

Access Management
& Parking Strategies



Boulder Access Management and Parking Strategies

On-Street Car Share Policy

DRAFT September 2015

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Executive Summary

Introduction

Carsharing represents a new approach in transportation policy that is influenced by a larger philosophy that has come to be known as the “sharing economy”. Carsharing taps into a new mindset (generally attributed to the Millennial generation) that deprioritizes vehicle ownership, embraces concerns about rising congestion in cities, promotes more environmentally sensitive policies and the embraces the desire to have a greater range of transportation options.

As traffic congestion and parking concerns increase in Boulder, carsharing will become an important component of the overall Access Management and Parking Strategies (AMPS) program. Carsharing has proven effective as a tool to reduce the number of personal cars on the street, increase travel flexibility for people who do not have personal vehicles and reduces both traffic congestion and greenhouse gas emissions.

Studies have shown that carsharing decreases personal car miles traveled per year, reduces greenhouse gas emissions, increases perceived mobility of a city, reduces traffic and cuts down on parking congestion. Carsharing also allows increased mobility for low-income populations without owning a vehicle and puts more fuel efficient vehicles on the roads with most carsharing services requiring a certain fuel efficiency for each car in their fleet. Carsharing also has a documented impact on vehicle ownership rates and greenhouse gas emissions:

- Research shows carsharing members reduce average vehicle ownership from 0.47 to 0.24 vehicles per household. (Smart Mobility, page 21)
- According to Zipcar, 13% of car share users in Washington, DC and Boston have sold a car since joining and more than 40% have avoided buying a car.
- Carsharing gives members incentives to drive less with per hour and per mileage fees.
- San Francisco City CarShare reported members driving an average of 47% less after joining.

Another way to look at carsharing is from the perspective of the end user. For this group, advantages include:

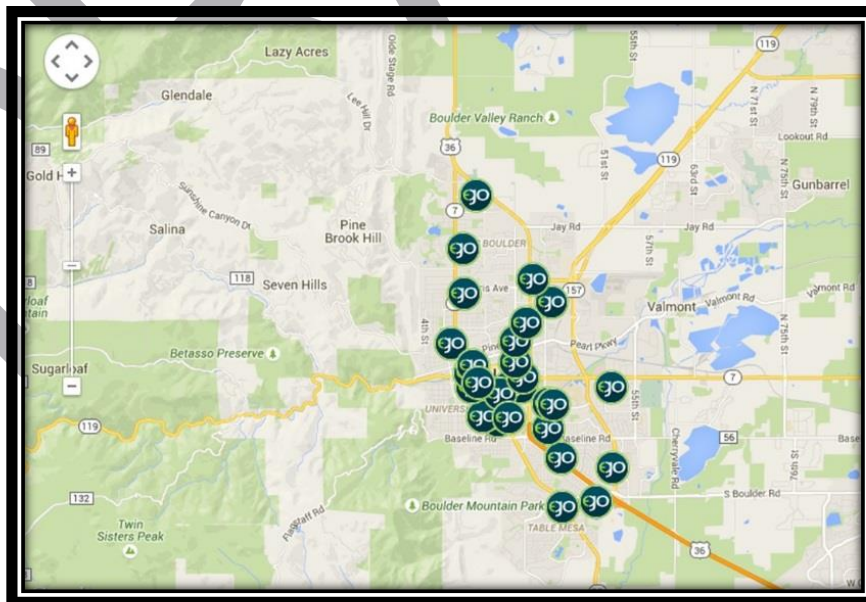
- Low Cost: The car-sharer pays only when actually using the service. By reducing the need for vehicle ownership the expense of the vehicle purchase as well as operating expenses such as insurance, fuel, maintenance, etc., are all reduced or eliminated.
- Practical and Convenient: One or more conveniently-located vehicles are available 24 hours a day.
- Transparent: Because the user regularly gets a detailed bill, he/she knows exactly what the car actually costs as opposed to individual car owners.
- Healthy and Good for the Environment: Drivers use their cars more consciously, often opting for public transport, going on foot or cycling.
- Time-saving: Users do not have to assume responsibility for the practical worries that a car entails like maintenance.

For municipalities and cities there are additional advantages:

- Carsharing as a Fleet Management Option: Many local governments are leveraging carsharing programs to replace or supplement City fleet services or as an option for their business travel needs.
- Cost-reducing: As a shared car replaces on average 4 to 8 private vehicles, less space is needed for the construction of parking places and their maintenance (or for arranging and maintaining parking places), which signifies a cost saving.
- Space-saving: Moreover, the extra space that is freed up can be used for neighborhood beautification work such as laying out parks, creating playgrounds and building bicycle stands, etc.
- Good for the environment:
 - Less car use means fewer emissions.
 - Positive eco-balance: 15% of the total energy consumption in a car's life-cycle comes from its production, so producing fewer cars is good for the environment.

Current Boulder Carsharing Overview:

- In 1970, CAGID was established to provide public parking to the Central Area General Improvement District which had a mission to only build more parking if additional parking is needed after implementation of the Transportation Master Plan.
- A fundamental principal of city parking is “No designated parking in the public right-of-way will benefit only one land use, business, or residence.”
- Boulder Car Share (now eGo) started in Colorado as a non-profit in 1998.
- Boulder Car Share rebranded in January 2009 to eGo Car Share in order to expand into Denver.
- CMAQ funding has allowed expansion to areas in close proximity to B-cycles.
- eGo is a current GO Boulder partner. They provide cars to Boulder in the locations noted below:



Carsharing Business Models:

A number of carsharing business models are discussed in this report. One way of comparing these business models is to think about what level of governmental support is needed to implement and maintain them.

Carsharing as an Environmental Benefit
Maximum Governmental Support

Carsharing as a Sustainable Business
Moderate Governmental Support

Carsharing as a Business
Minimum Governmental Support

Boulder has adopted the “Carsharing as a Business” model with parking spaces provided in off-street facilities. Both the eGo Car Share and Zipcar models require specific designated parking spaces to both find and return a car to (either on-street or off-street or a combination of both). The Car2Go model uses a GPS system that allows a user to both find and return a vehicle to any legal parking space within a designated area (including metered parking areas and presumably neighborhood permit parking zones).

As a new carsharing policy is being crafted, recommendations regarding the specifics of the business model will need to be addressed.

