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Market Assessment Survey Results

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The Federal Highway Administration and the Minnesota Department of Transportation co-sponsored a demonstration to test how consumers would change their driving behavior if some of the fixed costs of owning and operating a car were to be converted to variable costs. A survey of Twin Cities Area residents probed interest in pay-as-you-drive (PAYD) concepts for leasing and insurance. While 25% of respondents indicated some interest in the concept of PAYD, interest dropped to 18% when given explicit choices. Respondents were most attracted to the concept of paying only for the miles they drive. Reasons cited for the lack of interest were the uncertainty of monthly costs, privacy concerns, and a dislike of leases in general. Most respondents believe the "fair" price per mile for the representative PAYD lease program they were presented was considerably less than the amount that reflected the actual cost of the miles. These findings indicate that PAYD products have appeal to a small, but not insignificant portion, of the population, and that PAYD programs will be most effective when they are designed to focus on specific sub-samples of the overall population.

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Cambridge Systematics, Inc.
100 Cambridge Park Drive, Suite 400
Cambridge, Massachusetts 02140

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MarketLine Research

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Executive Summary

The survey results described in this report are two components of a larger project with the Minnesota Department of Transportation (Mn/DOT) to test the feasibility of converting the fixed costs of personal auto ownership/leasing to variable through mileage-based charges. This may be one means of using consumer price signals as a way to reduce vehicle-miles traveled and ultimately highway congestion. Previously, the project team conducted qualitative research on the pay-as-you-drive concept and investigated private sector interest in commercial products related to mileage-based pricing.

The market assessment survey and the stated-preference survey, described here, and a recently completed field experiment comprise the quantitative element of the study. Together, these studies will help estimate the level of interest in the pay-as-you-drive approach, the nature of the market for the concept, the response of drivers to price signals (price elasticities) that are based on miles driven, and the overall effect of the program on vehicle-miles traveled and traffic congestion.

MARKET ASSESSMENT SURVEY

The market assessment survey was conducted by telephone of 401 randomly selected households in the Twin Cities metropolitan area, of which 207 households agreed to participate in the more detailed stated-preference survey using a mail-phone collection method. Part of the way through the telephone survey, the study team realized that the previous experience with or understanding of traditional automobile leasing was an important factor in people's willingness to consider mileage-based leasing products. As a result, the team conducted an additional 100 interviews with people indicating some prior experience with auto leasing. Of the lease "over-sample" group, 45 households agreed to participate in more detailed stated-preference surveys.

The general market research probed the potential for mileage-based leasing products. It found that:

- Three-quarters of the drivers who said they are definitely planning to lease their next vehicle also are interested or very interested in participating in a mileage-based program.
- Two-thirds of the drivers who say they will probably lease their next vehicle are interested or very interested in the concept.
- Overall, 25 percent of the original Metro area drivers surveyed said they were interested or very interested in a mileage-based program, and 30 percent of those in the lease over-sample group were interested or very interested.

- The vast majority of drivers own the vehicles they use and plan to purchase (not lease) their next vehicle. This means a program targeting leasers will not have a huge pool of candidates.
- The key challenge facing this concept is that most drivers want to go wherever they want, whenever they want, without worrying about the cost or having their activities monitored.
- Although drivers say they want to reduce the cost of owning and operating their vehicles, the fact remains that they are generally unwilling to change their habits to accomplish this.
- The program concept challenges the prevailing notion that one's independence is contingent upon unrestrained access to an automobile.

STATED-PREFERENCE SURVEY

The stated-preference surveys provided a mechanism to probe more deeply in to respondents' likelihood to choose mileage-based leasing or insurance products. The surveys included tradeoff questions customized to the respondents' expected next vehicle acquisition event or the insurance that would go with that next vehicle acquisition. In the vehicle acquisition tradeoff exercise, respondents we gave people three sets of choices: one based on current options only, one based on two mileage-based options, and a mixture of the two.

When given a choice of three existing vehicle acquisition options, paying by cash was the most preferred, at 58 percent; and leasing was the least preferred, at 6 percent. When the choice was between two mileage-based leasing options, most respondents (66 percent) preferred an option with a lower up-front cost and a higher mileage cost. When given the choice among both traditional and mileage-based leasing options, the overall preference for leasing jumped from 6 percent to 18 percent, with 16 percent of the respondents preferring one of the mileage-based products.

We posed similar experiments for mileage-based insurance products. Respondents were asked to choose among a standard insurance option and two mileage-based options (one with higher fixed monthly cost and a lower mileage-variable cost or one with a lower fixed monthly cost and a higher mileage-variable cost). The standard insurance option was the most preferred, with 68 percent of respondents. The two potential mileage-based insurance options each were preferred by 16 percent of the respondents, for a total of 32 percent.

LESSONS LEARNED

For the most part, Americans are accustomed to buying their cars – leasing accounts for only 6 percent of the cars on the road today. Although we may not think of it that way, both leasing and purchasing a car both have significant mileage-based components. In leasing, there is usually an upper limit to the

number of miles allowed to be driven before significant penalties are assessed. Although drivers do not get monthly feedback on the cost of their miles, they do tend to be more aware of the cost of extra miles than those who own vehicles. It is generally in the interest of those who lease to use all of their allowed miles without going over their contractual limit. However, there is no benefit to them of under-using their allotment. This probably explains the higher level of interest in a mileage-based leasing concept with those who already have experience with leasing.

Car owners also have a mileage-based component to the ownership cost. The mileage-based charges show up as additional maintenance needs and faster depreciation. In this case, the cost of the additional miles is not felt until the owner wants to sell or trade their old car. People that currently own their cars did not have a big interest in mileage-based leasing products. A large part of this disinterest probably comes from an overall disinterest in leasing. Remember, only those in the market for new vehicles really have the option of leasing. There is virtually no leasing in the used car market.

The potential of mileage-based insurance, on the other hand, is far more robust. About 32 percent of those that participated in the stated-preference survey indicated a preference for one of the two mileage-based insurance products. Mileage-based insurance would appear to be a much less radical departure from existing products as mileage-based leasing would be.

Based on the surveys, a mileage-based lease program is expected to "greatly reduce" vehicle mileage for around 12.5 percent of respondents. The mileage reduction impacts of mileage-based insurance are of a similar order of magnitude, with about 8 percent of respondents saying they would be likely to greatly reduce their vehicle travel. Respondents expected that they would reduce their travel by combining trips more often, but more than one-third said they would reduce their mileage on the priced vehicles by switching their driving to other vehicles. One-quarter also indicated that they would reduce the number of trips that they made, indicating that the per-mile pricing might reduce the overall mobility of some participants. The mileage reductions were expected to be achieved on weekend and nighttime trips when presumably a greater share of discretionary trips are being made.

1.0 Introduction

1.1 OVERVIEW OF THE SURVEYS

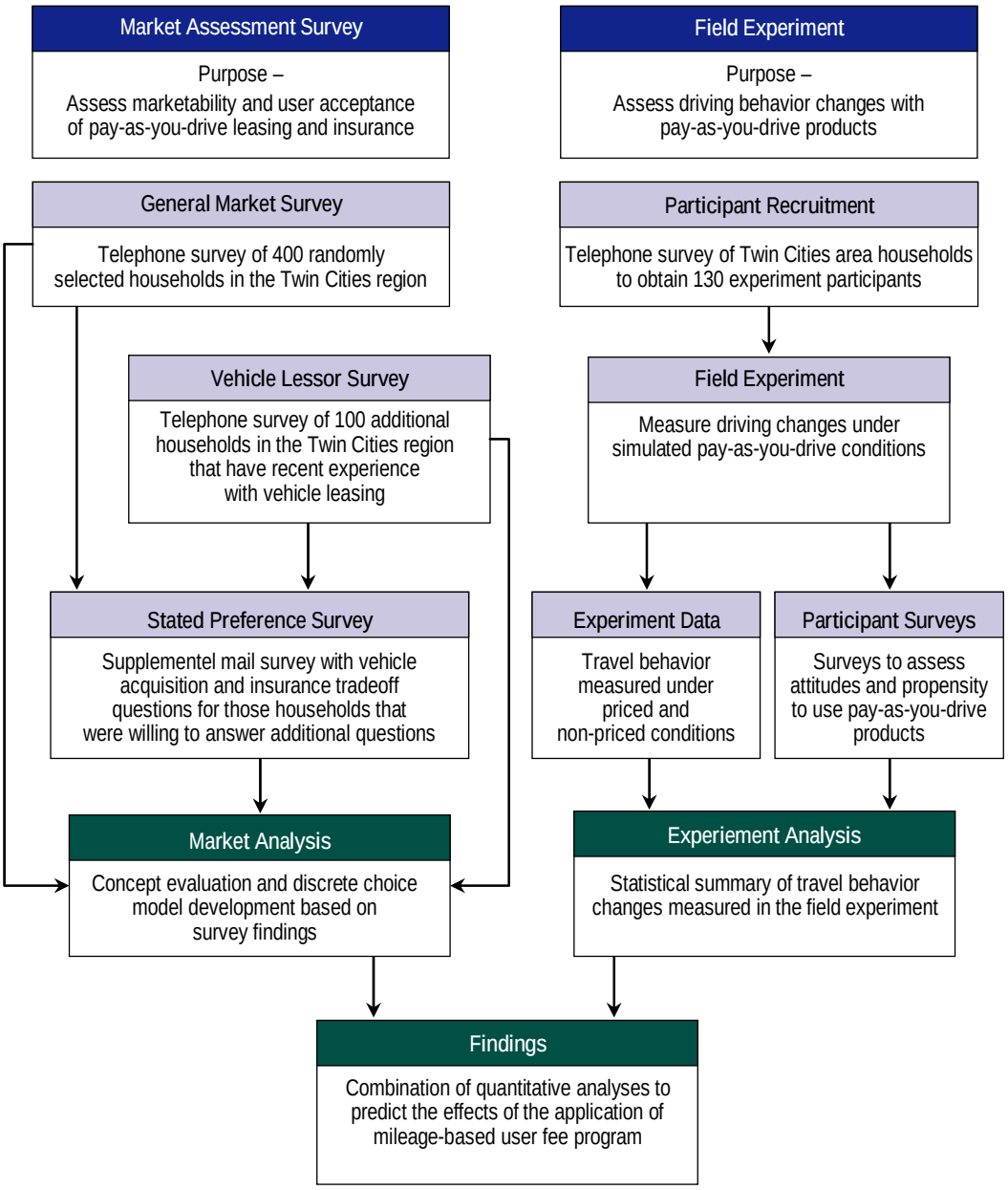
The survey results described in this report are two components of a larger project with the Minnesota Department of Transportation (Mn/DOT) to test the feasibility of converting the fixed costs of personal auto ownership/leasing to variable through mileage-based charges. This may be one means of using consumer price signals as a way to reduce vehicle-miles traveled and ultimately highway congestion. Previously, the project team conducted qualitative research on the pay-as-you-drive concept and investigated private sector interest in commercial products related to mileage-based pricing. The overall project objectives include:

1. Simulate the replacement of the fixed costs of vehicle ownership and operation with variable costs that give drivers explicit price signals about travel decisions and alternatives;
2. Develop the best possible understanding of transportation price elasticities and how they vary by vehicle ownership/lease arrangement, income, location, annual mileage driven, and other factors;
3. Develop an understanding about driver acceptance of use-based fees and appropriate price signals necessary to affect travel behavior changes; and
4. Identify strategies and recommendations that might be employed to mainstream or institutionalize policies or techniques learned from the demonstration.

The market assessment survey and the stated-preference survey, described here, and a recently completed field experiment comprise the quantitative element of the study, as shown in Figure 1.1. Together, the market assessment and stated-preference surveys and the results of the field experiment will help estimate the level of interest in the pay-as-you-drive approach, the nature of the market for the concept, the response of drivers to price signals (price elasticities) that are based on miles driven, and the overall effect of the program on vehicle-miles traveled and traffic congestion.

The market assessment surveys provide general feedback on the concept and supplement information derived from earlier focus groups. This market research is necessary because mileage-based vehicle pricing is dramatically different than the normal terms of vehicle ownership.

Figure 1.1 Quantitative Elements of the Mileage-Based User Fee Demonstration Project



Although there are already variable components to owning and operating a vehicle (e.g., price and consumption of gasoline, maintenance costs, etc.), the largest single outlay is typically the initial purchase price. Drivers make decisions about how they use their vehicles based on a cost structure that is heavily weighted toward this large "sunk" cost with relatively low marginal costs for their use. As a society we have become accustomed to considerable freedom to drive where and when we please. Important life decisions are made about where

to live and work based on the expectation of unlimited access to a personal automobile. Consumers have responded rationally to the price signals and incentives now available to them. This is manifested in the fact that many of us tend to drive a lot, drive alone, and live far from our place of work. The mileage-based program studied here challenges this paradigm by more explicitly varying the costs of auto ownership by auto use.

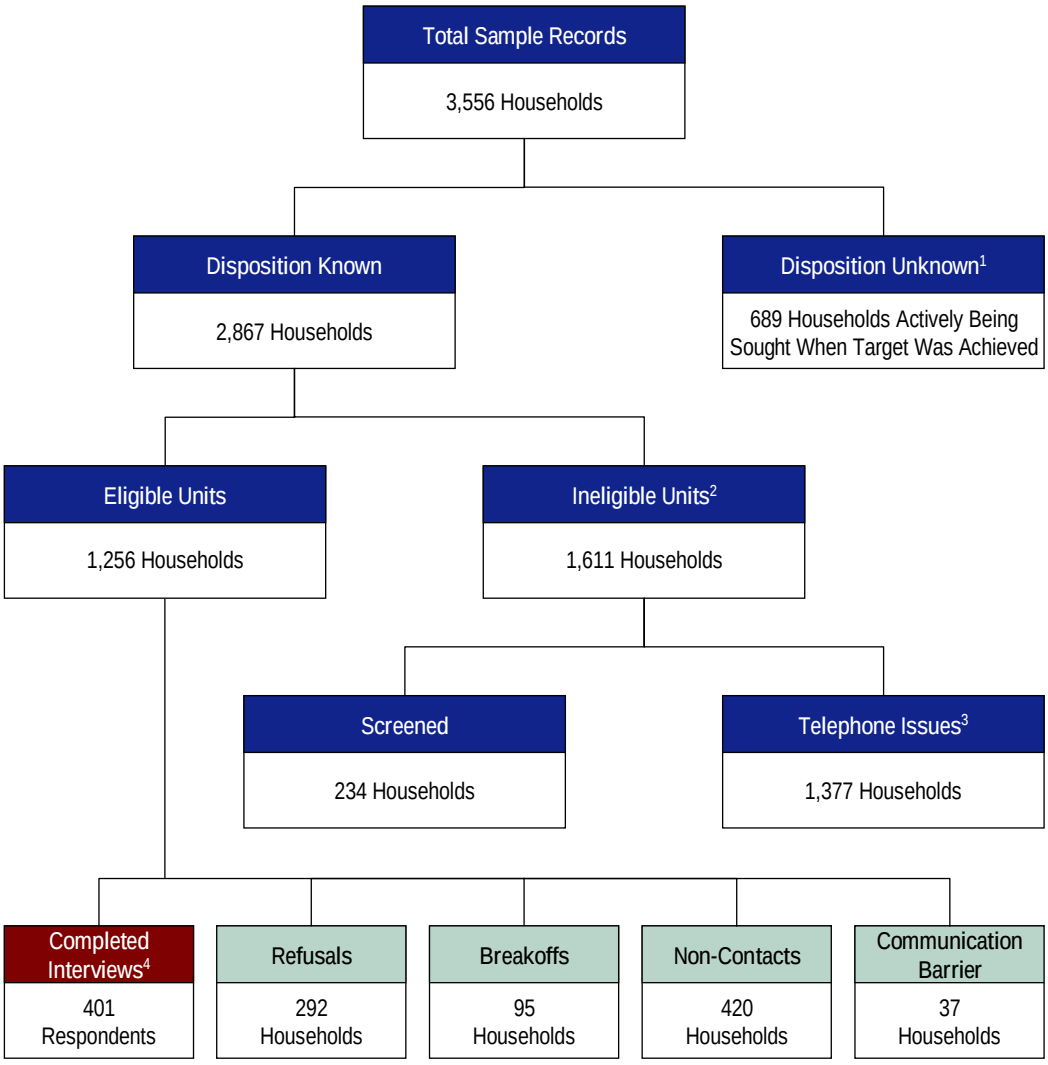
The market assessment analysis described herein builds upon focus groups that have already been completed. The market assessment survey design called for the completion of 400-500 telephone surveys of drivers in the metro area. A total of 501 completions were achieved in total, with 401 from an original sample and an additional 100 surveys of metro area drivers pre-screened to have personal experience with vehicle leasing. The decision to include the over-sample of drivers with recent or ongoing experiences with vehicle leasing was based on the focus group results which indicated that receptivity to leasing in general is an important prerequisite for receptivity to mileage-based pricing.

Upon completing the initial market assessment surveys, respondents were then asked if they would be willing to participate in another survey that asked for information designed to measure their willingness to select mileage-based leasing and insurance, rather than currently available payment options. A total of 183 respondents ultimately completed the second survey.

To perform the market assessment work, Market Line Research purchased a calling sample which represented the population from which they would select a sample of drivers for the survey. We established several criteria for inclusion in the initial sample. Specifically, we targeted drivers who have been residents of the metro area for at least the past six months, people who possess a valid driver's license, and those who have driven on the state highways and freeways in the past month. We also screened out potential respondents who worked for organizations that might make the respondent nonrepresentative of the population as a whole.

In January 2004 field implementation of the initial telephone survey was started. Working from a sample of more than 3,500 telephone records, Market Line Research interviewers completed 401 telephone surveys of an average length of 18 minutes. The response for this general market assessment survey is summarized in Figure 1.2. The response rate and breakdown of the sample records are in line with similar transportation-related market research efforts in the Twin Cities metro area and elsewhere, and do not indicate any significant sampling issues. The questionnaire script for the general market research survey is shown in Appendix A.

Figure 1.2 Market Assessment Survey Response



[1] The "disposition" refers to the outcome of calls to each household in the sample. In this case, it means that by the time the sample was filled, using the sampling criteria described herein, there were households that had still not been contacted about participating in the survey.

[2] Ineligible households are those that do not pass the survey sample screening criteria.

[3] Telephone issues refer to various obstacles to screening households for inclusion in the survey, including incorrect telephone numbers, no answer after repeated attempts, and the like.

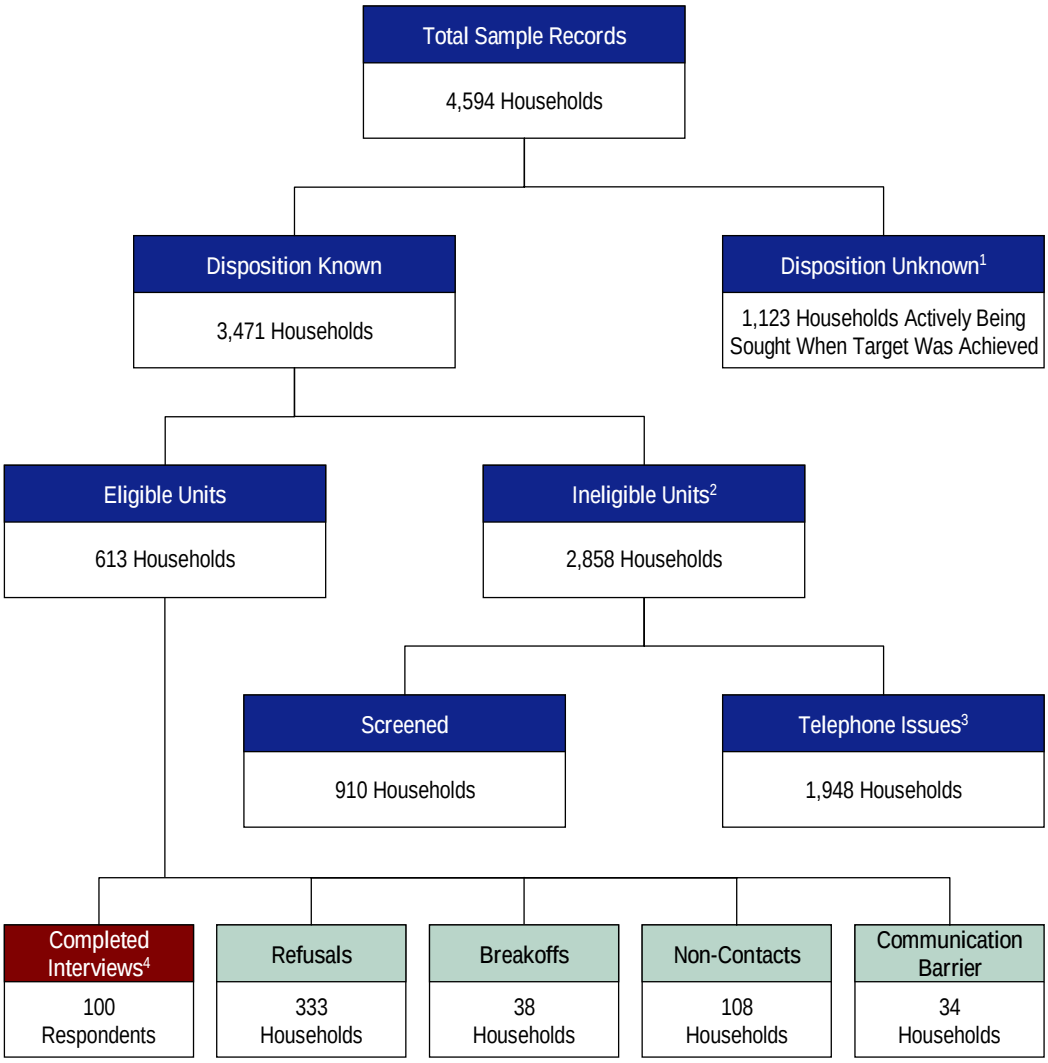
[4] Completed interviews (n=401) / eligible units (n=1,256) = 32 percent.

A second survey of 100 drivers who were currently leasing or had leased a vehicle in the past was implemented to augment the initial telephone survey sample. The purpose was to learn more about the preferences, intentions, and interest in the mileage-based program concept from drivers who have leased vehicles. This variable turned out to be an indicator of program interest, and the number of respondents in the first sample who have leased was fairly low, reflective of the rate of leasing in the general population. Consequently, this second survey was administered using the same survey instrument, except with additional screening questions related to the respondents' vehicle leasing history. Figure 1.3 summarizes the response for the lease over-sample market assessment survey. As expected, since only those respondents that have leased a vehicle were surveyed, the proportion of potential respondents being screened out was much higher than for the general survey. The overall survey response rate is lower than for the general population survey, perhaps because of the more invasive nature of the vehicle leasing questions.

At the end of the surveys, the general population market assessment survey respondents and lease over-sample respondents were asked to participate in a follow-up survey. We then mailed those that agreed to participate further (207 general population respondents and 45 lease over-sample respondents) a questionnaire that included customized tradeoff questions that had the respondents choose among hypothetical vehicle purchase/lease options and vehicle insurance options. The vehicle purchase/lease options included a cash purchase option, a purchase with financing option, a standard lease option, and two mileage-based lease options. The choices shown to each respondent were based on information provided by the respondent in the market assessment survey about their next vehicle acquisition. The vehicle insurance options included standard insurance and two mileage-based insurance options. As for the vehicle acquisition exercise, the insurance choices were customized for each respondent. Once respondents had had a chance to complete the mailed stated-preference surveys, they were contacted by phone at a prearranged callback time, and their answers to the mailed questions were recorded.

The response to the mail-telephone stated-preference surveys is shown in Figure 1.4. A total of 183 completed interviews were achieved, and the rate of response is quite reasonable for a complex mail-telephone survey.

Figure 1.3 Market Assessment Lease Over-Sample Survey Response



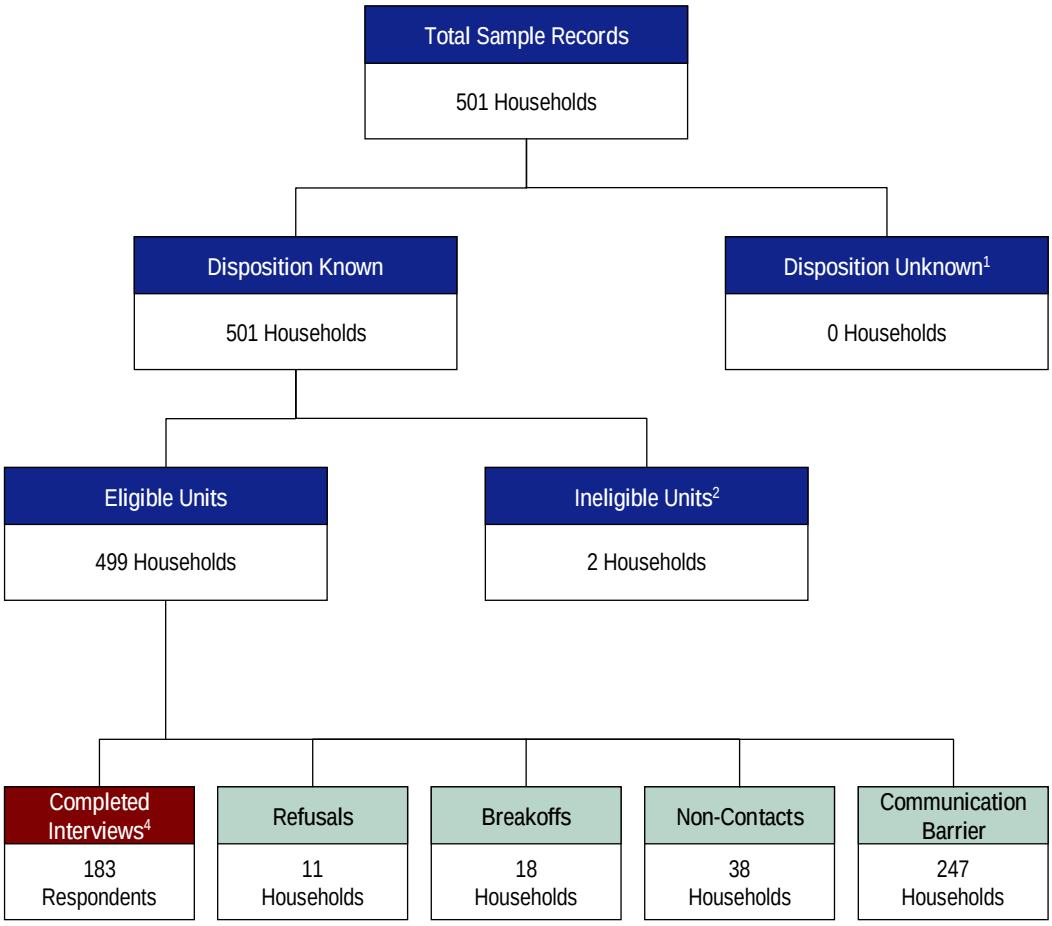
[1] The "disposition" refers to the outcome of calls to each household in the sample. In this case, it means that by the time the sample was filled, using the sampling criteria described herein, there were households that had still not been contacted about participating in the survey.

