.gov/>) 2166, 2018, and [Arizona Revised Statutes](<http://www.azleg.gov/ArizonaRevisedStatutes.asp>) 28-5801)

NJ Zero Emissions Vehicle (ZEV) Tax Exemption ZEVs sold, rented, or leased in New Jersey are exempt from state sales and use tax. This exemption is not applicable to partial ZEVs, including hybrid electric vehicles. ZEVs are defined as vehicles that meet California Air Resources Board zero emissions standards for that model year. For a list of qualifying ZEVs certified as such, see the New Jersey Department of the Treasury [ZEV Sales Tax Exemption](<http://www.state.nj.us/treasury/taxation/zevnotice.shtml>) website. (Reference [New Jersey Statutes](<http://www.njleg.state.nj.us/>) 54:32B-8.55)

Appendix F – EV Laws and Incentives: Exemptions

	State	Title	Text
HOV Lanes	AZ	Alternative Fuel Vehicle (AFV) and Energy Efficient Plate Programs	<p>Dedicated AFVs qualify for an AFV special license plate, which are available from the Arizona Department of Transportation (ADOT). Recognized alternative fuels are propane, natural gas, electricity, and hydrogen. There is no limit to the number of AFV license plates ADOT can issue. For more information, see the ADOT [AFV](http://www.azdot.gov/mvd/VehicleServices/Registration/alternative-fuel-vehicle) website.</p> <p>In addition, certain plug-in hybrid electric vehicles are eligible for the Energy Efficient license plate from ADOT. At any time, only 10,000 eligible vehicles may be registered for the Energy Efficient license plate. ADOT has reached its maximum limit of 10,000 vehicles and the issuance of Energy Efficient license plates to new program participants has been suspended until further notice (verified June 2018). For more information, including how to apply, see the ADOT [Energy Efficient Plate Program](http://www.azdot.gov/mvd/VehicleServices/PlatesandPlacards/energy-efficient-plate-program) website.</p> <p>(Reference [Arizona Revised Statutes](http://www.azleg.gov/ArizonaRevisedStatutes.asp) 28-2416 and 28-2416.01)</p>
HOV Lanes	AZ	High Occupancy Vehicle (HOV) Lane Exemption	<p>Vehicles with an [Alternative Fuel Vehicle (AFV) or Energy Efficient license plate](http://www.afdc.energy.gov/laws/4177) are permitted to use HOV lanes, regardless of the number of passengers. Qualified vehicles must display the required license plate, which are available from the Arizona Department of Transportation (ADOT). Vehicles registered with Energy Efficient plates prior to May 20, 2014, may continue to use HOV lanes until the owner sells or transfers the vehicle. For more information, see the ADOT [AFV](http://www.azdot.gov/mvd/VehicleServices/Registration/alternative-fuel-vehicle) and the [Energy Efficient Plate Program](http://www.azdot.gov/mvd/VehicleServices/PlatesandPlacards/energy-efficient-plate-program) websites. (Reference [Arizona Revised Statutes](http://www.azleg.gov/ArizonaRevisedStatutes.asp) 28-2416, and 23-2416.01)</p>

- Parking
- AZ Alternative Fuel Vehicle (AFV) Parking Incentive An individual driving a dedicated AFV may park without penalty in parking areas that are designated for carpool operators, provided the vehicle is using alternative fuel. Recognized alternative fuels include propane, natural gas, electricity, hydrogen, and a blend of hydrogen with propane or natural gas. (Reference [Arizona Revised Statutes](<http://www.azleg.gov/ArizonaRevisedStatutes.asp>) 28-877)

 - AZ Alternative Fuel Vehicle Emissions Test Exemption All-electric vehicles, hydrogen powered vehicles, and current model year propane and natural gas vehicles (NGVs) registered for the first time in Arizona are not required to complete emissions testing. This exemption does not apply after the first registration year. All AFVs, with the exception of electric, solar, and hydrogen powered vehicles, used to commute into Phoenix or Tucson are required to be emissions tested before they are registered. For more information, visit the [Arizona Department of Environmental Quality](<https://www.azdeq.gov/>) website. (Reference [Arizona Revised Statutes](<http://www.azleg.gov/ArizonaRevisedStatutes.asp>) 49-542 and 49-542.05)

 - AZ Alternative Fuel Vehicle (AFV) Use Tax Exemption The following are exempt from the Arizona use tax: natural gas or liquefied petroleum gas (propane) used to propel a motor vehicle; AFVs, if the AFV was manufactured as a diesel fuel vehicle and converted to operate on an alternative fuel; and equipment that is installed on a conventional diesel fuel motor vehicle to convert the vehicle to operate on an alternative fuel. Recognized alternative fuels include propane, natural gas, electricity, hydrogen, and a blend of hydrogen with propane or natural gas. (Reference [Arizona Revised Statutes](<http://www.azleg.gov/ArizonaRevisedStatutes.asp>) 42-5159)

HOV Lanes	CA	High Occupancy Vehicle (HOV) and High Occupancy Toll (HOT) Lane Exemption	<p>Compressed natural gas (CNG), hydrogen, electric, and plug-in hybrid electric vehicles (PHEVs) meeting specified California and federal emissions standards and affixed with a California Department of Motor Vehicles (DMV) Clean Air Vehicle sticker may use HOV lanes regardless of the number of occupants in the vehicle. White Clean Air Vehicle Stickers are available for qualified CNG, hydrogen, and electric vehicles. Green Clean Air Vehicle Stickers are available for qualified purchased or leased PHEVs. Stickers are valid through the following dates:</p> <ul style="list-style-type: none"> - Stickers issued before January 1, 2019 expire January 1, 2019; - Stickers issued on or after January 1, 2019 for a vehicle that had been issued a sticker between January 1, 2017 and January 1, 2019, expire January 1, 2022; and - All other stickers issued on or after January 1, 2019 expire on January 1 of the fourth year after the sticker was issued.
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These vehicles are also eligible for reduced rates or exemptions from toll charges imposed on HOT lanes. For more information and restrictions, including a list of qualifying vehicles, see the California Air Resources Board [Carpool Lane Use Stickers](<http://www.arb.ca.gov/msprog/carpool/carpool.htm>) website. (Reference [Assembly Bill](<http://leginfo.legislature.ca.gov/>) 544, 2017, and [California Vehicle Code](<http://www.oal.ca.gov/>) 5205.5 and 21655.9)

Sales Tax	CA	Advanced Transportation Tax Exclusion	<p>The California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) provides a sales and use tax exclusion for qualified manufacturers of advanced transportation products, components, or systems that reduce pollution and energy use and promote economic development. Incentives are not available after December 31, 2020. For more information, including application materials, see the CAEATFA [Sales and Use Tax Exclusion Program](http://www.treasurer.ca.gov/caeatfa/ste/index.asp) website. (Reference [California Public Resources Code](http://www.oal.ca.gov/) 26000-26017)</p>
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CO	Electric Vehicle Emissions Inspection Exemption	Vehicles powered exclusively by electricity are exempt from state motor vehicle emissions inspections. For more information, see the [Air Care Colorado](http://aircarecolorado.com/) website. (Reference 1 [Code of Colorado Regulations](http://www.sos.state.co.us/CCR/Welcome.do) 204-11 Rule 2)	
CO	Alternative Fuel Vehicle (AFV) Weight Limit Exemption	Gross vehicle weight rating limits for AFVs are 2,000 pounds greater than those for comparable conventional vehicles, as long as the AFVs operate using an alternative fuel or both alternative and conventional fuel, when operating on a highway that is not part of the interstate system. For the purpose of this exemption, alternative fuel is defined as compressed natural gas, propane, ethanol, or any mixture containing 85% or more ethanol (E85) with gasoline or other fuels, electricity, or any other fuels, which may include clean diesel and reformulated gasoline, so long as the Colorado Air Quality Control Commission determines that these other fuels result in comparable reductions in carbon monoxide emissions and brown cloud pollutants. (Reference [Colorado Revised Statutes](http://www.lexisnexis.com/hottopics/Colorado/) 42-4-508 and 25-7-106.8)	
CT	Electric Vehicle Emissions Inspection Exemption	Vehicles powered exclusively by electricity are exempt from state motor vehicle emissions inspections. For more information, see the [Connecticut Emissions Program](http://ctemissions.com/) website.	
Sales Tax	DC	Alternative Fuel-Efficient Vehicle Title Tax Exemption	Qualified alternative fuel vehicles (AFVs) and motor vehicles with a U.S. Environmental Protection Agency estimated average city fuel economy of at least 40 miles per gallon are exempt from the excise tax imposed on an original certificate of title. The original purchaser and subsequent purchasers of the same vehicle are eligible the excise tax exemption. The District of Columbia Department of Motor Vehicles (DMV) determines which AFVs qualify. For more information, see the District of Columbia [DMV](https://dmv.dc.gov/node/155452) website. (Reference [District of Columbia Code](http://www.lexisnexis.com/hottopics/dccode/) 50-2201.03(j))

DC Alternative Fuel Vehicle Exemption from Driving Restrictions Certified clean fuel vehicles are exempt from time-of-day and day-of-week restrictions and commercial vehicle bans, if these vehicles are part of a fleet that operates at least 10 vehicles in the District of Columbia, a Clean Air Act designated ozone nonattainment area. This exemption does not permit unrestricted access to High Occupancy Vehicle lanes, except for covered fleet vehicles that have been certified by the U.S. Environmental Protection Agency as Inherently Low Emission Vehicles (ILEV) and continue to be in compliance with applicable ILEV emission standards. (Reference [District of Columbia Code](<http://www.lexisnexis.com/hottopics/dccode/>) 50-702 and 50-714)

HOV Lanes FL High Occupancy Vehicle (HOV) Lane Exemption A driver may operate a qualified Inherently Low Emission Vehicle (ILEV) or a hybrid electric vehicle (HEV) in an HOV lane at any time, regardless of the number of passengers, provided that the vehicle is certified and labeled in accordance with federal regulations. All eligible ILEVs and HEVs must comply with the minimum fuel economy standards set forth in Title 23 of the [U.S. Code of Federal Regulations](https://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&tpl=/ecfrbrowse/Title49/49tab_02.tpl), section 166(f)(3)(B). The vehicle must display a Florida Division of Motor Vehicles issued decal, which must be renewed annually. Special fees may apply. Vehicles with decals may also use any HOV lane designated as a HOV toll lane without paying the toll. An HEV is defined as a motor vehicle that draws propulsion energy from on-board sources of stored energy comprised of both an internal combustion engine using combustible fuel and a rechargeable energy storage system and meets or exceeds the qualifying [California standards](<http://www.arb.ca.gov/msprog/levprog/levii/levii.htm>) for a Low Emission Vehicle. Three-wheeled vehicles are considered ILEVs for the purposes of HOV lane exemption. This exemption expires September 30, 2019. For more information, see the [HOV Decal](<https://www.flhsmv.gov/motor-vehicles-tags-titles/high-occupancy-vehicle-decal/>) website. (Reference [Florida Statutes](<http://www.flsenate.gov/Laws/>) 316.0741)

HOV Lanes	GA	High Occupancy Vehicle (HOV) and High Occupancy Toll (HOT) Lane Exemption	<p>Alternative fuel vehicles (AFVs) displaying the proper alternative fuel license plate may use HOV and HOT lanes, regardless of the number of passengers. Qualified AFVs may also use the HOT lanes toll-free. AFVs include plug-in electric vehicles and bi-fuel or dual-fuel vehicles that operate on natural gas or propane. Applicants must provide proof they have paid registration fees in full before receiving the license plate.</p> <p>This exemption expires September 30, 2019. For more information on fees and eligibility for the AFV license plate, see the [Georgia Department of Revenue](http://georgia.gov/agencies/georgia-department-revenue) and the [Georgia Department of Public Safety](https://dps.georgia.gov/i-85-express-lanes-hot-lanes) websites. (Reference [Georgia Code](http://www.legis.ga.gov/en-US/default.aspx) 32-9-4, 40-2-86.1, and 40-6-54)</p>
HOV Lanes	HI	Plug-In Electric Vehicle (PEV) High Occupancy Vehicle (HOV) Lane and Parking Fee Exemptions	<p>Qualified PEVs affixed with special state-issued PEV license plates may use HOV lanes regardless of the number of passengers and are exempt from parking fees charged by any state or county authority. PEVs displaying state PEV license plates are also exempt from parking fees, except when parked at a meter for more than 2.5 hours or the maximum time allowed to park, whichever is longer. Parking fee exemptions do not apply to parking fees assessed in increments longer than 24 hours, including weekly, monthly, and annual parking permits. The exemptions are effective through June 30, 2020, or until September 30, 2019, if federal authorization for HOV lane access expires. (Reference [Hawaii Acts](http://www.capitol.hawaii.gov/) 168)</p>
	ID	Plug-In and Hybrid Electric Vehicle Exemption from Vehicle Testing Requirements	<p>Electric vehicles, plug-in hybrid electric vehicles, and hybrid electric vehicles are exempt from state motor vehicle inspection and maintenance programs. For more information, see the [Idaho Vehicle Inspection Program](http://www.idahovip.org/index.html) website. (Reference [Idaho Statutes](http://legislature.idaho.gov/statutesrules.htm) 39-116B)</p>

Registration fee	IL	Electric Vehicle (EV) Registration Fee Reduction	The owner of a dedicated EV may register for a discounted registration fee not to exceed \ \$35 for a two-year registration period. The registration fee for an EV may not exceed \ \$9 per year. To qualify for the reduced fee, the EV must weigh 8,000 pounds or less and be propelled by an electric engine. For more information, including the application documentation, see the [Electric Vehicle License Plate Guide](http://www.cyberdriveillinois.com/departments/vehicles/license_plate_guide/electric_vehicle.html) website. (Reference 625 [Illinois Compiled Statutes](http://www.ilga.gov/legislation/ilcs/ilcs.asp) 5/3-805)
	IL	Electric Vehicle Emissions Inspection Exemption	Vehicles powered exclusively by electricity are exempt from state motor vehicle emissions inspections. For more information, see the Illinois Environmental Protection Agency's [Vehicle Emissions Testing Program](http://www.epa.illinois.gov/topics/air-quality/mobile-sources/vehicle-emissions-testing/index) website. (Reference 625 [Illinois Compiled Statutes](http://www.ilga.gov/legislation/ilcs/ilcs.asp) 5/13C)
	IL	Fleet User Fee Exemption	Fleets with 10 or more vehicles located in defined areas of the state must pay an annual user fee of \ \$20 per vehicle. Owners of electric vehicles and owners of state, county, or local government vehicles are exempt from this fee. The Office of the Illinois Secretary of State will deposit all fees into the Alternate Fuels Fund. (Reference 415 [Illinois Compiled Statutes](http://www.ilga.gov/legislation/ilcs/ilcs.asp) 120/35)
	MA	Electric Vehicle Emissions Inspection Exemption	Vehicles powered exclusively by electricity are exempt from state motor vehicle emissions inspections. For more information, see the [Massachusetts Vehicle Check](https://www.mavehiclecheck.com/) website. (Reference [Massachusetts Department of Environmental Protection Regulations and Standards](http://www.mass.gov/eea/agencies/massdep/air/regulations/) 310 CMR 60.02)

HOV Lanes	MD	Plug-In Electric Vehicle (PEV) High Occupancy Vehicle (HOV) Lane Exemption	<p>Permitted PEVs may operate in any Maryland HOV lanes regardless of the number of occupants. Qualified PEVs must have a maximum speed capability of at least 65 miles per hour. Permitted hybrid electric vehicles (HEVs) may operate in the Route 50 HOV lane only, regardless of the number of occupants. To operate in HOV lanes, PEV and HEV owners must obtain a permit from the Maryland Department of Transportation Motor Vehicle Administration (MDOT MVA). The cost of the permit may not exceed \$20. Each year the MDOT MVA and the State Highway Administration must report PEV use in HOV lanes to the governor. This exemption expires September 30, 2019, for HEVs and September 30, 2022, for PEVs. For more information, see the [HOV Permit Issuance for PEVs](http://www.mva.maryland.gov/About-MVA/INFO/27300/27300-54T.htm) page. (Reference [House Bill](http://mgaleg.maryland.gov/webmga/frm1st.aspx?tab=home) 714, 2018, and [Maryland Statutes](http://mgaleg.maryland.gov/webmga/frm1st.aspx?tab=home), Transportation Code 25-108 and 21-314)</p>
Property tax	MI	Alternative Fuel Development Property Tax Exemption	<p>A tax exemption may apply to industrial property that is used for, among other purposes, high-technology activities or the creation or synthesis of biodiesel fuel. High-technology activities include those related to advanced vehicle technologies such as electric, hybrid electric, or alternative fuel vehicles and their components. To qualify for the tax exemption, an industrial facility must obtain an exemption certificate for the property from the Michigan State Tax Commission. (Reference Michigan Compiled Laws (http://www.legislature.mi.gov/(S(kovblajtbo3pwn22ekizx255))/mileg.aspx?page=home) 207.552 and 207.803-207.809)</p>
	MI	Alternative Fuel Vehicle (AFV) Emissions Inspection Exemption	<p>Dedicated AFVs powered by compressed natural gas, propane, electricity, or any other source as defined by the Michigan Department of Transportation are exempt from emissions inspection requirements. (Reference [Michigan Compiled Laws](http://www.legislature.mi.gov/(S(d1yq0h4534qach5500tlbh55))/mileg.aspx?page=home) 324.6311 and 324.6512)</p>

	MO	Alternative Fuel Vehicle (AFV) Emissions Inspection Exemption	Vehicles powered exclusively by electricity, including low-speed vehicles, hydrogen, or fuels other than gasoline that are exempt from motor vehicle emissions inspection under federal regulation, are exempt from state emissions inspection requirements. (Reference [Missouri Revised Statutes](http://www.moga.mo.gov/) 643.315)
HOV Lanes	NC	High Occupancy Vehicle (HOV) Lane Exemption	Qualified plug-in electric vehicles, dedicated natural gas vehicles, and fuel cell electric vehicles may use North Carolina HOV lanes, regardless of the number of occupants. This exemption expires September 30, 2019. (Reference [North Carolina General Statutes](http://www.ncleg.net/gascripts/Statutes/Statutes.asp) 20-4.01 and 20-146.2)
	NC	Plug-In Electric Vehicle (PEV) and Fuel Cell Electric Vehicle (FCEV) Emissions Inspection Exemption	Qualified PEVs and FCEVs are exempt from state emissions inspection requirements. Other restrictions may apply. (Reference [North Carolina General Statutes](http://www.ncleg.net/gascripts/Statutes/Statutes.asp) 20-4.01 and 20-183.2)
	NC	Alternative Fuel Tax Exemption	The retail sale, use, storage, and consumption of alternative fuels is exempt from the state retail sales and use tax. (Reference [North Carolina General Statutes](http://www.ncleg.net/gascripts/Statutes/Statutes.asp) 105-164.13)
HOV Lanes	NJ	High Occupancy Vehicle (HOV) Lane Exemption and Discount	New Jersey Turnpike Authority (Authority) allows qualified hybrid electric and plug-in electric vehicles to travel in the HOV lanes located between Interchange 11 and Interchange 14 on the New Jersey Turnpike. The Authority offers a 10% discount on off-peak New Jersey Turnpike and Garden State Parkway toll rates through NJ EZ-Pass for drivers of vehicles that have a fuel economy of 45 miles per gallon or higher and meet the California Super Ultra Low Emission Vehicle standard. For more information and discount requirements, see the Authority [Toll Rates](http://www.state.nj.us/turnpike/toll-rates.html) website. (Reference 49 [New Jersey Register](http://www.state.nj.us/oal/rules/accessp/) 3236(b) and [New Jersey Administrative Code](http://www.state.nj.us/oal/rules/accessp/) 19:9-1.24)

Sales Tax	NJ	Zero Emissions Vehicle (ZEV) Tax Exemption	ZEVs sold, rented, or leased in New Jersey are exempt from state sales and use tax. This exemption is not applicable to partial ZEVs, including hybrid electric vehicles. ZEVs are defined as vehicles that meet California Air Resources Board zero emissions standards for that model year. For a list of qualifying ZEVs certified as such, see the New Jersey Department of the Treasury [ZEV Sales Tax Exemption](http://www.state.nj.us/treasury/taxation/zevnotice.shtml) website. (Reference [New Jersey Statutes](http://www.njleg.state.nj.us/) 54:32B-8.55)
Toll Discount	NJ	Plug-In Electric Vehicle (PEV) Toll Discount Program	Vehicles eligible for the New York Clean Pass Program, including PEVs and hybrid electric vehicles, receive a discounted toll rate on all Port Authority of New York and New Jersey off-peak hour crossings. Vehicles must register with E-ZPass New York. For more information, including a complete list of eligible vehicles and application instructions, see the [Green Pass Discount Plan](https://www.panynj.gov/bridges-tunnels/e-zpass.html) website.
	NM	Alternative Fuel Tax Exemption	Alternative fuel distributed by or used for U.S. government, state government, or Indian nation, tribe, or pueblo purposes is exempt from the state excise tax. (Reference [New Mexico Statutes](http://public.nmcompcomm.us/nmnxtadmin/NMPublic.aspx) 7-16B-5)
Parking	NV	Alternative Fuel Vehicle (AFV) Parking Fee Exemption	All local authorities with public metered parking areas within their jurisdiction must establish a program for AFVs to park in these areas without paying a fee. Each local authority is responsible for creating an application process and issuing a distinctive decal for AFVs. The fee for the decal may not exceed \$10 per year. This requirement does not apply to parking areas associated with an airport. (Reference [Nevada Revised Statutes](http://www.leg.state.nv.us/law1.cfm) 484A.468)
	NV	Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Emissions Inspection Exemption	AFVs are exempt from Nevada's emissions testing requirements. A new HEV is exempt from emissions inspection testing for the first five model years, after which the vehicle must comply with emissions inspection testing requirements on an annual basis. For more information, see the [Nevada Emissions Control Program](http://www.dmvnv.com/emission.htm) website. (Reference [Nevada Revised Statutes](http://www.leg.state.nv.us/law1.cfm) 445B.770 through 445B.825)

HOV Lanes	NY	High Occupancy Vehicle (HOV) Lane Exemption	Through the Clean Pass Program, eligible plug-in electric and hybrid electric vehicles may use the Long Island Expressway HOV lanes, regardless of the number of occupants in the vehicle. Vehicles must display the Clean Pass vehicle sticker, which is available from the New York State Department of Motor Vehicles. This exemption expires September 30, 2019. For a list of eligible vehicles and Clean Pass sticker application instructions, see the [Clean Pass Program](https://www.dot.ny.gov/portal/page/portal/programs/clean-pass?nd=nysdot) website.
Reduced electricity cost	NY	Plug-In Electric Vehicle (PEV) Voluntary Time of Use (TOU) Rate Price Guarantee - Con Edison	Under the voluntary TOU rate, residential customers will pay a reduced price for electricity used during the designated off-peak period. Customers who register a PEV with Con Edison and are participating in the voluntary TOU rate are guaranteed to pay no more than the standard electric rate for one year after registration with Con Edison. For more information, including how to enroll, see the [Electric Vehicle Rates](https://www.coned.com/en/our-energy-future/technology-innovation/electric-vehicles/electric-vehicles-and-your-bill) website.
Toll Discount	NY	Plug-in Electric Vehicle (PEV) Toll Discount Program	Vehicles eligible for the New York Clean Pass Program, including PEVs and hybrid electric vehicles, receive a discounted toll rate on all Port Authority of New York & New Jersey (PANYNJ) off-peak hour crossings. Vehicles must register with E-ZPass New York. Drivers of qualified vehicles may also receive a 10% discount on established E-ZPass accounts with proof of registration. This exemption expires September 30, 2019. For more information, including a complete list of eligible vehicles and application instructions, see the [PANYNJ E-ZPass](https://www.panynj.gov/bridges-tunnels/e-zpass.html) and [Green Pass Discount Plan](http://www.thruway.ny.gov/ezpass/greentag.html) websites.
	NY	Electric Vehicle Emissions Inspection Exemption	Vehicles powered exclusively by electricity are exempt from state motor vehicle emissions inspections. For more information, see the [New York Vehicle Inspection Program (NYVIP2)](http://dmv.ny.gov/node/1997) website. (Reference [New York State Department of Environmental Conservation Regulations](http://www.dec.ny.gov/regulations/regulations.html) Chapter III, Part 217-6)

	OH	Alternative Fuel Vehicle (AFV) Emissions Inspection Exemption	Vehicles powered exclusively by electricity, propane, or natural gas are exempt from state motor vehicle emissions inspections after receiving a one-time verification inspection. For more information, see the Ohio Environmental Protection Agency's [E-Check](http://www.epa.ohio.gov/dapc/mobile.aspx) website. (Reference [Ohio Administrative Code](http://codes.ohio.gov/) 3745.26)
	OR	Pollution Control Equipment Exemption	Dedicated original equipment manufacturer natural gas vehicles and all-electric vehicles are not required to be equipped with a certified pollution control system. (Reference [Oregon Revised Statutes](https://www.oregonlegislature.gov/) 815.300)
Excise tax	RI	Alternative Fuel Vehicle (AFV) Tax Exemption-Warren	The town of Warren may allow excise tax exemptions of up to \ \$100 for qualified AFVs registered in Warren. Qualified vehicles must be primarily fueled with one of the following: an electric motor drawing current from rechargeable batteries or fuel cells; gas produced from biomass, where biomass is defined as any organic material other than oil, natural gas, and coal; liquid, gaseous or solid synthetic fuels produced from coal; or coke or coke gas. (Reference [Rhode Island General Laws](http://webserver.rilin.state.ri.us/Statutes/) 44-34-14)
	RI	Electric Vehicle Emissions Inspection Exemption	Vehicles powered exclusively by electricity are exempt from state emissions control inspections. For more information, see the [Rhode Island Emissions and Safety Testing Program](http://www.riinspection.org/overview.htm) website. (Reference [Rhode Island General Laws](http://webserver.rilin.state.ri.us/Statutes/) 31-47.1-5)
HOV Lanes	TN	High Occupancy Vehicle (HOV) Lane Exemption	Vehicles that the U.S. Environmental Protection Agency defines as Inherently Low Emission Vehicles or Low Emission and Energy-Efficient Vehicles and have gross vehicle weight ratings of 26,000 pounds or less are permitted use of HOV lanes regardless of the number of occupants. Such vehicles must display a Tennessee Department of Revenue decal. This exemption expires September 30, 2019. For more information, see the Department of Revenue [Smart Pass FAQs](https://revenue.support.tn.gov/hc/en-us/sections/200998475-HOV-Smart-Pass) website. (Reference [Tennessee Code](http://www.lexisnexis.com/hottopics/tncode/) 55-8-188)

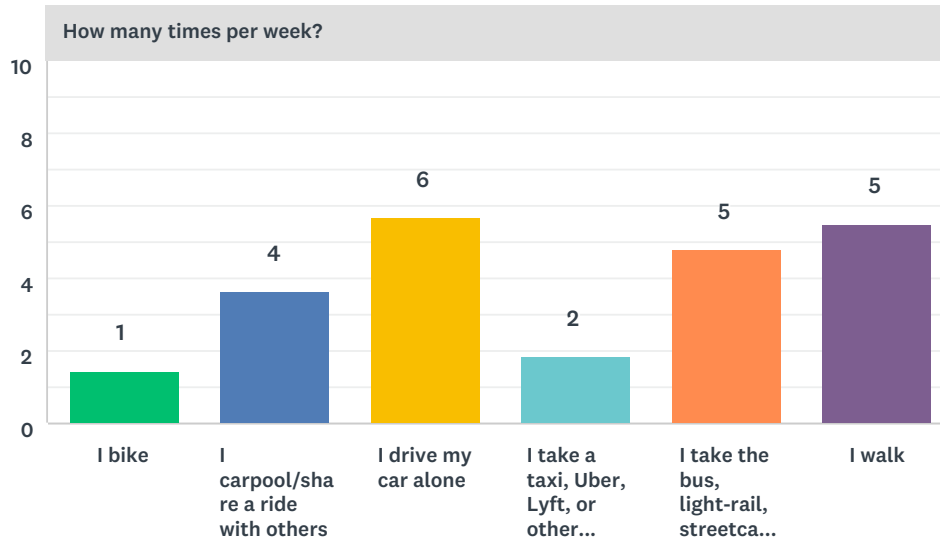
HOV Lanes	UT	Alternative Fuel Vehicle Decal and High Occupancy Vehicle (HOV) Lane Exemption	Vehicles operating on propane, natural gas, or electricity are permitted to use HOV lanes, regardless of the number of passengers. Qualified vehicles must display the special clean fuel decal issued by the Utah Department of Transportation (UDOT); a limited number of decals are available. This exemption expires September 30, 2019. For more information about qualifying vehicles and decal availability, see the UDOT [Clean Fuel Vehicle Decal and Permit](http://www.udot.utah.gov/main/f?p=100:pg:0:::1:T,V:2280) website. (Reference [Utah Code](http://le.utah.gov/xcode/code.html) 41-1a-416, 41-1a-418, 41-6a-702, 59-13-102, and 72-6-121)
	UT	Alternative Fuel Tax Exemptions and Reductions	Propane, natural gas, electricity, and hydrogen, also known as special fuel, used to operate motor vehicles are exempt from state fuel taxes, but subject to a special fuel tax at the rate of three-nineteenths of the conventional motor fuel tax. A reduction in special fuel tax is permissible if the fuel is already taxed by the Navajo Nation. Retailers, wholesalers, and suppliers of special fuel are eligible for a refund of the special fuel tax if dyed diesel fuel is mixed with special fuel and the mixed special fuel is returned to the refinery. For more information, see the Utah State Tax Commission [Fuel Taxes](http://tax.utah.gov/fuel) website. (Reference [Utah Code](http://le.utah.gov/xcode/code.html) 59-13-102, 59-13-201, 59-13-301, and 59-13-322)
HOV Lanes	VA	High Occupancy Vehicle (HOV) Lane Exemption	Alternative fuel vehicles (AFVs) displaying the Virginia Clean Special Fuel license plate may use Virginia HOV lanes, regardless of the number of occupants. For HOV lanes serving the I-66 corridor, only registered vehicles displaying Clean Special Fuel license plates issued before July 1, 2011, are exempt from HOV lane requirements. For express lanes serving the I-95/I-395 corridor, registered vehicles displaying Clean Special Fuel license plates are not exempt from HOV lane occupancy requirements, but may use the lanes toll-free if equipped with an E-ZPass Flex set to "HOV" mode. Vehicles displaying Clean Special Fuel license plates are exempt from the Dulles Toll Road HOV lane requirements. Eligible vehicles include dedicated AFVs and some hybrid electric vehicles; see the [Virginia Department of Motor Vehicles](http://www.dmv.state.va.us/webdoc/citizen/vehicles/cleanspecialfuel.asp) website for a complete list of qualifying vehicles. The annual fee for Clean Special Fuel license plates is \$25 in addition to the prescribed fee for commonwealth license plates. This exemption expires September 30, 2019. For more information, see the Virginia Department of Transportation [HOV Lanes](http://www.virginiadot.org/travel/hov-default.asp) website. (Reference [Virginia Code](http://lis.virginia.gov/000/src.htm) 33.2-501 and 46.2-749.3)

	VA	Alternative Fuel and Hybrid Electric Vehicle (HEV) Emissions Testing Exemption	The Virginia emissions inspection program, which requires biennial inspections of motor vehicles, does not apply to vehicles exclusively powered by compressed or liquefied natural gas, liquefied petroleum gas (propane), hydrogen, a combination of compressed natural gas and hydrogen, or electricity. Qualified HEVs with U.S. Environmental Protection Agency fuel economy ratings of at least 50 miles per gallon (city) are also exempt from the emissions inspection program unless remote sensing devices indicate the HEV may not meet current emissions standards. For more information, including a list of HEVs that qualify, see the Virginia Department of Motor Vehicles [Emissions Inspections](http://www.dmv.state.va.us/vehicles/#emissions.asp) website. (Reference [Virginia Code](http://lis.virginia.gov/000/src.htm) 46.2-1177 through 46.2-1178)
minor sales	WA	Electric Vehicle (EV) Infrastructure and Battery Tax Exemptions	Public lands used for installing, maintaining, and operating EV infrastructure are exempt from leasehold excise taxes until January 1, 2020. Additionally, the state sales and use taxes do not apply to plug-in electric vehicle (PEV) batteries; labor and services for installing, repairing, altering, or improving PEV batteries and EV infrastructure; and the sale of property used for EV infrastructure. (Reference Revised Code of Washington (http://apps.leg.wa.gov/rcw/) 82.29A.125, 82.08.816, and 82.12.816)
	WA	Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Emissions Inspection Exemption	Dedicated electric, natural gas, and propane vehicles are exempt from state emissions control inspections. HEVs that obtain a U.S. Environmental Protection Agency fuel economy rating of at least 50 miles per gallon during city driving are also exempt from these inspections. (Reference [Revised Code of Washington](http://apps.leg.wa.gov/rcw/) 46.16A.060)
	WA	Plug-in Electric Vehicle (PEV) Charging Regulation Exemption	The Washington Utilities and Transportation Commission (Commission) may not regulate the rates, services, facilities, or practices of an entity that offers battery charging facilities to the public for hire. The exemption does not apply if the entity is otherwise subject to Commission jurisdiction as an electrical company, or if an entity's battery charging facilities and services are subsidized by any regulated service. A utility may offer battery charging facilities as a regulated service, subject to Commission approval. (Reference [Revised Code of Washington](http://apps.leg.wa.gov/rcw/) 80.28.320)

WI Alternative Fuel No county, city, village, town, or other political subdivision may levy
Tax Exemption or collect any excise, license, privilege, or occupational tax on motor
vehicle fuel or alternative fuels, or on the purchase, sale, handling,
or consumption of motor vehicle fuel or alternative fuels. (Reference
[Wisconsin Statutes](<http://legis.wisconsin.gov/rsb/stats.html>) 78.82)

Q1 What is the most common way you move around?

Answered: 448 Skipped: 8



How many times per week?												
	0	1	2	3	4	5	6	7	8	9	10	TOTAL
I bike	84% 97	7% 8	3% 3	3% 3	1% 1	0% 0	1% 1	3% 3	0% 0	0% 0	0% 0	116
I carpool/share a ride with others	35% 67	12% 24	14% 28	7% 14	5% 9	7% 13	2% 4	14% 28	0% 0	0% 0	4% 7	194
I drive my car alone	20% 56	2% 5	4% 12	10% 29	7% 19	10% 29	2% 5	39% 112	0% 0	0% 0	7% 19	286
I take a taxi, Uber, Lyft, or other service	61% 88	21% 30	8% 12	4% 6	1% 2	1% 2	0% 0	2% 3	0% 0	0% 0	1% 1	144
I take the bus, light-rail, streetcar, train, etc. (public transit)	12% 34	11% 29	13% 37	16% 43	10% 27	9% 26	4% 10	22% 62	0% 0	0% 0	3% 8	276
I walk	9% 22	8% 20	13% 31	12% 29	7% 17	7% 18	0% 1	39% 95	1% 2	0% 0	3% 7	242

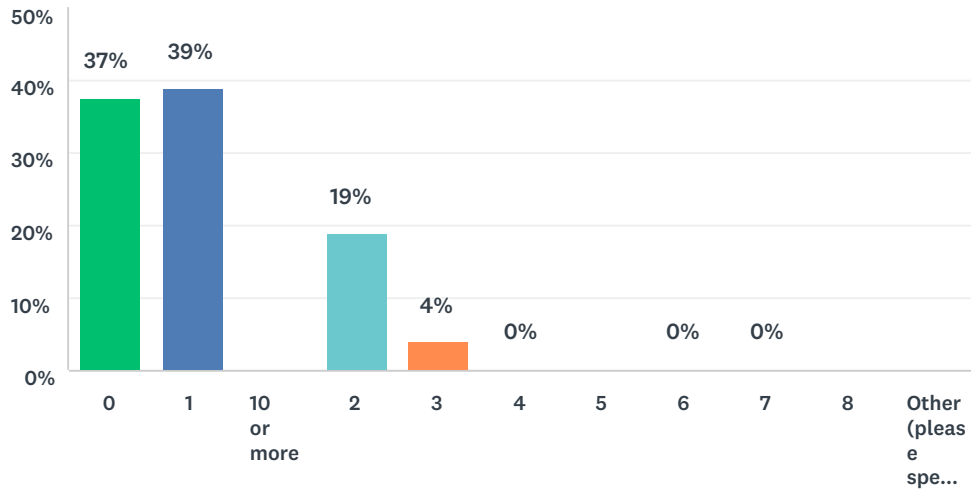
#	OTHER (PLEASE SPECIFY AND HOW OFTEN)	DATE
1	family - 2	11/18/2018 1:12 AM
2	We rent a car on some weekends, 3	11/16/2018 9:39 AM
3	Caregiver drives, 2	11/16/2018 8:40 AM
4	Family, 2	11/16/2018 8:28 AM
5	Use Access, 3	11/16/2018 8:23 AM
6	transit bus 4	11/13/2018 2:15 PM
7	Med car, 1	11/9/2018 10:31 AM
8	daughter helping - 3 times per week	11/8/2018 1:46 PM
9	I have a scooter - 2 times a week	11/7/2018 5:46 PM
10	Hopelink to appointments	11/7/2018 2:42 PM
11	My relatives help me to reach any place	11/7/2018 2:29 PM

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12	Access Transportation	11/7/2018 2:27 PM
13	Use Access Hopelink	11/7/2018 2:16 PM

Q2 How many cars, trucks, vans, or motorcycles are available in your household for you to use?

Answered: 438 Skipped: 18

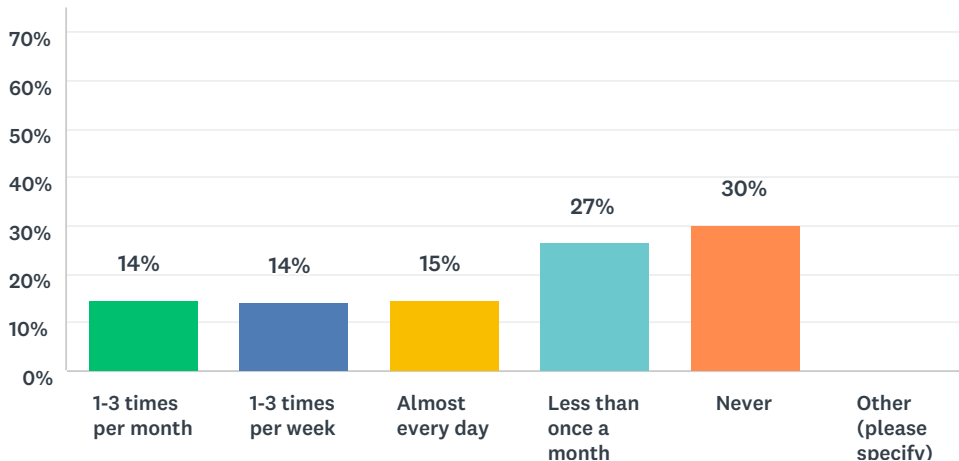


ANSWER CHOICES	RESPONSES	
0	37%	164
1	39%	171
10 or more	0%	0
2	19%	83
3	4%	17
4	0%	1
5	0%	0
6	0%	1
7	0%	1
8	0%	0
Other (please specify)	0%	0
TOTAL		438

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q3 How often do you travel more than 50 miles per day?

Answered: 450 Skipped: 6

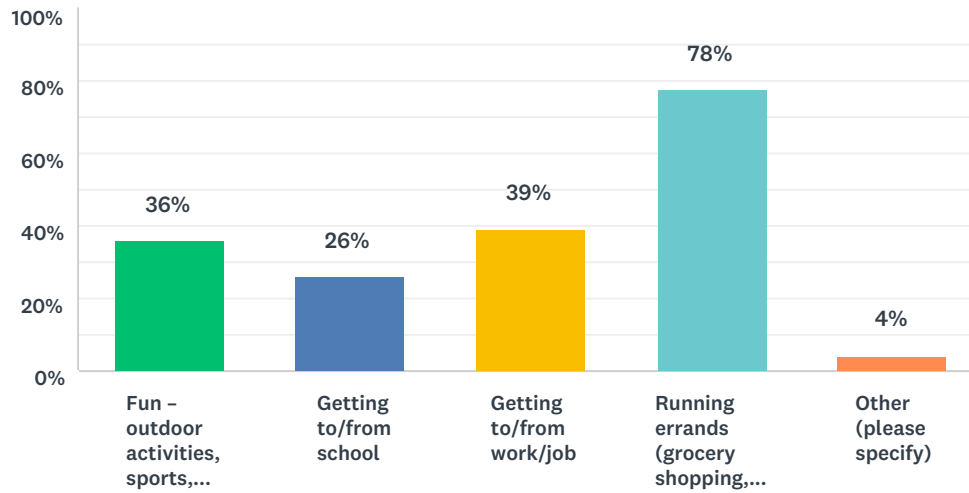


ANSWER CHOICES	RESPONSES	
1-3 times per month	14%	65
1-3 times per week	14%	64
Almost every day	15%	66
Less than once a month	27%	120
Never	30%	135
Other (please specify)	0%	0
TOTAL		450

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q4 When do you most need a car?

Answered: 428 Skipped: 28

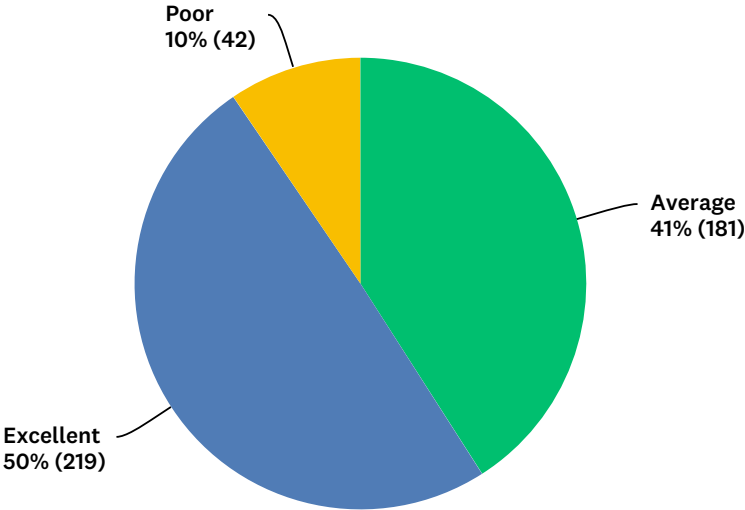


ANSWER CHOICES	RESPONSES	
Fun – outdoor activities, sports, meeting friends, going out to eat, etc.	36%	154
Getting to/from school	26%	111
Getting to/from work/job	39%	167
Running errands (grocery shopping, medical appointments, social services, taking family or kids places etc.)	78%	332
Other (please specify)	4%	17
Total Respondents: 428		

#	OTHER (PLEASE SPECIFY)	DATE
1	Don't drive	11/16/2018 8:23 AM
2	I have a care giver and I don't	11/15/2018 1:01 PM
3	no driver's license	11/15/2018 12:54 PM
4	no car	11/14/2018 3:23 PM
5	Church	11/14/2018 11:37 AM
6	Church	11/13/2018 4:28 PM
7	Appointments	11/13/2018 4:03 PM
8	Vacation	11/13/2018 4:00 PM
9	emergency	11/9/2018 11:03 AM
10	I don't own a car	11/9/2018 10:03 AM
11	I do not have a car	11/8/2018 1:19 PM
12	to see the doctor	11/8/2018 1:07 PM
13	I do not have a car	11/7/2018 5:20 PM
14	I don't own a car	11/7/2018 2:52 PM
15	Church	11/7/2018 2:27 PM
16	Don't drive	11/7/2018 2:14 PM

Q5 How well are your transportation needs met?

