



Transportation Needs Assessment

A Qualitative and Quantitative Summary



Executive Summary: Key Findings

What are the most important takeaways from the needs assessment?

The goal of the project was to assess Sonoma and Mendocino county residents' transportation needs and burden to later design programs and policies that address the needs of communities. The following key takeaway points create a starting point for making that vision a reality by summarizing some of the most important takeaways from the research.

1

Universal car dependency with unequal impacts: There is a strong reliance on cars due to limited alternatives like biking or public transit. This issue hits lower-income families hardest, with most struggling to afford a car. Short trips under 5 miles, ideal for sustainable travel, continue to be made by cars due to inadequate infrastructure.

2

Alternative modes of transportation are used by half of the population: Although cars remain the predominant mode of transportation, 51% of residents make weekly trips that include an alternative transportation mode. These residents come from all walks of life and all backgrounds, illustrating how alternative modes of transportation are important to a majority of residents regardless of their income, race, or ethnicity.

3

Hispanic residents have notable differences in transportation patterns: The alternative modes of transportation Hispanic communities use are more varied and diversified compared to non-Hispanic participants. In particular, Hispanic respondents highlighted an increased use of biking and carpooling as secondary transportation modes, which goes beyond economic needs and reflects social or cultural values.

4

Public transit barriers are different for different populations, but universally experienced: Public transit users come from both high income and low income backgrounds, and have different types of barriers than non-users. However, the specific barriers faced by transit users are often determined by their income.

5

Safety and distance matter for active transportation: Distance is a larger barrier to active mobility for high income and rural residents, while safety was the top concern for Hispanic respondents and those that currently bike. Given that Hispanic participants in particular rely on biking more than the general population, addressing safety concerns is not only an equity priority, but also an immediate need.

6

Bike users have high levels of concern about biking infrastructure: Over half of bikers are unsatisfied with bike infrastructure, double the rate of non-bike users. Regular biker users feeling unsafe suggests deeper, unseen issues with bike safety that could deter others from biking and ultimately limit alternative transportation use.

7

Evidence suggests that the next generation of EV owners will be more reflective of women and Hispanic populations: While EV owners have many characteristics of early adopters, residents who are considering the purchase of an EV have higher shares of Hispanic representation and the majority are women. EV intenders are also the largest group of any vehicle intention category.

8

Divide in home charging access for EV intenders is a critical gap that will limit EV adoption: EV intenders have a significantly lower home charging access rate than EV owners and soon-to-be owners. Without charging rates parallel to EV owners, intenders are unlikely to make the transition to electric vehicles, slowing the adoption of these vehicles among a critical, new generation of EV owners.

1.1: Background

Setting the stage

1.1b: Community Partners and Organizational Background

An important component of the project focused on building a research plan that incorporated community voices. To achieve that end, EVNoire formalized partnerships with two organizations, NAACP of Santa Rosa and Sonoma County, as well as the North Bay Electric Auto Association; Bikeable Santa Rosa also joined the team coalition in late 2023. Together, the three organizations played a pivotal role in designing a research process that centered community voices.

NAACP

Santa Rosa - Sonoma County

North Bay Electric Auto Association

A chapter of the Electric Vehicle Association

The NAACP organization aims to eliminate racial discrimination and promote equality through political, educational, social, and economic means. Their vision includes achieving equality of rights, removing racial prejudice, eliminating discrimination barriers, advocating for civil rights laws, educating the public on the effects of discrimination, and enforcing constitutional rights.

The North Bay Electric Auto Association (NBEAA) is a chapter of the Electric Vehicle Association covering the North San Francisco Bay Area from Novato to Ukiah. As NBEAA have started hybrid meetings, more inclusion with members outside the area has begun. NBEAA follow EV trends locally and well beyond.



Bikeable Santa Rosa's mission is to catalyze the rapid completion of a safe and low-stress bicycle network connecting all neighborhoods in Santa Rosa. Using bikes for transportation is a healthy, eco-friendly, community-friendly option. With protected bike lanes, bike-safe intersection design, and other low-cost measures, the city can create bicycle routes that are safe and welcoming for users of all ages and abilities. A complete and connected network will allow people to get wherever they need to go in the city by bike.

1.1c: Disclaimer on Survey Limitations

- This Community Needs Assessment report has been prepared by EVNoire. The opinions, findings, and recommendations expressed herein are solely those of EVNoire and do not necessarily reflect the views of Sonoma Clean Power (SCP).
- The results may not be generalizable beyond SCP customers. The use of convenience sampling may not be representative of the broader population in terms of demographic characteristics. As such, any conclusions drawn from the survey should be made with awareness of potential bias (e.g., selection bias, sampling bias, response bias) introduced by the sampling approach

1.1: Introduction

Setting the stage

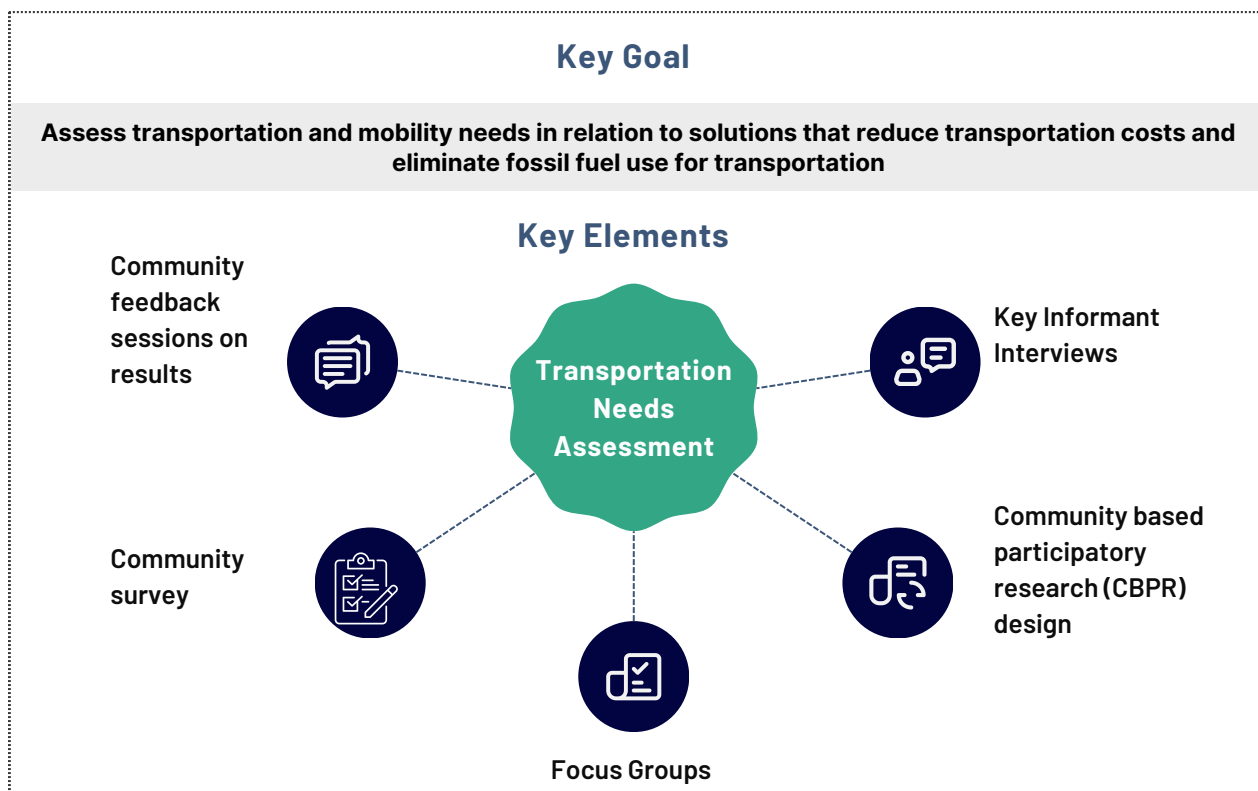
1.1a: Project Background



In July 2022, Sonoma Clean Power (SCP) began an effort to align its community programs more closely with the needs of its customers. SCP launched a series of community needs assessments across areas such as residential energy, agriculture, and transportation. The key question outlined by SCP for this assessment was: **"how can SCP develop programs and policies informed by current transportation needs?"**

SCP selected EVNoire to lead the transportation needs assessment, starting in November 2022. EVNoire proposed using innovative equity frameworks such as **EVNoire's equity model**, the community readiness model, and a demographic analysis framework for the project's research needs. The following figure summarizes the project's key goal and the key elements of EVNoire's proposal that successfully incorporated community voices into its design.

Figure 1: Key Goals and Key Elements of EVNoire's Proposal



1.2: Focus Group Design

An overview of the approach used in the **focus groups**

COMMUNITY READINESS: HOW WE ASSESSED CURRENT COMMUNITY CONDITIONS

EVNoire used the Community Readiness Model (CRM) 2nd Edition to inform the focus group design. The CRM is an evidence-based model that assesses a community's readiness to address an issue and matches **appropriate interventions** based on where the community stands. The model assesses five dimensions of readiness, including **community knowledge of the issue** and **efforts**, **community climate**, **leadership**, and **resources**. The following table outlines each stage, its associated attitude, and a recommended example of an intervention that would be appropriate.