[2] Ineligible households are those that do not pass the survey sample screening criteria.

[3] Telephone issues refer to various obstacles to screening households for inclusion in the survey, including incorrect telephone numbers, no answer after repeated attempts, and the like.

[4] Completed interviews (n=100) / eligible units (n=613) = 17 percent.

Figure 1.4 Stated-Preference Mail Survey Response



[1] The "disposition" refers to the outcome of calls to each household in the sample. A disposition of 0 means that all 501 households were contacted and are accounted for in the sample.

[2] Ineligible households are those that do not pass the survey sample screening criteria.

[3] Completed interviews (n=183) / eligible units (n=499) = 37 percent.

1.2 ORGANIZATION OF THIS MEMORANDUM

Section 2.0 describes the general population market assessment telephone survey of 401 drivers in the metro area. This survey provides a representative snapshot of potential metro region pay-as-you-drive program participants. Therefore, we can use these survey results to assess the overall interest level and market for the pay-as-you-drive concept.

Section 3.0 describes the second telephone survey of 100 drivers in the metro area, screened for those with experience with vehicle leasing. This survey's focus on experienced leasers allows us to analyze a segment of potential program participants that are in a better position to evaluate the specific advantages and

disadvantages of the ay-as-you-drive concept, independently from the advantages and disadvantages of vehicle leasing.

Section 4.0 summarizes the findings of the stated-preference mail follow-up survey that was administered to willing participants from the random sample telephone survey and the lease over-sample telephone survey.

Appendix A provides the survey instrument used in the market assessment survey. Appendix B shows a sample of the stated-preference survey mailing. Appendix C provides the details for estimating the various cost elements used in the stated-preference survey.

2.0 General Market Assessment Survey

The analysis described in this section is based on the 401 respondents to the general population market assessment telephone survey of adults in the metro area. Using random digit dialing techniques, MarketLine Research contacted households in Anoka, Carver, Chisago, Dakota, Hennepin, Ramsey, Scott, and Washington counties.

The survey script is shown in Appendix A of this document. The survey began with a series of screening questions. To participate, respondents had to be 18 years old or more, had to possess a valid driver's license, and had to have been a Twin Cities resident for at least six months. In addition, potential respondents were excluded from the survey if they worked for:

- Mn/DOT;
- An automobile dealership;
- An automobile insurance provider or agency;
- An auto leasing company or financial institution;
- A marketing research firm;
- A newspaper, radio, or television station;
- The Metropolitan Council; or
- A city or county public works department.

Once respondents were screened, the survey asked questions about how respondents and their households use vehicles. Then, the survey asked specific questions about the acquisition and usage of up to three household vehicles. Following the collection of the vehicle data, we presented the pay-as-you-drive concept to respondents, and asked them to provide an initial reaction to it. Next, we asked respondents to describe their attitudes toward driving and technology by responding to a long list of attitudinal rating questions. We collected respondent demographic data, and then invited the respondents to participate in the mail survey. Finally, for those respondents who were willing to participate, we collected prospective data on the respondent's next vehicle purchase or lease.

This section describes the results of the different survey sections, beginning with a profile of the respondents and their vehicle usage; their knowledge and attitudes about driving and vehicle ownership; and their interest in the mileage-based program concept. Information collected regarding respondents' intentions regarding the purchase and/or lease of their next vehicle that was used in the stated-preference survey is presented in Section 4.0 of this memorandum.

2.1 RESPONDENT CHARACTERISTICS

The drivers in this sample are an educated group that earn good professional salaries. Most of the vehicles these drivers use were purchased rather than leased, and about half were acquired new. These drivers typically commute to work by car, in most cases driving alone. Since there are more vehicles than licensed drivers in the typical household in this sample, there is no shortage of cars preventing them from doing so. Although 46 percent of these residents say they live near public transportation and fully believe that more people should take advantage of it, most people choose to make the typical 38-mile round-trip commute by automobile. Twenty percent of these commuters pay for parking in addition to gasoline and other variable operating costs associated with a car. Few drivers in this sample participate in carpools.

2.1.1 County of Residence and Household Composition

As shown in Figure 2.1, about half of the survey respondents live in Hennepin or Dakota county, with the remaining spread out in Ramsey, Anoka, Washington, Scott, and other counties in the metro area. The average household size for people in the survey sample is 2.8 people, with 2.0 who possess a driver's license. There were slightly more female than male respondents in the survey, which was comprised of 56 percent women and 44 percent men. The average age was 49 years, with nearly 80 percent of the respondents between ages of 34 and 69 years.

2.1.2 Education and Employment

Like the metro area that this survey group represents, the sample is comprised of fairly educated people holding professional jobs. As illustrated in Figure 2.2, fully 70 percent of the drivers in the sample have attended at least some college, not including technical or vocational training, and 48 percent are college graduates. These respondents are employed in a variety of occupations, particularly in management, technical and other professional jobs. The mean age of the sample is 49 years, and average family income is $64,200 per year.

2.1.3 Household Vehicles

As shown in Table 2.1, the typical household in the survey sample has 2.2 vehicles, which is greater than the number of family members who can drive, with the metro area showing a trend that is emerging nationwide. The typical household in the sample is comprised of 2.8 people, of whom 2.0 have a valid driver's license. Survey respondents report that the primary household vehicle travels nearly 14,000 miles annually (more on that below), with additional vehicles driven somewhat less.

Figure 2.1 Counties in Which Survey Participants Live

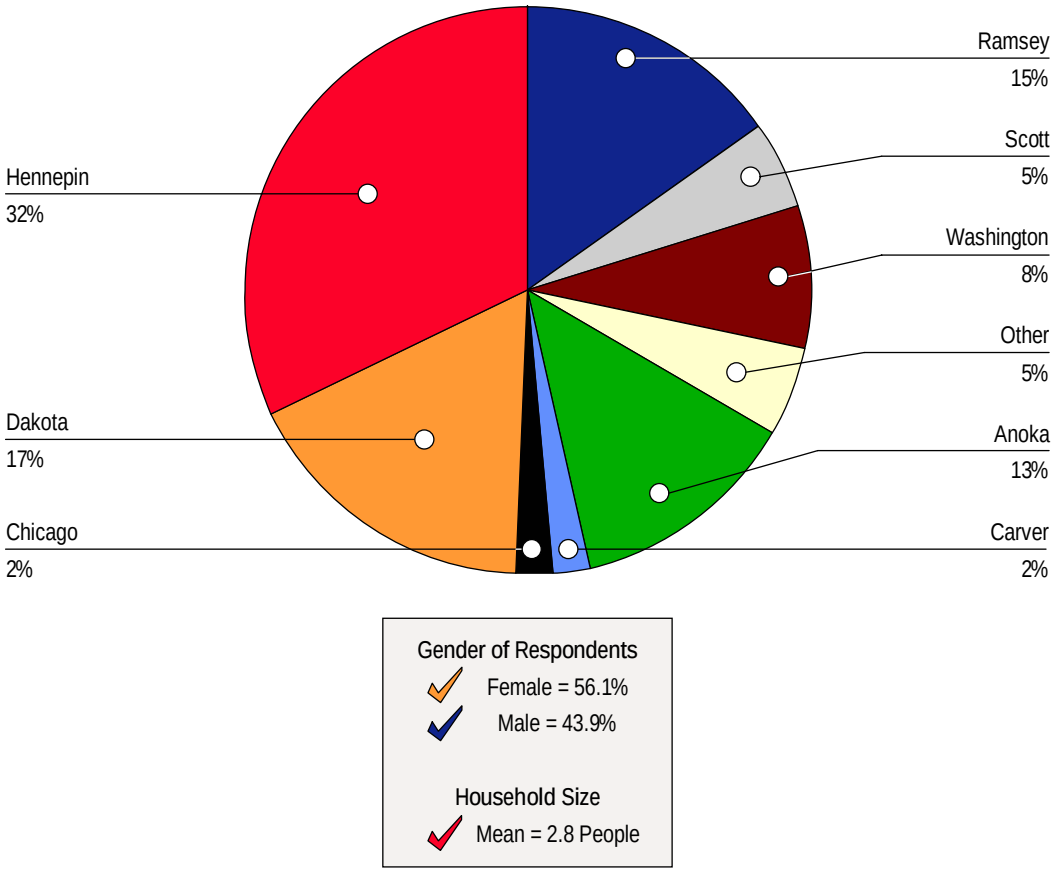


Figure 2.2 Educational Achievement of Survey Respondents

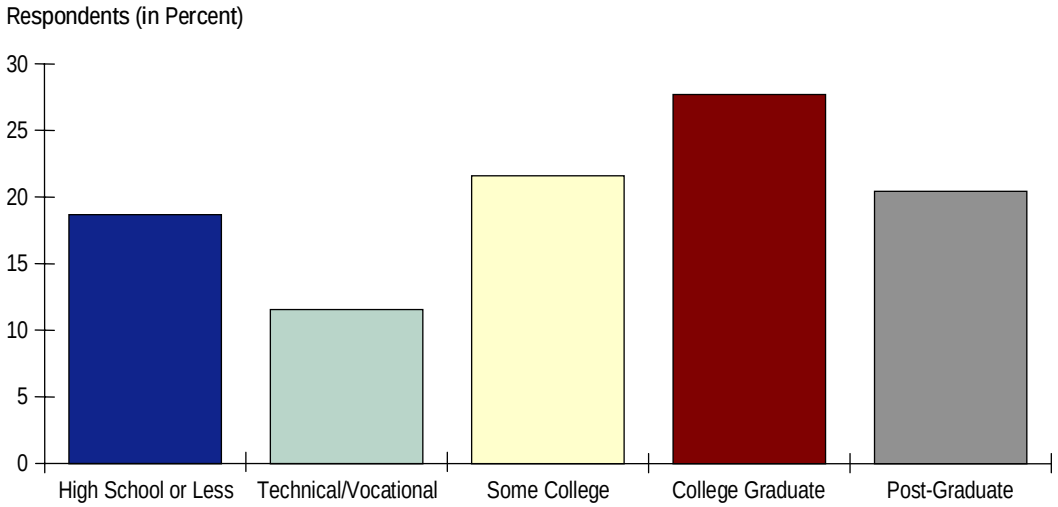
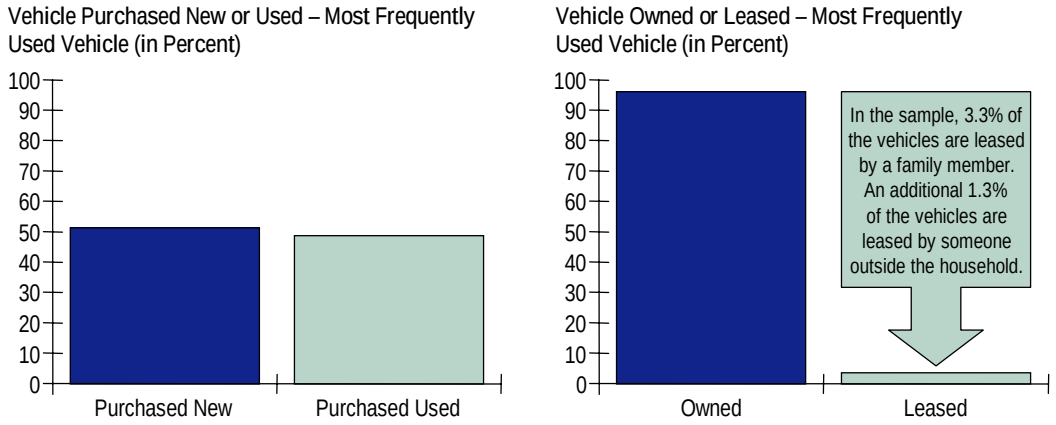


Table 2.1 Relationship between Vehicles and Household Size

Time Interval	Mean	Minimum	Maximum	Standard Deviation
Number of vehicles in the household	2.2	0	17	1.3
Household members with valid drivers license	2.0	1	8	0.9
Total household size	2.8	1	45	2.5

The average 2.2 vehicles per household in the survey sample includes some combination of automobiles, SUVs, light trucks, and vans. The most frequently cited vehicle is a 1998 model automobile that is owned (not leased). The most frequently cited vehicle is about equally likely to have been purchased new or purchased used, as shown in Figure 2.3. The vehicle that is cited second most is typically two years older (1996), and is somewhat more likely to have been purchased used (55 percent) rather than new.

Figure 2.3 Frequency of Vehicle Ownership/Leasing



2.1.4 Driving Habits

Sixty-two percent of the survey respondents in the survey said that the vehicles in their household were driven over 100 miles during the past seven days. The actual distance driven is probably well over 100 miles in the past week considering that the primary vehicle was driven an average of 14,000 miles in the past year, equivalent to 269 miles per week, as shown in Table 2.2. During afternoon rush hour the primary vehicle was driven an average of 19 miles, which translates into a weekly two-way commute of 190 miles or nearly 10,000 miles in a year.

Figure 2.4 illustrates that although 46 percent of the survey respondents in the metro area report that public transit is either very convenient or somewhat convenient to them, very few actually use it to commute to work. Commuters typically commute by car (see Figure 2.5) to work in spite of the availability of other options and the costs (e.g., gas, parking) associated with driving.

Table 2.2 Miles Driven on the Vehicle Most Frequently Cited

Time Interval	Mean	Minimum	Maximum	Standard Deviation
Last 12 months	13,882	18	90,000	10,132
Typical weekday 3:00-6:00 p.m.	19	0	312	26

Figure 2.4 Convenience of Public Transit

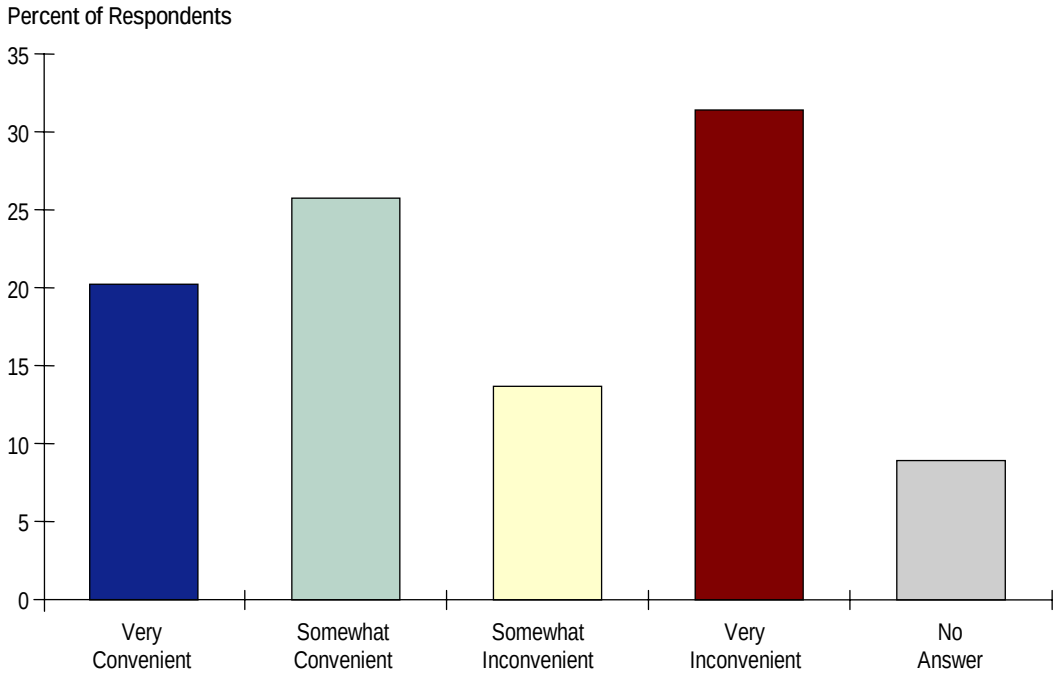
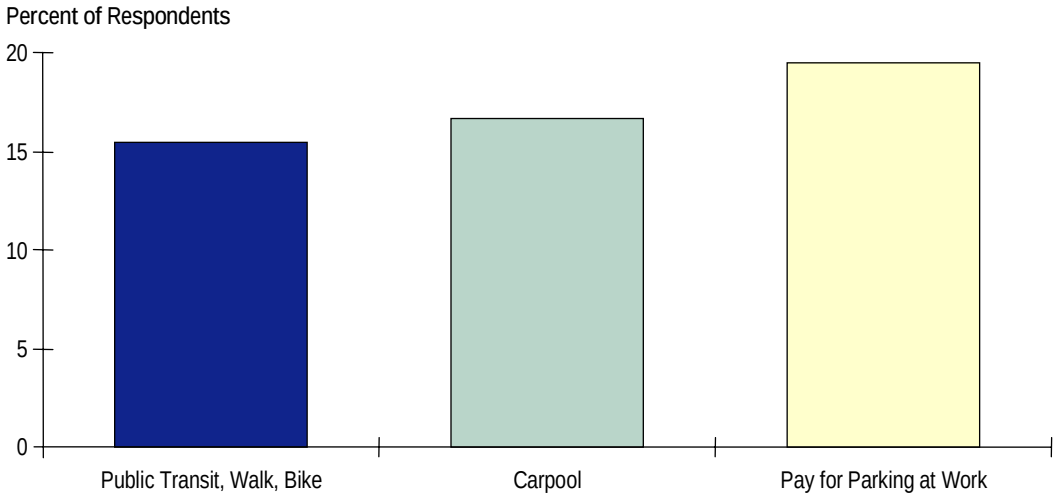
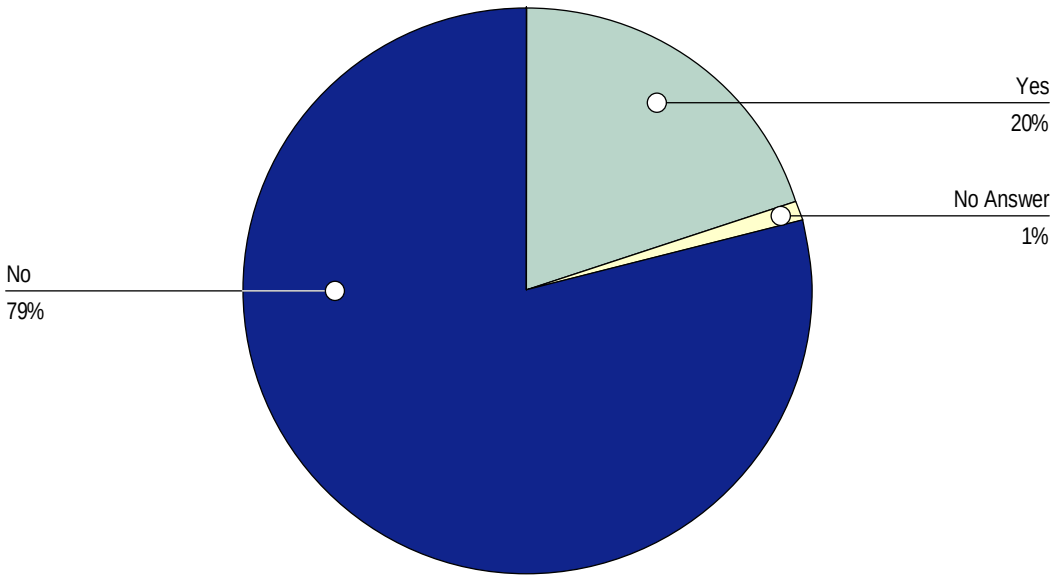


Figure 2.5 Mode of Commuting to Work



In a typical month, 20 percent of the drivers in the sample said that they work from home on some days rather than commuting, as illustrated in Figure 2.6. Since 74 percent of the respondents said they were able to access their work computer from home, there are clearly reasons for not telecommuting beyond access to electronic files.

Figure 2.6 Percent of Respondents Who Work from Home in a Typical Month



Among those who sometimes work from home, the average is seven days in a typical month.

2.2 RESPONDENT ATTITUDES AND VEHICLE ACQUISITION KNOWLEDGE

This portion of the survey leaves little doubt as to the importance of the personal automobile as a source of freedom, flexibility, and independence to drivers. Although few Metro area residents take long rides in the country for enjoyment or engage in what they believe to be any unnecessary driving, the personal vehicle is perceived as a vital component of people's active lives.

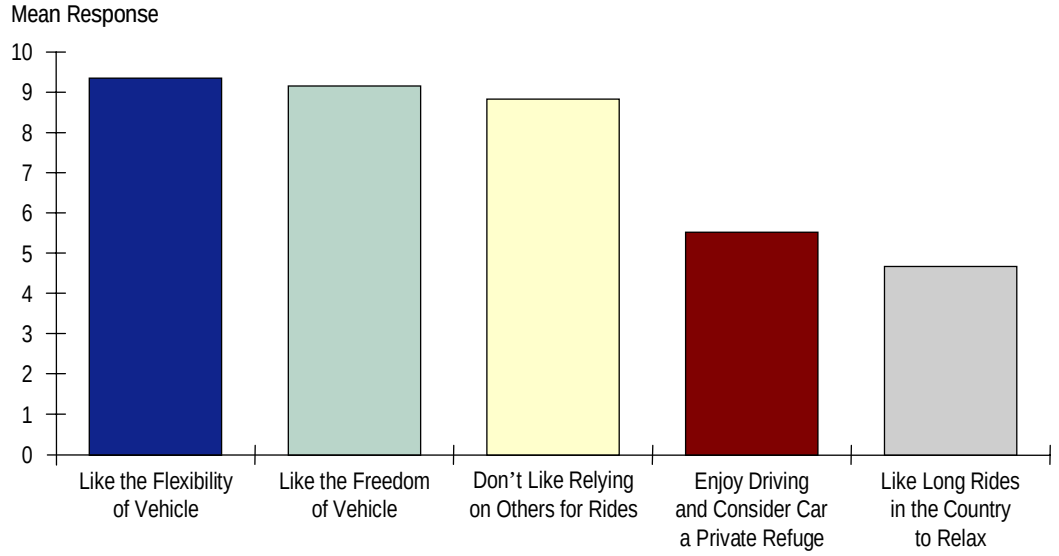
Respondents consider themselves to be informed about the costs of using their automobile and believe they are equipped with enough knowledge to purchase new cars. They are less confident about leasing than purchasing, although men consider themselves better informed about leasing than women (even though women in the sample actually do more of the leasing).

Concern about personal privacy is an issue for many. This could potentially make people wary about participating in a mileage-based program that monitors details associated with use of the automobile. In addition, the surveys did not reveal a tremendous comfort with technology and personal computers. Again, this could dampen interest if people were afraid it would be cumbersome to track their driving and incurred costs on the computer.

2.2.1 Driving Attitudes and Behavior

Drivers in the sample are clear that they like the flexibility and freedom associated with using their vehicles, and survey respondents are clear that they do not like being dependent on others for rides. This is not to say that they enjoy recreational driving or that they do a lot of what they perceive to be unnecessary driving. However, the personal freedom associated with unlimited use of one's automobile far outweighs any concern about the cost of owning and operating a car, as well as just about any other aspect of driving that could make a mileage-based program attractive to people. These attitudes are measured in Figure 2.7.

Figure 2.7 Respondent Attitudes about Driving
On a Scale of 1-10



Although survey respondents said their driving patterns do not typically vary much from week to week, there is still a need to reach different destinations. The bottom line is that drivers have become accustomed to using their vehicles whenever and wherever they want, and value this freedom. Although there is an interest in reducing auto operating and ownership costs, this does not appear to be a top priority among drivers in the metro area, see Table 2.3.

Table 2.3 Driving Attitudes and Needs

	Mean Score (Scale: 1-10)
Driving patterns are pretty close to the same week to week	8.5
I generally try to avoid unnecessary driving	7.6
I want to drive whenever and wherever desired without considering cost	7.4
I need to drive to different destinations as part of my busy schedule	6.6
I actively think about ways to reduce cost of owning and operating a vehicle	6.0

2.2.2 Environmental Considerations

Drivers were probed in various ways about the environmental aspects of vehicle use. Different questions aimed at extracting very similar information yielded somewhat different responses, as shown in Table 2.4. For example, a survey question that included the phrase "help the environment" yielded a higher score signifying driver concern than questions with the phrase "fuel economy." It is interesting that so many drivers believe people should rideshare given how very few of them actually do so themselves.