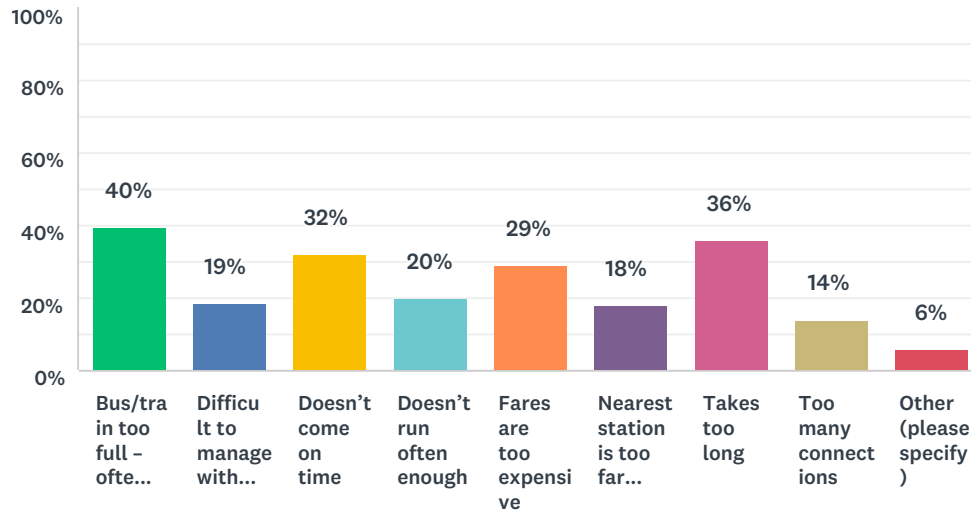
Answered: 442 Skipped: 14



ANSWER CHOICES	RESPONSES	
Average	41%	181
Excellent	50%	219
Poor	10%	42
TOTAL		442

Q6 If you travel by public transportation, what are your biggest challenges? (Select all that apply)

Answered: 376 Skipped: 80



ANSWER CHOICES	RESPONSES	
Bus/train too full – often there isn't room, or only standing room	40%	149
Difficult to manage with children/elderly	19%	70
Doesn't come on time	32%	120
Doesn't run often enough	20%	76
Fares are too expensive	29%	109
Nearest station is too far away	18%	68
Takes too long	36%	135
Too many connections	14%	53
Other (please specify)	6%	23
Total Respondents: 376		

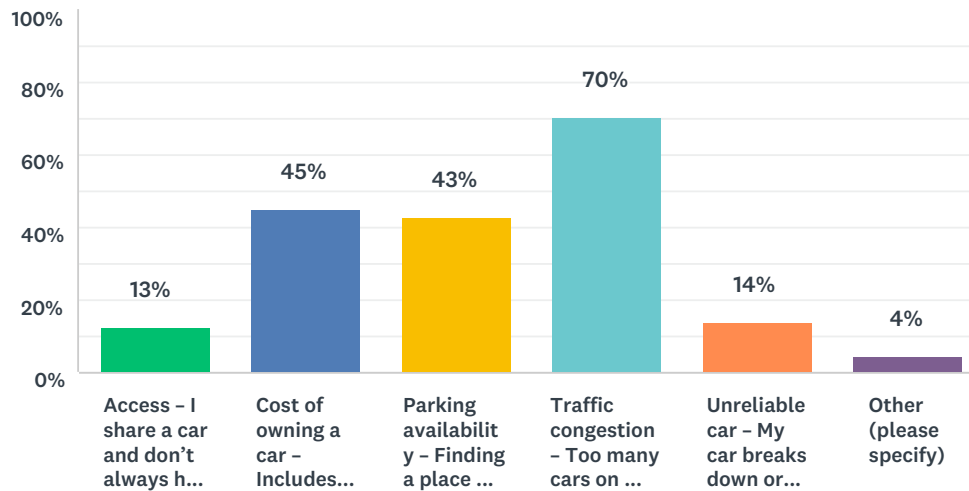
#	OTHER (PLEASE SPECIFY)	DATE
1	no challenges	11/18/2018 1:14 AM
2	Rude people with bad language. Personal boundaries are crossed with my children.	11/16/2018 10:28 AM
3	appt may not be on busline or too far to walk	11/16/2018 9:39 AM
4	Dirty bus	11/16/2018 9:14 AM
5	Neck and back pain	11/16/2018 8:30 AM
6	Congestion	11/15/2018 3:03 PM
7	Safety, especially evening hours	11/15/2018 2:57 PM
8	don't take public transportation	11/15/2018 1:09 PM
9	don't take public transportation	11/15/2018 1:01 PM
10	Hard to figure out schedule	11/14/2018 11:11 AM

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11	The dog	11/13/2018 7:21 PM
12	Takes the bus so they can't travel too far	11/13/2018 1:33 PM
13	Waste most of the time waiting for the bus.	11/13/2018 1:32 PM
14	Disability	11/10/2018 8:15 AM
15	Don't ride bus	11/9/2018 12:11 PM
16	Fear of illness	11/9/2018 11:22 AM
17	I have to walk 8 blovks to get to daily pain clinic I attend	11/9/2018 10:20 AM
18	don't take public transportation	11/8/2018 4:55 PM
19	my disability	11/8/2018 1:29 PM
20	I wish nothing more than a good public transit	11/8/2018 9:22 AM
21	Never travel by public transportation	11/7/2018 3:00 PM
22	Electric wheelchair, bus full most of the time	11/7/2018 2:27 PM
23	Don't ride bus	11/7/2018 2:14 PM

Q7 If you travel by car, what challenges do you face? (Select all that apply)

Answered: 392 Skipped: 64



ANSWER CHOICES	RESPONSES	
Access – I share a car and don't always have access when I need it	13%	49
Cost of owning a car – Includes gas, insurance, maintenance, parking	45%	176
Parking availability – Finding a place to park the car	43%	169
Traffic congestion – Too many cars on the road and traffic moves slowly	70%	276
Unreliable car – My car breaks down or needs to be fixed	14%	55
Other (please specify)	4%	17
Total Respondents: 392		

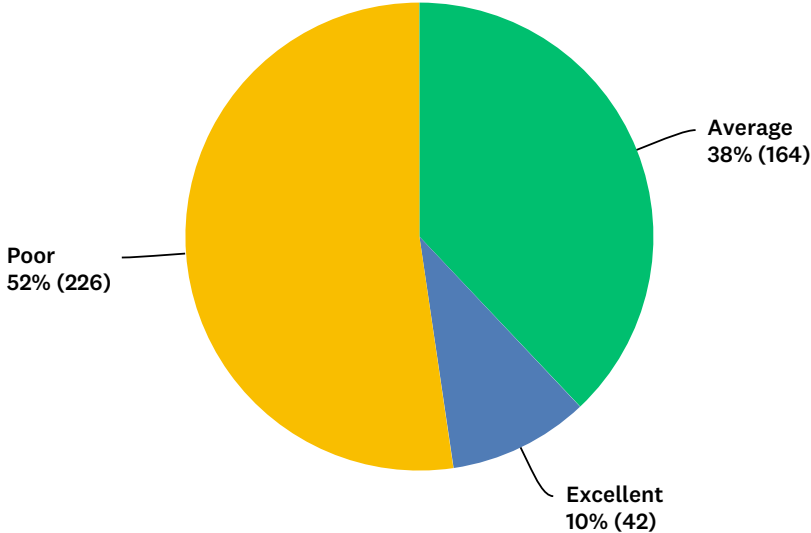
#	OTHER (PLEASE SPECIFY)	DATE
1	my care giver drives me around	11/18/2018 1:10 AM
2	Health issues make it hard to drive	11/16/2018 9:53 AM
3	We may rent or take Uber, often it is way too expensive	11/16/2018 9:39 AM
4	Lost car because couldn't keep up on maintenance fees	11/16/2018 9:31 AM
5	Too expensive	11/16/2018 8:42 AM
6	Paying for taxis and rides	11/16/2018 8:30 AM
7	I do not have a car	11/15/2018 1:01 PM
8	Pay for parking	11/13/2018 1:32 PM
9	My car was rear ended 2 months ago. I am scared and nervous now.	11/9/2018 10:20 AM
10	Cost, Cost, Cost	11/9/2018 9:34 AM
11	No Car	11/9/2018 9:16 AM
12	don't travel by car	11/8/2018 1:19 PM
13	Avoiding bicycles	11/8/2018 9:26 AM
14	It is a pain to get my kids in and out of the car at each stop. Would love public transit.	11/8/2018 9:22 AM

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15	I do not have a car	11/7/2018 5:20 PM
16	Due to lupus, I can't drive	11/7/2018 2:27 PM
17	Don't drive	11/7/2018 2:14 PM

Q8 How much do you know about electric cars?

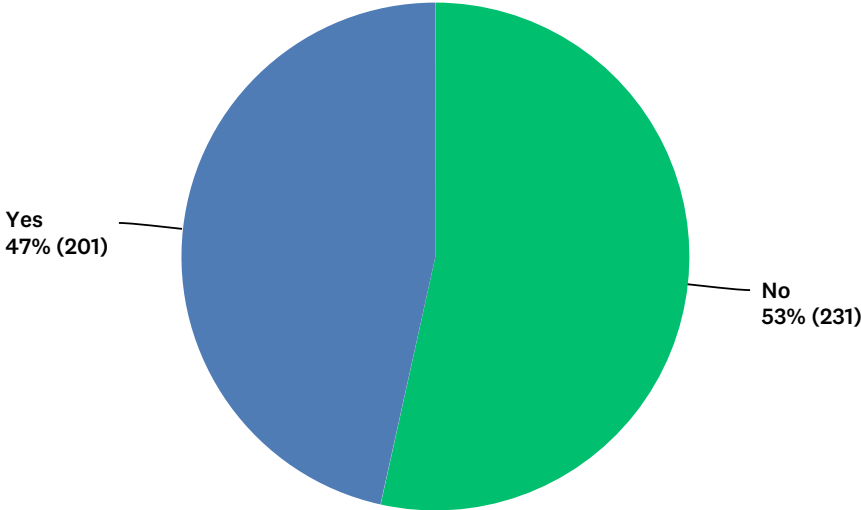
Answered: 432 Skipped: 24



ANSWER CHOICES	RESPONSES	
Average	38%	164
Excellent	10%	42
Poor	52%	226
TOTAL		432

Q9 Would you be comfortable driving an electric car?

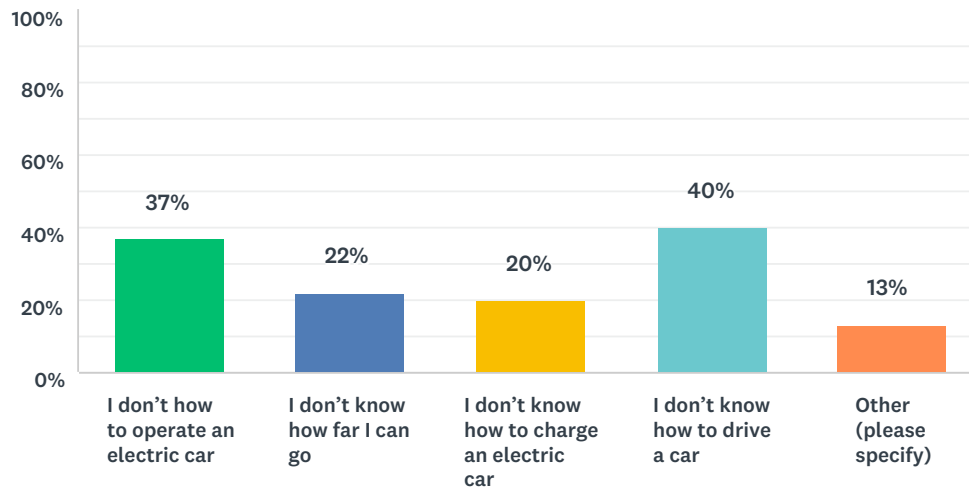
Answered: 432 Skipped: 24



ANSWER CHOICES	RESPONSES	
No	53%	231
Yes	47%	201
TOTAL		432

Q10 Why are you not comfortable driving an electric vehicle? (Select all that apply)

Answered: 215 Skipped: 241



ANSWER CHOICES	RESPONSES	
I don't how to operate an electric car	37%	80
I don't know how far I can go	22%	47
I don't know how to charge an electric car	20%	43
I don't know how to drive a car	40%	86
Other (please specify)	13%	28
Total Respondents: 215		

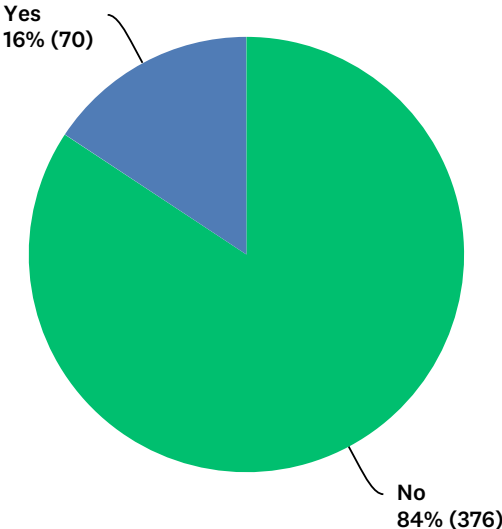
#	OTHER (PLEASE SPECIFY)	DATE
1	I can't drive	11/18/2018 1:19 AM
2	I don't drive	11/18/2018 1:12 AM
3	I am 90	11/18/2018 1:01 AM
4	Cost of fixing and maintenance too high for me	11/16/2018 11:02 AM
5	Not my style	11/16/2018 8:50 AM
6	Can't drive	11/16/2018 8:40 AM
7	Can't drive	11/16/2018 8:29 AM
8	Don't drive	11/16/2018 8:23 AM
9	Quit driving	11/15/2018 3:16 PM
10	too old	11/14/2018 3:48 PM
11	I've never tried it	11/10/2018 8:12 AM
12	Visually impaired	11/9/2018 9:12 AM
13	I don't have a car	11/8/2018 4:39 PM
14	I have never used it before	11/8/2018 4:35 PM
15	I don't know about electric car	11/8/2018 4:14 PM

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16	I don't like to drive a car	11/8/2018 2:15 PM
17	Afraid	11/8/2018 1:46 PM
18	electric would cause unknown reasons	11/8/2018 1:26 PM
19	don't know about it	11/8/2018 1:19 PM
20	afraid	11/8/2018 1:07 PM
21	too old to drive	11/8/2018 1:04 PM
22	How much does the car weigh? How often would they need to be charged?	11/8/2018 9:28 AM
23	I don't know about electric car	11/7/2018 5:30 PM
24	I'm 77 years old	11/7/2018 4:33 PM
25	Not sure	11/7/2018 2:57 PM
26	Can't because of my disability	11/7/2018 2:16 PM
27	Don't drive	11/7/2018 2:14 PM
28	I've never tried it	11/7/2018 1:46 PM

Q11 Have you ever used a car-sharing service?

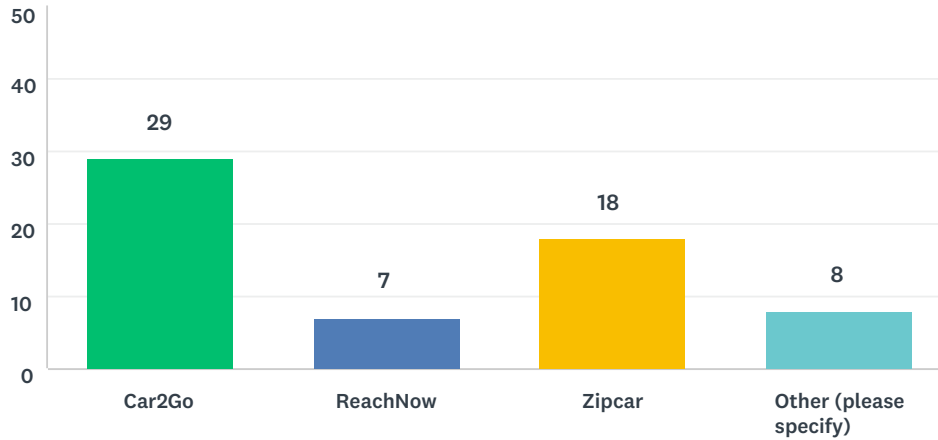
Answered: 446 Skipped: 10



ANSWER CHOICES	RESPONSES	
No	84%	376
Yes	16%	70
TOTAL		446

Q12 Which car-sharing service have you used?

Answered: 52 Skipped: 404

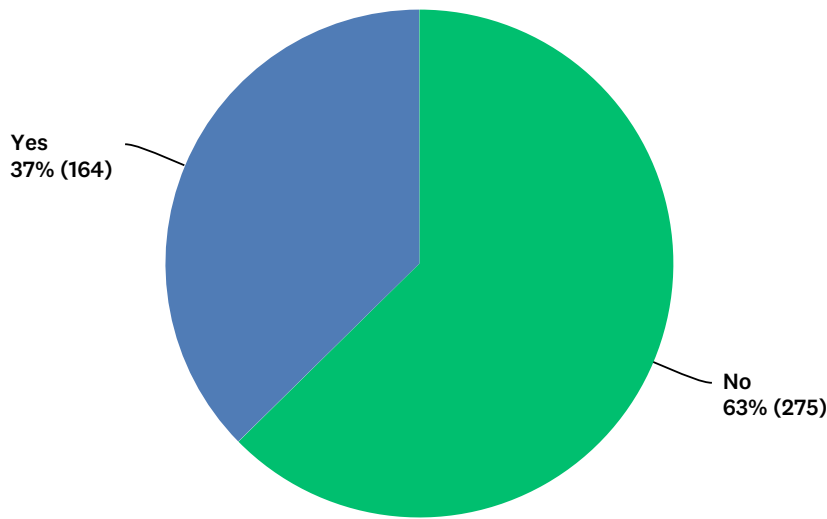


ANSWER CHOICES	RESPONSES	
Car2Go	56%	29
ReachNow	13%	7
Zipcar	35%	18
Other (please specify)	15%	8
Total Respondents: 52		

#	OTHER (PLEASE SPECIFY)	DATE
1	my car	11/15/2018 1:12 PM
2	Uber, Lyft	11/15/2018 12:53 PM
3	Uber	11/14/2018 12:07 PM
4	Uber	11/13/2018 1:31 PM
5	Taxi, Yellow Cab	11/10/2018 9:23 AM
6	Uber	11/10/2018 8:16 AM
7	Uber	11/10/2018 8:03 AM
8	Axcess in Washington State	11/7/2018 2:28 PM

Q13 Would you use a car-sharing service if it was close by?

Answered: 439 Skipped: 17



ANSWER CHOICES	RESPONSES	
No	63%	275
Yes	37%	164
TOTAL		439

#	WHY OR WHY NOT?	DATE
1	I can't drive	11/18/2018 1:22 AM
2	I don't use a car	11/18/2018 1:14 AM
3	I don't drive	11/18/2018 1:12 AM
4	I don't drive	11/18/2018 1:10 AM
5	never needed it	11/18/2018 1:05 AM
6	I am too old	11/18/2018 1:01 AM
7	Transportation	11/16/2018 1:16 PM
8	I have my own car	11/16/2018 11:06 AM
9	Sounds cool and I would like access to a newer vehicle	11/16/2018 11:03 AM
10	I don't like to	11/16/2018 10:59 AM
11	Don't need it	11/16/2018 10:52 AM
12	The cost would be too much	11/16/2018 10:29 AM
13	My vehicle is a commercial truck where I carry ladders and tools	11/16/2018 10:02 AM
14	Not sure if I can afford	11/16/2018 9:54 AM
15	We have many appts between 2 people and don't have money to rent a full day	11/16/2018 9:52 AM
16	I wouldn't be able to get around whenever I need	11/16/2018 9:35 AM
17	Convenience	11/16/2018 9:33 AM
18	I have my own car	11/16/2018 8:58 AM

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19	I don't drive	11/16/2018 8:44 AM
20	Would be an asset to drive and save money on insurance and maintenance	11/16/2018 8:43 AM
21	Don't know how	11/16/2018 8:38 AM
22	I don't drive	11/16/2018 8:35 AM
23	Convenience, help elderly father	11/16/2018 8:32 AM
24	No license	11/16/2018 8:27 AM
25	No license	11/16/2018 8:24 AM
26	don't drive	11/15/2018 4:52 PM
27	own car already	11/15/2018 4:05 PM
28	I don't drive	11/15/2018 3:16 PM
29	I don't want to spend money	11/15/2018 3:05 PM
30	I have my own car	11/15/2018 3:04 PM
31	Depends on affordability and availability	11/15/2018 2:59 PM
32	Need to rent is a great idea	11/15/2018 2:56 PM
33	because I can't drive	11/15/2018 1:32 PM
34	own car already	11/15/2018 1:14 PM
35	own car already	11/15/2018 1:12 PM
36	don't drive	11/15/2018 12:55 PM
37	Every place I need to go is in walking distance	11/15/2018 12:54 PM
38	Fast to get ride	11/15/2018 12:53 PM
39	Don't feel like I would ever need it	11/15/2018 12:51 PM
40	Saves money and you get a different alternative	11/15/2018 12:49 PM
41	If affordable	11/14/2018 12:14 PM
42	I don't drive	11/14/2018 11:40 AM
43	I don't drive	11/14/2018 11:39 AM
44	I don't drive	11/14/2018 11:38 AM
45	I don't drive	11/14/2018 11:34 AM
46	I don't drive	11/14/2018 11:33 AM
47	I don't drive	11/14/2018 11:31 AM
48	Don't know about insurance policy	11/14/2018 11:29 AM
49	It will be easier than having your own car and you don't have to worry about maintenance	11/14/2018 11:13 AM
50	Cost, flexibility	11/14/2018 11:11 AM
51	I don't drive	11/14/2018 11:10 AM
52	I don't drive	11/13/2018 7:23 PM
53	No smart phone	11/13/2018 7:19 PM
54	I own my own car, So I would not need it.	11/13/2018 7:17 PM
55	I don't know	11/13/2018 7:16 PM
56	Don't drive much	11/13/2018 7:00 PM
57	Too expensive	11/13/2018 6:59 PM
58	Do not drive	11/13/2018 6:56 PM
59	Do not drive	11/13/2018 6:54 PM

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60	I use yellow cab when I need, just make a call	11/13/2018 4:39 PM
61	Do not drive	11/13/2018 4:29 PM
62	No smartphone	11/13/2018 4:21 PM
63	Prefer to walk	11/13/2018 4:19 PM
64	No smartphone	11/13/2018 4:18 PM
65	Don't like sharing with others.	11/13/2018 4:10 PM
66	I own my own car, So I would not need it.	11/13/2018 4:05 PM
67	If it is more convenient	11/13/2018 2:25 PM
68	Do not drive	11/13/2018 2:23 PM
69	Because it's a good transportation	11/13/2018 2:23 PM
70	If it was cheaper	11/13/2018 2:22 PM
71	If it was cheaper	11/13/2018 2:19 PM
72	I don't want to share with other people.	11/13/2018 2:16 PM
73	I don't drive	11/13/2018 2:11 PM
74	Convenience	11/13/2018 2:07 PM
75	Convenience	11/13/2018 2:03 PM
76	I own my own car, So I would not need it.	11/13/2018 1:44 PM
77	I don't drive	11/13/2018 1:43 PM
78	I don't know much about it.	11/13/2018 1:38 PM
79	I have my own car	11/13/2018 1:35 PM
80	I own my own car, So I would not need it.	11/13/2018 1:28 PM
81	Our family size is big.	11/13/2018 1:25 PM
82	You may not know what will happen to the vehicle.	11/13/2018 1:19 PM
83	Sounds interesting, don't have to own	11/13/2018 1:11 PM
84	No extra money	11/13/2018 1:04 PM
85	I have my own car	11/11/2018 9:38 AM
86	I have reliable car	11/11/2018 9:36 AM
87	If affordable and lots of vehicles to choose from	11/11/2018 8:58 AM
88	I can't afford it	11/10/2018 9:23 AM
89	Convenience	11/10/2018 9:17 AM
90	I don't like sharing	11/10/2018 9:14 AM
91	I don't drive	11/10/2018 9:07 AM
92	Not comfortable	11/10/2018 8:28 AM
93	Because it is there when I need it	11/10/2018 8:25 AM
94	Saving time and traffic congestion	11/10/2018 8:21 AM
95	I never tried it	11/10/2018 8:19 AM
96	Convenience	11/10/2018 8:16 AM
97	No extra money	11/10/2018 8:11 AM
98	Convenience	11/10/2018 8:08 AM
99	No extra money	11/10/2018 8:06 AM
100	Convenience, carpool is better for traffic control	11/10/2018 7:58 AM

All Properties Transportation Mobility Needs Assessment

101	Long drives because my car is too old and front glass is broken.	11/10/2018 7:55 AM
102	I don't own a car	11/10/2018 7:53 AM
103	It's convient at times especially if the process of attaining the car is fast.	11/10/2018 7:51 AM
104	If affordable	11/10/2018 7:42 AM
105	If it is cost effective	11/9/2018 12:15 PM
106	Don't like them	11/9/2018 12:13 PM
107	Convienience and reliable	11/9/2018 12:10 PM
108	Just in case, I was in need of a car at that moment	11/9/2018 12:05 PM
109	Don't need it	11/9/2018 12:03 PM
110	I don't need at the moment, but it is nice to know for future references.	11/9/2018 12:01 PM
111	because I do not drive	11/9/2018 11:56 AM
112	Don't trust a lot of people especially if I don't know you	11/9/2018 11:55 AM
113	because I do not drive	11/9/2018 11:55 AM
114	Not comfortable doing that	11/9/2018 11:53 AM
115	This will be less expensive and electric cars are good for the environment	11/9/2018 11:38 AM
116	I have my own car	11/9/2018 11:35 AM
117	To save money	11/9/2018 11:29 AM
118	Don't know much about it	11/9/2018 11:23 AM
119	If affordable	11/9/2018 11:20 AM
120	Th schedule is often too tight	11/9/2018 11:16 AM
121	The service only works if it's close by.	11/9/2018 11:16 AM
122	no smart phone, no driver's license	11/9/2018 11:13 AM
123	Don't need it	11/9/2018 11:11 AM
124	convenience	11/9/2018 11:10 AM
125	need to learn more about it	11/9/2018 11:02 AM
126	Cost too much	11/9/2018 10:51 AM
127	No extra money	11/9/2018 10:32 AM
128	Save car like maintenance	11/9/2018 10:24 AM
129	I like owning my own vehicle. Convienent and I love my car.	11/9/2018 10:21 AM
130	Easy access	11/9/2018 10:12 AM
131	I don't drive	11/9/2018 10:06 AM
132	Cuts back on traffic	11/9/2018 10:02 AM
133	I want to own my car	11/9/2018 9:57 AM
134	I need a car all the time	11/9/2018 9:53 AM
135	Not interested	11/9/2018 9:51 AM
136	I have my own car and it is expensive	11/9/2018 9:48 AM
137	I have my own car	11/9/2018 9:40 AM
138	Cost	11/9/2018 9:35 AM
139	We are a big family, so it will be difficult for us.	11/9/2018 9:10 AM
140	I would because then I wouldn't worry about gas and it would be more easier for me.	11/9/2018 8:55 AM
141	My child often has medical needs and I need a car at my disposal to take to doctor	11/9/2018 8:51 AM

All Properties Transportation Mobility Needs Assessment

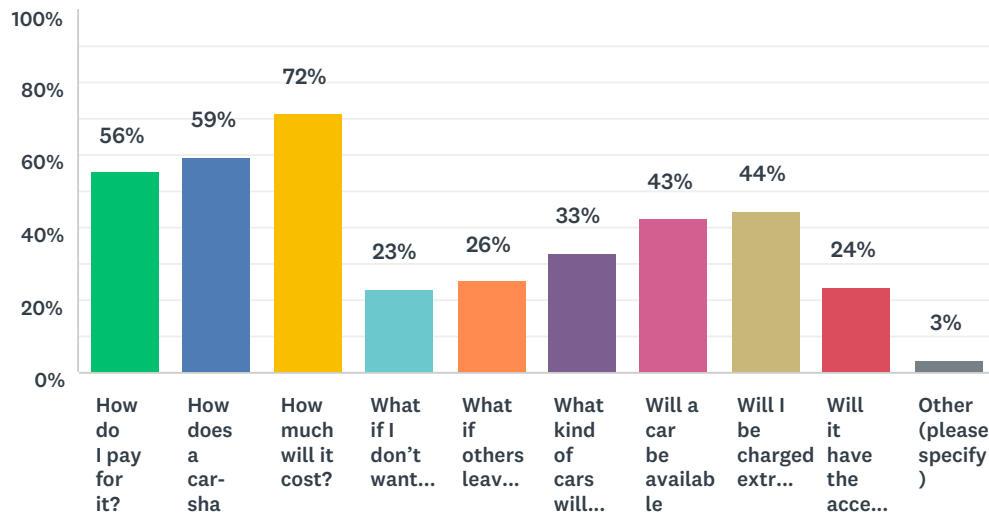
142	I do not know about it	11/8/2018 4:46 PM
143	I do not know about it	11/8/2018 4:41 PM
144	it's a long way to go	11/8/2018 4:37 PM
145	I am used to riding bus and public transportation. I do not have a driver license	11/8/2018 2:38 PM
146	because I need it	11/8/2018 2:14 PM
147	Because I don't use a car of another people	11/8/2018 2:12 PM
148	In case my car breaks and I need a second car	11/8/2018 2:12 PM
149	Because I don't like to sharing with others	11/8/2018 2:09 PM
150	Sometimes my car needs services	11/8/2018 2:04 PM
151	My commute is 5 - 10 minutes	11/8/2018 2:01 PM
152	Then I don't have to worry about parking	11/8/2018 1:59 PM
153	I never drive a car	11/8/2018 1:58 PM
154	yes because I don't own the most reliable car so I would use such a service as back-up	11/8/2018 1:52 PM
155	because it's expensive	11/8/2018 1:49 PM
156	scare	11/8/2018 1:47 PM
157	because I don't know how to rent	11/8/2018 1:43 PM
158	no need	11/8/2018 1:37 PM
159	easier with my disability	11/8/2018 1:30 PM
160	no cellphone	11/8/2018 1:27 PM
161	I don't drive	11/8/2018 1:20 PM
162	own car already	11/8/2018 1:17 PM
163	don't drive much	11/8/2018 1:15 PM
164	don't drive much	11/8/2018 1:13 PM
165	if i need it	11/8/2018 1:08 PM
166	don't know how to drive	11/8/2018 1:05 PM
167	own car already	11/8/2018 1:02 PM
168	It would have to be available at 5:30 am and 4-4:30 pm	11/8/2018 9:52 AM
169	Not comfortable with "car-sharing"	11/8/2018 9:45 AM
170	Current household transportation needs are met, but open to the idea	11/8/2018 9:43 AM
171	In the future, yes. Currently, we have 2 cars	11/8/2018 9:34 AM
172	It might not be available when I need it.	11/8/2018 9:30 AM
173	Pricey, child seat	11/8/2018 9:23 AM
174	I have my own car	11/8/2018 9:20 AM
175	if it cost too much money	11/7/2018 5:50 PM
176	It impacts community unity and save gas when it's electric	11/7/2018 5:47 PM
177	cause it here	11/7/2018 5:44 PM
178	I do not know how to use it	11/7/2018 5:42 PM
179	convenient	11/7/2018 5:36 PM
180	I do not know about it	11/7/2018 5:22 PM
181	I am a bus driver	11/7/2018 4:50 PM
182	I prefer using public transportation	11/7/2018 4:45 PM

All Properties Transportation Mobility Needs Assessment

183	own car already	11/7/2018 3:51 PM
184	I have my own car	11/7/2018 3:02 PM
185	Don't want to spend money	11/7/2018 3:01 PM
186	Cause I need my own car	11/7/2018 2:58 PM
187	I would feel like I was wasting money renting and not owning it. I also work for Enterprise Rent A Car	11/7/2018 2:55 PM
188	We have cars already	11/7/2018 2:49 PM
189	I like to drive my own car	11/7/2018 2:46 PM
190	Need my own car, spur of the moment appts.	11/7/2018 2:44 PM
191	Way too expensive. Pay by mile sucks	11/7/2018 2:43 PM
192	I think it would cost too much	11/7/2018 2:39 PM
193	Afraid	11/7/2018 2:32 PM
194	I can't drive a car	11/7/2018 2:30 PM
195	It would be ideal if my vehicle wasn't working	11/7/2018 2:24 PM
196	If I own car breaks, I can get one to go	11/7/2018 2:20 PM
197	I own my own car	11/7/2018 2:18 PM
198	Disabled	11/7/2018 2:15 PM
199	What if there is an emergency?	11/7/2018 2:05 PM
200	We already have 2 vehicles. There is no need for us to rent a whole other car.	11/7/2018 2:01 PM
201	I want to try it because of economics	11/7/2018 1:48 PM

Q14 What questions do you have about using a car-sharing service? (Select all that apply)

Answered: 351 Skipped: 105



ANSWER CHOICES	RESPONSES	
How do I pay for it?	56%	195
How does a car-share service work?	59%	208
How much will it cost?	72%	251
What if I don't want to share a car with other people in my community?	23%	81
What if others leave the car messy?	26%	90
What kind of cars will be available? (Sedan, minivan, truck, etc.)	33%	115
Will a car be available when I need it?	43%	150
Will I be charged extra if I am late?	44%	156
Will it have the accessories I need? (Car seat, bike rack, cargo rack)	24%	83
Other (please specify)	3%	12
Total Respondents: 351		

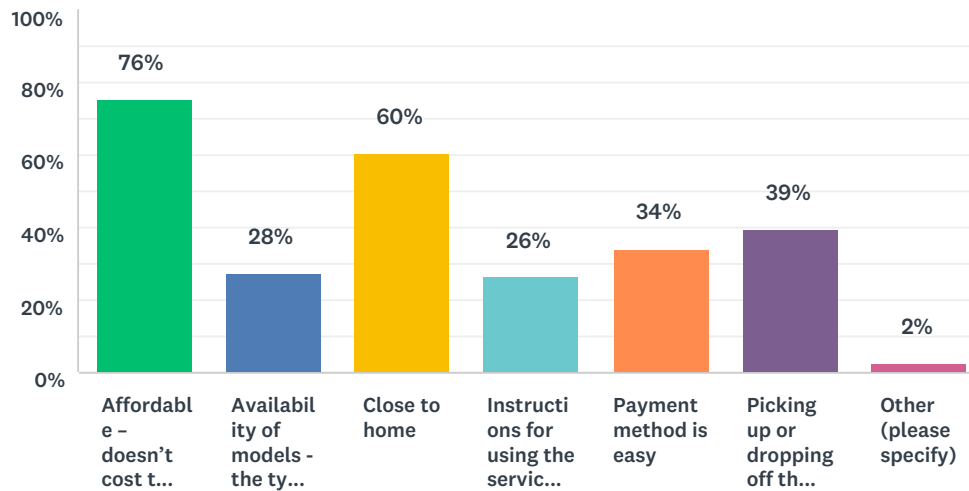
#	OTHER (PLEASE SPECIFY)	DATE
1	I don't have a car	11/18/2018 1:20 AM
2	What if last person didn't charge	11/16/2018 9:52 AM
3	Concerned about safety if sharing/driving with others	11/15/2018 2:59 PM
4	I am not interested in this service	11/15/2018 1:12 PM
5	Insurance	11/14/2018 11:29 AM
6	Unsure	11/10/2018 8:28 AM
7	For handicap	11/9/2018 12:13 PM
8	I am not interested in this service	11/8/2018 2:38 PM
9	can't conceptualize	11/8/2018 1:17 PM

All Properties Transportation Mobility Needs Assessment

10	I don't think this applies to me, I mostly drive to Seattle for house cleaning business. If it could be accessible for me I'd rather use another vehicle for work, instead of putting miles on my car.	11/7/2018 2:24 PM
11	None	11/7/2018 2:18 PM
12	None	11/7/2018 2:09 PM

Q15 If you had a car-sharing service available, what are the most important features? (Select all that apply)

Answered: 374 Skipped: 82

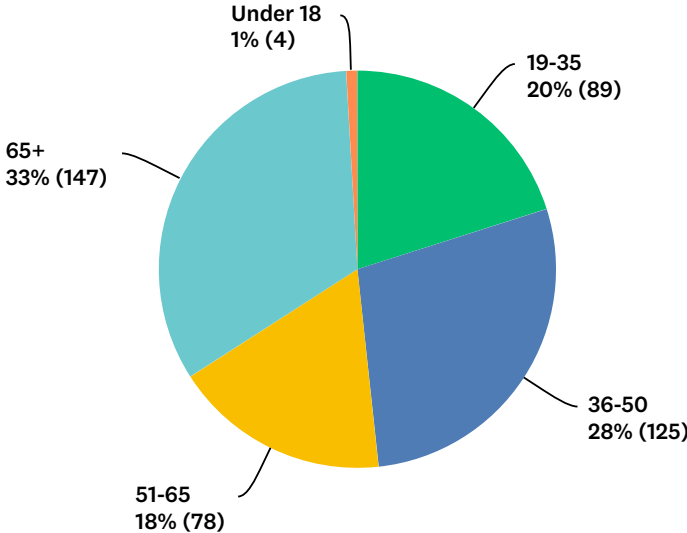


ANSWER CHOICES	RESPONSES	
Affordable – doesn't cost too much	76%	283
Availability of models - the type of car I need is available	28%	103
Close to home	60%	226
Instructions for using the service are translated into my language	26%	99
Payment method is easy	34%	127
Picking up or dropping off the car is easy	39%	147
Other (please specify)	2%	9
Total Respondents: 374		

#	OTHER (PLEASE SPECIFY)	DATE
1	I don't have a car	11/15/2018 1:03 PM
2	Unsure	11/10/2018 8:28 AM
3	To have money to pay for it	11/9/2018 10:32 AM
4	I have to pay for it	11/8/2018 4:41 PM
5	I like bus	11/8/2018 1:20 PM
6	I have a car so I don't want to think about this	11/8/2018 1:17 PM
7	Not interested	11/7/2018 2:22 PM
8	None	11/7/2018 2:09 PM
9	Somebody to train how to use it the first time	11/7/2018 1:48 PM

Q16 How old are you?

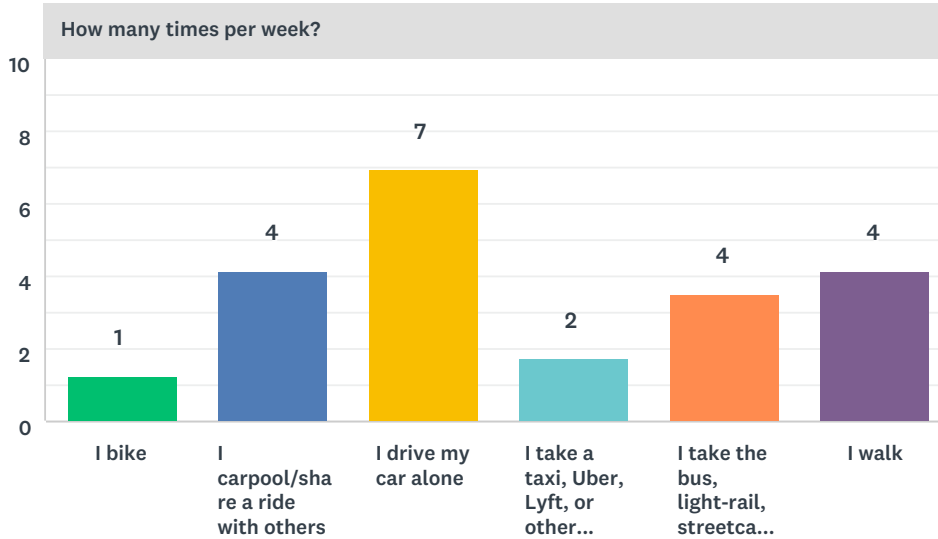
Answered: 443 Skipped: 13



ANSWER CHOICES	RESPONSES	
19-35	20%	89
36-50	28%	125
51-65	18%	78
65+	33%	147
Under 18	1%	4
TOTAL		443

Q1 What is the most common way you move around?

Answered: 42 Skipped: 0

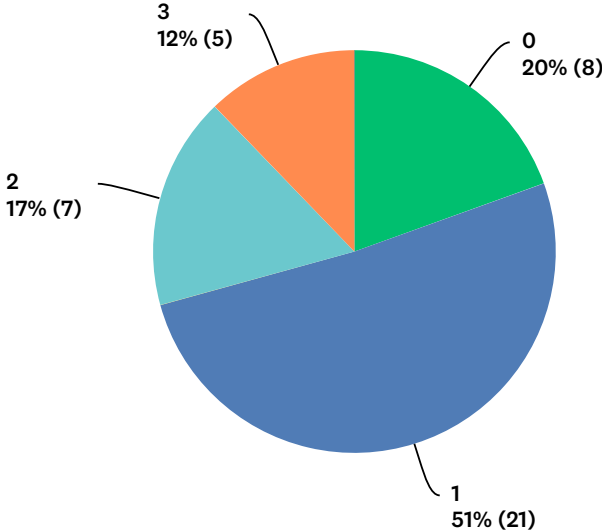


How many times per week?												
	0	1	2	3	4	5	6	7	8	9	10	TOTAL
I bike	88%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	8
I carpool/share a ride with others	27%	0%	27%	0%	13%	13%	0%	20%	0%	0%	0%	15
I drive my car alone	3%	0%	0%	17%	0%	17%	7%	45%	0%	0%	10%	29
I take a taxi, Uber, Lyft, or other service	67%	8%	17%	0%	8%	0%	0%	0%	0%	0%	0%	12
I take the bus, light-rail, streetcar, train, etc. (public transit)	43%	14%	7%	14%	0%	7%	0%	0%	0%	0%	14%	14
I walk	21%	16%	16%	11%	5%	11%	0%	16%	0%	0%	5%	19

#	OTHER (PLEASE SPECIFY AND HOW OFTEN)	DATE
1	Hopelink to appointments	11/7/2018 2:42 PM
2	My relatives help me to reach any place	11/7/2018 2:29 PM
3	Axcess Transportation	11/7/2018 2:27 PM
4	Use Access Hopelink	11/7/2018 2:16 PM

Q2 How many cars, trucks, vans, or motorcycles are available in your household for you to use?