Figure 2

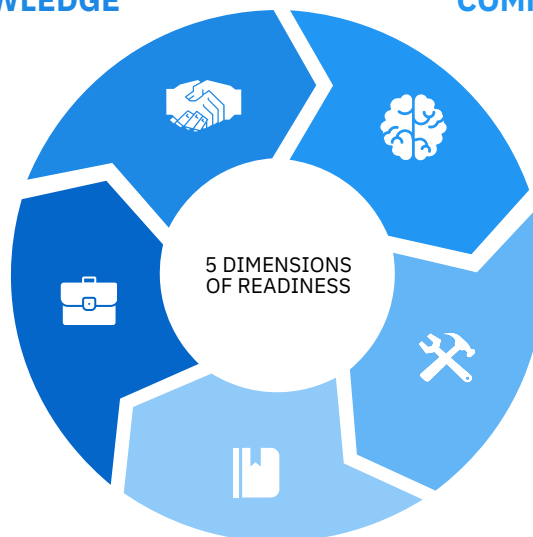
DIMENSIONS OF COMMUNITY READINESS

COMMUNITY KNOWLEDGE OF EFFORTS

How much does the community know about the current programs and activities?

COMMUNITY KNOWLEDGE OF ISSUE

How much does the community know about the issue?



RESOURCES

What are the resources that are being used or could be used to address the issue?

COMMUNITY CLIMATE

What is the community's attitude toward addressing the issue?

LEADERSHIP

What is leadership's attitude toward addressing the issue?

COMMUNITY READINESS: HOW WE DEFINED THE ISSUE

KEY ISSUE BEING ASSESSED:
TRANSPORTATION BURDEN

Not being able to go where you need to go when you need to get there
(due to lack of transportation availability or accessibility)

1.2: Community Readiness Model

Using research to understand community needs

READINESS MODEL: HOW INTERVENTIONS ARE MATCHED TO CURRENT COMMUNITY LANDSCAPE

The CRM lays out certain **programs, policies, and interventions** for each stage, with the ability to reassess, and gather input from all sectors of a community, making the model sustainable in nature. By working **within the community's culture and engaging partners from several sectors of the community**, the CRM ensures that community voices are centered and involved when developing interventions.

Stage	Attitude	Stage	Matched Intervention
NO AWARENESS	"Impacts of transportation are unavoidable"	1	Collect stories of local people who have been affected by this issue in this community and find creative ways to disseminate these.
DENIAL/ RESISTANCE	"We can't or shouldn't do anything about it."	2	Put information in church bulletins, club newsletters, respected publications, Facebook, etc.
VAGUE AWARENESS	"Something should probably be done, but what?"	3	Present information at local community events and unrelated community groups. Don't rely on just facts.
PRE PLANNING	"This is important. What can we do?"	4	Conduct local focus groups to discuss issues and develop strategies.
PREPARATION	"We have plans to meet with partners/funders."	5	Sponsor a community picnic or event to kick off new efforts or revitalize existing efforts.
INITIATION	"We are now beginning to do something to address this issue."	6	Conduct in-service training on Community Readiness for professionals and paraprofessionals.
STABILIZATION	"We have taken responsibility"	7	Hold recognition events for local supporters or volunteers
EXPANSION	"How well are our current programs working and how can we improve?"	8	Publish a localized program services directory; maintain a comprehensive database available to the public.
COMMUNITY OWNERSHIP	"These efforts are an important part of the fabric of our community."	9	Continue progress reports for the benefit of community leaders and local sponsorship

1.3 Focus Group Summary

Key findings from the focus groups

Sonoma and Mendocino counties are at the **Preplanning Stage** of community readiness to address transportation burden. All three focus groups scored within the preplanning stage, with an average final score of **4.35**. The score indicates a communication and engagement gap, suggesting that efforts are not effectively reaching everyone or being sufficiently supported. The CRM calls to increase the lowest scores first, then focus on the readiness level.

The table below summarizes each dimension's score, its matched stage, and recommended next step.

Dimension	Score	Stage	Next Steps:
Leadership	3.27	Vague Awareness	Publish editorials and articles in newspapers and on other media with general information but always relate the information to the local situation.
Community Climate	4.05	Preplanning	Review the existing efforts in community (e.g., curriculum, programs, activities) to determine who benefits and the degree of success.
Community Knowledge of Efforts	4.43	Preplanning	Begin transforming community stories around transportation burden into community presentations and incorporate into community events.
Knowledge About the Issue	4.98	Preplanning	Conduct public forums to develop strategies and build community around addressing the issue.
Resources	5.00	Preparation	Increase visibility of resource allocation through media exposure, radio and TV public service announcements, and other forms of social media.

1.4 Survey Methodology

An overview of the approach used in the **online survey**

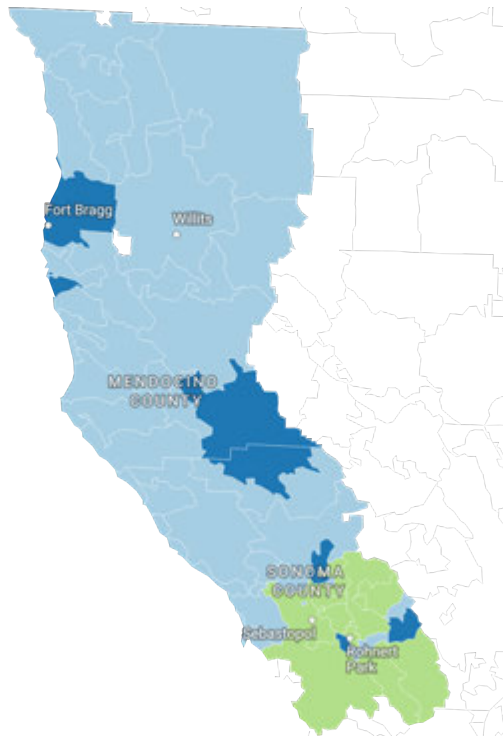
SAMPLING APPROACH: HOW DATA WAS COLLECTED

Figure 3:

Land Use Types: Zip Codes in Sonoma and Mendocino Counties

What land use types make up Sonoma and Mendocino Counties?

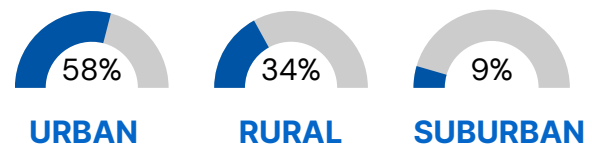
■ Rural ■ Suburban ■ Urban



In order to best capture the differences that **geographic region** plays in the region, EVNoire sampled the population according to land use type according to **rural, urban, and suburban** populations. With the key goal being to understand transportation needs and how they may differ in the region, adopting the land use type approach was successful in studying the connection between **geographic location, resource accessibility and allocation, and transportation needs.**

In order to get the correct sample, a list of **20,000 SCP customers** was generated and segmented according to the desired ratio of land use types, as seen below:

Target Distribution of Population by Land Use Type



****A note on the map in Figure 3:** SCP is the local power generation provider for Sonoma and Mendocino counties, with the exception of the incorporated cities of Healdsburg and Ukiah which have their own city-operated public power utilities.

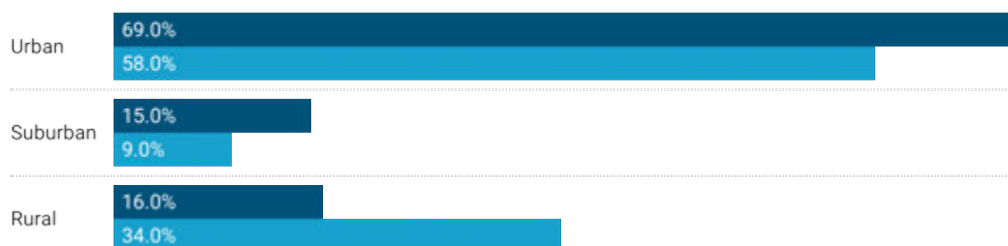
The following bar chart in figure 4 breaks down how representative the survey was of SCP territory in regards to the distribution of population in each of the three land use types.

Figure 4

Population Distribution by Land Use Type

Comparison of the urban, suburban and rural populations in SCP territory and survey population

■ SCP territory ■ Survey respondents



High rural representation

2X

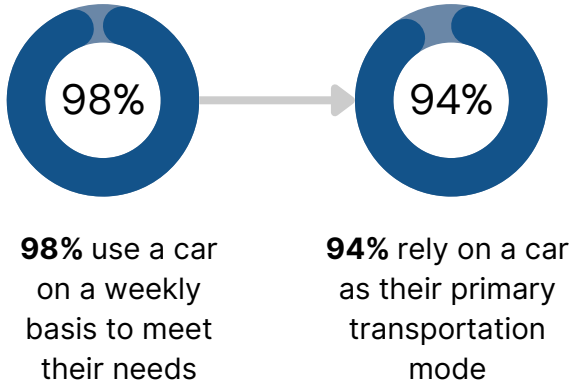
The share of rural participants **in the region** and **in the survey** was 2x larger than the **rural** share in SCP territory

2.1 Transportation Modes: Main Mobility Type

What types of transportation do residents use, and what is the impact?