Legal and policy Issues:

There are a couple of Boulder-specific legal issues that must be addressed. Currently it is illegal in Boulder to designate parking spaces in the public right-of-way to specific businesses (even car share businesses) because of “Franchise” concerns and other legal language.

The second legal issue is that of allowing car share vehicles to parking in NPPP zones in excess of the posted time limits.

Issues such as designated parking spaces specifically for one use (such as reserved spaces for car share organizations) can be seen as contrary to the “shared” and “unbundled” aspects of the City’s adopted SUMP principles (SUMP = Shared/Unbundled/Managed and Priced). This practice can be viewed as potentially tying up a limited and valuable resource (on-street parking spaces) and raises potential concerns about carsharing vehicles oversaturating short-term metered parking areas and time designated NPP zones (which leaves less space for the residents to park).

Key Questions for Board and Council Input:

1. **Should our DRAFT car share policy allow for the possibility of designating on-street public ROW parking spaces for car share companies using the designated parking space model?** Initial recommendations from staff and the consultant team are leaning toward “NO” because it doesn’t fit our unbundled parking model and such spaces are not technically necessary for either car share parking business model to work.
2. **Should our DRAFT car share policy allow for the GPS model car share vehicles to be able to park in metered parking spaces and NPPP parking zones in excess of the time restrictions present in such areas?** Initial options identified by staff and the consultant team include restricting car share vehicles to one per block face. Hoboken, NJ developed a similar strategy which placed car share spaces on blockface corners

and they were able to ensure that 90 percent of the population lives within a five-minute walk of at least one carsharing location. Another options would be to eliminate a certain number of “Commuter Permits” to make space for potential car share vehicles on those blocks.

3. **Recent experiences in Seattle, WA and Denver, CO where the carsharing organization eliminated service to certain areas of the community based on lack of utilization have raised issues of social equity and the need to provide services to all socio/economic levels of the community (not just those that can afford it). Based on these issues, should our DRAFT car share policy attempt to ensure a more even distribution of car share services city-wide?** These issues are relatively new and are still being dealt with in cities like Denver and Seattle. Little in the way of “best practices” have emerged thus far related to these contentious issues. Staff and the consultant team are leaning toward a limited pilot program approach focused on existing parking management districts while monitoring policy development approaches related to city-wide distribution of car share services as they emerge in other communities.

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Introduction

The goal of this document is to provide background on the evolution of carsharing programs and to document successful carsharing programs and policies from across the United States. Additionally, this document will provide guidance for the development of future City of Boulder carsharing policies.

Carsharing represents a new approach in transportation policy that is influenced by a larger philosophy that has come to be known as the “sharing economy”. Carsharing taps into a new mindset (generally attributed to the Millennial generation) that deprioritizes vehicle ownership, embraces concerns about rising congestion in cities, promotes more environmentally sensitive policies and the embraces the desire to have a greater range of transportation options.

As traffic congestion and parking concerns increase in Boulder, carsharing will become an important component of the overall Access Management and Parking Strategies (AMPS) program. Carsharing has proven effective as a tool to reduce the number of personal cars on the street, increase travel flexibility for people who do not have personal vehicles and reduces both traffic congestion and greenhouse gas emissions.

While carsharing has been successfully implemented in a number of US cities, there are few legal issues specific to Boulder that need to be resolved and a specific carsharing policy needs to be crafted before carsharing can be fully and successfully integrated into the menu of Boulder’s access management programs.

Background – What is Carsharing?

What is Carsharing?

- A model of traditional car rental that occurs for a shorter period of time and has cars available 24 hours, 7 days a week.
- Carsharing companies provide cars and insurance to drivers.
- Carsharing is most used by people who only need occasional access to a car.
- Carsharing is most commonly used for getting around at night, going to restaurant/bars, commuting to work, going to see family/friends, and going to events.
- Carsharing can be considered both a business within the Boulder marketplace and a public service.
- Membership requires a driving record check to gain insurance approval and each driver must have a card on file for billing purposes. Once approved, the organizations send a smartcard or key-fob for access into the cars which unlock the cars. Keys are usually located inside the vehicle.
- The user must return car to dedicated spot at the end of the trip.

A Brief History and Current Status¹

- Carsharing originated in Portland, Oregon in 1998 and is now in dozens of cities nationwide.
- Since 1994, 83 carsharing programs have been deployed in the Americas — 45 are operational and 38 defunct.
- As of January 1, 2015, there were 20 active programs in Canada, 23 in the United States (U.S.), one program in Mexico, and one in Brazil totaling approximately 1,529,811 carsharing members sharing 22,134 vehicles in the Americas.
- The three largest carsharing operators in the U.S. and Canada support 95.9% and 83.2% of the total membership, respectively. Only one operator provides service in both Mexico and Brazil.
- In January 2015, U.S. for-profit programs (10 of 23) represented 43.5% of the operators and accounted for 97.9% of the members and 96.2% of vehicles. In Canada, for-profit programs (8 of 20) represented 40.0% of the operators and accounted for 95.5% of the membership and 89.9% of the fleets deployed. (Note: Numbers include roundtrip and one-way carsharing and do not include peer-to-peer carsharing.)
- Noted Trends: Growth of Automakers, One-Way Programs, and Rental Cars:
 - In North America, two automaker programs represented 33.5% and 30.2% of the carsharing membership and fleets deployed, respectively, in January 2015. As of June 2015, Car2Go and DriveNow operated in 12 American markets in the U.S. (Austin, Columbus, Denver, Los Angeles, Miami, New York City, Portland, San Diego, San Francisco, Seattle, the Twin Cities, and Washington, D.C.). As of June 2015, Car2Go operated in four metropolitan markets in Canada (Calgary, Montreal, Toronto, and Vancouver).
 - One-way (or point-to-point) carsharing allows members to pick-up a vehicle at one location and drop it off at another. As of January 2015, 35.7% of North American fleets were one-way trip capable, and 30.8% of members had access to these fleets. (Note in December 2014, Zipcar announced the launch of its one-way carsharing service in Boston with 200 vehicles.) As of January 2015, Car2Go, Communauto, DriveNow, Zazcar, and Zipcar offered one-way carsharing services. As of January 2015, 100% of South American fleets were one-way trip capable, and 100% of members had access to these fleets.
 - Worldwide, four rental car companies provide carsharing services. In North America, rental car programs represented 60.4% and 56.5% of the carsharing membership and fleets deployed, respectively, in January 2015.