Answered: 41 Skipped: 1

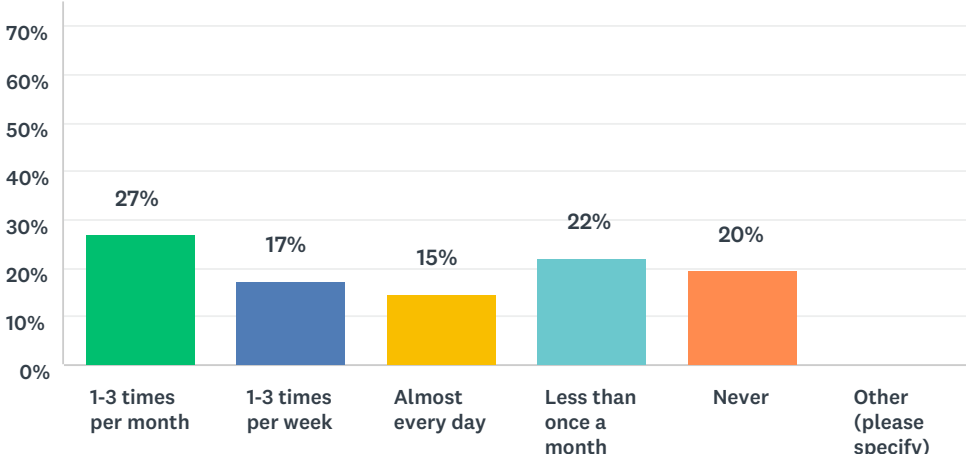


ANSWER CHOICES	RESPONSES	
0	20%	8
1	51%	21
10 or more	0%	0
2	17%	7
3	12%	5
4	0%	0
5	0%	0
6	0%	0
7	0%	0
8	0%	0
Other (please specify)	0%	0
TOTAL		41

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q3 How often do you travel more than 50 miles per day?

Answered: 41 Skipped: 1

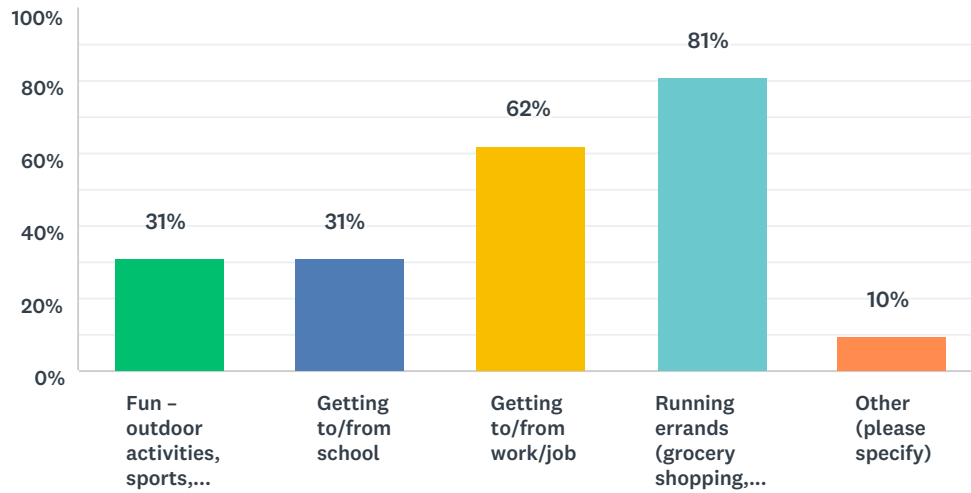


ANSWER CHOICES	RESPONSES	
1-3 times per month	27%	11
1-3 times per week	17%	7
Almost every day	15%	6
Less than once a month	22%	9
Never	20%	8
Other (please specify)	0%	0
TOTAL		41

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q4 When do you most need a car?

Answered: 42 Skipped: 0

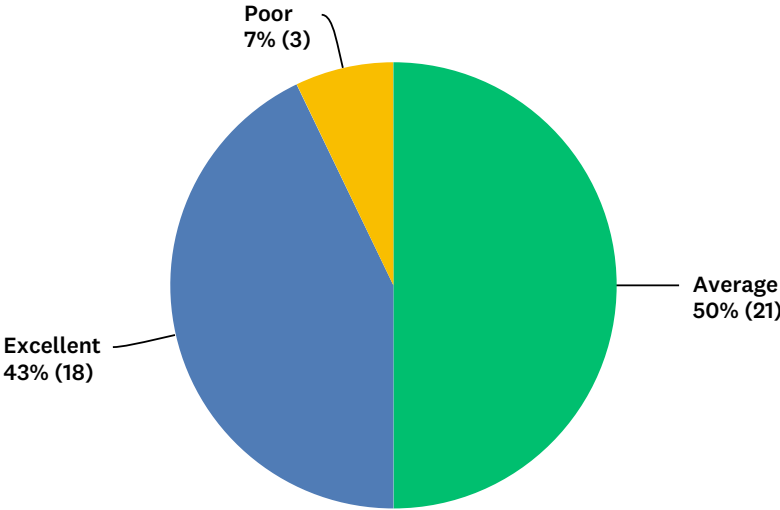


ANSWER CHOICES	RESPONSES	
Fun – outdoor activities, sports, meeting friends, going out to eat, etc.	31%	13
Getting to/from school	31%	13
Getting to/from work/job	62%	26
Running errands (grocery shopping, medical appointments, social services, taking family or kids places etc.)	81%	34
Other (please specify)	10%	4
Total Respondents: 42		

#	OTHER (PLEASE SPECIFY)	DATE
1	I don't own a car	11/7/2018 2:52 PM
2	Church	11/7/2018 2:27 PM
3	Don't drive	11/7/2018 2:14 PM
4	church	11/5/2018 5:13 PM

Q5 How well are your transportation needs met?

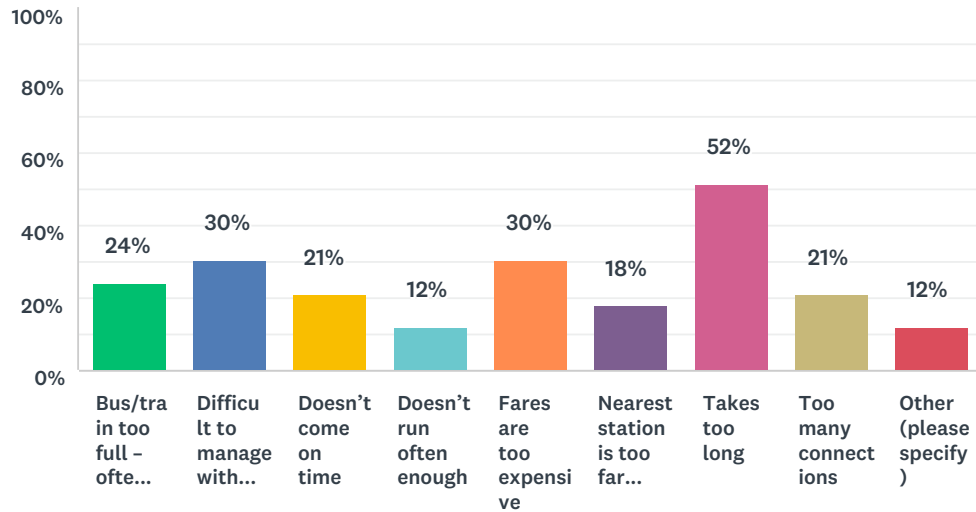
Answered: 42 Skipped: 0



ANSWER CHOICES	RESPONSES	
Average	50%	21
Excellent	43%	18
Poor	7%	3
TOTAL		42

Q6 If you travel by public transportation, what are your biggest challenges? (Select all that apply)

Answered: 33 Skipped: 9

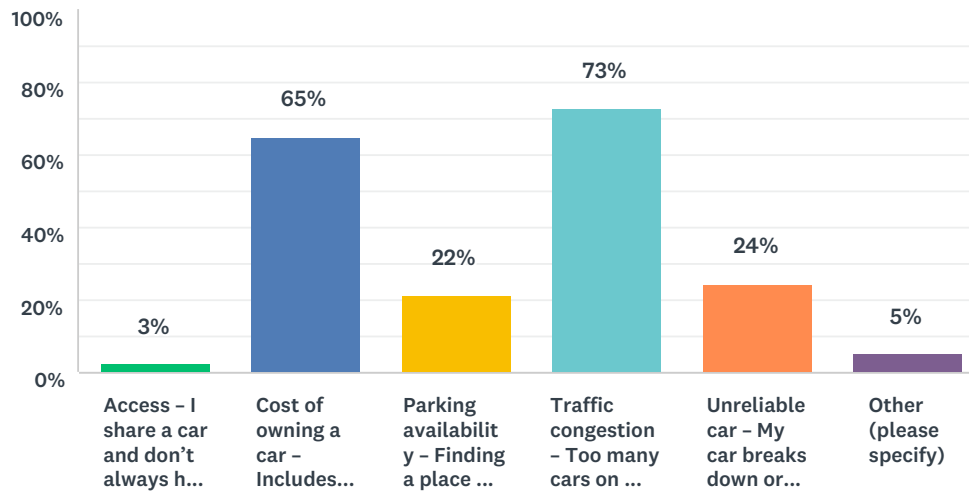


ANSWER CHOICES	RESPONSES	
Bus/train too full – often there isn't room, or only standing room	24%	8
Difficult to manage with children/elderly	30%	10
Doesn't come on time	21%	7
Doesn't run often enough	12%	4
Fares are too expensive	30%	10
Nearest station is too far away	18%	6
Takes too long	52%	17
Too many connections	21%	7
Other (please specify)	12%	4
Total Respondents: 33		

#	OTHER (PLEASE SPECIFY)	DATE
1	Rude people with bad language. Personal boundaries are crossed with my children.	11/16/2018 10:28 AM
2	Never travel by public transportation	11/7/2018 3:00 PM
3	Electric wheelchair, bus full most of the time	11/7/2018 2:27 PM
4	Don't ride bus	11/7/2018 2:14 PM

Q7 If you travel by car, what challenges do you face? (Select all that apply)

Answered: 37 Skipped: 5

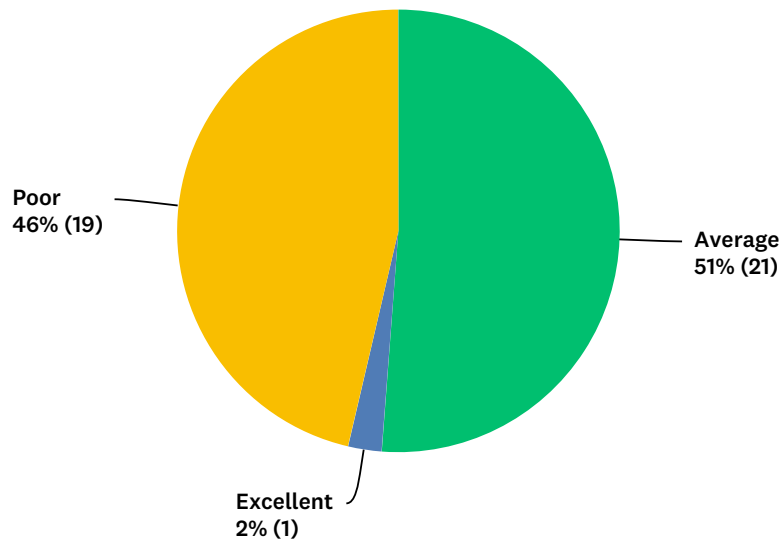


ANSWER CHOICES	RESPONSES	
Access – I share a car and don't always have access when I need it	3%	1
Cost of owning a car – Includes gas, insurance, maintenance, parking	65%	24
Parking availability – Finding a place to park the car	22%	8
Traffic congestion – Too many cars on the road and traffic moves slowly	73%	27
Unreliable car – My car breaks down or needs to be fixed	24%	9
Other (please specify)	5%	2
Total Respondents: 37		

#	OTHER (PLEASE SPECIFY)	DATE
1	Due to lupus, I can't drive	11/7/2018 2:27 PM
2	Don't drive	11/7/2018 2:14 PM

Q8 How much do you know about electric cars?

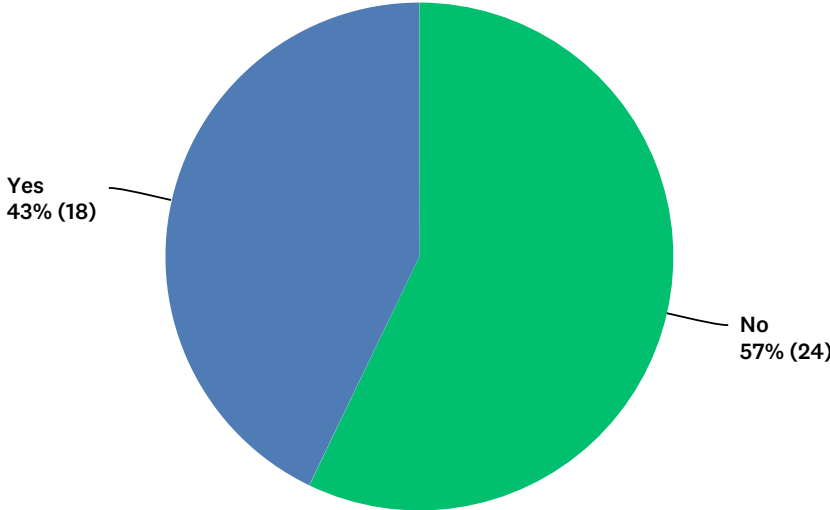
Answered: 41 Skipped: 1



ANSWER CHOICES	RESPONSES	
Average	51%	21
Excellent	2%	1
Poor	46%	19
TOTAL		41

Q9 Would you be comfortable driving an electric car?

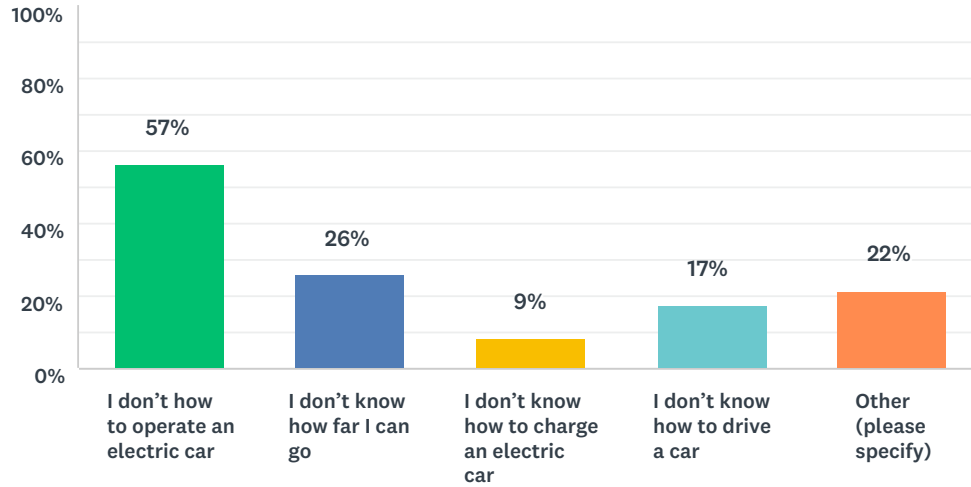
Answered: 42 Skipped: 0



ANSWER CHOICES	RESPONSES	
No	57%	24
Yes	43%	18
TOTAL		42

Q10 Why are you not comfortable driving an electric vehicle? (Select all that apply)

Answered: 23 Skipped: 19

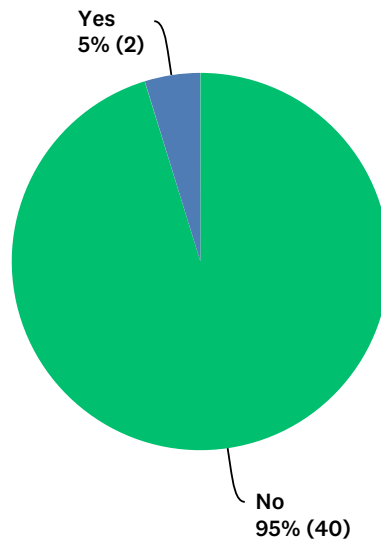


ANSWER CHOICES	RESPONSES	
I don't how to operate an electric car	57%	13
I don't know how far I can go	26%	6
I don't know how to charge an electric car	9%	2
I don't know how to drive a car	17%	4
Other (please specify)	22%	5
Total Respondents: 23		

#	OTHER (PLEASE SPECIFY)	DATE
1	Cost of fixing and maintenance too high for me	11/16/2018 11:02 AM
2	Not sure	11/7/2018 2:57 PM
3	Can't because of my disability	11/7/2018 2:16 PM
4	Don't drive	11/7/2018 2:14 PM
5	I've never tried it	11/7/2018 1:46 PM

Q11 Have you ever used a car-sharing service?

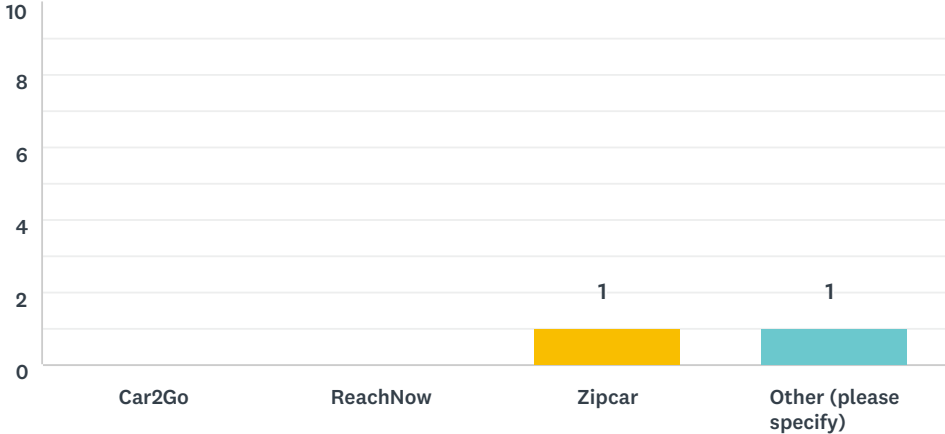
Answered: 42 Skipped: 0



ANSWER CHOICES	RESPONSES	
No	95%	40
Yes	5%	2
TOTAL		42

Q12 Which car-sharing service have you used?

Answered: 2 Skipped: 40

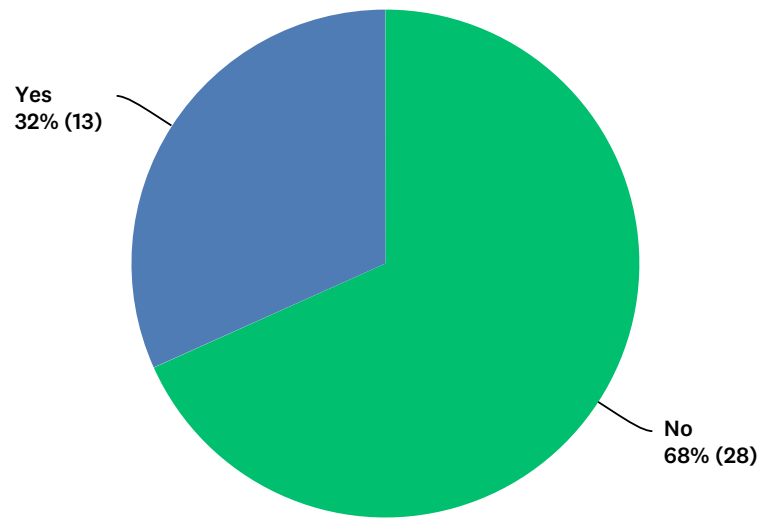


ANSWER CHOICES	RESPONSES	
Car2Go	0%	0
ReachNow	0%	0
Zipcar	50%	1
Other (please specify)	50%	1
Total Respondents: 2		

#	OTHER (PLEASE SPECIFY)	DATE
1	Axcess in Washington State	11/7/2018 2:28 PM

Q13 Would you use a car-sharing service if it was close by?

Answered: 41 Skipped: 1



ANSWER CHOICES	RESPONSES	
No	68%	28
Yes	32%	13
TOTAL		41

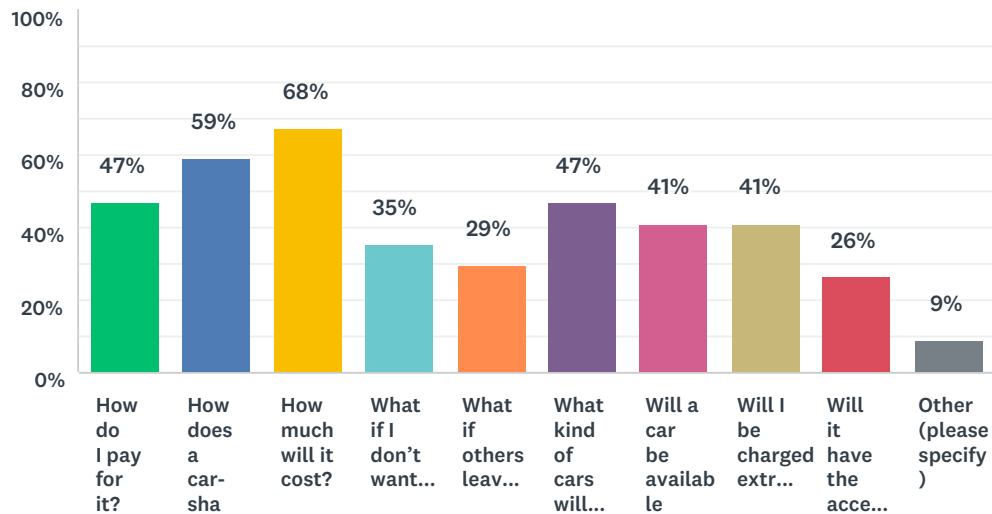
#	WHY OR WHY NOT?	DATE
1	Transportation	11/16/2018 1:16 PM
2	I have my own car	11/16/2018 11:06 AM
3	Sounds cool and I would like access to a newer vehicle	11/16/2018 11:03 AM
4	I don't like to	11/16/2018 10:59 AM
5	Don't need it	11/16/2018 10:52 AM
6	The cost would be too much	11/16/2018 10:29 AM
7	I have my own car	11/7/2018 3:02 PM
8	Don't want to spend money	11/7/2018 3:01 PM
9	Cause I need my own car	11/7/2018 2:58 PM
10	I would feel like I was wasting money renting and not owning it. I also work for Enterprise Rent A Car	11/7/2018 2:55 PM
11	We have cars already	11/7/2018 2:49 PM
12	I like to drive my own car	11/7/2018 2:46 PM
13	Need my own car, spur of the moment appts.	11/7/2018 2:44 PM
14	Way too expensive. Pay by mile sucks	11/7/2018 2:43 PM
15	I think it would cost too much	11/7/2018 2:39 PM
16	Afraid	11/7/2018 2:32 PM
17	I can't drive a car	11/7/2018 2:30 PM

Birch Creek Transportation Mobility Needs Assessment

18	It would be ideal if my vehicle wasn't working	11/7/2018 2:24 PM
19	If I own car breaks, I can get one to go	11/7/2018 2:20 PM
20	I own my own car	11/7/2018 2:18 PM
21	Disabled	11/7/2018 2:15 PM
22	What if there is an emergency?	11/7/2018 2:05 PM
23	We already have 2 vehicles. There is no need for us to rent a whole other car.	11/7/2018 2:01 PM
24	I want to try it because of economics	11/7/2018 1:48 PM

Q14 What questions do you have about using a car-sharing service? (Select all that apply)

Answered: 34 Skipped: 8

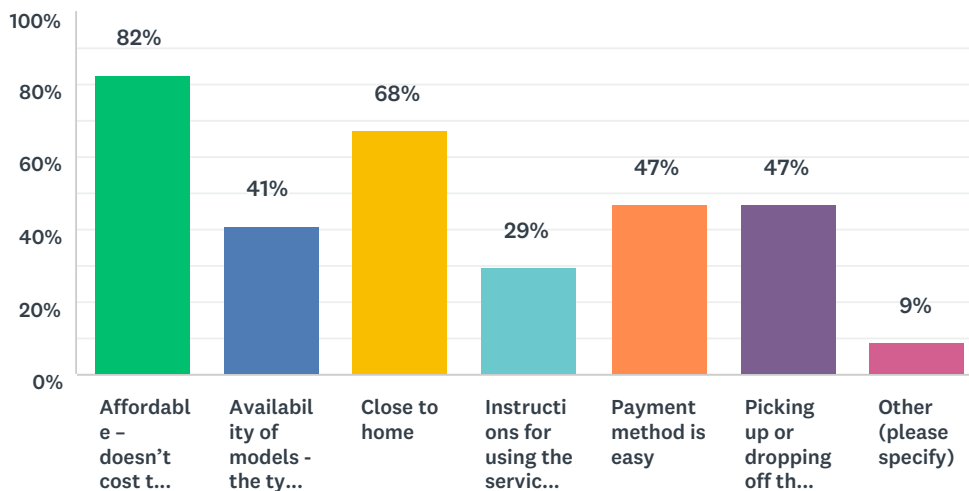


ANSWER CHOICES	RESPONSES	
How do I pay for it?	47%	16
How does a car-share service work?	59%	20
How much will it cost?	68%	23
What if I don't want to share a car with other people in my community?	35%	12
What if others leave the car messy?	29%	10
What kind of cars will be available? (Sedan, minivan, truck, etc.)	47%	16
Will a car be available when I need it?	41%	14
Will I be charged extra if I am late?	41%	14
Will it have the accessories I need? (Car seat, bike rack, cargo rack)	26%	9
Other (please specify)	9%	3
Total Respondents: 34		

#	OTHER (PLEASE SPECIFY)	DATE
1	I don't think this applies to me, I mostly drive to Seattle for house cleaning business. If it could be accessible for me I'd rather use another vehicle for work, instead of putting miles on my car.	11/7/2018 2:24 PM
2	None	11/7/2018 2:18 PM
3	None	11/7/2018 2:09 PM

Q15 If you had a car-sharing service available, what are the most important features? (Select all that apply)

Answered: 34 Skipped: 8

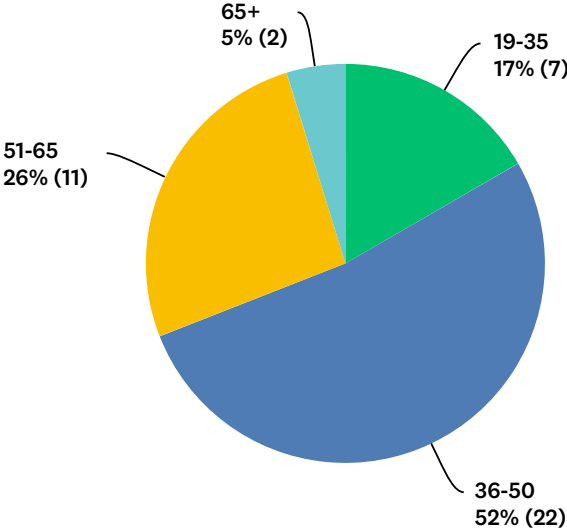


ANSWER CHOICES	RESPONSES	
Affordable – doesn't cost too much	82%	28
Availability of models - the type of car I need is available	41%	14
Close to home	68%	23
Instructions for using the service are translated into my language	29%	10
Payment method is easy	47%	16
Picking up or dropping off the car is easy	47%	16
Other (please specify)	9%	3
Total Respondents: 34		

#	OTHER (PLEASE SPECIFY)	DATE
1	Not interested	11/7/2018 2:22 PM
2	None	11/7/2018 2:09 PM
3	Somebody to train how to use it the first time	11/7/2018 1:48 PM

Q16 How old are you?

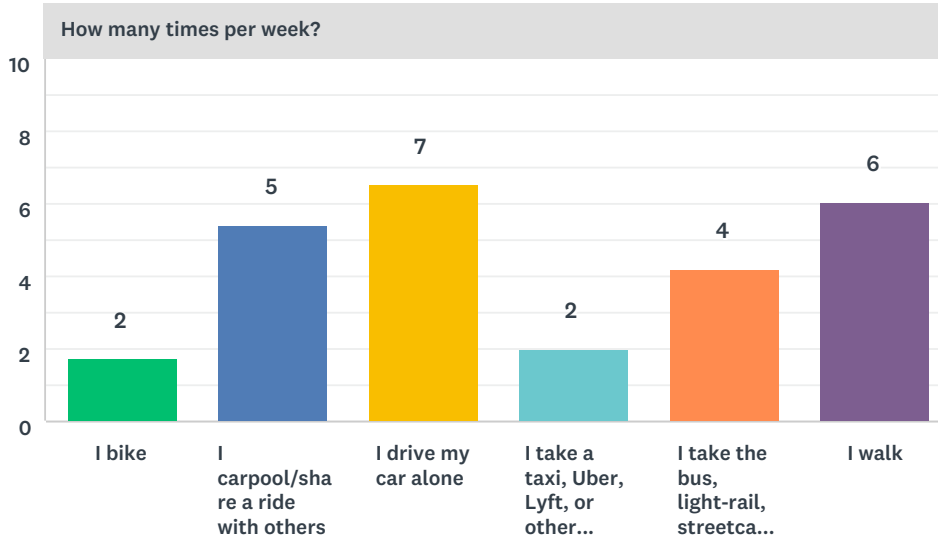
Answered: 42 Skipped: 0



ANSWER CHOICES	RESPONSES	
19-35	17%	7
36-50	52%	22
51-65	26%	11
65+	5%	2
Under 18	0%	0
TOTAL		42

Q1 What is the most common way you move around?

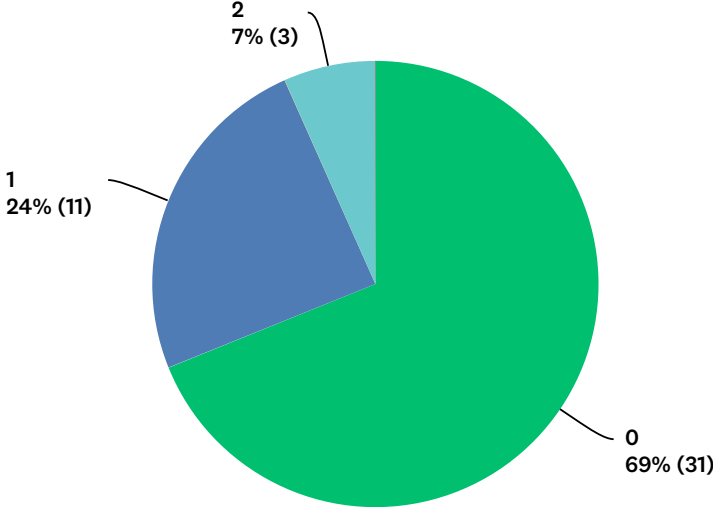
Answered: 49 Skipped: 0



How many times per week?												
	0	1	2	3	4	5	6	7	8	9	10	TOTAL
I bike	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	4
I carpool/share a ride with others	0%	5%	35%	10%	5%	0%	0%	45%	0%	0%	0%	20
I drive my car alone	8%	0%	0%	8%	15%	8%	0%	62%	0%	0%	0%	13
I take a taxi, Uber, Lyft, or other service	33%	44%	11%	11%	0%	0%	0%	0%	0%	0%	0%	9
I take the bus, light-rail, streetcar, train, etc. (public transit)	10%	15%	30%	10%	15%	0%	0%	15%	0%	0%	5%	20
I walk	0%	5%	14%	23%	5%	5%	0%	45%	0%	0%	5%	22

Q2 How many cars, trucks, vans, or motorcycles are available in your household for you to use?

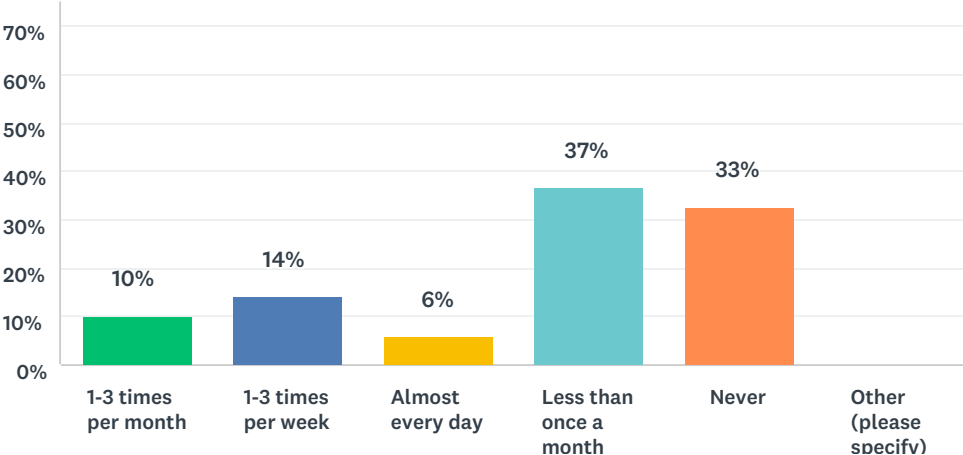
Answered: 45 Skipped: 4



ANSWER CHOICES	RESPONSES	
0	69%	31
1	24%	11
10 or more	0%	0
2	7%	3
3	0%	0
4	0%	0
5	0%	0
6	0%	0
7	0%	0
8	0%	0
Other (please specify)	0%	0
TOTAL		45

Q3 How often do you travel more than 50 miles per day?

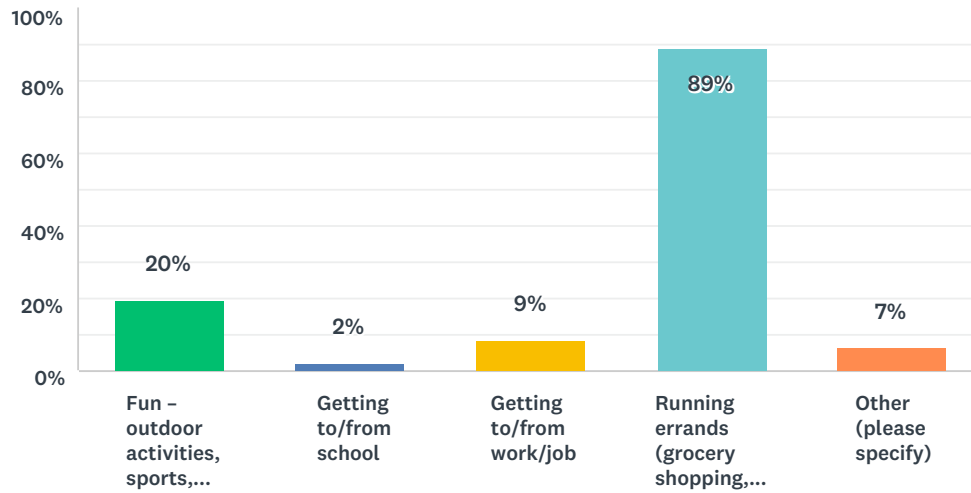
Answered: 49 Skipped: 0



ANSWER CHOICES	RESPONSES	
1-3 times per month	10%	5
1-3 times per week	14%	7
Almost every day	6%	3
Less than once a month	37%	18
Never	33%	16
Other (please specify)	0%	0
TOTAL		49

Q4 When do you most need a car?

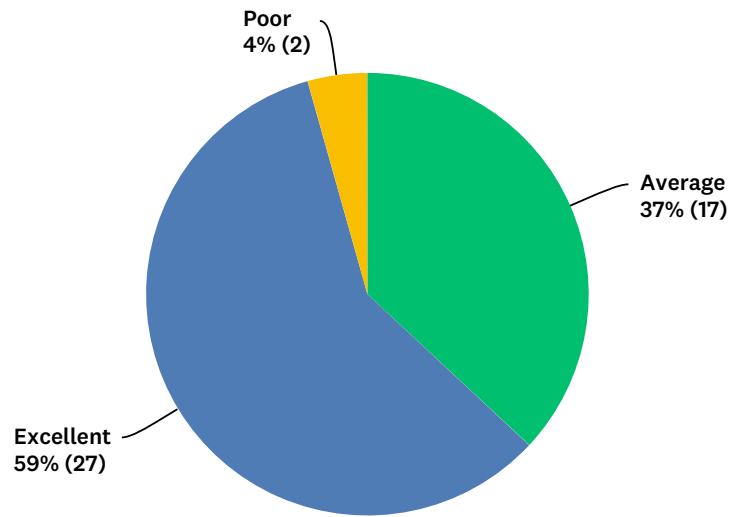
Answered: 46 Skipped: 3



ANSWER CHOICES	RESPONSES	
Fun – outdoor activities, sports, meeting friends, going out to eat, etc.	20%	9
Getting to/from school	2%	1
Getting to/from work/job	9%	4
Running errands (grocery shopping, medical appointments, social services, taking family or kids places etc.)	89%	41
Other (please specify)	7%	3
Total Respondents: 46		

Q5 How well are your transportation needs met?

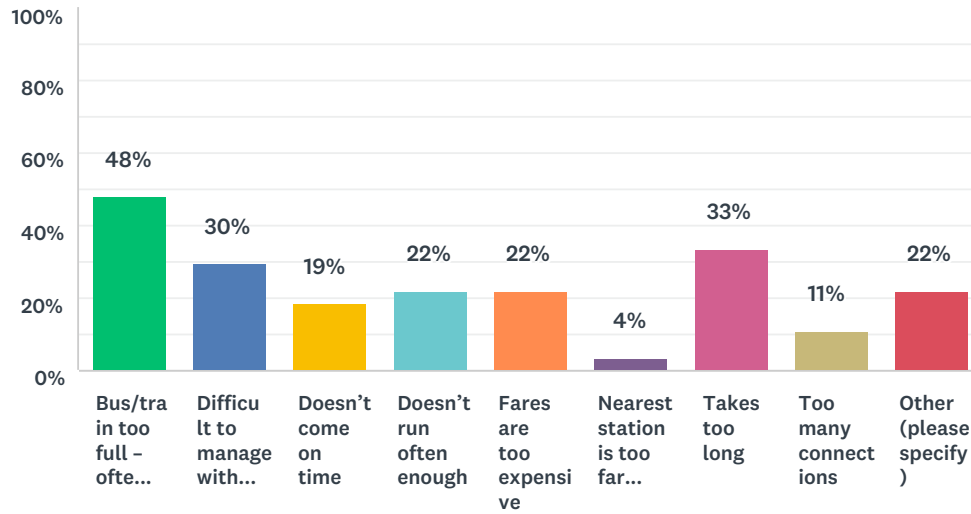
Answered: 46 Skipped: 3



ANSWER CHOICES	RESPONSES	
Average	37%	17
Excellent	59%	27
Poor	4%	2
TOTAL		46

Q6 If you travel by public transportation, what are your biggest challenges? (Select all that apply)

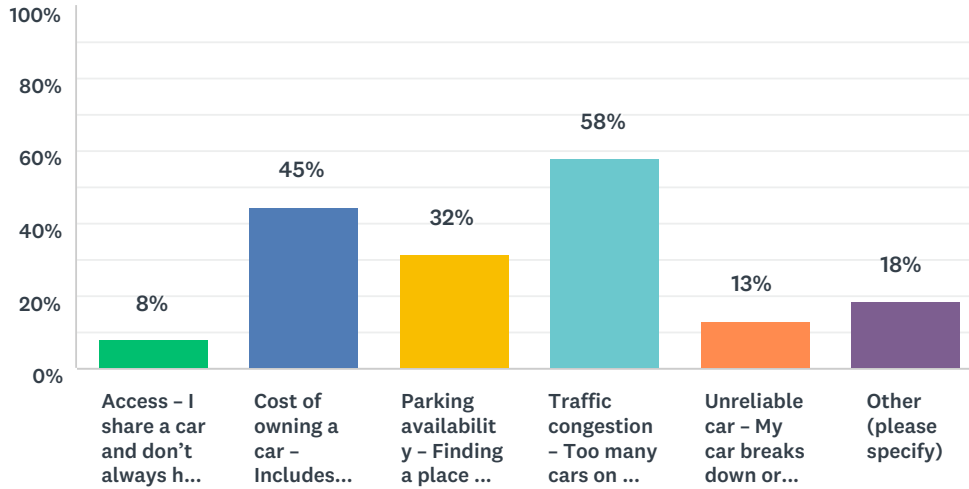
Answered: 27 Skipped: 22



ANSWER CHOICES	RESPONSES	
Bus/train too full – often there isn't room, or only standing room	48%	13
Difficult to manage with children/elderly	30%	8
Doesn't come on time	19%	5
Doesn't run often enough	22%	6
Fares are too expensive	22%	6
Nearest station is too far away	4%	1
Takes too long	33%	9
Too many connections	11%	3
Other (please specify)	22%	6
Total Respondents: 27		

Q7 If you travel by car, what challenges do you face? (Select all that apply)

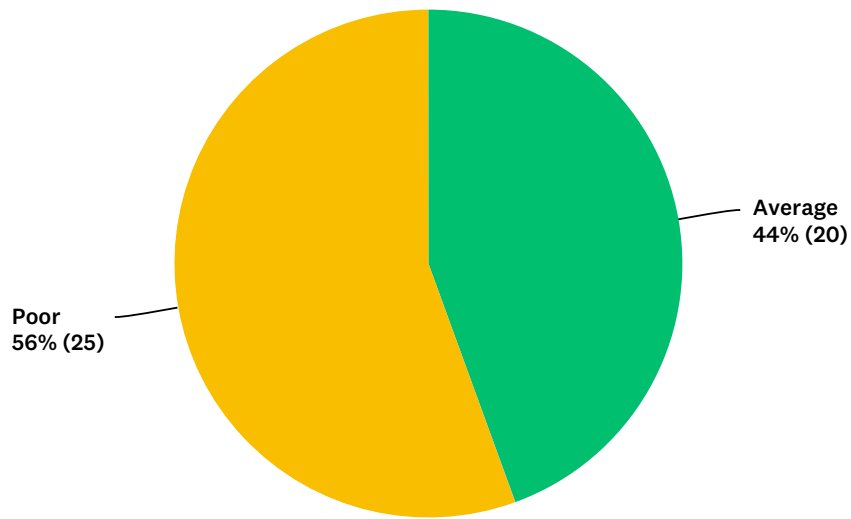
Answered: 38 Skipped: 11



ANSWER CHOICES	RESPONSES	
Access – I share a car and don't always have access when I need it	8%	3
Cost of owning a car – Includes gas, insurance, maintenance, parking	45%	17
Parking availability – Finding a place to park the car	32%	12
Traffic congestion – Too many cars on the road and traffic moves slowly	58%	22
Unreliable car – My car breaks down or needs to be fixed	13%	5
Other (please specify)	18%	7
Total Respondents: 38		

Q8 How much do you know about electric cars?