Table 2.4 Driver Attitudes toward the Environment

	Mean Score (Scale: 1-10)
I like driving cars with good gas mileage to help the environment	8.0
People should rideshare, take transit, walk, or bicycle whenever possible	7.5
Fuel economy was an important factor in choosing car	6.9
I am willing to pay more for products that are environmentally friendly	6.6
I go out of the way to buy environmentally friendly products	6.3
I like driving SUVs	4.4

2.2.3 Image

Drivers in the survey sample claim that image is not a big factor when it comes to vehicle ownership or use, as shown in Table 2.5. This disinterest in image is perhaps not entirely consistent with the number of expensive vehicles on the road today, the popularity of ever larger SUVs and the considerable amount of money that these drivers say they plan to devote to their next vehicle purchase. It is perhaps most accurate to say that respondents do not view themselves as people who get their identity from their vehicles.

Table 2.5 Driver Image

Image Statement	Mean Score (Scale: 1-10)
I enjoy a new car every few years	5.0
I enjoy driving SUVs	4.4
A car reflects a person's lifestyle	4.2

2.2.4 Financial Considerations

The survey probed people about various financial and economic issues surrounding vehicle ownership in order to understand how receptive they may be to a mileage-based cost structure. Although some customers apparently do not mind complicated transactions if they result in cost savings, this view is not held

by everyone. A mileage-based program would clearly need to be structured in as uncomplicated a manner as possible if it is to be of interest to many people. The fact that drivers are not thoroughly wedded to the concept of paying the same amount each month for service does offer some hope that the program concept, with variable charges depending on usage, may not be entirely disagreeable.

Throughout this survey it is evident that drivers are reasonably well informed, but do not act consistently on their knowledge, see Table 2.6. For example, respondents strongly believe that maintenance and reliability are important aspects of a car's value. However, they do not consistently look five years into the future when making plans. This is relevant since the primary vehicle owned by the typical person in this study is five years old (1998), and the secondary vehicle is seven years old (1996) – ages at which maintenance and reliability are key issues.

Table 2.6 Driver Financial Considerations

	Mean Score (Scale: 1-10)
Maintenance and reliability are important aspects of a car's value	9.0
When financing a purchase I always try to make the largest down payment possible	8.0
Try to look at least 5 years into the future when making plans	7.0
Don't mind complicated transactions if they save me money	6.8
Prefer to pay same amount each month for telephone or electric service	6.6

2.2.5 Privacy Issues

Depending on how an actual mileage-based program was designed, it could mean that participants would need to forgo some amount of privacy. The surveys asked drivers in the metro area about how they value privacy. As illustrated in Figure 2.8, more than 80 percent of the respondents said that they do not like the idea of someone monitoring their personal habits and that Internet tracking is an invasion of privacy.

2.2.6 Comfort with Technology

Comfort with technology may influence how receptive people will be to alternative concepts for vehicle use since some form of technology will be needed to track vehicle use, as shown in Figure 2.9. Generally, respondents do not have an extremely high level of comfort with technologies, but are generally more comfortable with personal computers than they are intrigued by new technologies and gadgets.

Figure 2.8 Respondent Attitudes Regarding Privacy
On a Scale of 1-10

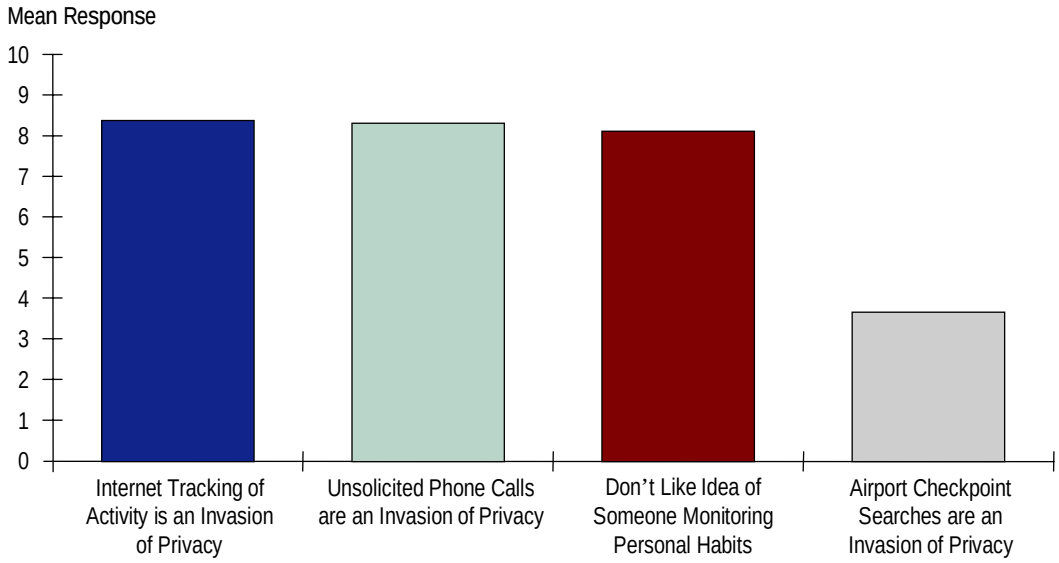
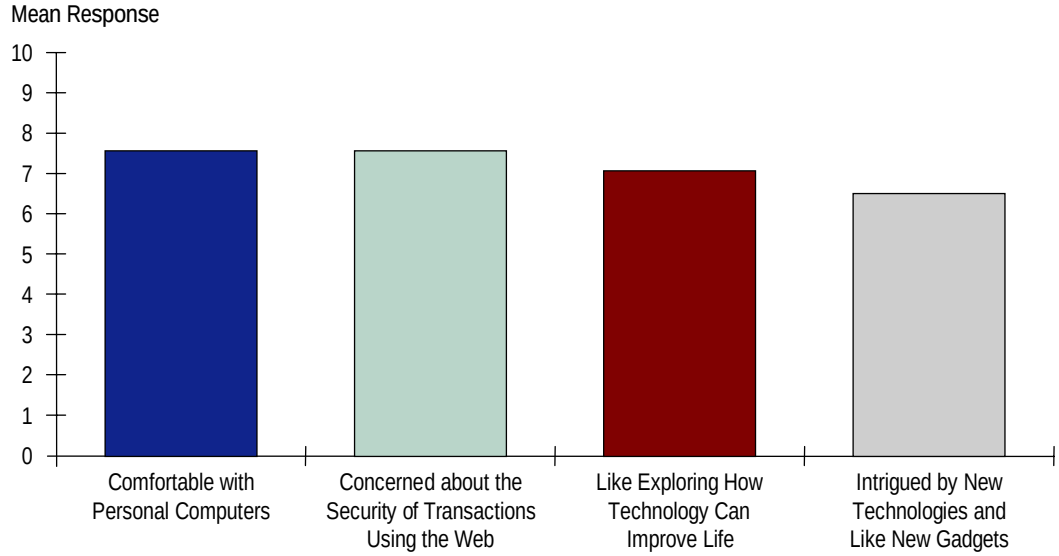


Figure 2.9 Respondent Attitudes about Technology
On a Scale of 1-10



2.2.7 Perceptions Regarding Leasing

Survey respondents were probed about perceptions regarding vehicle leasing. This should help us understand the willingness of the public to consider mileage-based options based on a leasing arrangement. We do know that most people own rather than lease their vehicles, and part of this may be due to perceptions about its cost and the importance (or lack thereof) to people of acquiring a new

car every few years. Data provided in Table 2.7 indicates that drivers in the survey were mixed on whether they consider leasing an expensive way to get a car, and there is not an overwhelming interest in using leasing as a mechanism for getting a car every few years.

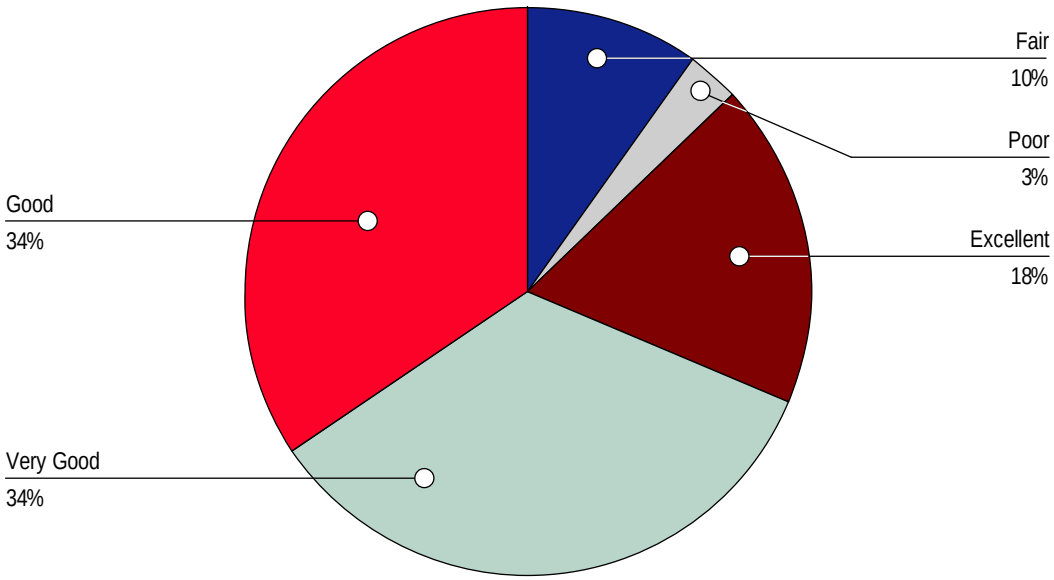
Table 2.7 Driver Attitudes toward Leasing

	Mean Score (Scale: 1-10)
Leasing is an expensive way to get a car	7.5
Leasing allows one to get a new car every few years	6.5

2.2.8 Level of Knowledge Associated with Acquiring and Operating a Vehicle

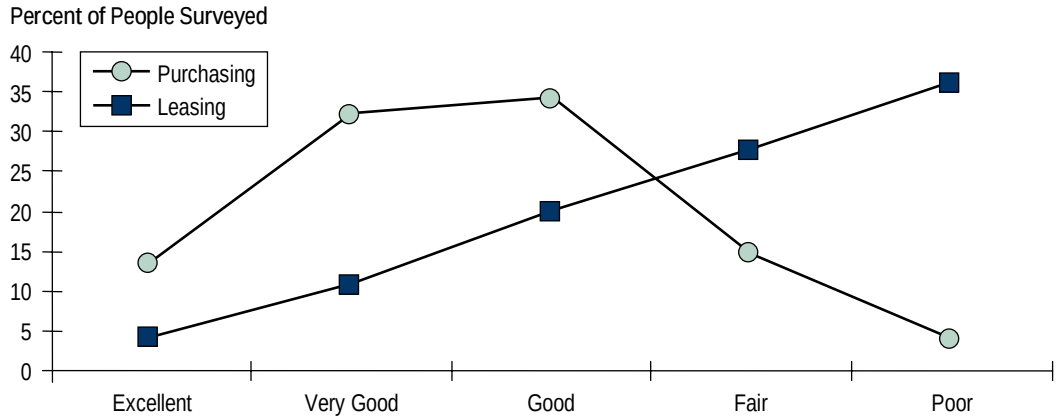
The majority of survey respondents consider themselves knowledgeable about auto operating and ownership costs, as illustrated in Figure 2.10. Fully 86 percent of the respondents believe that they possess a good, very good, or excellent knowledge of these costs.

Figure 2.10 Knowledge of Ownership and Operating Costs



People normally acquire their vehicles through either purchasing or leasing. Respondents consider themselves to be far more familiar with the process of purchasing a vehicle since this has historically been the way that automobiles are acquired. Over 80 percent of people surveyed believe that they have a good or excellent understanding of the purchasing process, compared to 35 percent who believe they are equally knowledgeable about how to lease an automobile, see Figure 2.11.

Figure 2.11 Knowledge of Purchasing and Leasing



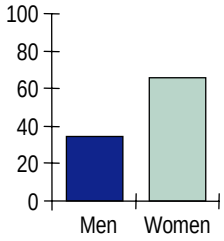
Men in the survey sample generally consider themselves more knowledgeable than women about both purchasing and leasing vehicles, as indicated in Figure 2.12. Men also believe themselves to be better informed about the cost of owning and operating a car. Interestingly, more women than men in the sample actually lease cars, but men believe they possess the greater knowledge.

Figure 2.12 Knowledge of Vehicle Leasing

Respondents Who Believe They Possess an Excellent or Very Good Understanding of...

Knowledge Topic	Men	Women
Vehicle Purchasing	56.0%	44.0%
Vehicle Leasing	57.4%	42.5%
Ownership and Operating Costs	52.2%	47.8%

Percent of Respondents Who Have Leased
By Gender



More women than men in the sample actually lease cars, but men believe they possess greater knowledge about how it works.

2.3 MILEAGE-BASED PROGRAM INTEREST

The interviewers described the mileage-based program concept and asked drivers about their potential interest in this alternative pricing concept. The program was described as follows:

> *One of Mn/DOT's core values is to continuously seek more effective and efficient ways to deliver services, including ways of managing congestion. Mn/DOT is interested in learning whether the way Minnesotans pay for their cars could influence the usage of cars on our highways.*
>
> *There are lots of costs involved with having a car. First of all, there's getting the car in the first place, whether by outright purchase with cash, financing, or a lease. Then, there's insurance, fuel, maintenance, repairs, and registration.*
>
> *As we ask you the next series of questions, we want you to focus only on the cost of getting the car to begin with – the purchase or lease. Now I am going to ask you about a new way to pay for a car.*

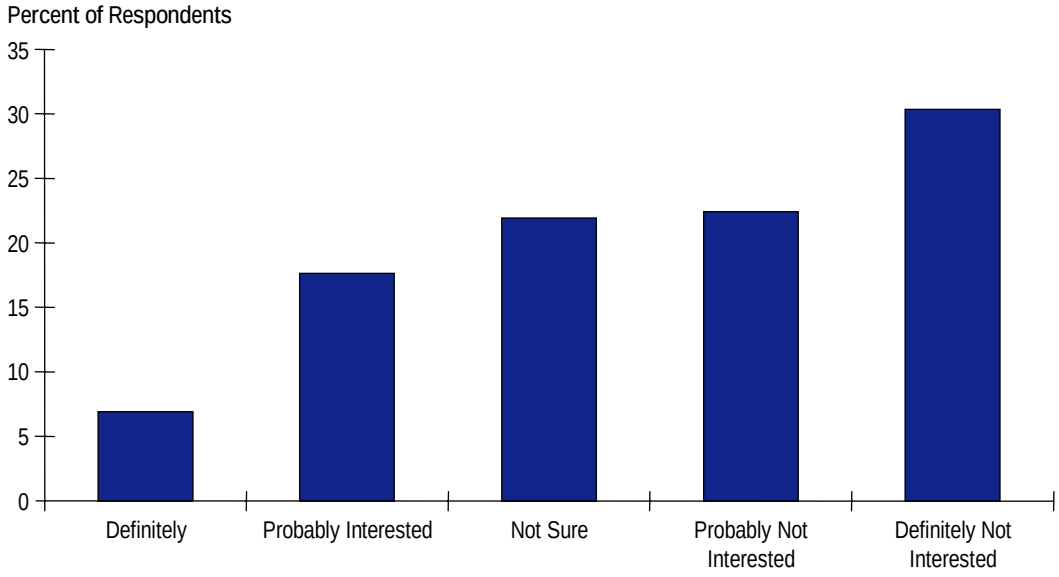
With this idea, you would pay a down payment when you get the car, then pay monthly charges. Part of the monthly charge would be fixed at a much lower cost than a typical lease or loan payment, while some would be based on how much you actually drove that month. The arrangement with the dealer would be similar to a lease.

Your mileage would be monitored with an electronic device installed in the vehicle. At the end of each month you would get a bill for both the fixed amount and the amount based on your mileage. The bills would be similar to some electric and phone company bills.

If you drove less you would pay less, and if you drove more you would pay more.

As shown in Figure 2.13, one-quarter of the respondents said that they might be interested, whereas over half were clearly not interested.

Figure 2.13 Interest in a Mileage-Based Program



When the survey respondents were asked an open-ended question about what they liked the best about the concept, the most common responses were related to the generic idea that people would only pay for the miles they drove (125 respondents, or 31 percent), shown in Table 2.8. Fifteen percent of the respondents said that they, themselves, would save money with the program, but, a significant proportion (111 respondents, or 28 percent) responded that there was nothing at all that they liked about the mileage-based concept.

When the respondents were asked what they liked the least about the program, results shown in Table 2.9, the three most commonly cited problems were the uncertainty of the monthly payment amounts, the level of monitoring to which they would be exposed, and the fact that the program would be a lease program. Six percent of the respondents did not see anything at all wrong with the program as described. A number of the aspects of the program that were identified as the primary strengths of the program by some respondents were identified as the primary weakness of the program by other respondents.

Table 2.8 What Respondents Like MOST about the Concept

	Frequency	Percent
You pay for the miles you use/Pay as you go	125	31
Nothing at all	111	28
Would save the respondent money	62	15
Would save others (not respondent) money	25	6
It is a fairer or more equitable approach	20	5
Would reduce amount of driving/congestion/pollution	16	4
Would reduce the up-front cost of acquiring a vehicle	7	2
Monitoring would help them track/control driving	6	1
Like the idea having a new option available	6	1
Could get a new car every few years	5	1
It is a new and innovative idea	3	1
Don't know/No answer	15	4

Table 2.9 What Respondents Like LEAST about the Concept

	Frequency	Percent
Uncertainty of monthly payment amount	80	20
Uncomfortable with the level of monitoring and government intrusion	68	17
Program requires leasing of vehicles, rather than purchase	60	15
Program requires ongoing monthly payments	35	9
Would cost the respondent more money	32	8
Nothing at all	25	6
Would cost others (nonrespondent) more money	13	3
Not realistic	11	3
Not enough information provided	7	2
High level of commitment required of participants	6	2
Not relevant/Does not address a need	5	1
Generally negative about program as a whole	4	1
Program encourages reduction in driving	3	1
Requires a down payment to be made	3	1
Program is less fair	2	0
No correction for out-of-state mileage	1	0
Don't know/No answer	46	11

Note: Response categories in Tables 2.8 and 2.9 were derived from open-ended responses.

The initial concept rating and open-ended descriptions of the strengths and weaknesses of the program make it clear that the mileage-based program has appeal to a small segment of the population, but is considered negatively by many other residents of the Twin Cities.

Based on tests of the statistical relationship between the concept ratings and other survey variables, the drivers who were most receptive to the concept of mileage-based pricing were more likely to have personal experience leasing a car and, to a lesser extent, claim knowledge about leasing.

Those respondents who had a post graduate education were more likely to view the concept favorably, while those with high school or technical school education were significantly more likely to view the concept quite negatively.

Furthermore, respondents who were receptive to this program concept were twice as likely to say they were willing to be contacted for a follow-up mail questionnaire, see Table 2.10. This has implications for the findings of the stated-preference survey.

Table 2.10 Interest in a Mileage-Based Program Concept

Respondent Type	Definitely or Probably Interested in Mileage-Based Program	Definitely or Probably Not Interested or Not Sure
Currently lease a vehicle	50.0%	22.5%
Knowledgeable about leasing	32.8%	23.4%
Willing to answer additional questions	32.4%	15.7%

Drivers' responses regarding certain attitudes also help us to understand their views on the mileage-based concept.

The most significant relationships support the findings of the open-ended response evaluations. Those respondents that had a high level of agreement (ratings of 8 to 10) with the statement, ***"Leasing is an expensive way to get a car"*** were significantly more negative than respondents who rated their agreement level with this statement seven or below.

Similarly, those that had a high level of agreement with the statement, ***"I don't like the idea that somebody could be monitoring my daily habits"*** were significantly more negative about the concept than those that rated their level of agreement lower.

Statistically significant relationships were also found between respondents' initial concept assessment and their level of agreement with the statement, ***"I actively think about ways to reduce my auto operating and ownership costs."*** For this attitudinal statement, respondents with higher agreement levels were more likely to rate the concept either in the best or worst category, as opposed to intermediate categories.

Those who strongly disagreed with the statement, ***"I feel comfortable using personal computers"*** rated the concept much lower than others. Almost two-thirds of those who rated their computer comfort level as 0, 1, or 2 also rated the concept in the lowest category. A similar pattern emerged with the statement, ***"I don't mind complicated transactions if they save me money,"*** where more than half of the respondents who strongly disagreed rate the concept in the lowest interest level category.

2.4 INTENTIONS REGARDING NEXT VEHICLE

2.4.1 Follow-Up Mail Survey

A follow-up stated-preference mail survey was administered to further quantify the market for the pay-as-you-drive concept. The last part of the market assessment survey was used to learn about respondents' intentions regarding the purchase or lease of drivers' next vehicles. In all, 207 of the 401 respondents (52 percent) in the original telephone survey agreed to be sent the follow-up survey. The drivers who were most likely to agree to participate in the mail survey were those with an interest in a mileage-based program and/or personal knowledge of vehicle leasing, as shown in Table 2.11.

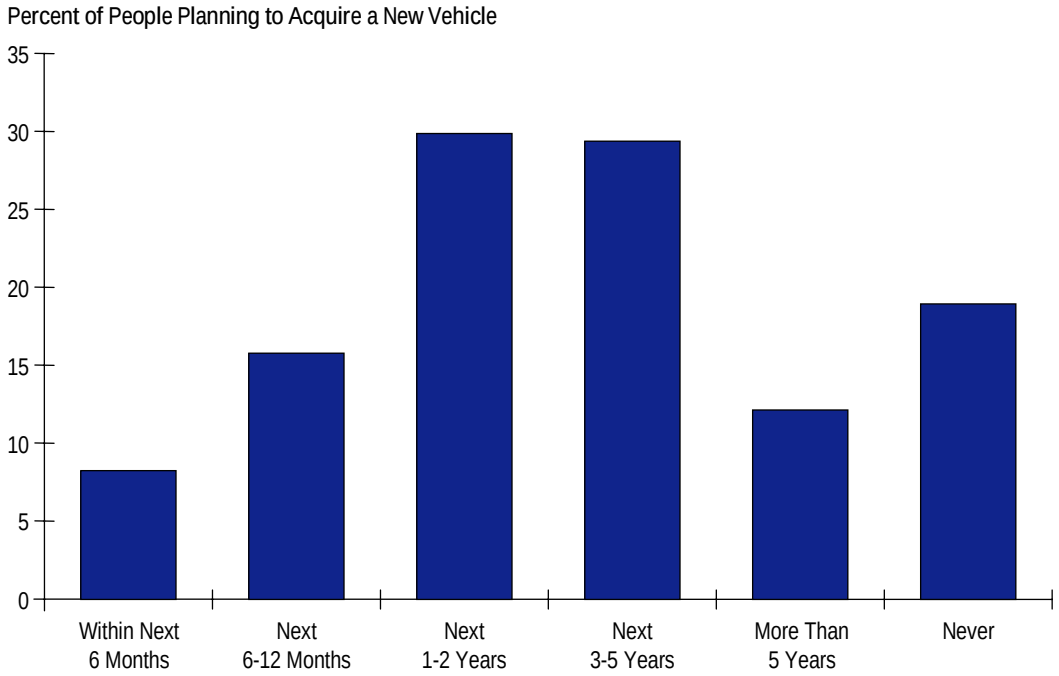
Table 2.11 Willingness to Participate in Follow-Up Survey

Respondent Attributes	Percent Willing
Strong interest in mileage-based program	67.7%
Currently lease a vehicle	65.6%
Knowledgeable about leasing	56.4%

2.4.2 Timing of Next Vehicle Acquisition

As shown in Figure 2.14, 85 percent of the drivers agreeing to the follow-up survey said they are planning to acquire their next vehicle within the next five years, and nearly a quarter are planning to do so within the next 12 months.

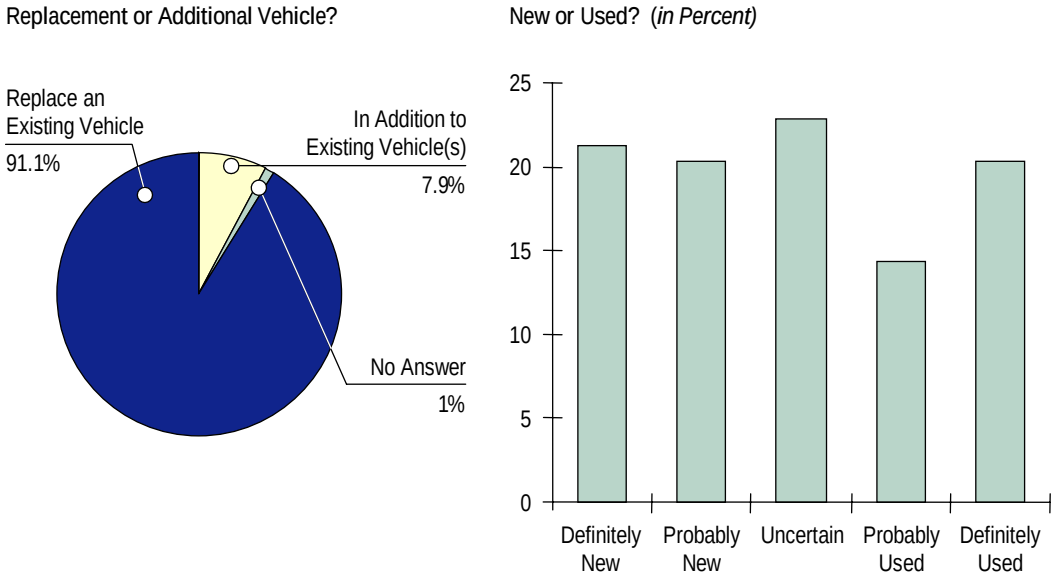
Figure 2.14 Timing of Purchase/Lease of Next Vehicle



2.4.3 Replace Existing Vehicle?

The vast majority of respondents, 91 percent, who indicated an upcoming vehicle acquisition, noted that these next vehicles will replace one that is currently in use. Survey respondents are about evenly divided as to whether this next vehicle will be new or used, as illustrated in Figure 2.15. This breakout between acquiring a new versus a used vehicle is about the same as for vehicles that are currently in use. Roughly half of the respondents in the initial telephone survey said that they acquired their current vehicle new and half acquired it used.

