Final Report

MARKET FEASIBILTY STUDY: CAR SHARING IN PORTLAND, OREGON

Submitted to:

Nina DeConcini
Oregon Department of Environmental Quality

Submitted by:

Jane S. Peters, Ph.D.
Research into Action

Steven Scott, P.E.
MetaResource Group

Rex Burkholder
Bicycle Transportation Alliance

July 10, 1997

TABLE OF CONTENTS

APPENDICES

EXECUTIVE SUMMARY

In January 1997, the Oregon Department of Environmental Quality contracted with the Bicycle Transportation Alliance and its subcontractors (Research Into Action and Scott Engineering) to conduct a Feasibility and Business Planning Study for Car Sharing Mobility Services in Portland, Oregon. The two major components of the study are a market feasibility study and a business planning study. This document reports on the market feasibility study.

The first phase of the market feasibility study was a preliminary assessment using socio-demographic data. The purpose of the assessment was to identify the preferred neighborhoods for consumer research on car sharing. The second phase was to conduct focus groups with residents of the targeted neighborhoods. The purpose of the focus groups was to obtain an initial assessment of consumer interest in car sharing, and to provide a preliminary look at consumer response to car sharing for use in developing a survey from which to measure market potential.

The third phase of the feasibility study was to conduct a survey of licensed drivers over 21 who live in the study area. The purpose of the survey was to:

- Estimate market potential for a car sharing club,
- Determine response to different features of the car sharing club,[1] and
- Identify the characteristics of those who were "very likely" joiners.

Our preliminary assessment confirmed that the inner Northwest, Southwest, Southeast, and Northeast neighborhoods were the most likely area for car sharing to be effective. We conducted two focus groups, each with 10 licensed drivers over 25 who lived in the study area. The focus groups demonstrated that there was interest in car sharing and that the concept of car sharing could be explained and understood with a brief introduction. The focus groups also provided valuable information on key issues of interest and concern for measurement in the survey.

The survey was implemented by phone. A sample of 385 drivers over 21 completed the survey. The survey sample exhibits some striking differences from the 1990 Census data for the study area. For instance, the survey sample had 76% college graduates, while the Census data for the study area indicated 34% college graduates among those over 21. These differences were found to be insignificant in explaining interest in joining a car sharing club because attitudes and behaviors – not demographics – predicted interest in car sharing.

The results of the survey were used to estimate market potential for a car sharing club in the study area. We concluded that 4,804 (11.7%) of the drivers over 21 in the study area believe they would be very likely to join a car sharing club if one were available in their neighborhood. The percent varies slightly by neighborhood. This finding is at the 95% confidence level, ±4%. Of the

[1] We chose the term "car sharing club" as a neutral term in comparison to "car sharing co-op" or "car sharing organization." We were concerned that the term not imply a specific type of organization structure. We saw "club" as having both not for profit and for profit associations.

drivers who are very likely to join the car sharing club, we found that the idea was seen as both practical and appealing for the driver to be interested in joining. We further found that the appeal of car sharing varied depending on the level of education completed by the driver.

Some of the key findings that affect car sharing club structure and operations include:

- Regular and occasional bus riders are significantly more likely to be interested in joining a car club than once-in-a-while riders or those who never ride.
- Neither education level, income level, or number of cars owned were significant predictors of interest in joining a car club.
- Those most likely to join are willing to walk further distances to reach the car and to pay higher monthly fees than those only somewhat interested in joining a car club.
- Of those most likely to join a car club:
  - 47% use an economy or compact car 1-5 times a week.
  - 54% use a pick-up truck 6 or more times a year.
  - 80% would be likely to sell their primary car if car sharing worked for them.
  - 61% would be likely to sell their secondary car if car sharing worked for them.
  - 57% find all key locations acceptable; 21% prefer the key post option.
  - 46% find no objections to the possible fees, 23% object to the hourly fee.
  - 52% are willing to walk 5-10 minutes to reach the car-sharing car.

Those drivers who have a college degree and were most likely to express interest in joining a car sharing club were: more likely to have cost-conscious attitudes about car ownership, more likely to express preference for a simpler lifestyle, more likely to ride the bus regularly, and more likely to drive their secondary car more than 10,000 miles per year.

Those drivers who did not have a college degree and were most likely to express interest in joining a car sharing club were: more likely to be in the age range of 35 to 44, less likely to love their car and the activities associated with it, more likely to have an income of $30,000-$50,000, and less likely to need a car to run errands for children or other household members.

These differences suggest that a marketing campaign for a car sharing club seeking to expand and grow should include different messages about car sharing, using different media to target different education levels. Specifically we recommend:

- Messages about car sharing should stress value gained from the cost savings of car sharing, the value of a simpler lifestyle, the ability to replace secondary cars, and the elimination of the activities associated with owning a car (e.g., washing, maintaining, etc.)

- Marketing to those with college degrees could be successful through advertising that regular bus riders will see, and by using venues targeted to the college educated. Incentives associated with bus riding could also be appealing, as well as stressing ways to link car sharing to bus riding.
- Marketing to those without a college degree should target media sources that attract adults with few dependents, age 35-44, with incomes of $30,000-$50,000.

The type of marketing campaign for a pilot project, however, will need to be smaller in scale, focusing on the themes identified in this study.

1. INTRODUCTION

In January 1997, the Oregon Department of Environmental Quality (Oregon DEQ) contracted with the Bicycle Transportation Alliance and its subcontractors (Research Into Action and Scott Engineering) to conduct a Feasibility and Business Planning Study for Car Sharing Mobility Services in Portland, Oregon.

The two major components of the study are a market feasibility study and a business planning study. This report documents the market feasibility study. The following briefly describes car sharing and then discusses the purpose of the market feasibility study.

CAR SHARING

Car sharing is a mobility option. Several car sharing organizations, each with their own organizational structure, have developed in European and Canadian cities. A car sharing organization consists of a group of individuals who share a fleet of cars. The vehicle purchase or lease agreements, fuel costs, maintenance, insurance, and repair costs are borne by the organization.

To reserve vehicles, members phone a 24-hour reservation line, then pick up their car at a permanent location convenient to their residence, typically within walking distance. The goal of car sharing is to provide access to cars when people need them, without each person having to own their own car with the associated high fixed costs. Car sharing is attractive because it promotes auto use as *one option* along with transit, carpooling, bicycling, or walking.

The only large, publicly available car sharing organization in the United States began in 1983, in San Francisco. The organization, named STAR (Short Term Auto Rental) began as a pilot project with 350 members. Due to poor business planning, the project was terminated by 1985. This history led Oregon DEQ and other transportation planning agencies in Portland who are on the Oversight Committee[2] to request proposals to conduct a market feasibility and business planning study of car sharing for Portland, prior to implementing a pilot project.

THE MARKET FEASIBILITY STUDY

The first phase of the market feasibility study was a preliminary assessment using socio-demographic data. The purpose of the assessment was to identify the preferred neighborhoods for consumer research on car sharing. The second phase was to conduct focus groups with residents of the targeted neighborhoods. The purpose of the focus groups was to obtain an initial

[2] Composed of Oregon DEQ, Oregon Department of Energy, Oregon Department of Transportation, City of Portland Bureau of Traffic Management, Metro, Tri-County Metropolitan Transportation District (Tri-Met), Oregon Environmental Council, Center for Clean Air Policy, VPSI, and citizen representatives.

assessment of consumer interest in car sharing, and to provide a preliminary look at consumer response to car sharing for use in developing a survey from which to measure market potential.

The third phase of the feasibility study was to conduct a survey of licensed drivers over 21 who live in the study area. The purpose of the survey was to:

- Estimate market potential for a car sharing club,
- Determine response to different features of the car sharing club, and
- Identify the characteristics of those who were "very likely" joiners.

OUTLINE OF THE REPORT

The report includes five chapters following this introduction. Chapter 2 provides a discussion of the preliminary assessment. Chapters 3 and 4 discuss the focus groups, with Chapter 3 focusing on the methodology and a discussion of the characteristics of focus group participants and Chapter 4 discussing the results of the focus group discussions.

Chapters 5 and 6 discuss the survey of study area drivers over 21. Chapter 5 focuses on the methodology of the survey and a discussion of the characteristics of the respondents. Chapter 6 presents the results of the survey including an estimate of the market potential, responses by potential joiners to various features of a car sharing club, and a discussion of market segmentation characteristics.

2. PRELIMINARY ASSESSMENT

As the initiating element of the marketing research, we conducted a preliminary assessment of potential locations for car sharing. The preliminary assessment provided an empirical basis for focusing the research and business planning efforts on specific geographic areas in Portland. The preliminary assessment included identifying indicating factors, researching available data, and making conclusions in terms of recommended focus on particular Portland neighborhoods. A geographical information system (GIS) analysis of a database of licensed drivers was then used to select the research population for the identified target area.

The request for proposal from Oregon DEQ indicated interest in three location types — a downtown neighborhood location, a suburban community that is rail or transit accessible, and a densely populated inner city neighborhood. All three location types were examined in the preliminary assessment.

IDENTIFYING FACTORS

The first task was to establish a list of indicating factors. These may be thought of as criteria for the target market of potential car sharing users. In general, indicators of the potential for car sharing are marginal automobile use, where using a car is not as desirable or as necessary. Our initial set of indicating factors are listed below.

- Interconnected, grid-like street system;
- Close-by work, schools, services and shopping;
- Topography suitable for walking and bicycling;
- High residential density;
- Transit stops that are accessible on foot;
- High transit service density;
- Inadequate vehicle parking;
- High proportion of population use transit, bicycles and walk;
- Vehicles driven less than 5,000 miles per year.

The source for these factors included *The Car Sharer's Companion* by Graham Clarke and Tom Davis, an urban planning practice project for Portland State University,[3] and hypotheses made by the car share project consulting team.

[3] School of Urban and Public Affairs, April 1996.

AVAILABLE DATA

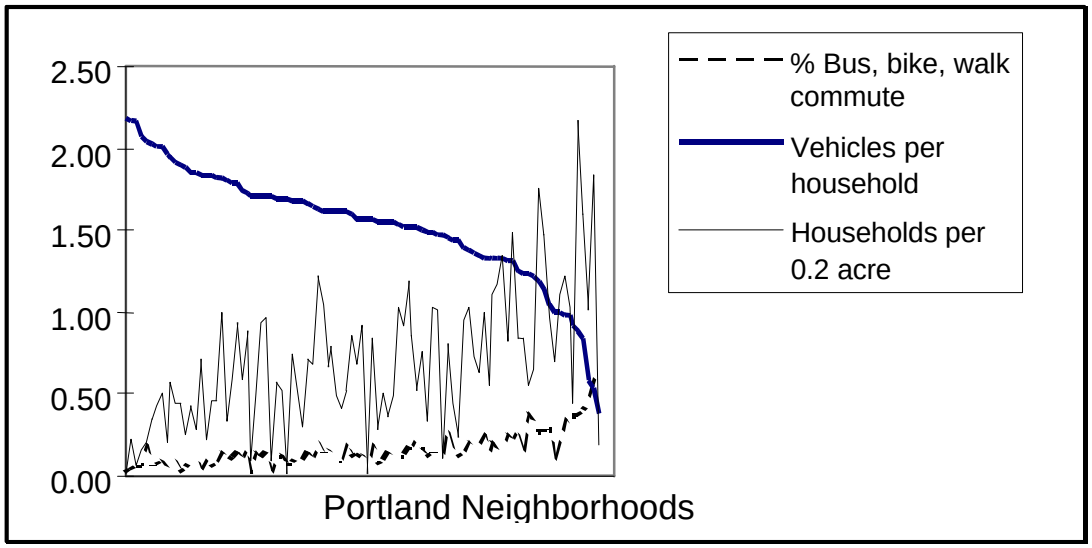
We contacted several sources to identify what data might be available for each of the indicating factors listed above. We located three data sources: a travel behavior survey performed by Metro, the 1990 Census data for the Portland PMSA, and the Portland Neighborhood Information Profile.