Models of Carsharing

There are many types of carsharing. Models can range from formal carsharing programs to casual agreement between friends. Administrators of these programs can include non-profit agencies, companies, governments or a group of neighbors. The most common type of carsharing is for-profit which is administered by a private company. The following discusses more in-depth some of the various types of carsharing programs.

¹ Carsharing Outlook Transportation Sustainability Research Center - University Of California, Berkeley, Summer 2015

For-Profit Carsharing Model:

- Membership requires registration and driver background check.
- Private companies are required to respond to RFPs or submit proposals to the city for desired number of car share parking spaces.
- In 2012, there were 800,000 car sharing members in the US, the largest represented companies being Zipcar (80% of the market) and Car2Go, both for-profit companies.

Non-Profit Carsharing Model:

- This model generally works most efficiently in a single metro area.
- There is more emphasis on a social agenda and desire to change behavior.
- Usually led by motivated groups or individuals in the community.
- Examples include Chicago, Philadelphia, San Francisco, Austin and Minneapolis with fleets ranging from less than 12 (Austin) to over 400 (Philadelphia).

Co-op Carsharing Model:

- Generally limited to smaller cities.
- Example cities include Eugene, Oregon, and Rutledge, Missouri.
- Usually considered non-profits.
- Largest example of a company in multiple cities is Modo.

Government-Run Carsharing Model:

- One example in the US is Aspen, Colorado.
- This model is staffed by city employees, but run as a separate not-for-profit organization.
- This model is most common outside the US.
- Another example is Berkeley, California, which replaced its government car fleet with car share vehicles and enables government employees to use vehicles at night and on weekends yielding an average financial savings of \$8,000 per year. However, a private car share company manages this venture.

Peer-to-Peer Carsharing Model:

- People can rent a car from someone nearby.
- Shared access to cars offsets ownership fees.
- Existing car owners can rent underutilized personal vehicles.
- Getaround or Relay Rides are existing companies.
- Drivers are screened by the service and the service provides insurance for car owners.

State of the Practice:

- In 2014, 1,181,087 members shared 16,754 vehicles among 23 operators in the United States.
- Between January 2014 and January 2015 carsharing declined 4% in the U.S. It is thought that this decline is due to online, for-hire driver services. However, carsharing increased from 2013-2014 by 19%.

Relationship to Other Modes

- Carsharing is most successful in cities that offer transit to carsharing pod or station locations.

- Use of public transit, walking and bicycling by San Francisco CarShare members increased.
- This could include placing bike racks near carsharing stations or placing stations near popular transit lines.
- Carsharing has not been shown to significantly reduce the use of other transit systems including rail, bus and biking because it is not typically used for everyday commuting.

Market Development:

- Find areas of zero-vehicle households and one-vehicle/two driver households.
- Find the best locations for stations knowing that each vehicle serves ¼ to ½ mile radius of carsharing station
- Early adopters of carsharing were typically in their 30s and 40s with middle to upper middle incomes, and the practice has grown in popularity among young people.

Impacts of Carsharing

Studies have shown that carsharing decreases personal car miles traveled per year, reduces greenhouse gas emissions, increases perceived mobility of a city, reduces traffic and cuts down on parking congestion.

Vehicle Ownership

- Carsharing provides increased mobility options for low-income populations without owning a vehicle.
- Research shows carsharing members reduce average vehicle ownership from 0.47 to 0.24 vehicles per household. (Smart Mobility, page 21)
- Carsharing puts more fuel efficient vehicles on the roads with most carsharing services requiring a certain fuel efficiency for each car in their fleet.
- According to Zipcar, 13% of car share users in Washington, DC and Boston have sold a car since joining and more than 40% have avoided buying a car.

Greenhouse Gas Emissions

- Carsharing gives members incentives to drive less with per hour and per mileage fees.
- San Francisco City CarShare reported members driving an average of 47% less after joining.

Conclusions

Carsharing is growing steadily in terms of membership, number of vehicles deployed and the variety and type of services offered. There is a growing body of data documenting the benefits and positive impacts of carsharing within a community. Some policy issues are emerging related to coverage areas within certain cities that are raising social equity issues. Cities are beginning to enact policies to address equity issues related to market area coverage.

Role of Partners

The role of partners within any carsharing program is determined by the type of carsharing and the goal of the carsharing organization. Regardless of the type of program used, surrounding organizations play a significant role in promoting carsharing and providing accessibility to car share pods.

What are Partner Organizations?

- Organizations and groups that help promote carsharing.
- Others in the community who could benefit from carsharing being promoted in the area.

Which Organizations are Involved?

- Local businesses that replace their fleets with carsharing vehicles.
- Local homeowners associations and neighborhood groups who promote carsharing within their groups and who dedicate spaces to carsharing.
- Low and moderate income communities who want to establish a carsharing program.
- University of Boulder and Naropa University currently have carsharing on campuses.
- New developers in the area who want to dedicate parking spaces to carsharing spots.

Contribution of Partner Organizations

Partner organizations can contribute in many ways including with time, money, space, resources, volunteers, guidance about the area or adjusting their current mode of operation to better fit car share users. Below is a sampling of the types of roles that these partner organizations can play in establishing and/or promoting car share programs.

Local Government

- Dedicate parking spaces for carsharing uses.
- Help fund startup and/or expansion of carsharing organizations with the expectation of repayment with interest.
- Change government fleet to car share vehicles.
- Offer expedited review for carsharing policy implementation and/or parking space review.

Transit agencies

- Offer transit lines directly to carsharing pods.
- Promote carsharing with advertising inside transit.
- Offer bike racks near each carsharing pod.

Employers and businesses

- Convert their fleets to carsharing vehicles.
- Offer emergency ride home compensation for those who choose to take transit to work and have an emergency where they need to find a way home immediately.
- Offer compensation for those not using personal vehicles to get into work.

Developers

- Developers pursuing LEED green building certification can earn points by providing designated parking for car share services (USGBC 2005).
- Consider unbundling and separating parking costs from rent or housing sale prices, which reduces costs for non-car owners and increases desire for alternative transportation.

