Carsharing Toolkit
Version 1.0

Developed for the Clean Rural Shared Electric Mobility (CRuSE) Project
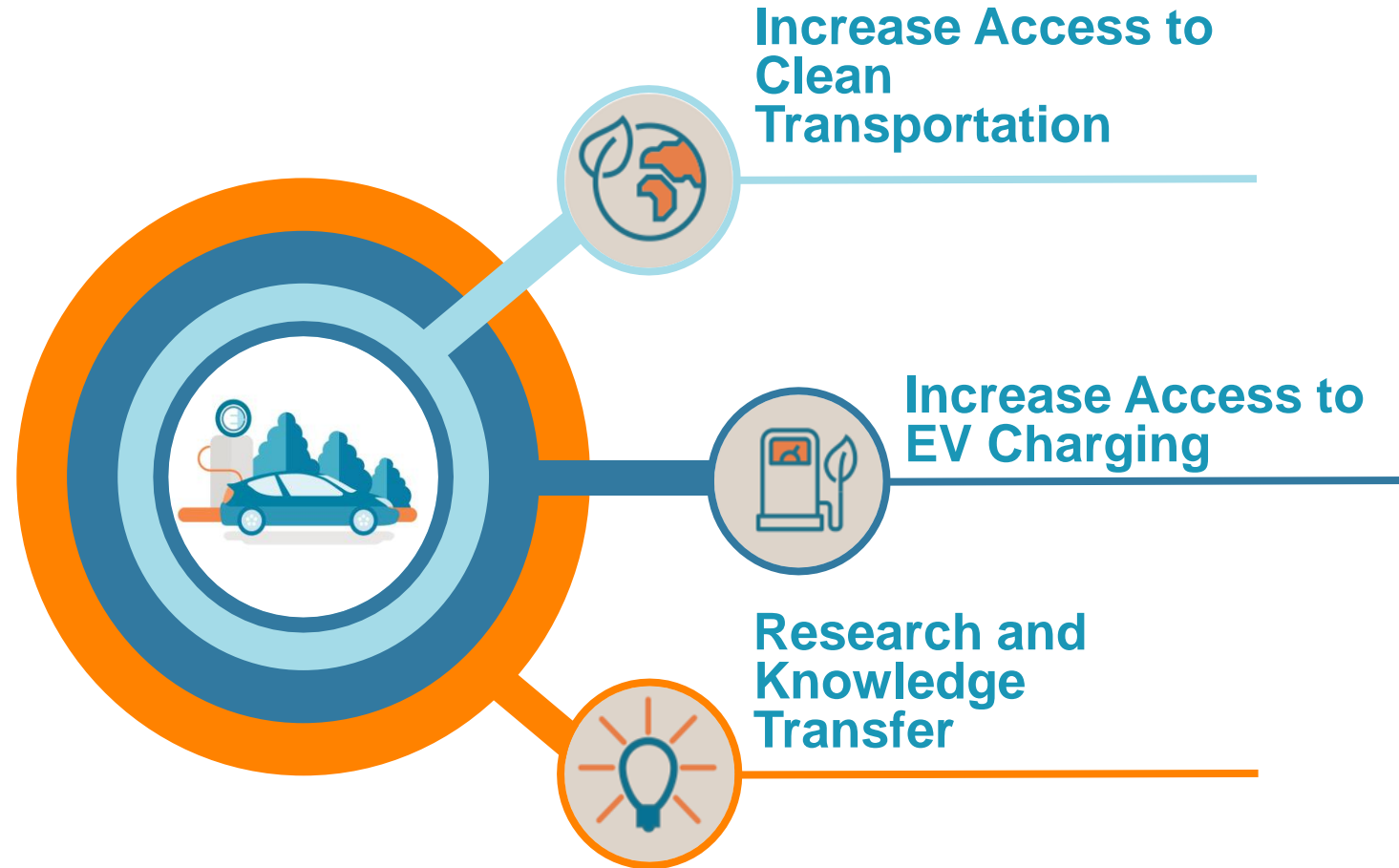
June 2023

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CRuSE Project Overview

Purpose:

- Develop, demonstrate and refine an electric vehicle carshare in Hood River, Oregon
  - Deploy 5 electric vehicles and charging stations for use for carshare
- Collect and analyze data to define a financially sustainable model
- Disseminate results for replication in other rural communities

- Funded by U.S. Department of Energy's Vehicle Technologies Office

- Timeline: October 2019 – June 2023

Increase Access to Clean Transportation

Increase Access to EV Charging

Research and Knowledge Transfer

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Empowering Mobility

Toolkit Contents

Key considerations for launching community-based carshare programs

Framing your project

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Which type of carshare is right for you?