The most detailed data available is the travel behavior survey done by Metro in 1994. This data set was available in electronic format, however, it is very large and therefore difficult to work with without large computer capacity. In addition, the sampling frame for the Metro data was insufficient to clearly identify results by neighborhood.

The Census data for the Portland PMSA provides data for 145 census tracts in the city. The data of interest was trip-to-work information and vehicles available by household. Unfortunately, this data set was not readily available in electronic format.

The Portland Neighborhood Information Profiles were compiled by the Office of Neighborhood Associations and the Center for Urban Studies at Portland State University. This data set was available in Excel spreadsheet format and was derived from 1990 Census data. Ninety Portland neighborhoods are described in the data. Like the census data, available were trip-to-work information and vehicles available by household. In addition, the area of each neighborhood and the number of households was available to calculate average household density. Figure 1 displays the data for all neighborhoods, ranked by number of vehicles per household.

FIGURE 1
RANKED PRELIMINARY ASSESSMENT VARIABLES



Two other sources for information were pursued: parking problem data from the City of Portland and transit service density from Tri-Met. Although there are anecdotal descriptions of areas with parking problems in Portland, there are few formal studies that describe the magnitude of parking difficulties. A table of route frequencies of transit was analyzed, but this failed to show any useful relationship between service density and other known characteristics such as non-auto commute mode choice.

The Portland Neighborhood Information Profiles was selected as the most viable data for the preliminary assessment. Of the nine initial indicating factors listed above, three were measurable using this data set. The number of vehicles per household was considered as a proxy for parking problems. The following variables were used:

- Household density,
- Non-auto commute mode, and
- Number of vehicles per household.

We calculated these variables for each of the 90 Portland neighborhoods using the Portland Neighborhood Information Profiles. The results were sorted into a list of descending non-auto commute mode choice. Neighborhoods with the highest non-auto commute mode were considered the most suitable to car sharing and were recommended for additional market research. The data showed a strong inverse relationship between non-auto commute mode and the number of vehicles per household, and an obvious but less-strong proportional relationship between non-auto commute mode and household density.

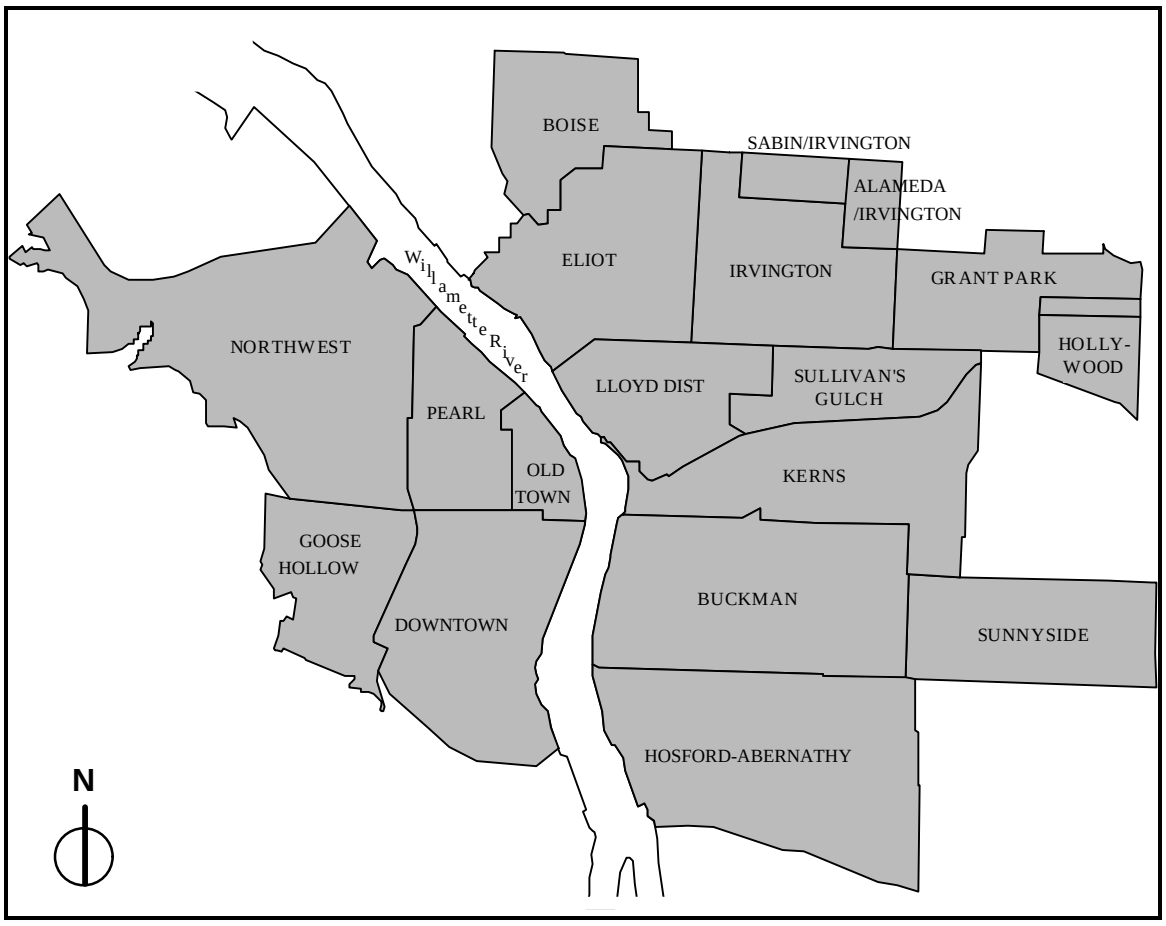
The neighborhoods with the highest non-auto commute mode were examined in terms of geographic location and contiguity. This analysis identified 19 Portland neighborhoods, including the Lloyd District and several areas adjoining these neighborhoods, as the preferred location for the study area. In total, the neighborhoods are a roughly rectangular area centered on the Burnside Bridge. Figure 2, provides a map of the study area's 19 neighborhoods.

Compared to the close-in east and west neighborhoods, outer Portland and suburban neighborhoods had very low non-auto commute mode portions, low household density, and a high number of vehicles per household. Outer suburban neighborhoods also do not typically have some of the other features noted for car sharing, such as a grid-like street system and streets and sidewalks suitable for bicycling and walking. The Oversight Committee concurred that these neighborhoods offered significantly reduced opportunities for car sharing.

IDENTIFICATION OF STUDY AREA

A database of licensed drivers in Oregon, as of January 1997, was obtained as the basis for the focus group and telephone survey population. As only those in the study area neighborhoods would be surveyed, GIS analysis was used to select the survey population subset.

FIGURE 2
NEIGHBORHOODS RECOMMENDED FOR STUDY FOCUS



The database of licensed drivers in Oregon contained 1,873,211 records. The database was first analyzed to select licensed drivers over age 25, as of January 1, 1997.[4] Using geocoding available in the GIS software, we selected those drivers with addresses located in the Portland neighborhoods shown in Figure 2. The resulting data set contained 36,750 drivers over age 25 from the focus neighborhoods. A subsequent analysis provided an estimate of 40,930 drivers age 21 and older in these neighborhoods. These data became the population from which the survey sample was drawn.

The following 19 neighborhoods are included in the study area:

[4] Due to concerns about insurance for the car sharing organization, we initially focused on drivers over 25 years of age in the study area. Later, we learned that insurance would not be based on the age of the drivers, but rather on their experience. As a consequence, we dropped the target to 21 years of age for the survey and for calculations of market potential.

Alameda/Irvington*	Grant Park	Old Town
Boise	Hollywood	Pearl District
Buckman	Hosford-Abernathy	Sabin/Irvington*
Downtown	Irvington	Sullivan's Gulch
Eliot	Kerns	Sunnyside
Goose Hollow	Lloyd District*	
Grant Park/Hollywood*	Northwest	

Neighborhoods in Portland are formally recognized by the City and have established boundaries and neighborhood associations to represent their interests. There are several minor exceptions to this which are marked by an asterisk in the list above. Three of these are small areas between recognized neighborhoods that are considered in dispute insofar as their boundaries. The Lloyd District is represented by a business association rather than a neighborhood association, as it has a relatively small number of residents and a large number of retail and office businesses. These "neighborhoods" had the same indications for car sharing as the other, formally recognized, neighborhoods.

3. FOCUS GROUP RESEARCH

This chapter briefly describes the two focus groups conducted to study car sharing in Portland, Oregon. We also briefly discuss the characteristics of the 20 participants in the focus groups. The following chapter presents the results and conclusions from our analysis of the two focus group discussions.

DESCRIPTION OF FOCUS GROUPS

As discussed in the preliminary assessment, we identified 36,750 licensed drivers in the study area who were over 25 years of age. Using this list, 1,000 drivers were randomly selected for recruitment to two evening focus groups. Two facilities were selected for the focus groups in order to ensure easy access by multiple transportation options. One facility was in the downtown area and the other was in inner Southwest, along Barbur Blvd.

A set of screening questions was developed for use in recruitment. (See Appendix A for a copy of screening questions and letters sent to participants.) The key goal was to identify a sub-set of licensed drivers who might have a positive disposition to the idea of car sharing. The questions used for screening were:

1. Attendees had to have a current drivers license;

2. Attendees had to use alternative forms of transportation (walk, bus, or bike) at least 3 times a week; and

3. Attendees had to be willing to consider loaning or borrowing a car.

Table 1 displays the disposition of calls for recruitment. By classifying contacts by eligibility we can begin to make a preliminary assessment of market response. A survey uses at least four callbacks to each phone number. Focus group recruitment relies on only one call to each phone number. As a consequence, the sample is biased toward those who are at home when calling occurs.

Of the 711 phone numbers, 471 did not result in contacts with a person who could be surveyed. Therefore, we calculate that only 240 contacts were made. Of these 240, eligibility remained undetermined for 99 (41%), since they did not complete the survey. Ninety-six (40%) were determined to be ineligible for the focus group, based on the screening questions, leaving 19% eligible, of whom half were willing to attend the focus group.

TABLE 1
RECRUITMENT DISPOSITION

RESPONSES	NUMBER	PERCENT
NOT ELIGIBLE		
Business number	6	*
Disconnected number	86	12.1%
Wrong number	10	1.4%
Fax machine	9	1.3%
Screener 1: No driver's license	20	2.8%
Screener 2: Do not regularly walk, take bus, bike, etc.	52	7.3%
Screener 3: Wouldn't consider loaning or borrowing a car	24	3.4%
UNDETERMINED ELIGIBILITY		
No answer/answering machine	307	43.2%
Busy signal	34	4.8%
Language barriers	19	2.7%
Refused	67	9.4%
Respondent not available	21	3.0%
Call back later	10	1.4%
Broke off, call back later	1	*
ELIGIBLE		
Qualified refusals, can't come but interested	13	1.8%
Qualified refusals, can't come and not interested	8	1.1%
TOTAL RECRUITED	**24**	**3.4%**
Males (14)		
Females (10)		
TOTAL CONTACTS	**711**	

** Response less than 1%.*

DESCRIPTION OF FOCUS GROUP ATTENDEES

Twenty people attended the focus groups. Prior to the discussion, we asked the participants to each complete a short survey. Nineteen of the participants were able to complete the survey. This section reports on the results of the survey. A copy of the survey is provided in Appendix B.