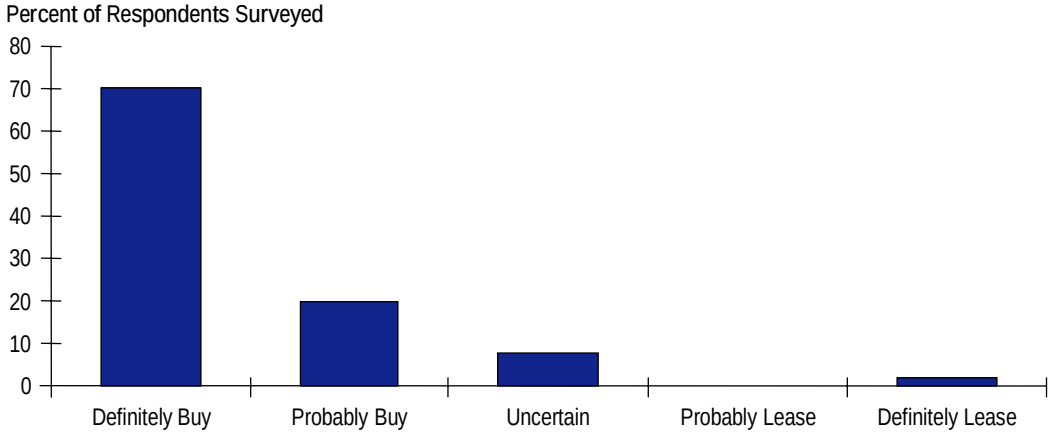
Figure 2.15 Plans Regarding Next Vehicle Acquisition



2.4.4 Purchase or Lease?

Over 90 percent of the drivers surveyed said they intend to purchase their next vehicle, and only 2 percent are planning to lease their next vehicle, see Figure 2.16. (As described in Section 3.0, it is drivers who are planning to lease in the future who are most interested in the mileage-based program concept.)

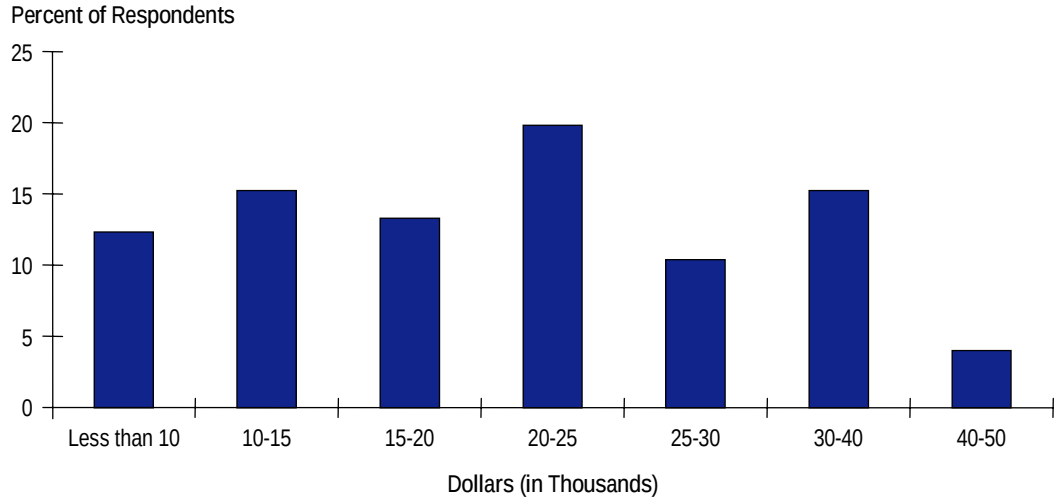
Figure 2.16 Purchase or Lease Next Vehicle



2.4.5 Expected Cost of Next Vehicle

Drivers were asked how much they expect to spend on their next automobile. As shown in Figure 2.17, half of the respondents said they expect to spend over $20,000 on the purchase of their next vehicle. This is a sizable sum considering that roughly half of them also said that they are planning to purchase their next vehicle used.

Figure 2.17 Anticipated Price of Next Vehicle

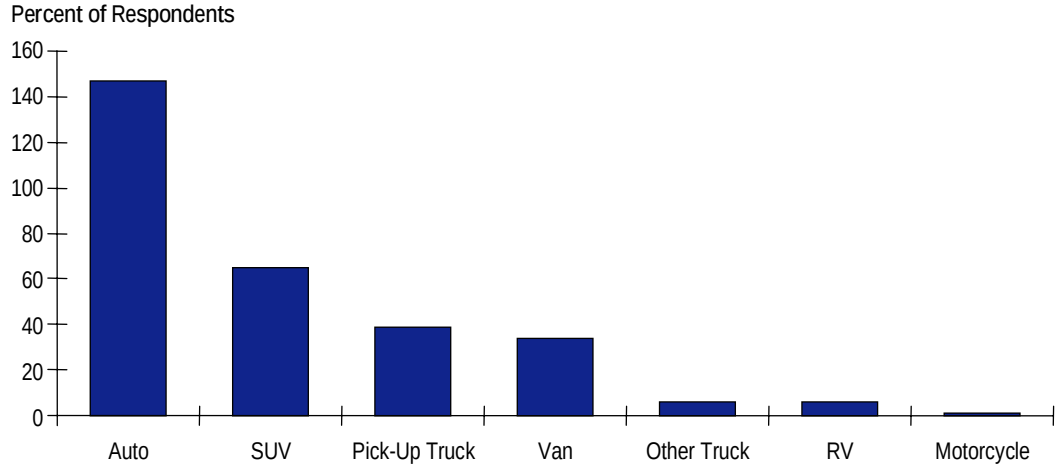


2.4.6 Preferred Vehicle Body Type

Drivers were asked about the vehicle body types that they would consider when they acquired their next vehicle. The automobile remains a favorite, selected by 73 percent of the survey respondents and 22 percent would consider an SUV for their next vehicle (see Figure 2.18).[1] News reports since this survey was administered indicate that sales of larger SUVs are declining.

[1] Multiple responses were accepted for this question so that the 202 respondents reported a total of 298 vehicle body types.

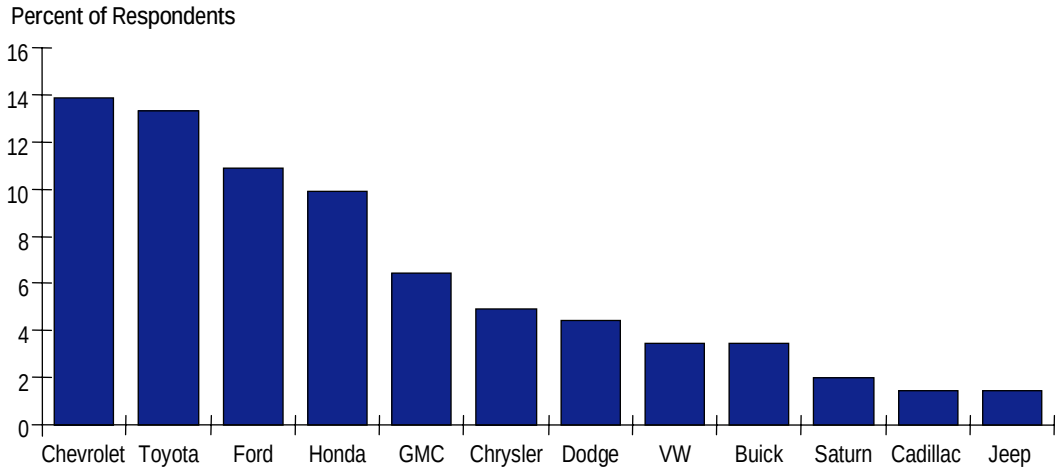
Figure 2.18 Vehicle Body Types Considered for Next Vehicle Acquisition
n=298



2.4.7 Preferred Vehicle Manufacturers

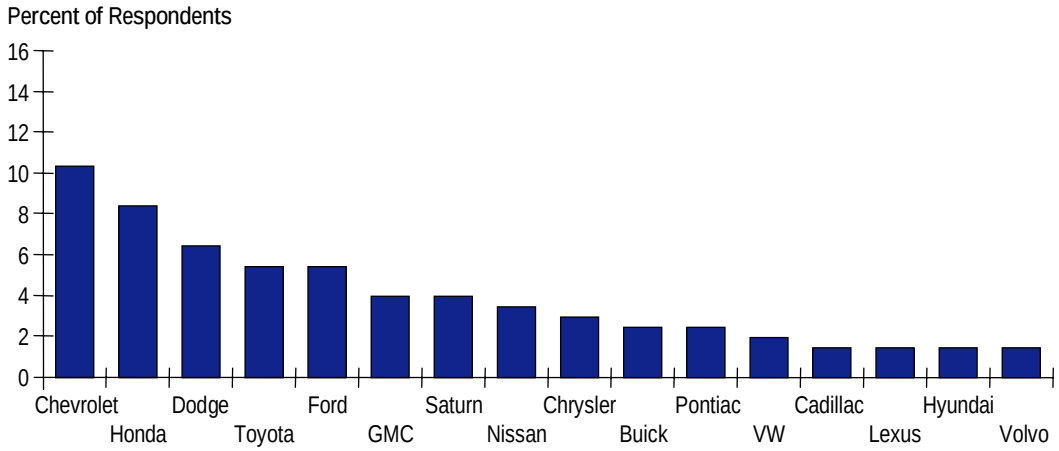
Drivers in the survey identified a total of 25 manufacturers that would be their first choice for their next vehicle (see Figure 2.19 for the top 12 responses). The top four manufacturers collectively represent nearly half of the manufacturers selected by survey respondents – Chevrolet, Toyota, Ford, and Honda.

Figure 2.19 Vehicle Manufacturers Considered
First Choice



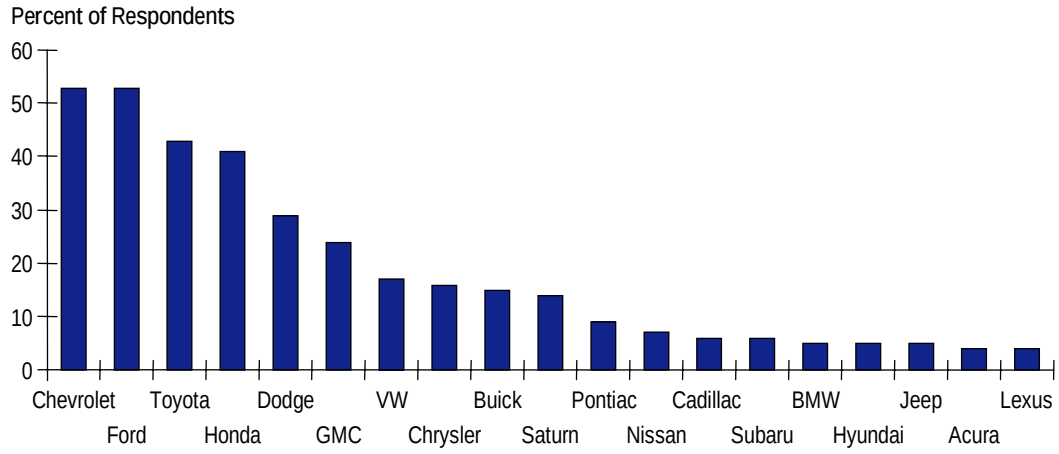
For second choice of manufacturer, there was less concentration among the top contenders, as indicated in Figure 2.20. In this case, the top nine manufacturers collectively represent half of the choices, with a strong showing again for Chevrolet.

Figure 2.20 Vehicle Manufacturers Considered
Second Choice



In a separate survey question, drivers were asked to identify *all* of the manufacturers they would consider for the next car they acquire, results are provided in Figure 2.21.

Figure 2.21 All Vehicle Manufacturers Considered



3.0 Lease Over-Sample Survey

The original survey sample was expected to be comprised largely of drivers who own rather than lease their automobiles, which is what is found in the larger population in the metro area. However, during the qualitative phase of the study, it was found that vehicle leasers were considerably more interested in the mileage-based program concept than vehicle owners. Consequently, a second sample of 100 drivers was drawn, screening for individuals who had personal experience (either current experience or past experience) with vehicle leasing. In many ways the drivers in the second group, which is referred to here as the *lease over-sample group* were found to be very much like the original sample. This section, along with Table 3.1, describes how the two samples are alike and where they differ.

Table 3.1 Comparison of Findings from Two Survey Samples

Respondent Attributes		Original Sample	Lease Over-Sample
#1	Interest in mileage-based program	25%	30%
#2	Possess a good understanding of leasing	15%	38%
#3	Average household income	$64,200	$74,020
#4	Self-employed	12%	17%
#5	Vehicles in household were driven more than 100 miles in last 7 days	62%	71%
#6	Miles that the primary vehicle was driven in the last 12 months	13,882	15,214
#7	Primary vehicle is leased	3%	19%
#8	Primary vehicle was acquired new	51%	63%
#9	Model year of primary vehicle	1998	2000
#10	Would consider an SUV for next vehicle	32%	44%
#11	Would consider a pick-up truck for next vehicle	19%	26%

3.1 RESPONDENT CHARACTERISTICS

Both survey groups are fairly similar in terms of education, household size, and number of vehicles. The lease over-sample group has a slightly higher percentage of self employed people, and an average household income of $74,020 as compared to $64,200 for the original sample. The average age and educational achievement of respondents is about the same in the two surveys.

Drivers in the lease over-sample were more likely to have acquired their primary vehicle new rather than used, and the average model year for this vehicle is 2000, compared to 1998 for the original survey sample. The primary vehicle in the

lease over-sample group was more likely to be leased rather than owned as we would expect. The vehicle that is used the second most was found to be older in both samples – it was a 1996 model in the original sample and a 1998 model in the lease over-sample. The second vehicle used by the household was more likely to have been acquired new for the lease over-sample group (61 percent) than for the original group (45 percent).

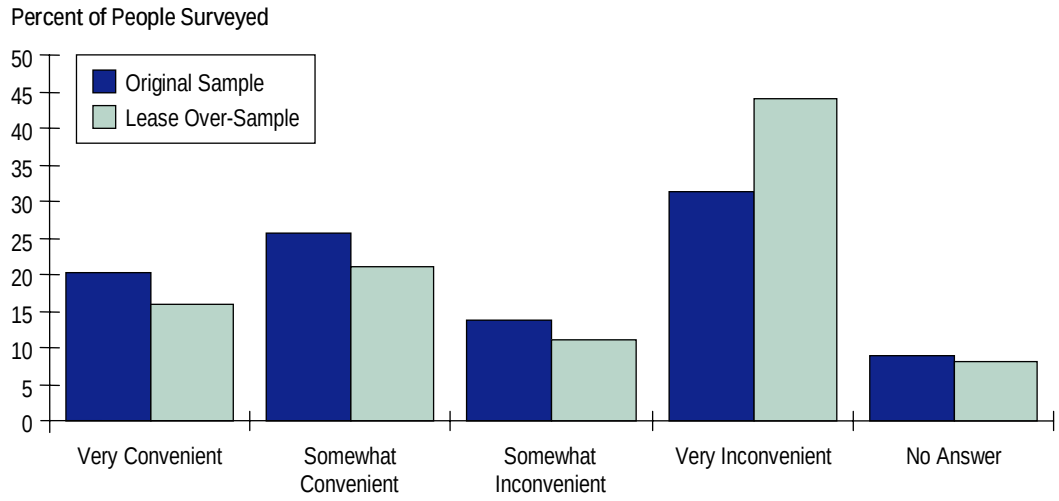
The lease over-sample group had more miles driven on their vehicles during the last 12 months, although fewer miles during the afternoon rush hour, as indicated in Table 3.2. This is perhaps due in part to the greater number of self-employed people in the lease over-sample group.

Table 3.2 Average Miles Driven on Vehicle Most Frequently Used

Time Interval	Original Sample	Lease Over-Sample
Last 12 months	13,882	15,214
Typical weekday 3:00-6:00 p.m.	19.4	17.3

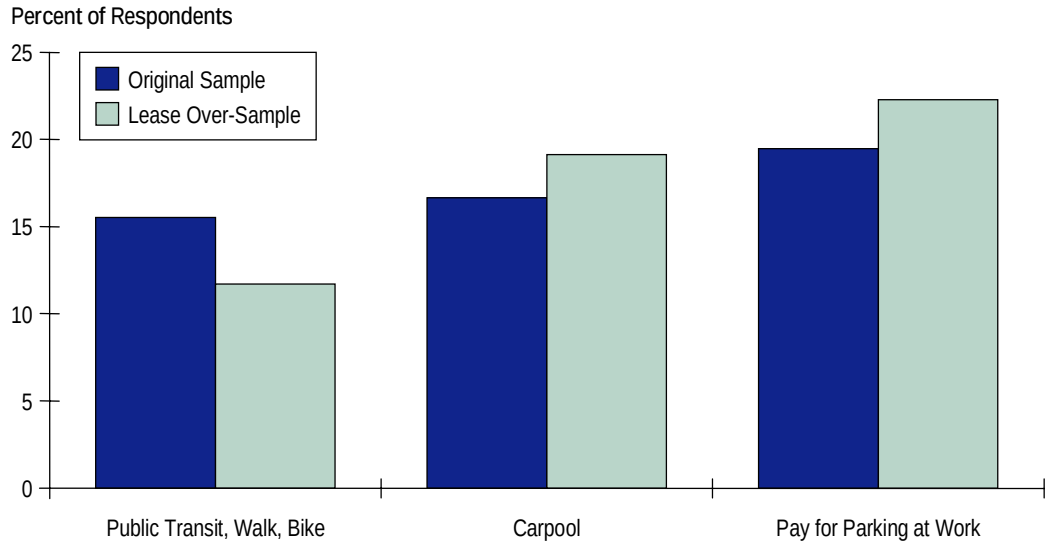
Public transportation would appear to be somewhat more convenient to people in the original sample, see Figure 3.1. Specifically, 37 percent of the drivers in the lease over-sample group said that public transit is either very convenient or somewhat convenient for them, compared with 46 percent in the original survey group.

Figure 3.1 Convenience of Public Transit



Respondents in both samples typically commute to work by car, with drivers in the lease over-sample just slightly more likely to carpool and somewhat less likely to take public transportation, walk, or bike to work, as shown in Figure 3.2.

Figure 3.2 Mode of Commuting to Work



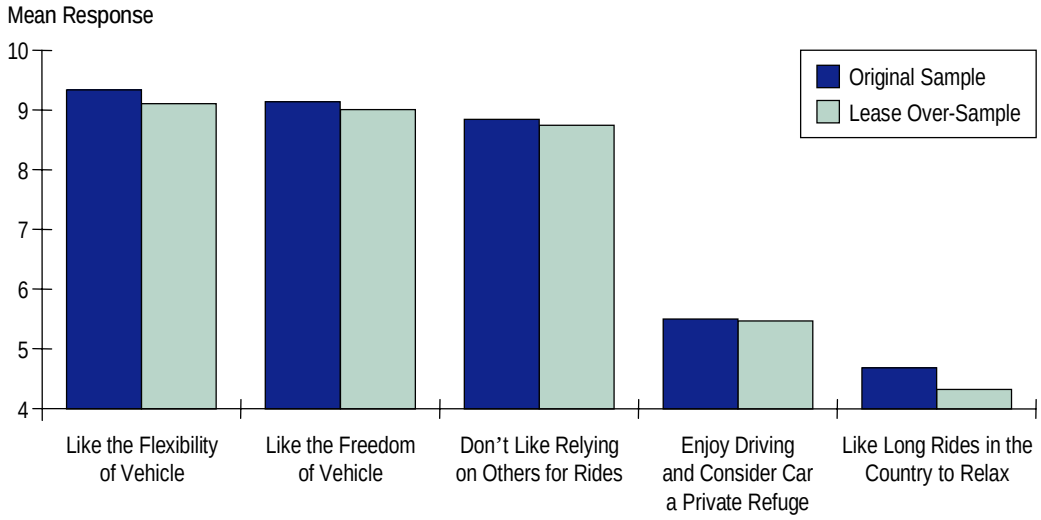
3.2 KNOWLEDGE AND ATTITUDES

Survey respondents in the lease over-sample group have roughly similar attitudes and knowledge as the original survey group about driving. Key similarities and differences are described below.

3.2.1 Driving Attitudes and Behavior

As shown in Figure 3.3, drivers in both samples were clear that they liked the flexibility and freedom that a personal automobile offers them, and neither group likes relying on others for rides.

Figure 3.3 Respondent Attitudes about Driving
On a Scale of 1-10



Respondents in the two groups are remarkably similar in terms of their vehicle needs and driving behavior, as indicated in Table 3.3.

Table 3.3 Vehicle Needs and Driver Behavior

	Mean Score (Scale: 1-10)	
	Original Sample	Lease Over-Sample
Driving patterns are pretty close to the same week to week	8.5	8.1
I generally try to avoid unnecessary driving	7.6	7.2
I want to drive whenever and wherever desired without considering cost	7.4	7.6
I need to drive to different destinations as part of my busy schedule	6.6	6.9
I actively think about ways to reduce cost of owning and operating a vehicle	6.0	6.3

3.2.2 Environmental Considerations

Survey respondents in the two groups had nearly identical responses to questions about environmental considerations. Table 3.4 illustrates the similarities.

Table 3.4 Environmental Considerations

	Mean Score (Scale: 1-10)	
	Original Sample	Lease Over-Sample
I like driving cars with good gas mileage to help the environment	8.0	8.1
People should rideshare, take transit, walk, or bicycle whenever possible	7.5	7.3
Fuel economy was an important factor in choosing car	6.9	6.7
I am willing to pay more for products that are environmentally friendly	6.6	6.1
I go out of the way to buy environmentally friendly products	6.3	6.2
I like driving SUVs	4.4	4.4

3.2.3 Image

Image statements in the surveys yielded fairly low mean scores for both survey groups. Drivers in the lease over-sample were somewhat more likely to report that they enjoy a new car every few years, and that the choice of vehicle reflects one's lifestyle (Table 3.5).

Table 3.5 Driver Image Statements

	Mean Score (Scale: 1-10)	
	Original Sample	Lease Over-Sample
I enjoy a new car every few years	5.0	5.9
I enjoy driving SUVs	4.4	4.4
A car reflects a person's lifestyle	4.2	5.4

3.2.4 Financial Considerations

Both survey groups had similar responses to questions about the financial and economic issues that surround vehicle ownership, as indicated in Table 3.6.

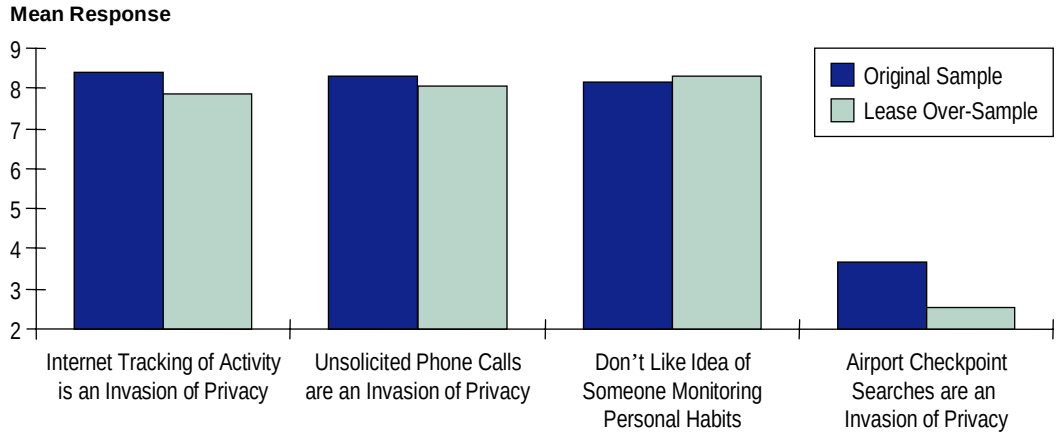
Table 3.6 Financial and Economic Considerations

	Mean Score (Scale: 1-10)	
	Original Sample	Lease Over-Sample
Maintenance and reliability are important aspects of a car's value	9.0	8.8
When financing a purchase I always try to make the largest down payment possible	8.0	7.4
Try to look at least 5 years into the future when making plans	7.0	7.3
Don't mind complicated transactions if they save me money	6.8	6.2
Prefer to pay same amount each month for telephone or electric service	6.6	6.4

3.2.5 Privacy Issues

Drivers in both samples clearly value their privacy, see Figure 3.4, which can present a challenge for a mileage-based program that must track usage in some way or another.