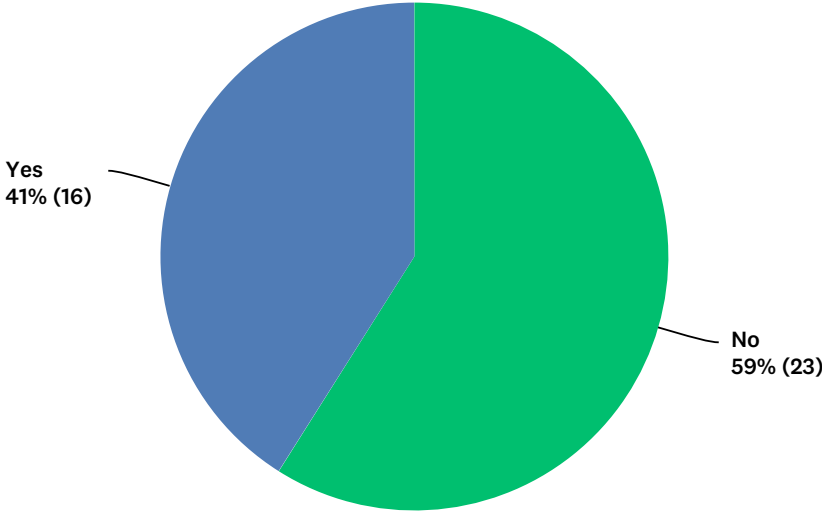
Answered: 45 Skipped: 4



ANSWER CHOICES	RESPONSES	
Average	44%	20
Excellent	0%	0
Poor	56%	25
TOTAL		45

Q9 Would you be comfortable driving an electric car?

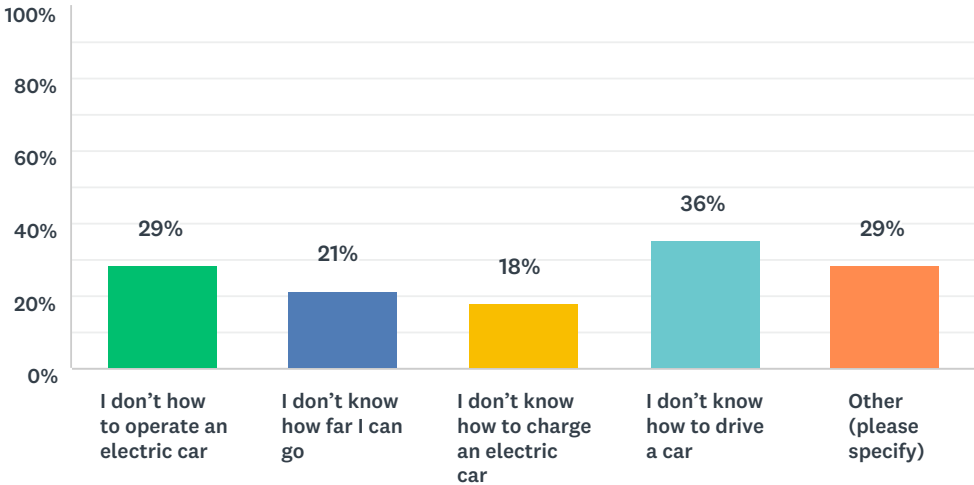
Answered: 39 Skipped: 10



ANSWER CHOICES	RESPONSES	
No	59%	23
Yes	41%	16
TOTAL		39

Q10 Why are you not comfortable driving an electric vehicle? (Select all that apply)

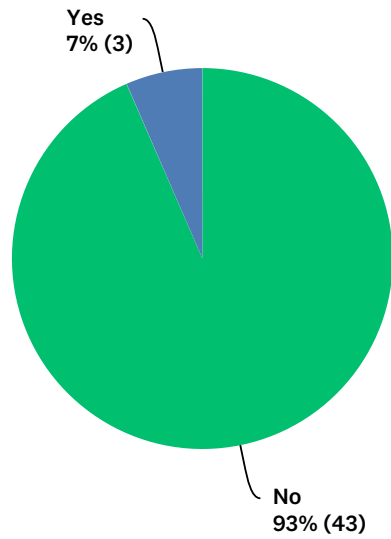
Answered: 28 Skipped: 21



ANSWER CHOICES	RESPONSES	
I don't how to operate an electric car	29%	8
I don't know how far I can go	21%	6
I don't know how to charge an electric car	18%	5
I don't know how to drive a car	36%	10
Other (please specify)	29%	8
Total Respondents: 28		

Q11 Have you ever used a car-sharing service?

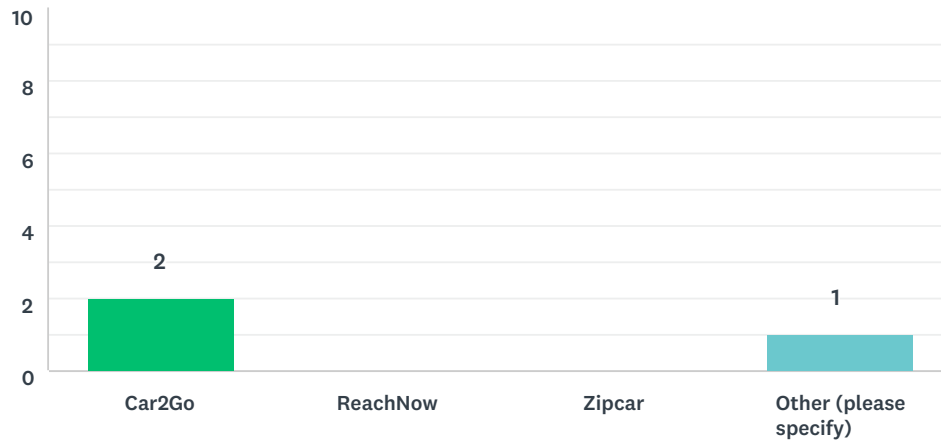
Answered: 46 Skipped: 3



ANSWER CHOICES	RESPONSES	
No	93%	43
Yes	7%	3
TOTAL		46

Q12 Which car-sharing service have you used?

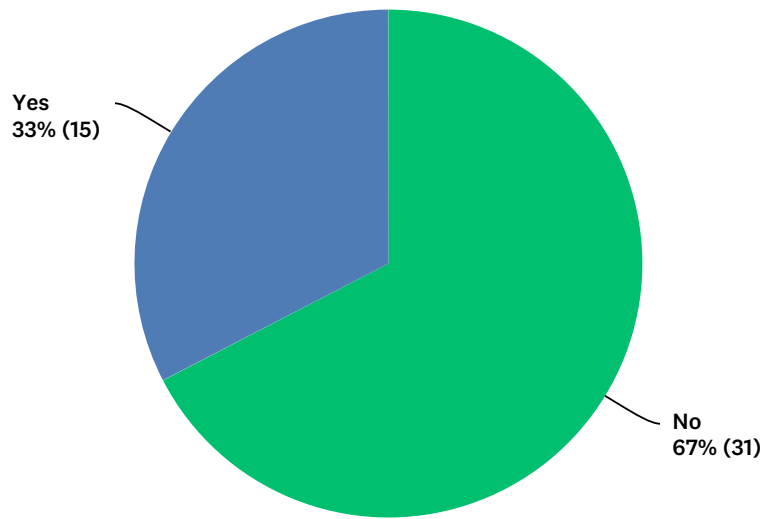
Answered: 3 Skipped: 46



ANSWER CHOICES	RESPONSES	
Car2Go	67%	2
ReachNow	0%	0
Zipcar	0%	0
Other (please specify)	33%	1
Total Respondents: 3		

Q13 Would you use a car-sharing service if it was close by?

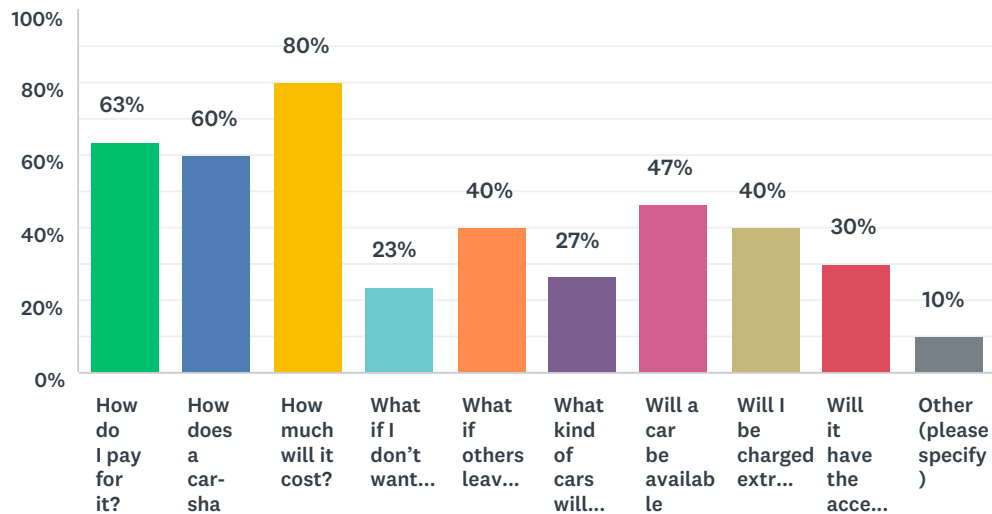
Answered: 46 Skipped: 3



ANSWER CHOICES	RESPONSES	
No	67%	31
Yes	33%	15
TOTAL		46

Q14 What questions do you have about using a car-sharing service? (Select all that apply)

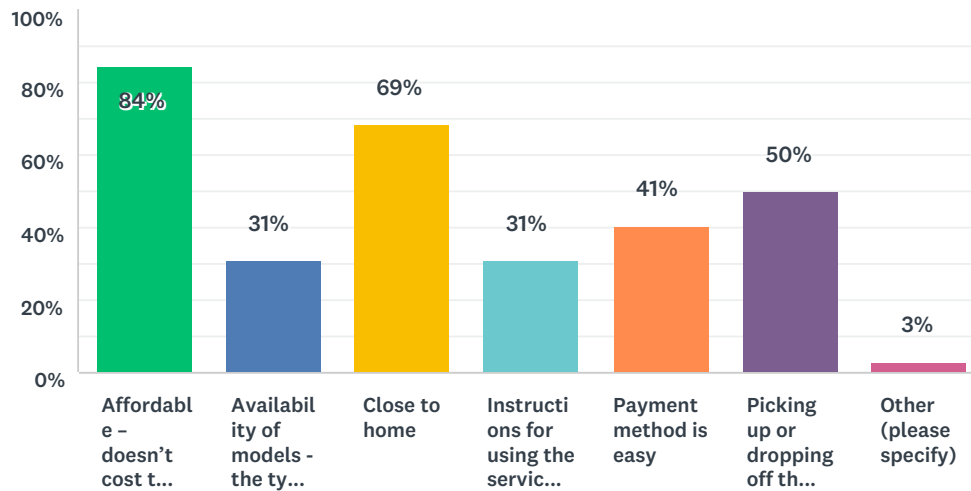
Answered: 30 Skipped: 19



ANSWER CHOICES	RESPONSES	
How do I pay for it?	63%	19
How does a car-share service work?	60%	18
How much will it cost?	80%	24
What if I don't want to share a car with other people in my community?	23%	7
What if others leave the car messy?	40%	12
What kind of cars will be available? (Sedan, minivan, truck, etc.)	27%	8
Will a car be available when I need it?	47%	14
Will I be charged extra if I am late?	40%	12
Will it have the accessories I need? (Car seat, bike rack, cargo rack)	30%	9
Other (please specify)	10%	3
Total Respondents: 30		

Q15 If you had a car-sharing service available, what are the most important features? (Select all that apply)

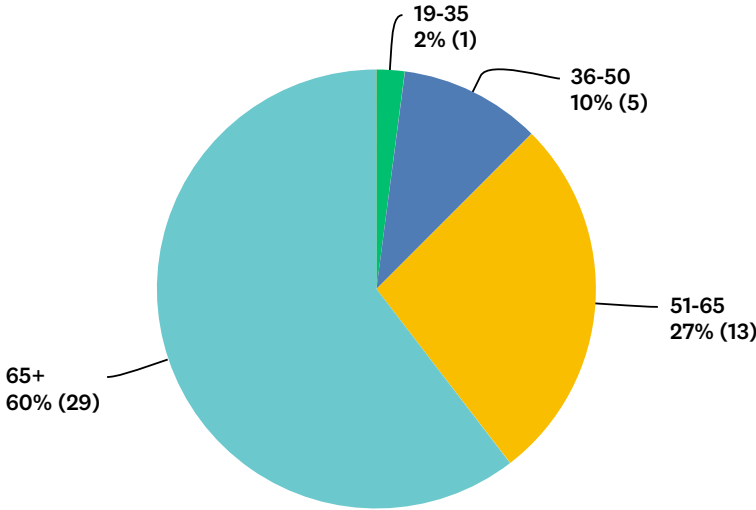
Answered: 32 Skipped: 17



ANSWER CHOICES	RESPONSES	
Affordable – doesn't cost too much	84%	27
Availability of models - the type of car I need is available	31%	10
Close to home	69%	22
Instructions for using the service are translated into my language	31%	10
Payment method is easy	41%	13
Picking up or dropping off the car is easy	50%	16
Other (please specify)	3%	1
Total Respondents: 32		

Q16 How old are you?

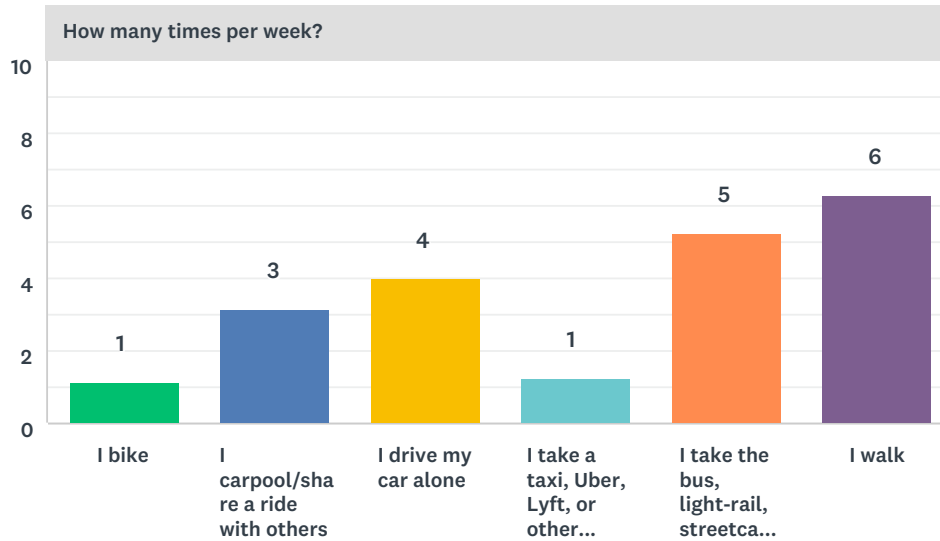
Answered: 48 Skipped: 1



ANSWER CHOICES	RESPONSES	
19-35	2%	1
36-50	10%	5
51-65	27%	13
65+	60%	29
Under 18	0%	0
TOTAL		48

Q1 What is the most common way you move around?

Answered: 78 Skipped: 3

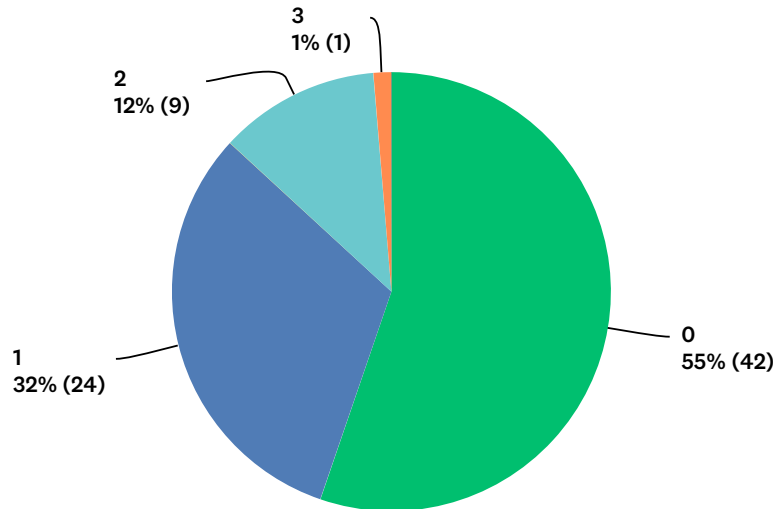


How many times per week?												
	0	1	2	3	4	5	6	7	8	9	10	TOTAL
I bike	93% 26	4% 1	0% 0	4% 1	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	28
I carpool/share a ride with others	42% 16	13% 5	13% 5	8% 3	0% 0	11% 4	0% 0	11% 4	0% 0	0% 0	3% 1	38
I drive my car alone	39% 17	5% 2	5% 2	9% 4	11% 5	5% 2	0% 0	27% 12	0% 0	0% 0	0% 0	44
I take a taxi, Uber, Lyft, or other service	87% 26	7% 2	3% 1	3% 1	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	30
I take the bus, light-rail, streetcar, train, etc. (public transit)	8% 5	8% 5	8% 5	19% 12	8% 5	14% 9	2% 1	33% 21	0% 0	0% 0	0% 0	63
I walk	6% 2	6% 2	3% 1	11% 4	9% 3	6% 2	0% 0	60% 21	0% 0	0% 0	0% 0	35

#	OTHER (PLEASE SPECIFY AND HOW OFTEN)	DATE
1	daughter helping - 3 times per week	11/8/2018 1:46 PM
2	I have a scooter - 2 times a week	11/7/2018 5:46 PM

Q2 How many cars, trucks, vans, or motorcycles are available in your household for you to use?

Answered: 76 Skipped: 5

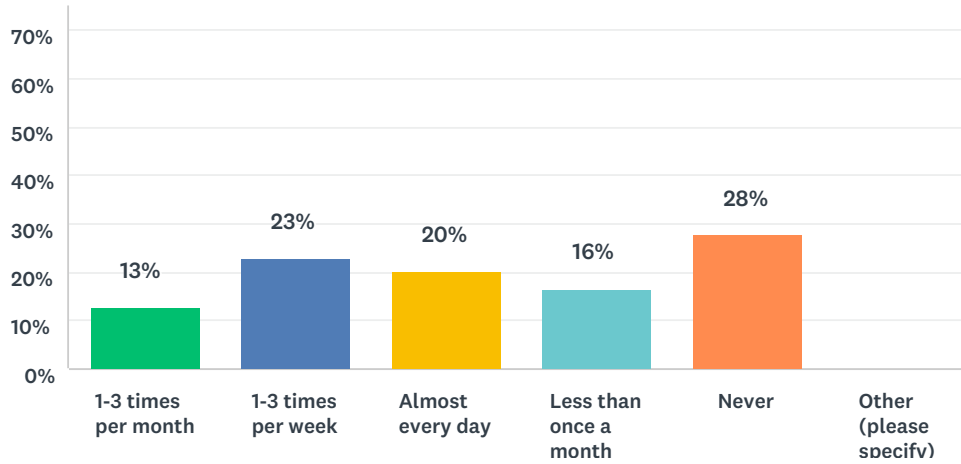


ANSWER CHOICES	RESPONSES	
0	55%	42
1	32%	24
10 or more	0%	0
2	12%	9
3	1%	1
4	0%	0
5	0%	0
6	0%	0
7	0%	0
8	0%	0
Other (please specify)	0%	0
TOTAL		76

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q3 How often do you travel more than 50 miles per day?

Answered: 79 Skipped: 2

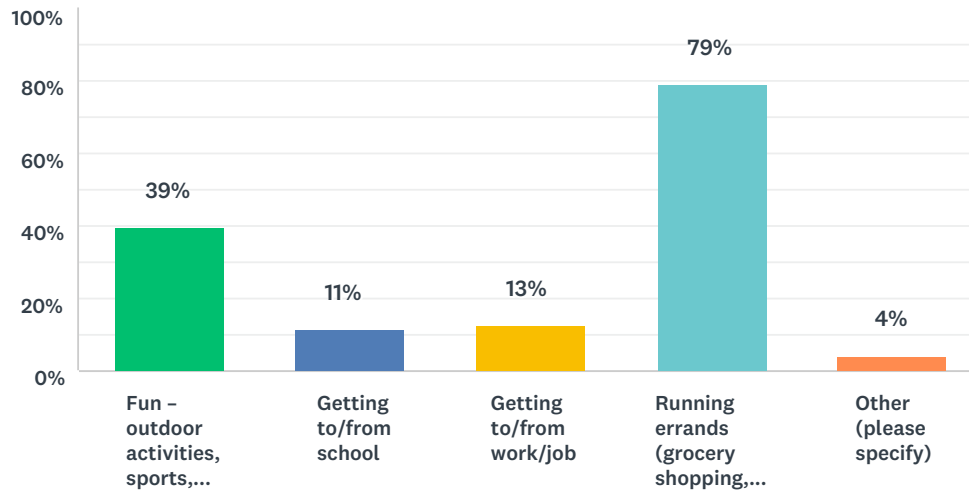


ANSWER CHOICES	RESPONSES	
1-3 times per month	13%	10
1-3 times per week	23%	18
Almost every day	20%	16
Less than once a month	16%	13
Never	28%	22
Other (please specify)	0%	0
TOTAL		79

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q4 When do you most need a car?

Answered: 71 Skipped: 10

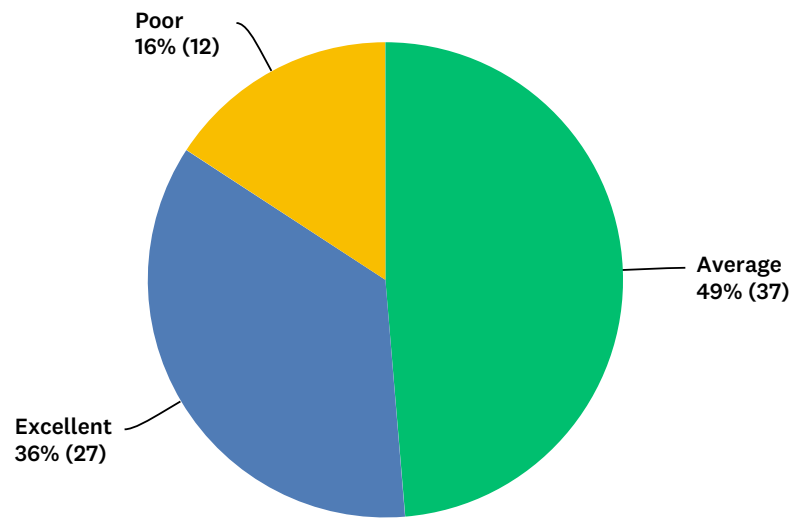


ANSWER CHOICES	RESPONSES	
Fun – outdoor activities, sports, meeting friends, going out to eat, etc.	39%	28
Getting to/from school	11%	8
Getting to/from work/job	13%	9
Running errands (grocery shopping, medical appointments, social services, taking family or kids places etc.)	79%	56
Other (please specify)	4%	3
Total Respondents: 71		

#	OTHER (PLEASE SPECIFY)	DATE
1	I do not have a car	11/8/2018 1:19 PM
2	to see the doctor	11/8/2018 1:07 PM
3	I do not have a car	11/7/2018 5:20 PM

Q5 How well are your transportation needs met?

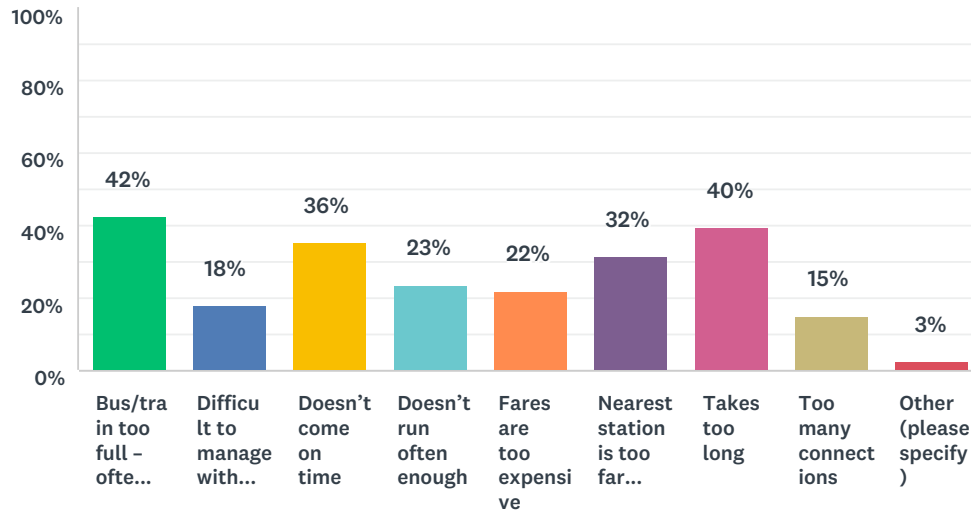
Answered: 76 Skipped: 5



ANSWER CHOICES	RESPONSES	
Average	49%	37
Excellent	36%	27
Poor	16%	12
TOTAL		76

Q6 If you travel by public transportation, what are your biggest challenges? (Select all that apply)

Answered: 73 Skipped: 8

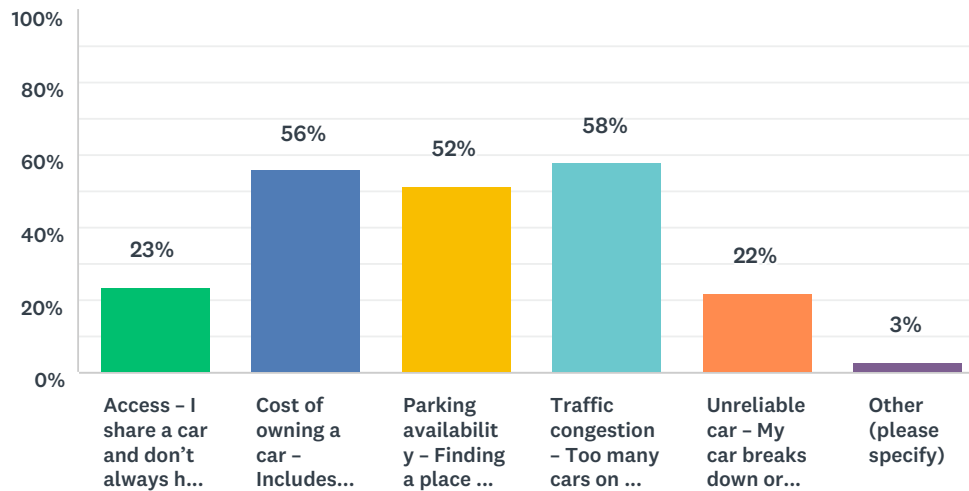


ANSWER CHOICES	RESPONSES	
Bus/train too full – often there isn't room, or only standing room	42%	31
Difficult to manage with children/elderly	18%	13
Doesn't come on time	36%	26
Doesn't run often enough	23%	17
Fares are too expensive	22%	16
Nearest station is too far away	32%	23
Takes too long	40%	29
Too many connections	15%	11
Other (please specify)	3%	2
Total Respondents: 73		

#	OTHER (PLEASE SPECIFY)	DATE
1	don't take public transportation	11/8/2018 4:55 PM
2	my disability	11/8/2018 1:29 PM

Q7 If you travel by car, what challenges do you face? (Select all that apply)

Answered: 64 Skipped: 17

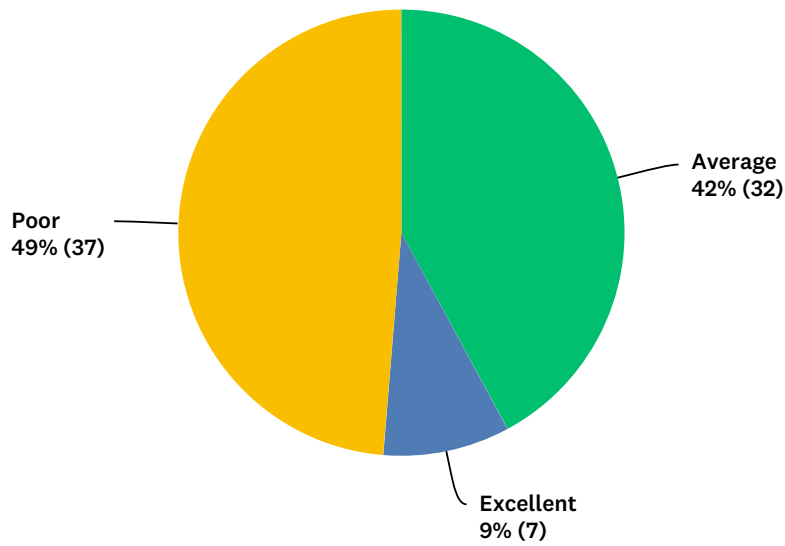


ANSWER CHOICES	RESPONSES	
Access – I share a car and don't always have access when I need it	23%	15
Cost of owning a car – Includes gas, insurance, maintenance, parking	56%	36
Parking availability – Finding a place to park the car	52%	33
Traffic congestion – Too many cars on the road and traffic moves slowly	58%	37
Unreliable car – My car breaks down or needs to be fixed	22%	14
Other (please specify)	3%	2
Total Respondents: 64		

#	OTHER (PLEASE SPECIFY)	DATE
1	don't travel by car	11/8/2018 1:19 PM
2	I do not have a car	11/7/2018 5:20 PM

Q8 How much do you know about electric cars?

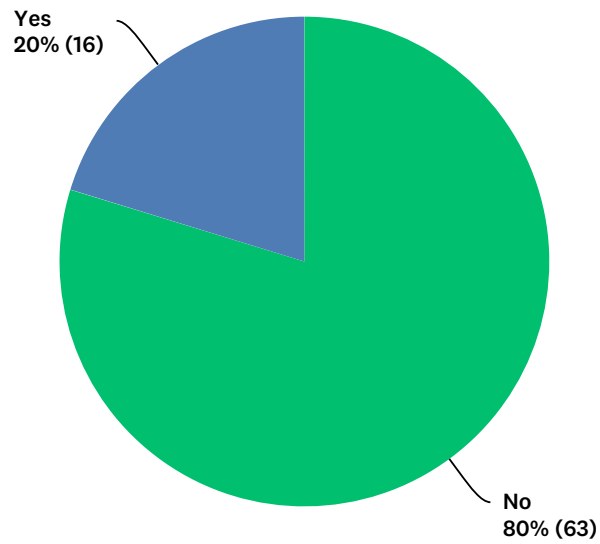
Answered: 76 Skipped: 5



ANSWER CHOICES	RESPONSES	
Average	42%	32
Excellent	9%	7
Poor	49%	37
TOTAL		76

Q9 Would you be comfortable driving an electric car?

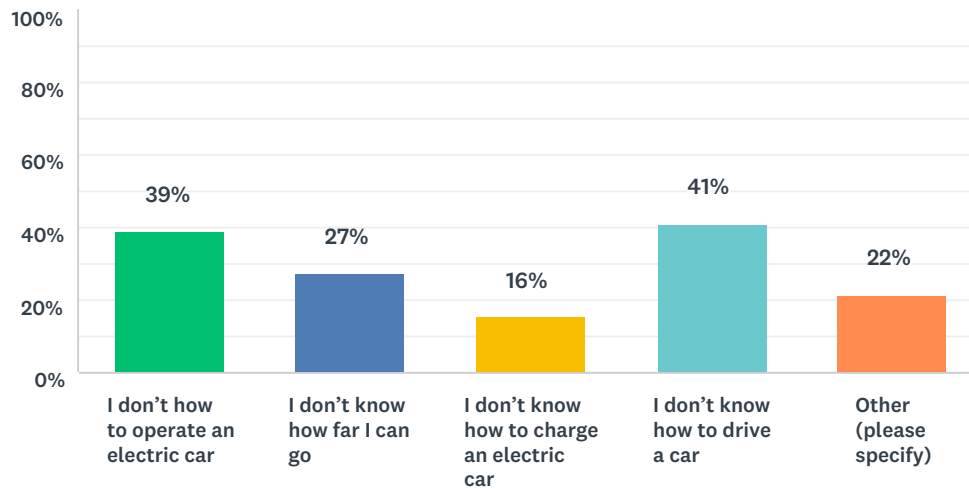
Answered: 79 Skipped: 2



ANSWER CHOICES	RESPONSES	
No	80%	63
Yes	20%	16
TOTAL		79

Q10 Why are you not comfortable driving an electric vehicle? (Select all that apply)

Answered: 51 Skipped: 30

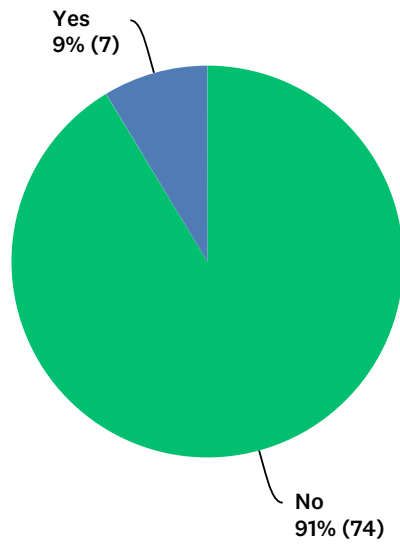


ANSWER CHOICES	RESPONSES	
I don't how to operate an electric car	39%	20
I don't know how far I can go	27%	14
I don't know how to charge an electric car	16%	8
I don't know how to drive a car	41%	21
Other (please specify)	22%	11
Total Respondents: 51		

#	OTHER (PLEASE SPECIFY)	DATE
1	I don't have a car	11/8/2018 4:39 PM
2	I have never used it before	11/8/2018 4:35 PM
3	I don't know about electric car	11/8/2018 4:14 PM
4	I don't like to drive a car	11/8/2018 2:15 PM
5	Afraid	11/8/2018 1:46 PM
6	electric would cause unknown reasons	11/8/2018 1:26 PM
7	don't know about it	11/8/2018 1:19 PM
8	afraid	11/8/2018 1:07 PM
9	too old to drive	11/8/2018 1:04 PM
10	I don't know about electric car	11/7/2018 5:30 PM
11	I'm 77 years old	11/7/2018 4:33 PM

Q11 Have you ever used a car-sharing service?

Answered: 81 Skipped: 0



ANSWER CHOICES	RESPONSES	
No	91%	74
Yes	9%	7
TOTAL		81

Q12 Which car-sharing service have you used?

Answered: 4 Skipped: 77

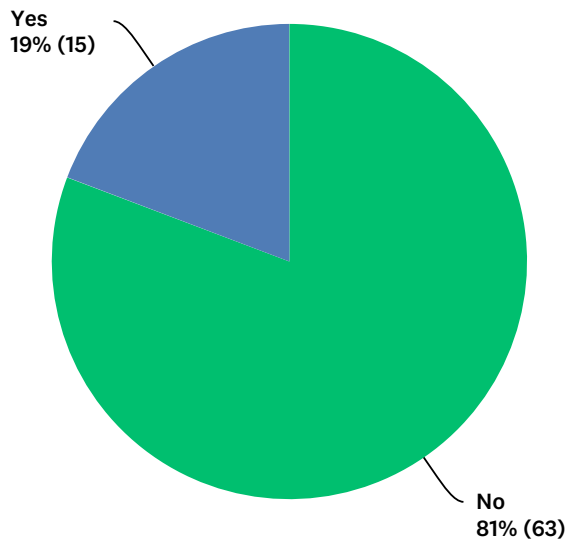


ANSWER CHOICES	RESPONSES
Car2Go	100% 4
ReachNow	0% 0
Zipcar	0% 0
Other (please specify)	0% 0
Total Respondents: 4	

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q13 Would you use a car-sharing service if it was close by?

Answered: 78 Skipped: 3



ANSWER CHOICES	RESPONSES	
No	81%	63
Yes	19%	15
TOTAL		78

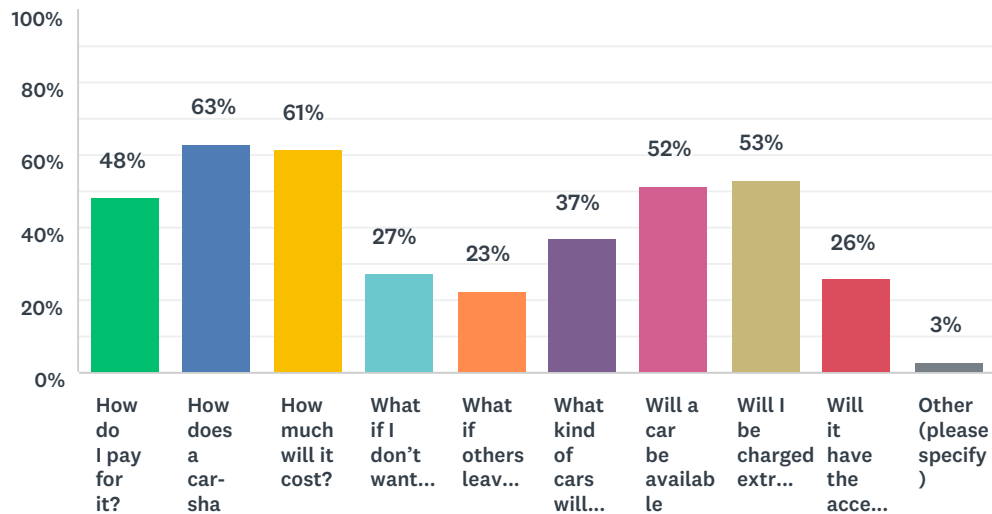
#	WHY OR WHY NOT?	DATE
1	I do not know about it	11/8/2018 4:46 PM
2	I do not know about it	11/8/2018 4:41 PM
3	it's a long way to go	11/8/2018 4:37 PM
4	I am used to riding bus and public transportation. I do not have a driver license	11/8/2018 2:38 PM
5	because I need it	11/8/2018 2:14 PM
6	Because I don't use a car of another people	11/8/2018 2:12 PM
7	Because I don't like to sharing with others	11/8/2018 2:09 PM
8	I never drive a car	11/8/2018 1:58 PM
9	yes because I don't own the most reliable car so I would use such a service as back-up	11/8/2018 1:52 PM
10	because it's expensive	11/8/2018 1:49 PM
11	scare	11/8/2018 1:47 PM
12	because I don't know how to rent	11/8/2018 1:43 PM
13	no need	11/8/2018 1:37 PM
14	easier with my disability	11/8/2018 1:30 PM
15	no cellphone	11/8/2018 1:27 PM
16	I don't drive	11/8/2018 1:20 PM
17	own car already	11/8/2018 1:17 PM
18	don't drive much	11/8/2018 1:15 PM

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19	don't drive much	11/8/2018 1:13 PM
20	if i need it	11/8/2018 1:08 PM
21	don't know how to drive	11/8/2018 1:05 PM
22	own car already	11/8/2018 1:02 PM
23	if it cost too much money	11/7/2018 5:50 PM
24	It impacts community unity and save gas when it's electric	11/7/2018 5:47 PM
25	cause it here	11/7/2018 5:44 PM
26	I do not know how to use it	11/7/2018 5:42 PM
27	convenient	11/7/2018 5:36 PM
28	I do not know about it	11/7/2018 5:22 PM
29	I am a bus driver	11/7/2018 4:50 PM
30	I prefer using public transportation	11/7/2018 4:45 PM
31	own car already	11/7/2018 3:51 PM

Q14 What questions do you have about using a car-sharing service? (Select all that apply)

Answered: 62 Skipped: 19

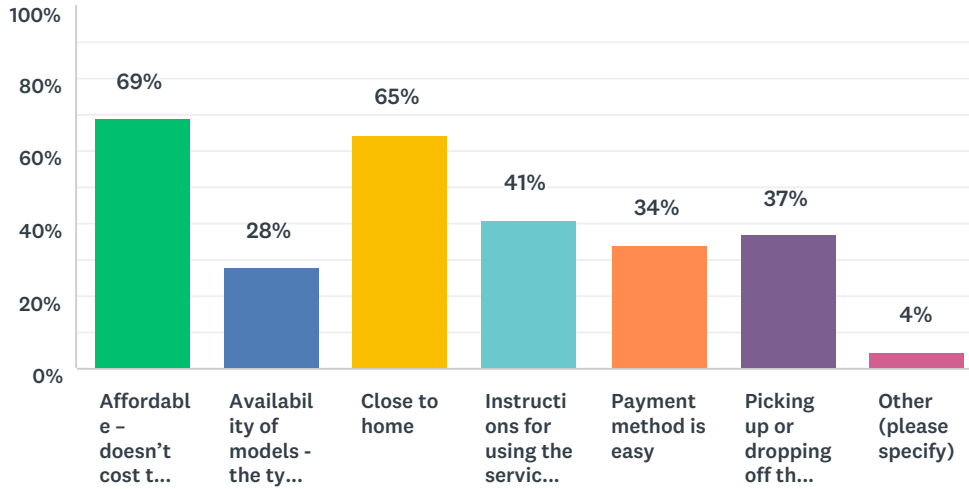


ANSWER CHOICES	RESPONSES	
How do I pay for it?	48%	30
How does a car-share service work?	63%	39
How much will it cost?	61%	38
What if I don't want to share a car with other people in my community?	27%	17
What if others leave the car messy?	23%	14
What kind of cars will be available? (Sedan, minivan, truck, etc.)	37%	23
Will a car be available when I need it?	52%	32
Will I be charged extra if I am late?	53%	33
Will it have the accessories I need? (Car seat, bike rack, cargo rack)	26%	16
Other (please specify)	3%	2
Total Respondents: 62		

#	OTHER (PLEASE SPECIFY)	DATE
1	I am not interested in this service	11/8/2018 2:38 PM
2	can't conceptualize	11/8/2018 1:17 PM

Q15 If you had a car-sharing service available, what are the most important features? (Select all that apply)

Answered: 68 Skipped: 13

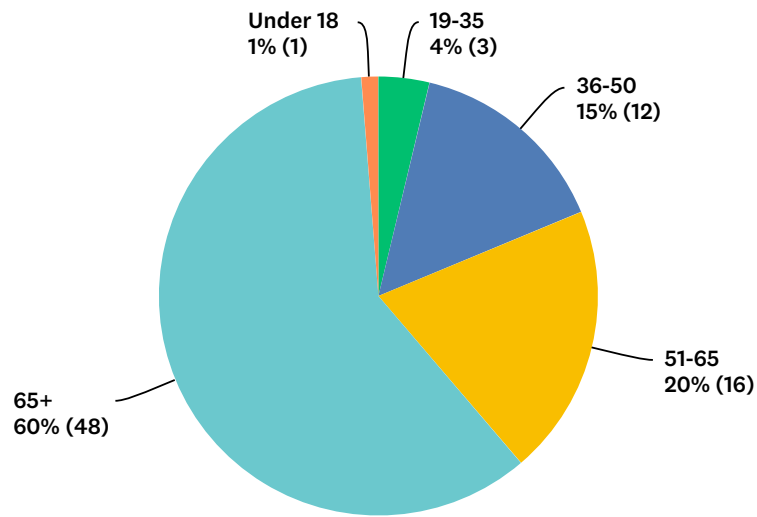


ANSWER CHOICES	RESPONSES	
Affordable – doesn't cost too much	69%	47
Availability of models - the type of car I need is available	28%	19
Close to home	65%	44
Instructions for using the service are translated into my language	41%	28
Payment method is easy	34%	23
Picking up or dropping off the car is easy	37%	25
Other (please specify)	4%	3
Total Respondents: 68		

#	OTHER (PLEASE SPECIFY)	DATE
1	I have to pay for it	11/8/2018 4:41 PM
2	I like bus	11/8/2018 1:20 PM
3	I have a car so I don't want to think about this	11/8/2018 1:17 PM

Q16 How old are you?