Attendees came from nine different neighborhoods throughout the target market area. The neighborhoods were:

NW - Northwest (1)	SE - Buckman (2)	NE - Concordia (1)
SW - Downtown (3)	SE - Hawthorne (4)	NE - Hollywood (1)
SW - Goose Hollow (4)	SE - Ladds' Addition (2)	NE - Unspecified (1)

(Note, the names the participants provided for their neighborhood do not directly coincide with the official neighborhood names used by the City of Portland Office of Neighborhoods.)

Focus group participants represent a range of ages, educational training, and incomes. Table 2 displays these characteristics.

TABLE 2
CHARACTERISTICS OF FOCUS GROUP PARTICIPANTS

CHARACTERISTIC	FREQUENCY	PERCENT
AGE		
25-29	6	32%
30-39	6	32%
40-49	5	26%
50-59	1	5%
60-69	0	0%
70+	1	5%
EDUCATION		
Some College	6	32%
College Graduate	11	58%
Post Graduate	2	10%
INCOME		
< $15	3	16%
$15-$19	1	5%
$20-$29	3	16%
$30-$49	5	26%
$50-$74	4	21%
>$75	3	16%

Of some note, was the limited number of participants over 50 and the fact that all of the participants had at least some college, with almost 60% being college graduates or with post graduate training. Otherwise, participants were fairly evenly distributed over the categories.

Household size ranged from one to four persons per household, licensed drivers ranged from one to three per household, with from zero to five cars per household. Distances regularly commuted ranged from less than one to 20 miles. These data are presented in Table 3. Just as a note, the one person who did not complete a survey reported in the group that she had no car but lived in a household where she shared a car with other household members.

TABLE 3
NUMBER OF DRIVERS AND VEHICLES PER HOUSEHOLD

QUESTION	0	1	2	3	4	5
Number in Household	—	6	10	1	2	0
Number of Drivers	—	7	10	2	0	0
Number of Vehicles	1	11	4	2	1	0

The surveys identified one participant as not owning a car. However, during the focus group discussions, three of the participants stated they did not have a car of their own. One of these is considering purchasing a car and another is considering purchasing a motorcycle. None of those who own only one car are considering purchasing a second car. Three of those who own one car have had two cars in the past and now only have one, one of the people who owns two cars has owned three, and one of the people who owns three cars had only recently purchased the third car.

Four (21%) of the participants have a Tri-Met bus pass and four (21%) use ticket booklets. The other 11 (58%) do not have either. Table 4 displays use of Tri-Met and other forms of transportation for errands and shopping. Table 5 displays how these drivers use their various vehicles.

TABLE 4
TRANSPORTATION USED FOR ERRANDS AND SHOPPING

FREQUENCY	MOTOR VEHICLE	BICYCLE	WALKING	CARPOOL	TRI-MET/MAX
Daily	6	0	5	0	0
3-6 Times/week	9	0	5	2	2
1-3 times per week	3	4	6	1	6
Less often	1	5	3	6	8
Never	0	10	0	10	3
TOTALS	**19**	**19**	**19**	**19**	**19**

TABLE 5
PURPOSES EACH VEHICLE IS USED FOR

VEHICLE	WORK	COMMUTE	RECREATION	SHOPPING	OTHER
Vehicle 1 (18)	6	3	17	18	2
Vehicle 2 (6)	1	0	5	2	1
Vehicle 3 (3)	1	1	0	1	1

Car ownership crosses all of these neighborhoods, suggesting that few drivers make choices in where they live by whether they have a car or not. Though some comments in the focus group indicate that choices are made, the surveys did not confirm this.

The mean distance the participants have to go to work is 4.7 miles. Comparing distance to work, to number of cars per household, we found some slight indications that the more cars one has, the more likely the distance to work is greater. However, this is a very small sample. Table 6 displays these relationships.

TABLE 6
MEAN DISTANCE TO WORK AND NUMBER OF CARS PER HOUSEHOLD

NUMBER OF CARS	PARTICIPANTS RESPONDING YES	MEAN DISTANCE TO WORK
0	1	6
1	11	4.55
2	4	4.38
3	2	3.25
5	1	10
Total	30	4.7

4. FOCUS GROUP RESULTS

We developed a script to guide the focus group discussions. A copy is provided in Appendix C. Following an introductory section, the script included three issue areas for discussion. Just prior to the third issue area, we introduced the car sharing concept with a video about a car sharing club in Cologne, Germany.[5] The results are presented for each of the three sections listed below.

- Transportation Behaviors
- Sharing Cars
- Car Sharing Concept

TRANSPORTATION BEHAVIORS

We asked the focus group participants to discuss using and owning cars. First, we asked them to describe the benefits and costs of using a car. Then, we asked them to specifically consider the benefits and costs of owning a car.

Benefits

Focus group participants generally saw both using and owning cars as increasing convenience. Their comments listed the benefits of using cars as: comfort, convenience, speed, dryness, recreation and sightseeing in the Pacific Northwest, flexible, good for carrying stuff, fun to drive, easier to go out with friends, and can listen to music.

The benefits of owning a car included: there when needed, specific type of car you want to have, you can enjoy the pleasures of a car, ego gratification, can let dependents drive themselves, good for spur of the moment, good for emergencies, less expensive then renting or using cabs. One of the participants also noted that there is investment potential in some cars, such as the third car he had recently sold: “It got to where the car was worth more away from me than with me.”

The benefits of owning a second car are: one car will always work, two people can do different things, one can have different types of vehicles, and you can loan the car to others. Some of the comments participants provided on the benefits of using or owning a car are noted in the box below.

[5] The program was produced in Germany by the *European Journal*, an English language news program that is broadcast on some public television stations. The segment was featured on the program of February 19, 1994.

BENEFITS OF CARS

- *"Important to have a car in the Pacific Northwest for sightseeing, can't do it any other way."*
- *"It's an efficient way to get things done."*
- *"Easier to go out with friends."*
- *"Had lots of invitations for dinner when we first moved here, had to get a car in order to get to where people lived."*
- *"Can make your own statement about yourself and can have different statements with different cars."*

We asked participants how important it was to have the car they use located close by. Most felt that it was fine to have it a little ways from their home. Four participants, three women and one man, thought that having it close by was most safe.

Since convenience was mentioned as an overriding concept in both groups, we asked participants to elaborate on what convenience means to them. The comments in the box below define convenience for these participants.

COMMENTS ON CONVENIENCE

- *"There when you want it."*
- *"Get where you want to go when you want to be there."*
- *"Time from front door to destination is a little as possible. For instance, in Europe and New York public transportation is more convenient than a car."*
- *"Can manage multiple errands."*
- *"Can manage getting kids every place they need to be."*

Negative Effects of Cars

We also asked participants about the negative effects of using and owning cars. Comments on using a car included: parking, rush hour traffic, pollution, safety and danger in traffic, theft from car, and degraded lifestyle.

Asked about owning a car, participants listed costs as the primary negative effect. In addition, they included: insurance, maintenance, gas, car payments, cleaning, hassle, and accident potential. One participant described how owning a car had actually affected where he lived.

> *"I used to live downtown without a car. It got expensive to live there when I got a car. My car got hit in a parking lot a few times, and I had to pay for parking. So, I moved."*

A second car was seen as increasing all the other negative effects: more expensive, takes up more time, requires more space, and more gas since the second is "always empty." One person said they experience no negative effects from owning a car, or even a second and third car. The box below shows some of the participants' general comments about the negative effects of using and owning cars.

NEGATIVE EFFECTS OF CARS

- *"Parking downtown is the number one problem of using a car."*
- *"Other drivers are all jerks."*
- *"The degraded environment is the biggest problem from cars."*
- *"One is less sociable being in their car, walking and busing is more sociable."*
- *"Insurance costs are higher than gasoline."*
- *"It costs more to insure my eight year old car than my house."*
- *"It takes up extra time to take care of two cars, not two times as much, but more than one."*

Most of these drivers felt licensed drivers should take responsibility for pollution and congestion. Only two did not agree with this, feeling that it is really the responsibility of the car manufacturers, not the drivers. The participants mentioned many things drivers can do: keep car tuned up and meet DEQ requirements, reduce trips, plan trips more, use trains and carpools, bike or bus. Some of the comments are in the box below.

ACTIONS TAKEN TO REDUCE POLLUTION AND CONGESTION

- *"Organize day to make trips most efficient."*
- *"Don't idle the car when you going to stop moving for more than a minute."*
- *"Be responsible for waste disposal: old tires, oil, etc."*
- *"Don't buy new cars until they are less polluting and more efficient."*
- *"Public policy should provide more options in public transportation to get people out of their cars."*

SHARING CARS

In order to begin our discussion of car sharing, we asked participants to imagine they had decided to share a car with a group of friends, family or neighbors. They had quite a few questions they would ask before agreeing to such an idea:

QUESTIONS ABOUT SHARING CARS WITH FAMILY AND FRIENDS

- *"When do they want to use the car, and how often?"*
- *"Who will pay for the insurance?"*
- *"Who else will have access to the car?"*
- *"What are their habits in locking the car, remembering keys, keeping the car clean, using the car?"*
- *"What are their driving habits and driving record?"*
- *"Who pays for damage?"*
- *"How much notice will be required before using the car?"*
- *"Recourse for not showing up and returning car as planned?"*
- *"Who fills the tank, who does the maintenance?"*
- *"Where will the car be?"*
- *"Why don't they own a car of their own?"*

In addition to these questions, participants commented that they felt one would have to have a lot of respect and good communication between the group for it to work. The box

below displays some of their comments about the idea of sharing a car with a group of friends, neighbors or family.

THOUGHTS ON SHARING CARS WITH FAMILY AND FRIENDS

- *"Need to be comfortable and trusting of all the group, with three or more people you can always get politics and cliques interfering with the process."*
- *"Needs to be formalized. If one could pay two times a much, they could use the car two times as much."*
- *"It is a horrible thought to me. I shared a house once. It was hard to get a fair split, it is very hard to make sharing fair."*
- *"An informal sharing would only work if the group were in the same house and all got along really well."*
- *"I'm less interested in sharing one car with three than 100 cars with 200 people. Money exchange can solve a lot of problems."*

We asked participants how far away the car could be to still be convenient. Two felt it had to be closer than a five minute walk and one felt it could be as far away as a one hour walk. All of the others felt it had to be within a 5-10 minute walk from their home. The one person who was willing to walk up to six miles did comment that he would assume that he would then have the car for several days or that it was a second car. Several people agreed that they would go a further distance for a second car or a specialty car than for a primary car. "I'm willing to drive from NE to Beaverton to rent a U-Haul."

We asked participants whether they would mind having to reschedule a trip, if they called up to use the car and it was already in use. Most of the participants objected to that idea, some very strongly and others less strongly. Four thought it would not be a problem, four thought it would never be okay to have to reschedule. Comments included:

CONCERNS ON SCHEDULING CAR USE WITH FAMILY AND FRIENDS

- *"It depends on how often it happens, if too often I'd give up the deal."*
- *"I can be flexible on the second car, but not the primary car; a schedule has to stick then."*
- *"Would want a penalty for failure to stick to the schedule."*
- *"I'm willing to be flexible, but I'm not enthusiastic."*
- *"Depends on how often and how long the wait."*

The idea of sharing a car with family, friends and neighbors, could lead to participants giving up a car. Fourteen of the 20 participants thought they might give up their own car if it worked to share a car with others and were cheaper than owning a car. Four said they would never give up their own car and two said they might. Of those who might give up their car, several said they were especially willing to give up their second cars.

