CAPITAL CITY DEVELOPMENT CORP

BOISE CITY OF TREES

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Parking Strategic Plan

APPENDIX D2

Go To 2040 Regional Comprehensive Plan Strategy Analysis

Carsharing

Kimley»Horn

Expect More. Experience Better.

Go To 2040 Regional Comprehensive Plan
Strategy Analysis

CARSHARING

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I: Introduction

"One of the newest additions to the transportation toolbox, car-sharing has the potential to change people's relationship to the car in dense, urban communities." (Millard-Ball, 2005) Carsharing is a group of individuals or organizations that share the costs associated with car ownership. The majority of carsharing groups in the U.S. are membership based organizations, both profit and nonprofit, that give their membership access to a fleet of vehicles for short term use. The static expense of owning and operating a personal vehicle is turned into a variable cost of user fees based upon time and miles driven.

First appearing in Europe in the 1980s, carsharing began to make inroads into the U.S. market in the late 1990s. It is estimated that as of 2006, there were 117,656 carsharing members and 3,337 carsharing vehicles in the North America. (Shaheen, 2006) Carsharing is not only serving individuals. Businesses and governmental organizations are showing an increased interest in carsharing as a way to reduce their vehicle fleet costs.

The success of carsharing organizations has shown that carsharing works best in urban areas with high population densities that support other modes of transportation including transit, walking, and bicycling. These other modes are critical to the success of carsharing since users can not be solely dependent on the carsharing vehicles for transportation.

If carsharing were available to you, would you be willing to give it a try? Why or why not?

If you are a carsharing member, what do you think the benefits of carsharing are both to you and to the region?

II: Impacts of Carsharing

Proponents have identified several potential public and private benefits – environmental, economic, and social – that can be achieved with carsharing. They advocate that it can provide access and mobility to the underserved, protect air quality and reduce energy consumption, and reduce usage of transportation infrastructure and therefore, reduce the need for capacity. But carsharing in the region, and the rest of North America, is still a relatively new strategy that is constantly evolving, so comprehensive data is not available. However, there is significant research to support three key assertions:

- Carsharing reduces vehicle ownership;
- Carsharing causes travel behavior changes; and
- Carsharing lowers transportation costs. (Millard-Ball, 2005)

Within these assertions are couched several caveats, but also several secondary and tertiary impacts as well. Therefore, it is reasonable to postulate that as carsharing increases throughout the region, these impacts will also potentially compound.

Reduction in Vehicle Ownership

The major potential benefit of carsharing is the reduction in private vehicle ownership by members. By providing access to an occasional use vehicle, members may be able to get rid of their underutilized car, or a second or third car in their household, or forgo the purchase of a new car. Compiling research from several studies, a TRB report (Millard-Ball, 2005) found that, for North America, an average of 20% of members sell a vehicle after joining a carsharing organization; and an average of 41% of members postpone or forgo the purchase of a vehicle. Using the North American average of 1:24 vehicle-to-member ratio for carsharing organizations would translate into approximately five private vehicles for each carsharing car. It is important to note however, that these numbers are speculative and can range significantly. The TRB report compared these findings to their own comprehensive national survey, administered in 2004. The TRB survey found a greater impact, with approximately 50% of members selling a vehicle and 70% postponing or forgoing buying one. It also found a higher ratio of members to cars, with each carsharing vehicle estimated to take 14 cars off the road. According to Zipcar, a national carsharing company, each of their vehicles takes 15 personally-owned vehicles off the road. (Zipcar, 2005)

Reducing vehicle ownership has several subsequent benefits, all of which are difficult to quantify, but existent nonetheless. One key effect is reduced parking needs. With every vehicle removed, there is reduced parking demand, which translates into less parking. Less parking can result in cost savings both to the carsharing member who used to have to pay for a parking sticker, garage, or permit, and to the public sector in its provision of sufficient street, commercial, and commuter parking. Many of these vehicles are in the business and government market, utilized to cut down on the number of fleet vehicles, and thereby reducing the number of parking spaces needed in high-demand office parking garages or lots.

Furthermore, a need for less parking can be integrated into development and urban design changes, which has significant environmental and social benefits. With fewer parking spots needed or required, development can be more compact and walkable. Less land is consumed for parking, offering opportunities for reduction in impervious surface and stormwater runoff. Furthermore, dense, compact development promotes walkability and allows more access to mode-sharing options and transit, which can reduce automobile use and vehicle miles traveled (VMT), (Hagler Bailly Services, 1999) and other social and environmental benefits.

Travel Behavior Changes

The whole concept of carsharing represents a change in behavior from the traditional "American" culture and lifestyle of car ownership. This shift in behavior can play out into several social, economic, and environmental impacts – some straightforward, some more speculative. The research recognizes that it is difficult to quantifiably measure behavior, but several studies and surveys attempt to do so.