Universities

- Existing non-profit volunteer organization on CU Boulder and Naropa campuses (eGo).
- eGo has various cars, trucks, mini-vans, and all-wheel drive vehicles with ski/bike racks.
- Utilized by individual students, school clubs and university departments.
- Each space calculated to replace 9-13 cars according to eGo.
- 15 total cars in the eGo fleet.

Conclusions

There are myriad opportunities for the community to become involved within the carsharing process. Each partner contributes to the success of carsharing within a community, especially when first introduced to a community.

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Factors for Success

Some of the main factors that can be used to determine the success of carsharing in a community include: density of an area, walkability of the area, number of existing commuters, transit access, mixed land use, and low vehicle ownership levels. Other contributing factors include:

- Visibility of cars on-street
- Convenience of cars in relation to pedestrian routes
- Availability of shared cars in a variety of models and sizes
- Placing cars in convenient locations around public transit and multi-unit housing
- Variety of vehicles available for different uses
- Walkable, high density area of city
- Cluster cars together at stations with 2-3 vehicles per location and 45-60 members in proximity to pod

Overcoming Barriers

- Educating the public about the value gained by “giving away” or “using up” public parking spaces downtown for carsharing (both monetary through funds payed directly to the city or through non-monetary benefits like providing a viable transportation option for low-income individuals).
- For some considering a carsharing option, there might be some insecurity about the fact they cannot leave work immediately in case of emergency. A possible solution would be to promote the Guaranteed Ride Home programs run by the Boulder Transportation Connections. This service can cover up to 100 miles one way from the office to home.
- Concerns could be raised about carsharing vehicles being parked for long periods of time in commercial or residential zones. In Seattle, the complaints have decreased with time as cars get more use. Proposed solutions include moving vehicles or altering service area.
- If car share vehicle receives parking violations, tell company who will issue the citation, train police and local enforcement for this.
- Potential problems with non-carsharing cars parking in designated carsharing spaces.
- Making carsharing less expensive than peer-to-peer mobility services, such as Uber or Lyft.
- Finding where to locate vehicles if parking is reduced or some populations are given more exposure and access than other populations.

Carsharing and Public Parking Policies

Carsharing policies can include both formal and informal guidelines for carsharing organizations. Policies usually encompass the amount of parking spaces allocated to carsharing, the percentage of on-street and off-street spaces, the cost of each space and associated permits, the requirement for public involvement, and the required deliverables from carsharing companies on the information they collect.

Benefits

- Carsharing company pays for parking spot downtown (ensured revenue).
- Reduced air pollution by traveling less and by using appropriate cars for the purpose of each journey and new cars with high emission standards.
- Increased mobility options for low-income populations.
- Timesaving and convenient if there are dedicated parking spaces downtown.
- Could lower the demand for downtown parking.
- Lower transportation costs for people who drive less than 5,000 miles/year.
- Contributes to viability of small businesses in inner-city neighborhoods using shared vehicles, including vans.
- Average household spends over 18% of income on transportation (US Bureau of Labor Statistics).

Costs

- Few cities make money off of the carsharing model
- With the rise of carsharing more cities are trending towards a revenue-neutral fee structure, where the city sets a fee for each space equal to the lost parking revenue and any public cost of the carsharing program.
- Membership costs typically include a fee of under \$100 and an annual renewal fee of \$25-\$50. This cost goes to members, not the local municipality. Only other cost is rental cost (mostly on a per hour basis).
- Major costs include leasing cars, maintenance and repairs, insurance, parking, in-car technology, reservation and billing system, call center, staffing, marketing and outreach.
- \$400 for on-street signing and striping (according to the San Francisco model).
- Expenses are funded by each user through registration and per mile fees.

Carsharing in Urban Residential Areas

- Most members utilize vehicles for short trips of 30 minutes to 4 hours.
- New development to include carsharing spaces in urban areas.
- Charge for parking in new urban residential developments and unbundle the costs from rent costs.
- San Francisco requires 1 car share space for 50-200 units and 1 + 1 for every 200 dwellings over 200 units.
- Some developers argue that car share requirements don't reflect current market desires and needs and that cost savings should be passed on to developers.

Best Practices in North America

- A new vehicle is needed for every 20-30 registered drivers.
- Place carsharing stations in areas with low levels of car ownership.
- Place cars in areas where people commute with transit or bike to work.
- Place vehicles in highly visible areas.

Conclusion

Policy is important to the success of carsharing programs. Policy needs to reflect the desired results of implementing carsharing for a city and needs to communicate to developers and community members how policy differs for new development. Policy should reflect the desires of the public and the municipality. Note: A specific draft policy for Boulder is provided later in this document.

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Case Studies

Dozens of recent carsharing case studies, pilots and assessments were reviewed for this report. Policies and program details from the following communities were selected to highlight because they had similar economic, social and/or sustainability goals as the City of Boulder:

- Denver, Colorado
- San Francisco, California
- Seattle, Washington
- Sydney, Australia
- Fort Wayne, Indiana
- Hoboken, New Jersey

Denver, Colorado

Permit fees cover cost of lost meter revenue, administrative costs and the value of on-street space

- Have a mix of car share companies including eGo, Carshare, Car2Go, and Zipcar.
- Typical member is while, college-educated, middle class, business professional, 25-44 years old, who lives downtown or adjacent to downtown and typically doesn't drive to work.
- Highest percentage of total population that is registered car share users is 15% in the heart of downtown.
- Highest reason for using car share includes parking flexibility, entertainment purposes, sporting events, commuting, and making personal errands.
- 49% indicated it changed their commuting habits and 51% indicated it hadn't changed their commuting habits.
- **Program has been successful in reducing parking demand by 4% a week for members, reducing miles traveled by 1/3 of members who joined the program, and enhancing mobility options for users.**

San Francisco, California

- Leased parking spaces to carsharing operators in densely populated areas.
- Most car share parking is provided off-street at a discounted carpool rate (50%).
- Newly constructed buildings provide permanent car share parking spaces.
- Non-residential developments dedicate 5% of spots to short term parking, which can be considered carsharing or other co-operative auto programs (Ordinance 286-10).
- Developers or owners pay annual carsharing membership fees for residents.
- Uses traditional peer-to-peer carsharing models.
- Requires companies to have cars available 24/7 without assistance or key exchanges.
- Defined car share organization in transportation code to include fleets over 10 vehicles.
- Requires companies to have vehicles available for rental at least 75% of the month.
- The car share organizations must agree to provide data to the city each quarter.