CAR SHARING CONCEPT

The next phase of the focus group introduced participants to the concept of a car sharing club[6] by showing the video described above. The following discusses focus group participants' initial reaction to the idea after seeing the video, their views about the organization and club features, their reaction to a discussion of likely costs, and reactions to ideas for incentives.

Initial Reactions

Participants in the two groups had somewhat different responses. Participants in the first group were quite enthusiastic about the possibility of their own participation, while participants in the second group were mainly enthusiastic for others. One person in each group had read about car sharing in magazines. Some of the comments from the first group are presented in the box.

GROUP 1 INITIAL REACTIONS TO THE VIDEO

- *"Positive, inspiring, exciting! I could get rid of a car."*
- *"I would immediately get rid of one car if we could do this."*
- *"Sounds cost effective."*
- *"Would have reduced the likelihood that I would have purchased a car."*
- *"Like to try it."*

Comments from the second group are presented in the box below.

[6] We chose the term "car sharing club" as a neutral term in comparison to "car sharing co-op" or "car sharing organization." We were concerned that the term not imply a specific type of organization structure. We saw "club" as having both not for profit and for profit associations.

GROUP 2 INITIAL REACTIONS TO THE VIDEO

- *"Europe is more dense, not likely to be effective here."*
- *"New apartment buildings downtown would be a good place for this, so people who are moving there don't have to have cars of their own."*
- *"Probably need a ratio of 1:6 or 1:7 (drivers to vehicles) here in the U.S., 1:12 (like in Cologne) wouldn't work."*
- *"It might make life more complicated."*

Both groups expressed similar concerns about whether it could really work well. Specific concern was how peak usage times like weekends and holidays would work, recourse for theft or damage, what criteria would be used for membership (driving record, smoking, ages, kids, etc.), and whether it might be really possible to coordinate with any other cities. Seventeen of the 20 participants were all interested in learning more and possibly trying car sharing after seeing the video. Some of the comments were:

COMMENTS ON THE FEASIBILITY OF CAR SHARING

- *"Car sharing could lead to peaking problems, what would be the benefit?"*
- *"Prefer this to sharing with friends, more cars in the pool, less risk to friendships, seems better with more people."*
- *"I'd like to try it."*
- *"Could work for planned use but doesn't deal very well with emergencies."*
- *"Might alter the way we travel: use others, take public transit, rent cars, take cabs."*
- *"Don't drive much now, would we really drive any less? Not sure car sharing would really have an effect on miles members drive, might actually increase some peoples miles if they don't have cars now."*

Organization and Car Club Features

The preferred organizational structure for a car sharing club varied by individual. Seven expressed a preference for a non-profit type organization "like AAA or REI." One wanted

to be able to volunteer, two specifically wanted a cooperative type of nonprofit organization as it would provide a piece of ownership and perhaps dividends. Nine wanted a for-profit type of organization. Some of these specifically wanted it to be large, while others just wanted experience and competitive prices. The remaining four saw no difference in type of organization. The following box displays some of their comments.

COMMENTS ON POSSIBLE ORGANIZATIONAL STRUCTURES

- *"Want it to be experienced. Don't want to be the first one, needs a track record. Want capitalization secure."*
- *"Something like a car rental company, they already exist."*
- *"Want custom service, they know who you are when you call."*
- *"Want a fee that will act as a barrier to entry."*
- *"Want them to screen others joiners, driving records, reliability."*
- *"Want it to be dedicated to the environment, not just to make money. Isn't that the point?"*
- *"Want a local business, local control. Not a chain."*
- *"A cooperative is a good idea. One should not lose the sense of responsibility that comes with car ownership, as a result of sharing a car."*

Specific features received little comment other than car key access. It was seen by all that it was important to have a specific parking place for the cars. All wanted centralized scheduling, most preferred a computerized process, and many wanted access for scheduling to include multiple options: by a phone activated system, by computer, as well as through a phone call to the scheduler.

Five minutes was viewed as the optimum distance to walk to get the car. However, some thought that a short bus ride was acceptable, as well – say to a central location or to pick up a specialized vehicle. The main drawback noted was that disabled might have trouble with a five minute walk.

The fee structure we outlined: initiation fee, monthly fee, hourly fee, and mileage fee was viewed as reasonable with a few caveats. A few commented that, while the structure made sense, it would still have to be cheaper than owning one's own car. One noted that an hourly fee would help insure people returned the car on time. A few commented that a fee structure with peak and off-peak rates might help the peaking problem.

Car access resulted in lots of comments. Several people wanted to make sure the key box was well lit. A few were very concerned about safety once the box was opened, before

one got into the car. It was suggested that the keys should be in a store or office building location, in order to minimize the risk.

A couple in each group felt that there must be a way to actually have the car keys in your possession and not have to have access to them. One person in the first group suggested that electronics could solve the problem, allowing the dispatcher to preprogram the car for entry by the designated person for each time slot. Each member would have their own electronic key that would only work when they were scheduled to use the car. In the second group, while a less detailed description was offered, several participants thought some type of electronic key was the preferred solution to all the problems others identified.

COMMENTS ON CHOICES FOR LOCATION OF KEYS

- *"A well lit box at a Safeway or bank or office building."*
- *"Prefer own keys, though electronic key could work. Just prefer to have own key."*
- *"Open to risk when you open the box."*

Few were satisfied with the thought that they would only have access to economy and compact cars. Some commented that there should be a variety of colors and makes. One commented in each group that they would expect the cars to be new. Though only two would also like access to a mid-size or luxury car, 16 expressed a desire to have access to pick-ups and mini-vans in addition to cars.

Almost all liked the idea of access to alternative vehicles like electric cars and natural gas cars. This was often grounded in a sense that saving the environment is what car sharing is all about, so it should be part of the organization. Nonetheless, there were also comments that, given everyone's lack of experience with electric cars and natural gas vehicles and the lack of these vehicles in the population, there might be problems using them.

COMMENTS ON AVAILABILITY OF ALTERNATIVE VEHICLES

- *"I'm willing to pay more for another type of car."*
- *"Could add something to the monthly rate to be able to access different vehicles."*
- *"Would be concerned about using an electric or natural gas vehicle; refueling, breakdowns."*

Car Club Costs

We prepared a hypothetical car share club rate schedule for presentation to focus group participants. The rates purposefully included the most likely rates that could be used, in order to understand the groups perceptions of each rate.

The rates, although hypothetical, were based loosely upon information gathered from rates in car share organizations in Canada. In addition, the rates were checked in a simple break-even model to consider if revenues were approximately equal to expenses. The rate was also designed to cover all operating expenses of the car share: fuel, maintenance, insurance, parking, scheduling, depreciation, administration and management are included. Table 7 displays the rate schedule presented to the focus group participants.

TABLE 7
CAR SHARE RATE SCHEDULE

CATEGORY	FEE
Membership Fee	$500
Monthly Fee	$20
Mileage Charge	20 cents/mile
Hourly Charge	$1.00/hour -- Maximum $20/day

We explained that the rates were hypothetical for a Portland car share club. The membership fee would be a deposit, to be returned without interest when a participant left the car share organization. The monthly fee would have to be paid in any month that a car share vehicle was used. Therefore, during vacations or periods when other transportation could be used exclusively there would be no monthly fee. The mileage and hourly charges accumulate during actual use of the car share vehicle.

We presented three travel scenarios using these rates. The scenarios included an annual cost of use (at 10,000 miles per year), a weekend trip to the beach, and a two-hour combined errand. We compared these to figures in *"Your Cost to Drive,"* obtained from the Automobile Association of America. The all-inclusive cost to drive provided by AAA for a new, 1996 Ford Escort was $0.438 per mile. Table 8 displays these scenarios.

TABLE 8
CAR SHARE COST COMPARISON TO CAR OWNERSHIP

CATEGORIES	CAR SHARE	CAR OWNER
Annual Usage Cost (10,000 miles per year)	$3,310	$4,380
Errands and Shopping (12 miles, 2 hours)	$5.20	$5.30
Trip to the Beach (200 miles, 36 hours)	$81	$88

The car share costs discussed in the video were substantially different than those presented in Table 8. The focus group participants expressed disappointment over the more realistic numbers. They concurred that 44 cents per mile for annual usage of a new car made sense, a few commented that their own costs were lower, sometimes as much as 50% lower due to use of used cars and driving fewer miles per year.

Looking at the rate structure, participants concluded that car sharing did not work well for commuting or for some weekend trips. It also did not seem to make sense for some types of errands. Many of the participants did not like the hourly fee, feeling that it was too high and created a penalty for using the car when the distance was very short but lasted an hour or two, like going to the doctor. Some wanted to offset this with either a higher monthly or higher initiation fee. Others were also concerned about the mileage rate. Some of the comments about the rate structure are included in the following box.

COMMENTS ON FEE STRUCTURE

- *"The pricing structure has to make sense, be a bargain. This is not."*
- *"I would want it be worth my while."*
- *"The hourly rate would make me feel rushed, and I don't like to feel the clock is ticking. Better to have a limit on use."*
- *"A car club has to be more convenient than a rental. The rental companies are the competition."*
- *"Enterprise is pretty cheap, 10-30 bucks for a weekend."*

Since the distance participants drove each year might affect their view on costs and value of car sharing, we asked how many miles per year they drove. Table 9 displays their responses.

TABLE 9
ANNUAL MILES DRIVEN

MILES PER YEAR	GROUP 1	GROUP 2
< 5,000	2	5
5,000-10,000	3	4
>10,000	5	1
Total Responses	10	10

Participant interest in the concept of a car sharing club became qualified as a result of looking at the costs. Group 1 dropped from eight enthusiastic potential participants to three, plus one "maybe" for their primary car and seven willing to consider car sharing for their second car. Group 2 dropped from eight interested potential participants to five who would still be interested at all. Two of whom would use it instead of their primary car and three who might use car sharing for their second car, if at all. In addition, in Group 1, three of those with two or more cars thought that they would definitely eliminate their second cars if car sharing worked.

Incentives

We asked participants if any incentives might make the car sharing club more appealing. Fourteen thought having a bus pass would be a plus. Most thought having a special rate with a rental car company would be useful. Only a couple in each group thought an incentive from a bike shop would be useful.

Participants suggested other incentives that would appeal to them. Several wanted some sort of frequent user program or a way to recognize long time membership. Others mentioned dividends, if a co-op, or lower rates if the club is profitable. "Choices" came up in both groups as something the participants would find most appealing. Whether it was choices in the types of cars, or choices in the type of organizations, or choices in the plans one could participate in, choices would be more appealing than a single one-size-fits-all organization.

Though there was overall interest in incentives, it was not apparent that interest increased with the incentives. Rather, those who were interested became a little more interested and willing if the incentives were added to the package.

CONCLUSIONS

Some of the final comments participants made about the car sharing club idea speak to both their hopes and their concerns about car sharing.