The most significant behavior change of carsharing members is a reduction in the number and length of trips. This is largely a function of changes in vehicle ownership: once members give up their cars, driving isn't always the default travel option. Other travel modes will be weighed, depending on cost, time, availability, or comfort. To carsharing members, driving may not always be most cost-effective option. "A carsharing system in effect transforms fixed costs of

vehicle ownership into variable costs." (Shaheen, 1999) When a vehicle is purchased, the fixed costs – car payments, insurance – are treated as sunk costs by a household, and perceptions of the cost of a trip are based on variable costs – gasoline, parking – alone. The economics of driving are heavily skewed. (Millard-Ball, 2005) But because carsharing organizations charge for time and/or mileage, almost all costs become variable. Therefore, carsharing members "learn the true cost of driving" and subsequently drive less, translating into a reduction in VMT. (Shaheen, 2005) Several research studies show a reduction in VMT per member over time – possibly as they become more aware of the real costs of each trip. Carsharing members also tend to make more multi-purpose trips in order to use their time most efficiently, thereby reducing VMT. It is worthwhile to note, however, that carsharing can also induce VMT, as those members who didn't have access to vehicles before joining the carsharing organization now do. Despite this, the research supports a net reduction in VMT among all carsharing members. (Millard-Ball, 2005) Zipcar reports that on average, its members drove 5,295 miles per year prior to joining Zipcar, and currently, members drive an average of only 1,068 miles per year. (Zipcar, 2006)

Research and member surveys have also attempted to measure the secondary benefits of this change in travel behavior on transit and emissions. The overall reduction in VMT is realized partly as an increase in transit ridership, along with greater walking and cycling. According to a comprehensive member survey done by TRB in 2005, nearly 40% of members state that they use transit more often as a result of their involvement in carsharing. (Millard-Ball, 2005) Members of Zipcar in Washington, D.C. report a 46% increase in public transit trips, a 10% increase in bicycling trips, and a 25% increase in walking trips. (Washington Metro Area Transit Authority, 2005) Although carsharing increases transit ridership for some members, it is serving to substitute for transit trips previously taken by those members which did not have access to a car prior to joining. Furthermore, those members which have access to another vehicle in their household may be using that vehicle more intensely rather than using transit or other modes. (Sheehan et al, 2005)

Changes in travel behavior and patterns also translate into fewer emissions and less gasoline consumption. Although the decrease in VMT is clearly partly responsible, this reduction in emissions is also due to the fact that the majority of carsharing cars are newer, smaller, and usually fuel-efficient or alternative-fuel vehicles.

Can carsharing play a significant role in our region at lessening the capacity expansion requirements of parking and highway/roads?

Reduced Transportation Costs

Inherent in the above two benefits of carsharing is the idea of cost savings. The reduction in vehicle ownership is likely due to the cost-saving aspects; and similarly, the reduction in VMT and associated increase in transit ridership and decrease in gasoline consumption are also tied to cost, as members "learn the true cost of driving."

These cost savings are extremely variable, and difficult to generalize, but the accepted usage threshold below which carsharing is cost-effective to members is 5,000 miles per year.(Millard-Ball, 2005) This depends significantly on several factors, including travel patterns (i.e., how often the member drives and how convenient it is to switch to walking or transit), if the member

can shift to more intensive use of another car, the fee structure of the carsharing organization, the proportion of use of the carsharing car, and the expenses of owning a vehicle. The research supports these cost-saving impacts, with results from the 2005 TRB study showing an average monthly expenditure of $61.26, which translates to roughly $735 per year (Millard-Ball, 2005). This is markedly less than the average per month expenses of driving a privately owned vehicle, estimated at $7,823 per year. (Sundstrom, 2007) Several carsharing organizations have "cost-calculators" on their websites, allowing the members to estimate their cost savings by adding in their other transportation estimates, such as a transit pass, taxi use, and an occasional car rental.

A significant benefit of this cost-savings is that is allows access and mobility to a larger demographic. Drivers who were not able to afford a vehicle of their own, because of the high fixed costs of purchasing the car, parking, registering, and insurance, are able to have access to carsharing vehicles. In this way, carsharing can promote equity and provide mobility to low-income groups. It offers an opportunity to have access to places not served by transit, flexibility in payment plans, and different vehicles for different purposes. This assumes that the carsharing cars are located in areas accessible to these members.

What role can carsharing play in our region to enhance the mobility and provide financial savings to people in lower income segments?

III. Local Perspective

Chicago has two carsharing organizations, I-GO and Zipcar, operating in the region. Both operations utilize web based reservation systems and smart technology for the access, operation and tracking of their vehicles. Figure 1 on page 6 is a map of the vehicle locations for both agencies in northeastern Illinois.

I-GO is a nonprofit organization based in Chicago that was started by the Center for Neighborhood Technology in 2002 as a pilot program with the use of Congestion Mitigation and Air Quality Improvement funds. I-GO has vehicles located for membership use in Chicago, Evanston, and Oak Park. Currently its membership totals exceed 7,000 individuals which include several business entities. I-GO's goals are to "reduce car ownership rates, lower family transportation costs, reduce urban congestion and improve air quality in all neighborhoods." I-GO, with its "eco-friendly mission," focuses on providing only low-emission vehicles in its fleet. While continuing to expand, I-GO is looking into new suburban locations and creating station cars. Station cars are vehicles placed at transit stations that help users combine transit with carsharing as part of their work commute.