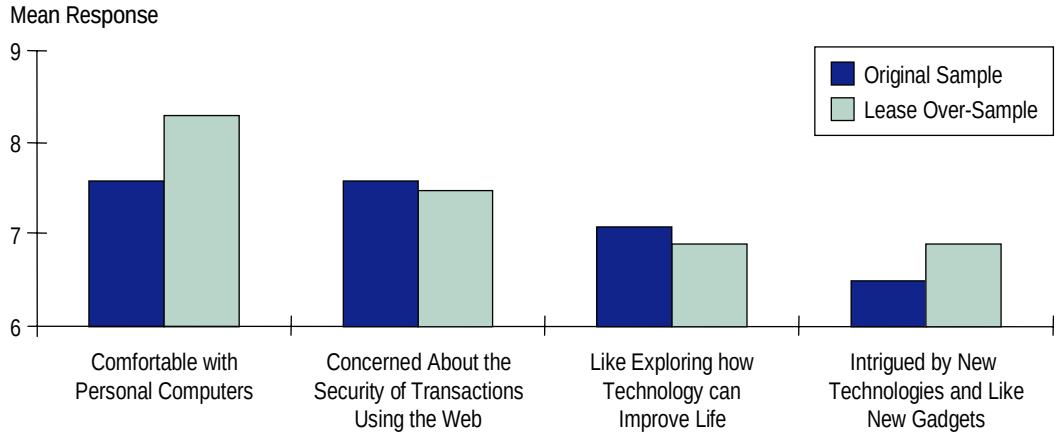
Figure 3.4 Respondent Attitudes Regarding Privacy
On a Scale of 1-10



3.2.6 Comfort with Technology

As shown in Figure 3.5, the drivers in the lease over-sample are somewhat more comfortable with personal computers and slightly more intrigued by new technologies than drivers in the original sample.

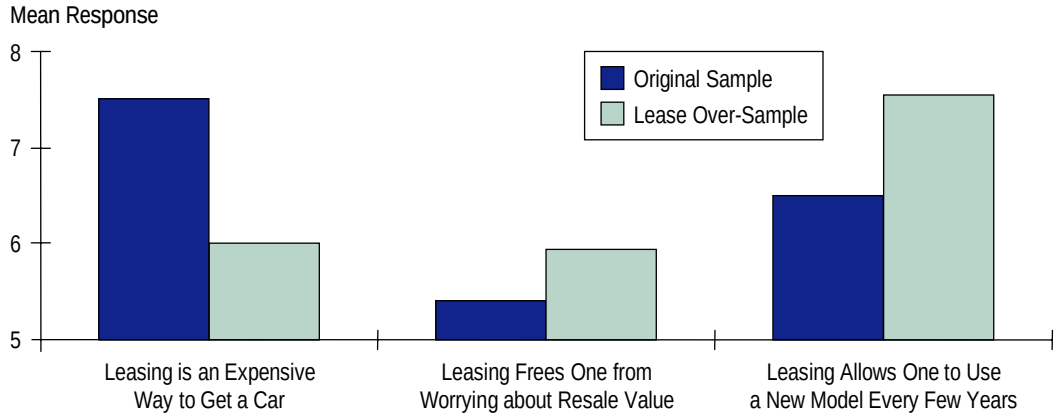
Figure 3.5 Respondents Attitudes about Technology
On a Scale of 1-10



3.2.7 Perceptions Regarding Leasing

Drivers in the over-lease sample were more receptive to the advantages of leasing (see Figure 3.6), which is no surprise since this group is comprised of individuals who possess personal experience with leasing.

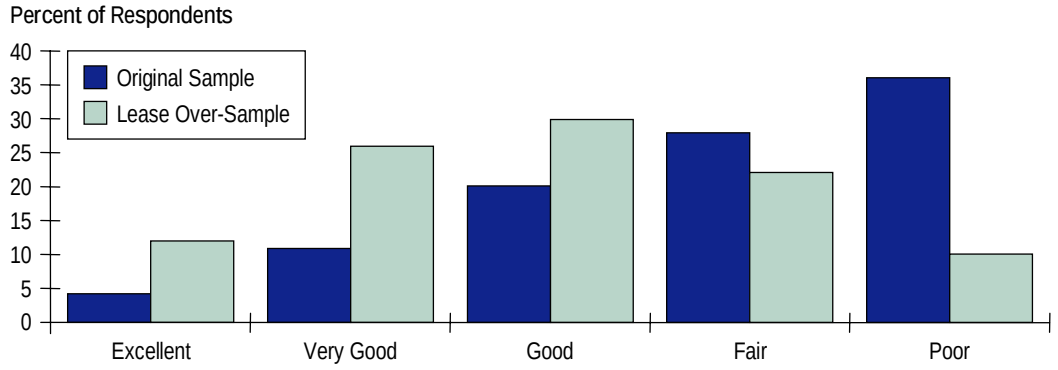
Figure 3.6 Respondent Attitudes about Leasing
On a Scale of 1-10



3.2.8 Level of Knowledge Associated with Acquiring and Operating Vehicles

As illustrated in Figure 3.7, more respondents in the lease over-sample group believe they are knowledgeable about leasing. Drivers in the two groups did not significantly differ in terms of their personal knowledge of purchasing, owning, and operating a vehicle.

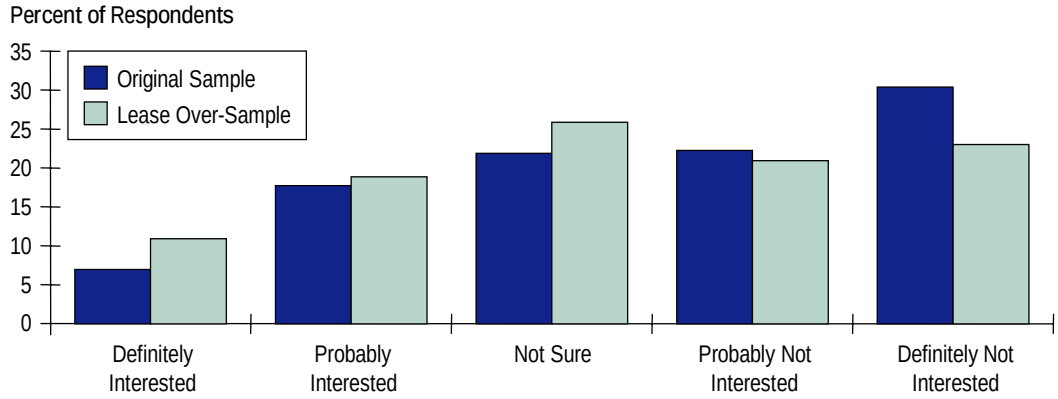
Figure 3.7 Knowledge about Vehicle Leasing



3.3 INTEREST IN MILEAGE-BASED LEASES

Slightly more drivers in the over-lease sample expressed an interest in the mileage-based program concept, with 30 percent saying they were definitely interested or probably interested, as compared with 25 percent in the original group. These results are illustrated in Figure 3.8.

Figure 3.8 Interest in a Mileage-Based Lease



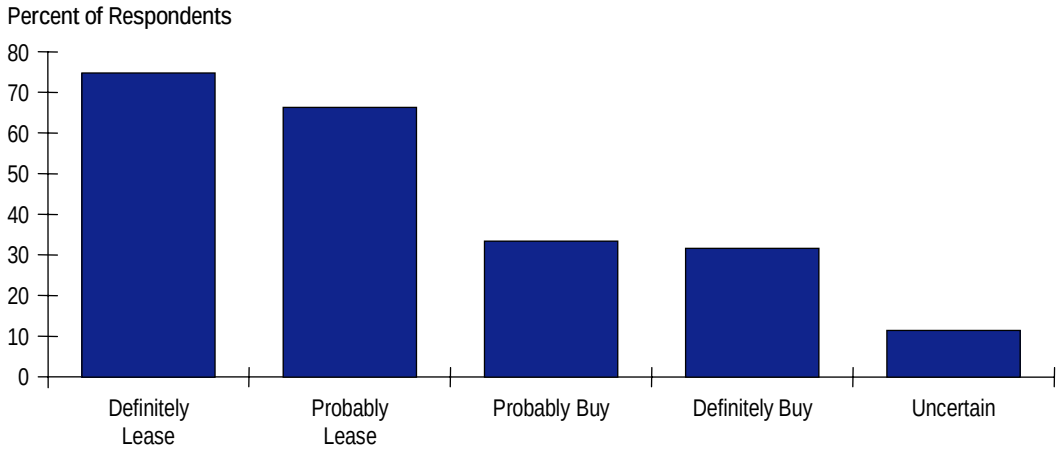
Program interest was not found to be strongly related to any demographic characteristics or attitudinal variables, with one exception (see Figure 3.9). Drivers who said they are planning to lease their next vehicle were far more likely to be receptive to the mileage-based program concept.

Figure 3.9 Interest in Mileage-Based Lease by Survey Variable

	Correlation		
Survey Variables	Strong	Modest	None
Intention to Lease Next Vehicle	●		
Age of Respondent		●	
Occupation		●	
Knowledge of Vehicle Leasing		●	
Educational Attainment			●
Household Income			●

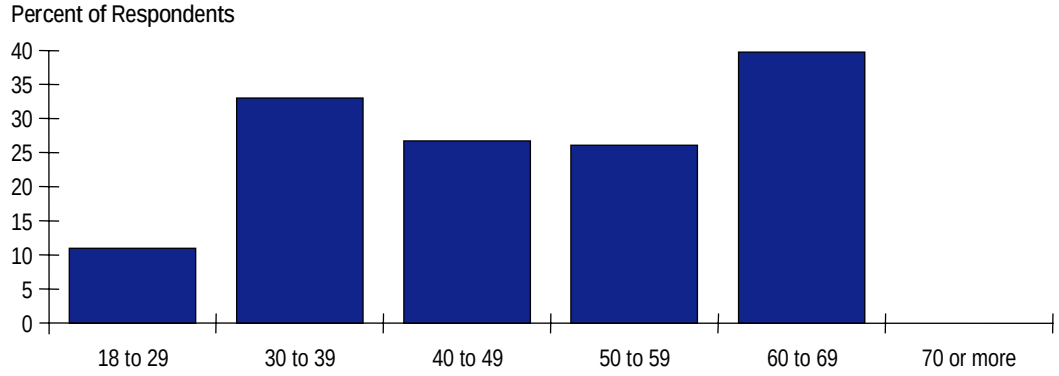
Drivers in the sample who intend to lease rather than purchase their next vehicle were far more likely to like the mileage-based program concept (See Figure 3.10). However, the sample of drivers who are planning to lease is small and conclusions should be considered tentative in nature.

Figure 3.10 Interest in Mileage-Based Lease by Intention to Lease Next Vehicle



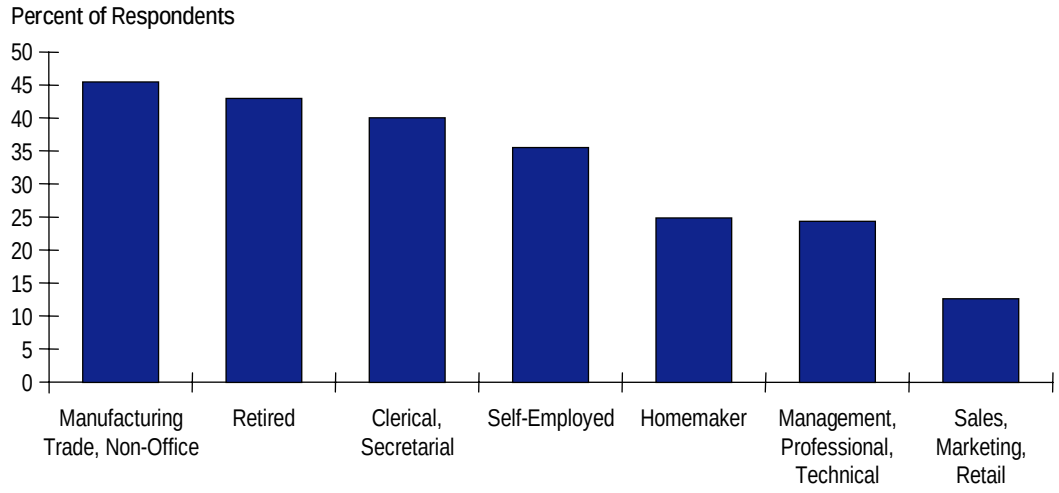
Interest in the program concept is strongest for drivers in the 30-69 age range, with a bit of a trough in the middle of that range (see Figure 3.11).

Figure 3.11 Program Interest by Respondent Age



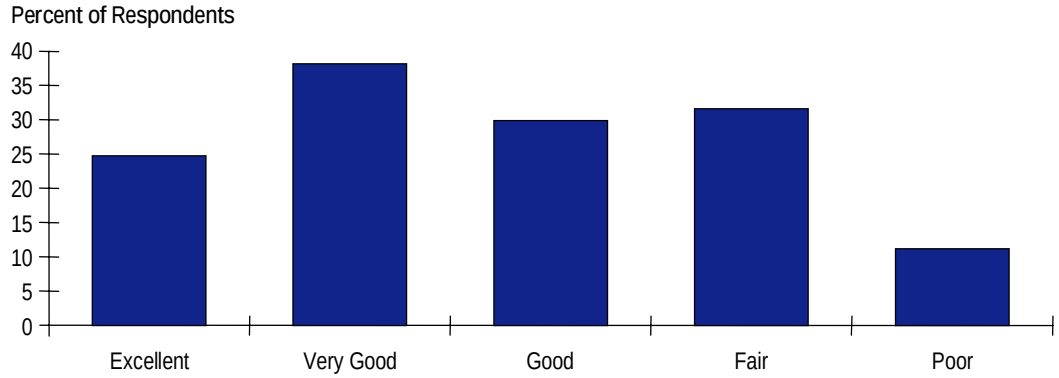
The mileage-based lease concept seems to appeal to people in some occupations more than others, as shown in Figure 3.12, but there are contradictions and circumstances that limit the reliability of these survey results. For example, retired people appear to be more interested in the program concept than other groups, but we also know that respondents over the age of 70 are completely uninterested. The categories on the fringe of the distribution (manufacturing and sales) have particularly small sample sizes, and do not yield definitive conclusions.

Figure 3.12 Mileage-Based Lease Interest by Occupation



There is no strong relationship between program interest and knowledge of vehicle leasing. From this sample, however, it appears that drivers who are the least receptive to the program concept are those who judge their knowledge of vehicle leasing to be poor (see Figure 3.13). These drivers probably do not consider themselves equipped to enter into this kind of program.

Figure 3.13 Mileage-Based Lease Interest by Knowledge of Leasing



3.4 INTENTIONS REGARDING NEXT VEHICLE

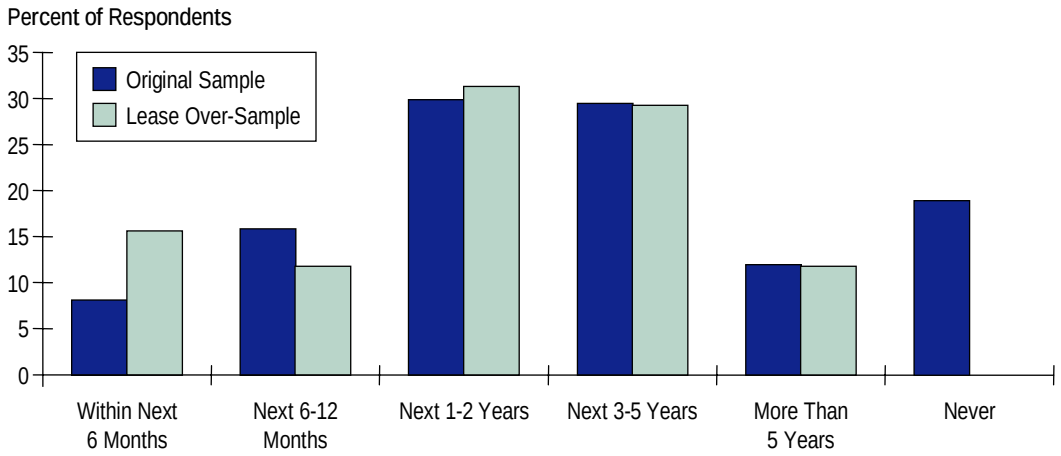
The follow-up mail survey was administered to receptive respondents in the lease-over-sample. In all, 51 of the 100 respondents in the telephone survey from the lease over-sample group agreed to participate in the follow-up survey.

3.4.1 Timing of Next Vehicle Acquisition

Drivers in the original sample and the lease over-sample group were similar in terms of the timing in which they planned to acquire their next vehicle. As shown in Figure 3.14, 54 percent of the drivers in the original sample, and

59 percent in the lease over-sample group, plan to acquire a vehicle within the next two years.

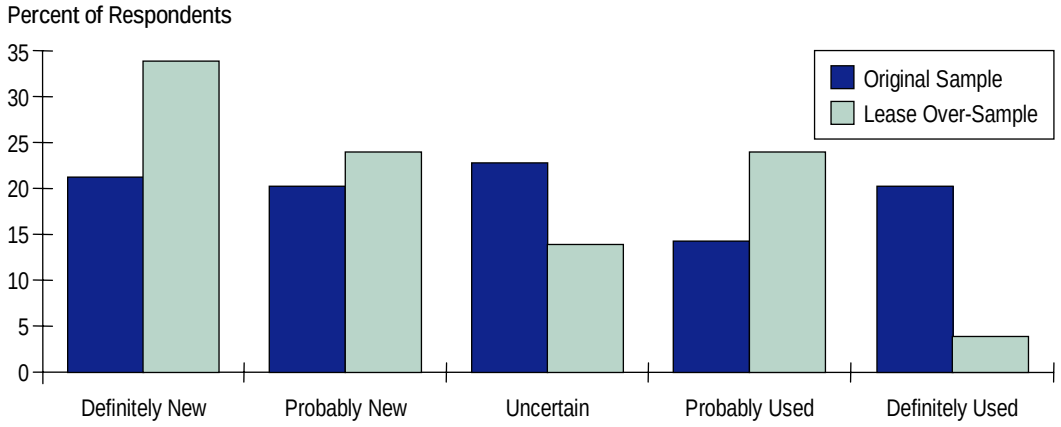
Figure 3.14 Timing of Purchase/Lease of Next Vehicle



3.4.2 Replace Existing Vehicle?

The purpose of acquiring this next vehicle was to replace an existing one in over 90 percent of the cases (both samples). However, 42 percent of the drivers in the original sample plan to acquire this next vehicle new, versus 58 percent in the lease over-sample who plan to get a new automobile (see Figure 3.15).

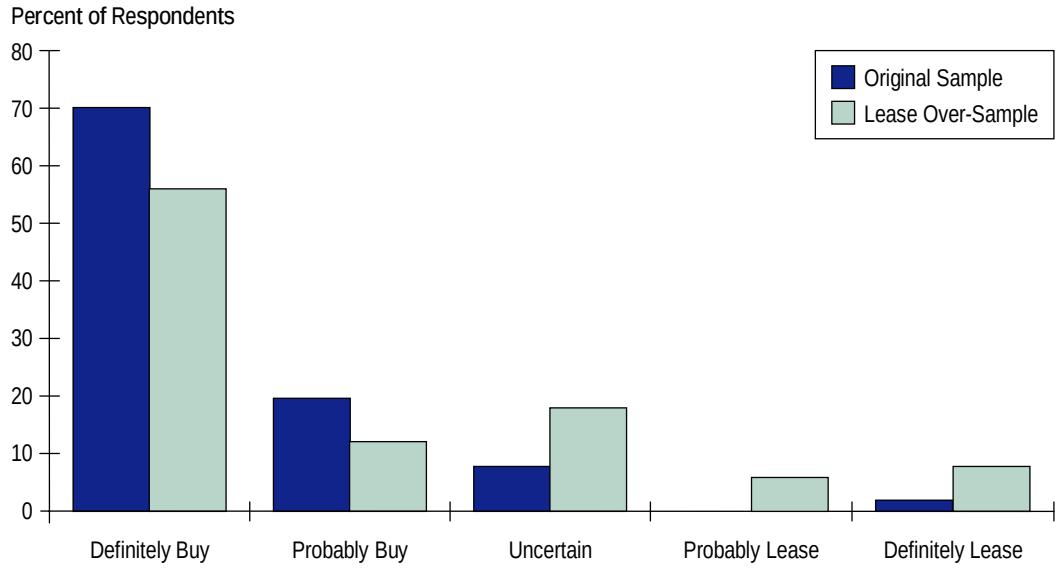
Figure 3.15 New or Used Vehicle?



3.4.3 Purchase or Lease?

More of the drivers in the lease over-sample group than the original sample said they were planning to lease rather than purchase their next vehicle. Nonetheless, 68 percent of the drivers in the over-sample group were still planning to purchase, as compared to 90 percent in the original group (see Figure 3.16).

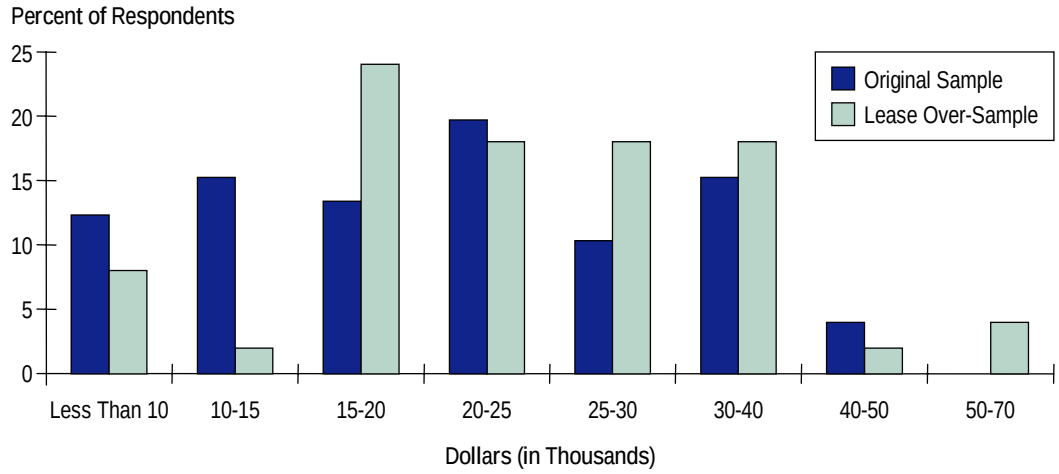
Figure 3.16 Purchase or Lease Next Vehicle?



3.4.4 Expected Cost of Next Vehicle

As shown in Figure 3.17, drivers in the lease over-sample are planning to spend somewhat more money on their next vehicle than drivers in the original sample. This may be in part because of their slightly higher income level. Half of the drivers in the original sample are planning to spend at least $20,000 on this next vehicle, compared to 60 percent in the over-sample planning to spend at least this amount.

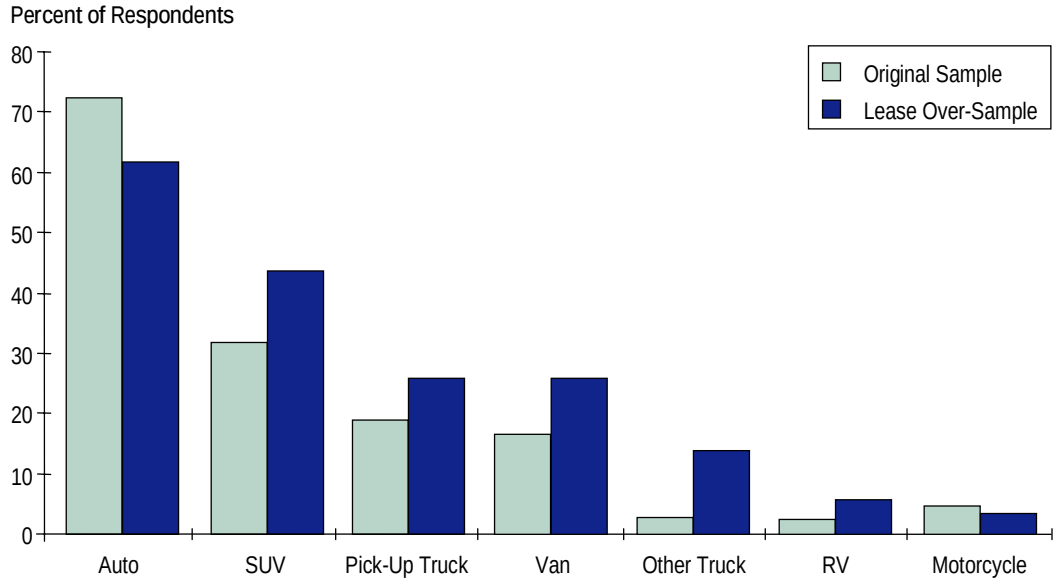
Figure 3.17 Anticipated Price of Next Vehicle



3.4.5 Preferred Vehicle Body Type

Drivers were asked to identify the body types they would consider when they acquired their next vehicle (see Figure 3.18). Although automobiles remain the favorite in both samples, people in the lease over-sample group were more likely to have said that they would consider an SUV, van or truck than drivers in the original sample.