FINAL COMMENTS ON CAR SHARING

- *"There's a certain amount of transportation that I have to do in my life, a car or something else. If it is not a car, the other something has to be there when I need it."*
- *"In the long run the real incentive would be more than one company offering this service."*
- *"It seems most appealing to those with old cars, no cars, those who have given up cars, those who need a second car and those who can't rent cars easily."*
- *"Cars depreciate and cost money. If this is more cost effective, it is appealing."*
- *"The utility of car ownership, with fewer disadvantages."*
- *"Car sharing, an easier way to rent a car."*
- *"Not appealing to someone with kids, too much to carry around and too many places to go."*

The overall question in people's minds is: "Can it really be less expensive than my own experience of owning and using a car." Cars offer many benefits, most of which cluster around the notion of convenience and comfort. These participants got fairly enthusiastic and happy talking about the benefits they get out of cars. Cars also have a set of negatives, mostly these concern financial costs and environmental effects. Clearly, as one of the participants so succinctly put it:

> *"There is inconvenience and hassle in car sharing, but if the cost is low enough to offset the inconvenience, it would be appealing."*

The value of convenience is the cost people are willing to pay to have a car. The focus groups found that people own cars – even if they do not drive them very often – just to have the convenience of being able to visit friends who live away from public transportation, to go sightseeing, to go on errands at the spur of the moment, and to get from their own door to their destination in the least amount of time. Thus, it would appear that people who have fewer of these needs for convenience, are more likely to be interested in car sharing.

To the extent that these participants are indicative of others who live near them, it appears that those who live downtown may be less attracted to car sharing. We hypothesize that the recent increase in downtown living opportunities have tended to be high-end residential projects. As a consequence, though the residents may not drive on a regular basis, those in the focus group definitely indicated that they could afford to own a car for

the convenience of having it when they needed, whether or not it was parked in their building.

Similarly, while not definitive, the positive response for car sharing in Group 1 rather than Group 2 coincides with higher vehicle usage in Group 1. The interest in both groups was primarily in car sharing as a second car.

The focus groups also provide a glimpse at those attitudes that might be necessary for interest in car sharing. Two attitudes surfaced for those most interested in car sharing. One segment seemed to express a disdain for cars, a feeling that cars were a necessary evil, or perhaps so evil as to be something one should get rid of. Another segment seemed to reflect an environmentally-concerned lifestyle, often saying they lived in the Hawthorne district or discussing the concept of voluntary simplicity.

Two other segments seemed to surface, one was those who just love their car – owning it, driving it and using it. The other was a segment of people for whom car ownership feels like something they have finally achieved that they are not going to now give up.

5. MARKET RESEARCH SURVEY

The next two chapters discuss the market research survey. A survey was selected to provide results that could be generalized to the population of the entire study area. The indications of interest and concern that emerged in the focus groups were used to guide the development of the survey. Thus, we developed attitude questions to determine whether different segments of the population would be more or less interested in a car sharing club and we identified which service features should be explored with the survey sample.

In this chapter, we discuss our approach to the survey and the response. In the following chapter, we present the results.

APPROACH

We conducted a survey of licensed drivers in the study area. The purpose of the survey was to do the following:

- To estimate market potential,
- To determine response to different features of the car club, and
- To identify the characteristics of "very likely" joiners.

The survey included 50 questions plus a set of seven screening questions. Included in the 57 questions were 21 attitude questions, nine demographic questions, and nine questions about transportation behaviors. The remaining eighteen questions focused on car sharing. A copy of the survey instrument is provide in Appendix D.

Using the list of 36,750 licensed drivers over 25 in the study area, a random sample of 12,000 was drawn for matching with phone numbers. A total of 5,553 names could be matched with phone numbers. These 5,553 names were used by Market Decision Corporation (MDC). The telephone survey was implemented between April 28 and May 8, 1997. MDC made at least one call and three callbacks to each potential contact. A total of 385 surveys were completed, as displayed in Table 10.

We originally planned to call just the contacts identified on the list of drivers. During the pre-test we found that the specific driver was often not at home, though an adult often answered the phone. Given that the primary focus of the survey was geographical, we decided to screen the person who answered the phone rather than asking for the specific driver. Given this change, we were now able to screen for drivers 21 or over.

As can be noted, some of the sample was determined to be ineligible for the car sharing concept, based on our screening criteria. These were determined in two ways. First, we

asked if the contact was 21 or over, .5% were not. Second, we asked if they had a current drivers license, 1.2% did not. In addition, other factors made a phone number ineligible due to disconnects, business lines, or indications the line was a fax or modem line.

We spoke with 266 drivers who were screened as eligible. One of our objectives was to screen out those drivers who had a very positive attitude towards personal car ownership. This attitude had surfaced in the focus groups as a likely limiting factor in drivers choosing to participate in a car sharing club: 29.3% of the eligible drivers screened out on a scale derived from four attitude questions.

TABLE 10
SURVEY DISPOSITION

RESPONSE	TOTAL	PERCENT OF TOTAL (N=5,553)	PERCENT OF ELIGIBLE (N=651)	RESPONSE RATE (N=4,566)
COMPLETED	***385***	***6.9%***	***59.1%***	***8.4%***
ELIGIBLE	***266***	***4.8%***	***40.9%***	***5.8%***
Started but did not finish	23	0.4%	3.5%	
Terminated survey	52	0.9%	8.0%	
Screened: Attitude Questions	191	3.4%	29.3%	
UNDETERMINED	*3,915*	*70.5%*		*85.7%*
No Answer	2,524	45.5%		
Busy	178	3.2%		
Language Barrier	54	1.0%		
Refused	414	7.5%		
Quota Filled	2	0.0%		
Respondent not available	275	5.0%		
Call back	175	3.2%		
Wrong Number	293	5.3%		
NOT ELIGIBLE	*987*	*17.8%*		
Screened: Not 21	26	0.5%		
Screened: No license	64	1.2%		
Disconnected	613	11.0%		
Business	174	3.1%		
Fax/modem	110	2.0%		
TOTAL CONTACTS	**5,553**			

Two other groups of eligible drivers failed to complete the survey, 11.5%. Those that failed to complete, generally began the survey but were unwilling to complete it due to time constraints.

The primary limiting factor in the survey response rate (and one that appears to be increasingly common for telephone surveys) is the large percentage of contacts who could not be reached. In this case, 45.5% of the base sample still had no answer after four phone calls. This led to a response rate of 8.4%.[7]

The survey design was to obtain sufficient completions to allow for generalizations to the population as a whole, and to the populations of each neighborhood quadrant (Northwest, Southwest, Southeast, and Northeast). Given our most conservative assumptions regarding the proportion of responses,[8] a sample of 385 was identified as that required to permit generalization to the total study area population, with 95% confidence plus or minus 5%. This means that we would be 95% confident that we were within 5% of the true population parameter.

For the four neighborhood quadrants, we attempted to complete 100 surveys. We were unable to achieve this in the Southwest quadrant, due to a smaller population base in this quadrant. However, we did obtain 70 completed surveys.[9] Table 11 displays the distribution of the 385 completions by quadrant.

TABLE 11
COMPLETIONS BY NEIGHBORHOOD QUADRANT

	NORTHWEST	SOUTHWEST	SOUTHEAST	NORTHEAST	TOTAL
Population Drivers 21+	7,958	7,875	11,612	13,485	40,930
Completions	105	71	105	104	385

Given the differences in response by neighborhood quadrant and the fact that the population of licensed drivers over 21 in each neighborhood quadrant varies, we weighted responses to the survey by neighborhood quadrant population whenever providing responses for the entire study area. Responses reported for the neighborhood quadrants are not weighted.

---

7 Determined by summing the number of completed surveys, the eligible population and the undetermined population as the base.

8 We assumed p=50%. Using sampling formula: p(1-p)/[(a*a/z*z)+(p(1-p))/N] where p= proportion of the population matching the parameter. a= precision, z= confidence level z score and N= population.

9 A sample of 70 permits generalizations to the population with 95% confidence ±10%.

CHARACTERISTICS OF SURVEY RESPONDENTS

Table 12 displays the characteristics of the survey respondents compared to 1990 Census data for adults 21 and over in the study area. As can be seen, the respondents differ greatly from the 1990 Census data in terms of educational attainment of household members, annual household income, and age. Although the census characteristics cannot be directly compared to the survey respondents' characteristics, the apparent differences led to our careful analysis of the survey data to ensure that we drew conclusions that were, in fact, able to be generalized to the population of the entire study area.

TABLE 12
CHARACTERISTICS OF SURVEY RESPONDENTS
COMPARED TO 1990 CENSUS DATA FOR STUDY AREA

CHARACTERISTIC	SURVEY RESULTS	1990 CENSUS
ANNUAL HOUSEHOLD INCOME (=350)		
<$10K	6%	28%
$10K-$20K	8%	24%
$20K-$30K	15%	18%
$30K-$40K	17%	11%
$40K-$50K	13%	6%
$50K-$70K	20%	7%
$70K-$90K	10%	3%
>$90K	11%	3%
EDUCATIONAL ATTAINMENT FOR ADULTS AGE 25+ (N=377)		
Some Grade and or High School	1%	15%
High School Graduate/Equivalency	8%	19%
Some College, No Degree	15%	32%
College Graduate or Post Graduate Degree	76%	34%
AGE (N=383)		
21 to 24	2%	10%
25 to 34	27%	28%
35 to 44	30%	25%
45 to 54	20%	11%
55 to 64	10%	8%

65 & Over	11%	18%

We also asked survey respondents questions about the number of cars they had and how many miles they drive their primary and secondary cars each year. One of our concerns was to determine if a particular neighborhood quadrant in the city was more likely to benefit from a car sharing club. Tables 13 displays the percent of households owning different numbers of cars by neighborhood quadrant. We did find a statistically-significant difference between neighborhoods. Notably, Northwest and Southwest respondents have fewer cars than Southeast and Northeast respondents.[10]

TABLE 13
DISTRIBUTION OF NUMBER OF CARS BY QUADRANT

NUMBER OF CARS IN HOUSEHOLD	NORTHWEST (N=105)	SOUTHWEST (N=71)	SOUTHEAST (N=105)	NORTHEAST (N=104)	TOTAL (N=385)
0	10%	20%	3%	5%	8%
1	58%	45%	39%	38%	44%
2	28%	31%	40%	46%	38%
3	3%	3%	13%	8%	7%
4	1%	1%	5%	2%	2%
5				1%	1%

Table 14, however, shows that even though there are differences in the number of cars by neighborhood quadrant, there is no significant difference in amount respondents drive their primary car by neighborhood. We also found no significant difference in the amount respondents drive their secondary cars.

[10] Significant using both Chi-Square and Somers' d at the .0001 level. Chi-Square and Somers' d are both nonparametric measures of association. Somers' d is the appropriate test for ordinal data.

TABLE 14
ANNUAL MILES PRIMARY CAR DRIVEN BY RESPONDENTS FOR EACH QUADRANT

DISTANCE DRIVEN PER YEAR	NORTHWEST (N=93)	SOUTHWEST (N=57)	SOUTHEAST (N=100)	NORTHEAST (N-98)	TOTAL (N=348)
Less than 2,000	14%	4%	8%	7%	8%
2,001-5,000	18%	14%	20%	13%	16%
5,001-8,000	16%	21%	11%	22%	18%
8,001-10,000	16%	19%	20%	26%	21%
10,001-15,000	29%	32%	25%	21%	26%
More than 15,001	6%	10%	16%	10%	11%

6. MARKET RESEARCH SURVEY RESULTS

This chapter presents the results of the survey. Using data on respondent characteristics, plus other data measured in the survey, we conducted an analysis to assess interest in the car club and with the various features of the service. We then developed a model to determine the key characteristics of participants for use in marketing the service.