Figure 5

How do residents use cars to meet their transportation needs?



PERSONAL CAR RELIANCE IS HIGH

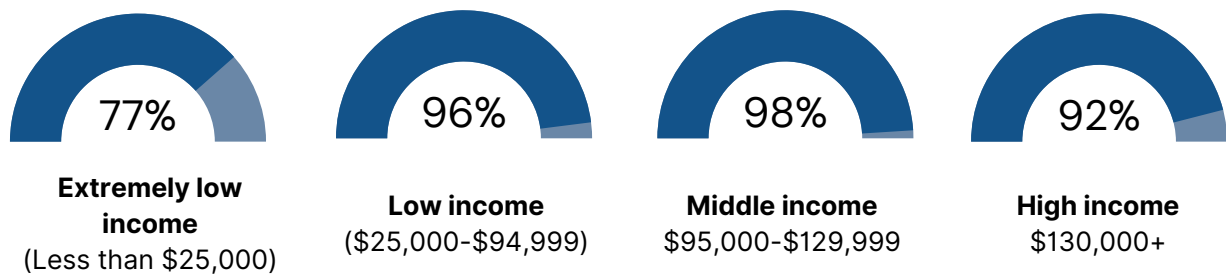
98% of residents use a car on a weekly basis to meet their needs, and 94% rely on their vehicle as their **main transportation mode**. However, research in Sonoma County found that **60%** of weekday vehicle trips are less than 5 miles in length, distances that could be traveled with alternative transportation modes.

PERSONAL VEHICLE USE AND INCOME ARE TIED TOGETHER

Lower income households are **less likely to have access to dependable personal transportation** due to high costs of vehicle ownership. Even for those that can afford a personal vehicle, the costs are much more likely to be a burden.

Figure 6

% of residents that use a **personal vehicle** as main mobility type
By income group

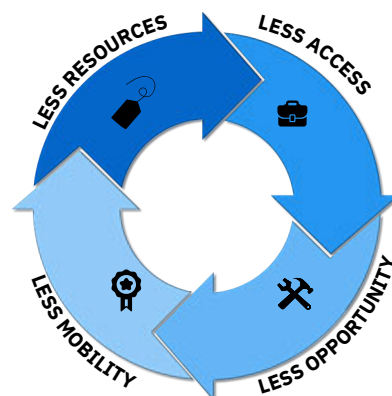


CAR DEPENDENCE FUELS INEQUITIES FOR VULNERABLE RESIDENTS

Dependence on personal vehicles can perpetuate transportation burden, especially for those without a vehicle. Known as **zero vehicle households**, these residents tend to have less access to resources, opportunities, and social mobility (Figure 3).

The study found that **83%** of zero vehicle households in SCP territory had incomes of **\$25,000 or less**. Although only 2% of respondents were zero vehicle households, these respondents bear the largest transportation burden in the territory.

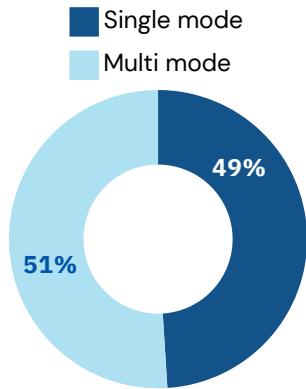
Figure 7: Cycle of Transportation Burden



2.1 Transportation Modes: Multi/Single Mode Users

What other modes of transportation are used by residents and what are the implications?

Figure 8



What percentage of residents are single mode vs multi mode users?

OTHER MODES FILL TRANSPORTATION NEEDS

For over **half of the population**, more than one transportation type was used on a weekly basis, meaning these residents walked, biked, and shared rides *in addition* to personal vehicle use. For these residents, transportation behaviors are different and require policies and programs that support alternative modes of transportation, such as **walking and biking**.

MORE CAR DEPENDENCE MEANS LESS TRANSPORTATION DIVERSITY

Figure 9a

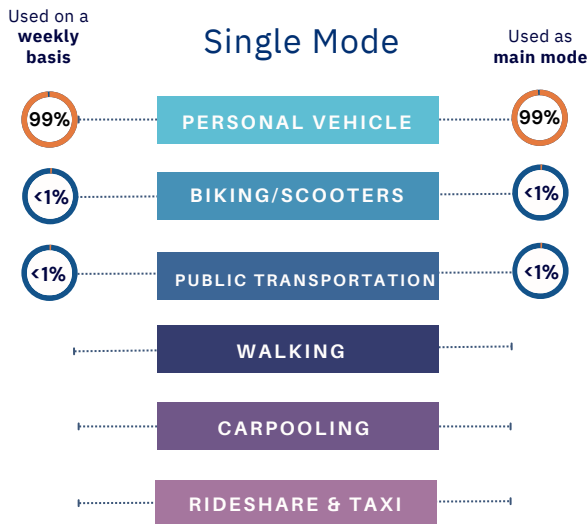
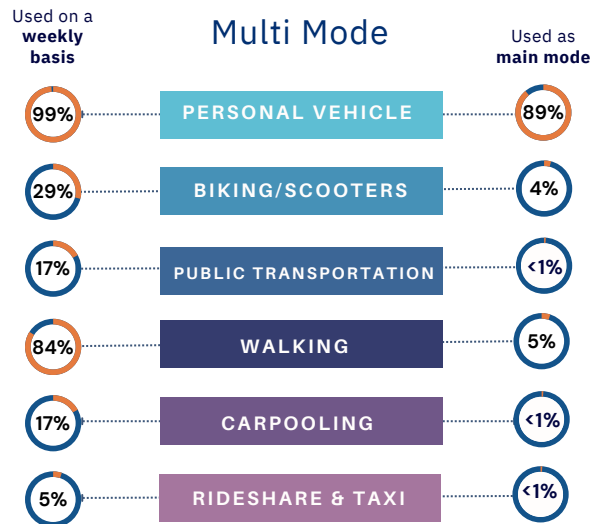


Figure 9b



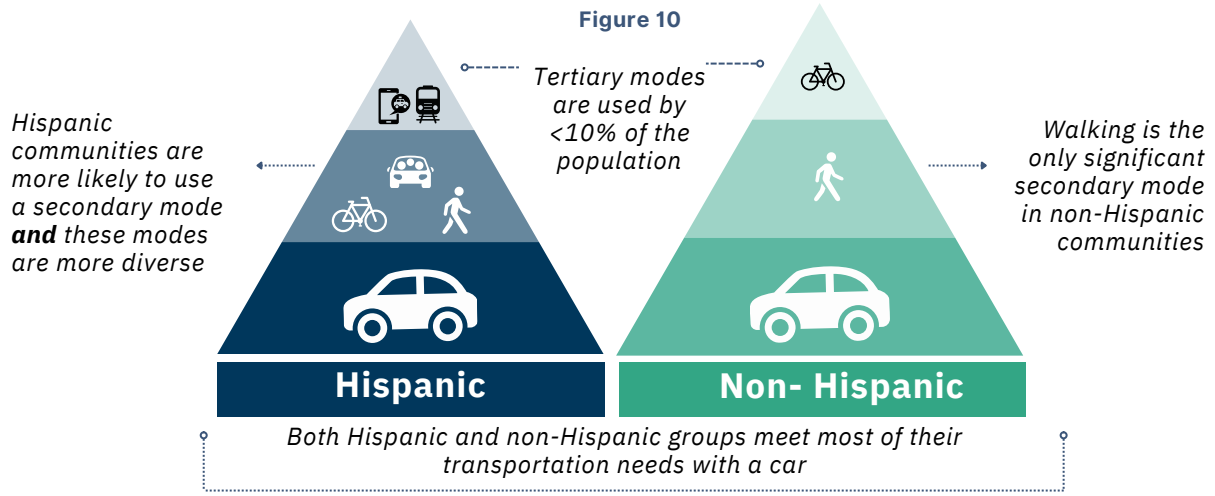
For multi-modal transportation users, the types of transportation they use on a weekly basis are **more diverse** than single mode transportation users, illustrating the differences in transportation ecosystems in the community. Multi modal users have **secondary mobility modes** that help to meet transportation needs in addition to a personal vehicle. In particular, **walking is a key secondary transportation mode** for multi-modal users, **84% of whom** walk as a transportation mode compared to **0%** of single mode users. Biking and public transportation are less prevalent among multi-modal users, but still are used by at least 15% of these residents on a weekly basis.

Ultimately, personal vehicles represent the primary transportation mode in SCP territory, but **over half of the population** uses more than just their vehicles weekly, highlighting the duality of transportation behavior in SCP territory.