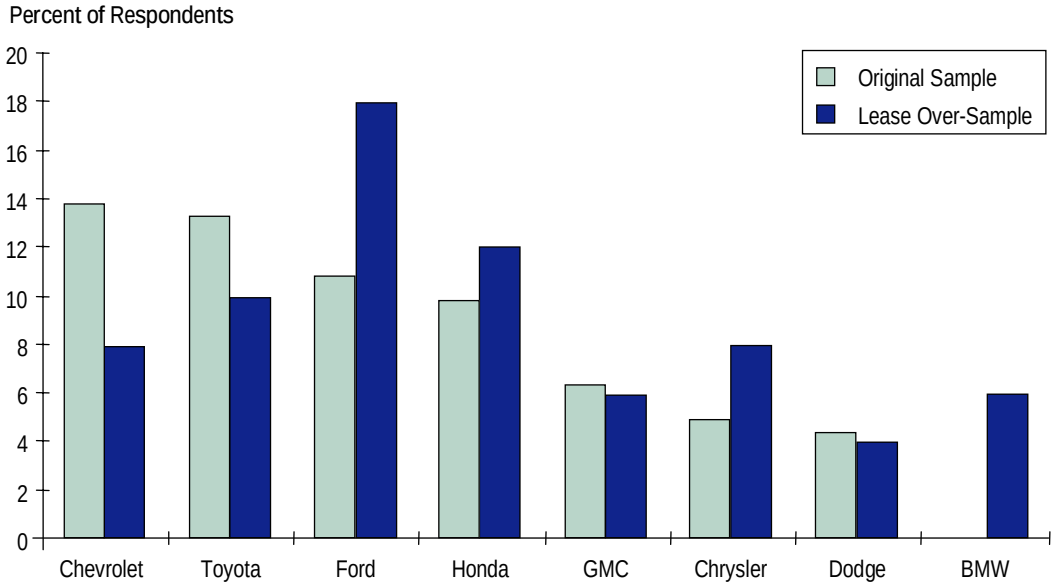
Figure 3.18 Vehicle Body Types Considered



3.4.6 Preferred Vehicle Manufacturers

Drivers in both samples favored popular American and Japanese vehicles, with some differences noted in Figure 3.19. Those in the over-sample were more likely to favor SUVs and trucks, and they tended to prefer Ford over Chevrolet. There was also greater interest in BMW and Chrysler models in the lease over-sample group.

Figure 3.19 Vehicle Manufacturers Considered
First Choice



3.5 CONCLUSIONS

The market survey explored the feasibility of converting the fixed costs of personal auto ownership/leasing to variable through mileage-based charges. The key finding in this section is that the program concept has the greatest appeal to drivers in the Metro area who intend to lease rather than purchase their next vehicle. For many other drivers, the alternative pricing concept seems to challenge the prevailing notion that one's independence and well being are contingent upon unconstrained access to an automobile. Significant conclusions include:

- Three-quarters of the drivers who said they are definitely planning to lease their next vehicle also are interested in participating in a mileage-based program.
- Two-thirds of the drivers who say they will probably lease their next vehicle are interested in the concept.
- Overall, 25 percent of the original Metro area drivers surveyed said they were interested in a mileage-based program, and 30 percent of those in the lease over-sample group were interested.
- The vast majority of drivers own the vehicles they use and plan to purchase (not lease) their next vehicle. This means a program targeting leasers will not have a huge pool of candidates.

- The key challenge facing this concept is that most drivers want to go wherever they want, whenever they want, without worrying about the cost or having their activities monitored.
- Although drivers say they want to reduce the cost of owning and operating their vehicles, the fact remains that they are generally unwilling to change their habits to accomplish this.
- A mileage-based lease concept challenges the prevailing notion that one's independence is contingent upon unrestrained access to an automobile.

4.0 Stated-Preference Mail Survey

The respondents in the random sample and lease over-sample telephone surveys were asked whether they would be willing to participate in more research. Those respondents who said they would be willing to continue were asked a series of questions regarding their next vehicle acquisition. We then mailed each of them a customized mail survey based on their responses to the next vehicle acquisition questions. We re-contacted the respondents by telephone to collect the mail questionnaire responses.

4.1 MAIL SURVEY CONTENT

An example mail survey is provided in Appendix B. The mail packet included:

- A letter from Mn/DOT thanking the respondent for participating;
- A summary sheet showing the responses that they provided regarding their next vehicle acquisition;
- A series of questions focused primarily on how respondents would expect to react to vehicle acquisition and vehicle insurance tradeoff questions; and
- Customized descriptions of vehicle acquisition and vehicle insurance options for which the respondents completed the tradeoff exercises.

The mail survey was oriented around two sets of tradeoff exercises. In the vehicle acquisition tradeoff exercise, respondents were given a choice of three existing acquisition options (purchase the vehicle with cash, purchase the vehicle with financing, or lease the vehicle for a three-year term and a $500 down payment) and two mileage-based leasing options (one with higher fixed monthly cost and a lower mileage-variable cost or one with a lower fixed monthly cost and a higher mileage-variable cost).

For this experiment, we used the information provided by the respondent about their next vehicle (using default values where respondents did not provide information) along with public and private vehicle pricing guides[2] to calculate the purchase prices, loan payments, and lease payments. We approximated the expected mileage payments based on our analysis of the variable costs of auto ownership. We then varied the calculated costs, making some cost elements higher and some cost elements lower for the different alternatives according to a pre-established fractional factorial experimental design. So, the vehicle acquisition

[2] Examples include Edmunds web site for purchase price of new vehicles and dealer trade-in/retail for used vehicles, Automotive Lease Guide software to determine the loss in value over the lease term, and Bankrate web site to compute interest rates.

alternatives that respondents were asked to consider are reasonable variations of our best estimate of what might be offered for the particular vehicle that the respondent identified.

For the vehicle insurance experiment, respondents were asked to choose among a standard insurance option and two mileage-based options (one with higher fixed monthly cost and a lower mileage-variable cost or one with a lower fixed monthly cost and a higher mileage-variable cost). The costs were estimated based on currently available insurance information, and then varied in a similar way as for the other experiment.

The algorithm and assumptions used for the estimation of all cost elements are provided in Appendix C.

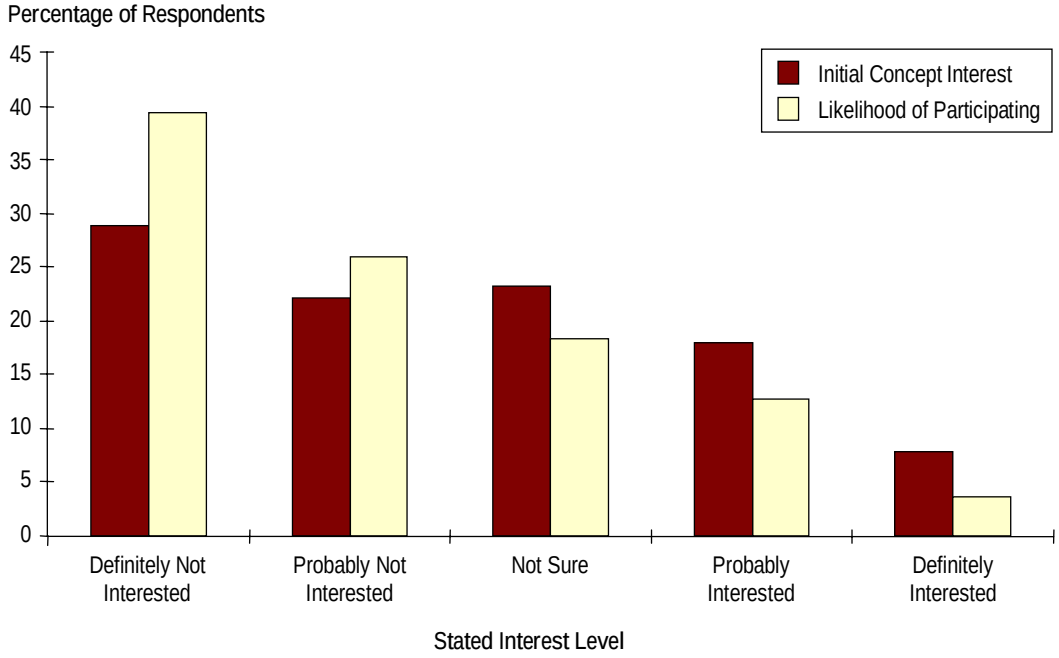
4.2 MILEAGE-BASED LEASING AND INSURANCE TRADEOFFS

The respondents were first asked to make a choice among the three existing vehicle acquisition options. Then, we asked them to choose among the two mileage-based options; and then to choose among all five options. Their choices among the hypothetical options will be analyzed later in conjunction with data from the field experiment to develop quantitative estimates of the demand for different mileage-based programs, but the survey goes on to ask several questions regarding the respondents' choices.

4.2.1 Willingness to Participate

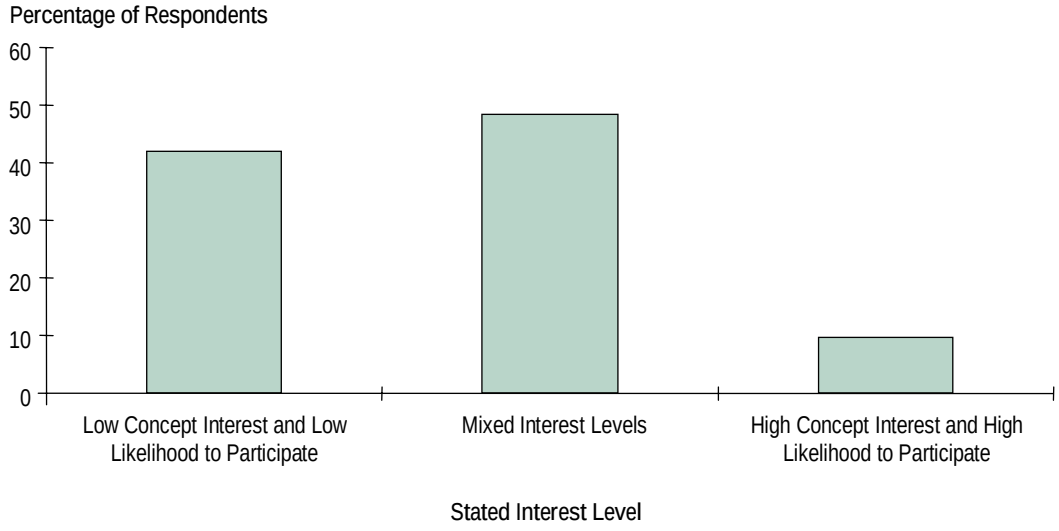
Respondent interest in mileage-based leasing decreased from the levels reported in the initial telephone survey when respondents were shown the representative mileage-based programs along with other vehicle acquisition options, as shown in Figure 4.1.

Figure 4.1 Interest and Likelihood of Participation in Mileage-Based Leasing



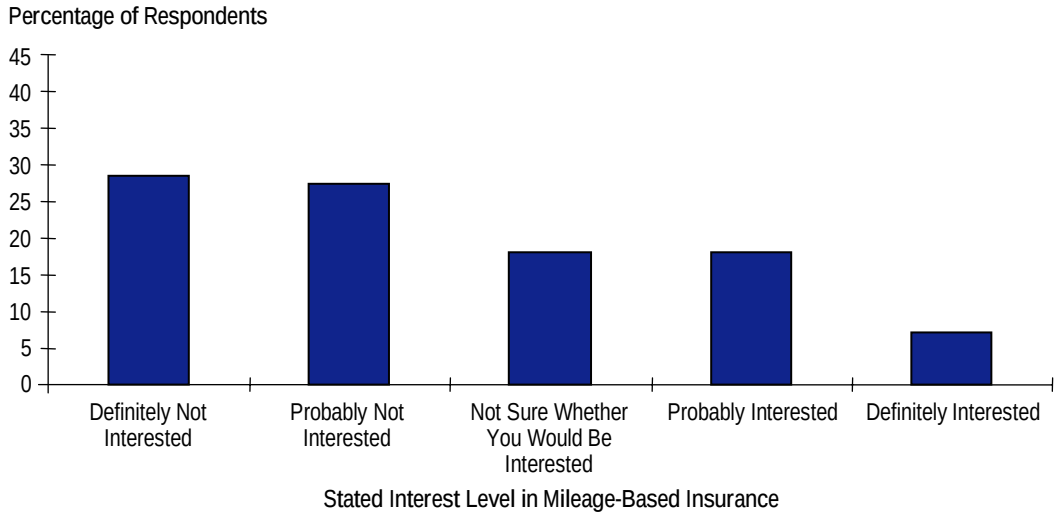
Furthermore, less than 10 percent of respondents had both a positive level of initial interest in the leasing concept (definitely interested or probably interested during the telephone survey) and a positive willingness to participate in one of the representative programs that was shown to them (definitely would use such a program or probably would use such a program). As shown in Figure 4.2, nearly 40 percent of respondents maintained a negative evaluation of the concept.

Figure 4.2 Interest Level in Mileage-Based Leasing



The level of interest in mileage-based insurance was higher than interest in mileage-based leasing (see Figure 4.3). Around 25 percent of all respondents were probably interested or definitely interested in using mileage-based insurance.

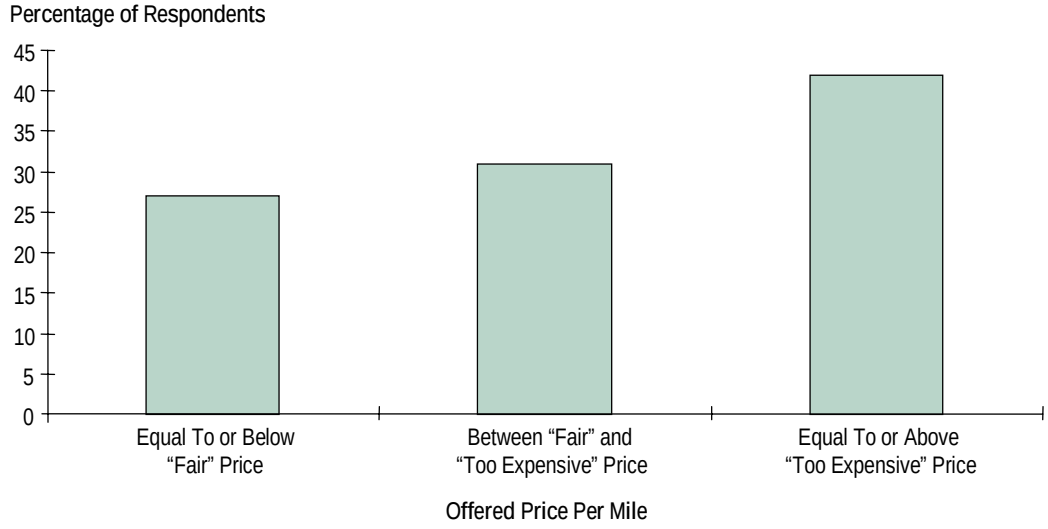
Figure 4.3 Interest Level in Mileage-Based Insurance



4.2.2 Pricing of the Mileage-Based Leasing and Insurance Program

The representative leasing prices per mile presented to the respondents ranged between 75 percent and 115 percent of the calculated most likely per-mile price for the vehicle in question. Respondents were then asked to identify what per-mile leasing price they thought would be a "fair" price and what price they thought would be a "too expensive" price. More than 70 percent of respondents believe the price per mile they were presented in the survey is above the "fair" price (see Figure 4.4). More than 40 percent believe the price per mile offered to them in the survey is higher than the "too expensive" price.

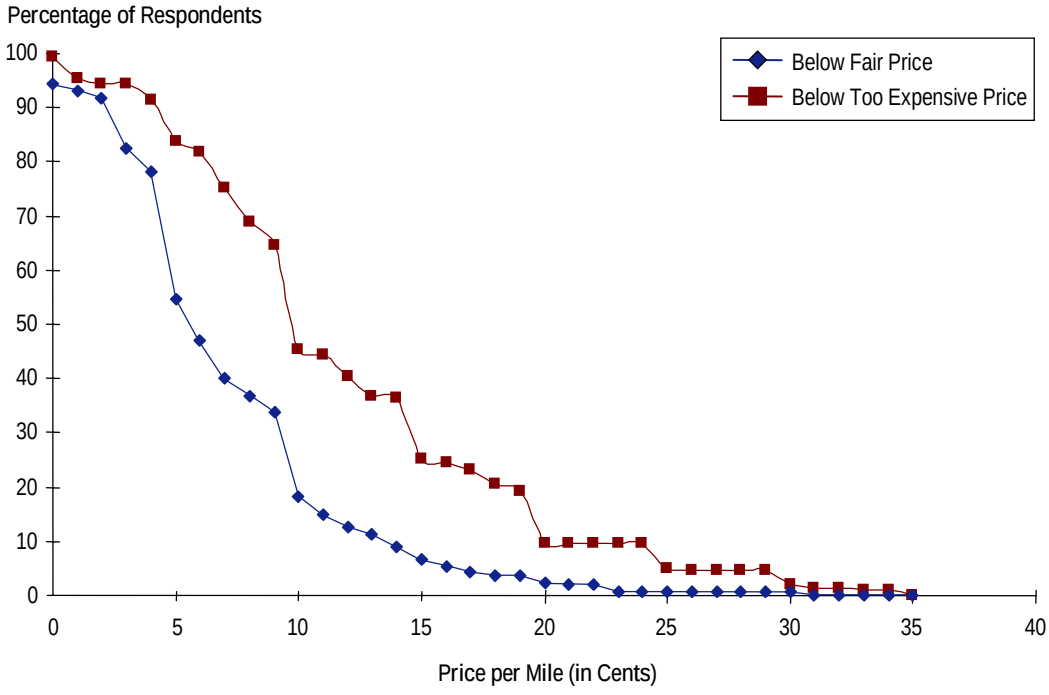
Figure 4.4 Per-Mile Leasing Price



Most respondents believe the "fair" price per mile for the representative mileage-based lease program they were presented is less than $0.06 per mile. Ninety percent of the respondents think the "fair" price is less than $0.14 per mile. Most people think that the "too expensive" price per mile is less than $0.10 per mile. As illustrated in Figure 4.5, 90 percent of respondents think the "too expensive" price is less than $0.20 per mile.

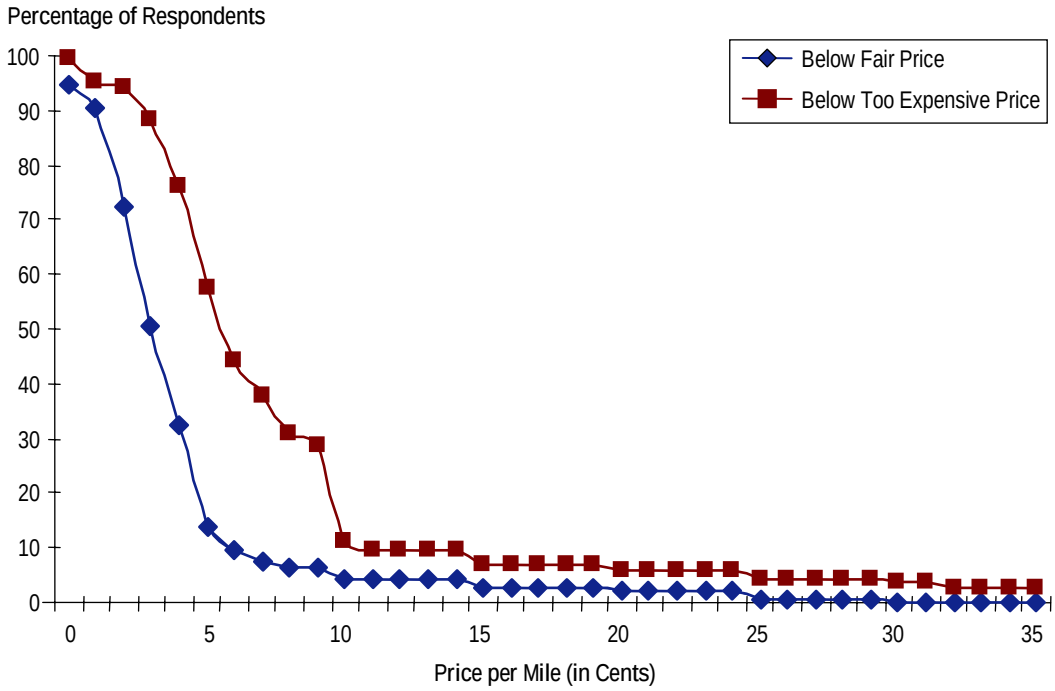
Figure 4.5 Cumulative Percentage of Respondents That Say a Given Price Is Below the "Fair" Price or the "Too Expensive" Price

Mileage-Based Leasing



Most respondents believe the "fair" price per mile for the representative mileage-based insurance program they were presented is less than $0.05 per mile. Ninety percent of the respondents think the "fair" price is less than $0.07 per mile. Most people think that the "too expensive" price per mile is less than $0.07 per mile. As illustrated in Figure 4.6, 90 percent or respondents think the "too expensive" price is less than $0.12 per mile.

Figure 4.6 Cumulative Percentage of Respondents That Say a Given Price Is Below the "Fair" Price or the "Too Expensive" Price
Mileage-Based Insurance



4.2.3 Analysis of Mileage-Based Leasing Choices

Respondents were asked to first choose among existing vehicle acquisition options. The highest percentage of respondents preferred the purchase with cash option (Table 4.1). The standard lease option was by far the least preferred option. Only 6 percent of the respondents who were recruited for the telephone random sample chose the standard lease and only 14 percent of those who were from the over-sample of experienced leasers chose the standard lease. No one who intended to get a used vehicle chose the standard lease. The highest likelihood of choosing the standard lease was among those respondents who lease and drive less than 5,000 miles per year. The strong negative reaction to leasing makes the pay-as-you-drive concept less appealing.

Respondents were next asked to choose among the two pay-as-you-drive options, the low monthly fee with higher per-mile charges and the higher

monthly fee with lower per-mile charges. By a ratio of two-to-one, respondents preferred the alternative with the lower fixed monthly fee and higher per-mile charges. The selection was more balanced among current vehicle leasers, and as we would expect the attractiveness of the higher per-mile option decreases as vehicle mileage increases.

When respondents were offered the choice among the three existing options and two mileage-based choices, between 10 and 20 percent of respondents chose one of the mileage-based options, as indicated in Tables 4.1 and 4.2. Fourteen percent of the random sample respondents chose one of the mileage-based leasing options. Leasers had a slightly higher interest in the mileage-based options, while those who were expecting to get a used vehicle had a lower share.

Table 4.1 Leasing Choices for the Telephone Random Sample

	Stated Choice of Each Option		
	Traditional	Mileage-Based	All
Cash Payment	58%		54%
Down Payment and Loan	36%		28%
Standard Lease	6%		2%
User Fees: Low Monthly/High Mileage Cost		66%	12%
User Fees: High Monthly/Low Mileage Cost		34%	4%
Total	100%	100%	100%

Table 4.2 Leasing Choices for the Lease Over-Sample

	Stated Choice of Each Option		
	Traditional	Mileage-Based	All
Cash Payment	43%		39%
Down Payment and Loan	43%		36%
Standard Lease	14%		4%
User Fees: Low Monthly/High Mileage Cost		57%	14%
User Fees: High Monthly/Low Mileage Cost		43%	7%
Total	100%	100%	100%

This review of the choices provides information on travelers' perceptions of the different vehicle acquisition options. In addition to this analysis, choice models were developed to provide additional insights into travelers' willingness-to-pay for mileage-based leasing options.

The model estimation results for the vehicle acquisition choice problem, where the choice is between the five options described above, are summarized in terms of the following utility equations:

- Option A: Utility(cash) = 0 – 0.0001 * UPcash
- Option B: Utility(purch) = -1.36 – 0.0001 * Uppurch -0.0039 * LPpurch
- Option C: Utility(stand) = -5.85 – 0.0010 * LPstand
- Option D: U(Dmiles) = -1.54 – 0.0010 * DLPmiles -22.02 * DMPmiles
- Option E: U(Emiles) = -3.62 – 0.0010 * ELPmiles -23.28 * EMPmiles

Where:

- Option A = Cash payment
- Option B = Down payment and loan
- Option C = Standard lease
- Option D = Lease with lower fixed cost and higher per-mile cost
- Option E = Lease with higher fixed cost and lower per-mile cost
- UPcash = Cash payment amount for vehicle purchase without financing
- Uppurch = Up-front payment amount for vehicle purchase with financing
- LPpurch = Monthly loan payment amount for vehicle purchase
- LPstand = Monthly lease payment amount for standard vehicle lease
- DLPmiles = Monthly fixed lease payment amount for mileage-based vehicle lease (Option D)
- DMPmiles = Per-mile charge for mileage-based vehicle lease (Option D)
- ELPmiles = Monthly fixed lease payment amount for mileage-based vehicle lease (Option E)
- EMPmiles = Per-mile charge for mileage-based vehicle lease (Option E)

The following conclusions can be drawn from this model:

- The values of the alternative-specific constants indicate that overall, without considering the effects of the cost variables, the five alternatives can be ranked in the following decreasing order of preference:
  - Vehicle purchase without financing;
  - Vehicle purchase with financing;
  - Mileage-based vehicle lease with lower fixed cost and higher per-mile cost (Option D);

  - Mileage-based vehicle lease with higher fixed cost and lower per-mile cost (Option E); and
  - Standard vehicle lease.

- All cost coefficients are negative, indicating that the larger is the cost (fixed or variable) associated with a given acquisition option, the less is the utility of that option.
  - Comparing the two purchase options, both have the same disutility associated with a dollar increase in the up-front cash payment. The vehicle purchase with financing option has an additional greater disutility per dollar spent through the monthly loan payments.
  - Comparing the three lease options, all have the same disutility associated with a dollar increase in the fixed lease payment. Options D and E have an additional disutility per dollar spent through the mileage-based fee.

4.2.4 Analysis of Mileage-Based Insurance Choices

Respondents were asked to choose among three insurance options: standard insurance (Option X), mileage-based insurance with a lower fixed monthly cost and a higher mileage-variable cost (Option Y), and mileage-based insurance with a higher fixed monthly cost and a lower mileage-variable cost (Option Z). The highest percentage of respondents preferred the standard insurance option. The mileage-based insurance with low monthly cost and high mileage cost was the least preferred option, as shown in Table 4.3.