- **Station based**: Someone reserves a car from a station, drives it to their destination, then returns it to the station. Example: Zipcar.

- **Peer-to-peer:** Car owners share their vehicles with others for a short time, often to subsidize the cost of their own vehicle. Examples: Turo, Getaround.

- **Free-floating**: Flexible pickup and drop-off locations. Rent a car from one place and leave it somewhere else. Examples: BlueL.A., AAAGig.

Framing your project

Who are the users of your service?

Determining and understanding your target users will shape the planning of your service. Some possibilities:

- Affordable housing residents and staff
- Other community members
- Tourists
- Local businesses and organizations
- Transit users
- Delivery service drivers
- Older adults
- People with disabilities

Framing your project

Private vs. Public Network

- Private: only people within a certain group can use the service.

- Public: anyone can use the service if they download the app, pass driver screening and set up an account.

Identify your legal entity

Will it be a [for-profit](#), a [nonprofit](#), a [mixed partnership](#), or a [co-op](#)? Your choice may affect your eligibility for funding.

Framing your project

What is your business plan?

- It can be tough to operate on earned revenue alone, especially outside of densely populated areas. You'll probably need multiple sources of funding. You might need to look for a long term funding plan after your initially funded launch. Possible sources of funding: earned revenue from the service, private grants, public grants, and sponsorship from businesses such as electric utilities.

Framing your project

Program Partners

You will likely need/want to partner with several entities during the course of your carshare program. Your choice of partners will be influenced by the goals, users and needs of your program, options include:

- Municipalities
- Electric utilities
- Parking departments
- Planning authorities
- Leaders in the community
- Housing organizations
- Local community-based organizations

Technology & Vehicles

Technology

There is a software and hardware component to the technology needed to run a carshare. There are also two interactions to consider: how the car interacts with the hardware and software, and how users will interact with the software and car. Determine how people will interact with your service and how fees, reservations, and promotion codes will be managed. Carshares and EVs are new technologies for many. Host learning sessions where you can show people in person how to use the app, the vehicles, and charging stations. Some things to consider when choosing a platform:

Application:

- How is the user experience?
- Is a cell phone required? Could it be accessed from a computer? Is there the possibility to utilize RFID cards to expand access for those without a smartphone?
- Will the software application be available in languages other than English?

Vehicles:

- How well integrated is the software with the vehicles on the platform? Are there likely to be compatibility issues? If integration between software and your vehicles hasn't already occurred, will it slow down your project?

Technology & Vehicles

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Vehicle Choice

Considerations:

- New or used?
- A decent **vehicle range is critical**. 150-250 is good, you will want to factor in the area the EV is located and the needs of the users it is designed to serve. For example, in a compact town or Urban area where trips are shorter, the range could be less, vs. a rural area where the general distance traveled is longer, requiring greater range.
- **Do you need compact or large vehicles**? Most electric vehicles are compact or crossover vehicles. For some, that is too small and they may not be accessible for people with disabilities. You may consider (when available) vehicles accessible to people who use wheelchairs.
- Be aware: The **cost of both new and used EVs is relatively high** (but so is gas), and the inventory is relatively low, which can impact your procurement abilities and timeline.
- **Will you be leasing or purchasing**? If vehicles are leased, what's your plan for after the lease period? Can the vehicles be bought out? If so, who might take them over when the plan transitions?

Technology & Vehicles

How will your vehicles refuel?

- The charging stations: who will own and maintain them? Consider program goals, target users, pricing in the area
- How to price/bill the electricity?
- Charging location: safe and accessible? Ease of access and use?
- How does the user interact with the charging station?
- Who pays for fueling away from the home charger, the operator or the user?
- Expect the installation of your charging stations to take longer than expected.
- Be aware that your car share platform system (and data collection software) might draw battery energy even when the vehicle is out of use.

Obtaining Insurance

Carshare insurance is challenging to procure. Some aspects to be aware of:

- The smaller the fleet, the harder it can be to get insured.
- Start working with an insurance broker early on to get bids.
- Rates may be high.
- Some car share companies provide their own insurance.
- Consider what to do for members who can't afford paying deductible costs in the event of an accident. You might budget for an incidental collision support fund for those situations.
- You may also want to budget for an incidental collision support fund as part of your insurance budget, in order to assist those members for whom paying a deductible in the event of an accident would be a burden.

