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Best Practices For Electric Vehicle Carsharing Programs



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2035 NW Front Street
Portland, Oregon, USA, 97209

Lead Author:

Connor Herman, Forth

Table of Contents

Why Electric Vehicles	05
Why EV Carsharing is Important	06
Current State of EV Carsharing	08
Recommendations for a Successful Program	10
Key Stakeholders	18
Budget and Funding Strategies	20

Executive Summary

Having abundant and affordable access to transportation affects an individual's ability to live a healthy and fulfilling life. To date, a majority of carshare models have been implemented in urban, affluent areas and have not focused on electric vehicles (EVs). Forth has developed and tested a variety of EV carshare programs in the past six years, with the goal to identify and understand the best practices and challenges associated with implementing these programs in underserved locations, specifically in low-income and rural areas. This paper shares what we learned from operating these programs and provides a framework to guide others in designing a carshare program.

EV carsharing fleets are emerging globally. The popularity of carsharing presents a significant opportunity to better serve rural and low-income communities with EVs. To increase the utilization of this type of clean, sustainable transportation, potential operators must carefully consider a number of variables and build goodwill with stakeholders in business, government, and community organizations, as well as with carshare users.

Carefully considering the structural and technological needs of the communities that carshare advocates wish to serve, while also lowering barriers that make it harder for low-income and rural users to access carshares, is essential for success. Based on Forth's experience launching EV carshare programs with underserved populations, effective approaches include:

- Planning for revenue from varied funding streams.
- Carefully selecting carshare site hosts, technology platforms, and vehicle types.
- Providing educational outreach to familiarize users with EVs.
- Narrowly focusing marketing campaigns to reach target audiences.
- Partnering with organizations that can promote the carshare within the communities it serves.

1. Why Electric Vehicles

With transportation now the largest contributor to greenhouse gas emissions in the United States, the country must rapidly scale adoption of electric vehicles to meet national and international climate goals. Increased adoption of electric vehicles is critical to support the United States' goal of zero carbon emissions by 2050. Without continued aggressive action, this problem will only get worse: By 2050, demand for passenger transport is expected to more than double.¹ In order to curb the worst impacts of climate change, improve public health and increase energy security, the rapid electrification of the transportation sector is critical.

The significant and rapid growth in EVs has the potential to bring substantial benefits to the entire country. EVs can provide clean, reliable, affordable transportation that saves families thousands of dollars — especially as more models become available, including more used electric cars. This change brings with it an opportunity to improve equitable access to clean transportation sources. All people, regardless of where they live, should have the opportunity to benefit from the lower operating costs, reduced maintenance needs and improved performance of EVs.

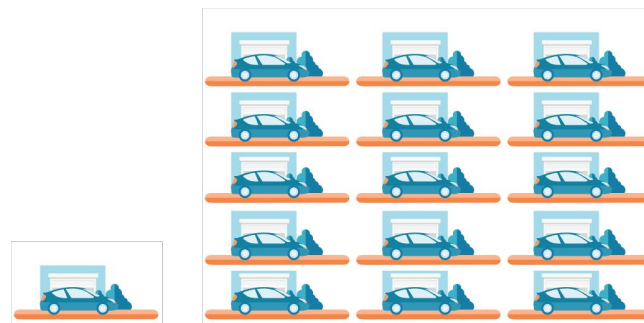
Transportation Increases Equity

The ability to access affordable transportation directly impacts an individual's access to education, professional development opportunities, child care and healthy food choices.² Access is not shared equally, however. Urban settings often feature a variety of transportation options that can complement or serve as an alternative for personal car ownership. Examples include public transportation, shared mobility services and micro-mobility options such as bikes and scooters. Transportation options are often more limited in rural communities due to lower population density and greater travel distances between destinations.

To date, much of the adoption of and investment in electric vehicles and carsharing has occurred in urban or more affluent areas, resulting in rural and low-income communities experiencing lower awareness of EVs and their benefits, and lower availability of EV charging infrastructure.³ At Forth, we are committed to improving mobility options for all. We maintain that electrifying and broadening the transportation sector is a key strategy to improve mobility options in rural and low-income communities.

2. Why EV Carsharing is Important

Carsharing is a model of car rental in which individuals have the benefit of using a car by the hour, with most of the costs of car ownership factored into the rental price, including insurance.⁴ Adopting EV technology in carsharing programs brings with it additional individual, social, and community benefits.⁵



1 carshare vehicle can replace 15 private vehicles

Economic Benefits

Vehicle ownership is costly. In 2020, the U.S. Bureau of Labor Statistics estimated that the average American household spent more than \$9,000 a year on transportation expenses.⁶ At the same time, privately owned vehicles spend 95% of their life in a parking spot, unused.⁷ On average, a single carshare vehicle takes 15 privately owned vehicles off the road and therefore reduces congestion.⁸

Social/Community Benefits

Socially, carsharing's primary benefit is that it allows everyone, including low-income individuals, students, and seniors, to maintain their mobility in ways that are affordable and sustainable. Reliable access to transportation allows these members of our community to participate fully in society.