2.1 Transportation Modes: Hispanic Communities

What differences exist in transportation use in Hispanic and non Hispanic communities?

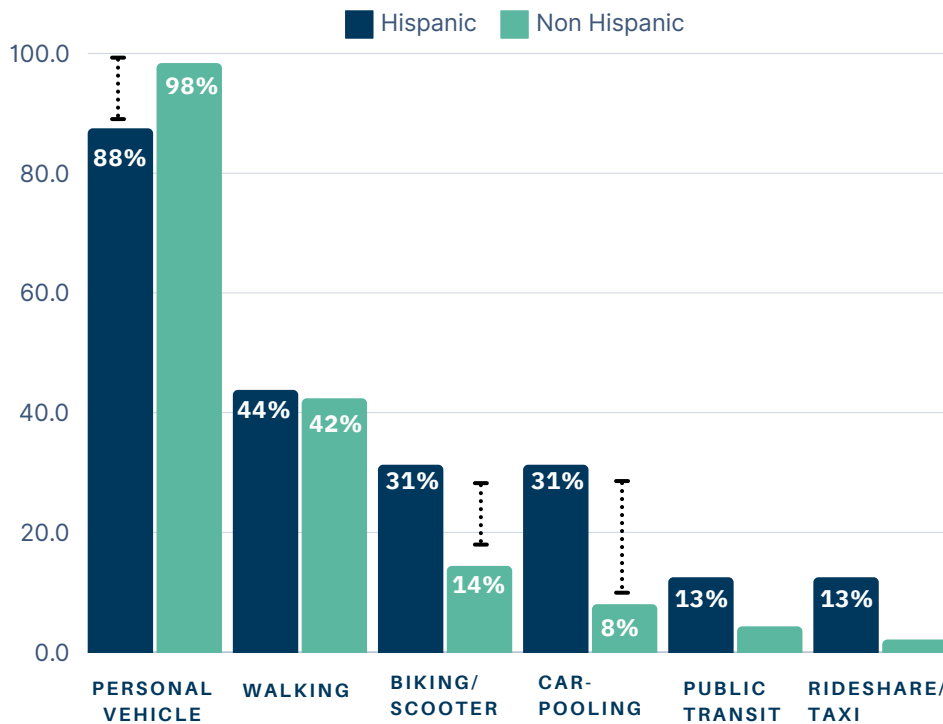
HISPANIC RESIDENTS HAVE NOTABLE DIFFERENCES IN TRANSPORTATION PATTERNS



CARPOOLING IS ESPECIALLY IMPORTANT IN HISPANIC COMMUNITIES

Figure 11

% of Respondents that Use Each Transportation Mode Weekly or More



“ In terms of transportation, a lot of the families that we have coming to our offices, sometimes they have to carpool because they don't have transportation access.”

The secondary types of transportation Hispanic communities used to meet transportation needs were **significantly different** than Non-Hispanic communities. Carpooling was especially relevant among Hispanic residents, **31% of whom carpoled on a weekly basis**. This was **4x greater** than the share of non-Hispanic participants. Biking was also **twice as prevalent** in Hispanic communities, while walking was equally prevalent in both groups. The findings indicate that supporting secondary mobility modes looks different across ethnic groups.

2.2 Vehicle Ownership Costs

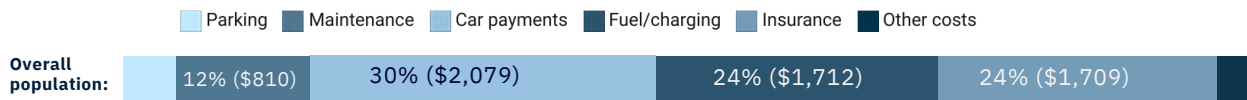
What is the cost burden of owning a vehicle and which costs impact what populations?

CAR PAYMENTS ARE THE BIGGEST VEHICLE COST BURDEN OVERALL

The minimum estimated cost of car ownership in SCP territory is **\$7,015** per year. Of these ownership costs, the largest burden are **car payments**, which make up **30%** of total vehicle ownership costs or more. Among the highest and lowest spenders on car payments, the difference was **\$2,400**, an indication that these costs may also be the **most varied** in SCP territory.

Figure 12

Total Cost of Vehicle Ownership: Estimated Annual Spending



DIFFERENT GROUPS HAVE DIFFERENT COST BURDENS

% of vehicle ownership costs spent on each category

MAINTENANCE

The minimum estimated cost maintenance is **\$810**, or 12% of vehicle ownership costs annually. Apartment dwellers spend a **greater portion** of their ownership costs on maintenance, although **gas/diesel drivers** spent the **most money** (\$913) on this ownership cost.

INSURANCE

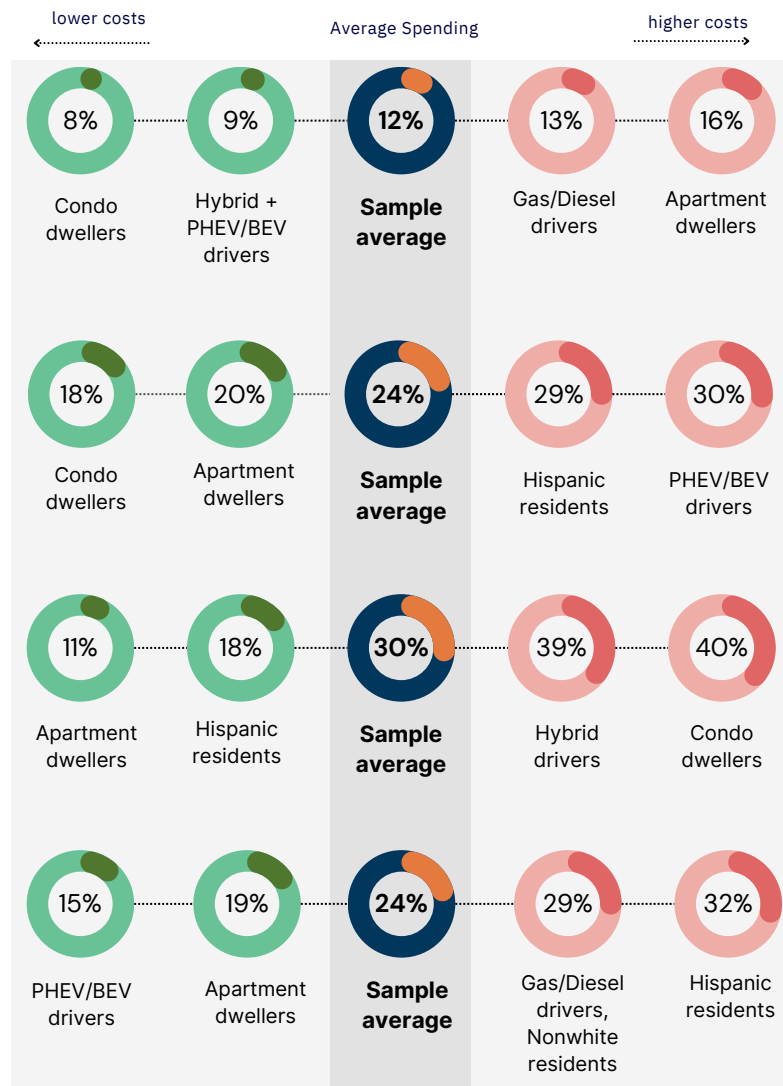
The minimum estimated cost insurance is **\$1,709**, or **24%** of vehicle ownership costs annually. PHEV/BEV drivers spent the **most money** on insurance (\$2,130) but also the highest portion of ownership costs on insurance (30%). However, Hispanic residents faced the greatest **disproportionate burden**; although their cost was lower than average, it made up a higher **proportion** of vehicle ownership spending.

CAR PAYMENTS

The minimum estimated cost for car payments is **\$2,079** or 30% of vehicle ownership costs annually. Condo dwellers had the highest spending on car payments *and* the highest proportion of spending in this area, indicating a disproportionate burden, especially given that **83% of condo dwellers** were low to mid income earners.

FUEL/CHARGING

The minimum estimated cost of fuel/charging in SCP territory is **\$1,712** per year, or **24%** of vehicle ownership costs. It is clear that fuel and charging costs impact **nonwhite residents and Hispanic residents** the most, who spent the greatest share of vehicle costs on fuel *and* the greatest dollar amount.



2.3 Variances in Vehicle Types

How do demographics explain vehicle type variances?