INTEREST IN THE CAR CLUB CONCEPT

The survey interviewer introduced respondents to the concept of a car club using the following statement:

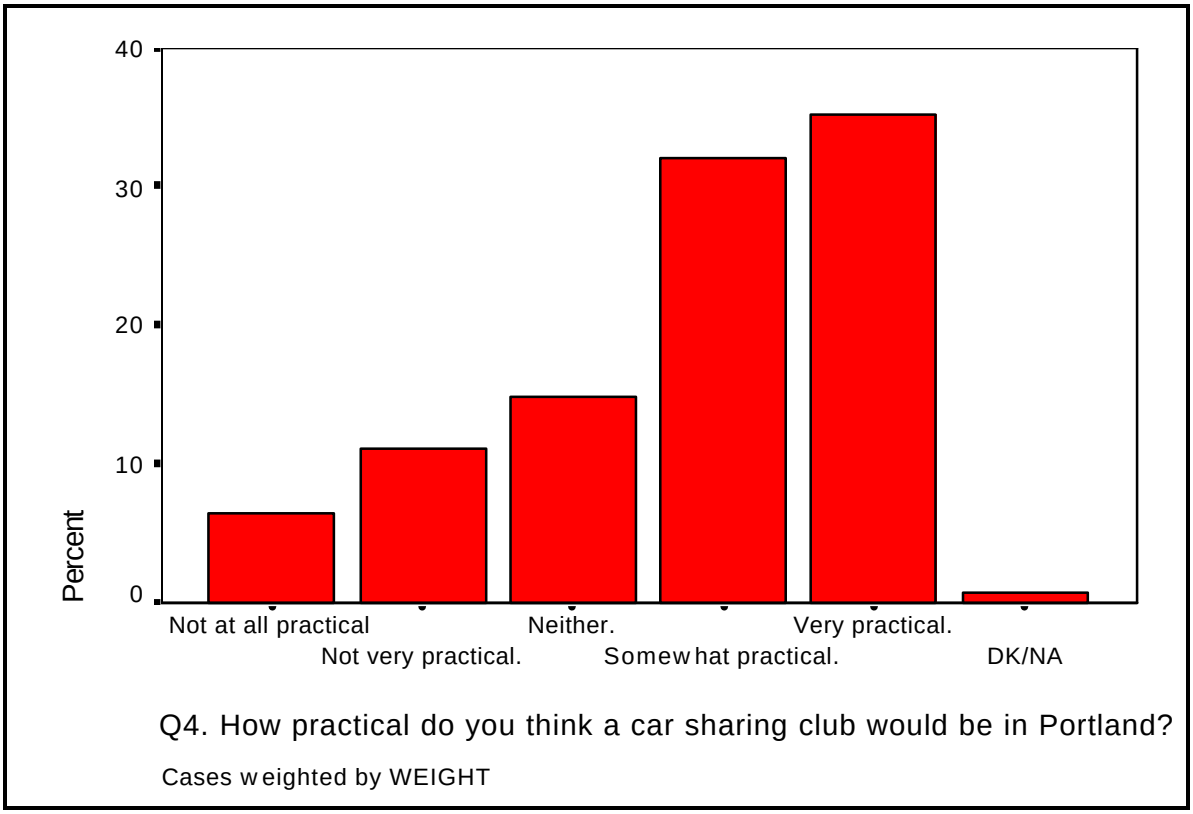
> *"A new idea has recently been introduced from Europe to the United States. It is called a neighborhood car club. I would like to read you a short description of a neighborhood car club that might be available in Portland, sometime in the near future.*
>
> *A neighborhood car club is like a car rental agency where you are a pre-approved customer and the cars are close to where you live in a secure reserved parking place, usually a short walk from your home. By telephone you would confirm that a car is available before you use it, or schedule one for your next trip. Insurance, fuel, licensing, and maintenance are handled by the car club. At the end of each month you get a bill for the hours and miles you use."*

We found a high degree of interest in the car club concept among respondents. We assessed this in two ways. First, we asked them how practical they thought a neighborhood car sharing club would be in Portland. Figure 3 shows a graph of the responses.

As can be seen, the majority of respondents think that the neighborhood car club concept would be practical in Portland. Sixty-three percent indicated the idea was somewhat or very practical in Portland and 14% indicated it was neither practical nor not practical.

We then asked respondents if the concept was appealing to them. As Figure 4 shows, about the same percent find the idea of a car sharing club appealing. Seventy-nine percent indicated the idea was somewhat or very appealing. In both cases, a very small percent stated they did not know.

FIGURE 3
HOW PRACTICAL IS A CAR SHARING CLUB?

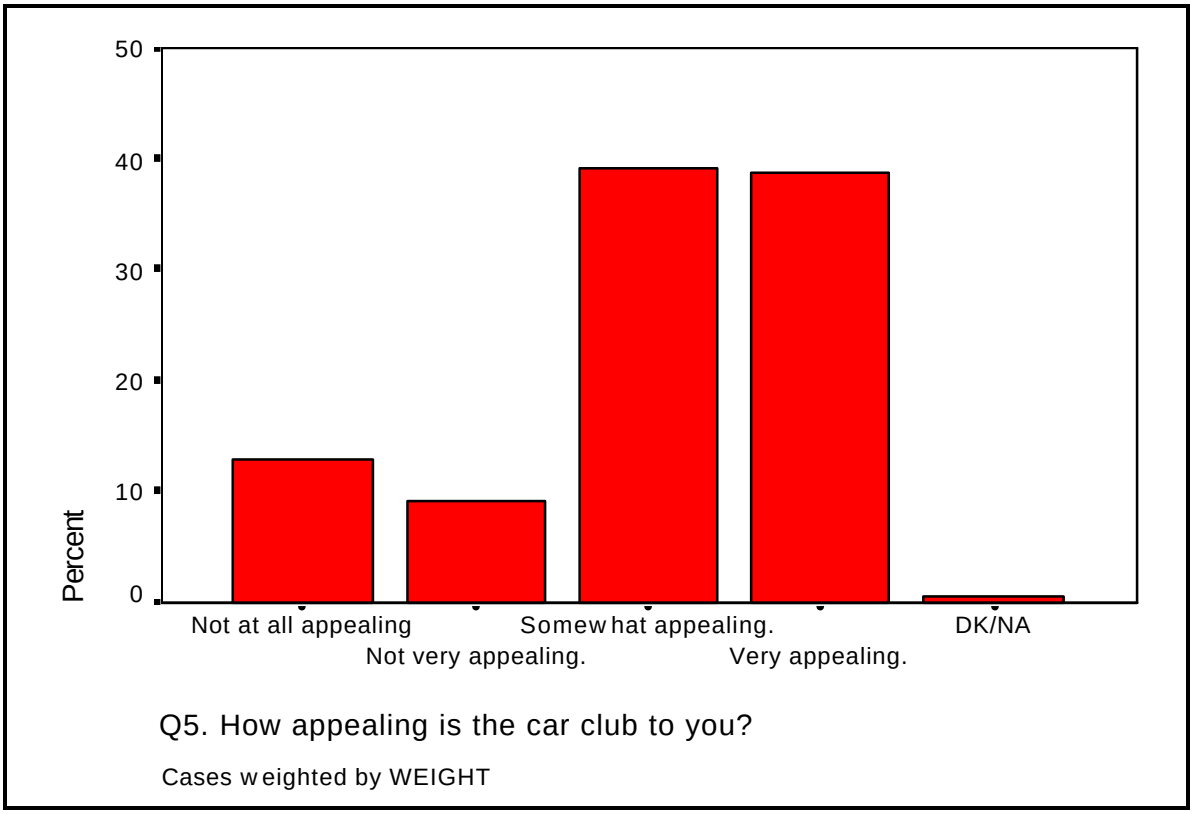


We also looked at how appealing respondents in different neighborhoods found the idea of a car club. Table 15 displays these results. We found no significant differences by neighborhood quadrant.

TABLE 15
APPEAL OF CAR CLUB IDEA BY QUADRANT

APPEAL OF CAR CLUB CONCEPT	NORTHWEST (N=104)	SOUTHWEST (N=70)	SOUTHEAST (N=105)	NORTHEAST (N=104)	TOTAL (N=383)
Not at all appealing	6%	14%	16%	14%	13%
Not very appealing	16%	6%	6%	9%	9%
Somewhat appealing	35%	39%	38%	43%	39%
Very appealing	43%	41%	40%	34%	39%

FIGURE 4
HOW APPEALING IS A CAR SHARING CLUB?



Given the large percent who found the idea practical and appealing, it was not surprising to find a substantial percent indicating that they were either somewhat likely or very likely to join a neighborhood car club if one were available in Portland. Figure 5 displays these responses. Eighty percent indicated that they were either somewhat or very likely to join such a car club. However, only 17% indicated they would be very likely to join.

In conducting further analysis, we did not assume that all 80% would be likely to join, but used 17% as a more realistic estimate. Even so, many analysts of data such as this (where consumers are asked a hypothetical question) tend to further reduce this by one half to one fourth in recognition of differences between what people say they might do and what they actually do.

FIGURE 5
WOULD YOU JOIN A NEIGHBORHOOD CAR CLUB?

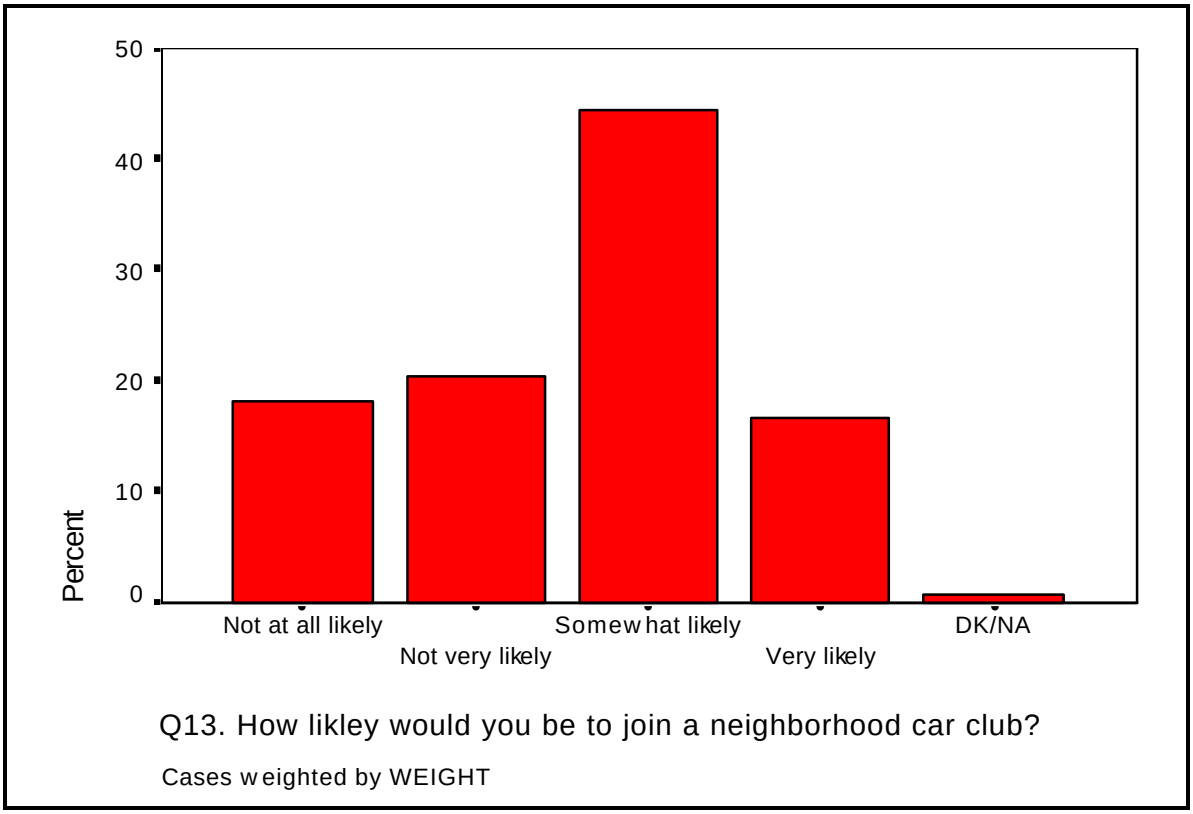


Table 16 displays respondents' views on their likelihood of joining a neighborhood car club by neighborhood quadrant. We found no statistical difference in likelihood of joining by neighborhood, suggesting that the distribution of potential market is not limited by neighborhood.