At the same time, carsharing reduces parking demand, the number of idling cars, air pollution, and greenhouse gas emissions.⁹ The decreased need for parking in turn creates opportunities to reallocate land for parks, new housing, or other community needs. When carshare operators use EVs in their fleets, these benefits increase exponentially, and the advantages extend to both the user and the operator.

User Benefits

Many underserved and vulnerable communities lack access to safe, reliable, economical, and clean transportation. People in these communities also are more likely to face health burdens such as asthma from poor air quality, and longer commutes because of their limited access to transportation options.¹⁰

Carsharing can lead to new economic opportunities and bolster existing options. When a community has access to carsharing as an alternative to vehicle ownership, its members are free of the costs and other hassles of ownership, which include car insurance premiums, monthly payments, maintenance, vehicle registration fees, repairs, and parking and traffic violation tickets, among others.¹¹ Because most carshare services offer on-demand rentals and keyless entry, their users can experience the freedom and flexibility that car owners do.

Operator Benefits

For carshare companies/operators, EV fleets offer significant financial and operational benefits. Gasoline-powered cars are more expensive than EVs, even when accounting for variability by location and driving habits.¹²

A study from the University of Michigan found the average annual cost to fuel and drive an EV in the U.S. is \$483, while a gasoline-powered vehicle costs \$1,117 per year.¹³ Similarly, researchers from the National Renewable Energy Laboratory found that depending on the model, fuel costs, and driving habits, drivers can save \$3,000 to \$10,500 over 15 years by choosing an EV over a gas-powered vehicle.¹⁴

While the purchase price of EVs is typically higher than that of gas-powered vehicles, it's important to consider the total cost of ownership. Generally, EVs are easier and less expensive to maintain because they have only one moving part: the motor. Operators can save significant maintenance costs because their vehicles don't need regular oil changes or tune-ups. When a carshare includes on-site EV chargers, it offers additional convenience because the fleet vehicles can charge between reservations. This eliminates the need for fleet managers or users to visit a fuel station. Operators can also take advantage of tax incentives currently available in the IRA - for example, government and non-profit operators are now eligible for Elective Pay under the Inflation Reduction Act. Private operators can also claim credits.

Challenges

While there are many benefits to using EV models in carsharing instead of gas-powered vehicles, the transition to EVs has several challenges:

- Up-front expenses for EVs are typically higher than equivalent gas-powered cars and usually require installing charging stations.
- Servicing EVs can be more difficult because there is a limited supply of qualified servicepeople. Some components and services also may be more expensive.
- EVs will likely require slightly more down time to fuel up between uses, as charging takes longer than filling up at a gas station.
- EVs and their chargers use newer technology, so errors such as a user running out of charge may be more common.

Despite these challenges, in Forth's experience the benefits from EV carsharing far outweigh the negatives.

3. Current State of EV Charsharing

The global carsharing market is booming. A 2023 industry report put its estimated value at \$18.5 billion, with compound annual growth of nearly 16% through 2030.¹⁵ This growth brings with it a significant opportunity for EV operators. A 2021 study conducted by the Yale School of the Environment found that total indirect emissions from EVs are much lower than indirect emissions from fossil-fuel powered vehicles, demonstrating that EVs reduce climate pollution.¹⁶

Carsharing programs that use EVs can reduce greenhouse gas emissions from daily travel by up to 43% per user compared to gasoline-powered travel methods.¹⁷ Carshare operators are already recognizing these benefits, with increased adoption underway around the globe. In 2019, 66% of the world's carsharing companies used EVs for some or all of their fleets.¹⁸

Carsharing vs. Traditional Car Rentals

There are a few key differences between carsharing and traditional car rental though companies like Hertz or Enterprise. These include duration, booking technology, amenities, and pickup locations.

Carshare	Rental
Short-term, lasting minutes to hours.	Typically lasts one or more days.
Transactions are typically done through a mobile app or web-based tool.	Rental often requires a visit to a brick-and-mortar storefront.
Vehicles are typically spread out across a metropolitan area.	Vehicles are concentrated at a single parking lot.
Rental often includes insurance, roadside assistance, and fuel	Insurance, roadside assistance, and fuel not included or available for extra cost.