Table 4.3 Insurance Choices for the Entire Sample

	Stated Choice of Each Option	
	Most Preferred Option	Least Preferred Option
Standard Insurance	68%	21%
User Fees: Low Monthly/High Mileage Cost	16%	46%
User Fees: High Monthly/Low Mileage Cost	16%	33%

As in the vehicle acquisition exercise, a choice model was developed to provide additional insights into travelers' willingness-to-pay for mileage-based insurance options. The model estimation results for the vehicle insurance choice problem, where the choice is between the three insurance options described earlier, are summarized in terms of the following utility equations:

- Option X: Utility (standard) = 0 – 0.001 * AIP
- Option Y: Utility (Ymiles) = -1.23 – 0.004 * FIP -7.45 * MIP
- Option Z: Utility (Zmiles) = -0.51 – 0.004 * FIP -7.45 * MIP

Where

- AIP = Annual vehicle insurance cost for the next vehicle
- FIP = Annual fixed payment amount for mileage-based insurance
- MIP = Per-mile charge for mileage-based insurance

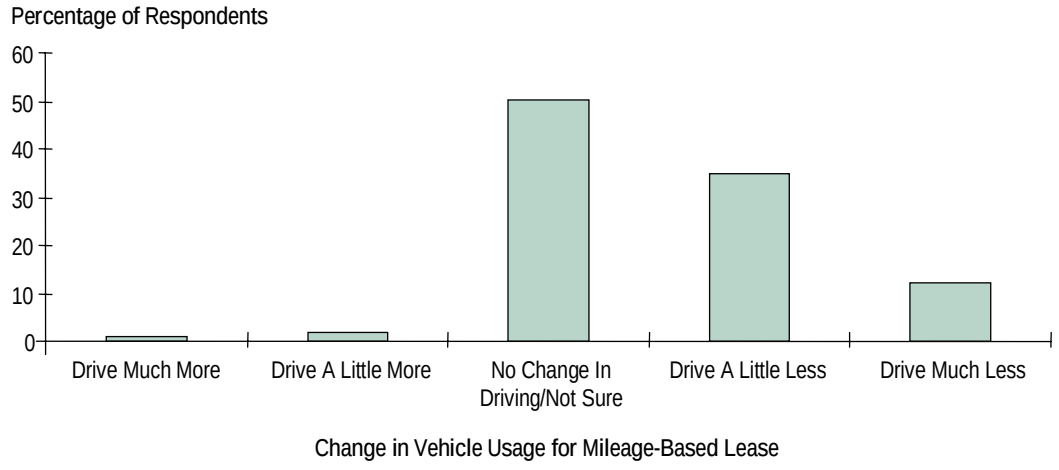
The following conclusions can be drawn from this model:

- The values of the alternative-specific constants indicate that overall, without considering the effects of the cost variables, the three insurance alternatives can be ranked in the following decreasing order of preference:
  - Standard insurance (Option X);
  - Mileage-based insurance with a higher fixed monthly cost and a lower mileage-variable cost (Option Z); and
  - Mileage-based insurance with a lower fixed monthly cost and a higher mileage-variable cost (Option Y).
- All cost coefficients are negative, indicating that the larger is the cost (fixed or variable) associated with a given insurance option, the less is the utility of that option.

4.2.5 Vehicle Usage Response to Mileage-Based Leasing and Mileage-Based Insurance

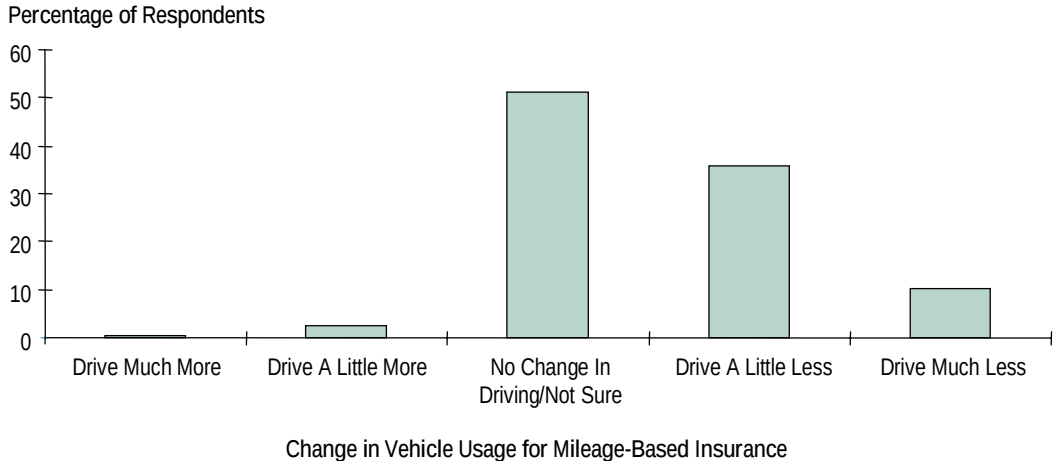
About half the respondents would not expect to decrease the amount that they drive their vehicles if they were acquired with mileage-based leases (see Figure 4.7). About one in eight expect that they would greatly reduce the amount they use their vehicles.

Figure 4.7 Stated Change in Vehicle Usage for Mileage-Based Lease



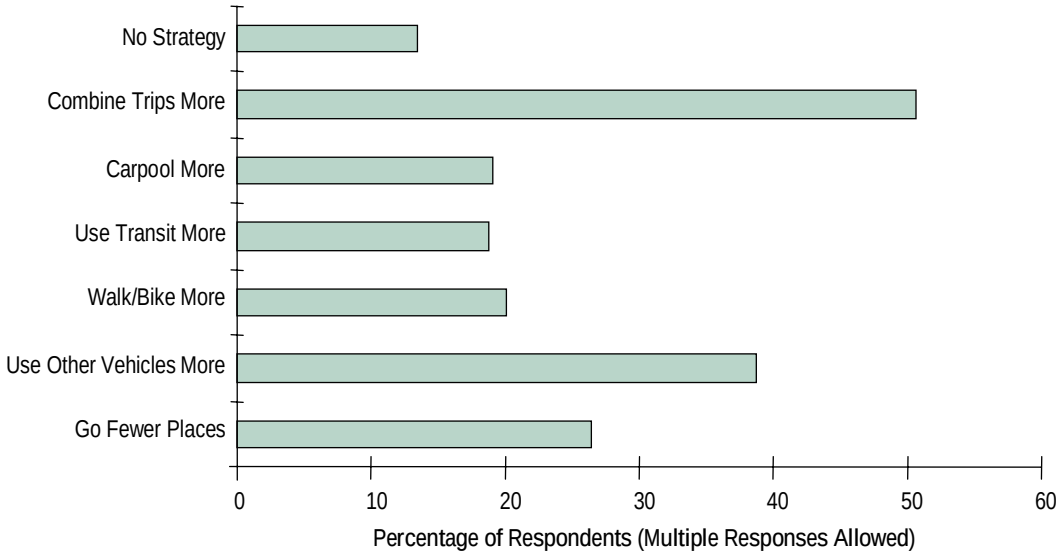
The expected change in vehicle usage with mileage-based insurance is quite similar to that of the mileage-based lease (see Figure 4.8). About 8 percent of respondents believe they would greatly reduce their vehicle travel if their vehicle insurance was mileage-based.

Figure 4.8 Change in Vehicle Usage for Mileage-Based Insurance



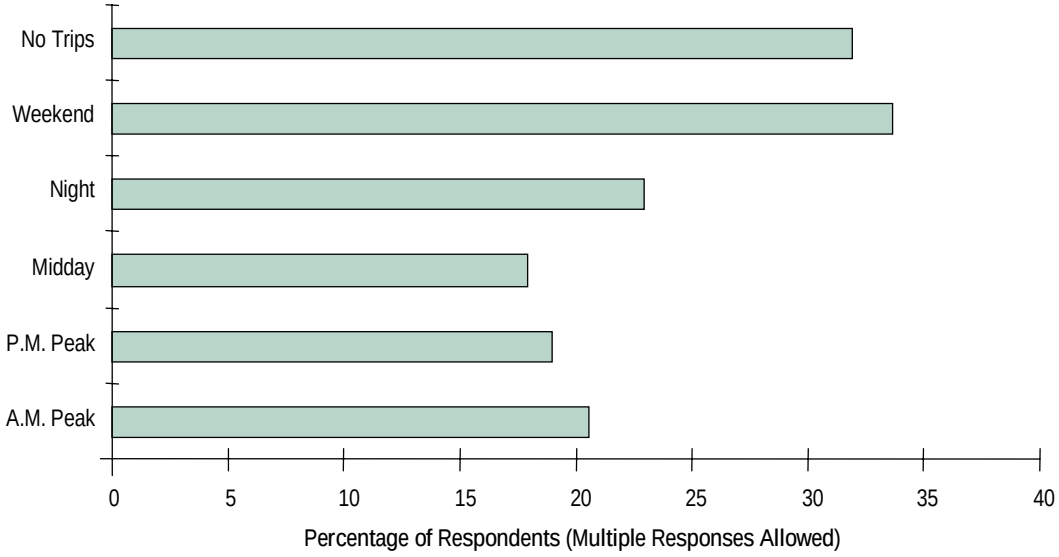
The most common strategy respondents expected to use to reduce vehicle usage was to chain their trips together to a greater extent than they do now, as illustrated in Figure 4.9. A significant percentage of respondents also expect that they would use other household vehicles more.

Figure 4.9 Expected Strategies to Reduce Vehicle Usage with Mileage-Based Products



As shown in Figure 4.10, the trips that respondents said they were most likely to reduce are weekend and night trips. About one-in-five respondents expect that they could reduce their vehicle usage in the peak periods if they could save money by driving their vehicles less.

Figure 4.10 Trips Respondents Say They Will Reduce



4.3 CONCLUSION

The stated preference mail survey allowed us to gain a better understanding of drivers' interest levels in mileage-based products, their mileage-based leasing and insurance trade-offs, and their preferred strategies for reducing the miles they drive. This section presents a summary of the lessons learned from the survey.

Regarding vehicle acquisition options, it was found that an overall strong negative reaction to leasing in general makes the mileage-based leasing idea not very attractive to most people. Overall, around 16 percent of respondents were interested (and likely to participate) in using mileage-based leasing.

- When given a choice of three existing vehicle acquisition options, the majority of respondents (58 percent) from the random sample prefer the paying by cash option, followed by the vehicle purchase with financing option (36 percent), and finally followed by the standard lease option (6 percent).
- When given a choice between two mileage-based leasing options, most respondents in the random survey (66 percent) prefer an option with a lower up-front cost and a higher mileage cost.

- When given a choice among both traditional and mileage-based leasing options, the overall preference for leasing jumps from 6 percent to 18 percent, with 16 percent of the respondents preferring one of the mileage-based products.
- Ninety percent of the respondents think the "fair" price per mile for the representative mileage-based lease program they were presented is less than $0.14 per mile.
- About one in eight respondents expect that they would greatly reduce the amount they use their vehicles if they were acquired with mileage-based leases.

The level of interest in mileage-based insurance was higher than interest in mileage-based leasing, with 25 percent of respondents saying they were interested or very interested in using mileage-based insurance.

- When given a choice between a standard insurance option and two mileage-based insurance options, the majority of respondents (68 percent) prefer standard insurance, followed by equal preference to each of the two potential mileage-based insurance options (16 percent of respondents each), which differ in terms of the fixed monthly cost and the mileage-based cost.
- Ninety percent of the respondents think the "fair" price per mile for the representative mileage-based insurance program they were presented is less than $0.07 per mile.
- About 8 percent of respondents believe they would greatly reduce their vehicle travel if their vehicle insurance was mileage-based.

Finally, the most common strategies respondents expect to use to reduce vehicle usage are trip chaining, using other household vehicles more, and going to fewer places. In addition, the trips that respondents are most likely to reduce are the discretionary trips which mostly occur during weekend and night periods.

Appendix A

Telephone Survey Script

A. Telephone Survey Script

```
  Variable=1  Line=1
MRI. Respondent Number
     -1 = NASKIP

  Variable=2  Line=1
Q1. Hello, my name is [YOUR NAME], and I'm calling on behalf of the
    Minnesota Department of Transportation.  We are conducting a survey
    to better understand how the costs of owning automobiles affects how
    people drive in the Twin Cities metropolitan area.

    For our study, we are interested in speaking with an adult in your
    household who has a driver's license.  Are you 18 years old or older
    and do you have a valid driver's license?


      1 = Yes
      2 = No   [Is there someone who is at least 18 years old and
      3 = [DO NOT READ] No one in household qualifies        [NQA]
     12 = [DO NOT READ] Refused                             [NQA]
     -1 = NASKIP

  Variable=3  Line=1
Q6. Do you or does anyone in your household work for...

    [READ LIST, SELECT ALL THAT APPLY]


      1 = The Minnesota Department of Transportation        [NQB]
     -1 = NASKIP

  Variable=4  Line=1
Q6. Do you or does anyone in your household work for...

    [READ LIST, SELECT ALL THAT APPLY]


      2 = An automobile dealership                          [NQB]
     -1 = NASKIP

  Variable=5  Line=1
Q6. Do you or does anyone in your household work for...

    [READ LIST, SELECT ALL THAT APPLY]


      3 = An automobile insurance provider or agency        [NQB]
     -1 = NASKIP

  Variable=6  Line=1
Q6. Do you or does anyone in your household work for...
```

[READ LIST, SELECT ALL THAT APPLY]

4 = An auto leasing company or financial institution [NQB]
-1 = NASKIP

Variable=7 Line=1
Q6. Do you or does anyone in your household work for...

[READ LIST, SELECT ALL THAT APPLY]

5 = A marketing research firm [NQB]
-1 = NASKIP

Variable=8 Line=1
Q6. Do you or does anyone in your household work for...

[READ LIST, SELECT ALL THAT APPLY]

6 = A newspaper, radio, or TV station [NQB]
-1 = NASKIP

Variable=9 Line=1
Q6. Do you or does anyone in your household work for...

[READ LIST, SELECT ALL THAT APPLY]

7 = The Metropolitan Council [NQB]
-1 = NASKIP

Variable=10 Line=1
Q6. Do you or does anyone in your household work for...

[READ LIST, SELECT ALL THAT APPLY]

8 = A city or county public works department [NQB]
-1 = NASKIP

Variable=11 Line=1
Q6. Do you or does anyone in your household work for...

[READ LIST, SELECT ALL THAT APPLY]

10 = [DO NOT READ] None of the above
-1 = NASKIP

Variable=12 Line=1
Q7. To make sure we talk with a variety of people, in what county do you live?

```
      1 = Anoka
      2 = Carver
      3 = Chisago
      4 = Dakota
      5 = Hennepin
      6 = Ramsey
      7 = Scott
      8 = Washington
     10 = Other                [NQC]
     12 = Don't Know/Refused   [NQC]
     -1 = NASKIP

  Variable=13  Line=1
Q8. How long have you lived in the Twin Cities metropolitan area?

    [RECORD YEARS]

    [IF SIX MONTHS TO LESS THAN 1 YEAR = 0]


     -2 = less than 6 months [NQD]
     -3 = don't know/refused [NQD]
     -1 = NASKIP

  Variable=14  Line=1
Q9. How many registered automobiles and light trucks does your household
    have available?  This includes all cars, vans, pickup trucks, and SUVs,
    but NOT motorcycles or large recreational vehicles, that are owned by
    you, leased to you, or provided by an employer]

    [RECORD AUTOS]


     -3 = don't know/refused [NQE]
     -1 = NASKIP

  Variable=15  Line=1
Q10. How many registered motorcycles does your household have available?

     [IF NECESSARY:  This includes all motorcycles, that are owned by you,
                    leased to you, or provided by an employer]

     [RECORD MOTORCYCLES]


     -3 = Don't Know/Refused [NQF]
     -1 = NASKIP

  Variable=16  Line=1
Q11. In the past seven days, would you say that these vehicles altogether
     were driven more or less than a total of 100 miles?
```

```
      1 = Driven more than 100 miles
      2 = Driven less than 100 miles
     12 = Don't Know/Refused
     -1 = NASKIP

  Variable=17  Line=1
Q12. Including yourself, how many people live in your household?

     [RECORD NUMBER IN HOUSEHOLD ]


     -3 = don't know/refused
     -1 = NASKIP

  Variable=18  Line=1
Q13. Do you work outside the home?


      1 = Yes
      2 = No
     12 = don't know/refused
     -1 = NASKIP

  Variable=19  Line=1
Q13b. Including yourself, how many members of your household work outside
      of the home?

      [RECORD NUMBER OF WORKERS]


     -3 = Don't Know/Refused
     -1 = NASKIP

  Variable=20  Line=1
Q14. Do you or other household members typically use public transit, walk,
     or bicycle to go to and from work?


      1 = Yes
      2 = No
     12 = Don't Know/Refused
     -1 = NASKIP

  Variable=21  Line=1
Q15. Do you or other household members typically travel by auto with at least
     one other person to go to and from work?


      1 = Yes
      2 = No
     12 = Don't Know/Refused
     -1 = NASKIP
```

```
  Variable=22  Line=1
Q16. Do you or any other household members need to pay for parking at or near
     your workplaces?


      1 = Yes
      2 = No
     12 = Don't Know/Refused
     -1 = NASKIP

  Variable=23  Line=1
Q17. How convenient is public transit service to your household?  Would you
     say it is...


      4 = Very convenient
      3 = Somewhat convenient
      2 = Somewhat inconvenient
      1 = Very inconvenient
     12 = [DO NOT READ] Don't Know/Refused
     -1 = NASKIP

  Variable=24  Line=1
Q18. Including yourself, how many of your household members have a valid
     driver's license?


     -3 = don't know/refused
     -1 = NASKIP

  Variable=25  Line=1
Q19. Are there other people who do not live with you that sometimes use your
     household vehicle(s)?


      1 = Yes
      2 = No
     12 = Don't Know/Refused
     -1 = NASKIP

  Variable=26  Line=1
Q20a. Now, please consider the vehicle your household uses the most.


      1 = Continue
     -1 = NASKIP

  Variable=27  Line=1
Q20. In the last 12 months, about how many miles was your vehicle driven?

     [IF NECESSARY:  Your best estimate is fine]


     -3 = don't know/refused
     -1 = NASKIP
```

```
  Variable=28  Line=1
Q20b. What model year is that vehicle?


     -3 = don't know/refused
     -1 = NASKIP

  Variable=29  Line=1
Q21. Was the vehicle new or used when you got it?


      1 = New
      2 = Used
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=30  Line=1
Q22. On a typical weekday, about how many miles is this vehicle driven during
     the afternoon peak traffic times between 3:00 p.m. and 6:30 p.m.?

     [IF NECESSARY:  Your best estimate is fine]


     -3 = don't know/refused
     -1 = NASKIP

  Variable=31  Line=1
Q23. Do you or another household member lease this vehicle?


      1 = Yes
      2 = No
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=32  Line=1
Q24. Does someone from outside your household lease this vehicle for you to
     use?


      1 = Yes
      2 = No
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=33  Line=1
Q25. Now, please consider the vehicle your household uses the SECOND most.
     About how many miles was that vehicle driven?

     [IF NECESSARY:  Your best estimate is fine]


     -3 = don't know/refused
     -1 = NASKIP
```

```
  Variable=34  Line=1
Q25A.What model year is that vehicle?


     -3 = don't know/refused
     -1 = NASKIP

  Variable=35  Line=1
Q26. Was the vehicle new or used when you got it?


      1 = New
      2 = Used
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=36  Line=1
Q27. On a typical weekday, about how many miles is this vehicle driven during
     the afternoon peak traffic times between 3:00 p.m. and 6:30 p.m.?

     [IF NECESSARY:  Your best estimate is fine]


     -3 = don't know/refused
     -1 = NASKIP

  Variable=37  Line=1
Q28. Do you or another household member lease this vehicle?


      1 = Yes
      2 = No
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=38  Line=1
Q29. Does someone from outside your household lease this vehicle for you to
     use?


      1 = Yes
      2 = No
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=39  Line=1
Q30. Now, please consider the vehicle your household uses the THIRD most.
     About how many miles was that vehicle driven?

     [IF NECESSARY:  Your best estimate is fine]


     -3 = don't know/refused
     -1 = NASKIP
```

```
  Variable=40  Line=1
Q30A. What model year is that vehicle?


     -3 = don't know/refused
     -1 = NASKIP

  Variable=41  Line=1
Q31. Was the vehicle new or used when you got it?


      1 = New
      2 = Used
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=42  Line=1
Q32. On a typical weekday, about how many miles is this vehicle driven during
     the afternoon peak traffic times between 3:00 p.m. and 6:30 p.m.?

     [IF NECESSARY:  Your best estimate is fine]


     -3 = don't know/refused
     -1 = NASKIP

  Variable=43  Line=1
Q33. Do you or another household member lease this vehicle?


      1 = Yes
      2 = No
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=44  Line=1
Q34. Does someone from outside your household lease this vehicle for you to
     use?


      1 = Yes
      2 = No
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=45  Line=1
Q35. Please tell me what you think is the MOST significant transportation
     problem facing the Twin Cities.  Only one problem, please.

     [CLARIFY]


     -1 = NASKIP
```

Variable=46 Line=1
Q36. One of Mn/DOT's core values is to continuously seek more effective and efficient ways to deliver services, including ways of managing congestion. Mn/DOT is interested in learning whether the way Minnesotans pay for their cars could influence the usage of cars on our highways.

There are lots of costs involved with having a car. First of all, there's getting the car in the first place, whether by outright purchase with cash, financing, or a lease. Then, there's insurance, fuel, maintenance, repairs, and registration.

As we ask you the next series of questions, we want you to focus only on the cost of getting the car to begin with – the purchase or lease.

Now, I am going to read you an idea about a new way to pay for a car.

1 = Continue
-1 = NASKIP

Variable=47 Line=1
Q37. With this idea, you would pay a down payment when you get the car, then pay monthly charges. Part of the monthly charge would be fixed at a much lower cost than a typical lease or loan payment, while some would be based on how much you actually drove that month. The arrangement with the dealer would be similar to a lease.

Your mileage would be monitored with an electronic device installed in the vehicle. At the end of each month you would get a bill for both the fixed amount and the amount based on your mileage. The bills would be similar to some electric and phone company bills.

If you drove less you would pay less, and if you drove more you would pay more.

Now, I want to ask you some questions about the idea that I just described to you.

1 = Continue
-1 = NASKIP

Variable=48 Line=1
Q42. If such a program were available, how interested would you be? Would you say you would be...