- **Initial pilot program recognized that carsharing needs flexibility and that linking a parking spot to a specific vehicle is an administrative burden with no benefit**
- Reserved 0.05% (150 spaces) in 2014 for on-street car sharing pods.
- Reserved 0.1% (300 spaces) in 2015 for on-street car sharing pods.
- Parking permit rates vary by location from \$225 per month in the city to \$50 per month in the outer city limits. Carsharing organization is also responsible for \$400 installation for signing and striping cost.
- Garage rate is roughly 50% of monthly rate.
- Dedicated metered spots pay a monthly rate of \$96 to compensate for lost revenue to city.
- Carsharing spaces to take up 2% minimum in garages and 5% in surface parking lots.
- Implementation of policies took place a year after the final policy proposal.
- Developers must include 1 car share space for 50-200 units and for 201 or more units must include 1 + 1 for every 200 dwellings over 200 units for newly developed residential projects.

Seattle, Washington

- Seattle designated parking stalls for carsharing vehicles.
- Car2Go paid for 500 permits at \$1,330 each; \$200 towards the cost of parking in restricted zones, \$1,030 towards parking in paid areas, \$100 administration fee, plus parking exceeding amount paid in initial permit. This is the maximum amount allowed by SDOT.
- In 2013, operator payed an additional \$183,365 in fees because the use of on-street metered parking exceeded the estimated amount paid originally.
- Within a year, each car gets an average of 5 rentals per day.
- **Data from member surveys: 39% of carsharing program members have given up or are considering giving up a car. 35% are traveling less miles in personal vehicles. 47% say they use public transportation less often.**

Sydney, Australia

- Asserts that carsharing is a more effective use of a parking space because many households can use one space.
- Vehicles must be 4-star rated in Australian Green Vehicle Guide.
- City dedicates on-street parking to service providers who meet their 7-point policy (see appendices for more detail).
- **Carshare providers must provide a quarterly report details with usage, itemized by location, distance traveled, number of bookings and length of time of bookings.**
- Carshare companies must submit to an independent financial audit by a city approved auditor.
- Cars must be available for 95% of confirmed bookings.
- Residential parking permit fees apply to car share.
- Car share market is open to both existing and new car share companies who meet the policy requirements.

Fort Wayne, Indiana

- Carsharing was implemented as a portion of the six part sustainable transportation plan including Carsharing, Housing + Transportation, Streetcars, Transportation Management Associations, and unlimited transit passes.
- Used GIS software to analyze neighborhoods for one person households, people who journey to work alone, households with no vehicles, single-parent households, households per acre, and count of bus lines.
- Carshare locations were placed near transit stops, locations with high visibility, the ability to install signs in all locations and parking was low/no cost.
- Estimated that a start-up with 12 cars would cost \$750,000 over 2 years.
- **Asked local colleges and universities to explore whether transportation costs could be included within financial aid.**
- Identified a task force of business, institutional and government policy makers who are in charge of implementing and fundraising for carsharing in the city.

Table 1. Fort Wayne and Boulder Comparison

	Population	Density (Per Square Mile)	Estimate # of Cars after 2 years	Estimated Cost after 2 years
Fort Wayne	256,096 (2013)	2,314	12	\$750,000
Boulder	103,200 (2013)	4,018	5	\$301,760
^a Note: Boulder estimated values based on population scaled model				

Hoboken, New Jersey

- Special Planning method for laying out carsharing spaces (see appendix for more detail).
- Each carsharing space is located on a corner for higher visibility.
- **90% of population within a 5-minute walk of at least one carsharing location.**
- **Each shared car is estimated to replace 17 private vehicles.**
- Hoboken requires each shared car to maintain 35 mpg average.

Other Municipal Highlights

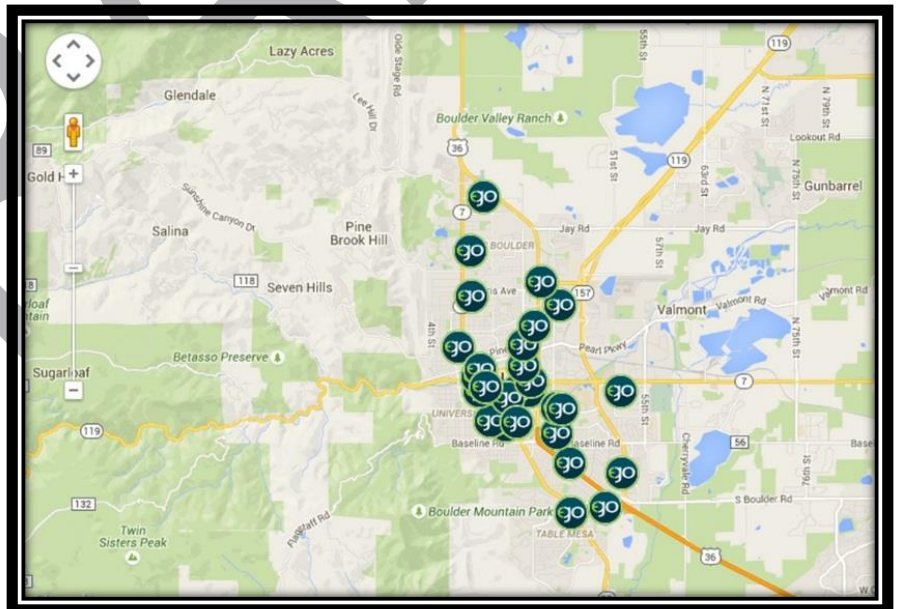
- Portland, Oregon created “Option Zones” to designate on-street carsharing parking, denoted by orange poles that are also attached to parking meters.
- Austin, Texas provides free parking for carsharing vehicles and exempts them from city meter charges.
- Philadelphia, Pennsylvania dedicates parking spaces in parking lots to help maximize on-street parking availability.