Carsharing Program Models

There are three primary models for carsharing: one-way, two-way and peer-to-peer (P2P).¹⁹

The **two-way model** is best for longer and planned trips. A customer reserves a vehicle from a station, drives the vehicle where they wish, and then returns the vehicle to the station to end the rental.²⁰ Users typically pay by the hour, by the mile, or both. In the United States, two-way carshare providers include Forth’s GoForth Carshare, Zipcar, HOURCAR, Miocar, Good2Go, ZEV Coop, and Envoy. Two-way models are typically station-based, meaning a car is picked up and dropped off in designated parking spots.

One-way cars provide flexibility in terms of pick-up and drop-off locations.²¹ An individual can rent a vehicle in one location and end their trip in a different place without the need to return the vehicle to the original location. One-way models can be station-based or free-floating. The latter is when a car can be picked up or dropped off anywhere within a designated zone (such as a municipality). In the United States, BlueLA, Gig Car Share from AAA, Free2Move, and EVIE Carshare are examples of free-floating carshare companies.

Sometimes called the “Airbnb for Cars,” the third model of carshare is **peer-to-peer**, which allows car owners to share their vehicles with others to use for short periods of time.²² Individuals often subsidize the cost of their personal vehicles by renting them out through the P2P model.²³ Examples include Turo and Getaround, both U.S.-based companies.

4. Recommendations for a Successful Program

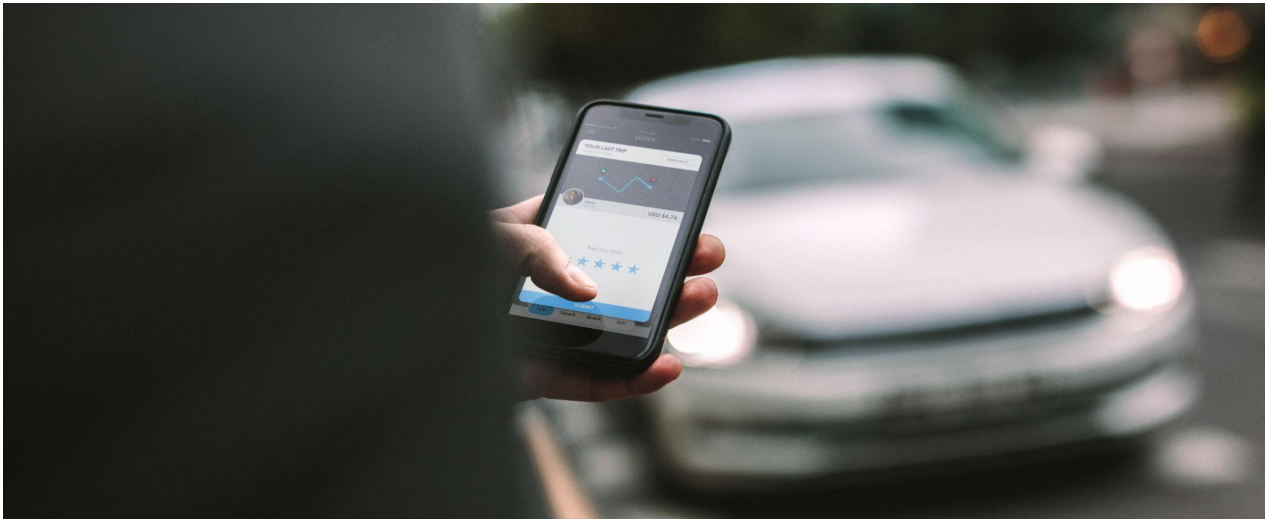
To launch a successful EV carshare program, potential operators need to consider dozens of elements, from the carsharing model they'll use to how they'll manage refueling, insurance, staffing, and promotion. Ensuring that the organization has plenty of time to problem-solve for both planned challenges and unforeseen roadblocks will be key to the program's success.

Carshare programs have many benefits, but building a program is not always straightforward. To be truly equitable, carshare operators must consider not just the financial and infrastructure challenges, but also additional barriers to entry for their user base. These range from financial and technological issues to cultural concerns and site selection.

Getting Started

To move any project forward, there needs to be a champion to begin putting the pieces together (see page 9, Key Stakeholders). This could be someone who works for the city, a local nonprofit, or another entity that wants to take the initiative. Before diving into a carshare program, a critical early step is to figure out where the potential program would be located and whether EV carsharing is appropriate for that specific area/community. Forth recommends that the project champion:

- **Issue an RFP:** The call for proposals should request responses from firms with expertise in providing hands-on support to assess carshare program viability. A good respondent should conduct a transportation needs assessment to identify the type of project and geographic location that would be the best fit.
- **Identify or establish funding opportunities:** Find out if there is financial support from the city available. Identify connections that the city may already have to other funding stakeholders such as utilities, state or federal programs.
- **Build community support:** Develop partnerships with stakeholders who can help the program operate and promote carshare in the program's chosen locations. These could be community-based organizations, housing sites, or local vendors, such as a cleaning service.
- **Establish goals and objectives:** Sample metrics for a new program include benchmarks for the number of users, miles driven, total hours traveled, or revenue generated. To ensure equitable program design, Forth recommends setting a metric for a minimum percentage of low-income or BIPOC participants as part of the goal-setting process.