Operations, Marketing & Evaluation

Staffing and Operations

Note: Some of these tasks may fall to your program partners. It will be important in the course of your planning to consider these operations so they can be clearly defined and agreed upon in your partner agreements.

Who will manage the following?

- Software/hardware integration for the vehicles
- Member services: recruiting, onboarding members, customer support (in and out of business hours)
- Communications: to partners, funders (reporting), the public
- Fleet management: flat tires, collisions, towing, washing, etc. Will this be staff managed or will you use a third party company to manage it?
- Budgeting and financial aspects

Operations, Marketing & Evaluation

How to price the service?

Variables:

- The cost of living in the area
- What can your target groups afford?
- Are there funds for subsidizing the program outside of earned revenue?

Variable rates: Often there will be a standard rate and a discounted rate for those who qualify by income. Conduct an assessment to find out what people can pay and how it compares to other local options. Free is not recommended. This leads to people keeping cars long term when other members need to use them and can be a source of mistreatment of the cars.

Rate structures: Often there will be a one time registration fee which could also cover the cost of a requires Motor Vehicle Records check. After that, rates are usually per hour or minute. Discounts may apply for day use, monthly memberships and/or for low-income users. Mileage can also be charged; sometimes a certain number of miles is included, and beyond that amount mileage is charged.

Operations, Marketing & Evaluation

Where will the vehicles live?

Factors to consider
- **Is it well situated?** Is it available during all hours? Is it safe for the vehicle? Safe for users?
- **Charging infrastructure.** What is the cost to operate it? Who will maintain it?
- **Is the site near people?** Is there an apartment complex or other anchor tenant at the site?
- **Do nearby people need a carshare?** Survey the local community or connect with community-based organizations to understand transportation needs.
- **Is the host site a partner?** Could they provide project support (such as waived parking fees) for the program? Can they provide vehicle support and help promote the program? Do they have staff or volunteers who can help? Note: Getting to an executed contract with the host site can be a process. Liability and the amount of work expected of the host site are often key discussions.
- **Complementary transportation.** Is it near transit? Biking?
- **Proximity to other carshare vehicles.** Is there more than one vehicle available? Vehicles placed near to each other makes fleet maintenance easier and provide more options for users.
- **Is there good signage for the vehicles?** How easy is it to find the vehicles and is it clear what they are for and how to check them out?

Operations, Marketing & Evaluation

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Payment/privacy considerations

Some people may not have access to debit/credit card. And some may hesitate to share personal information with an app.

Recommendations:
- Use pre-paid debit cards.
- Consider allowing cash payments
- Be innovative! Explore solutions with the community.

Operations, Marketing & Evaluation

Potential marketing and promotion opportunity to increase utilization

- **Word of mouth.** Referrals can be your best source. Consider free driving credits or promo codes for members who make successful referrals.
- **Work with your site hosts.** Does your site host have a newsletter or can they distribute flyers?
- **Parking signage / vehicle branding.** Tell people it's a carshare and how/why to use it. Post clear and visible signage so passersby will stop and learn more about the program, and can understand how to use it. QR codes, and different language options should be considered.
- **Provide how-to guides.** This is a pretty new technology! Provide info where it can be easily accessed. A video might be particularly useful for helping people understand how to use the platform and check out a vehicle.
- **Events**. Demonstrate in person how to check out a car and use the technology.
- **Consider distributing (translated) flyers** door to door to residences of expected users of the service.
- **Media advertising (digital/print/radio)**
- **Partner with community organizations** who can promote the program to the people they serve.

Operations, Marketing & Evaluation

Project Refinement

- Survey users and community members to get feedback on project planning and post-launch user experience. Consider offering ride credits for people who take the survey.
- Create a group of local partners to evaluate the program, problem solving around any issues that come up.

Operations, Marketing & Evaluation

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Performance measures

Establish your timeline. Determine metrics, such as:

- Number of vehicles, Number of Member signups, Number of Bookings, Charging sessions. Distribution of the number of bookings by weekday and by hour or day. Length of charging sessions. Energy consumed during charging. Miles traveled. Revenue generated.
- Measure reduced emissions--specifically carbon savings reported by the charging station vendor and the average tailpipe emissions savings when comparing the EVs in the project to an average gas vehicle (the per mile data might be obtained from fueleconomy.gov).
- Gather quantitative and qualitative data through surveys.