TABLE 16
LIKELIHOOD OF JOINING NEIGHBORHOOD CAR CLUB BY QUADRANT
(UNWEIGHTED)

HOW LIKELY TO JOIN A CAR CLUB?	NORTHWEST (N=103)	SOUTHWEST (N=70)	SOUTHEAST (N=105)	NORTHEAST (N=104)	TOTAL (N=382)
Not at all likely	20%	16%	16%	20%	18%
Not very likely	23%	17%	20%	21%	20%
Somewhat likely	40%	53%	42%	44%	45%
Very likely	16%	14%	22%	14%	17%

MARKET POTENTIAL ESTIMATE

We used the results of the survey screening process, plus the estimate of likelihood of joining a neighborhood car club generated by the survey responses, to estimate market potential for the car club concept. We began with the base estimate of drivers for the study area and each quadrant. This was derived from data provided by the Oregon Department of Motor Vehicles and our list of licensed drivers over 21.

Using these data, we estimated the total population of licensed drivers over 21 for the study area to be 40,930. This number, however, must be reduced by the percent of people within the population who are eligible but who have a highly positive attitude to personal car ownership. As discussed previously, a set of our attitude questions in the survey were used to eliminate people from the survey. Using the number of drivers screened out, we estimate the likely percent of such drivers in the study area who are over 21 and have a current driver licensee as 29.3%.

As shown in Table 17, the results of this estimation process indicate that, for the entire study area, the 40,930 drivers is reduced to 28,938 by eliminating eligible drivers with this attitude pattern. Using the responses to the question regarding likelihood of joining a car club, we estimated 4,804 drivers (11.7% of the population) would be very likely to join a neighborhood car club in the study area. For the four neighborhood quadrants, the numbers range from 796 drivers in Southwest to 1,798 drivers in Southeast who would be very likely to join a car club.[11]

[11] The confidence intervals around these estimates are: Total study area = 95% ±4%; Northwest = 95% ±8%; Southwest = 95% ±8%; Southeast = 95% ±7%; and Northeast = 95% ±7%.

TABLE 17
ESTIMATE OF MARKET POTENTIAL

CALCULATION		TOTAL LIKELY TO JOIN	PERCENT OF ALL DRIVERS
BASE ESTIMATE TOTAL DRIVERS FOUR QUADRANTS	40,930		
Not qualified - Attitude to car ownership (29.3%)	11.992		
	28,938		
POTENTIAL VERY LIKELY TO JOIN (16.6%)		**4,804**	**(11.7%)**
BASE ESTIMATE FOR NORTHWEST QUADRANT	7,958		
Not qualified - Attitude to car ownership (29.3%)	2,332		
	5,626		
POTENTIAL VERY LIKELY TO JOIN (15.5%)		**872**	**(11.0%)**
BASE ESTIMATE FOR SOUTHWEST QUADRANT	7,875		
Not qualified - Attitude to car ownership (29.3%)	2,307		
	5,568		
POTENTIAL VERY LIKELY TO JOIN (14.3%)		**796**	**(10.1%)**
BASE ESTIMATE FOR SOUTHEAST QUADRANT	11,612		
Not qualified - Attitude to car ownership (29.3%)	3,402		
	8,210		
POTENTIAL VERY LIKELY TO JOIN (21.9%)		**1,798**	**(15.5%)**
BASE ESTIMATE FOR NORTHEAST QUADRANT	13,485		
Not qualified - Attitude to car ownership (29.3%)	3,951		
	9,534		
POTENTIAL VERY LIKELY TO JOIN (14.4%)		**1.373**	**(10.2%)**

DETAILS OF CAR CLUB OPERATION

The survey included a series of questions designed to obtain opinions from respondents on various details and features of a car club's operation. These include the fee structure for a car club, potential locations to obtain the keys for the car, and preferred distance to reach the parked car. The responses to these questions are provided, both for the survey respondents as a whole and for those who indicated they were very likely to join a car club.

The acceptable distance car club members are willing to travel to the car parking space could be a limiting factor on the number of members and the satisfaction members have

with the car club. If the distance is too far, members might be more inclined to want to have their own car. On the other hand, having cars as close as one's driveway is not cost-effective for a car sharing organization.

The focus group results suggested that a five minute walk, or less, was preferable. The survey results, presented in Table 18, only partially support this. For the survey population as a whole, 29% say they prefer to travel no more than 5 minutes, while 47% express willingness to travel 5 to 10 minutes walk. Even more important, those very likely to join express a significantly greater willingness to travel more than five minutes compared to the survey respondents as a whole, with 35% of those very likely to join (compared to 24% of all respondents) stating they would be willing to travel more than ten minutes walk.[12] Therefore, a distance comparable to a walk of 5-10 minutes seems acceptable to those very likely to join a car club.[13]

TABLE 18
ACCEPTABLE DISTANCE TO TRAVEL TO CAR PARKING SPACE

DISTANCE TO TRAVEL OPTIONS	PERCENT OF VERY LIKELY TO JOIN (N=63)	PERCENT ALL OF RESPONDENTS (N=378)
Closer than five minutes walk	0%	8%
Five minutes walk maximum	13%	21%
Five to ten minutes walk	52%	47%
More than ten minutes walk	35%	24%

Car sharing organizations in Europe and North America collect fees to pay for the car sharing services. These fees cover vehicle purchase and maintenance, insurance, licensing, and fueling. Among the likely fees are a membership fee, a monthly fee, an hourly fee and a mileage fee.

The membership fee is a one-time fee that provides membership in the car sharing organization, much like an athletic club membership fee. Typically, this fee is a one-time fee that is refundable if the member leaves the club. Table 19 displays responses on willingness to pay different levels of membership fee. The differences between those very likely to join the car club and the survey respondents as a whole are just slightly different, but not statistically so. However, the indication is that those very likely to join would be slightly more willing to pay a larger membership fee than the population as a whole. For both groups, however, less than 50% would be willing to pay more than $500.

[12] This finding is significant at the .0001 level using Chi-Square

[13] The study area is primarily composed of relatively flat terrain with street grid and sidewalks.

TABLE 19
MAXIMUM MEMBERSHIP FEE WILLING TO PAY

MEMBERSHIP FEE OPTIONS	PERCENT OF VERY LIKELY TO JOIN (N=62)	PERCENT OF ALL RESPONDENTS (N=364)
$500 or less	59%	71%
$500 to $750	24%	19%
$750 to $1,000	13%	8%
$1,000 to $1,500	2%	2%
More than $1,500	2%	<1%

A monthly fee is charged only in the months that members of the club, or users of the car sharing club cars, use a car. Thus, in a twelve month period, some might pay this fee six times, while others pay it twelve or even not at all. Table 20 displays the level of monthly fee respondents would be willing to pay. Sixty-six percent of those very likely to join and 52% of all respondents are willing to pay $20 or more. A Chi-square analysis indicates that those very likely to join are significantly more willing to pay a higher monthly fee.[14]

TABLE 20
MAXIMUM MONTHLY FEE WILLING TO PAY

MONTHLY FEE OPTIONS	PERCENT OF VERY LIKELY TO JOIN (N=62)	PERCENT OF ALL RESPONDENTS (N=362)
$10 or less	12%	13%
$10 to $15	7%	12%
$15 to $20	14%	23%
$20 to $25	28%	28%
More than $25	38%	24%

When a car is used, a fee can be charged for the hours of use. This hourly fee helps to manage the use of cars, limiting the time that cars are used by encouraging rapid return when errands are done. Table 21 indicates that 64% of those very likely to join and 69% of all respondents are willing to pay $0.75 or more. There were no statistical differences based on likelihood of joining the car club.

[14] This finding is significant at the .0001 level using Chi-Square

TABLE 21
MAXIMUM HOURLY FEE WILLING TO PAY

HOURLY FEE OPTIONS	PERCENT OF VERY LIKELY TO JOIN (N=62)	PERCENT OF ALL RESPONDENTS (N=367)
50 cents per hour or less	23%	17%
50 to 75 cents per hour	12%	14%
75 cents to $1.00 per hour	21%	31%
$1.00 to $1.25 per hour	20%	20%
More than $1.25 per hour	23%	18%

As with car rentals, car sharers are often charged a mileage rate for use of the car. As Table 22 shows, 59% of those very likely to join were willing to pay 15 cents or more and 47% of all respondents were willing to pay 15 cents or more. As with the hourly fee and the membership fee, though there are apparent differences, we found no statistical differences based on likelihood of joining the car club.

TABLE 22
MAXIMUM MILEAGE FEE WILLING TO PAY

MILEAGE FEE OPTIONS	PERCENT OF VERY LIKELY TO JOIN (N=63)	PERCENT OF ALL RESPONDENTS (N=367)
10 cents per mile or less	24%	26%
10 to 15 cents per mile	17%	27%
15 to 20 cents per mile	31%	21%
20 to 25 cents per mile	20%	19%
More than 25 cents per mile	9%	7%

There are small differences between those very likely to join a car club and all of the survey respondents as to which fee they would object to. Table 23 shows that the hourly fee was the least preferred of the four fees for both groups. This was also the least preferred fee by the focus group discussants. Nonetheless, 46% of those very likely to join and 31% of all respondents expressed no objection to any specific fee.

TABLE 23
FEE RESPONDENTS WOULD OBJECT TO PAYING

FEES	PERCENT OF VERY LIKELY TO JOIN (N=63)	PERCENT OF ALL RESPONDENTS (N=367)
Membership Fee	12%	18%
Monthly Fee	10%	15%
Hourly Fee	23%	24%
Mileage Fee	9%	12%
Object to None	46%	31%

Key location and key type include several options. These were: electronic keys that can operate whichever car is assigned, a key box on a post next to the car parking place that the user can open to get the car keys, or a centralized location for the keys such as a 24 hour store. Sets of keys cannot be provided to the members or users due to security concerns, plus the fact that cars may be rotated from place to place or the user may use cars from different locations at different times.

Table 24 displays preferences for key type and location. The majority indicated that any of the options were acceptable. The specific option with the highest rating was the key box on a post. There was no statistical relationship between preference and likelihood of joining the club. However, in order to better understand reasons for non acceptability of these options, we asked the seven respondents who stated "none were acceptable" why they had made that comment. Two indicated that only electronic keys would be acceptable, three did not like the car sharing concept at all, and two stated that none of the options seemed convenient.

TABLE 24
KEY TYPE AND LOCATION PREFERENCES

TYPE OF KEY	PERCENT OF VERY LIKELY TO JOIN (N=63)	PERCENT OF ALL RESPONDENTS (N=366)
Electronic key	5%	5%
Key box on a post	21%	23%
Centralized location at 24 hour store	17%	20%
All are acceptable	57%	51%
None are acceptable	0%	2%

We were concerned that there might be differences by neighborhood quadrant and, if so, these should be considered in the development of a car sharing organization. Table 25 displays key type and location preferences by neighborhood quadrant for all respondents, since the pool of those very likely to join is too small to measure differences by neighborhood. While the differences are not statistically significant, there are some apparent differences.