Program Structure

Once the desired program elements and design come into focus, operators must decide whether it would be best suited to a one-way or two-way model and whether to operate an open or a private network for drivers. Using a private network means that only those who are invited or have a special code will be able to see and access vehicles across the platform. An open, or public, network means that anyone who downloads the app, passes the driver-screening process, and sets up an account will be able to see and use the carshare vehicles. The end price a user will pay also needs to be set. Forth recommends the following approach:

- Establish the platform model:** It is extremely beneficial for EVs to have a “home station” for refueling when they are not being used. For this reason, Forth has found a two-way, station-based model to be most appropriate. This option is usually less expensive to implement because it does not require staff to move cars from one location to another. We do not recommend free-floating or one-way models unless the program will have large fleet in a relatively small area (more than 50 cars in a city, for example).
- Utilize an open network:** This reduces barriers and increases the options available for carshare members to use program vehicles. Certain host sites may have concerns about letting the general public into their parking lot, however. If this is the case, operators may want to consider a private network.
- Keep the price low:** We have found \$5 an hour to be the price most communities are willing to pay for carshare services. This can be paired with a daily rate (such as \$50 per day) and other promotional codes to encourage utilization. Some programs may opt for a tiered structure, with lower prices for income-qualifying members. In this case, operators will need to consider what systems will be necessary to qualify members for a lower rate.

Insurance

Finding car insurance to cover the vehicles in the carshare fleet requires careful planning. A policy needs to protect both the operator and the carshare users in case of an accident. Procuring insurance can be difficult for smaller fleet, because insurers prefer to spread their risk across more units. Operators will find it beneficial to:

- **Work with a broker early on:** Given the complexity of carshare insurance policies, it's important to have an expert guide you through your options. Depending on the state and entity type (e.g. nonprofit), different underwriting options may be available to you. Operators can expect to spend between \$2,500 and \$3,500 per annual vehicle premium.
- **Expect the unexpected:** Budget for an accident support fund to cover insurance deductibles for low-income carshare members. This offsets some of the financial risk of participating in a carshare program, making it more accessible to users.

Selecting Vehicles

When building a carshare program fleet, operators need to understand users' driving needs, including range and accessibility features. Operators also must plan to have enough vehicles that the fleet can still operate when some of its EVs are offline for repairs or maintenance. Forth recommends the following approach:

- **Include a variety of vehicle types:** Choose a mix of compact EVs and larger models that are wheelchair-accessible and allow for more cargo and/or passengers. Vehicles should have a minimum 150-mile range, with 250 miles more versatile (especially in rural areas). Having different vehicle models also ensures not all vehicles are out of service at the same time if there is a recall.
- **Resolve insurance details first:** If you are leasing or financing vehicles, the underwriter or leasing agency may require insurance minimums which may be difficult, so having the insurance figured out before deciding a procurement method is recommended.
- **Research incentives:** Consider any local, state, or federal incentive programs for EVs. The availability and applicability of rebates and grants may make certain models more cost effective.
- **Consider used models:** While it is ideal to build a fleet through vehicle donations, if you must buy retail vehicles try to avoid retail sticker prices. Low-mileage, late-model used vehicles are a good choice to save money. It's important to weigh the availability of federal and state incentives, which now may be applied to used EVs in some cases.

Choosing Carshare Technology

Carshare technology platforms integrate booking, revenue, data, and many other elements to implement a program. When choosing software and hardware for your carshare, make sure to vet a number of platforms:

- **Assess system integration:** It's important to make sure the software options you select are compatible with the hardware available to power your program.
- **Rank the importance of different features:** Users expect simple, seamless registration and reservation systems to access and use carshare vehicles, but they also may have specific barriers to overcome, such as access to a bank account or smartphone, or challenges with language. Meet with multiple vendors to understand the technology and the features that best meet your users' needs. If you can, test multiple options before committing.
- **Consider accessibility:** How will the end user interact with the platform? Are there options for the unbanked or those without a smartphone? Are multiple languages supported? When possible, alternative payment methods like pre-paid debit cards should be used because some users may lack access to traditional banking and may not be able to use a debit or credit card for payment.