% of respondents that drive each vehicle type By income

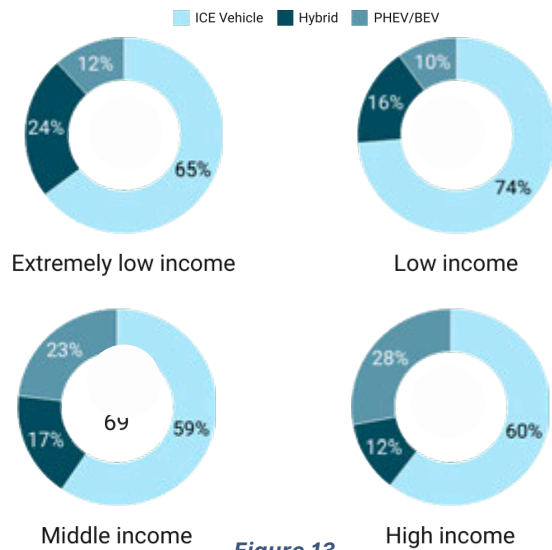


Figure 13

INCOME DRIVES VEHICLE TYPE PREFERENCES

Extremely low income participants drive hybrids at higher rates than any other group, which prompted an investigation into why hybrid models would be particularly advantageous for these residents. **PHEV/BEV vehicles were most prevalent among middle and high income groups**, while **74% of low income residents drove a gas or diesel vehicle**.



Overall, nearly **1 in 4** extremely low income residents drove a hybrid vehicle

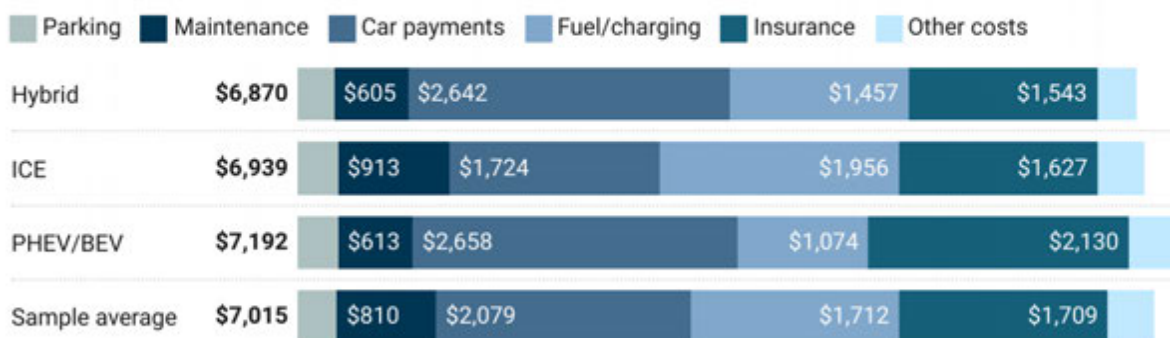
HYBRID VEHICLES ARE THE LOWEST COST VEHICLE TO OWN

While low and middle income drivers used hybrid vehicles at around average rates (15%), high income drivers had the lowest share of hybrid drivers (12%). Based on the findings from the vehicle ownership section, driving a hybrid vehicle has several advantages that may make them practical for low and extremely low income respondents.

Figure 14

Vehicle Ownership Spending by Category

How does spending differ by vehicle type?



LOWER FUELING COSTS

Hybrid drivers spend **21%** of total vehicle costs on fuel (\$1,457) compared to **28%** of spending on fuel for **gas/diesel** drivers and a sample average of **24%**.

LOWER INSURANCE COSTS

Although the difference is not as large, hybrid drivers spend the least on insurance (**\$1,543**) compared to gas/diesel drivers (**\$1,627**) and a sample average of **\$1,709**.

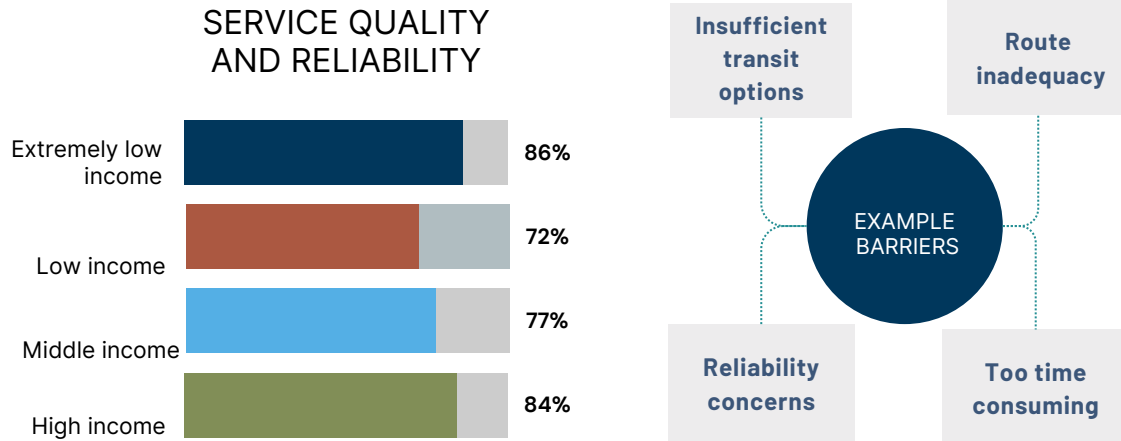
CHEAPEST VEHICLE TO OWN

Hybrid cars, despite high payments, are the most cost-effective to own due to savings in other areas, providing immediate economic advantages.

2.4 Public Transportation Barriers

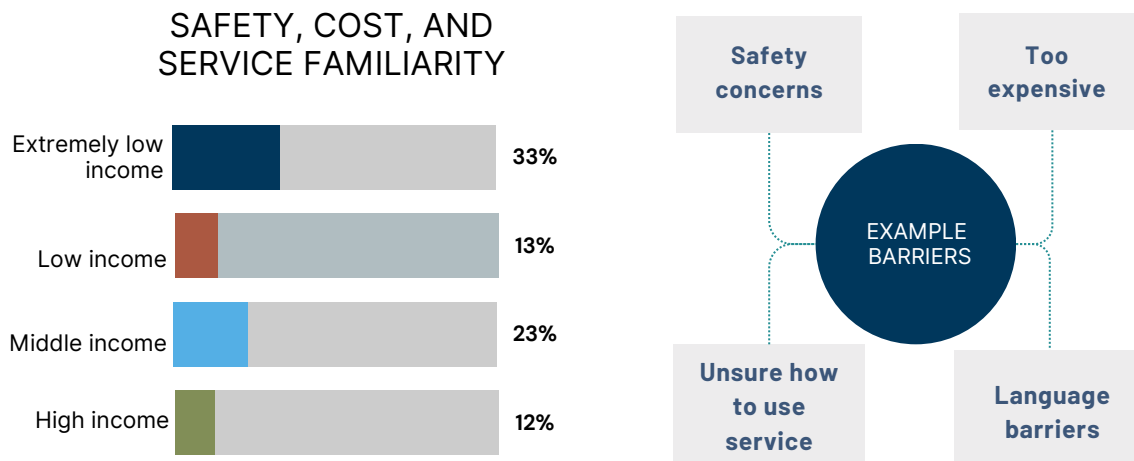
What prevents people from using public transportation?

PUBLIC TRANSIT USERS PRIORITIZE SERVICE QUALITY AND RELIABILITY, WITH CONCERNS DIFFERING BASED ON INCOME LEVELS.



People with **very low** or **very high incomes** were the most affected by problems with service and reliability in public transit, a service **both groups used at higher rates than average**. However, people with very low incomes used public transportation four times more than those with high incomes, showing they rely on it more. High-income people were more likely to worry about the bus or train schedules not fitting their needs, while those with very low incomes were more concerned about how long the trip took. This concern is probably because people with lower incomes may rely on reliable and quick transportation for their jobs or to meet other needs.

SOME OF THE MOST PRESSING PUBLIC TRANSIT BARRIERS FOR VULNERABLE COMMUNITIES ARE NOT WIDESPREAD BARRIERS



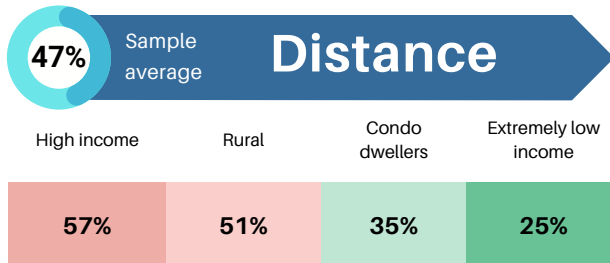
All barriers related to safety, cost and familiarity with the service were most prevalent for **extremely low income households**. Other groups in the study that had high rates of concern around this group of barriers included **residents with disability**, 36% of whom had a barrier in this category, and **public transportation users themselves**, of whom 25% had a barrier in the safety, cost, and familiarity with the service category. Cost was a particularly important concern among public transit users at a rate **four times higher** than the overall average, an indication of an immediate barrier for users.

2.5 Active Mobility Barriers

What prevents people from biking, scootering, or walking?