The following outlines carsharing policy and code related issues from programs around the country:

- Ensure vehicles emit minimal pollutants
- Require a certain percentage of vehicles be placed in low-income neighborhoods
- Require annual travel data from carsharing organizations
- Implemented specific minimum insurance requirements
- Exemptions to time limited parking
- Universal parking permit (in lieu of not designating specific spaces)
- Development of defined car sharing zones
- Incentivize and subsidize carsharing in new multi-unit developments
- Promote guaranteed ride home program (Minneapolis, Atlanta, Baltimore, etc.)
- Carsharing companies must pay difference if on-street parking usage exceeds amount defined in initial permit cost
- Carsharing organization is responsible for attending community group meetings to educate residents/merchants and inform them of any proposed program changes

Boulder-Specific Carsharing History

- In 1970, CAGID was established to provide public parking to the Central Area General Improvement District which had a mission to only build more parking if additional parking is needed after implementation of the Transportation Master Plan.
- A fundamental principal of city parking is “No designated parking in the public right-of-way will benefit only one land use, business, or residence”.
- Boulder Car Share (now eGo) started in Colorado as a non-profit in 1998.
- Boulder Car Share rebranded in January 2009 to eGo Car Share in order to expand into Denver.
- CMAQ funding has allowed expansion to areas in close proximity to B-Cycle Stations.
- eGo is a current GO Boulder partner. They provide cars to Boulder in the locations noted below.



References:
 City Parking Policy Document_1998 WIP to Council
 eGo website

Legal and Policy Issues

The following outlines carsharing policy related issues from programs around the country.

Legal Issues:

- Carsharing is currently taxed at rental car rates.
 - **Question:** Should a distinction between traditional car rental and carsharing programs be made in local code? (See Boston, Chicago, and Portland for examples.)
- Carsharing vehicles are exempt from towing in the event of street sweeping.
- In the event of street closures, carsharing organizations should be notified 72 hours in advance and contacted directly.
- There is an opinion that it is illegal in Boulder to designate parking spaces in the public right-of-way to specific businesses (even car share businesses) because of “Franchise” language in municipal code. It is also illegal for car share vehicles to parking in NPPP zones in excess of the posted time limits.

Key Policy Issue – Should the City consider designating a limited number of on-street parking spaces specifically for carsharing?

ARGUMENT IN FAVOR PROVIDING ON-STREET SPACES FOR CARSHARE VEHICLES:

In addition to their many advantages, cars also cause problems: traffic congestion, air pollution, energy consumption, and even reduced mobility for those who don’t own a car. Carsharing is a new form of vehicle ownership that can help address these problems. Membership in a carsharing organization increases access to cars but also encourages judicious use of them.

In essence, carsharing converts the high fixed costs of owning a car (purchase price, insurance, taxes, and maintenance) into smaller units—the per-hour or per-mile price of driving a car. By spreading the fixed costs of a car over many users, carsharing makes automobile travel an option for those who cannot afford to buy their own vehicle. But because users pay a high marginal cost for every hour or mile they drive, carsharing also gives members a strong incentive to drive less. In this way, carsharing can both increase mobility for people who might otherwise be carless and also reduce auto travel among members who previously owned their own car. This reduction in auto travel carries a host of benefits to society, from reducing local traffic congestion to slowing global climate change.



Where Will the Shared Cars Park?

The largest barrier to expanding carsharing is often finding and financing parking spaces. An effective way for cities to encourage carsharing, therefore, is to offer carsharing firms free or discounted parking. Cities are in a unique position to offer these much-needed parking spaces because they control a large and ubiquitous supply of curb spaces that they can make available to carsharing organizations on favorable terms.

Free or Discounted Parking for Car Share Spaces?

Free or discounted parking in any location, off-street or on-street, will help support carsharing. On-street spaces, however, offer three special benefits for shared cars.

- *Visibility.* Shared cars are not hidden away in off-street lots, but are placed on the street where everyone can see them. This visibility increases the general awareness of carsharing, and may also remind car owners of the inconvenience and hassle of parking their own car.
- *Convenience.* Dedicated curb spaces are nearly as luxurious and worry-free as valet parking or a private garage near one’s front door. When returning home, these dedicated parking spaces allow members to simply pull up to the curb and leave the car. Drivers do not have to worry about finding a space, or about being late because they have to cruise around the block. Most shared cars are located in dense areas with scarce and expensive parking, precisely the areas where residents who own cars but do not have off-street parking spend quite a bit of time cruising the streets in search of a spot to park.
- *Availability.* On-street spaces are often the main source of parking in some areas, and car ownership is difficult in these areas as a result. These places are natural targets for carsharing, but without city partnership, carsharing organizations would be unable to expand in these places because they too would have no place to store their cars.

Policy Issues Related to Allocating On-street Shared Car Spaces

A city that wants to support carsharing by reserving curb spaces for shared cars must develop a policy to allocate the curb spaces. For example:

- How much, if anything, should the city charge carsharing organizations for the dedicated spaces?
- Should the spaces be auctioned?
- What is necessary to manage the dedicated spaces (procuring and installing signage, striping the pavement, and keeping the spaces clean)?

To answer these questions, case studies of cities that have adopted ordinances to allocate curb parking spaces to shared cars were reviewed.

Key Issue # 1: Public Access Limitations

- When a city dedicates on-street parking for carsharing organizations, it also limits the public’s access to the curb spaces. This loss of access, combined with the fact that local jurisdictions would be allowing private companies to profit from a public resource, can make the allocation of on-street spaces controversial. In Boulder, there is a specific prohibition related to issuing “Franchises” to private entities or businesses related to on-street spaces in the public right of way.
- While there is ample precedent for this kind of privatization—cities across the U.S. regularly dedicate sections of streets for taxi zones, hotel and restaurant valet areas, and commercial loading zones—concerns over unfair allocation of public resources are legitimate, particularly if carsharing organizations are allowed to use street spaces at no cost.
- Additional Boulder-specific issues include:
 - The current illegality of allowing car share vehicles to parking in NPPP zones in excess of the posted time limits.

- Designating certain on-street parking spaces to one specific use could be seen as contrary to the “shared” and “unbundled” aspects of the City’s adopted SUMP principles (SUMP = Shared/Unbundled/Managed and Priced).