Charging Stations

For refueling, operators need to consider who will own and maintain the home-site charging station, how much it will cost a user to refuel at the site, and whether the user or the operator will pay for fueling away from the home charger. Forth recommends the following best practices:

- **Parking:** Make sure there is a designated parking space and charging port for each carshare vehicle.
- **Charging:** Ensure that each user can easily initiate a charging session, and that users are not responsible for handling a separate transaction at the home station. If you want to have a fee for charging, it should be included in the rental price. Options for initiating a session include:
 - Charging that starts automatically when plugged in.
 - Using an RFID card that lives in the vehicle.
 - Charging that integrates directly with the carshare app.
- **Troubleshooting:** Make sure there is someone supervising and able to readily address any problems a user may have with a charger. The responsible party could be the operator, but may also be an outside technician. Consider combining the needs of an EV carshare with workforce development opportunities for members of your community. Make sure points of contact are clear and responsibilities are clearly communicated.

- Incentives:** Take advantage of any incentives offered for the purchase of charging infrastructure. Many utilities offer charging rebates. The incentive amount depends on the type of entity (residential, business, multifamily housing, etc.). State and federal government programs also are increasingly available to pay for charging infrastructure.



Education, Outreach, and Promotion

Education is an important tool in launching any new program, especially when working with innovative technology. For equitable carsharing, program operators must intentionally conduct outreach in a way that makes the programs more accessible and reduces barriers. Forth recommends the following methods:

- Word-of-mouth promotion:** Personal, word-of-mouth recommendations are the best promotional device to grow a carsharing program's user base. To aid in this, offer free driving credits and/or promo codes to members who recruit their friends and colleagues. An effective approach to this is having an "ambassador" volunteer program, which trains and incentivizes members to introduce others to the carshare.

- **In-person events:** Hosting “EV-ents” with local, trusted partners and in high-use locations, such as at farmers markets or community meetings, is an excellent way to promote the program. If possible, make sure outreach staff and materials are in languages specific to the host community. Use this as an opportunity to walk potential members through the technology. Take time to highlight the mobile apps, explain EV charging, and educate people on how to drive an EV.
- **Member support:** Carshare users may experience challenges associated with mobile apps used for the program. An app may not be available in the language that a member speaks or reads. Some members may lack the technological literacy to effectively use a carshare app. Outreach staff can help lower these barriers through education.
- **How-to guides and videos:** These resources can supplement in-person or phone member support to help members in understand how to use the program’s various components.
- **Other creative approaches:** Forth has found success with a number of creative tactics to promotion, including on-vehicle branding and parking signage. Partnerships with anchor tenants, such as a school, apartment complex, or local business or nonprofit, also can be an effective way to raise awareness.

Fleet Management

Even though EVs require less maintenance and service than gas-powered vehicles, they still need periodic management. A comprehensive plan for keeping the fleet in top shape should include the following considerations:

- **Fleet proximity:** The closer together the vehicles are located, the less a single person or company needs to travel to manage the fleet. This makes maintenance and service work easier and less expensive. If a vehicle gets taken out of service and there are other vehicles nearby, it also doesn’t eliminate the ability for members to use the program in that area.
- **Servicing:** It’s important to know where vehicles can get serviced nearby and to develop a plan for service work. One challenge, especially in rural areas, is finding qualified dealers or third parties that can work on EVs. Consider what type of dealers or shops are in the area when selecting a vehicle type or location for your fleet. If there is not a service option nearby, ensure there is a method such as towing to get vehicles to a service center.
- **Repairs and maintenance costs:** We recommend about \$1,000 per year per vehicle to take care of everything from new windshield wipers to flat tires, typically items that will not meet the insurance policy deductible.



Staffing Considerations

Before you can recruit drivers for a carshare service, it's essential to recruit the staff necessary to operate seamlessly. While there are many ways to structure a team, Forth recommends the following focus areas for a small carshare:

- **Financial management and business development:** These professionals are responsible for identifying funding, creating budget projections, managing revenue and expenses, and fulfilling any financial or funder reporting requirements.
- **Member services:** These team members are dedicated to ensuring a smooth experience for users. Duties include providing orientations, conducting outreach, and responding to customer calls and emails. Member services staff should be able to support multiple languages and be ready to coach individuals unfamiliar with EV or carsharing technologies.
- **Fleet management:** These are the boots-on-the-ground staff who get vehicles into service and keep them functioning. This includes taking vehicles to service centers, doing maintenance, and cleaning vehicle interiors and exteriors, among other duties.