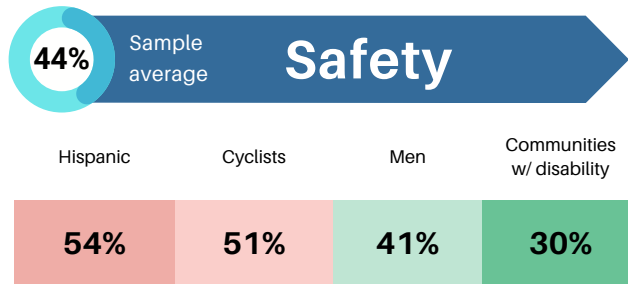
SAFETY AND DISTANCE MATTER FOR ACTIVE TRANSPORTATION USE

% who listed **distance** as an active mobility barrier



Closer distances between important locations was the top barrier to active mobility overall, especially for **high income participants and rural participants**. In contrast, condo dwellers and extremely low income respondents expressed less concern over distance. Differences between these groups is likely due to the **urban density** of the areas these participants live in.

% who listed **safety** as an active mobility barrier

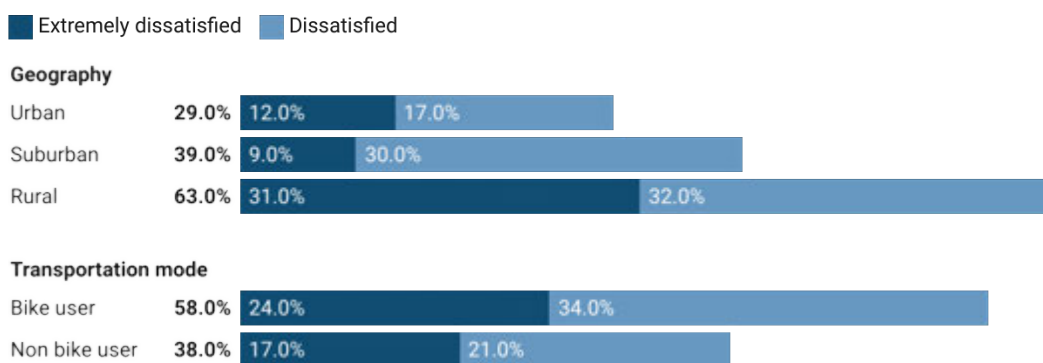


Safety was the **top concern for Hispanic respondents and those that currently bike**, illustrating the different types of concerns that different population segments experience. Given that Hispanic participants in particular rely on biking more than the general population, addressing safety concerns is not only an equity priority, but also an immediate need.

% of residents that are dissatisfied by **bike infrastructure** in their community

Figure 15

% of residents that are dissatisfied with bike infrastructure



KEY FINDINGS

2 in 3 rural residents are dissatisfied by bike paths in their community, despite using bikes at similar rates to suburban residents.

RURAL COMMUNITIES ARE UNDERSERVED

BIKE PATHS ARE INADEQUATE EVEN FOR CYCLISTS

More than half of current bike users are unhappy with bike paths, indicating that infrastructure is a key obstacle to expanding biking as a transportation option.

2.6: Transportation Gaps

How often are you unable to take trips due to not having a ride & what type of transportation mode does your community most need access to?

MISSED EMPLOYMENT DUE TO TRANSPORTATION GAPS IMPACTS WOMEN, HISPANIC, AND MENDOCINO RESIDENTS MOST

% impacted by transportation gaps to jobs/employment



Female participants miss more rides to work weekly (6%) compared to males (1%), indicating challenges in accessing transportation societal expectations and norms could be at play when it comes to the gender disparity, as women are generally more likely to be a caretaker and miss trips to support loved ones. Other factors such as disability could also play a role.

What was the highest selected transportation type by the most impacted group?

On Demand Transportation



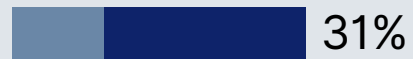
51% of participants who preferred on demand transportation as a vital necessity in their community were female.

Hispanic Non-Hispanic



Hispanic participants miss more rides to work weekly (13%) compared to non-hispanic participants (3%). This disparity indicates potential transportation barriers faced by Hispanic residents, such as limited access to reliable transportation options or affordability issues, affecting their ability to commute to work regularly. This can lead to challenges when it comes to commuting to work, especially if multiple family members need to travel to different locations for employment.

Electric Transportation



31% of participants who preferred electric transportation as a vital necessity in their community were Hispanic.

Mendocino County Sonoma County



Participants from Mendocino county (8%) miss more rides to work compared to participants from Sonoma county (3%). The disparity reflects differences in transportation infrastructure and accessibility between the two counties. Mendocino County, being more rural compared to Sonoma County, may have limited public transportation options, leading to difficulties in commuting to work regularly. Additionally, rural communities are extremely underserved by community programs, widening the gap in transportation access.

Rideshare

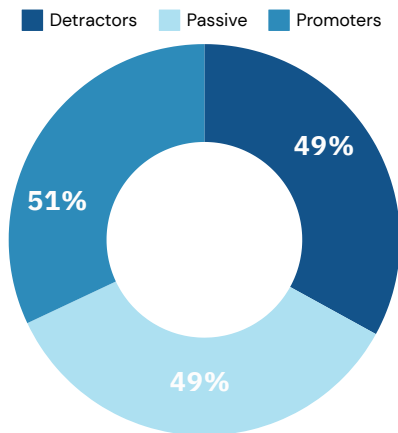


33% of participants who preferred rideshare as a vital necessity in their community were residents of Mendocino county.

3.1: Attitudes Around Electric Vehicles

What impressions of electrification do residents hold and how are they changing?

Figure 16



What percentage of residents are in each EV impression category?

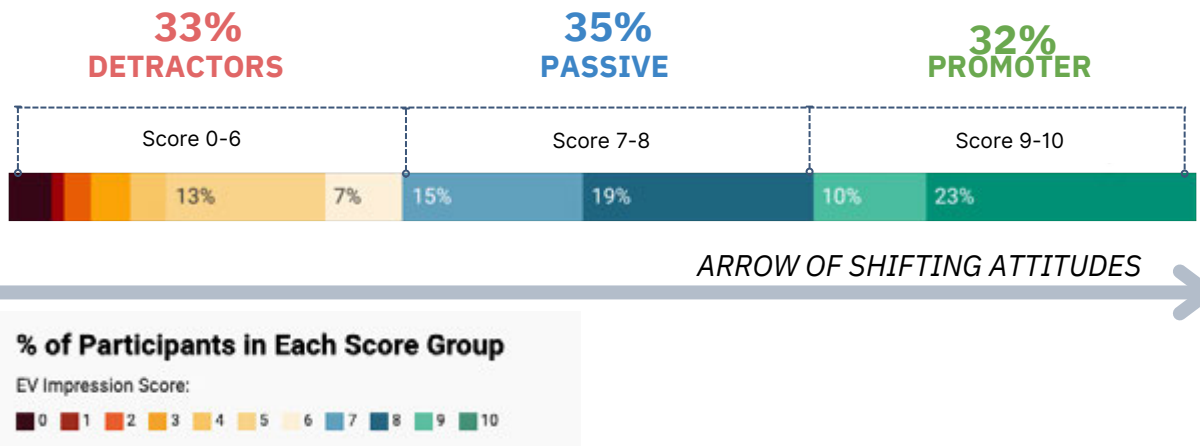
EV IMPRESSIONS ARE BALANCED

Participants were grouped in **detractor, passive, or promoter** groups based on how they answered a survey question around electric vehicle impressions. Overall, there was a nearly perfect distribution of participants in each category indicating that there is no clear consensus around the technology and a diverse set of opinions around the topic.

EV PERCEPTIONS ARE SHIFTING POSITIVELY

Figure 17

ASSESSING ATTITUDES: WHAT IS YOUR IMPRESSION OF ELECTRIC VEHICLES?



Amongst detractors, 20% of respondents had an score of **5 or 6**, making them on the “**cusp**” of being in the passive category. In fact, of the 130 detractors, 78 respondents gave a “cusp score” of 5 or 6; in other words, **60% of detractors are on the cusp of moving towards passive perceptions.**

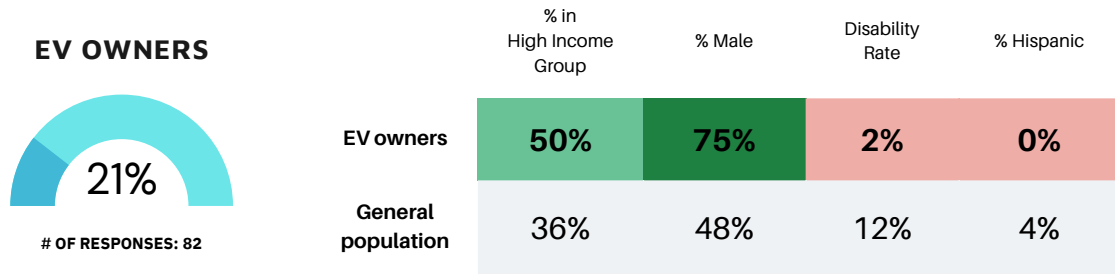
Likewise, among the 135 passive respondents, 52% of participants had a score of 8, making them on the cusp of shifting towards **promoter perceptions.**

Among the 126 promoters of EVs, 89 gave the maximum score of 10, or 72%. With nearly 3 in 4 promoters at the farthest end of the spectrum, it’s clear to see that positive impressions are unlikely to change.