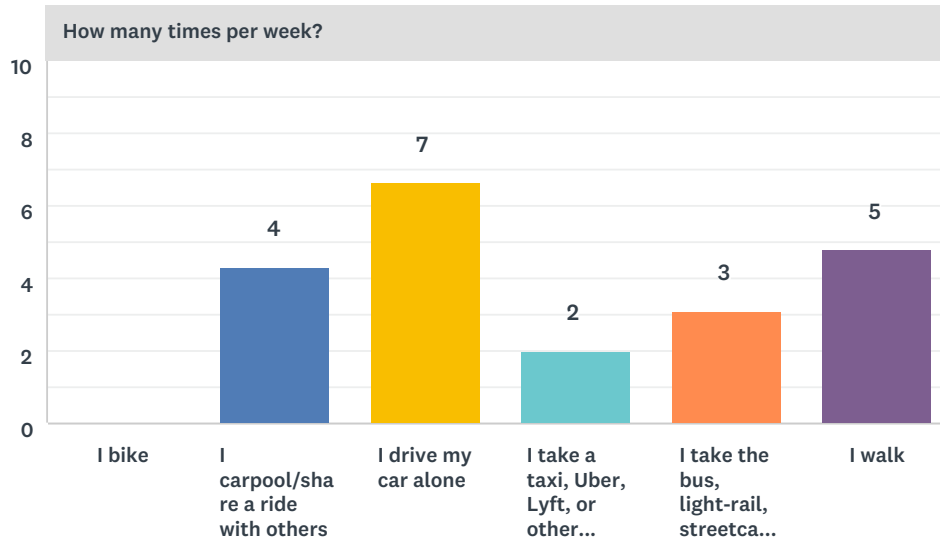
Answered: 80 Skipped: 1



ANSWER CHOICES	RESPONSES	
19-35	4%	3
36-50	15%	12
51-65	20%	16
65+	60%	48
Under 18	1%	1
TOTAL		80

Q1 What is the most common way you move around?

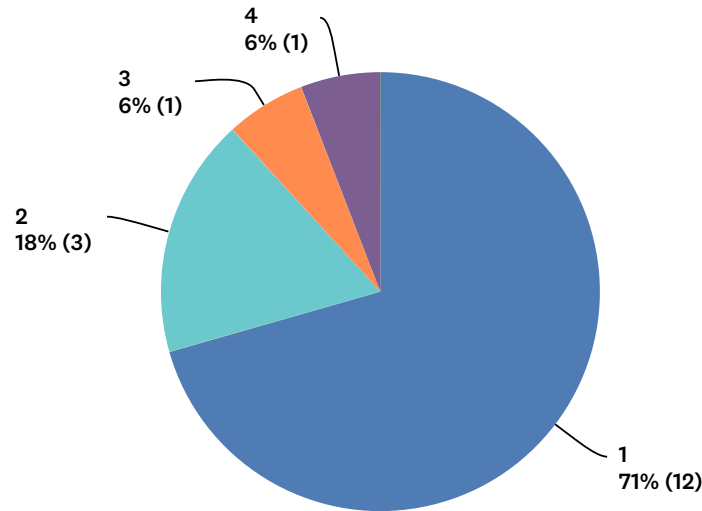
Answered: 19 Skipped: 0



How many times per week?												
	0	1	2	3	4	5	6	7	8	9	10	TOTAL
I bike	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
I carpool/share a ride with others	0%	29%	0%	43%	0%	14%	0%	14%	0%	0%	0%	7
I drive my car alone	0%	0%	6%	24%	6%	12%	6%	35%	0%	0%	12%	17
I take a taxi, Uber, Lyft, or other service	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2
I take the bus, light-rail, streetcar, train, etc. (public transit)	0%	40%	20%	30%	10%	0%	0%	0%	0%	0%	0%	10
I walk	0%	22%	22%	0%	11%	22%	0%	22%	0%	0%	0%	9

Q2 How many cars, trucks, vans, or motorcycles are available in your household for you to use?

Answered: 17 Skipped: 2

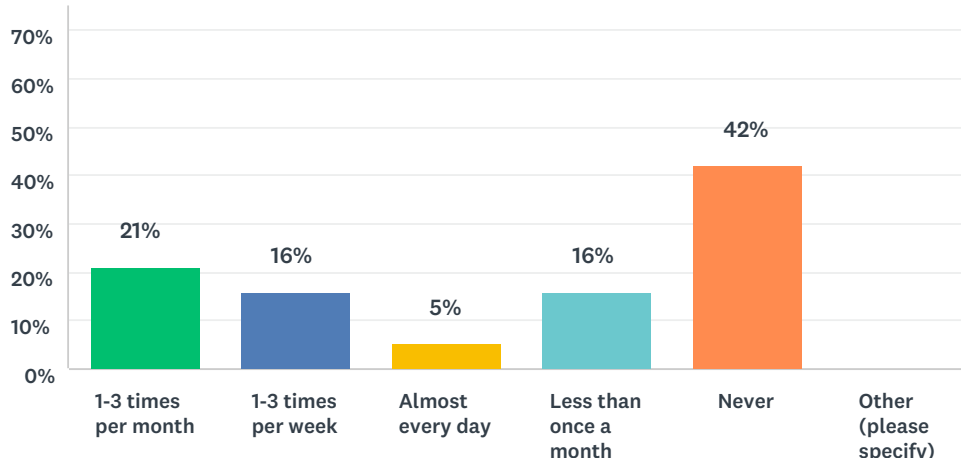


ANSWER CHOICES	RESPONSES	
0	0%	0
1	71%	12
10 or more	0%	0
2	18%	3
3	6%	1
4	6%	1
5	0%	0
6	0%	0
7	0%	0
8	0%	0
Other (please specify)	0%	0
TOTAL		17

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q3 How often do you travel more than 50 miles per day?

Answered: 19 Skipped: 0

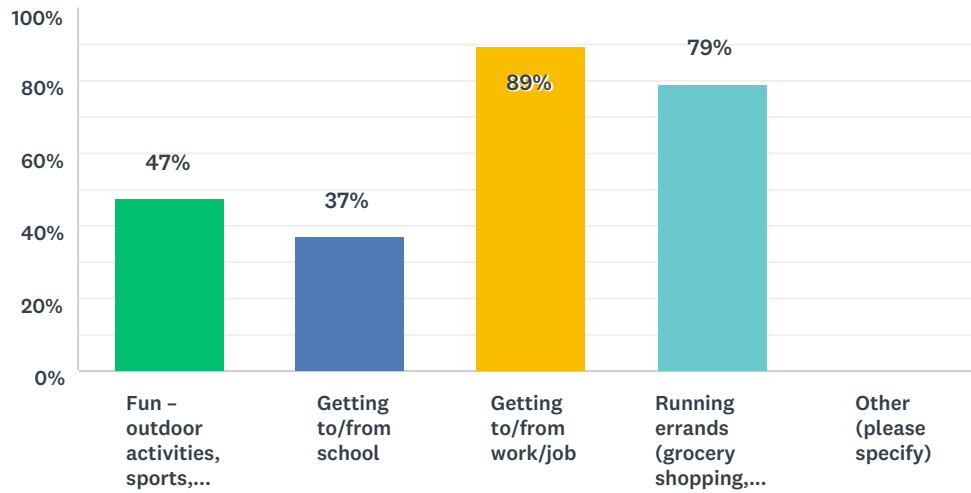


ANSWER CHOICES	RESPONSES	
1-3 times per month	21%	4
1-3 times per week	16%	3
Almost every day	5%	1
Less than once a month	16%	3
Never	42%	8
Other (please specify)	0%	0
TOTAL		19

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q4 When do you most need a car?

Answered: 19 Skipped: 0

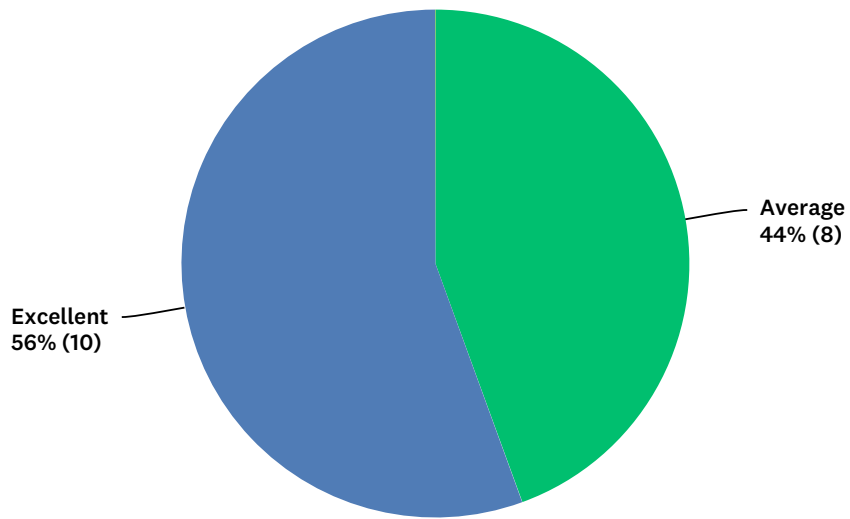


ANSWER CHOICES	RESPONSES	
Fun – outdoor activities, sports, meeting friends, going out to eat, etc.	47%	9
Getting to/from school	37%	7
Getting to/from work/job	89%	17
Running errands (grocery shopping, medical appointments, social services, taking family or kids places etc.)	79%	15
Other (please specify)	0%	0
Total Respondents: 19		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q5 How well are your transportation needs met?

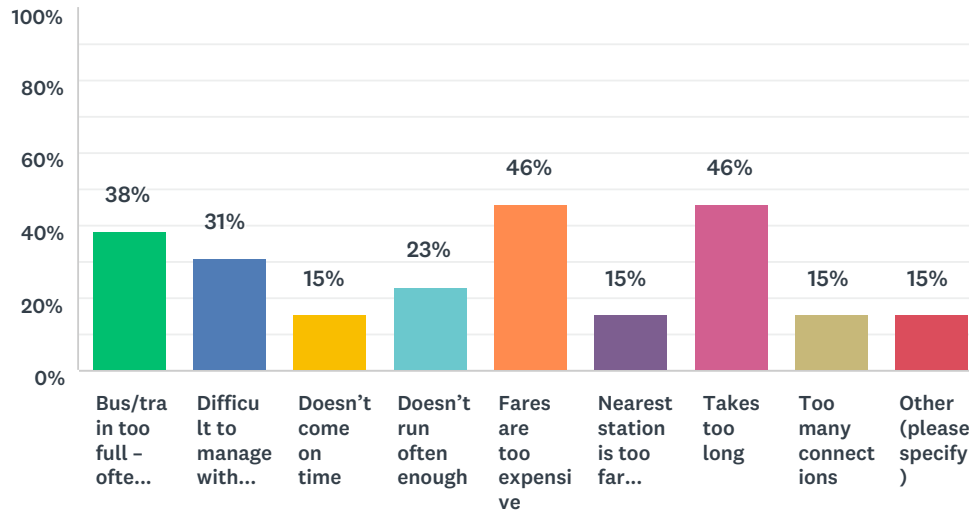
Answered: 18 Skipped: 1



ANSWER CHOICES	RESPONSES	
Average	44%	8
Excellent	56%	10
Poor	0%	0
TOTAL		18

Q6 If you travel by public transportation, what are your biggest challenges? (Select all that apply)

Answered: 13 Skipped: 6

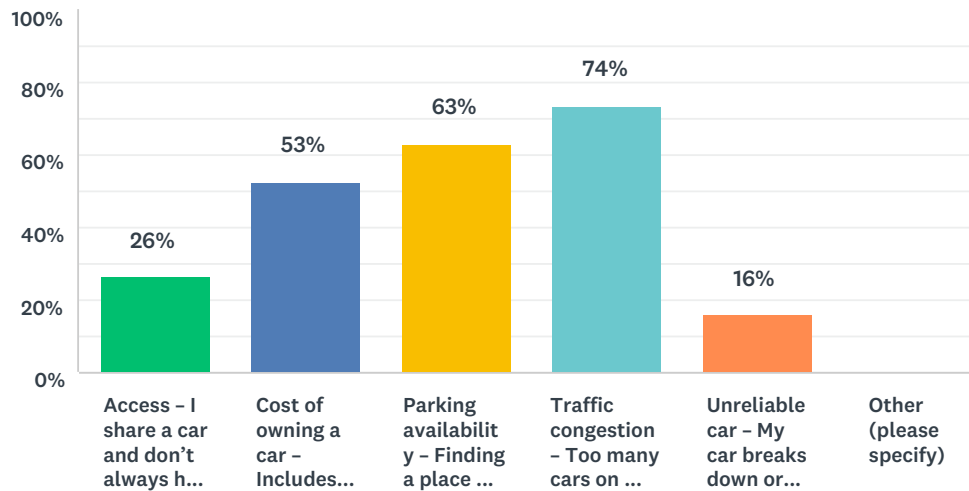


ANSWER CHOICES	RESPONSES	
Bus/train too full – often there isn't room, or only standing room	38%	5
Difficult to manage with children/elderly	31%	4
Doesn't come on time	15%	2
Doesn't run often enough	23%	3
Fares are too expensive	46%	6
Nearest station is too far away	15%	2
Takes too long	46%	6
Too many connections	15%	2
Other (please specify)	15%	2
Total Respondents: 13		

#	OTHER (PLEASE SPECIFY)	DATE
1	Congestion	11/15/2018 3:03 PM
2	Safety, especially evening hours	11/15/2018 2:57 PM

Q7 If you travel by car, what challenges do you face? (Select all that apply)

Answered: 19 Skipped: 0

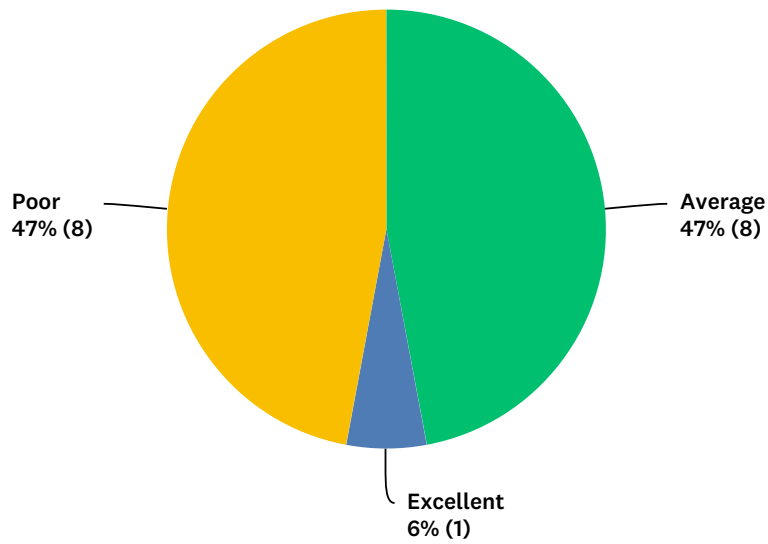


ANSWER CHOICES	RESPONSES	
Access – I share a car and don't always have access when I need it	26%	5
Cost of owning a car – Includes gas, insurance, maintenance, parking	53%	10
Parking availability – Finding a place to park the car	63%	12
Traffic congestion – Too many cars on the road and traffic moves slowly	74%	14
Unreliable car – My car breaks down or needs to be fixed	16%	3
Other (please specify)	0%	0
Total Respondents: 19		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q8 How much do you know about electric cars?

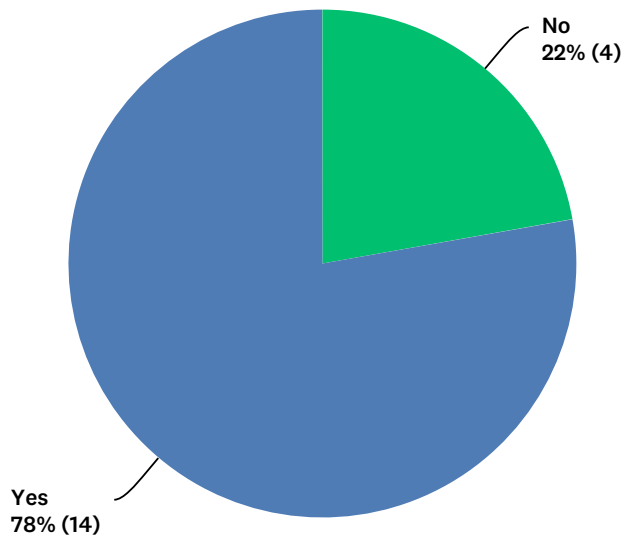
Answered: 17 Skipped: 2



ANSWER CHOICES	RESPONSES	
Average	47%	8
Excellent	6%	1
Poor	47%	8
TOTAL		17

Q9 Would you be comfortable driving an electric car?

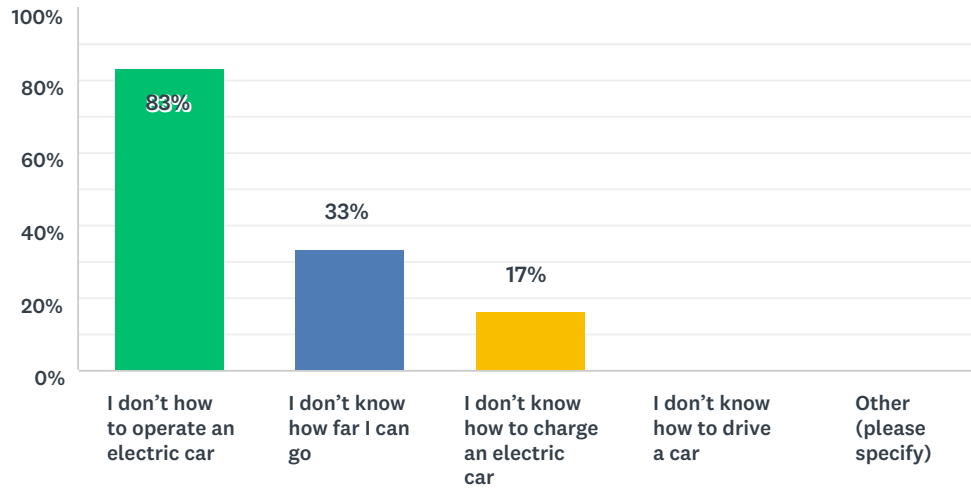
Answered: 18 Skipped: 1



ANSWER CHOICES	RESPONSES	
No	22%	4
Yes	78%	14
TOTAL		18

Q10 Why are you not comfortable driving an electric vehicle? (Select all that apply)

Answered: 6 Skipped: 13

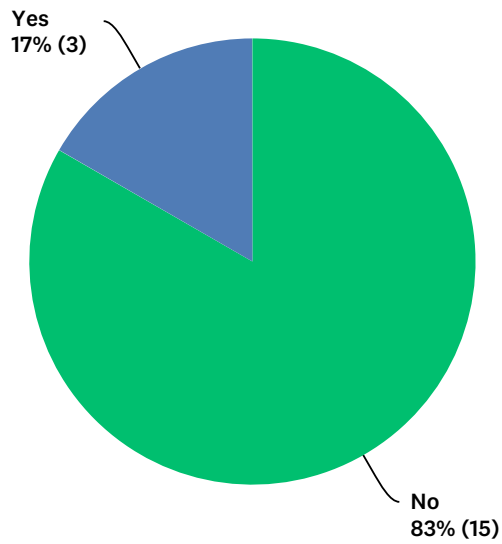


ANSWER CHOICES	RESPONSES	
I don't how to operate an electric car	83%	5
I don't know how far I can go	33%	2
I don't know how to charge an electric car	17%	1
I don't know how to drive a car	0%	0
Other (please specify)	0%	0
Total Respondents: 6		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q11 Have you ever used a car-sharing service?

Answered: 18 Skipped: 1



ANSWER CHOICES	RESPONSES	
No	83%	15
Yes	17%	3
TOTAL		18

Q12 Which car-sharing service have you used?

Answered: 1 Skipped: 18

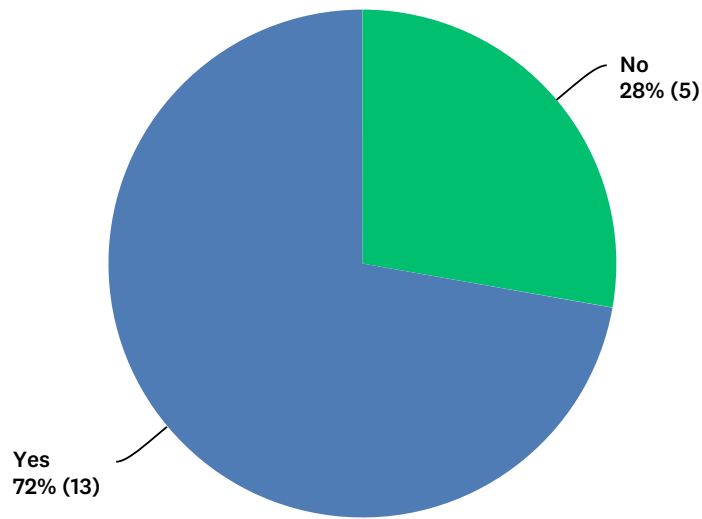


ANSWER CHOICES	RESPONSES
Car2Go	0% 0
ReachNow	0% 0
Zipcar	0% 0
Other (please specify)	100% 1
Total Respondents: 1	

#	OTHER (PLEASE SPECIFY)	DATE
1	Uber, Lyft	11/15/2018 12:53 PM

Q13 Would you use a car-sharing service if it was close by?

Answered: 18 Skipped: 1

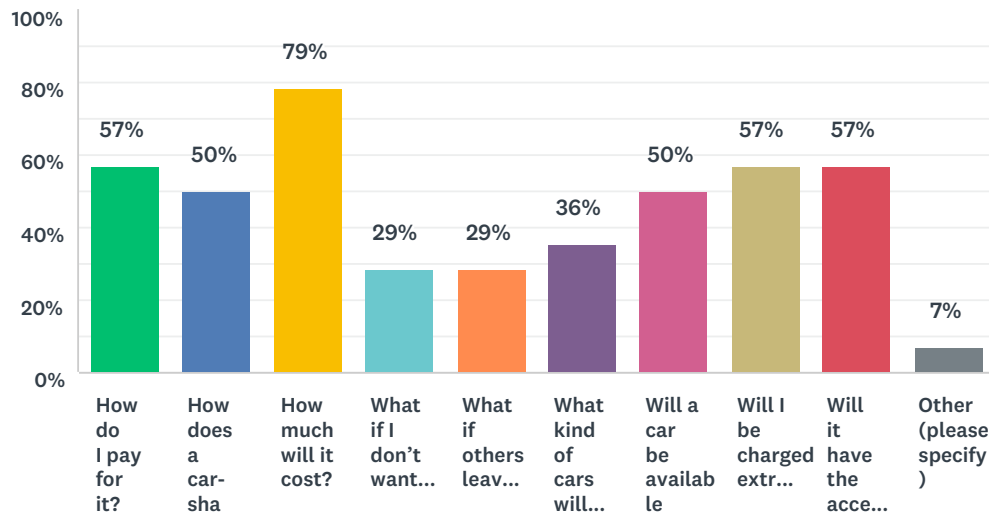


ANSWER CHOICES	RESPONSES	
No	28%	5
Yes	72%	13
TOTAL		18

#	WHY OR WHY NOT?	DATE
1	I don't want to spend money	11/15/2018 3:05 PM
2	I have my own car	11/15/2018 3:04 PM
3	Depends on affordability and availability	11/15/2018 2:59 PM
4	Need to rent is a great idea	11/15/2018 2:56 PM
5	Every place I need to go is in walking distance	11/15/2018 12:54 PM
6	Fast to get ride	11/15/2018 12:53 PM
7	Don't feel like I would ever need it	11/15/2018 12:51 PM
8	Saves money and you get a different alternative	11/15/2018 12:49 PM

Q14 What questions do you have about using a car-sharing service? (Select all that apply)

Answered: 14 Skipped: 5

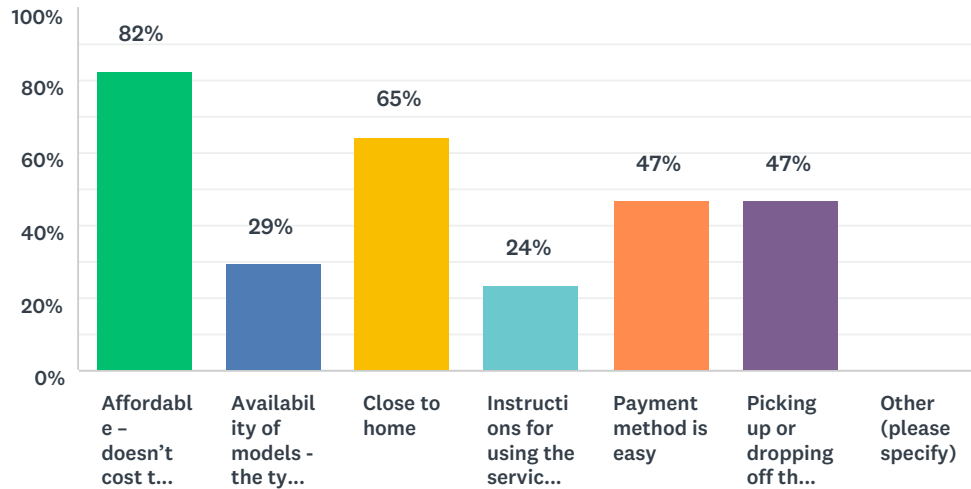


ANSWER CHOICES	RESPONSES	
How do I pay for it?	57%	8
How does a car-share service work?	50%	7
How much will it cost?	79%	11
What if I don't want to share a car with other people in my community?	29%	4
What if others leave the car messy?	29%	4
What kind of cars will be available? (Sedan, minivan, truck, etc.)	36%	5
Will a car be available when I need it?	50%	7
Will I be charged extra if I am late?	57%	8
Will it have the accessories I need? (Car seat, bike rack, cargo rack)	57%	8
Other (please specify)	7%	1
Total Respondents: 14		

#	OTHER (PLEASE SPECIFY)	DATE
1	Concerned about safety if sharing/driving with others	11/15/2018 2:59 PM

Q15 If you had a car-sharing service available, what are the most important features? (Select all that apply)

Answered: 17 Skipped: 2

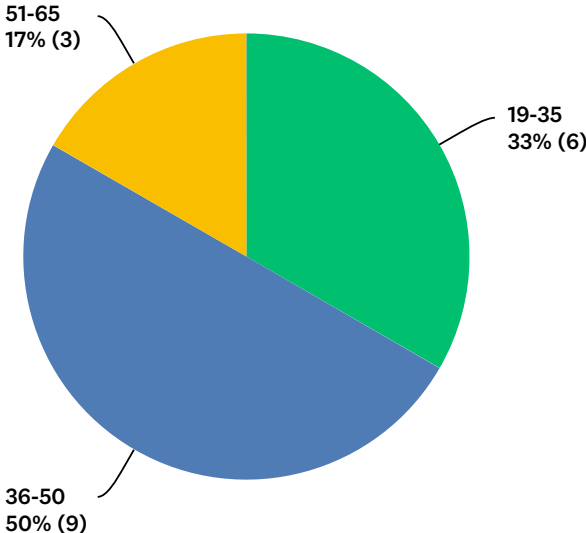


ANSWER CHOICES	RESPONSES	
Affordable – doesn't cost too much	82%	14
Availability of models - the type of car I need is available	29%	5
Close to home	65%	11
Instructions for using the service are translated into my language	24%	4
Payment method is easy	47%	8
Picking up or dropping off the car is easy	47%	8
Other (please specify)	0%	0
Total Respondents: 17		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q16 How old are you?

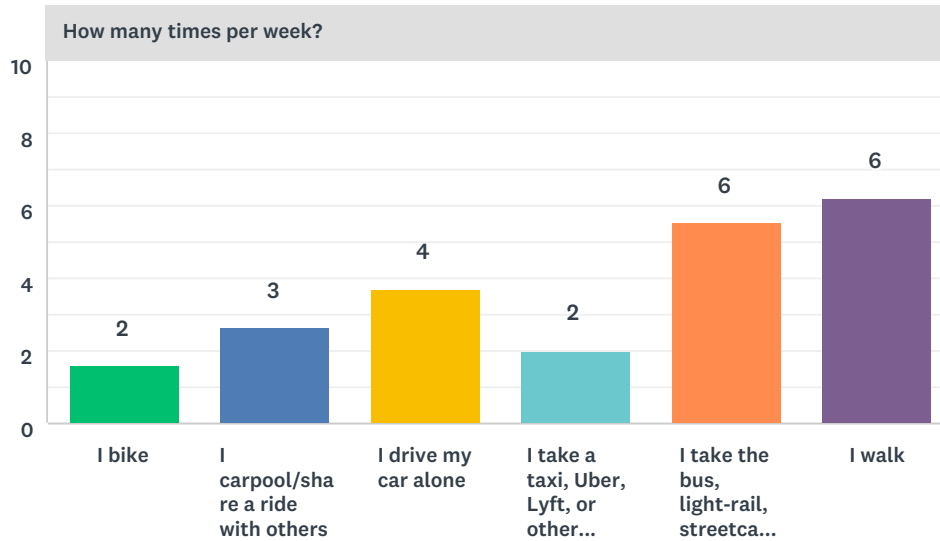
Answered: 18 Skipped: 1



ANSWER CHOICES	RESPONSES	
19-35	33%	6
36-50	50%	9
51-65	17%	3
65+	0%	0
Under 18	0%	0
TOTAL		18

Q1 What is the most common way you move around?

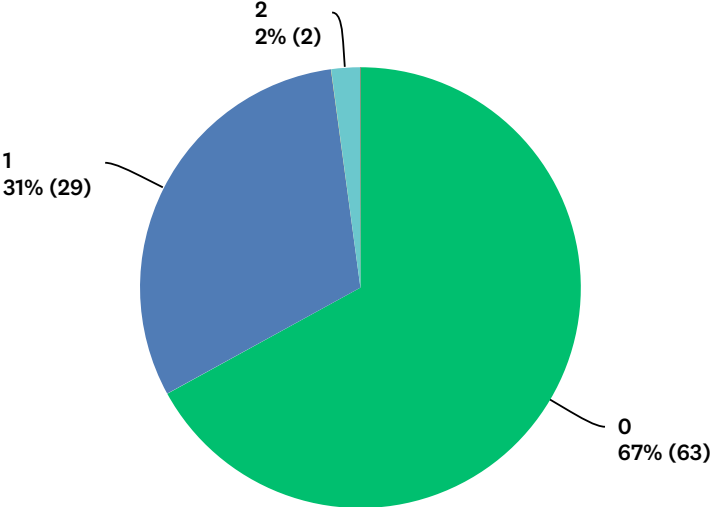
Answered: 94 Skipped: 2



How many times per week?												
	0	1	2	3	4	5	6	7	8	9	10	TOTAL
I bike	89%	3%	0%	0%	0%	0%	0%	8%	0%	0%	0%	38
	34	1	0	0	0	0	0	3	0	0	0	
I carpool/share a ride with others	49%	22%	6%	6%	2%	2%	2%	12%	0%	0%	0%	51
	25	11	3	3	1	1	1	6	0	0	0	
I drive my car alone	53%	0%	4%	6%	2%	6%	0%	27%	0%	0%	2%	49
	26	0	2	3	1	3	0	13	0	0	1	
I take a taxi, Uber, Lyft, or other service	71%	8%	8%	3%	0%	3%	0%	8%	0%	0%	0%	38
	27	3	3	1	0	1	0	3	0	0	0	
I take the bus, light-rail, streetcar, train, etc. (public transit)	7%	3%	8%	17%	16%	9%	8%	31%	0%	0%	1%	89
	6	3	7	15	14	8	7	28	0	0	1	
I walk	8%	4%	8%	10%	7%	1%	0%	58%	1%	0%	1%	72
	6	3	6	7	5	1	0	42	1	0	1	

Q2 How many cars, trucks, vans, or motorcycles are available in your household for you to use?

Answered: 94 Skipped: 2

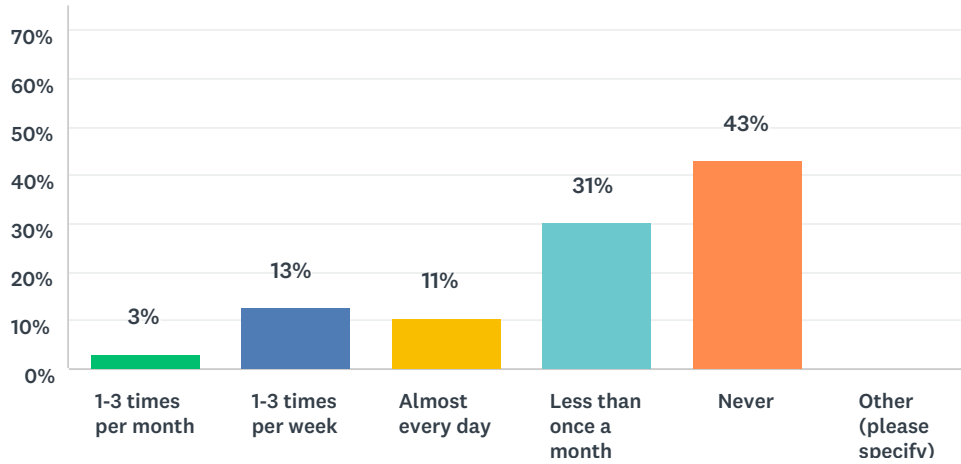


ANSWER CHOICES	RESPONSES	
0	67%	63
1	31%	29
10 or more	0%	0
2	2%	2
3	0%	0
4	0%	0
5	0%	0
6	0%	0
7	0%	0
8	0%	0
Other (please specify)	0%	0
TOTAL		94

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q3 How often do you travel more than 50 miles per day?

Answered: 95 Skipped: 1

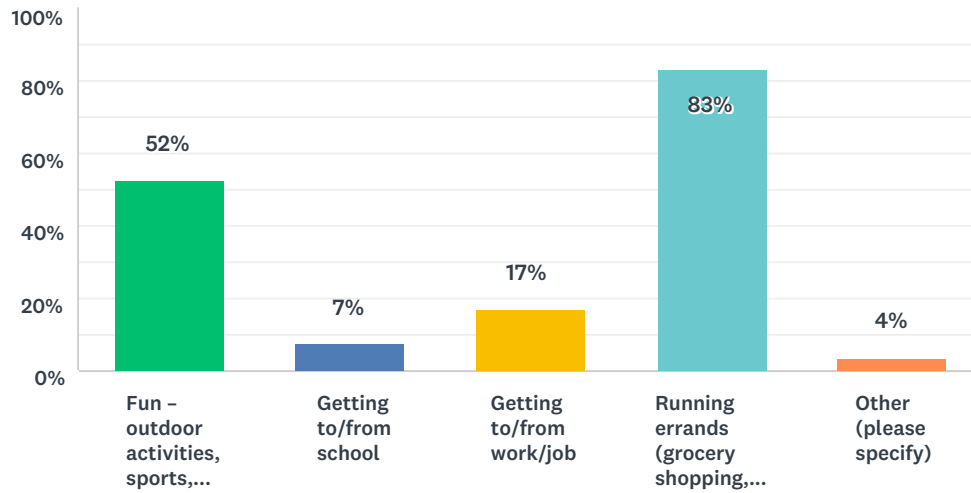


ANSWER CHOICES	RESPONSES	
1-3 times per month	3%	3
1-3 times per week	13%	12
Almost every day	11%	10
Less than once a month	31%	29
Never	43%	41
Other (please specify)	0%	0
TOTAL		95

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q4 When do you most need a car?

Answered: 82 Skipped: 14

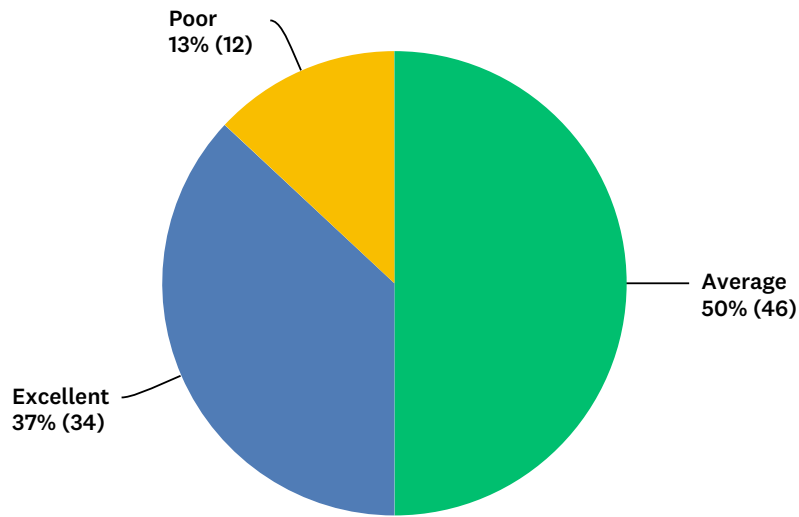


ANSWER CHOICES	RESPONSES	
Fun – outdoor activities, sports, meeting friends, going out to eat, etc.	52%	43
Getting to/from school	7%	6
Getting to/from work/job	17%	14
Running errands (grocery shopping, medical appointments, social services, taking family or kids places etc.)	83%	68
Other (please specify)	4%	3
Total Respondents: 82		

#	OTHER (PLEASE SPECIFY)	DATE
1	no car	11/14/2018 3:23 PM
2	Church	11/14/2018 11:37 AM
3	Church	11/13/2018 4:28 PM

Q5 How well are your transportation needs met?

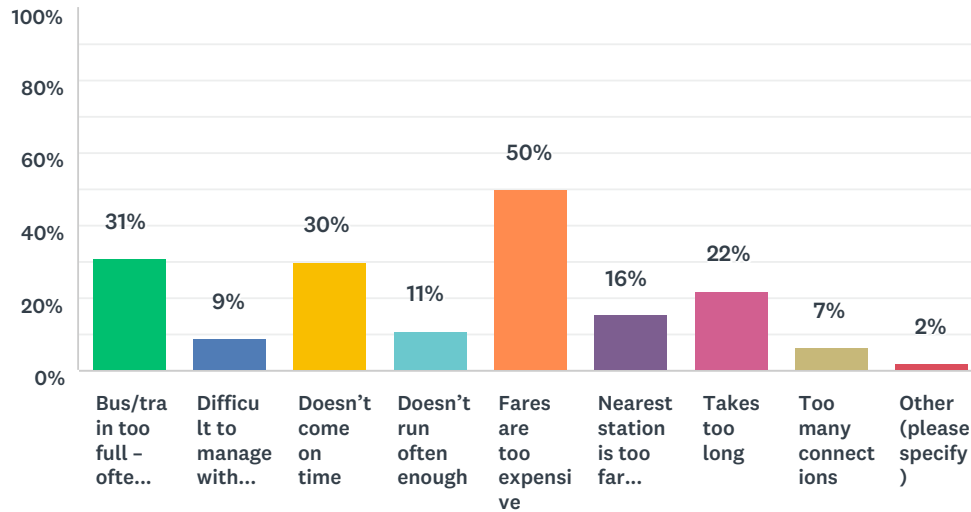
Answered: 92 Skipped: 4



ANSWER CHOICES	RESPONSES	
Average	50%	46
Excellent	37%	34
Poor	13%	12
TOTAL		92

Q6 If you travel by public transportation, what are your biggest challenges? (Select all that apply)

Answered: 90 Skipped: 6

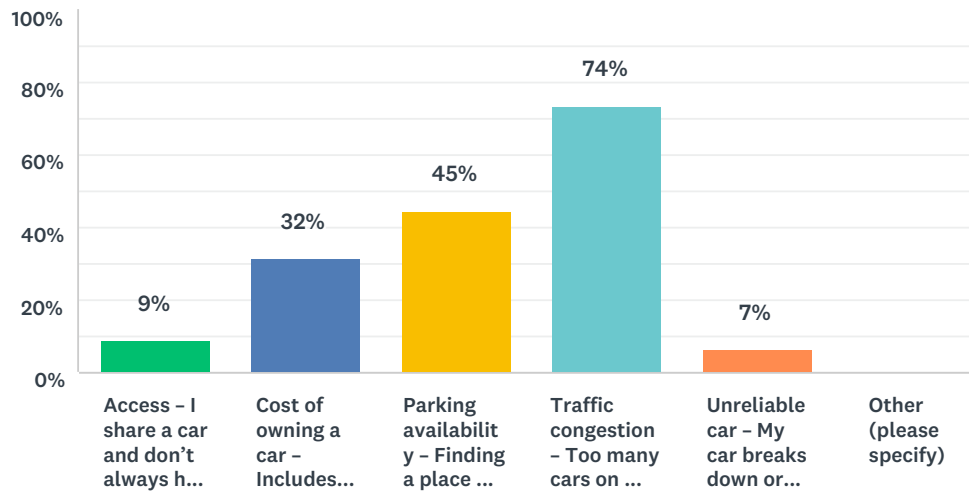


ANSWER CHOICES	RESPONSES	
Bus/train too full – often there isn't room, or only standing room	31%	28
Difficult to manage with children/elderly	9%	8
Doesn't come on time	30%	27
Doesn't run often enough	11%	10
Fares are too expensive	50%	45
Nearest station is too far away	16%	14
Takes too long	22%	20
Too many connections	7%	6
Other (please specify)	2%	2
Total Respondents: 90		

#	OTHER (PLEASE SPECIFY)	DATE
1	Hard to figure out schedule	11/14/2018 11:11 AM
2	Takes the bus so they can't travel too far	11/13/2018 1:33 PM

Q7 If you travel by car, what challenges do you face? (Select all that apply)

Answered: 76 Skipped: 20

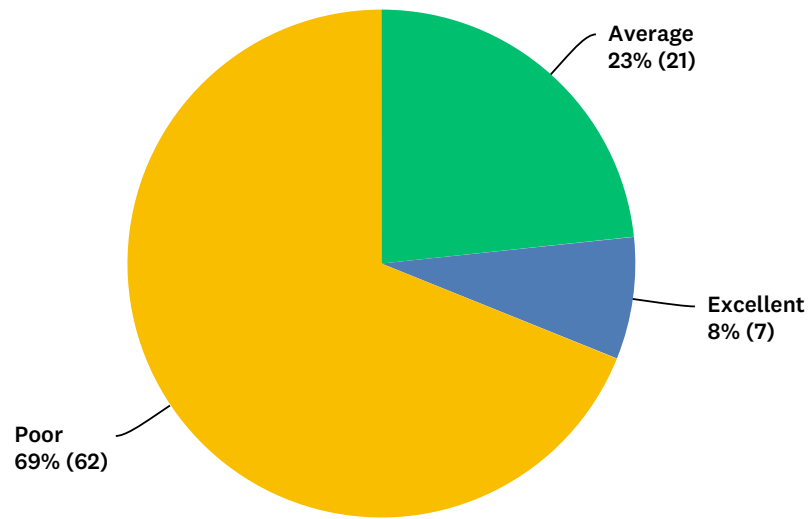


ANSWER CHOICES	RESPONSES	
Access – I share a car and don't always have access when I need it	9%	7
Cost of owning a car – Includes gas, insurance, maintenance, parking	32%	24
Parking availability – Finding a place to park the car	45%	34
Traffic congestion – Too many cars on the road and traffic moves slowly	74%	56
Unreliable car – My car breaks down or needs to be fixed	7%	5
Other (please specify)	0%	0
Total Respondents: 76		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q8 How much do you know about electric cars?