Establishing a Host Site

Setting up a host site for a carsharing program, whether with a municipal partner or with a private entity, requires careful negotiation. It may take six months to a year to sort out the details. The most important thing to get across to the host site is the need for the carshare to have exclusive use of charging stations and reserved parking spots on the property. When vetting a site, operators should:

- **Rate the potential site:** Ensure the host is interested and that the site you select meets criteria established in your program's transportation needs assessment (See page 5, Getting Started). For example, one factor to consider is whether the site offers access to complimentary transportation options such as public transit or bike routes.
- **Level-set with the site:** Carsharing often is a new concept for the potential site, which also may not be familiar with EVs and charging technology. The host's priority is the core service it offers (For instance, a multifamily residential site is busy delivering housing.). We have found that taking the time to explain the technology and the service to potential hosts, and to clearly address any concerns they have about its effect on their business, goes a long way.
- **Establish need:** Make sure that the host site can provide an anchor user base. The location should offer access to carshare members that meet your program's equity goals while also fulfilling the wider goal of increasing exposure to EV models through test driving. A good example of a host site that offers a core user base is an affordable housing development.
- **Insurance:** Be willing to add the host site to your insurance policy and indemnify the host site. While it is best practice for the host site to do the same for the carshare operator, host sites may push back on this aspect of the agreement.
- **Be patient:** Plan for up 18 months from the time you first reach out to a host site to when your program launches. In the best case scenario, a relationship with a potential host site is established before implementing a project. This is because contract negotiation requires time and flexibility. Delays with charging installation (such as hardware availability) and navigating the permitting process also may take longer than expected.

5. Key Stakeholders

To build capacity for carsharing programs, potential operators must work with stakeholders in government, electric utilities, local business organizations and community development, as well as with subcontractors and vendors for operational support. Just as important are the potential site hosts, carshare members, and local community-based organizations that will support program utilization.

The stakeholders included in the table above can be powerful advocates for EV carsharing. Developing strategic partnerships with each of them can ease the launch of a carsharing program and aid in decision-making strategies that will best serve carshare members.



Stakeholder	Role
Carshare service operators	For-profit or nonprofit entities that provide vehicles, insurance, software platforms, fleet management, and member services. Operators may rely on a series of subcontractors to deliver services, such as vehicle cleaners, language interpreters, or software providers, among others.
Local government/ public agencies	May be the project lead or champion responsible for planning, project management, issuing RFPs, guiding community engagement, education and outreach, and implementing transportation needs assessments. In some cases, they may provide funding or act as a host site, such as a public library.
Regional, state, or federal government agencies	May provide financial support or project management.
Property developers/ owners/managers	Act as host sites for charging stations and carshare services. Additionally, they may be able to provide promotional or operational support.
Community-based organizations (including faith-based institutions)	May help program managers prioritize locations for the service and may be involved with outreach and engagement to promote the service. They will advocate for clear community benefits and strategies to prevent unintentional gentrification from program implementation. Sometimes, they act as the host site and help implement transportation needs assessments.
Employers/business owners	May act as host sites for charging stations and carshare services. In some scenarios, they may also provide promotional, operational, or financial support.
Electric utilities	May help evaluate sites for charging suitability and provide other technical assistance, or support the project with incentives or a direct investment in the infrastructure and operational costs. They may also serve as program leads, help bring a project to fruition, and promote it to customers.
Charging companies	May own and/or operate the chargers and be involved with the technology design and installation. These companies have different business models and pricing options that must be compatible with the carshare's operational needs.
Electricians/contractors	Skilled trade workers with experience installing chargers. They are responsible for implementing the final designs, and possibly for permitting and approvals. It is important to engage an experienced electrician early in the process to manage costs.
Public sector/permitting authorities	Support and ultimately approve the project for installations. Especially important with projects in the public right-of-way.
Universities/educational institutions	May be used to implement a transportation needs assessment or conduct program evaluation. They could also act as host sites.
Tenants/residents/ carshare members	The users who will ultimately make the project successful by utilizing the carshare service. They include residents and nearby community members who become users of the carshare service. Depending on site location, this could also include business or organizational staff.

5. Budget and Funding Strategies

Pricing a carshare service depends on many variables. A program that serves low-income drivers will not cover its operating costs through earned revenue and will require ongoing financial support. This is why large carshare companies primarily operate in dense, relatively affluent cities and neighborhoods.

Operators who want to establish a carsharing program that reaches people in rural and low-income communities often find it necessary to consider a mix of funding sources. When deciding on a pricing model, potential operators must factor in:

- Geography (i.e. cost of living for the area under consideration).
- Socioeconomic demographics being targeted for the program.
- Ways to subsidize the program through external resources beyond earned revenue.

It's likely that the funding plan for the carshare program's launch will differ from the long-term plan. In addition, while grants or tax credits may be available to cover charging equipment and installation, other funding sources will be necessary for operations, community engagement, workforce development, and other efforts.