TABLE 25
KEY TYPE AND LOCATION PREFERENCE BY QUADRANT
ALL RESPONDENTS

TYPE OF KEY	NORTHWEST (N=100)	SOUTHWEST (N=71)	SOUTHEAST (N=105)	NORTHEAST (N=101)	TOTAL (N=377)
Electronic key	4%	8%	4%	3%	4%
Key box on a Post	22%	14%	23%	30%	23%
Centralized location at 24 hour store	17%	21%	14%	26%	19%
All are acceptable	57%	54%	58%	40%	52%
None are acceptable	0	3%	1%	2%	1%

Finally, to assess the potential long-term effects of car sharing on car ownership patterns in the study area, we asked respondents how likely they would be to sell their primary or secondary car if they joined the car club, it worked for them, and it met their needs. Table 26 displays the responses from those very likely to join and from all respondents, and Table 27 displays the responses for all respondents by neighborhood quadrant.

While there were no statistically significant differences for either analysis, the number of respondents indicating they would sell their primary or secondary car is substantial.

TABLE 26
WOULD CONSIDER SELLING A CAR IF CAR CLUB WORKED

CAR	PERCENT OF VERY LIKELY TO JOIN (PRIMARY CAR (N=50)) (SECONDARY CAR (N=19))	PERCENT OF ALL RESPONDENTS (PRIMARY CAR (N=200)) (SECONDARY CAR (N=102))
Primary Car -Yes	80%	71%
Primary Car - No	20%	29%
Second Car - Yes	61%	65%
Second Car - No	39%	35%

TABLE 27
WOULD CONSIDER SELLING A CAR IF CAR CLUB WORKED

CAR PRIMARY CAR (N) SECONDARY CAR (N)	NORTHWEST (N=37) (N=13)	SOUTHWEST (N=38) (N=14)	SOUTHEAST (N=62) (N=36)	NORTHEAST (N=63) (N=39)	TOTAL (N=200) (N=102)
Primary Car -Yes	72%	81%	72%	64%	71%
Primary Car - No	22%	19%%	28%	36%	29%
Second Car - Yes	78%	57%	63%	66%	66%
Second Car - No	22%	43%	37%	34%	34%

MARKETING TO POTENTIAL CAR CLUB JOINERS

This next section presents our results from an analysis of market segments attracted to the car club concept. We conducted a variety of multi-variate analysis to better understand the characteristics that define interest in, and willingness to join, a car sharing club. As may be recalled from the earlier discussion of results, few of the variables we looked at showed relationships to likelihood of joining that were statistically significant. Nonetheless, we were able to develop a model that explains the factors which influence respondents' interest in joining a car club.

First, we found that the car club idea has to be judged as practical and had to be appealing to drivers before they would consider joining. In our model, the most significant variable to explain likelihood of joining the car club was the appeal of the idea. Seeing car sharing as practical was closely correlated with seeing the idea as appealing. However, seeing the idea as appealing was more important to predicting interest in joining a car sharing club than income, education, age, bus riding behavior, importance of having a car to run errands for kids or family, or attitudes to cars – both positive and negative – as well as lifestyle attitudes.

The most important result of this finding is that, despite the differences between the survey population and the 1990 Census data down in Table 12, there is no need to further adjust the estimate of market potential by education, income or age. Essentially, these characteristics do not affect interest in joining a car club. Tables 28 and 29 show the relationship between likelihood of joining a car club and education and income. As can be seen, the distributions are only slightly different between the different categories.

TABLE 28
LIKELIHOOD OF JOINING BY LEVEL OF EDUCATION

LEVEL OF EDUCATION	NOT AT ALL LIKELY	NOT LIKELY	SOMEWHAT LIKELY	VERY LIKELY	TOTAL (N=375)
Less than college degree	28%	16%	42%	14%	n=88
College degree or higher	15%	21%	46%	18%	n=287

TABLE 29
LIKELIHOOD OF JOINING BY INCOME GROUP

INCOME GROUP	NOT AT ALL LIKELY	NOT LIKELY	SOMEWHAT LIKELY	VERY LIKELY	TOTAL (N=347)
Below $30,000	22%	19%	40%	19%	(n=100)
30,000-$50,000	13%	17%	55%	14%	(n=105)
Above $50,000	16%	20%	47%	17%	(n=142)

Second, as a result of these findings, we estimated a model to identify the characteristics of those to whom the idea of car sharing is appealing. One factor that seemed important from the focus groups' discussions, and was used as a factor in the preliminary assessment, was the number of cars owned per household. Our model demonstrated that number of cars owned is not a determinate of interest in car sharing. Table 30 displays data on the likelihood of joining a car club by number of cars in the household. It is apparent that there is no clear pattern. Though those with no car seem the most likely to join, those stating they are very likely to join cuts across all households no matter how many cars they own.

TABLE 30
LIKELIHOOD OF JOINING BY NUMBER OF CARS OWNED

NUMBER OF CARS	NOT AT ALL LIKELY	NOT LIKELY	SOMEWHAT LIKELY	VERY LIKELY	TOTAL (N=378)
0	10%	11%	45%	33%	(n=31)
1	23%	18%	40%	18%	(n=164)
2	13%	26%	49%	11%	(n=145)
3	23%	15%	44%	18%	(n=28)
4	24%	13%	41%	22%	(n=9)
5	0	0	100%	0	(n=1)

On the other hand, we found that bus riding, another presumed indicator of interest in car sharing, is statistically associated with likelihood of joining. As can be seen in Table 31, those who regularly ride the bus are more likely to indicate that they are somewhat or very likely to join a car sharing club.[15]

TABLE 31
LIKELIHOOD OF JOINING BY BUS RIDING FREQUENCY

FREQUENCY OF BUS RIDING	NOT AT ALL LIKELY	NOT LIKELY	SOMEWHAT LIKELY	VERY LIKELY	TOTAL (N=377)
Regularly	22%	6%	41%	31%	(n=84)
Occasionally	10%	26%	42%	16%	(n=114)
Once In A While	21%	18%	48%	12%	(n=108)
Never	23%	30%	39%	8%	(n=71)

Given these indicators, we examined the factors that predict appeal of car sharing. We identified no statistical relationship between likelihood of joining and education or income. However, we were concerned that education and income might have some intervening effects that needed to be considered. Therefore, we estimated the model on appeal of the program to assess whether there were any differences in program appeal to those with different levels of education or different levels of income.

[15] Significant at the .0001 using Chi-Square.

We found that the model was consistent across income levels, but varied by education levels. Essentially, we found the predictors of likelihood of joining and predictors of appeal of car sharing to be consistent across income levels for all respondents. These predictors were also consistent with the predictors for drivers who had completed college or done post graduate work. However, we found different predictors of appeal for those who did not have a college degree.

Drivers with a college degree who were most likely to express interest in joining a car sharing club were: more likely to be cost-conscious about car ownership, more likely to want to live a simpler lifestyle, more likely to ride the bus regularly, and more likely to drive their secondary car more than 10,000 miles per year.

Drivers who did not have a college degree and were more likely to express interest in joining a car sharing club were: more likely to be in the age range of 35 to 44, less likely to love their car and the activities associated with it, more likely to have an income of $30,000-$50,000, and less likely to need a car to run errands for children or other household members.

These differences suggest some important factors to consider in marketing car sharing to drivers in the study area. Those with college degrees will find car sharing appealing if the information they receive stresses the cost savings, the value of a simpler lifestyle, and the ability to replace their secondary cars. Marketing to those with college degrees could be successful through advertising that regular bus riders will see, as well as through advertising channels that target college-educated adults. Incentives associated with bus riding could also be appealing.

Those with less than a college degree will find car sharing appealing if the information they receive stresses the elimination of the activities associated with owning a car (e.g., washing, maintaining, etc.). Marketing to those with less than a college degree should use media venues that target adults with few dependents, age 35-44, with incomes of $30,000-$50,000.

Finally, to further inform the opportunities for reaching those likely to join, Table 32 presents the types of vehicles those very likely to join indicated they need during the year. While the most commonly used vehicle is an economy or compact car, just over 50% express a need for a mid-size or full-size car, or a pick-up truck, at least 6 times a year. One of the important features focus group respondents hoped to see in a car sharing club was choices. The needs identified in Table 32 suggest that having access to more than just economy or compact cars will be another value drivers might find from joining a car sharing club.

TABLE 32
VEHICLES NEEDED BY THOSE LIKELY TO JOIN

FREQUENCY OF NEED	ECONOMY OR COMPACT (N=63)	MID-SIZE OR FULL-SIZE CAR (N=63)	PICK-UP TRUCK (N=63)
Never	14%	49%	46%
Less than 6 times/year	13%	21%	35%
6-12 times/year	8%	6%	9%
1-5 times/month	18%	16%	4%
1-5 times/week	47%	9%	7%

CONCLUSIONS

Using the results of the survey, we conclude that about 11.7% of the drivers over 21 in the study area believe they would be very likely to join a car sharing club if one were available in their neighborhood. The percent varies slightly by neighborhood, with Southwest the lowest at 10.1% and Southeast the highest at 15.5%. Of the drivers who are very likely to join, we found that the program had to seem both practical and appealing for the driver to be interested in joining. We further found that the appeal of car sharing varied depending on the level of education completed by the driver.

Those drivers who have a college degree and were most likely to express interest in joining a car sharing club were: more likely to be cost conscious about car ownership, more likely to want to live a simpler lifestyle, more likely to ride the bus regularly, and more likely to drive their secondary car more than 10,000 miles per year.

Those drivers who did not have a college degree and were most likely to express interest in joining a car sharing club were: more likely to be in the age range of 35 to 44, less likely to love their car and the activities associated with it, more likely to have an income of $30,000-$50,000, and less likely to need a car to run errands for children or other household members.

These differences suggest that a marketing campaign for a car sharing club should include different messages about car sharing, using different media to target people with different education levels.

Messages about car sharing should stress the cost savings of car sharing, the value of a simpler lifestyle, the ability to replace secondary cars, and the elimination of the activities associated with owning a car (e.g., washing and maintaining, etc.).

Marketing to those with college degrees could be successful through advertising regular that bus riders will see and using media targeted to the college educated. Incentives associated with bus riding could also be appealing, as well as stressing ways to link car sharing to bus riding.

Marketing to those without a college degree should target media sources that attract adults with few dependents, age 35-44, with incomes of $30,000-$50,000.

Portland Car Sharing Market Study
Contact List

Updated July 2001

Contract Administrator:	Nina DeConcini Oregon Department of Environmental Quality Portland, Oregon tel 503/229-6788 deconcini.nina@deq.state.or.us
BTA Coordinator:	Karen Frost, Program Manager Bicycle Transportation Alliance Portland, Oregon tel 503/226-0676 karen@bta4bikes.org
Business Plan:	Steven Scott MetaResource Group Portland, Oregon tel 503/516-2785 info@MetaResource.com www.MetaResource.com
Market Survey:	Jane Peters Research Into Action Portland, Oregon tel 503/287-9136 janep@researchintoactiont.com
CarSharing Portland, Inc.:	David Brook, President CarSharing Portland, Inc. Portland, Oregon tel 503/872-9882 dbrook@aol.com www.carsharing-pdx.com