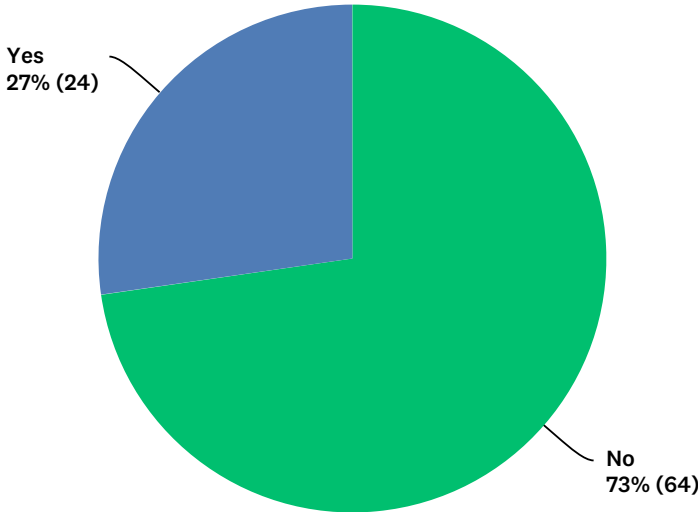
Answered: 90 Skipped: 6



ANSWER CHOICES	RESPONSES	
Average	23%	21
Excellent	8%	7
Poor	69%	62
TOTAL		90

Q9 Would you be comfortable driving an electric car?

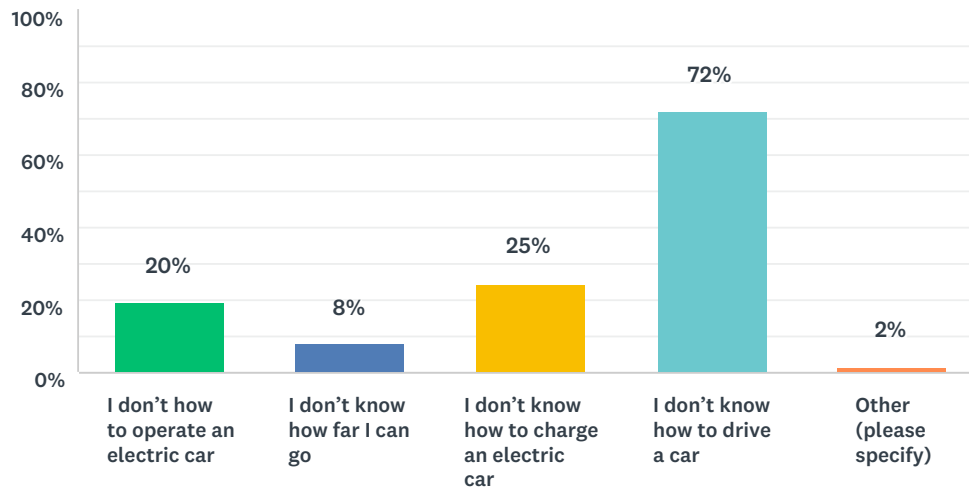
Answered: 88 Skipped: 8



ANSWER CHOICES	RESPONSES	
No	73%	64
Yes	27%	24
TOTAL		88

Q10 Why are you not comfortable driving an electric vehicle? (Select all that apply)

Answered: 61 Skipped: 35

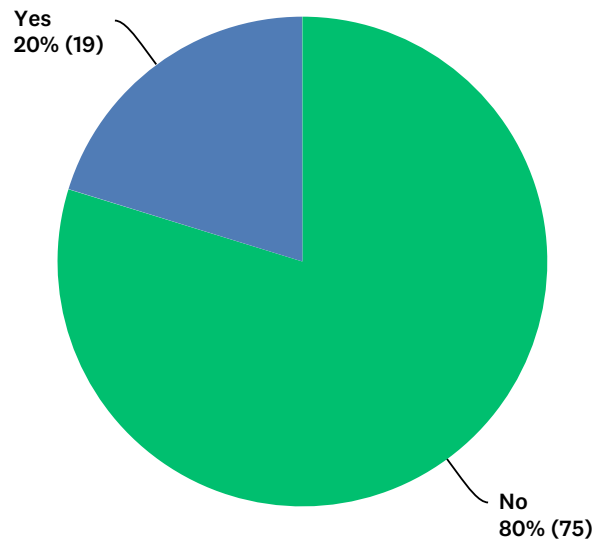


ANSWER CHOICES	RESPONSES	
I don't how to operate an electric car	20%	12
I don't know how far I can go	8%	5
I don't know how to charge an electric car	25%	15
I don't know how to drive a car	72%	44
Other (please specify)	2%	1
Total Respondents: 61		

#	OTHER (PLEASE SPECIFY)	DATE
1	too old	11/14/2018 3:48 PM

Q11 Have you ever used a car-sharing service?

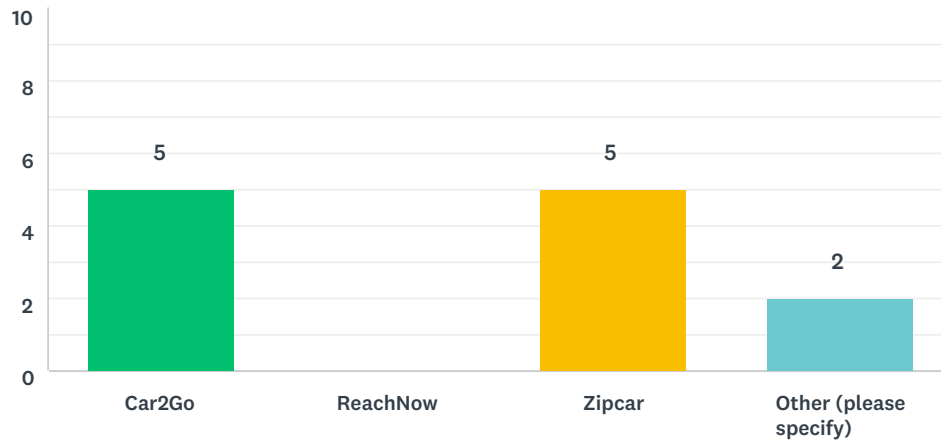
Answered: 94 Skipped: 2



ANSWER CHOICES	RESPONSES	
No	80%	75
Yes	20%	19
TOTAL		94

Q12 Which car-sharing service have you used?

Answered: 12 Skipped: 84

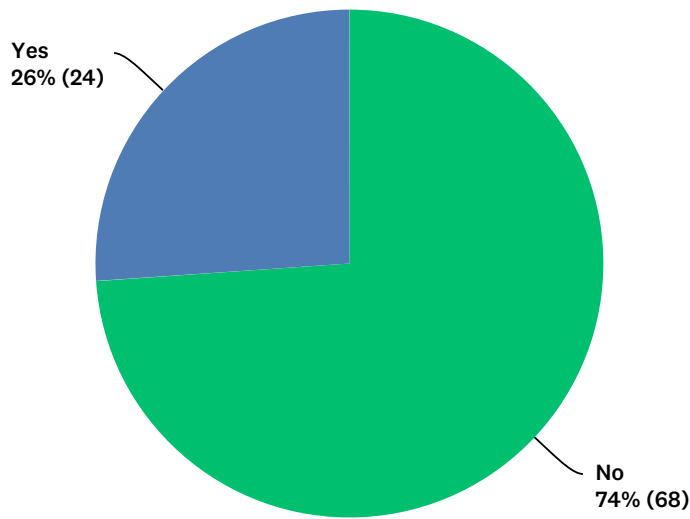


ANSWER CHOICES	RESPONSES	
Car2Go	42%	5
ReachNow	0%	0
Zipcar	42%	5
Other (please specify)	17%	2
Total Respondents: 12		

#	OTHER (PLEASE SPECIFY)	DATE
1	Uber	11/14/2018 12:07 PM
2	Uber	11/13/2018 1:31 PM

Q13 Would you use a car-sharing service if it was close by?

Answered: 92 Skipped: 4



ANSWER CHOICES	RESPONSES	
No	74%	68
Yes	26%	24
TOTAL		92

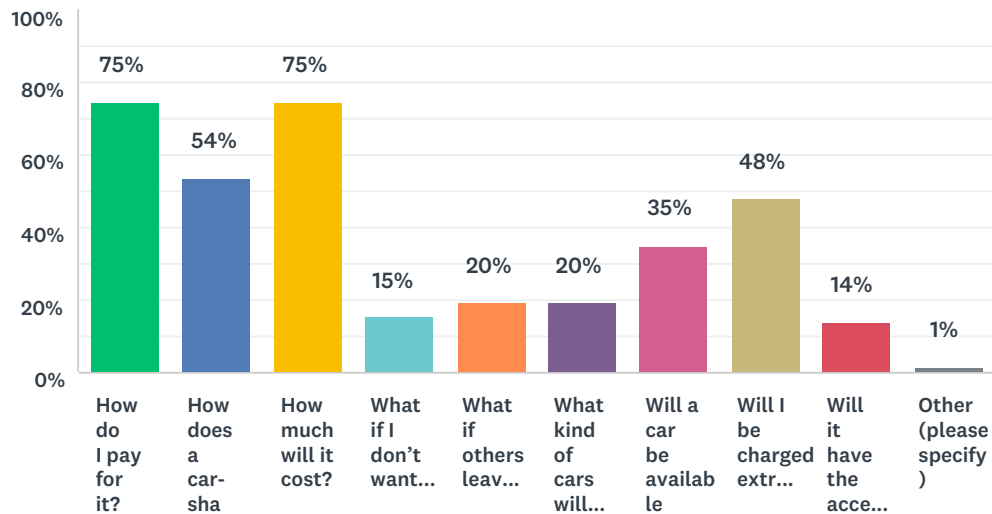
#	WHY OR WHY NOT?	DATE
1	If affordable	11/14/2018 12:14 PM
2	I don't drive	11/14/2018 11:40 AM
3	I don't drive	11/14/2018 11:39 AM
4	I don't drive	11/14/2018 11:38 AM
5	I don't drive	11/14/2018 11:34 AM
6	I don't drive	11/14/2018 11:33 AM
7	I don't drive	11/14/2018 11:31 AM
8	Don't know about insurance policy	11/14/2018 11:29 AM
9	It will be easier than having your own car and you don't have to worry about maintenance	11/14/2018 11:13 AM
10	Cost, flexibility	11/14/2018 11:11 AM
11	I don't drive	11/14/2018 11:10 AM
12	Too expensive	11/13/2018 6:59 PM
13	Do not drive	11/13/2018 6:56 PM
14	Do not drive	11/13/2018 6:54 PM
15	Do not drive	11/13/2018 4:29 PM
16	Prefer to walk	11/13/2018 4:19 PM
17	If it is more convenient	11/13/2018 2:25 PM
18	Because it's a good transportation	11/13/2018 2:23 PM

Hoa Mai Gardens Transportation Mobility Needs Assessment

19	I don't drive	11/13/2018 2:11 PM
20	I don't drive	11/13/2018 1:43 PM
21	I have my own car	11/13/2018 1:35 PM
22	No extra money	11/13/2018 1:04 PM
23	because I do not drive	11/9/2018 11:56 AM
24	because I do not drive	11/9/2018 11:55 AM

Q14 What questions do you have about using a car-sharing service? (Select all that apply)

Answered: 71 Skipped: 25

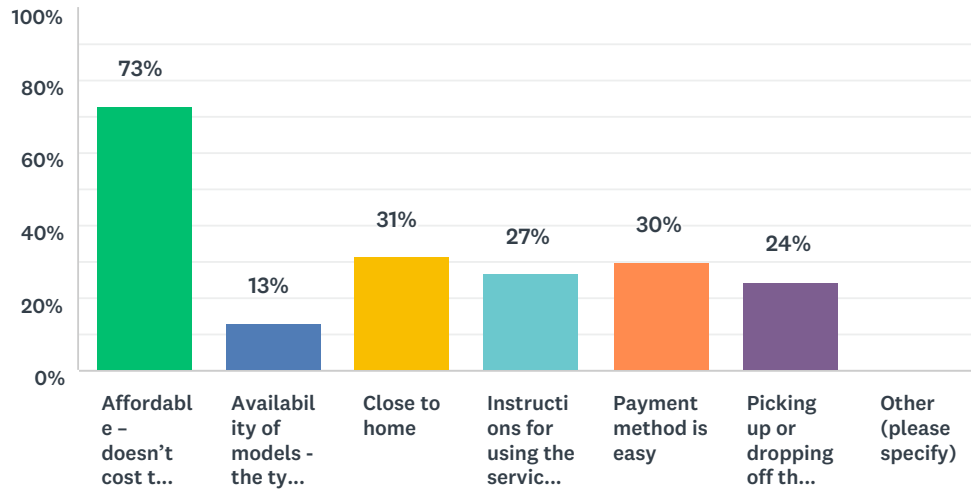


ANSWER CHOICES	RESPONSES	
How do I pay for it?	75%	53
How does a car-share service work?	54%	38
How much will it cost?	75%	53
What if I don't want to share a car with other people in my community?	15%	11
What if others leave the car messy?	20%	14
What kind of cars will be available? (Sedan, minivan, truck, etc.)	20%	14
Will a car be available when I need it?	35%	25
Will I be charged extra if I am late?	48%	34
Will it have the accessories I need? (Car seat, bike rack, cargo rack)	14%	10
Other (please specify)	1%	1
Total Respondents: 71		

#	OTHER (PLEASE SPECIFY)	DATE
1	Insurance	11/14/2018 11:29 AM

Q15 If you had a car-sharing service available, what are the most important features? (Select all that apply)

Answered: 70 Skipped: 26

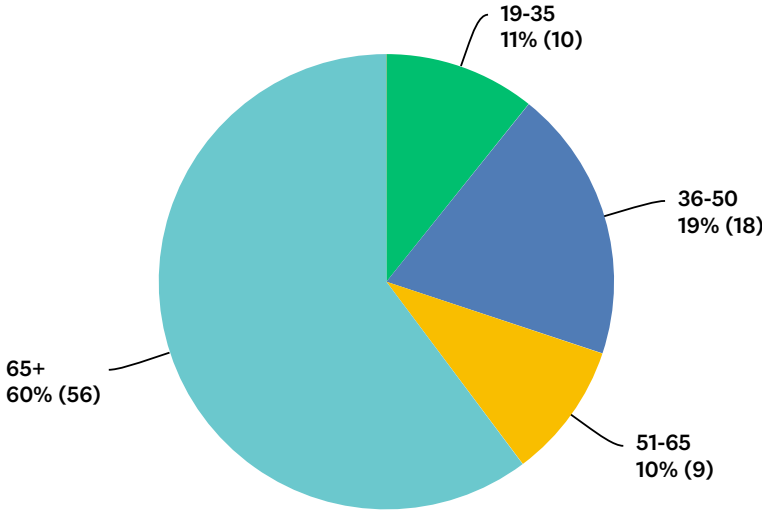


ANSWER CHOICES	RESPONSES	
Affordable – doesn't cost too much	73%	51
Availability of models - the type of car I need is available	13%	9
Close to home	31%	22
Instructions for using the service are translated into my language	27%	19
Payment method is easy	30%	21
Picking up or dropping off the car is easy	24%	17
Other (please specify)	0%	0
Total Respondents: 70		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q16 How old are you?

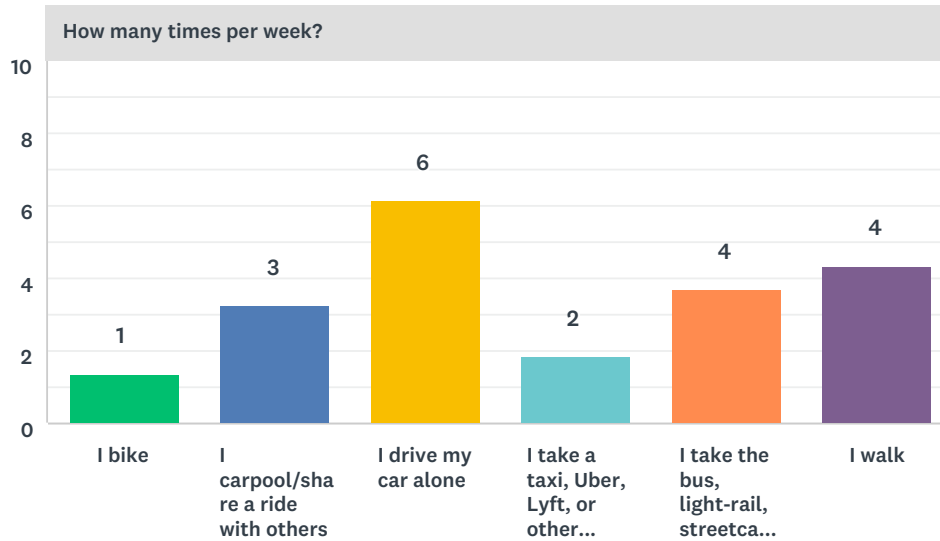
Answered: 93 Skipped: 3



ANSWER CHOICES	RESPONSES	
19-35	11%	10
36-50	19%	18
51-65	10%	9
65+	60%	56
Under 18	0%	0
TOTAL		93

Q1 What is the most common way you move around?

Answered: 63 Skipped: 2

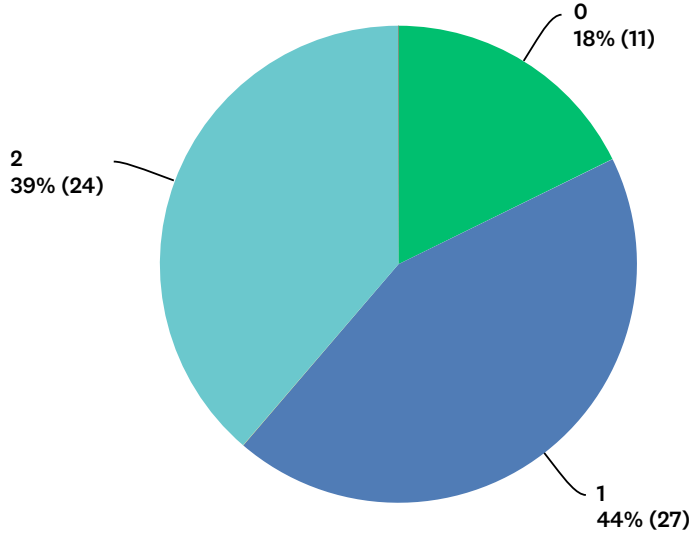


How many times per week?												
	0	1	2	3	4	5	6	7	8	9	10	TOTAL
I bike	88%	8%	0%	0%	0%	0%	4%	0%	0%	0%	0%	24
I carpool/share a ride with others	53%	0%	15%	3%	9%	3%	6%	6%	0%	0%	6%	34
I drive my car alone	15%	2%	4%	8%	6%	10%	0%	48%	0%	0%	8%	52
I take a taxi, Uber, Lyft, or other service	62%	24%	6%	3%	3%	0%	0%	0%	0%	0%	3%	34
I take the bus, light-rail, streetcar, train, etc. (public transit)	28%	14%	19%	5%	7%	7%	2%	19%	0%	0%	0%	43
I walk	20%	9%	18%	14%	5%	7%	0%	25%	0%	0%	2%	44

#	OTHER (PLEASE SPECIFY AND HOW OFTEN)	DATE
1	transit bus 4	11/13/2018 2:15 PM

Q2 How many cars, trucks, vans, or motorcycles are available in your household for you to use?

Answered: 62 Skipped: 3

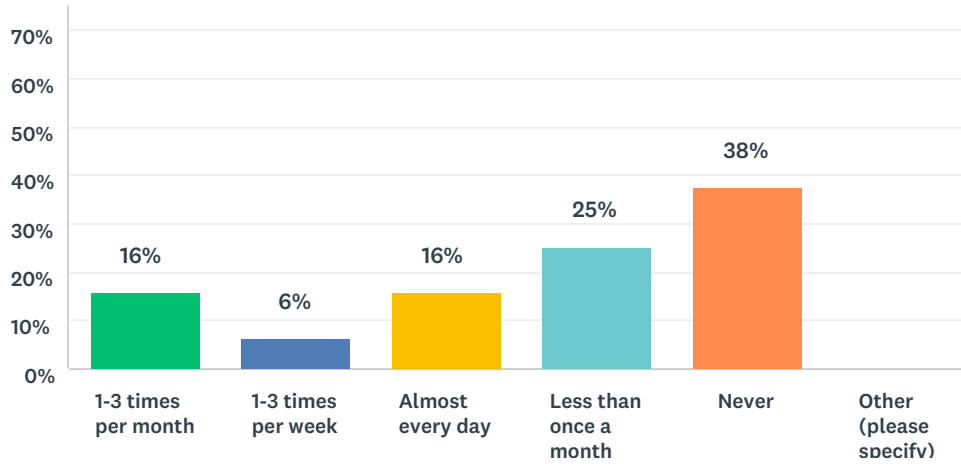


ANSWER CHOICES	RESPONSES	
0	18%	11
1	44%	27
10 or more	0%	0
2	39%	24
3	0%	0
4	0%	0
5	0%	0
6	0%	0
7	0%	0
8	0%	0
Other (please specify)	0%	0
TOTAL		62

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q3 How often do you travel more than 50 miles per day?

Answered: 64 Skipped: 1

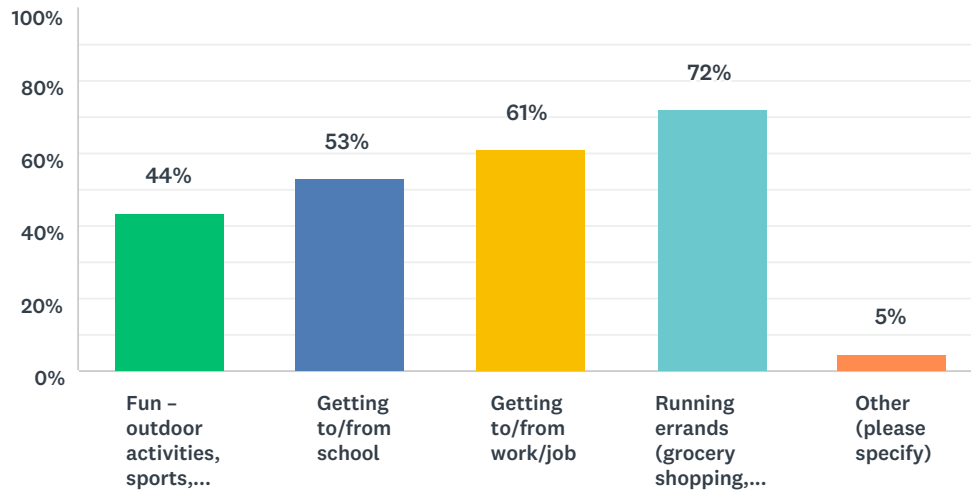


ANSWER CHOICES	RESPONSES	
1-3 times per month	16%	10
1-3 times per week	6%	4
Almost every day	16%	10
Less than once a month	25%	16
Never	38%	24
Other (please specify)	0%	0
TOTAL		64

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q4 When do you most need a car?

Answered: 64 Skipped: 1

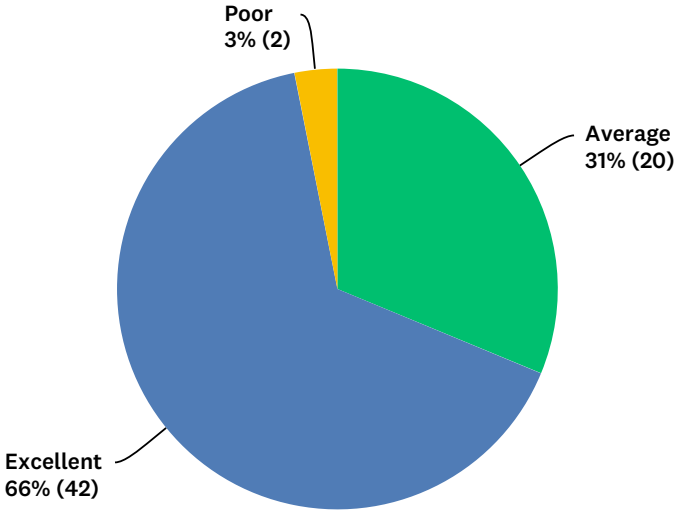


ANSWER CHOICES	RESPONSES	
Fun – outdoor activities, sports, meeting friends, going out to eat, etc.	44%	28
Getting to/from school	53%	34
Getting to/from work/job	61%	39
Running errands (grocery shopping, medical appointments, social services, taking family or kids places etc.)	72%	46
Other (please specify)	5%	3
Total Respondents: 64		

#	OTHER (PLEASE SPECIFY)	DATE
1	Appointments	11/13/2018 4:03 PM
2	Vacation	11/13/2018 4:00 PM
3	emergency	11/9/2018 11:03 AM

Q5 How well are your transportation needs met?

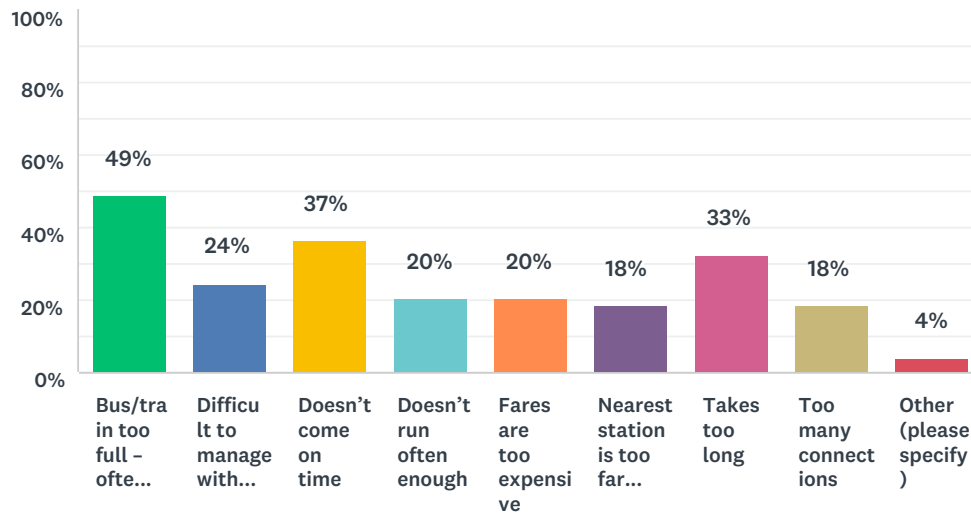
Answered: 64 Skipped: 1



ANSWER CHOICES	RESPONSES	
Average	31%	20
Excellent	66%	42
Poor	3%	2
TOTAL		64

Q6 If you travel by public transportation, what are your biggest challenges? (Select all that apply)

Answered: 49 Skipped: 16

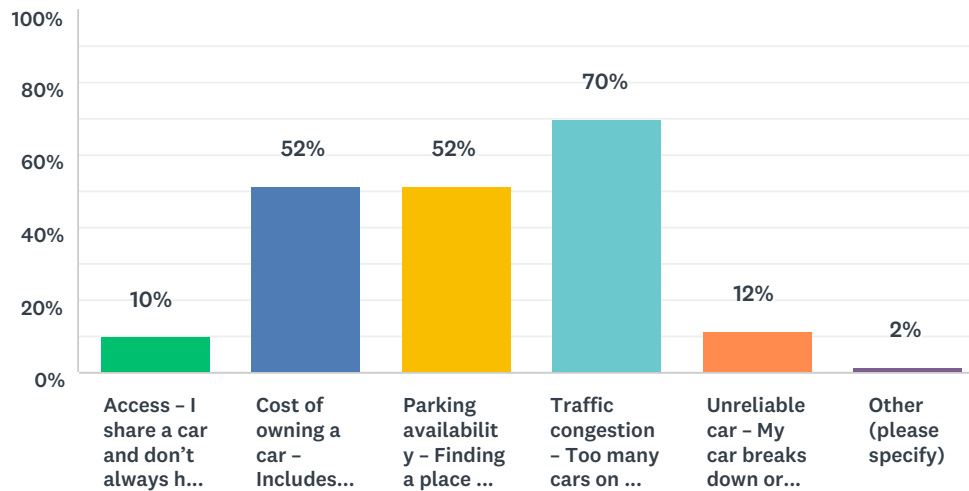


ANSWER CHOICES	RESPONSES	
Bus/train too full – often there isn't room, or only standing room	49%	24
Difficult to manage with children/elderly	24%	12
Doesn't come on time	37%	18
Doesn't run often enough	20%	10
Fares are too expensive	20%	10
Nearest station is too far away	18%	9
Takes too long	33%	16
Too many connections	18%	9
Other (please specify)	4%	2
Total Respondents: 49		

#	OTHER (PLEASE SPECIFY)	DATE
1	The dog	11/13/2018 7:21 PM
2	Waste most of the time waiting for the bus.	11/13/2018 1:32 PM

Q7 If you travel by car, what challenges do you face? (Select all that apply)

Answered: 60 Skipped: 5

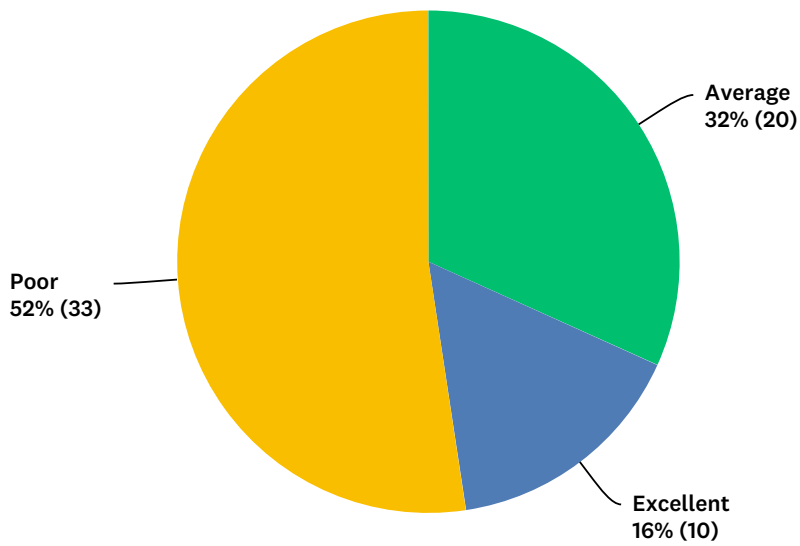


ANSWER CHOICES	RESPONSES	
Access – I share a car and don't always have access when I need it	10%	6
Cost of owning a car – Includes gas, insurance, maintenance, parking	52%	31
Parking availability – Finding a place to park the car	52%	31
Traffic congestion – Too many cars on the road and traffic moves slowly	70%	42
Unreliable car – My car breaks down or needs to be fixed	12%	7
Other (please specify)	2%	1
Total Respondents: 60		

#	OTHER (PLEASE SPECIFY)	DATE
1	Pay for parking	11/13/2018 1:32 PM

Q8 How much do you know about electric cars?

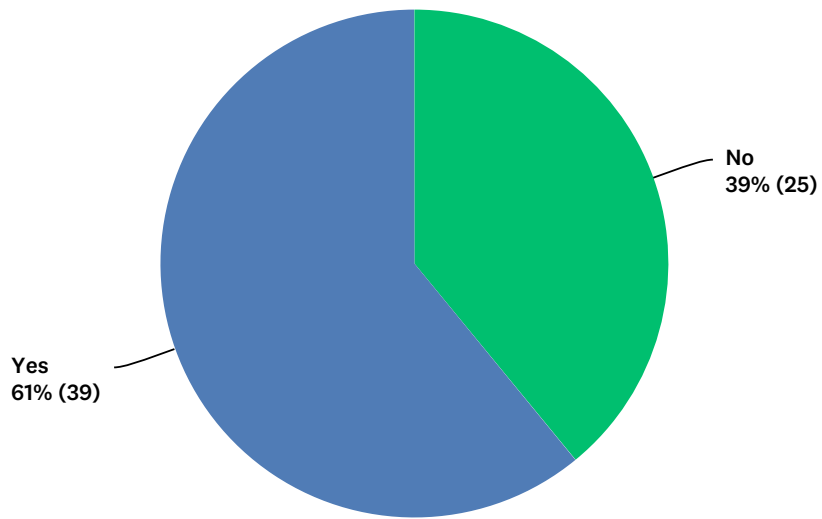
Answered: 63 Skipped: 2



ANSWER CHOICES	RESPONSES	
Average	32%	20
Excellent	16%	10
Poor	52%	33
TOTAL		63

Q9 Would you be comfortable driving an electric car?

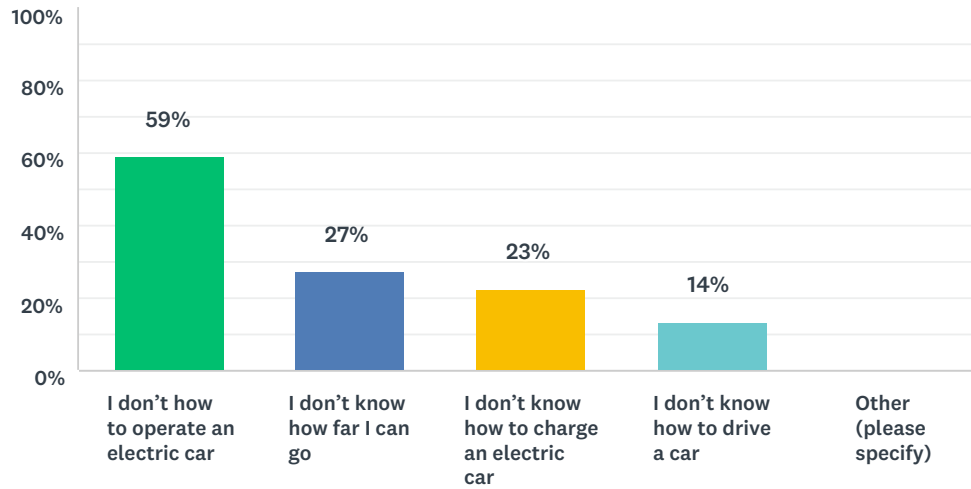
Answered: 64 Skipped: 1



ANSWER CHOICES	RESPONSES	
No	39%	25
Yes	61%	39
TOTAL		64

Q10 Why are you not comfortable driving an electric vehicle? (Select all that apply)

Answered: 22 Skipped: 43

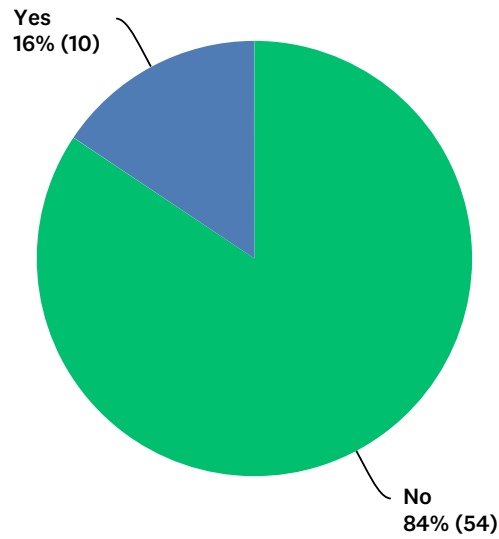


ANSWER CHOICES	RESPONSES	
I don't how to operate an electric car	59%	13
I don't know how far I can go	27%	6
I don't know how to charge an electric car	23%	5
I don't know how to drive a car	14%	3
Other (please specify)	0%	0
Total Respondents: 22		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q11 Have you ever used a car-sharing service?

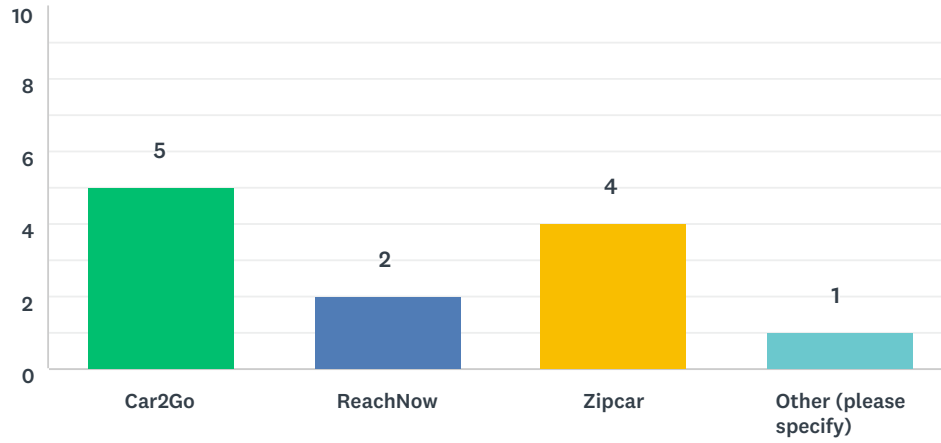
Answered: 64 Skipped: 1



ANSWER CHOICES	RESPONSES	
No	84%	54
Yes	16%	10
TOTAL		64

Q12 Which car-sharing service have you used?

Answered: 9 Skipped: 56

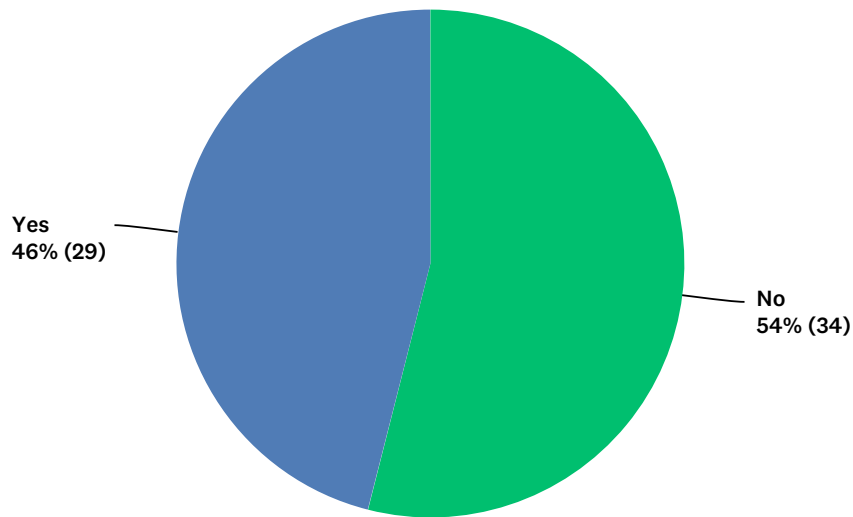


ANSWER CHOICES	RESPONSES
Car2Go	56% 5
ReachNow	22% 2
Zipcar	44% 4
Other (please specify)	11% 1
Total Respondents: 9	

#	OTHER (PLEASE SPECIFY)	DATE
1	Taxi, Yellow Cab	11/10/2018 9:23 AM

Q13 Would you use a car-sharing service if it was close by?