Diverse Revenue Streams

As potential operators put together the pieces of their funding mix, some types of revenue to consider are earned revenue from sign-up, usage and excess mileage fees; grants from foundations, municipalities, and government sources; and sponsorship from utilities or other entities that benefit from transportation electrification. Forth recommends that operators look at carshare programs from a transit perspective: While both transit and EV carshare provide a public good, transit agencies have a 15%-40% farebox recovery ratio, depending on transit type and location. In contrast, carshare programs are often expected to operate near 100% recovery. This highlights that transit has a long history of public subsidies, which should also be considered for EV carshare programs.

Examples of potential funding sources include:

- Electric utilities (ex: Xcel Energy's funded EVIE Carshare in Twin Cities)
- Municipal or regional sources (ex: City of Grand Rapids)
- Federal government (ex: Carbon Reduction Program)
- State government (ex: State of Washington's Zero Admission Access Grant)
- Private foundations (ex: GM's Climate Fund)

Other Innovative Funding Ideas

Although it has not been heavily used for carshares, bikeshares have found success with corporate sponsors. One such example is Biketown, a Nike-sponsored program in Portland, Oregon. The service is operated by Lyft, but public recognition goes to the sponsor.

Forth also is exploring a “mixed use” concept for carshare vehicles, split between business and public purposes. In an example of this scenario, a housing site’s staff could use the carshare vehicle at the market rate, which would be less than owning a fleet vehicle or paying a mileage per diem. The housing site’s fees for use would then provide funding to support a lower rate for building residents or the general public.

Pricing

To reach the geographic and socioeconomic targets for equitable carsharing, it is common for services to offer a standard rate for most users and a discounted rate for income-qualifying users. Many operators also have variable pricing by vehicle type, with larger vehicles seeing a premium. Forth recommends carshare operators conduct a survey to gather data on what local residents may be able to pay and how this compares to other local transportation options.

Fees that are affordable for underserved communities are much lower than the market rate of for-profit carshare services. This is one reason carshares are historically more available in affluent communities.

Operators will need to weigh multiple variables, but a highly utilized carshare with a rate of about \$5 per hour could likely cover about 25% of operating costs. The remainder would need to be covered through other funding mechanisms.

Additionally, funding will need to be designated for equipment purchases and for installing and maintaining the infrastructure, among other things.

Examples of Current Carshare Pricing Models

Service	Location	Price Structure
EV-Werx	California	Rates start at \$4/hour or \$35/day up to 150 miles, \$0.15 per mile thereafter. ²⁵
Free2Move	U.S., Europe	Pricing varies by location. In Washington, D.C., \$0.47/minute, \$13/hour, \$95/day. ²⁶
Getaround	U.S.	Fees are \$5-8/hour for trips under 200 miles. There is a booking fee of 3% per trip. The cost for each mile over 200 is \$0.50. ²⁷
GoForth CarShare	Oregon, Washington, New Mexico	For first 150 miles of reservation, \$5/hour. Additional \$0.40 per mile after 150 miles. ²⁸
Hourcar	Minnesota	Monthly plans vary from \$0-\$7, with rates ranging from \$6.90-\$11.50/hour or \$63-\$105/day and excess mileage fees of \$0.45-0.75 per mile. ²⁹
Ithaca Carshare	New York	Annual plans vary from \$30-\$355 per year with rates ranging from \$6.00-\$9.00/hour plus mileage fees of \$0.42-\$0.52/mile ³⁰
Turo	U.S., Canada, UK	Begins at \$25/day in the U.S.; could rise to more than \$100/day for higher-end vehicles. ³¹
ZEV Coop	Washington	\$500 refundable membership dues. \$8/hour for members and \$16/hour for nonmembers. ³²
Zipcar	U.S.	Memberships start at \$9/month and \$90/year. Per hour, prices are \$10-18. Price per day is \$83-\$133, depending on vehicle type. Fee of \$0.58/mile after 200 miles. ³³

Example Budget

A sample budget representing two vehicles at a single site, operating for two years, is provided below. This is meant to offer potential operators a starting point to understand the scale and type of expenses and revenue sources for a carsharing program. Your region and the specifics of your service offering could greatly affect these variables.

