

Oregon Greenhouse Gas Reduction Toolkit:  
**Strategy Report**  
OREGON SUSTAINABLE TRANSPORTATION INITIATIVE



## Car Sharing

*This report describes how car sharing can reduce greenhouse gas (GHG) emissions by providing automotive access on an as-needed basis.*



### What is it?

Car sharing services are membership based and provide access to an automobile on an as-needed basis, providing the benefits of a private vehicle without the costs and responsibilities of ownership. Car sharing differs from traditional car rental in that vehicles are typically rented for short periods; reservation, pickup, and return are all self-service; and vehicle locations are distributed throughout the service area, often close to transit. **Commercial Car Sharing** is run by an organization that maintains a fleet of vehicles deployed in various locations. **Peer-to-Peer Car Sharing** enables car owners to make their vehicles available on a temporary basis to others for rental. In return, the vehicle owner gets a substantial portion of the rental revenue from the car sharing company.

The economic principle behind car sharing that predicts a reduction in GHG emissions is as follows: the conversion of a large fixed cost (the cost of owning a car and paying insurance) to a variable cost (the price per hour or mile driven) reduces real or perceived costs overall and encourages fewer and more efficient trips.

Surveys of car sharing members show that the service is not typically used for commutes, but instead is used when members have things to carry, need a car to get to their destination during the work day, or have multiple stops to make. Most car share users make just two trips per month.<sup>1</sup>

Car sharing is often run by for-profit companies, but partners are important in its success. Municipalities, transit agencies, employers, and community groups can support car sharing through:

- » **Marketing** in employee newsletters or as part of a transportation demand management program
- » **Administrative support** such as processing grants, lending office space, and providing an interface with other departments or agencies
- » Providing in-kind or direct **financial assistance**
- » Making **reserved parking spaces** available for car sharing
- » **Integrating with transit** through parking, waived membership fees, or marketing
- » **Becoming members** and replacing fleet vehicles with car share

### How well does it work?

There is evidence to suggest that car sharing is lowering GHG emissions overall,<sup>2</sup> however emissions of individual users or households can vary. Households that are able to shed private automobiles through the use of car sharing tend to reduce their overall GHG emissions substantially, while carless households tend to increase their emissions somewhat. On average, annual transportation emissions are reduced by 0.84 tons per household that participates in car sharing.

<sup>1</sup> Car-Sharing: Where and how it succeeds. Transportation Cooperative Research Program. [http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp\\_rpt\\_108.pdf](http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_108.pdf)

<sup>2</sup> Martin, Elliot and Susan Shaheen. Greenhouse Gas Emission Impacts of Carsharing in North America. [http://transweb.sjsu.edu/MTIportal/research/publications/documents/Carsharing%20and%20Co2%20\(6.23.2010\).pdf](http://transweb.sjsu.edu/MTIportal/research/publications/documents/Carsharing%20and%20Co2%20(6.23.2010).pdf)

A University of California study of car sharing users estimated that for every car sharing vehicle added to the road, between 9 and 13 vehicles are removed through cars shed or not purchased in the first place.<sup>3</sup>

The Moving Cooler report<sup>4</sup> suggests that car sharing, if maximally deployed, can reduce GHG emissions by up to 0.3 percent from the baseline in 2030.

## How can it benefit my community?

In addition to reducing greenhouse gas emissions, this strategy is associated with several other community benefits, including:

- » Economic support for downtown retail and service businesses
- » Mobility benefits to carless households
- » Increased parking availability
- » Release of land for development and reduced stormwater runoff due to a reduced need for parking spaces
- » Promote transit, biking, and walking.

Car sharing has been successful in smaller communities as well. *“The keys to making car-sharing succeed in less urban areas appear to be community support, a strong champion, and volunteer involvement by members.”* – *Car Sharing: Where and How It Succeeds*.

## What does it cost?

If car sharing already exists in your area, it can be supported by replacing your organization’s personal mileage reimbursement or fleet vehicles with car share use. The five key factors for success are:

- » Identifying a champion for car sharing, such as an elected official or high-placed staff member who recognizes the benefits of car sharing and works to promote it
- » Adopting supportive policies and regulations, such as zoning incentives and inclusion of car-sharing in plans
- » Providing funds to help car-sharing programs become established
- » Implementing supportive actions, such as marketing, provision of parking, and integration with transit
- » Selecting the right neighborhoods that have the density, walkability, and transit service to help car-sharing thrive.

## Where has it been used?

Car sharing is becoming increasingly common in the United States.

- » WeCar in Eugene/Springfield (now part of Enterprise CarShare - <http://www.enterprisecarshare.com/car-sharing/>)
- » Aspen, Colorado has municipally operated car-share called “Car to Go” with a fleet of 9 hybrid vehicles offering both personal and corporate memberships. (<http://www.cartogo.com>)
- » Major car sharing operators Zipcar (<http://www.zipcar.com/>) and Car2Go (<http://www.car2go.com>) operate in many North American cities, including Seattle WA, Portland OR, Eugene OR, San Francisco CA, San Diego CA, Denver CO and Austin TX.

## Where can I learn more?

- » Car-Sharing: Where and how it succeeds. Transportation Cooperative Research Program. [http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp\\_rpt\\_108.pdf](http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_108.pdf)
- » Greenhouse Gas Impacts of Carsharing in North America. Website: [http://transweb.sjsu.edu/MTIportal/research/publications/documents/Carsharing%20and%20Co%20\(6.23.2010\).pdf](http://transweb.sjsu.edu/MTIportal/research/publications/documents/Carsharing%20and%20Co%20(6.23.2010).pdf) NCHRP\_Metro\_Funding.pdf

*The Toolkit is a component of the Oregon Sustainable Transportation Initiative (OSTI), which was formed to address the requirements of Senate Bill 1059 (2010).*

*For more information, please visit:*

<http://cms.oregon.gov/ODOT/TD/TP/pages/ghgtoolkit.aspx>



3 Martin, Elliott and Susan Shaheen. *The Impact of Carsharing on Household Vehicle Ownership*. [http://www.uctc.net/access/38/access38\\_carsharing\\_ownership.pdf](http://www.uctc.net/access/38/access38_carsharing_ownership.pdf)

4 *Moving Cooler: An analysis of transportation strategies for reducing Greenhouse Gas Emissions*. Cambridge Systematics, Inc. July, 2009.