Answered: 63 Skipped: 2



ANSWER CHOICES	RESPONSES	
No	54%	34
Yes	46%	29
TOTAL		63

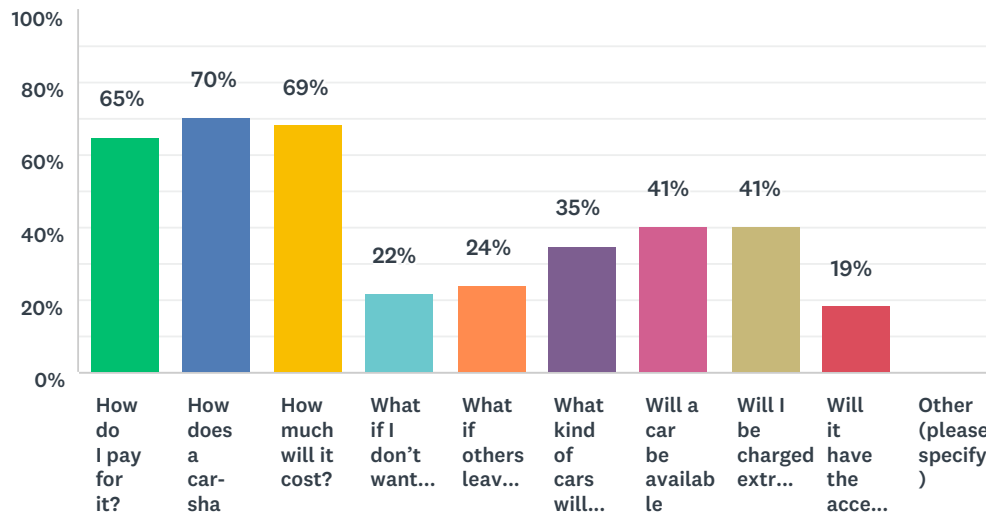
#	WHY OR WHY NOT?	DATE
1	I don't drive	11/13/2018 7:23 PM
2	No smart phone	11/13/2018 7:19 PM
3	I own my own car, So I would not need it.	11/13/2018 7:17 PM
4	I don't know	11/13/2018 7:16 PM
5	Don't drive much	11/13/2018 7:00 PM
6	I use yellow cab when I need, just make a call	11/13/2018 4:39 PM
7	No smartphone	11/13/2018 4:21 PM
8	No smartphone	11/13/2018 4:18 PM
9	Don't like sharing with others.	11/13/2018 4:10 PM
10	I own my own car, So I would not need it.	11/13/2018 4:05 PM
11	Do not drive	11/13/2018 2:23 PM
12	If it was cheaper	11/13/2018 2:22 PM
13	If it was cheaper	11/13/2018 2:19 PM
14	I don't want to share with other people.	11/13/2018 2:16 PM
15	Convenience	11/13/2018 2:07 PM
16	Convenience	11/13/2018 2:03 PM
17	I own my own car, So I would not need it.	11/13/2018 1:44 PM
18	I don't know much about it.	11/13/2018 1:38 PM

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19	I own my own car, So I would not need it.	11/13/2018 1:28 PM
20	Our family size is big.	11/13/2018 1:25 PM
21	You may not know what will happen to the vehicle.	11/13/2018 1:19 PM
22	Sounds interesting, don't have to own	11/13/2018 1:11 PM
23	I have my own car	11/11/2018 9:38 AM
24	I have reliable car	11/11/2018 9:36 AM
25	If affordable and lots of vehicles to choose from	11/11/2018 8:58 AM
26	I can't afford it	11/10/2018 9:23 AM
27	Convenience	11/10/2018 9:17 AM
28	I don't like sharing	11/10/2018 9:14 AM
29	I don't drive	11/10/2018 9:07 AM
30	The service only works if it's close by.	11/9/2018 11:16 AM
31	no smart phone, no driver's license	11/9/2018 11:13 AM
32	convenience	11/9/2018 11:10 AM
33	need to learn more about it	11/9/2018 11:02 AM
34	In case my car breaks and I need a second car	11/8/2018 2:12 PM
35	Sometimes my car needs services	11/8/2018 2:04 PM
36	My commute is 5 - 10 minutes	11/8/2018 2:01 PM
37	Then I don't have to worry about parking	11/8/2018 1:59 PM

Q14 What questions do you have about using a car-sharing service? (Select all that apply)

Answered: 54 Skipped: 11

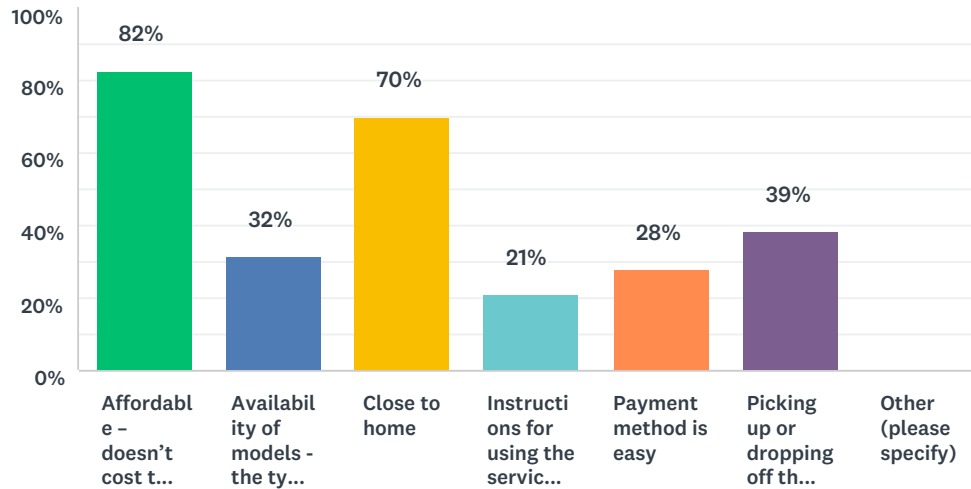


ANSWER CHOICES	RESPONSES	
How do I pay for it?	65%	35
How does a car-share service work?	70%	38
How much will it cost?	69%	37
What if I don't want to share a car with other people in my community?	22%	12
What if others leave the car messy?	24%	13
What kind of cars will be available? (Sedan, minivan, truck, etc.)	35%	19
Will a car be available when I need it?	41%	22
Will I be charged extra if I am late?	41%	22
Will it have the accessories I need? (Car seat, bike rack, cargo rack)	19%	10
Other (please specify)	0%	0
Total Respondents: 54		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q15 If you had a car-sharing service available, what are the most important features? (Select all that apply)

Answered: 57 Skipped: 8

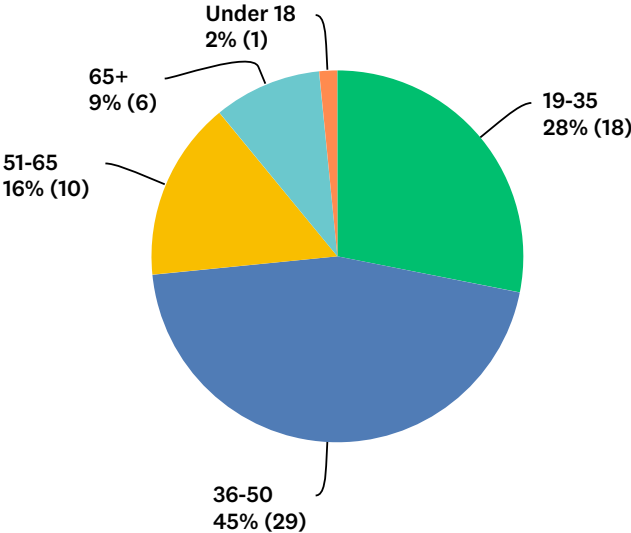


ANSWER CHOICES	RESPONSES	
Affordable – doesn't cost too much	82%	47
Availability of models - the type of car I need is available	32%	18
Close to home	70%	40
Instructions for using the service are translated into my language	21%	12
Payment method is easy	28%	16
Picking up or dropping off the car is easy	39%	22
Other (please specify)	0%	0
Total Respondents: 57		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q16 How old are you?

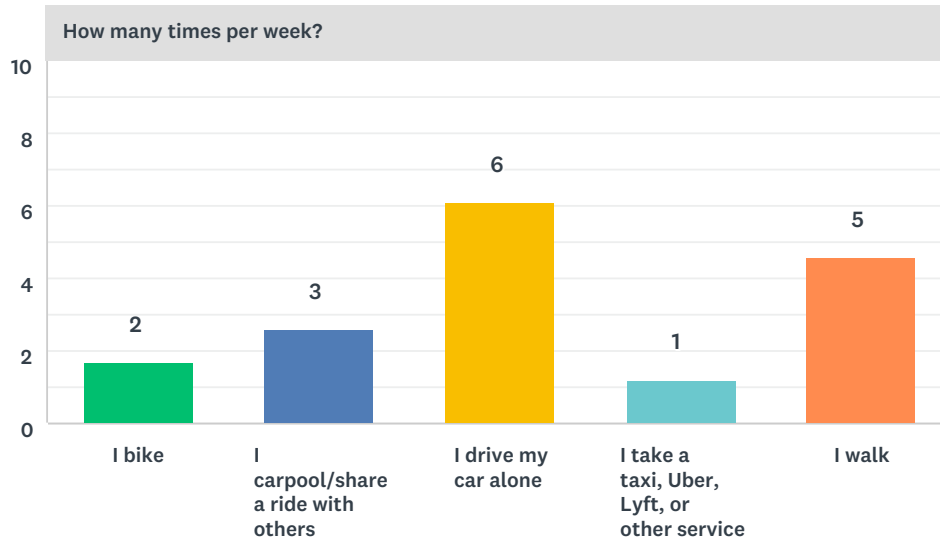
Answered: 64 Skipped: 1



ANSWER CHOICES	RESPONSES	
19-35	28%	18
36-50	45%	29
51-65	16%	10
65+	9%	6
Under 18	2%	1
TOTAL		64

Q1 What is the most common way you move around?

Answered: 61 Skipped: 1



How many times per week?									
	0	1	2	3	4	5	6	7	TOTAL
I bike	78.95% 30	0.00% 0	10.53% 4	2.63% 1	2.63% 1	2.63% 1	0.00% 0	2.63% 1	38
I carpool/share a ride with others	43.24% 16	13.51% 5	21.62% 8	5.41% 2	2.70% 1	8.11% 3	2.70% 1	2.70% 1	37
I drive my car alone	3.39% 2	1.69% 1	1.69% 1	11.86% 7	18.64% 11	20.34% 12	5.08% 3	37.29% 22	59
I take a taxi, Uber, Lyft, or other service	94.44% 34	0.00% 0	2.78% 1	0.00% 0	0.00% 0	2.78% 1	0.00% 0	0.00% 0	36
I walk	14.89% 7	10.64% 5	6.38% 3	19.15% 9	8.51% 4	19.15% 9	0.00% 0	21.28% 10	47

#	OTHER (PLEASE SPECIFY AND HOW OFTEN)	DATE
1	I use a wheelchair or scooter to go to and from town. 3 - 4 times per week.	11/1/2018 8:53 AM
2	Work form home so only drive for client meetings	11/1/2018 5:45 AM
3	I do occasionally carpool, especially if a group is attending event miles away but not enough to change weekly average. I do walk to my work on occasion but not enough to change average, which is really closer to 6.5 x per week.	10/31/2018 3:08 AM
4	Motorcycle. Weather permitting.	10/30/2018 6:09 PM
5	would bike if it was safer would take a bus to ferry or work, if available	10/30/2018 5:13 PM
6	None	10/30/2018 2:22 PM
7	sometimes i hitchhike or pick up hitchhikers if i have my car	10/30/2018 12:50 PM
8	Bike 3/week	10/30/2018 11:35 AM
9	Utility scooter. Use it for shopping and getti gmail.	10/30/2018 11:05 AM
10	I would take a taxi service more often if I lived in a city.	10/30/2018 10:51 AM

Q2 How many cars, trucks, vans, or motorcycles are available in your household for you to use?

Answered: 62 Skipped: 0

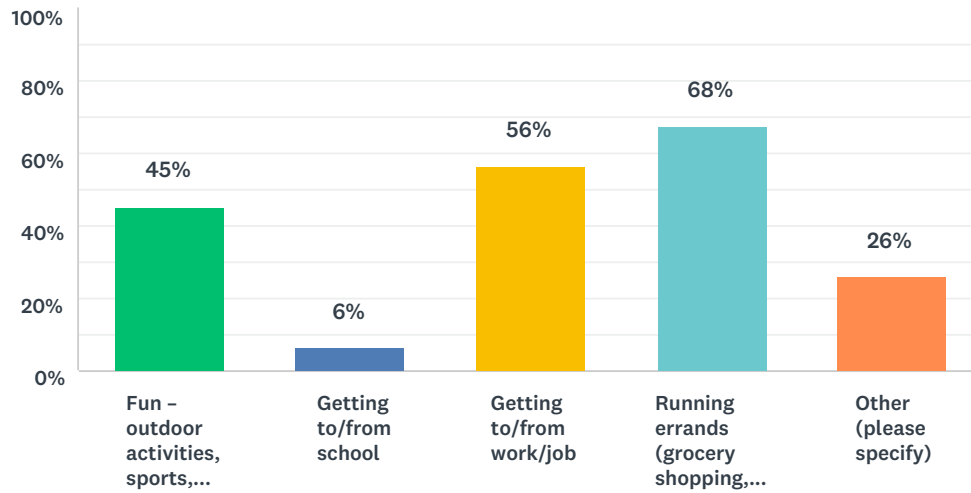
#	RESPONSES	DATE
1	1	11/12/2018 10:51 AM
2	one	11/5/2018 10:10 PM
3	1	11/5/2018 9:40 PM
4	1	11/4/2018 8:19 PM
5	1	11/3/2018 10:25 AM
6	2	11/1/2018 6:12 PM
7	1	11/1/2018 3:40 PM
8	1 car, one truck, two bikes for 2 people	11/1/2018 3:36 PM
9	one car	11/1/2018 10:43 AM
10	1	11/1/2018 9:36 AM
11	I no longer drive. I own a mobility van, with ramp, that allows me to be driven to town in inclement weather. Van also allows transportation to mainland.	11/1/2018 8:53 AM
12	1	11/1/2018 5:45 AM
13	Two	10/31/2018 9:29 PM
14	2	10/31/2018 7:33 PM
15	1	10/31/2018 12:46 PM
16	3	10/31/2018 11:12 AM
17	1	10/31/2018 9:41 AM
18	2	10/31/2018 7:23 AM
19	1	10/31/2018 3:08 AM
20	1	10/30/2018 10:17 PM
21	2	10/30/2018 9:58 PM
22	2	10/30/2018 8:41 PM
23	2	10/30/2018 8:11 PM
24	1 car	10/30/2018 7:43 PM
25	3	10/30/2018 7:11 PM
26	3	10/30/2018 6:36 PM
27	1	10/30/2018 6:28 PM
28	3	10/30/2018 6:09 PM
29	1	10/30/2018 5:13 PM
30	1	10/30/2018 3:53 PM
31	One	10/30/2018 2:59 PM
32	2	10/30/2018 2:54 PM
33	2	10/30/2018 2:54 PM

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34	1	10/30/2018 2:46 PM
35	2	10/30/2018 2:38 PM
36	One	10/30/2018 2:22 PM
37	1	10/30/2018 2:13 PM
38	2	10/30/2018 12:57 PM
39	1	10/30/2018 12:57 PM
40	2	10/30/2018 12:56 PM
41	1 - a 1985 toyota tercel. If that goes, I'll have no car.	10/30/2018 12:50 PM
42	2	10/30/2018 12:44 PM
43	1	10/30/2018 12:41 PM
44	2	10/30/2018 12:08 PM
45	2	10/30/2018 12:01 PM
46	1	10/30/2018 12:01 PM
47	1	10/30/2018 11:46 AM
48	one	10/30/2018 11:40 AM
49	1	10/30/2018 11:35 AM
50	one	10/30/2018 11:35 AM
51	3	10/30/2018 11:31 AM
52	2	10/30/2018 11:18 AM
53	2	10/30/2018 11:11 AM
54	none	10/30/2018 11:09 AM
55	One	10/30/2018 11:05 AM
56	1 car	10/30/2018 11:03 AM
57	8	10/30/2018 11:02 AM
58	3	10/30/2018 10:57 AM
59	1	10/30/2018 10:57 AM
60	1	10/30/2018 10:52 AM
61	2	10/30/2018 10:51 AM
62	2	10/30/2018 10:47 AM

Q3 When do you most need a car?

Answered: 62 Skipped: 0

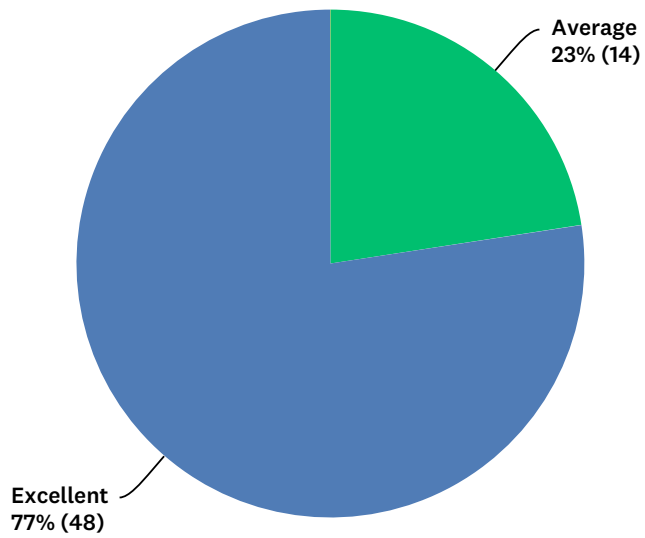


ANSWER CHOICES	RESPONSES	
Fun – outdoor activities, sports, meeting friends, going out to eat, etc.	45%	28
Getting to/from school	6%	4
Getting to/from work/job	56%	35
Running errands (grocery shopping, medical appointments, social services, taking family or kids places etc.)	68%	42
Other (please specify)	26%	16
Total Respondents: 62		

#	OTHER (PLEASE SPECIFY)	DATE
1	Going to Mainland	11/1/2018 3:36 PM
2	off Island- appointments & visiting family and friends	11/1/2018 10:43 AM
3	client meetings and gorceries	11/1/2018 5:45 AM
4	going off-island	10/30/2018 10:17 PM
5	visiting family	10/30/2018 7:11 PM
6	trailheads	10/30/2018 5:13 PM
7	Getting to yoga and Zumba class	10/30/2018 2:22 PM
8	Going off island	10/30/2018 2:13 PM
9	farming/gardening	10/30/2018 12:56 PM
10	going to my garden and hauling tools and plants, etc	10/30/2018 12:50 PM
11	To the ferry	10/30/2018 12:41 PM
12	to do my work	10/30/2018 12:01 PM
13	i dont drive	10/30/2018 11:09 AM
14	going to kingdom hall	10/30/2018 11:03 AM
15	I'm a car guy, it's in my blood	10/30/2018 11:02 AM
16	Volunteering	10/30/2018 10:57 AM

Q4 How well are your transportation needs met?

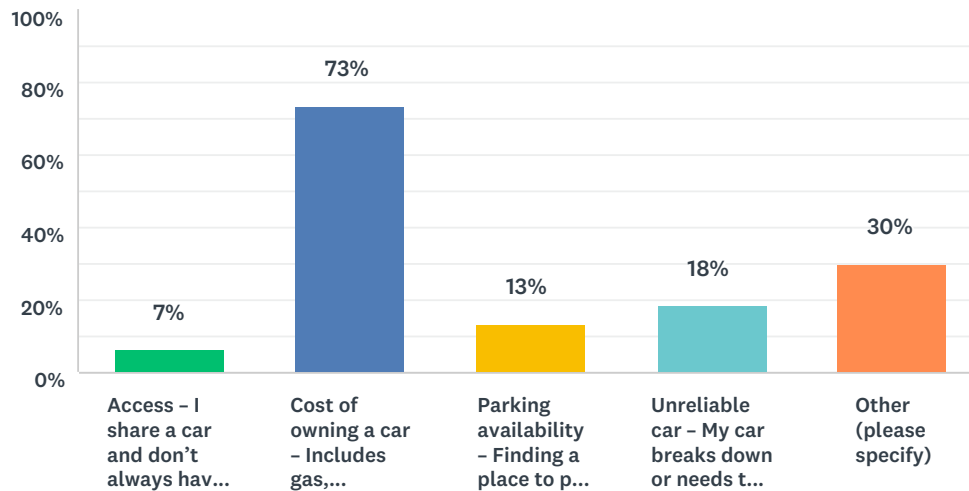
Answered: 62 Skipped: 0



ANSWER CHOICES	RESPONSES	
Average	23%	14
Excellent	77%	48
Poor	0%	0
TOTAL		62

Q5 If you travel by car, what challenges do you face? (Select all that apply)

Answered: 60 Skipped: 2



ANSWER CHOICES	RESPONSES	
Access – I share a car and don't always have access when I need it	7%	4
Cost of owning a car – Includes gas, insurance, maintenance, parking	73%	44
Parking availability – Finding a place to park the car	13%	8
Unreliable car – My car breaks down or needs to be fixed	18%	11
Other (please specify)	30%	18
Total Respondents: 60		

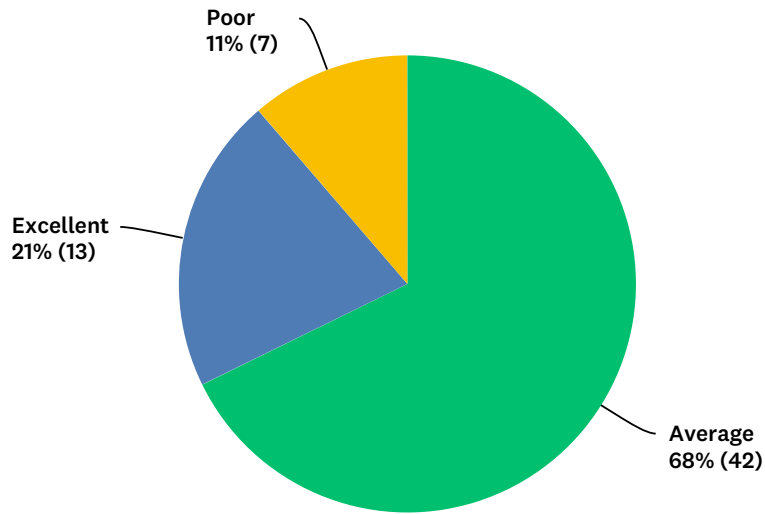
#	OTHER (PLEASE SPECIFY)	DATE
1	Access is the real issue--we share a car--but so far it hasn't been so difficult--we have just planned ahead	11/1/2018 3:40 PM
2	Parking outside is hard on the car surface and windows.	11/1/2018 3:36 PM
3	not environmentally healthy	11/1/2018 10:43 AM
4	My wheelchair prohibits travel by car. I can only travel in a vehicle that has a lift / ramp to transport a wheelchair.	11/1/2018 8:53 AM
5	I have an electric car and I can't travel as far due to charging restrictions	10/31/2018 7:33 PM
6	Gas is so expensive on the island!	10/31/2018 9:41 AM
7	I occasionally need a pickup truck but not often enough to maintain a second vehicle. Very occasionally parking challenges in Eastsound.	10/31/2018 3:08 AM
8	charging my electric car when I am off-island	10/30/2018 10:17 PM
9	n/a	10/30/2018 6:28 PM
10	guilt	10/30/2018 5:13 PM
11	I mostly walk.	10/30/2018 2:54 PM
12	No problems	10/30/2018 2:38 PM
13	I'm not happy with car pollution.	10/30/2018 2:22 PM

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14	I picked cost, no other choice ia accurate	10/30/2018 12:57 PM
15	pollution	10/30/2018 12:56 PM
16	my car is wonderfully reliable, but ancient (1985) and has a lot of miles and sometimes needs expensive repair work. It also will not get up most hills anymore so I haven't been able to go to the east side for at least 8 years. For now, I can still get to the ferry if I "gun it" on orcas hill (praying no police catch me!). My car has no "guts" on hills. The other issue is it's small so even if i can find parking in town (impossible in summer "peak" hours, I can't see around the monster trucks and cars, which has made me more at risk for accidents so I try not to drive at peak times in tourist season.	10/30/2018 12:50 PM
17	not happy with environmental impact	10/30/2018 11:35 AM
18	deciding which one to use	10/30/2018 11:02 AM

Q6 How much do you know about electric cars?

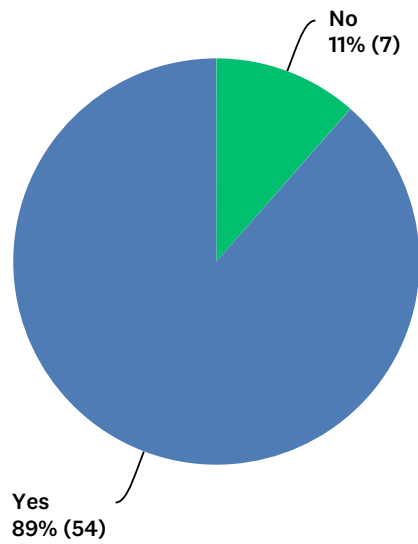
Answered: 62 Skipped: 0



ANSWER CHOICES	RESPONSES	
Average	68%	42
Excellent	21%	13
Poor	11%	7
TOTAL		62

Q7 Would you be comfortable driving an electric car?

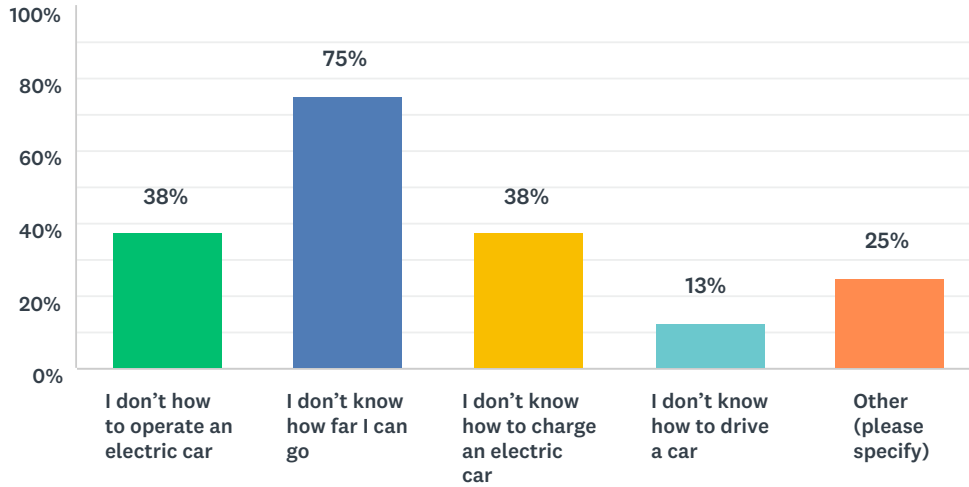
Answered: 61 Skipped: 1



ANSWER CHOICES	RESPONSES	
No	11%	7
Yes	89%	54
TOTAL		61

Q8 Why are you not comfortable driving an electric vehicle? (Select all that apply)

Answered: 8 Skipped: 54

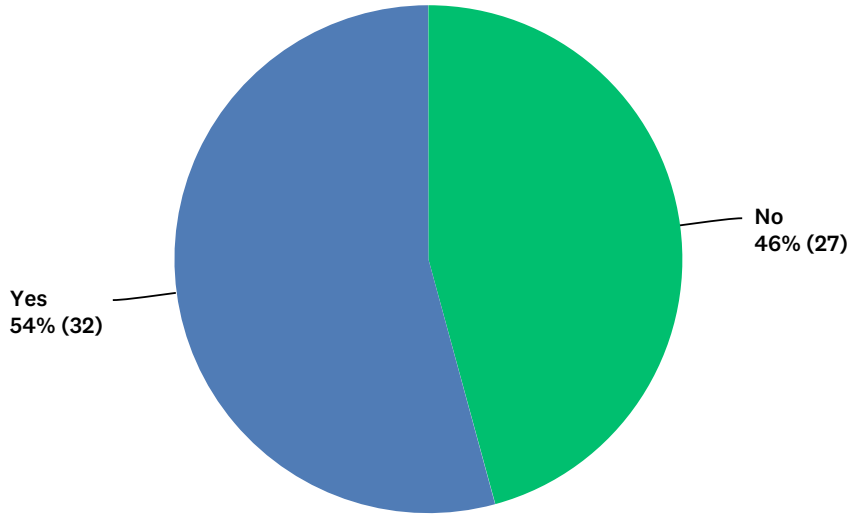


ANSWER CHOICES	RESPONSES	
I don't how to operate an electric car	38%	3
I don't know how far I can go	75%	6
I don't know how to charge an electric car	38%	3
I don't know how to drive a car	13%	1
Other (please specify)	25%	2
Total Respondents: 8		

#	OTHER (PLEASE SPECIFY)	DATE
1	My physical reflexes are no longer reliable, should I need to make a sudden turn, break fast, etcetera.	11/1/2018 8:59 AM
2	it would be prohibitively expensive and I am poor	10/30/2018 12:51 PM

Q9 Would you use a shared car (for a per mileage or per hour fee) if it was close by?

Answered: 59 Skipped: 3



ANSWER CHOICES	RESPONSES	
No	46%	27
Yes	54%	32
TOTAL		59

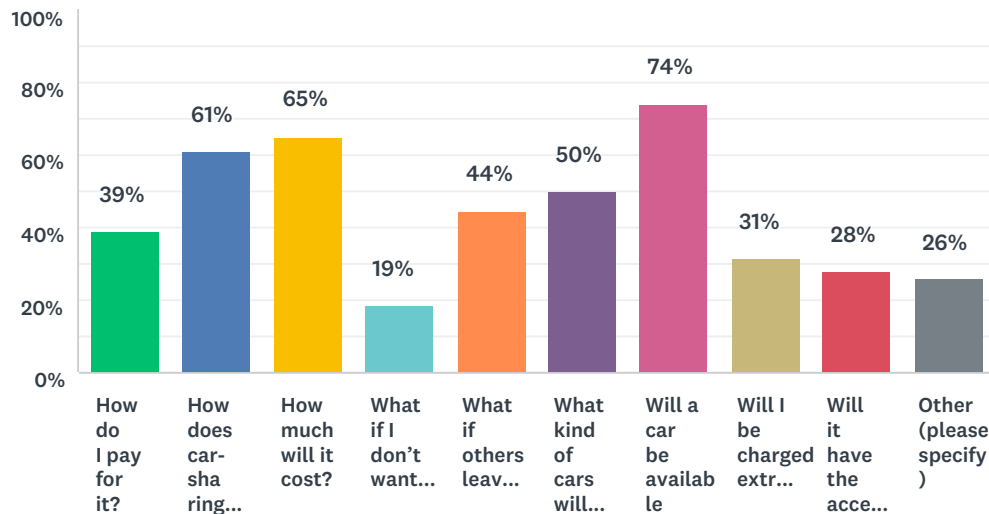
Q10 Why would you not use a shared car?

Answered: 27 Skipped: 35

#	RESPONSES	DATE
1	Because I own a car	11/5/2018 10:13 PM
2	i have a car	11/5/2018 9:42 PM
3	Already have a car.	11/4/2018 8:20 PM
4	Because I already have a car, I like the flexibility and freedom- not sure i would get rid of it-would need to try other, first, & am willing to. Would have to plan ahead more. Would love if sharing works!	11/1/2018 11:00 AM
5	I use my car so little and mostly go to visit family	10/31/2018 7:35 PM
6	Prefer my independence	10/31/2018 9:42 AM
7	It could prevent me from getting to a job.	10/31/2018 7:27 AM
8	I have a set schedule plus I need to come home for lunch	10/30/2018 8:15 PM
9	I might not get to use it when I need it.	10/30/2018 7:46 PM
10	I already own 3 cars	10/30/2018 6:37 PM
11	not available when needed	10/30/2018 6:35 PM
12	Way too inconvenient for me.	10/30/2018 3:02 PM
13	I mostly walk everywhere	10/30/2018 2:55 PM
14	availability concerns	10/30/2018 2:49 PM
15	I like driving alone	10/30/2018 2:40 PM
16	I work in various site across the island. I create art pieces that are large. I carry tools and supplies regularly for work. I manage a mobile art business that pops up and rides in my car for 8 months of the year.	10/30/2018 1:01 PM
17	I would share but prefer to have my own transportation.	10/30/2018 1:00 PM
18	I need my car for Farmer,s Market to carry goods and displays.	10/30/2018 12:49 PM
19	Have kids. Too inconvenient with car seats and such.	10/30/2018 12:46 PM
20	Unsure of how that would work with having kids and scheduling	10/30/2018 12:11 PM
21	need to move large things in my vehicle.	10/30/2018 12:03 PM
22	unceertain	10/30/2018 11:33 AM
23	Convenience	10/30/2018 11:07 AM
24	'Cause I have 8 of my own	10/30/2018 11:06 AM
25	Inconvenient	10/30/2018 11:01 AM
26	Dont need it as of now. Afraid it would be dirty, no gass, people smoking in it.	10/30/2018 10:54 AM
27	I have a car.	10/30/2018 10:53 AM

Q11 What questions do you have about using a shared car? (Select all that apply)

Answered: 54 Skipped: 8



ANSWER CHOICES	RESPONSES	
How do I pay for it?	39%	21
How does car-sharing work?	61%	33
How much will it cost?	65%	35
What if I don't want to share a car with other people in my community?	19%	10
What if others leave the car messy?	44%	24
What kind of cars will be available? (Sedan, minivan, truck, etc.)	50%	27
Will a car be available when I need it?	74%	40
Will I be charged extra if I am late?	31%	17
Will it have the accessories I need? (Car seat, bike rack, cargo rack)	28%	15
Other (please specify)	26%	14
Total Respondents: 54		

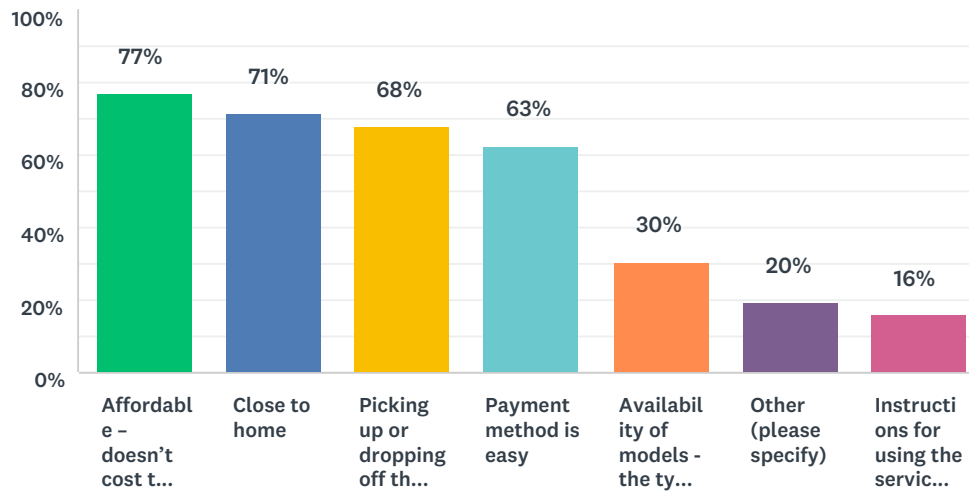
#	OTHER (PLEASE SPECIFY)	DATE
1	Would I be able to use this for trips to the Mainland?	11/1/2018 11:00 AM
2	I'm not interested in sharing a car	10/31/2018 9:42 AM
3	For my needs it would have to be a truck. Most of the time, I don't need a truck.	10/31/2018 7:27 AM
4	Who provides the car?	10/30/2018 8:15 PM
5	how close will it be to my residence?	10/30/2018 6:35 PM
6	all of above	10/30/2018 5:15 PM
7	can it be reserved for particular times?	10/30/2018 3:54 PM
8	I have no questions. It would be unacceptable to me.	10/30/2018 3:02 PM
9	I love the idea. Let's,do,it!	10/30/2018 2:24 PM

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10	Why are these questions being asked? Who covers the insurance? How many people would share the car? What if someone else is a bad driver and does something to hurt the engine or whatever - how would you prove who did that? ETC	10/30/2018 12:54 PM
11	Would it be available for several days? (Off island trips.)	10/30/2018 12:49 PM
12	Would electric cars be available?	10/30/2018 11:21 AM
13	I'm independent & possessive	10/30/2018 11:06 AM
14	No question	10/30/2018 11:01 AM

Q12 If you had car-sharing available, what are the most important features? (Select all that apply)

Answered: 56 Skipped: 6

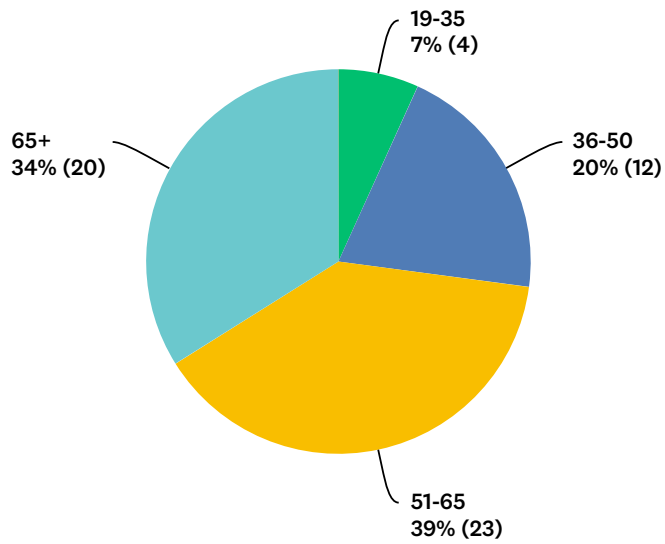


ANSWER CHOICES	RESPONSES	
Affordable – doesn't cost too much	77%	43
Close to home	71%	40
Picking up or dropping off the car is easy	68%	38
Payment method is easy	63%	35
Availability of models - the type of car I need is available	30%	17
Other (please specify)	20%	11
Instructions for using the service are translated into my language	16%	9
Total Respondents: 56		

#	OTHER (PLEASE SPECIFY)	DATE
1	Others might not be conscientious, on time, dependable, clean, etc.	11/1/2018 11:00 AM
2	Not interested	10/31/2018 9:42 AM
3	Who buys the gas if I am paying a fee to use it?	10/30/2018 8:15 PM
4	A car is available when I need one.	10/30/2018 7:46 PM
5	ecosmart	10/30/2018 5:15 PM
6	Am not interested in car sharing.	10/30/2018 3:02 PM
7	Just keep it simple and flowing easy.	10/30/2018 2:24 PM
8	How does time figure in if I need a car to stay with me all day?	10/30/2018 1:01 PM
9	farming/gardening vehicle	10/30/2018 12:57 PM
10	insurance and liability issues are clear and someone won't be held accountable for something that someone else did to the car.	10/30/2018 12:54 PM
11	To always have it available	10/30/2018 11:01 AM

Q13 How old are you?

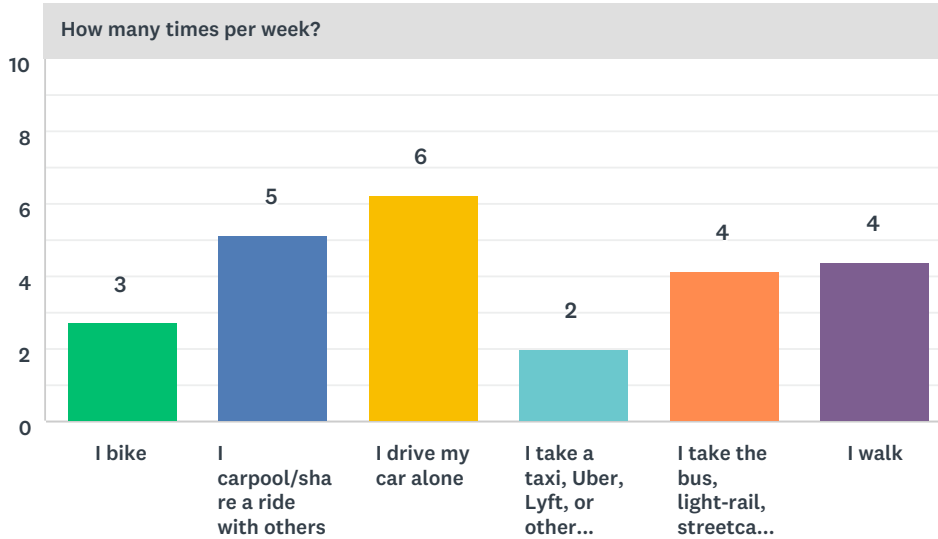
Answered: 59 Skipped: 3



ANSWER CHOICES	RESPONSES	
19-35	7%	4
36-50	20%	12
51-65	39%	23
65+	34%	20
Under 18	0%	0
TOTAL		59

Q1 What is the most common way you move around?

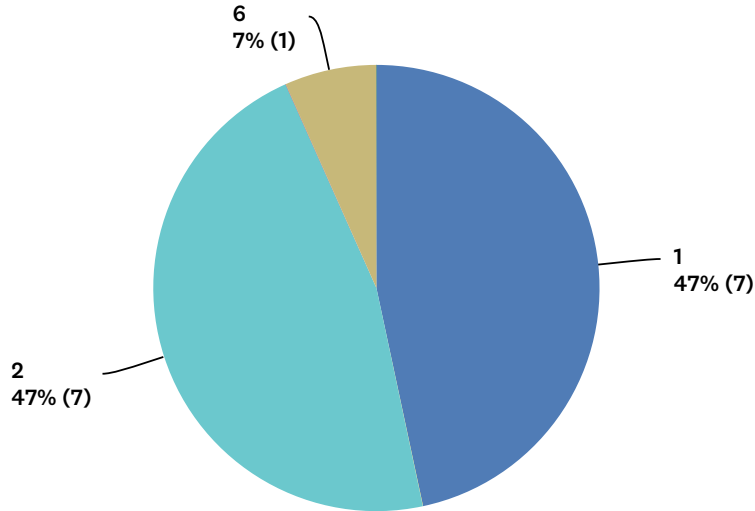
Answered: 15 Skipped: 0



How many times per week?												
	0	1	2	3	4	5	6	7	8	9	10	TOTAL
I bike	25% 1	25% 1	0% 0	50% 2	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	4
I carpool/share a ride with others	0% 0	17% 1	33% 2	0% 0	0% 0	33% 2	0% 0	0% 0	0% 0	0% 0	17% 1	6
I drive my car alone	0% 0	8% 1	0% 0	15% 2	15% 2	23% 3	0% 0	31% 4	0% 0	0% 0	8% 1	13
I take a taxi, Uber, Lyft, or other service	17% 1	67% 4	17% 1	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	6
I take the bus, light-rail, streetcar, train, etc. (public transit)	17% 1	33% 2	17% 1	0% 0	0% 0	17% 1	0% 0	0% 0	0% 0	0% 0	17% 1	6
I walk	0% 0	25% 2	25% 2	0% 0	13% 1	25% 2	0% 0	13% 1	0% 0	0% 0	0% 0	8

Q2 How many cars, trucks, vans, or motorcycles are available in your household for you to use?

Answered: 15 Skipped: 0

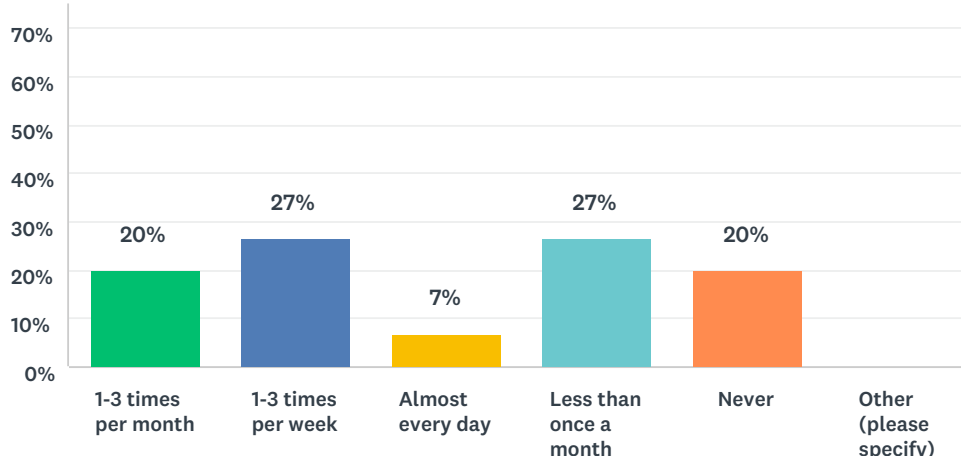


ANSWER CHOICES	RESPONSES	
0	0%	0
1	47%	7
10 or more	0%	0
2	47%	7
3	0%	0
4	0%	0
5	0%	0
6	7%	1
7	0%	0
8	0%	0
Other (please specify)	0%	0
TOTAL		15

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q3 How often do you travel more than 50 miles per day?