Expense	Amount	Description
Up-Front Vehicle Expenses		
Vehicle purchase	\$48,000	Assumes buying a low-mileage, late-model, all-electric vehicle with a 250-mile range.
Vehicle onboarding	\$4,000	Up-front expenses to make a vehicle ready for carshare service. This may include vehicle wraps, installing the telematics, vehicle registration, shipping, and other miscellaneous expenses.
TOTAL VEHICLE EXPENSE	\$52,000	
One Dual-Port EV Charging Station Procurement and Installation		
Charging station management	\$4,400	Ongoing expense, this assumes 50 hours per year of management at \$44 per year.
Dual-port charging station	\$5,800	Assumes charging station hardware with smart software, shipping, and activation fees.
Installation	\$20,000	This will likely range from \$10,000-\$30,000, depending on location specifics and necessary electrical upgrades.
Charger network fees	\$960	Most smart chargers have an annual network fee. This assumes \$240 per port per year.
Warranty/ maintenance	\$550	Extended warranty and/or potential maintenance fee, estimated at \$275 per year.
Home station electricity	\$3,840	Assumes 8,000 kWh per vehicle per year, at a rate of \$0.12 per kWh.
TOTAL CHARGING STATION EXPENSE	\$35,550	
Carshare Program Operations Expenses (2 Years)		
Personnel	\$30,000	Personnel time for project management, fleet management, promotion, and any other tasks to operate the service. Assumes 600 hours per year.
Carsharing insurance	\$12,000	Assumes \$250 per vehicle per month for carshare coverage.
Maintenance, repairs, miscellaneous contractors	\$4,800	Assumes \$100 month. We recommend setting this aside to cover everything from windshield wipers to small fender benders that will not meet the insurance deductible.
Vehicle cleaning	\$9,600	Assumes contracting a mobile cleaning vendor to perform internal/external cleanings twice a month, per vehicle.
Motor vehicle record checks	\$2,500	Assumes a cost of \$25 per record check, with 50 checks per year per site. This cost could be extended to the user via a registration fee.
Telematics and platform expense	\$3,000	Cellular and software expenses for carshare software subscription to communicate with <u>vehicle</u> and manage service. \$125 per month per vehicle.
24/7 member service call center	\$15,000	Assumes paying an internal staff member who hires an external agency to handle member services inquiries around the clock. Estimated at \$50 per hour with 150 hours allotted per vehicle per year.
Marketing and promotion	\$1,000	Assumes using \$500 a year to promote the vehicles via in-person events, flyers, and paid media (advertising).
Overhead and G&A	\$23,370	Dependent on organization. This example assumes 30% overhead and admin rate on operations.
TOTAL OPERATING EXPENSE	\$101,270	
TOTAL CARSHARE AND CHARGING EXPENSES	\$188,820	

Sample Revenue		
Revenue Source	Amount	Description
Earned revenue	\$18,250	Assumes a rate of \$5 per hour, with an average of 5 hours of utilization per day per vehicle.
Utility charger rebate	\$5,000	Many utilities have established rebate programs. Some offer additional incentives for multifamily housing sites.
Utility Grants or Sponsorship	\$48,000	Many utilities have established grant programs, such as Portland General Electric's Drive Change Fund . Other utilities may be willing to explore supporting an EV project in their service area.
Municipal funding	\$50,000	Unless there is an established city grant program, this will likely need to come from establishing connections with the city.
State vehicle rebates	\$10,000	Assumes \$5,000 per vehicle. Example based on Oregon's Charge Ahead rebate .
Federal funding: Charger tax credits	\$7,500	30C Alternative Fuel Infrastructure Tax Credit , valued at up to 30% of infrastructure costs.
Charitable giving: Foundation or corporate	\$50,000	This would likely take the form of a grant proposal to a local, regional, or national funder.
TOTAL REVENUE	\$189,750	

Links

[Portland General Electric's Drive Change Fund](#)

[Oregon's Charge Ahead Rebate](#)

[30C Alternative Fuel Infrastructure Tax Credit](#)

Additional Resources

Champions for equitable EV carshare programs and their stakeholder partners may find the following resources helpful:

- [Final Report and Case Study: Self-Service Ride & Drive and Rural EV Sharing](#), Forth, 2024
- [Community Impacts: Accessible EV Carshare Programs](#), Forth, 2023
- [Equitable Electric Mobility](#), Forth, 2023
- [Low-Income Car Sharing](#), Forth, 2020
- [Project Lessons: Car Share](#), Clean Cities Coalition Network, U.S. Department of Energy
- [Indicators: Car Access](#), National Equity Atlas
- [An equity indicator for free-floating electric vehicle-sharing systems](#), Transportation Research Procedia, 2023
- [Share the spark with EV carshares](#), Transportation for America, 2023
- [Is access enough? A spatial and demographic analysis of one-way carsharing policies and practice](#), Transport Policy, 2022
- [Our Community Carshare Sacramento Case Study](#), Shared-Use Mobility Center, 2020
- [Assessing the Viability of Car-Sharing for Low-Income Communities](#), University of Texas at Arlington Center for Transportation, Equity, Decisions & Dollars, 2019
- [Mobility equity framework: How to make transportation work for people](#), The Greenlining Institute, 2018

Forth also has compiled the findings from across its research and pilot into a series of white papers that can help make the case for investments in electric vehicle programs. See forthmobility.org/reports-studies-papers to download these resources.

Lead Author

Connor Herman, Forth

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