Zipcar is a national for-profit business that was started in 1999 in the Boston area. Since a 2007 merger with Flexcar, another national carsharing organization, Zipcar operates in 22 cities across North America, and in London. Zipcar launched operations in Chicago in September 2006, and currently estimates their regional membership at more than 8,000 members with 250 vehicles. Like I-GO, Zipcar has vehicles located in Chicago and Evanston and boasts a fleet that covers a wide range of vehicle types. Chicago's population density, mass transit availability, high parking costs and congestion, heavy vehicle congestion, and strong environmental ethic were

some of the characteristics that attracted Zipcar to the Chicago market. The near term expansion efforts of Zipcar will focus on neighborhoods like Bridgeport, Humboldt Park, Bronzeville and Chinatown in the City of Chicago along with existing neighborhood gaps.

What role should CMAP have in planning for car-sharing in the region? Should CMAP promote car-sharing though communicating best practices, recommending development practices that support car-sharing, or more proactive approaches?

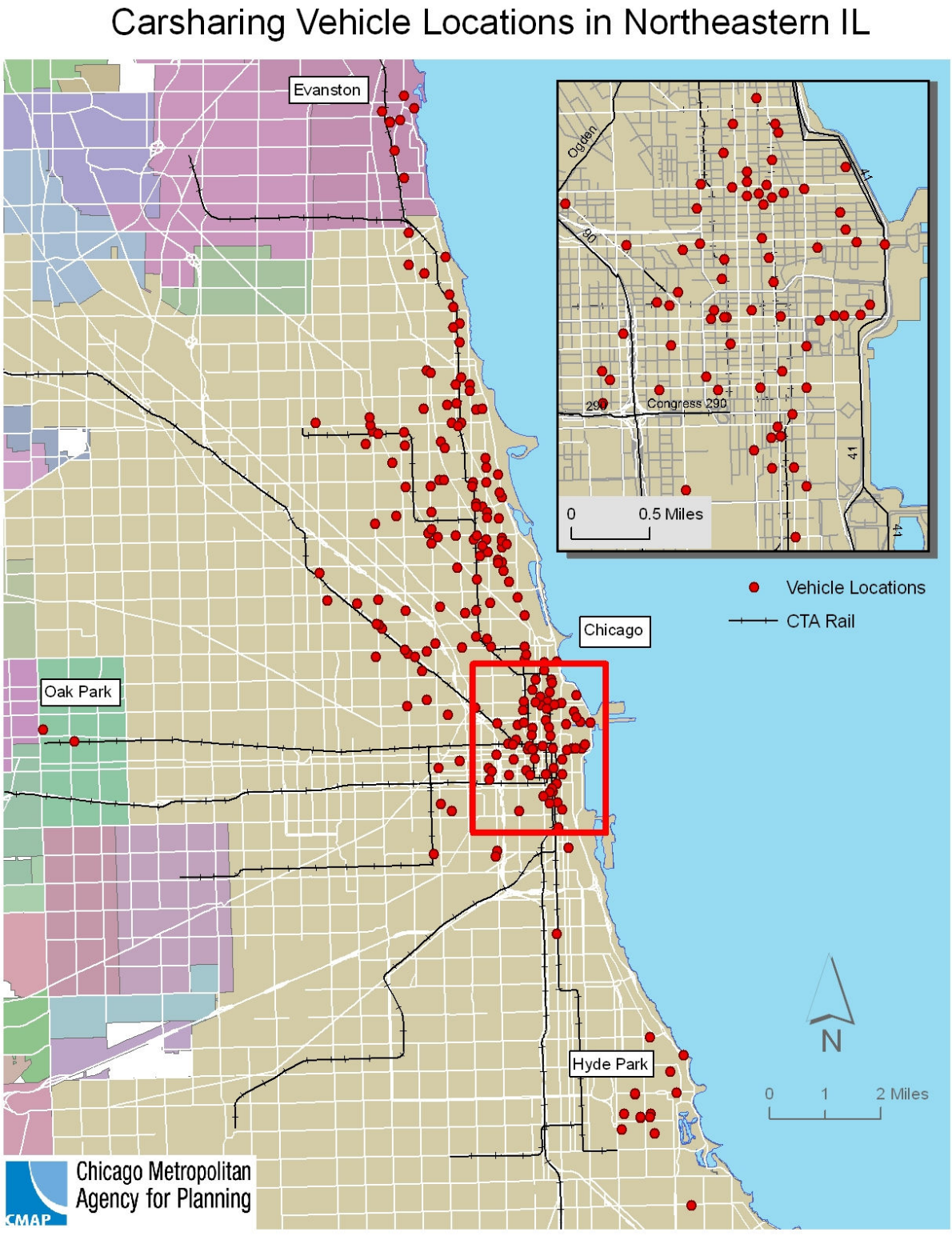

Figure 1
Locations for I-GO and Zipcar Vehicles as of March 2008

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