Answered: 15 Skipped: 0

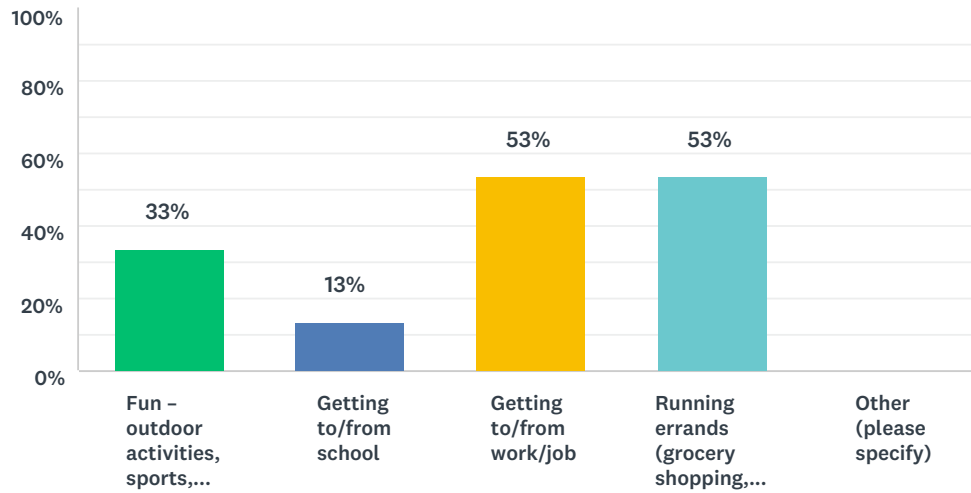


ANSWER CHOICES	RESPONSES	
1-3 times per month	20%	3
1-3 times per week	27%	4
Almost every day	7%	1
Less than once a month	27%	4
Never	20%	3
Other (please specify)	0%	0
TOTAL		15

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q4 When do you most need a car?

Answered: 15 Skipped: 0

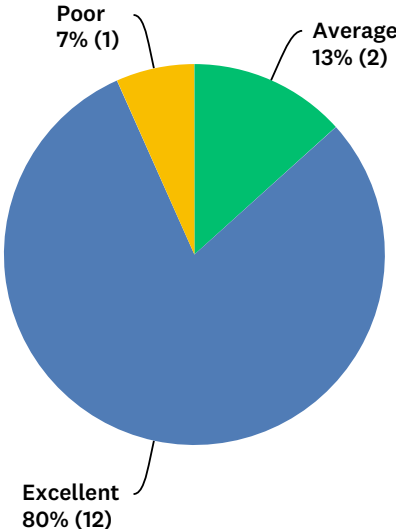


ANSWER CHOICES	RESPONSES	
Fun – outdoor activities, sports, meeting friends, going out to eat, etc.	33%	5
Getting to/from school	13%	2
Getting to/from work/job	53%	8
Running errands (grocery shopping, medical appointments, social services, taking family or kids places etc.)	53%	8
Other (please specify)	0%	0
Total Respondents: 15		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q5 How well are your transportation needs met?

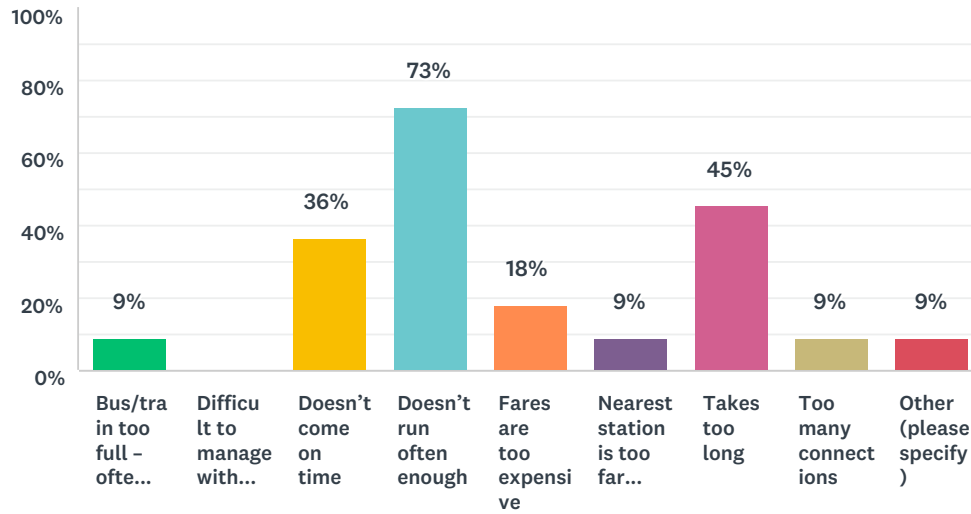
Answered: 15 Skipped: 0



ANSWER CHOICES	RESPONSES	
Average	13%	2
Excellent	80%	12
Poor	7%	1
TOTAL		15

Q6 If you travel by public transportation, what are your biggest challenges? (Select all that apply)

Answered: 11 Skipped: 4

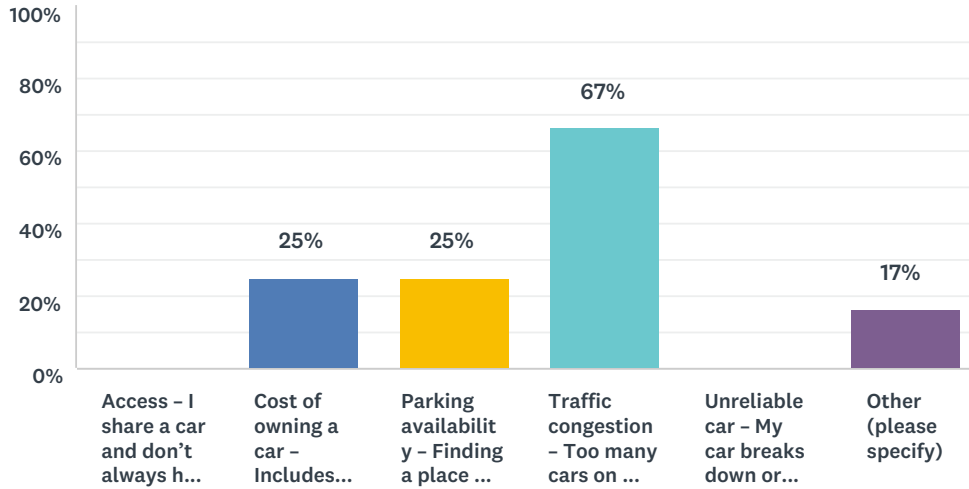


ANSWER CHOICES	RESPONSES	
Bus/train too full – often there isn't room, or only standing room	9%	1
Difficult to manage with children/elderly	0%	0
Doesn't come on time	36%	4
Doesn't run often enough	73%	8
Fares are too expensive	18%	2
Nearest station is too far away	9%	1
Takes too long	45%	5
Too many connections	9%	1
Other (please specify)	9%	1
Total Respondents: 11		

#	OTHER (PLEASE SPECIFY)	DATE
1	I wish nothing more than a good public transit	11/8/2018 9:22 AM

Q7 If you travel by car, what challenges do you face? (Select all that apply)

Answered: 12 Skipped: 3

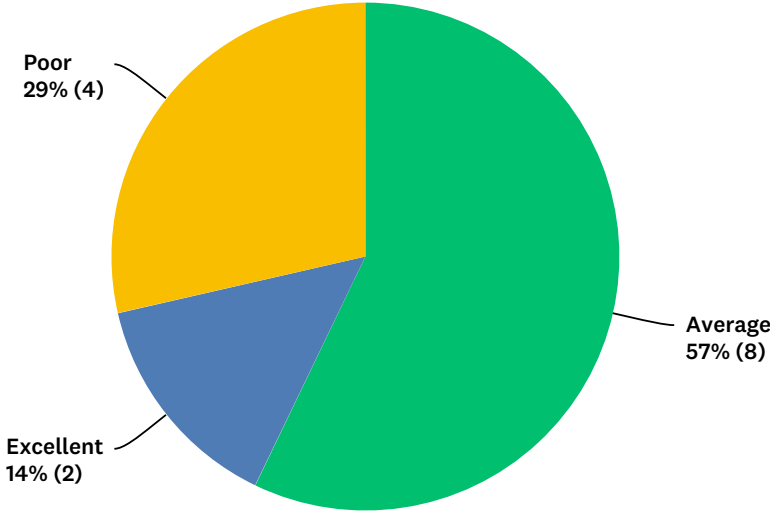


ANSWER CHOICES	RESPONSES	
Access – I share a car and don't always have access when I need it	0%	0
Cost of owning a car – Includes gas, insurance, maintenance, parking	25%	3
Parking availability – Finding a place to park the car	25%	3
Traffic congestion – Too many cars on the road and traffic moves slowly	67%	8
Unreliable car – My car breaks down or needs to be fixed	0%	0
Other (please specify)	17%	2
Total Respondents: 12		

#	OTHER (PLEASE SPECIFY)	DATE
1	Avoiding bicycles	11/8/2018 9:26 AM
2	It is a pain to get my kids in and out of the car at each stop. Would love public transit.	11/8/2018 9:22 AM

Q8 How much do you know about electric cars?

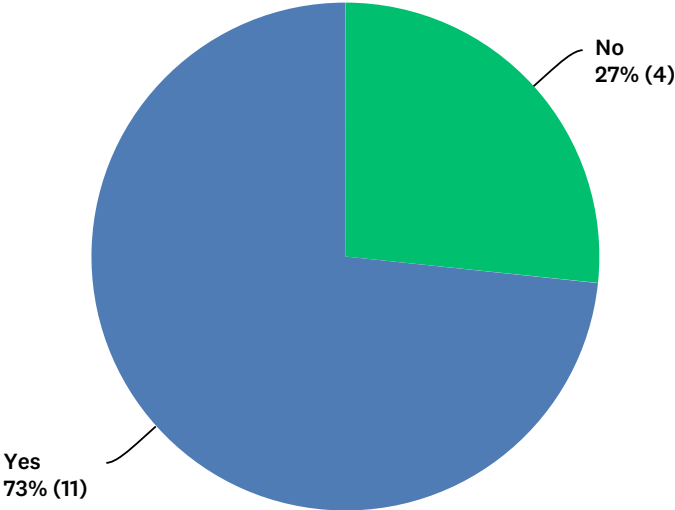
Answered: 14 Skipped: 1



ANSWER CHOICES	RESPONSES	
Average	57%	8
Excellent	14%	2
Poor	29%	4
TOTAL		14

Q9 Would you be comfortable driving an electric car?

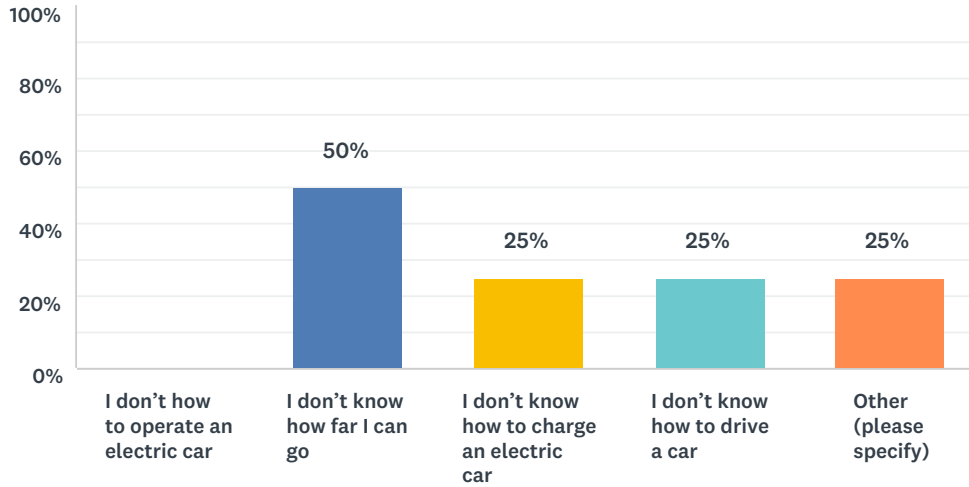
Answered: 15 Skipped: 0



ANSWER CHOICES	RESPONSES	
No	27%	4
Yes	73%	11
TOTAL		15

Q10 Why are you not comfortable driving an electric vehicle? (Select all that apply)

Answered: 4 Skipped: 11

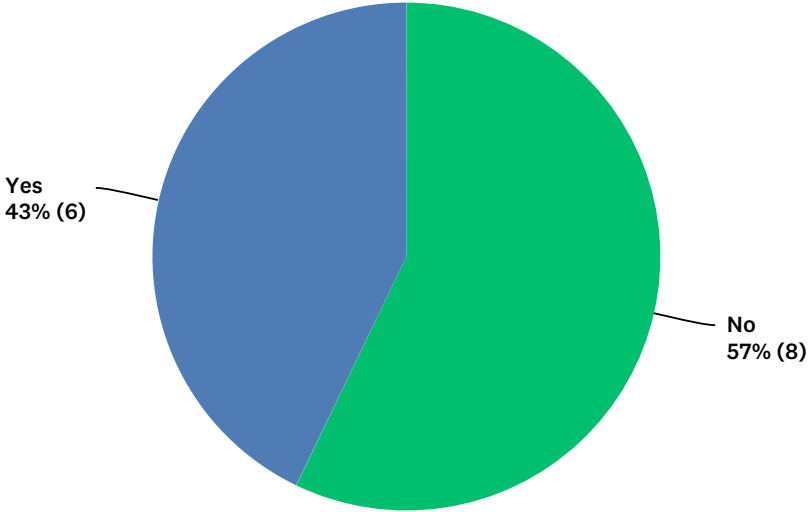


ANSWER CHOICES	RESPONSES	
I don't how to operate an electric car	0%	0
I don't know how far I can go	50%	2
I don't know how to charge an electric car	25%	1
I don't know how to drive a car	25%	1
Other (please specify)	25%	1
Total Respondents: 4		

#	OTHER (PLEASE SPECIFY)	DATE
1	How much does the car weigh? How often would they need to be charged?	11/8/2018 9:28 AM

Q11 Have you ever used a car-sharing service?

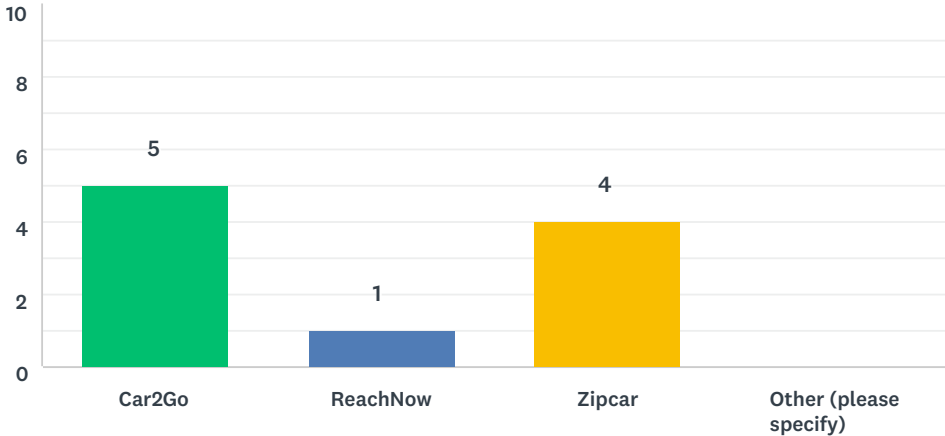
Answered: 14 Skipped: 1



ANSWER CHOICES	RESPONSES	
No	57%	8
Yes	43%	6
TOTAL		14

Q12 Which car-sharing service have you used?

Answered: 6 Skipped: 9

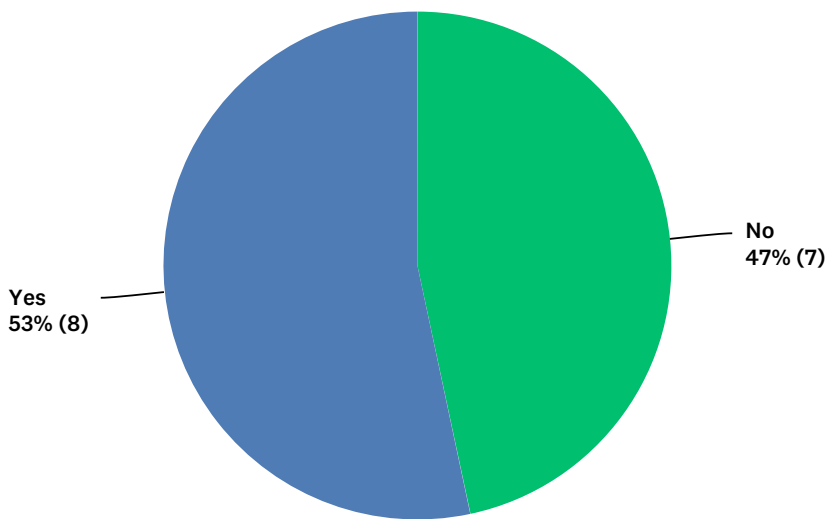


ANSWER CHOICES	RESPONSES	
Car2Go	83%	5
ReachNow	17%	1
Zipcar	67%	4
Other (please specify)	0%	0
Total Respondents: 6		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q13 Would you use a car-sharing service if it was close by?

Answered: 15 Skipped: 0

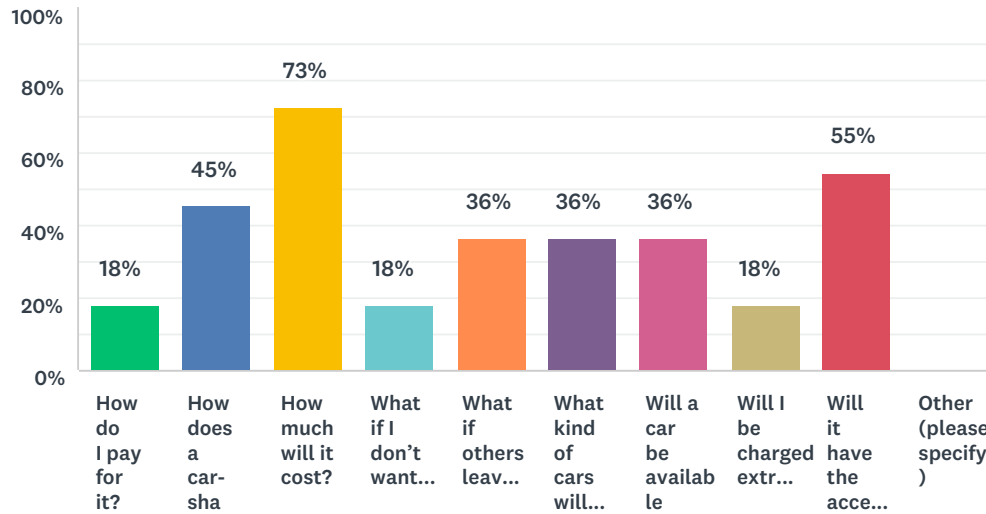


ANSWER CHOICES	RESPONSES	
No	47%	7
Yes	53%	8
TOTAL		15

#	WHY OR WHY NOT?	DATE
1	It would have to be available at 5:30 am and 4-4:30 pm	11/8/2018 9:52 AM
2	Not comfortable with "car-sharing"	11/8/2018 9:45 AM
3	Current household transportation needs are met, but open to the idea	11/8/2018 9:43 AM
4	In the future, yes. Currently, we have 2 cars	11/8/2018 9:34 AM
5	It might not be available when I need it.	11/8/2018 9:30 AM
6	Pricey, child seat	11/8/2018 9:23 AM
7	I have my own car	11/8/2018 9:20 AM

Q14 What questions do you have about using a car-sharing service? (Select all that apply)

Answered: 11 Skipped: 4

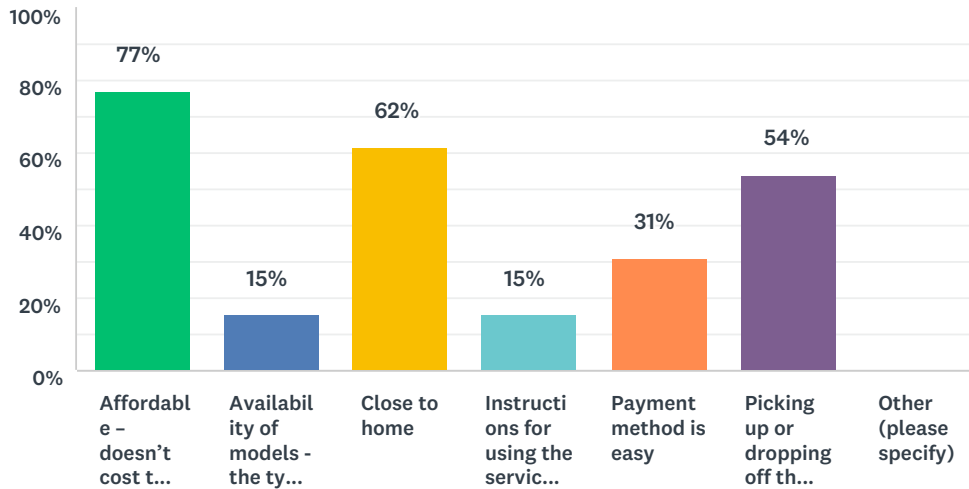


ANSWER CHOICES	RESPONSES	
How do I pay for it?	18%	2
How does a car-share service work?	45%	5
How much will it cost?	73%	8
What if I don't want to share a car with other people in my community?	18%	2
What if others leave the car messy?	36%	4
What kind of cars will be available? (Sedan, minivan, truck, etc.)	36%	4
Will a car be available when I need it?	36%	4
Will I be charged extra if I am late?	18%	2
Will it have the accessories I need? (Car seat, bike rack, cargo rack)	55%	6
Other (please specify)	0%	0
Total Respondents: 11		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q15 If you had a car-sharing service available, what are the most important features? (Select all that apply)

Answered: 13 Skipped: 2

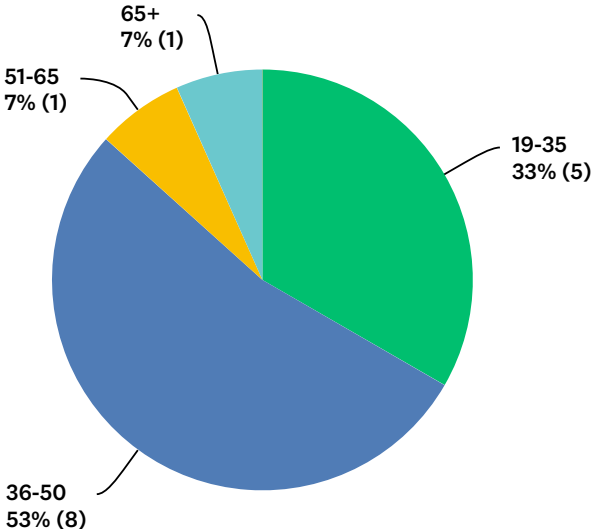


ANSWER CHOICES	RESPONSES	
Affordable – doesn't cost too much	77%	10
Availability of models - the type of car I need is available	15%	2
Close to home	62%	8
Instructions for using the service are translated into my language	15%	2
Payment method is easy	31%	4
Picking up or dropping off the car is easy	54%	7
Other (please specify)	0%	0
Total Respondents: 13		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q16 How old are you?

Answered: 15 Skipped: 0



ANSWER CHOICES	RESPONSES	
19-35	33%	5
36-50	53%	8
51-65	7%	1
65+	7%	1
Under 18	0%	0
TOTAL		15



SURVEY RESULTS – November 2018
 Grandview & Wiggums Park Place
 Mailed to 228 Households
 54 Returned Surveys - 24%



The **Puget Sound Clean Air Agency**, the Washington State Department of Transportation & the Everett Housing Authority would like to make transportation easier for people living in affordable housing. Your feedback will help us understand your day-to-day transportation needs and could lead to future funding to support more options in your neighborhood. **Please fill out this survey and return in the provided, postage paid envelope no later than November 6th.** *Thank you!*

1) Do you or an adult in your household have a valid Driver’s License: 41 - Yes 13 - No

2) Do you or an adult in your household have a vehicle now: 40 - Yes 14 - No

3) What is the most common way you move around?

Transportation Mode	
I drive my car alone	39
I carpool/share a ride with others	8
I take the bus, light-rail, streetcar, train, etc. (public transit)	14
I walk or bike	10
I take a taxi, Uber, Lyft, or other service	4
Other _____	5

4) When do you most need a car?

- Getting to/from school 16
- Getting to/from work 21
- Running errands (grocery shopping, medical appointments, social services, taking family/kids places/etc.) 42
- Fun – outdoor activities, sports, meeting friends, going out to eat, etc. 15
- Other: _____ 4

5) How well are your transportation needs met?

- Excellent – I can get where I need to go, when I need to go every time 29
- Average - I can get where I need to go, when I need to go sometimes 17
- Poor – It is hard to get where I need to go, when I need to go 4

6) Would you use a paid car-sharing service if it were available to you and was close by?

16 - Yes 35 - No

-or- Would you be willing to pay a flat monthly fee of around \$50? 7 - Yes No
 Would you be willing to pay about \$10 per hour? 7 - Yes No

7) If you travel by public transportation, what are your biggest challenges? (Select all that apply)

- Bus/train too full – often there isn’t room or only standing room 12
- Doesn’t come on time or takes too long to get to destination 19
- Doesn’t run often enough or too many connections 15
- Nearest bus stop or station is too far away 13
- Fares are too expensive 8
- Difficult to manage with children or elderly persons 15

High Point Mobility Survey Results

SHA administered a mobility survey among high point residents to assess the transportation needs of the community. The information gathered will inform the development of a carshare pilot in high point. The high point mobility survey was collected in person at the high point management office during rent week. We were able to collect a total of 48 surveys from tenants by the end of the week. The participants were randomly selected: we asked anyone who came into the High Point management office during rent week to fill out a survey.

Most of the survey respondents were female (73%) and 87% were between the ages of 19 and 55 (figure 1).

The majority of survey respondents are eligible to participate in a carshare pilot. All of the households have at least one adult, 93% of the participants have debit or credit cards, and 89% have smartphones (figure 2).

The majority of survey respondents use their own vehicle to get around (41 out of 48) and commute to work (34 out of 48). A significant amount also rely on the bus. Only one participant out of 48 uses carshare to get around, however 3 participants use rideshare to get around (figure 3).

75% of the respondents have a household income of \$30,000 or less. 20 out of 48 respondents spend \$90-\$250 per month on transportation costs, and an additional 15 out of 48 respondents spend over \$250 on transportation (figure 4).

High Point Mobility Survey Demographics (48 total participants)

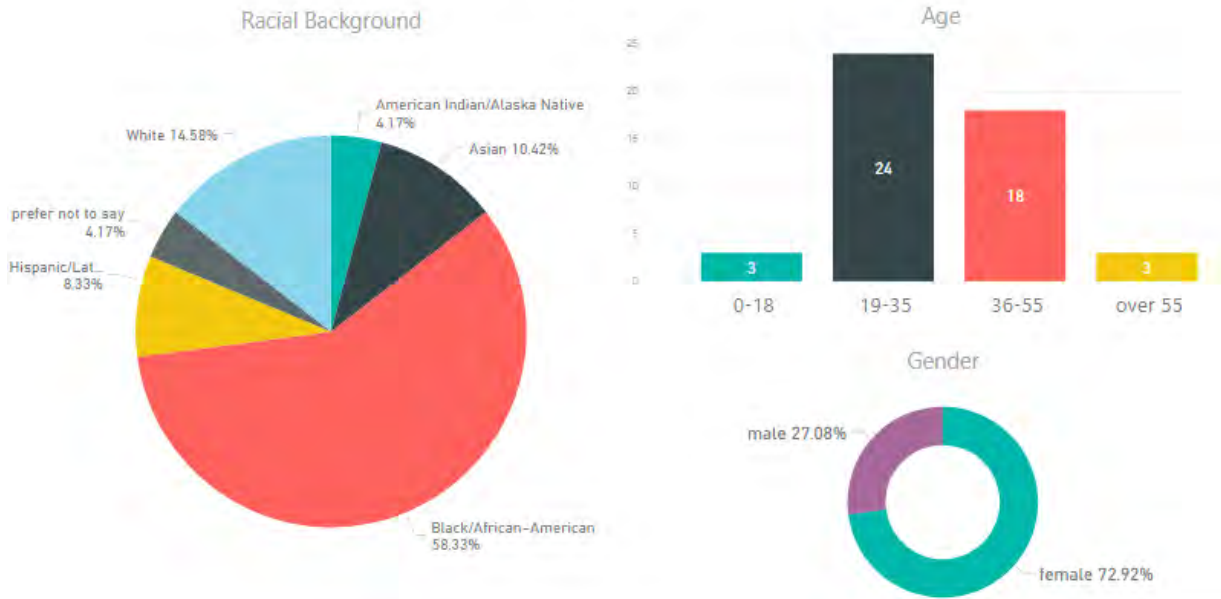


Figure 1

High Point Mobility Survey (48 total participants)

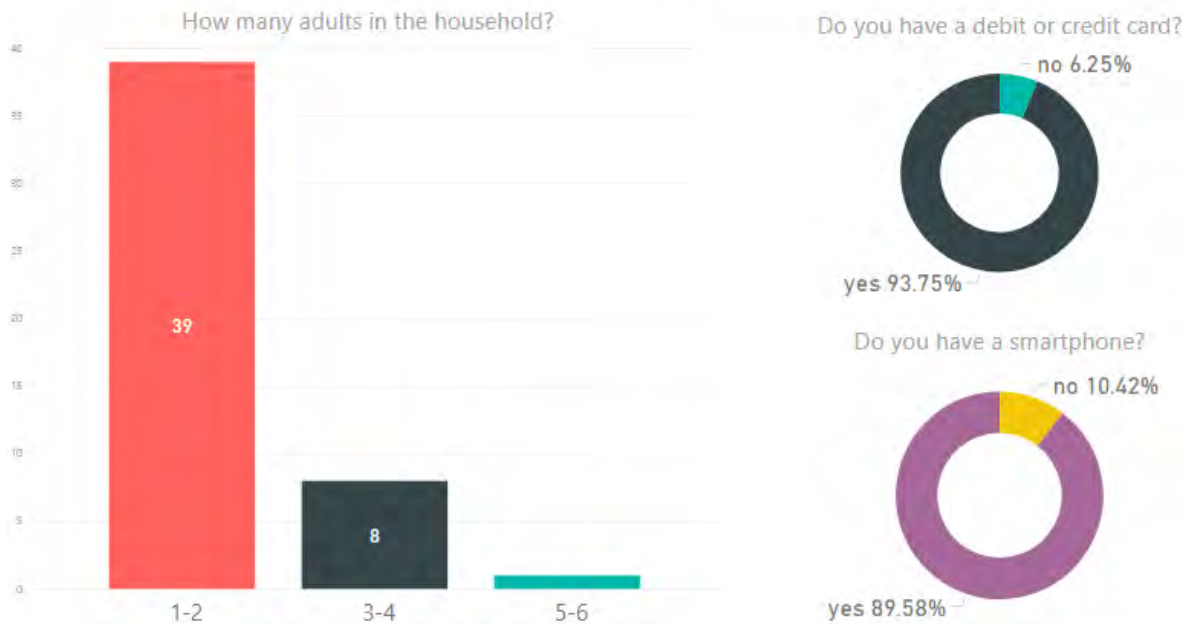


Figure 2

High Point Mobility Survey (48 total participants)

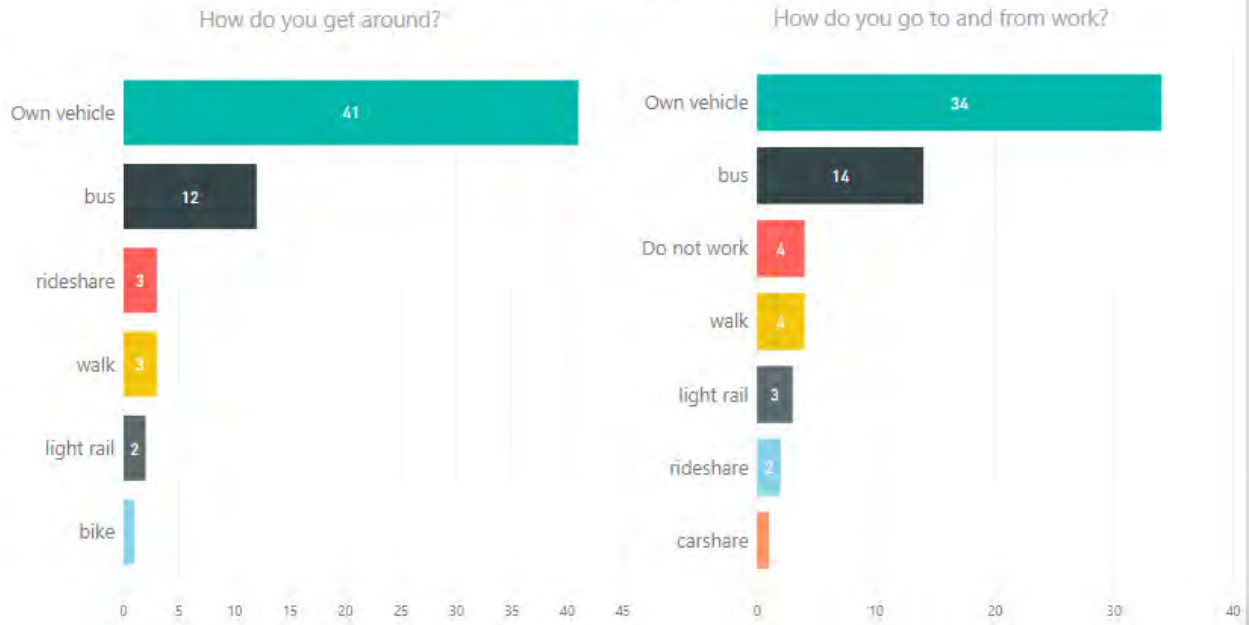


Figure 3

High Point Mobility Survey (48 total participants)

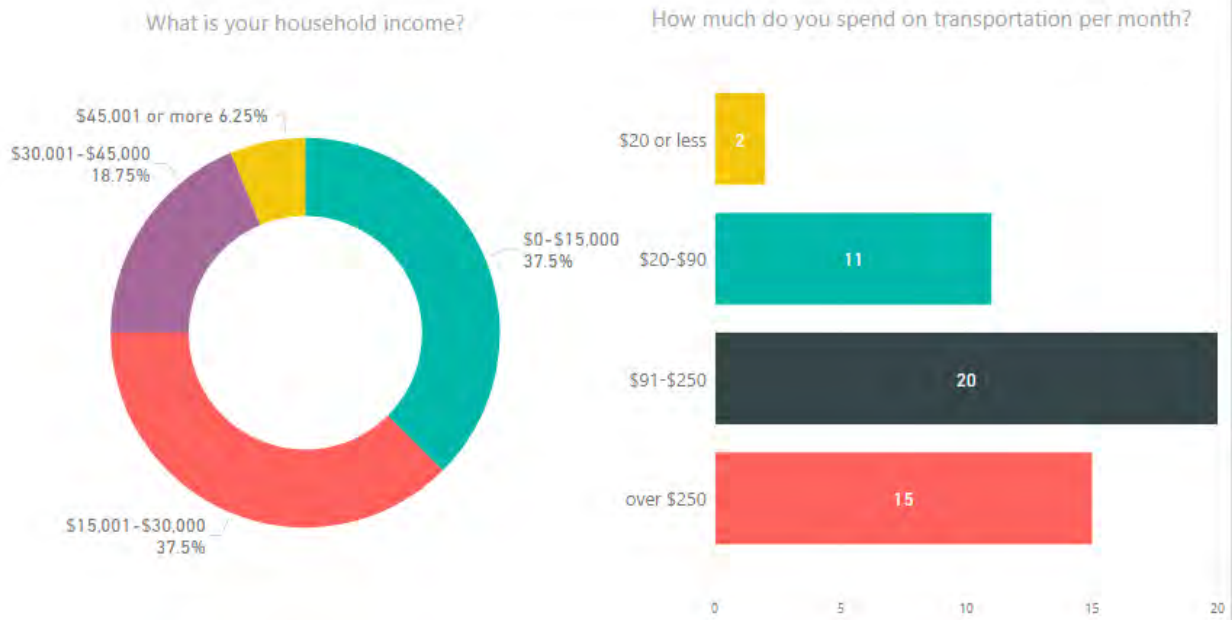


Figure 4

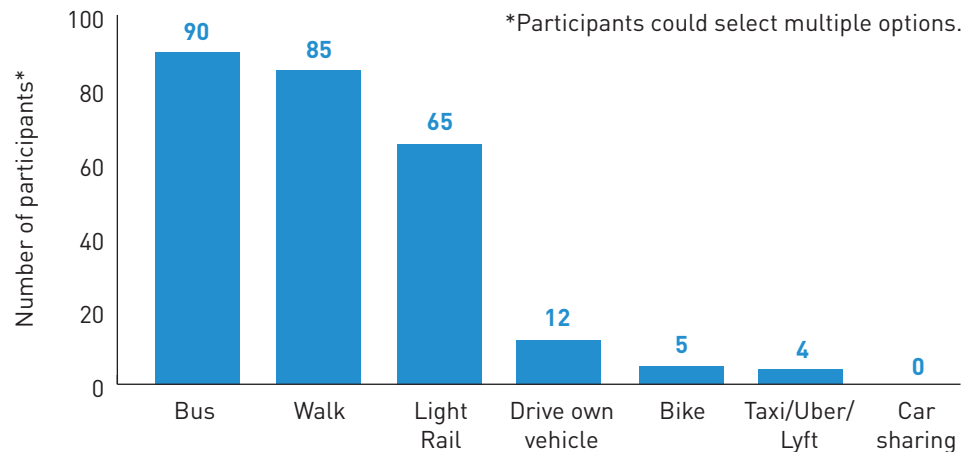
Go SEA! Mobility Fair Survey Results

- The Go SEA! Mobility Fair was on October 21, 2017 at Yesler Terrace Community Center.
- The event was hosted by the Seattle Department of Transportation in partnership with the Seattle Department of Neighborhoods, Seattle Housing Authority, and transportation providers.
- 250 participants attended to learn about affordable transportation options. 94 participants took the survey.
- Surveys were available in all languages represented and Community Liaisons offered interpretation support.

HOW PEOPLE GET AROUND

- Transit and walking are the way most people get around. 96% of participants said they take the bus.
- 66% of participants said they spend \$20-\$90 on transportation each month. 15% spend more than that.
- More than 70% of participants do not own a car.

How do you typically get around on a regular basis?

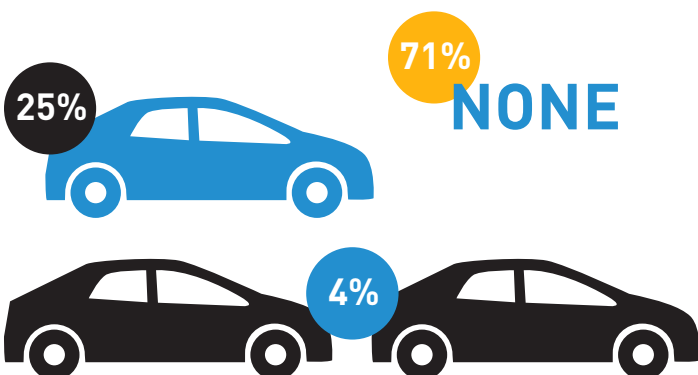


On average, how much do you spend on transportation each month?



Average Per Month	
Under \$20	16%
\$20-\$90	66%
\$91-\$250	5%
Over \$250	10%

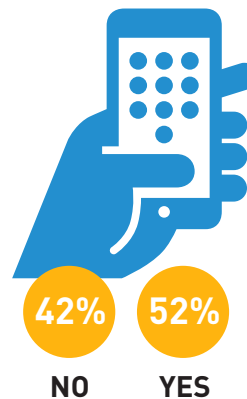
How many vehicles do you own in your household?



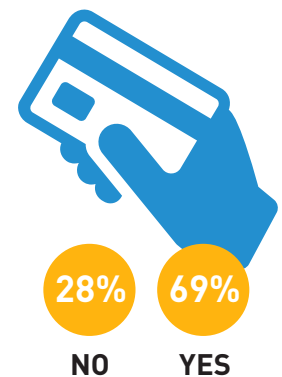
SMART PHONES & CREDIT CARDS

- A majority of participants said they have access to smart phones and credit/debit cards, but many do not.

Do you have access to a smart phone?



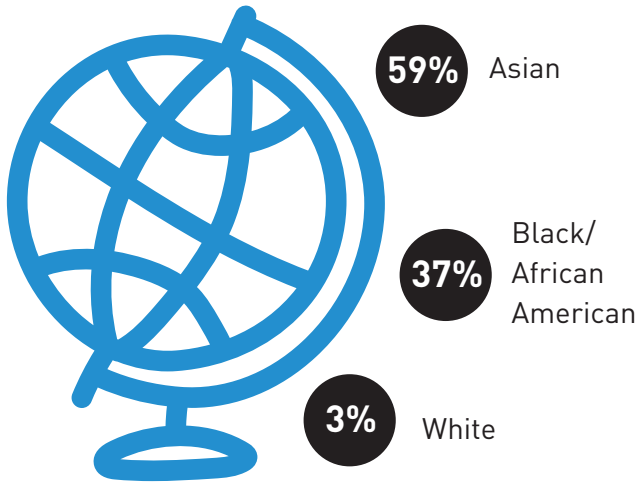
Do you have access to a credit or debit card?



Seattle
Department of
Transportation

DEMOGRAPHICS OF SURVEY TAKERS

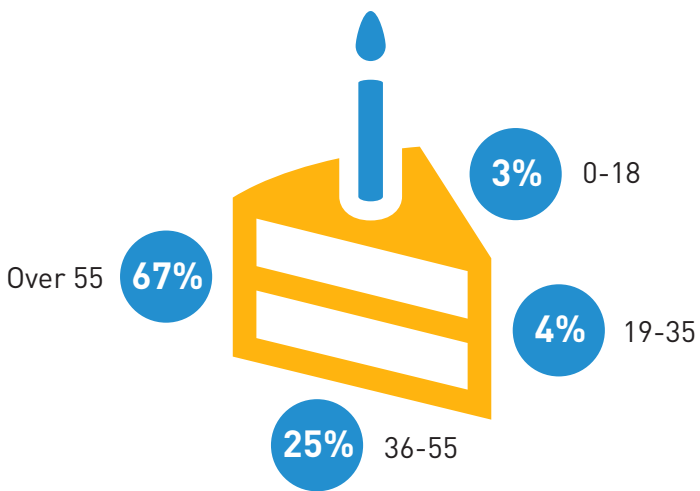
What is your race or ethnicity?



What is your gender?



What is your Age in years?



What is your annual household income?