On the other hand, allocating a relatively small and defined number of on-street parking spaces to realize the documented benefits of carsharing is not necessarily inconsistent with many of the AMPS program’s guiding principles (such as improved mobility options, serving a diversity of people, supporting climate commitment goals, etc.) Any policy that allocates on-street parking spaces to carsharing organizations should be crafted to ensure that the public realizes a return that exceeds the value of these spaces. This return can be realized through direct payments to the municipality, or through other, non-monetary benefits such as reduced air pollution or increased mobility options for low-income populations or a combination of all three. In any case, this return should be guaranteed in all agreements with carsharing companies to ensure the public gets the best deal possible.

On-Street Carsharing Parking Policies: Key Findings

Several North American cities are currently drafting, or have already implemented, on-street parking policies for carsharing. Some of these jurisdictions include Arlington County, Virginia; San Diego, California; Seattle, Washington; Portland, Oregon; Vancouver, British Columbia; and Washington, DC. In their approach to parking for carsharing, these cities adopted a range of policy approaches. The following summarizes several key findings from these programs:

Legislative Structure:

- Setting aside street space for a private organization requires legislative action. In general, cities break the legislative mechanism into two parts: (1) an ordinance or other official action by a governing body, and (2) the administrative details.
 - The first component sets out broad parameters for the policy, including key political provisions, and then delegates authority to another department to establish the administrative details of the program, which can be updated and modified as necessary.

Fees:

- Few cities initially charged carsharing organizations for on-street spaces. As carsharing operators have become more established, however, several cities—such as Seattle, Vancouver, Portland, and Washington, DC—have moved toward revenue-neutral fee structures; the city sets a fee for each space to defray the public costs of their program and to recoup any lost meter revenue.

Signage and Demarcation of Spaces:

- Several cities use orange “Options Zone” poles (first developed in Portland) to designate their on-street carsharing spaces.
 - These brightly colored poles include images meant to highlight alternative transit options such as biking and walking.
 - When combined with brand-neutral marketing brochures and places to secure bikes, these poles help the public to learn more about carsharing and facilitate the use of bikes to get to and from shared cars.
 - Tow-away signs and pavement markings appear to be the most effective way to ensure that other drivers do not mistakenly park in carsharing spaces.

Results:

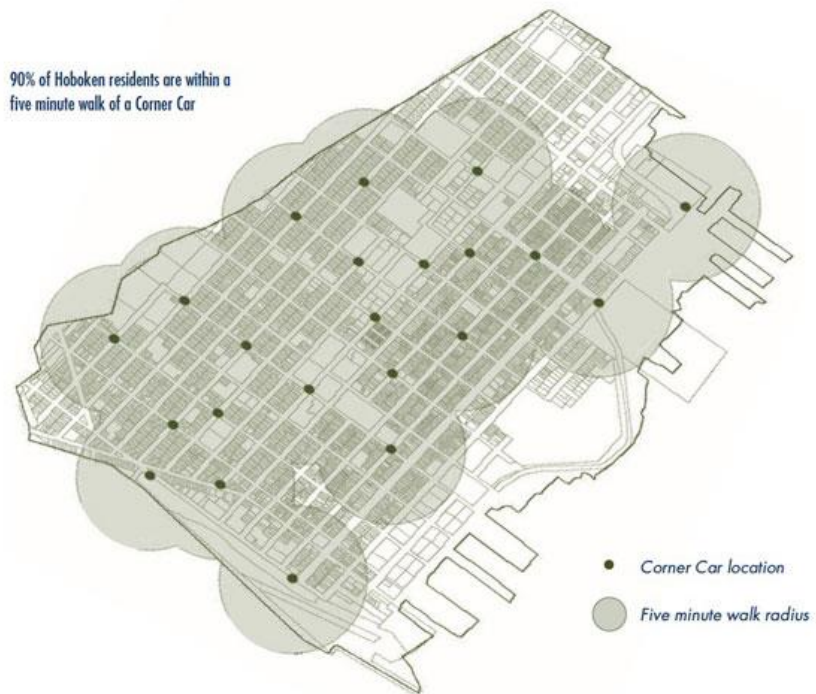
- Cities often provide multiple forms of support to carsharing organizations, so isolating the effect of providing on-street parking spaces can be difficult. However, evaluations have consistently shown that carsharing membership increases as more vehicles are added, and that members who previously owned one or more cars reduce their vehicle travel and/or sell a car.
- Fewer vehicles can lead to significant reductions in traffic congestion, air and water pollution, and parking infrastructure.
 - The growth in carsharing can greatly benefit even those who do not participate in it. One study found that each shared vehicle removed 9 to 13 other vehicles from the road. Fewer vehicles can lead to significant reductions in traffic congestion, air and water pollution, and parking infrastructure.

Planning for Shared Cars – Hoboken’s “Corner Cars” Approach

Cities can go beyond responding to carsharing companies’ requests for on-street parking spaces and proactively plan the location of these spaces. Hoboken, NJ, has established its citywide Corner Cars program that places shared cars in on-street spaces at corners throughout the city so that 90 percent of the population lives within a five-minute walk of at least one carsharing location.

Because each shared car in Hoboken has been estimated to replace 17 private vehicles, dedicating the corner spaces to shared cars can increase the availability of on-street parking for everyone else. According to Hoboken’s

Transportation and Parking Director Ian Sacs, “Instead of taking on millions of dollars in taxpayer debt for structured parking, residents who switch to carsharing will save thousands of dollars. It’s the 21st Century solution to contemporary urban parking woes.” Hoboken requires the fleet of shared cars to maintain an average of 35 miles per gallon. If each shared car replaces several privately-owned cars that have lower fuel efficiency, the on-street Corner Car program can significantly reduce the city’s carbon footprint.



Alternative Approaches

The primary alternative to designating specific on-street parking spaces to car share organizations is generally referred to as “Free-Floating” car share programs. Perhaps the best example of this approach is Seattle’s Free-Floating Car Share Pilot Program. In March 2013 the Seattle Department of Transportation issued a report entitled: “2013 Seattle Free-Floating Car Share Pilot Program Report”. Following is a summary of this report.