3.2: Demographic Profiles of EV ownership

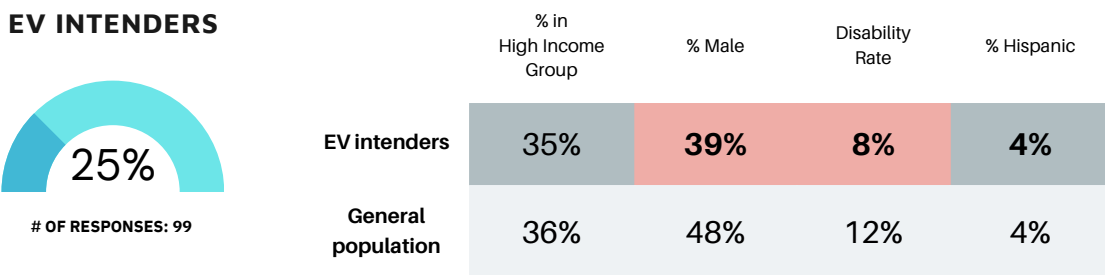
What are the demographics of each EV ownership intention group and how do they differ?

EV OWNERS SHARE THE SAME CHARACTERISTICS AS TRADITIONAL EARLY ADOPTERS



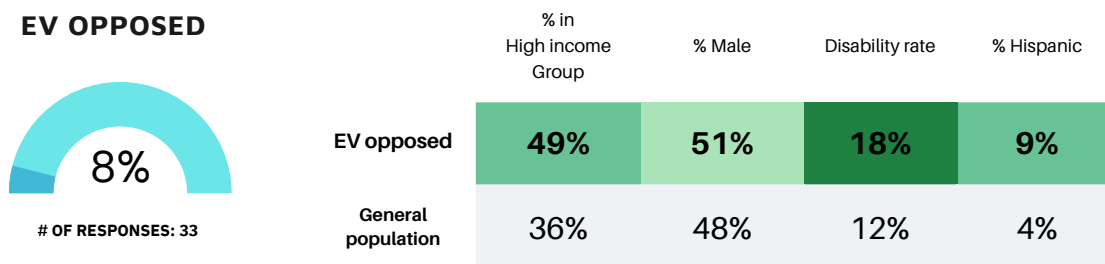
Overall, EV owners represented **21% of the population**. EV owners represented a significantly higher share of high income, male, and highly educated participants compared to the average. They less frequently reported disabilities, and had no share of Hispanic respondents.

EV INTENDERS REPRESENT A NEW MARKET OF POTENTIAL EV OWNERS



EV intenders, comprising **25% of the population**, represented the largest group of participants. They are similar to the sample average in income, age, and ethnicity. Interestingly, EV intenders were more skewed towards women. Disability status was also less frequent among EV intenders despite being a majorly female population and **highlights a key relationship between disability status and gender in EV intention**.

DISABILITY STATUS COULD BE A MAJOR BARRIER TO EV INTEREST

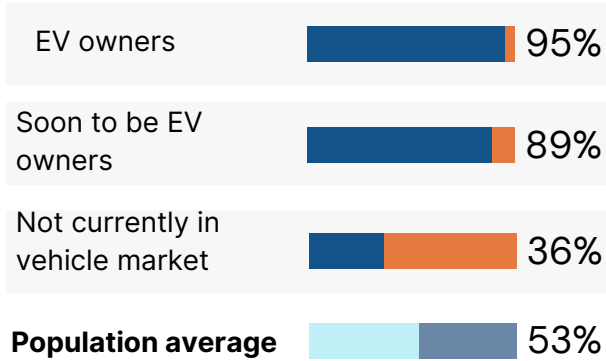


Demographically, EV opposed participants shared many factors with EV owners such as high incomes, a predictor for EV interest. Crucially, participants in the EV-opposed group had high shares of Hispanic participants and a higher rate than average reported a disability. With all other factors remaining consistent, disability accommodations could be a major reason for not choosing an EV for participants in this group.

3.3: EV Charging Access and Impacts

Where are there gaps in charging access, and who do they impact?

% that have **accessible home charging**
By EV ownership intention



HOME CHARGING ACCESS IS CRITICAL COMPONENT OF EV OWNERSHIP

95% of EV owners and 89% of soon to be EV owners had home charging access, compared to just over half (53%) in the general population. Home charging access is crucial for the transition to EV ownership, and the level of access residents report to home charging can be a good indicator of where they are in their EV purchase intention.

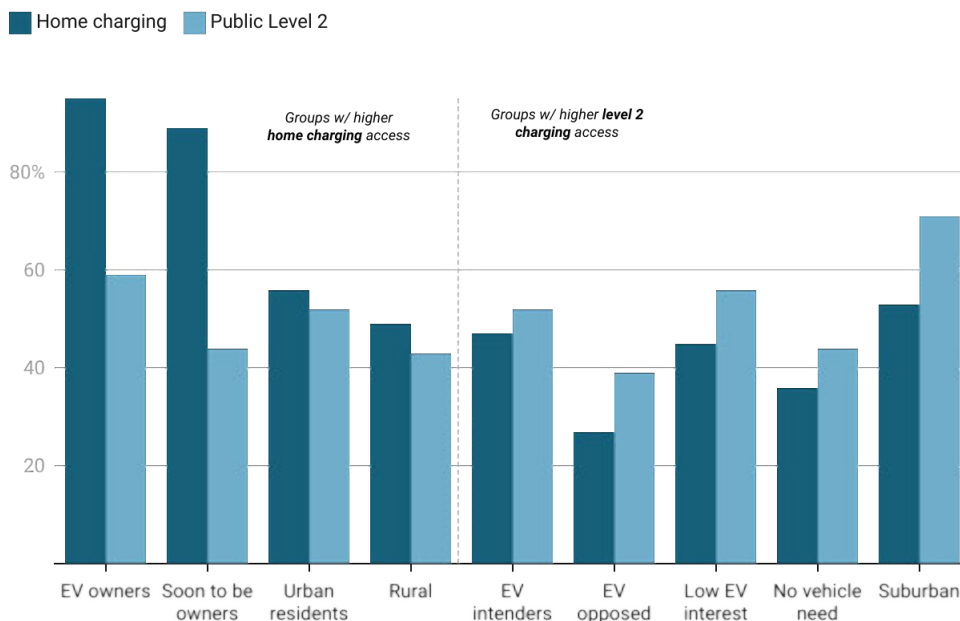
PUBLIC LVL 2 CHARGING EQUALIZES THE PLAYING FIELD FOR GROUPS WITH LOWER ACCESS TO HOME CHARGING

Different communities with different vehicle purchase intentions have variations in the **type** of charging that is most accessible for them. Home charging is more likely to be accessible among current EV owners and soon-to-be owners, but also urban and rural communities both had slight advantages in home charging access. On the other end of the spectrum are residents who have greater access to **public charging**, such as most EV ownership groups as well as suburban populations. Developing strategies for EV adoption must take into account the differences in existing charging resources in communities to best fit the needs of *all* residents.

Figure 18

PUBLIC LEVEL 2 VS HOME CHARGING: WHAT CHARGING TYPE IS MOST ACCESSIBLE?

Comparing public and private charging access by population group

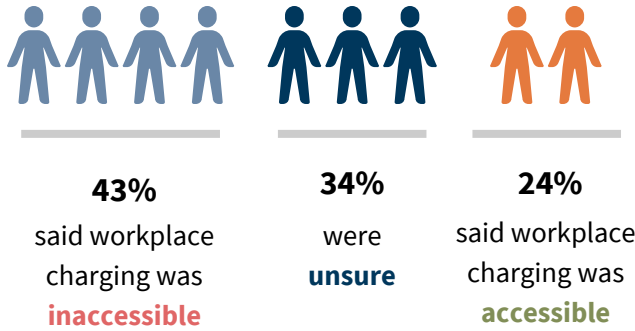


3.4: EV Charging Gaps and Opportunities

Where are there gaps in charging access, and who do they impact?

Figure 19

What % of residents have accessible workplace charging?

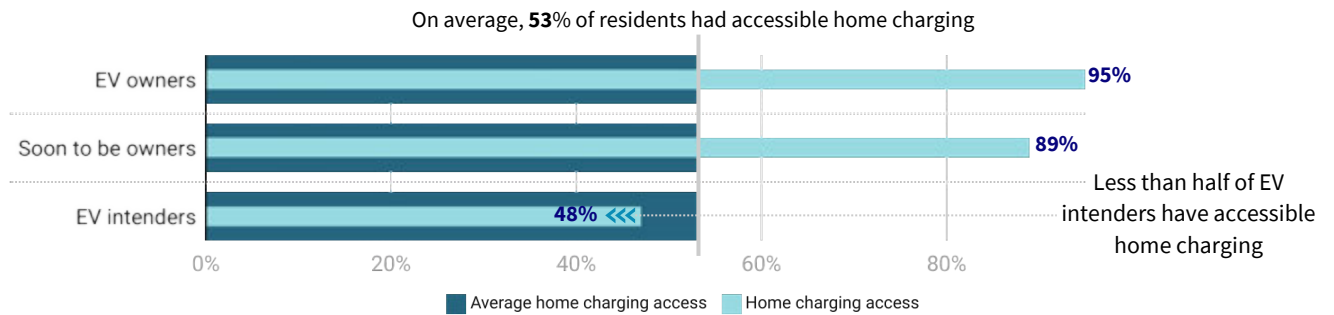


WORKPLACE CHARGING IS A BIG MISSED OPPORTUNITY

Workplace charging was inaccessible for almost **half** of the population. In comparison, just 21% of residents said public level 2 charging was inaccessible. Suburban residents are particularly underserved by workplace charging, where just **9%** said that this charging type would be accessible for them.