Program Overview

- In December 2012, the Seattle City Council unanimously adopted legislation ([Council Bill 117661](#); [Ordinance 124063](#)) to authorize a free-floating car share pilot program in which car share vehicles may park within a defined geographic area in the right-of-way rather than in an assigned space. The ordinance required that the Seattle Department of Transportation (SDOT) prepare a report on the pilot program after one year of operation.
- The pilot program began operations in early 2013. Car2Go, a subsidiary of Daimler AG, applied for and received 500 permits to use curb space throughout the city. Each permit is priced at \$1,330, which includes \$1,030 towards the cost of parking in paid areas, \$200 towards the cost of parking in Restricted Parking Zones (RPZs), and a \$100 administrative fee.
- In 2013, the operator’s use of metered on-street parking exceeded the estimated amount paid for in their initial permit, and the operator was responsible for paying an additional \$183,365 in fees to the City. Consistent with the ordinance, these were paid in full at the end of February 2014.
- Throughout the first year of operations, the number of daily free-floating car share rentals has increased, with a current daily average of approximately 5 rentals per vehicle each day.
- Community responses to free floating car share have been generally positive, and Car2Go reports almost 35,000 members in the region.
- Several community and business organizations have expressed concerns about cars lingering in on-street parking spaces, making it difficult for customers to access store-front retail. While these concerns have come from a number of neighborhoods, there is a concentration from the South Lake Union area, where the operator’s use of metered spaces is highest. Data provided by the operator indicate that 20% of Car2Go’s total parking time in paid areas was in South Lake Union. It is important to note that Car2Go vehicles occupy less than 1% of the total paid parking in the area.
- Car2Go has conducted several member surveys, which indicate that 39% of members have given up a car or are considering giving up a car; that 35% of members are traveling fewer miles in personal vehicles; and that 39% are using their personal cars less often since joining Car2Go. Conversely 47% of members indicate that they now ride transit less frequently, and 63% of members report that they have not changed the number of miles they travel in a personal vehicle, even with Car2Go use. At this point it is unclear how free-floating car share is affecting broader transportation choices throughout the city.
- Because free-floating car share is one element of a larger multimodal transportation system, the ways in which people utilize each of these modes change as new options become available. In order to ensure that free-floating car share policies continue to promote citywide goals related to livability, connectivity, equity, and the environment, the City should consider developing an on-going plan for evaluation and policy adaptation.

- The existing legislation allows SDOT to issue 500 free-floating car share permits annually. Car2Go and several other car share operators have expressed interest in expanding that number. Should the number of free-floating car share permits change, it may be beneficial to tie that expansion to the provision of a city-wide service area. Other issues may also warrant consideration as demand for services and permit expansion requests are made.
- Available paid parking time was calculated by taking the total number of paid spaces per area and multiplying that by the total annual hours of paid parking in an area.

Key Issues

- Free-floating car share's use of curb space in paid areas and restricted parking zones (RPZs)
- Community responses to free-floating car share
- Free-floating car share's effect on auto ownership and transportation choices
- Free-floating car share pilot program policy consideration

Free-Floating Car Share Pilot Program Policy Considerations

- Free-floating car share's use of curb space appears to be a relatively minor consideration for most Seattle neighborhoods because there are only 500 vehicles in operation. SDOT does see a need to better understand how Car2Go vehicles are using curb space in neighborhoods like South Lake Union, where several businesses and community members have expressed concern about the number of vehicles parked there each day.
- SDOT is also reviewing the conditions of the permit issued to Car2Go to refine the reporting requirements and surveying processes so that we are able to gather consistent longer-term information on member trip-making behaviors.
- Even with the additional parking data and annual survey information, it is difficult to determine the effects of free-floating car share on transportation behaviors and our transportation system as a whole. While some of the data provided by Car2Go indicate positive effects from free-floating car share, such as fewer miles traveled in private vehicles and lower car ownership rates, the decline in public transit ridership among members is a less desirable trend and should be better understood.
- Further, based on conversations with other cities and with researchers on shared transportation systems, the first year of free-floating car share operations likely differs from future years, as membership grows. Because free-floating car share is one element of a larger transportation network including transit, bike, pedestrian, auto, taxis, bike share, transportation network companies, etc., the ways in which people utilize each of these systems change as new options become available.
- To ensure that Seattle continues to meet citywide goals related to livability, connectivity, equity, and the environment, the City is considering development of a long-term plan for ongoing evaluation and policy adaptation related to the increasing use and influence of shared transportation systems.

Recommendations

Any policy that dedicates on-street spaces for shared cars must have a mechanism to verify and ensure the benefits of carsharing, particularly if local jurisdictions choose not to charge a market-based fee for these spaces. A valid verification mechanism can address concerns about privatization and also ensure that the public realizes a return on its investment.

The following provisions should be included in any agreement between cities and carsharing organizations:

- Ensure that vehicles emit minimal pollutants. Require that all vehicles parked in on-street spaces meet the EPA’s ultra-low-emissions-vehicle standards, or vary the fees based on the emissions profile of each shared car parked.
- Ensure increased mobility for low-income populations. Require a certain number of vehicles in low-income neighborhoods.
- Verify benefits. Require that the carsharing organizations provide annual travel behavior data on their members to the municipality.
- Ensure expansion—not just subsidization.
 - The city’s investment should help carsharing organizations expand, not simply reduce their current operating costs. Many carsharing organizations have at least some vehicles parked in off-street private locations, and a poorly-designed agreement could allow the organizations to move these cars from off-street spaces (paid) into the on-street ones (potentially free). The organization gains substantially when this happens, but the public doesn’t. To prevent this sort of outcome, cities should mandate that any cars parked in private off-street lots remain there for a period of time after the street spaces are dedicated or charge for both.

Conclusions

On-street parking spaces for shared cars should be considered as a means to encourage the growth of carsharing because on-street spaces create extra value in two ways. First, the time savings and convenience of on-street spaces can attract new members to carsharing organizations. Second, the great visibility of shared vehicles prominently parked on the streets will serve as advertising that can show the benefits of membership.

Some drivers may oppose dedicating on-street parking spaces to shared cars because it will reduce access for privately-owned cars. Nevertheless, carsharing’s benefits are well established. If carsharing reduces vehicle travel, particularly at peak hours, it can reduce traffic congestion, air pollution, and energy consumption. It can also increase mobility for a city’s poorest residents.

Reducing the on-street parking available to privately owned cars might even encourage more people to become carsharing members, creating a positive cycle that will further increase the benefits of carsharing. Each on-street parking space dedicated to a shared car can benefit many people, including those who do not use carsharing services.

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Appendices

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