THE GAP IN HOME CHARGING ACCESS BETWEEN EV OWNERS AND INTENDERS IS A CRITICAL ONE

EV intenders have a significantly lower home charging access rate than EV owners and soon-to-be owners, and even had an access rate that was **lower than** the sample average. Without charging rates parallel to EV owners, intenders are unlikely to make the transition to electric vehicles, slowing the adoption of these vehicles.



HOME CHARGING ACCESS GAPS MAY SLOW DOWN GROWTH OF NEW EV MARKET

Demographics	EV Owners	EV Intenders
% High Income	50%	35%
% Male	75%	39%
Disability Rate	2%	8%
% Hispanic	0%	4%

Residents who are considering the purchase of an EV have higher shares of **Hispanic representation** and the **majority are women**, which means gaps in home charging access will disproportionately impact them. **EV intenders are also the largest group of any vehicle intention category** by population size (25%), indicating it may also be a widespread barrier.

4.1: Community Associations & Program Awareness

What other modes of transportation are used by residents and what are the implications?

A SUCCESSFUL COMMUNITY ENGAGEMENT STRATEGY MUST CONSIDER WHAT MEANINGFUL INVOLVEMENT MEANS

While church groups are not a widespread community association type, they offer valuable communication channels for populations that may be hard to reach.

Volunteer groups are the most popular community type surveyed, but feedback suggests these groups may be at over-capacity.

Over 1 in 4 residents were engaged in a professional and/or trade organization, and although meetups were infrequent, they offer high-impact opportunities.

Low Prevalence, High Frequency



Church groups

19% → 76%

Are engaged → involved weekly or more

High Prevalence, High Frequency



Volunteer Groups

55% → 56%

Are engaged → involved weekly or more

High Prevalence, Low Frequency



Professional/trade

27% → 24%

Are engaged → involved weekly or more

“With organizations like Catholic charities that already have a trusted relationship with certain populations around the county, I think a partnership would be getting a connection with them and sharing resources and letting our clients know that these services exist.” – Key Informant Interview Participant

“I think that [volunteers] are pretty overstretched. The volunteers that I know volunteer for many things. The experts are exhausted and tapped out, and we don’t have a very robust community foundation that I’ve encountered or know of.” – Focus Group Participant

“Show them what you’re trying to get going on here. And then if [others] come on board with you, there’s always college career day where [people] could come out and and just show what you’re trying to do in our area.” – Key Informant Interview Participant

RURAL COMMUNITIES MAY LACK AWARENESS OR ACCESS TO COMMUNITY PROGRAMS

Community Transportation Programs: What programs are residents familiar with?

Community Program	% of residents that were familiar with each program		
	Rural residents	Suburban residents	Urban residents
None of the above	61%	47%	36%
ADA Paratransit Service	19%	32%	34%
Safe Routes to School	13%	12%	25%
Measure M	11%	15%	23%
Reduced/Subsidized Fare Program	7%	18%	15%
Bike and Scooter Share w/ Bird	5%	18%	14%
Sebastopol Area Senior Center	11%	6%	12%
Petaluma People Services Center iRide	1%	0%	8%
Catholic Charities Caring Rides	2%	3%	7%
Emergency Ride Home	4%	6%	6%
Bicycle and Pedestrian Count Program	0%	3%	2%
Circuit Rider Community Services Windsor Wheels	2%	9%	1%

% of residents that are **unfamiliar** with community programs



Rural residents:

~6 in 10



Suburban residents:

~5 in 10



Urban residents:

~4 in 10

Beyond the Assessment: Recommendations for SCP



Develop a successful community engagement strategy with community associations that also addresses capacity

Continued engagement with community associations is critical to program development, but gaps in capacity must be addressed to ensure that organizations can continue to be impactful.

- Offer programmatic support to community organizations in the form of grants or funding
- Consider supporting efforts that increase organizational efficiency, such as trainings, or providing workshops to support those efforts.
- Program and software toolkits could be made available at public/shared spaces for use.
- **Community recommendation: Opening up grants and funding to a variety of organizations, not just 5013(c) / nonprofits**

Increase transportation diversity with further research and pilots that focus on demographic, social, cultural and lifestyle behaviors



Alternative transportation modes are a crucial part of the transportation landscape, but research showed that reasons for engaging with alternative transportation modes may differ significantly

- Inclusive visioning workshops to engage all community segments, including priority populations.
- Support community documentation of experiences with alternative transportation modes.
- Conduct asset mapping to identify needed assets for alternative transportation users.
- **Community recommendation: Provide informational resources and presentation materials to community partners who want to discuss and share these topics with their communities**



Find ways to build a community coalition around transportation using the research as a starting point

Successfully disseminating the research findings while effectively combining them with the community's lived experiences can further deepen understanding and connection to the community

- Plan a series of data walks to raise profile of community concerns and explore research findings,
- Use ground-truthing to validate findings
- Conduct photo voice workshops that allow community to bring findings to life while also building on them
- **Community recommendation: SCP sponsoring a program where they explore moving around in the community without a car to demonstrate the struggles**

Plan engagement around electric vehicles to support new demographics of EV ownership, and create spaces to further explore barriers



Supporting electric vehicle development does not mean only supporting personal car ownership, but should be multi-modal in nature and promote a variety of ownership cases and types to the community.

- Tailored outreach to Hispanic communities and women, workshops addressing EV questions
- Installing charging stations in diverse areas, with multiple use cases
- Introduce shared EV programs, like car-sharing or bike-sharing
- **Community recommendation: Demonstrate EVs in a variety of use cases, such as custom builds and larger body models to raise interest around EVs from more diverse populations**

About Us

Additional Resources

Find out more about SCP's Community Needs Assessments by visiting the SCP Strategic Action Plan page:

<https://sonomacleanpower.org/strategic-action-plan>

ABOUT US

EVNoire Mobility Intelligence Consulting Group (EVNoire), a national award winning minority, female-owned and led company, and is a certified DBE, MBE, and WBE, working at the intersection of transportation and energy equity. EVNoire is recognized as national thought leaders in E-Mobility specific to **Best Practices** and **Equity**. We work across the country with **Utilities and Co-ops, Transportation Network/Gig Companies, Non-Profits, Auto Manufacturers, Government Agencies, Public Health Organizations, and Regional and National organizations to expand this market share**. EVNoire also engages general market consumers in addition to prioritizing diverse communities. In addition, EVNoire engages communities on workforce development opportunities in the clean transportation economy. EVNoire has compiled extensive data on the attitudes, beliefs, and knowledge of Electric, Hybrid and Autonomous vehicles as well as highlighting the financial & public health benefits of driving next-generation, zero-emission vehicles. We have experience and expertise in working with Frontline populations that are most burdened by the negative impacts of carbon emissions and environmental justice issues along with those consumers who are often not engaged or educated about the availability of clean transportation options.



OUR ROADMAP OF SERVICES



Consultation on E-Mobility Roadmap - Best Practices & Strategies

Having worked in E-Mobility mature markets our team has a wealth of knowledge and experience in framing EV Roadmap Strategies



Data Collection Analysis Research & Monitoring

Our Data Driven Approach Provides Accurate Data Collection Analysis and Monitoring.



Community Engagement, Focus Groups & EMobility Landscape Assessments

Facilitated with General Market & Diverse Consumers



EVHYBRIDNOIRE

Founders of The Nation's Largest Network of Diverse EV Drivers & Enthusiasts



Webinars & Online EV Tools

Development of Online Tools, Particularly as Relates to Targeted Demographics



Sonoma Clean Power is the public electricity provider for Sonoma and Mendocino counties. SCP provides customers with cleaner electricity at competitive rates from sources like solar, wind, geothermal and hydropower, and promotes local solutions to climate change. SCP is a not-for-profit agency, independently run by the participating Cities of Cloverdale, Cotati, Fort Bragg, Petaluma, Point Arena, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, Willits, Windsor, and the Counties of Sonoma and Mendocino. For more information, visit: <https://sonomacleanpower.org/>

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To cite the findings in the report, please use this format:

EVNoire (2024). *Sonoma Clean Power Transportation Needs Assessment*. Unpublished Internal Report.