5 = Definitely interested
4 = Probably interested
3 = Not sure whether you would be interested
2 = Probably not interested
1 = Definitely not interested
12 = Don't know/Refused
-1 = NASKIP

```
  Variable=49  Line=1
Q43. What do you like the MOST about the idea I described to you?  Only one
     thing, please.

     [CLARIFY]


     -1 = NASKIP

  Variable=50  Line=1
Q44. What do you like the LEAST about the idea I described to you?  Only one
     thing, please.

     [CLARIFY]


     -1 = NASKIP

  Variable=51  Line=1
Q45. What would make the idea more appealing to you?

     [CLARIFY. PROBE – Anything else?]


     -1 = NASKIP

  Variable=52  Line=1
Q46. Now, I would like to get your opinions about some general statements
     related to driving and the use of technology.  Please use a scale of 0
     to 10 to tell me how much you agree or disagree with each of the
     following statements.

     A rating of ‘10’ means that you totally agree with each statement, while
     a rating of ‘0’ means that you totally disagree.


      1 = Continue
     -1 = NASKIP

  Variable=53  Line=1
Q46A. I like the freedom that the automobile represents


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
```

```
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=54  Line=1
Q46B. The automobile gives me a lot of flexibility in my daily life


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=55  Line=1
Q46C. I need to drive to different destinations as part of my busy daily
      schedule


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=56  Line=1
Q46D. I like driving whenever and wherever I like without wondering about the
      cost


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
```

```
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=57  Line=1
Q46E. My driving patterns are pretty close to the same from week to week


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=58  Line=1
Q46F. I actively think about ways to reduce my auto operating and ownership
      costs


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=59  Line=1
Q46G. I like taking long rides out in the countryside to relax


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
```

```
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=60  Line=1
Q46H. I enjoy spending time driving and consider my car as a private
      space/refuge


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=61  Line=1
Q46I. I don't like the idea that somebody could be monitoring my daily habits


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=62  Line=1
Q46J. Programs that track what an individual does on the Internet are an
      invasion of privacy


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
```

```
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=63  Line=1
Q46K. Thorough searches at airport checkpoints based on visual profiles are
      an invasion of privacy


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=64  Line=1
Q46L. Unsolicited phone calls for the purpose of selling products or services
      are an invasion of privacy


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=65  Line=1
Q46M. I feel comfortable using personal computers


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
```

```
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=66  Line=1
Q46N. I am intrigued by new technologies and like to try new gadgets


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=67  Line=1
Q46O. I like exploring ways that technology can improve my daily life


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=68  Line=1
Q46P. I am concerned about security of transactions while using the web


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
```

```
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=69  Line=1
Q46Q. When paying for telephone and electricity services, I would rather pay
      the same amount every month


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=70  Line=1
Q46R. When purchasing something that requires financing, I always try to make
      the largest down payment that I can


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=71  Line=1
Q46S. I don't mind complicated transactions if they save me money


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
```

```
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=72  Line=1
Q46T. Leasing an automobile is an expensive way to own a car


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=73  Line=1
Q46U. Leasing an automobile frees you from worrying about resale value


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=74  Line=1
Q46V. Maintenance costs and reliability are important aspects of a car's value


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
```

```
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=75  Line=1
Q46W. Fuel economy was an important factor for me in choosing a car


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=76  Line=1
Q46X. A one dollar per gallon increase in the cost of gas would not affect
      my everyday driving


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=77  Line=1
Q46Y. I enjoy driving a new car every few years


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
```

```
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=78  Line=1
Q46Z. I believe that the car one drives reflects their lifestyle


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=79  Line=1
Q46AA. Leasing a car allows you to use a new model every few years


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=80  Line=1
Q46BB. I like driving SUVs


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
```

```
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=81  Line=1
Q46CC. I like driving vehicles with good gas mileage to help the environment


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=82  Line=1
Q46DD. I try to avoid unnecessary driving


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=83  Line=1
Q46EE. People should rideshare, take transit, walk, or bicycle whenever
       possible to cut down on air pollution and energy consumption


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
```

```
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=84  Line=1
Q46FF. I go out of my way to buy environmentally friendly products


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=85  Line=1
Q46GG. I am willing to pay more to buy products that are environmentally
       friendly


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=86  Line=1
Q46HH. I consider myself to be politically aware and I closely follow local,
       regional, and national issues that affect my family and me


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
```

```
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=87  Line=1
Q46II. I try to look at least five years into the future when making plans
       for my family


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=88  Line=1
Q46JJ. If the car I usually drive is unavailable for some reason, I can
       usually use a different vehicle to make the trips I need to


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=89  Line=1
Q46KK. I don't like having to rely on others to take me to where I need to go


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
```

```
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=90  Line=1
Q46LL. Each driver in our household has a particular vehicle that they more
       or less drive all the time


     30 = Totally agree
     29 =
     28 =
     27 =
     26 =
     25 =
     24 =
     23 =
     22 =
     21 =
     20 = Totally disagree
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=91  Line=1
Q47. How would you rate your personal knowledge of the vehicle purchasing
     process?  Would you say your knowledge is...


      5 = Excellent
      4 = Very Good
      3 = Good
      2 = Fair
      1 = Poor
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=92  Line=1
Q48. How would you rate your personal knowledge of the vehicle leasing
     process?  Would you say your knowledge is...


      5 = Excellent
      4 = Very Good
      3 = Good
      2 = Fair
      1 = Poor
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=93  Line=1
Q49. How would you rate your personal knowledge of auto operating and
     ownership costs?  Would you say your knowledge is...
```

```
      5 = Excellent
      4 = Very Good
      3 = Good
      2 = Fair
      1 = Poor
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=94  Line=1
D1. Now I would like to ask you a few questions for classification purposes
    only.


      1 = Continue
     -1 = NASKIP

  Variable=95  Line=1
Q50. Do you work at home some days instead of commuting to your normal
     workplace?


      1 = Yes
      2 = No
      3 = [DO NOT READ]  Normally work in office at home 100%
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=96  Line=1
Q51. How many days, in a typical month, would you say you work from home
     INSTEAD of traveling to your normal workplace?


     -3 = don't know/refused
     -1 = NASKIP

  Variable=97  Line=1
Q52. From your home, do you have access to your computer files at the office?


      1 = Yes
      2 = No
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=98  Line=1
Q53. What is the last grade or level of education that you completed?  Was
     it...


      1 = High School or less
      2 = Technical or Vocational School
      3 = Some College
      4 = College Graduate
      5 = Post-Graduate work or advanced degree
```

```
     12 = [DO NOT READ] Don't know/Refused
     -1 = NASKIP

  Variable=99  Line=1
Q53A. Specify Other Education


     -1 = NASKIP

  Variable=100  Line=1
Q54A. Which one of the following categories best describes your occupation?
      Just stop me when I read the right one.   Is it...

      [READ LIST]


      1 = Self-employed
      2 = Manufacturing, trade, or other non-office worker
      3 = Clerical/secretarial
      4 = Sales/marketing/retail
      5 = Management/professional/technical
      6 = Homemaker
      7 = Retired
      8 = Student
      9 = Disabled/Unable to work
     10 = Other  [SPECIFY]
     12 = [DO NOT READ] Don't know/Refused
     -1 = NASKIP

  Variable=101  Line=1
Q54B. Specify Other Occupation


     -1 = NASKIP

  Variable=102  Line=1
Q55. Which of the following ranges does your age fall into?  Please stop me
     when I get to the right range.

     [READ LIST]


      1 = 18 to 29
      2 = 30 to 39
      3 = 40 to 49
      4 = 50 to 59
      5 = 60 to 69
      6 = 70 or more
     12 = [DO NOT READ] Don't know/Refused
     -1 = NASKIP

  Variable=103  Line=1
Q56. Can you tell me what your year 2003 total household income before taxes
     was?  Please stop me when I get to the right range.
```

[READ LIST]

1 = Under $20,000
2 = $20,000 to $35,000
3 = $35,000 to $50,000
4 = $50,000 to $65,000
5 = $65,000 to $75,000
6 = $75,000 to $100,000
7 = $100,000 or more
12 = [DO NOT READ] Don't know/Refused
-1 = NASKIP

Variable=104 Line=1
Q57.What is your five digit zip code?

-3 = don't know/refused
-1 = NASKIP

Variable=105 Line=1
Q58. To finish, we would like to learn more about people's thoughts on mileage-based pricing. Would you be willing to complete a short mail questionnaire related to the per-mile pricing idea?

1 = Yes
2 = No
12 = Refused
-1 = NASKIP

Variable=106 Line=1
Q59. We will mail you this questionnaire in the next two weeks. May I have your name please?

-1 = NASKIP

Variable=107 Line=1
Q59b. Your street address?

[INCLUDE STREET DIRECTION AND APARTMENT NUMBER, IF APPLICABLE]

-1 = NASKIP

Variable=108 Line=1
Q59c. City?

-1 = NASKIP

Variable=109 Line=1
Q59d. Zip Code?

```
     -1 = NASKIP

  Variable=110  Line=1
Q60. In order to make the questions in the mail survey more relevant for you,
     we would like to ask you a few questions about the next time you will
     acquire a vehicle.

     When do you and the other members of your household next expect to
     purchase or lease a vehicle?  Would you say it will be...


      1 = Within the next six months
      2 = Six to 12 months from now
      3 = One to two years from now
      4 = Three to five years from now
      5 = More than five years from now
      6 = [DO NOT READ] Not planning to purchase any vehicles again
     11 = [DO NOT READ] No longer wishes to participate
     12 = [DO NOT READ] Don't know/Refused
     -1 = NASKIP

  Variable=111  Line=1
Q61. Will that vehicle be used to replace a vehicle you currently have, or
     will it be in addition to the vehicles that your household already has?


      1 = Replacement of a vehicle
      2 = In addition to current vehicles
     11 = [DO NOT READ] No longer wishes to participate
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=112  Line=1
Q62. What is the likelihood that you will get a new vehicle versus a used
     vehicle? Would you say you...


      5 = Definitely will get a NEW vehicle, rather than a used vehicle
      4 = Probably will get a NEW vehicle, rather than a used vehicle
      3 = Are uncertain whether you will get a new or used vehicle
      2 = Probably will get a USED vehicle, rather than a new vehicle
      1 = Definitely will get a USED vehicle, rather than a new vehicle
     11 = [DO NOT READ] No longer wishes to participate
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=113  Line=1
Q63. Thinking about the next time you get a vehicle, what is the likelihood
     that you will buy the vehicle versus lease the vehicle? Would you say
     you...


      5 = Definitely will BUY the vehicle, rather than lease it
      4 = Probably will BUY the vehicle, rather than lease it
```

```
      3 = Are uncertain whether you will buy or lease it
      2 = Probably will LEASE the vehicle, rather than buy it
      1 = Definitely will LEASE the vehicle, rather than buy it
     11 = [DO NOT READ] No longer wishes to participate
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=114  Line=1
Q64. What do you expect the purchase price to be for this vehicle?

     [IF NECESSARY:  Your best estimate is fine.]

     [Do not read categories. If a range is given, record the category for
      the midpoint of the range]


      1 = $10,000 or less
      2 = $10,000 to $15,000
      3 = $15,000 to $20,000
      4 = $20,000 to $25,000
      5 = $25,000 to $30,000
      6 = $30,000 to $40,000
      7 = $40,000 to $50,000
      8 = $50,000 to $70,000
      9 = More than $70,000
     11 = [DO NOT READ] No longer wishes to participate
     12 = Don't know/Refused
     -1 = NASKIP

  Variable=115  Line=1
Q65E. Can you tell me the body type or body types of the vehicle you expect
      to consider?  Will you consider a...

      [READ LIST]


      1 = Van
     -1 = NASKIP

  Variable=116  Line=1
Q65E. Can you tell me the body type or body types of the vehicle you expect
      to consider?  Will you consider a...

      [READ LIST]


      2 = RV
     -1 = NASKIP

  Variable=117  Line=1
Q65E. Can you tell me the body type or body types of the vehicle you expect
      to consider?  Will you consider a...

      [READ LIST]
```

```
      3 = Sport Utility Vehicle
     -1 = NASKIP

  Variable=118  Line=1
Q65E. Can you tell me the body type or body types of the vehicle you expect
      to consider?  Will you consider a...

      [READ LIST]


      4 = Pick-up Truck
     -1 = NASKIP

  Variable=119  Line=1
Q65E. Can you tell me the body type or body types of the vehicle you expect
      to consider?  Will you consider a...

      [READ LIST]


      5 = Other Truck
     -1 = NASKIP

  Variable=120  Line=1
Q65E. Can you tell me the body type or body types of the vehicle you expect
      to consider?  Will you consider a...

      [READ LIST]


      6 = Motorcycle
     -1 = NASKIP

  Variable=121  Line=1
Q65E. Can you tell me the body type or body types of the vehicle you expect
      to consider?  Will you consider a...

      [READ LIST]


      7 = Auto
     -1 = NASKIP

  Variable=122  Line=1
Q65E. Can you tell me the body type or body types of the vehicle you expect
      to consider?  Will you consider a...

      [READ LIST]


     10 = Other [SPECIFY]
     -1 = NASKIP

  Variable=123  Line=1
```

Q65E. Can you tell me the body type or body types of the vehicle you expect to consider? Will you consider a...

[READ LIST]

11 = [DO NOT READ] No longer wishes to participate
-1 = NASKIP

Variable=124 Line=1
Q65E. Can you tell me the body type or body types of the vehicle you expect to consider? Will you consider a...

[READ LIST]

12 = Don't know/Refused
-1 = NASKIP

Variable=125 Line=1
Q65Eo. Specify Other – Body type

-1 = NASKIP

Variable=126 Line=1
Q65. Can you tell me up to three manufacturers, that you will consider for the vehicle you expect to get?

[IF NECESSARY: We would like the vehicle make, rather than manufacturer]

1 = Continue
11 = [DO NOT READ] No longer wishes to participate
-1 = NASKIP

Variable=127 Line=1
Q65A1. Can you tell me the first manufacturer, that you will consider for the vehicle you expect to get? [IF NECESSARY: We would like the vehicle make, rather than manufacturer]

1 = Acura
2 = Audi
3 = BMW
4 = Buick
5 = Cadillac
6 = Chevrolet
7 = Chrysler
8 = Daewoo
9 = Dodge
10 = Ford
11 = Geo
12 = GMC
13 = Harley Davidson

```
     14 = Honda
     15 = Hyundai
     16 = Infiniti
     17 = Isuzu
     18 = Jaguar
     19 = Jeep
     20 = Kawasaki
     21 = Kia
     22 = Lexus
     23 = Lincoln
     24 = Mazda
     25 = Mercury
     26 = Mercedes
     27 = Mitsubishi
     28 = Nissan
     29 = Oldsmobile
     30 = Plymouth
     31 = Pontiac
     32 = Porsche
     33 = Range Rover
     34 = Saab
     35 = Saturn
     36 = Subaru
     37 = Suzuki
     38 = Toyota
     39 = Volkswagen
     40 = Volvo
     41 = Yamaha
     45 = [DNR] No
     46 = [DNR] Other [SPEC]
     48 = [DNR] Dk/Ref
     -1 = NASKIP

  Variable=128  Line=1
O65A1. Specify Other – First make mentioned


     -1 = NASKIP

  Variable=129  Line=1
Q65B1. And, what model of |Q.65A-MAKE1| do you expect to consider?

       [RECORD FIRST MODEL]


     -1 = NASKIP

  Variable=130  Line=1
R65B1. Are there any other |Q.65A-MAKE1| models?


      1 = Yes
      2 = No
     11 = [DO NOT READ] No longer wishes to participate
     -1 = NASKIP
```

```
  Variable=131  Line=1
Q65B2. And, what model of |Q.65A-MAKE1| do you expect to consider?

       [RECORD SECOND MODEL]


     -1 = NASKIP

  Variable=132  Line=1
R65B2. Are there any other |Q.65A-MAKE1| models?


      1 = Yes
      2 = No
     11 = [DO NOT READ] No longer wishes to participate
     -1 = NASKIP

  Variable=133  Line=1
Q65B3. And, what model of |Q.65A-MAKE1| do you expect to consider?

       [RECORD THIRD MODEL]


     -1 = NASKIP

  Variable=134  Line=1
Q65A2. Can you tell me the second manufacturer, that you will consider for
       the vehicle you expect to get? [IF NECESSARY:  We would like the
                                      vehicle make, rather than manufacturer]

      1 = Acura
      2 = Audi
      3 = BMW
      4 = Buick
      5 = Cadillac
      6 = Chevrolet
      7 = Chrysler
      8 = Daewoo
      9 = Dodge
     10 = Ford
     11 = Geo
     12 = GMC
     13 = Harley Davidson
     14 = Honda
     15 = Hyundai
     16 = Infiniti
     17 = Isuzu
     18 = Jaguar
     19 = Jeep
     20 = Kawasaki
     21 = Kia
     22 = Lexus
     23 = Lincoln
     24 = Mazda
```

```
     25 = Mercury
     26 = Mercedes
     27 = Mitsubishi
     28 = Nissan
     29 = Oldsmobile
     30 = Plymouth
     31 = Pontiac
     32 = Porsche
     33 = Range Rover
     34 = Saab
     35 = Saturn
     36 = Subaru
     37 = Suzuki
     38 = Toyota
     39 = Volkswagen
     40 = Volvo
     41 = Yamaha
     45 = [DO NOT READ] No
     46 = [DNR] Other [SPEC]
     47 = [DNR] None other
     48 = [DNR] Dk/Ref
     -1 = NASKIP

  Variable=135  Line=1
O65A2. Specify Other – Second make mentioned


     -1 = NASKIP

  Variable=136  Line=1
Q65C1. And, what model of |Q.65A-MAKE2| do you expect to consider?

       [RECORD FIRST MODEL]


     -1 = NASKIP

  Variable=137  Line=1
R65C1. Are there any other |Q.65A-MAKE2| models?


      1 = Yes
      2 = No
     11 = [DO NOT READ] No longer wishes to participate
     -1 = NASKIP

  Variable=138  Line=1
Q65C2. And, what model of |Q.65A-MAKE2| do you expect to consider?

       [RECORD SECOND MODEL]


     -1 = NASKIP

  Variable=139  Line=1
```

R65C2. Are there any other |Q.65A-MAKE2| models?

1 = Yes
2 = No
11 = [DO NOT READ] No longer wishes to participate
-1 = NASKIP

Variable=140 Line=1
Q65C3. And, what model of |Q.65A-MAKE2| do you expect to consider?

[RECORD THIRD MODEL]

-1 = NASKIP

Variable=141 Line=1
Q65A3. Can you tell me the third manufacturer, that you will consider for the vehicle you expect to get? [IF NECESSARY: We would like the vehicle make, rather than manufacturer]

1 = Acura
2 = Audi
3 = BMW
4 = Buick
5 = Cadillac
6 = Chevrolet
7 = Chrysler
8 = Daewoo
9 = Dodge
10 = Ford
11 = Geo
12 = GMC
13 = Harley Davidson
14 = Honda
15 = Hyundai
16 = Infiniti
17 = Isuzu
18 = Jaguar
19 = Jeep
20 = Kawasaki
21 = Kia
22 = Lexus
23 = Lincoln
24 = Mazda
25 = Mercury
26 = Mercedes
27 = Mitsubishi
28 = Nissan
29 = Oldsmobile
30 = Plymouth
31 = Pontiac
32 = Porsche
33 = Range Rover
34 = Saab

```
     35 = Saturn
     36 = Subaru
     37 = Suzuki
     38 = Toyota
     39 = Volkswagen
     40 = Volvo
     41 = Yamaha
     45 = [DO NOT READ] No
     46 = [DNR] Other [SPEC]
     47 = [DNR] None other
     48 = [DNR] Dk/Ref
     -1 = NASKIP

  Variable=142  Line=1
O65A3. Specify Other – Third make mentioned


     -1 = NASKIP

  Variable=143  Line=1
Q65D1. And, what model of |Q.65A-MAKE3| do you expect to consider?

       [RECORD FIRST MODEL]


     -1 = NASKIP

  Variable=144  Line=1
R65D1. Are there any other |Q.65A-MAKE3| models?


      1 = Yes
      2 = No
     11 = [DO NOT READ] No longer wishes to participate
     -1 = NASKIP

  Variable=145  Line=1
Q65D2. And, what model of |Q.65A-MAKE3| do you expect to consider?

       [RECORD SECOND MODEL]


     -1 = NASKIP

  Variable=146  Line=1
R65D2. Are there any other |Q.65A-MAKE3| models?


      1 = Yes
      2 = No
     11 = [DO NOT READ] No longer wishes to participate
     -1 = NASKIP

  Variable=147  Line=1
Q65D3. And, what model of |Q.65A-MAKE3| do you expect to consider?
```

[RECORD THIRD MODEL]

-1 = NASKIP

Variable=148 Line=1
Q66. How much do you expect that it would cost per year to insure this vehicle with the level of coverage that you would like to have?

[IF NECESSARY: Your best estimate is fine]

-2 = no longer wishes to participate
-3 = don't know/refused
-1 = NASKIP

Variable=149 Line=1
Q68. How many miles per year would you expect to drive the vehicle?

[IF NECESSARY: Your best estimate is fine.]

-2 = no longer wishes to participate
-3 = don't know/refused
-1 = NASKIP

Variable=150 Line=1
Q69. As I said, we will be mailing a survey with questions based on the information you have just provided me in the next few weeks. Once you have had a chance to complete the survey, we would like to call you back to collect your answers to the mail survey. When would be the best day and time after February 15th for us to call again?

[RECORD DATE]

-1 = NASKIP

Variable=151 Line=1
Q69a. RECORD TIME

-1 = NASKIP

Variable=152 Line=1
QX. Decided not to participate in follow-up survey

1 = Continue
-1 = NASKIP

Variable=153 Line=1
Q70. In case my supervisor needs to verify my work, Please tell me your first name?

```
     -1 = NASKIP

  Variable=154  Line=1
Q71. What city do you live in?



     -1 = NASKIP

  Variable=155  Line=1
Q72. Thank you very much for your time, That's all of the questions I have.

     [RECORED RESPONDENT GENDER]



      1 = Female
      2 = Male
     -1 = NASKIP

  Variable=156  Line=1
Q73a. Enter Area code of phone number



     -1 = NASKIP

  Variable=157  Line=1
Q73b. Enter prefix of phone number

      [The first 3 digits]


     -1 = NASKIP

  Variable=158  Line=1
Q73c. Enter rest of phone number

      [The last 4 digits]


     -1 = NASKIP

  Variable=159  Line=1
Z1. Phone Number


     -1 = NASKIP

  Variable=160  Line=1
Z2. Sample
```

```
      1 = SSI Sample1
     -1 = NASKIP

  Variable=161  Line=1
Q74. Thank you for your time.  That is all of the questions I have.



      1 = Continue
     -1 = NASKIP

  Variable=162  Line=1
Q75. Are there any additional comments?



      1 = Yes
      2 = No
     -1 = NASKIP

  Variable=163  Line=1
Q76a. Additional comments.



     -1 = NASKIP
```

Appendix B

Mail Survey Questionnaire

B. Mail Survey Questionnaire

(Formatted to fit within this document)

June 25, 2004

Respondent Name
123 Respondent Street
Respondent City, MN 55000

Dear Ms. Name,

On behalf of the Minnesota Department of Transportation (Mn/DOT), I would like to thank you for recently completing our telephone survey, and agreeing to help us with this additional survey. Your participation in this study will provide insights into what cost factors influence driver behavior. With your help, we will be able to determine if there are alternatives that could help us reduce congestion and mitigate environmental impacts on our highways.

As you may know, Mn/DOT is committed to studying how we can improve transportation in our state. With that in mind, please note that information collected in this survey will be kept confidential and used strictly for research purposes. Without your input, we would not be able to assess the transportation needs of our residents.

Our representative will be calling you on the day and time you suggested to collect the information from this survey. I appreciate the time you'll be taking to complete this survey and your commitment to serving our community. If you are interested in other Mn/DOT activities, or want to find other ways to get involved or provide comments, please visit our web site at www.dot.state.mn.us.

Sincerely,

Kenneth R. Buckeye
Project Manager
651.296.1606

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Introduction

In our recent telephone interview, you told us:

- You expect to acquire a vehicle one to two years from now.

- You definitely will get a NEW vehicle, rather than a used vehicle.

- You definitely will BUY the vehicle, rather than lease it.

- The purchase price range for the vehicle you expect to get is $20,000 to $25,000.

- You expect to consider the following vehicle types:
  – Autos

- You expect to consider the following vehicles:
  – Honda Integra

- You expect the insurance for this vehicle to cost you about $800 per year.

Please answer the following questions with this transaction in mind.

PART 1 – YOUR NEXT VEHICLE

Survey Instructions

Please suppose the five enclosed BLUE pages each describe a different way to obtain your next vehicle. The options include:

- a vehicle purchase with cash;
- a vehicle purchase with financing;
- a standard lease; and
- two mileage-based lease options.

Please carefully review each option, and then answer the questions below.

The enclosed GREEN page provides information and details that may help you when considering the five options.

1. If the first three options shown on the blue pages (Options A, B, and C) were available, which would you MOST PREFER for your next vehicle?

Option A	Option B	Option C
□	□	□

2. If the two mileage-based leasing options shown on the blue pages (Options D and E) were available, which would you MOST PREFER for your next vehicle?

Option D	Option E
□	□

3. If all five options shown on the blue pages (Options A, B, C, D, and E) were available, which would you MOST PREFER for your next vehicle?

Option A	Option B	Option C	Option D	Option E
□	□	□	□	□

4. If you had a mileage-based lease, as in Option D, would you expect to drive the vehicle more, the same, or less than you would if you had a standard lease or had purchased it?

I/We would drive the vehicle MUCH MORE if we had a mileage-based lease	□	1
I/We would drive the vehicle A LITTLE MORE if we had a mileage-based lease	□	2
I/We would not change how much we drive the vehicle	□	3
I/We would drive the vehicle A LITTLE LESS if we had a mileage-based lease	□	4
I/We would drive the vehicle MUCH LESS if we had a mileage-based lease	□	5

5. Now, please consider Option D only. Considering the prices shown, how likely would you be to use this new way of paying for the vehicle?

Definitely would <u>not</u> use the mileage-based lease	□	1
Probably would <u>not</u> use the mileage-based lease	□	2
Not sure whether you would use the mileage-based lease	□	3
Probably would use the mileage-based lease	□	4
Definitely would use the mileage-based lease	□	5

6. For Option D, please tell us what you think would be a *fair per-mile price* assuming the other costs did not change.

Fair price: _____ cents per mile

7. Please tell us the per-mile price where you think it would be *too expensive* for you to consider Option D. Again, assume that the other costs did not change.

Too expensive price: _____ cents per mile

PART 2 – INSURING YOUR NEXT VEHICLE

Survey
Instructions

Please suppose that you now have your next vehicle and that you had the VEHICLE INSURANCE options shown on the three YELLOW pages.

Please carefully review each option, and then answer the questions below.

8. If the insurance options shown on the yellow pages were available, which would you MOST PREFER for your next vehicle?

Option X	Option Y	Option Z
□	□	□

9. If the insurance options shown on the yellow pages were available, which would you LEAST PREFER for your next vehicle?

Option X	Option Y	Option Z
□	□	□

10. If you had mileage-based insurance, as in Options Y and Z, would you expect to drive the vehicle more, the same, or less than you would if you had standard insurance?

I/We would drive the vehicle MUCH MORE if we had mileage-based insurance	□	1
I/We would drive the vehicle A LITTLE MORE if we had mileage-based insurance	□	2
I/We would not change how much we drive the vehicle	□	3
I/We would drive the vehicle A LITTLE LESS if we had mileage-based insurance	□	4
I/We would drive the vehicle MUCH LESS if we had a mileage-based insurance	□	5

11. Now, please consider Option Z only. Considering the prices shown for Option Z, how likely would you be to use this new way of paying for the insurance?

Definitely would not use the mileage-based insurance	□	1
Probably would not use the mileage-based insurance	□	2
Not sure whether you would use the mileage-based insurance	□	3
Probably would use the mileage-based insurance	□	4
Definitely would use the mileage-based insurance	□	5

12. For Option Z, please tell us what you think would be a *fair per-mile price* assuming that other costs were set as shown for the Option Z description.

Fair price: _____ cents per mile

13. Please tell us the per-mile insurance price where you think it would be *too expensive* for you to consider this Option Z. Again, assume that the other costs are set as shown on the Option Z description.

Too expensive price: _____ cents per mile

14. If you could save money by driving this vehicle less, which of the following strategies would you use? *Please check all that apply.*

I/We would go fewer places	□	1
I/We would use other household vehicles more	□	2
I/We would walk and bicycle more	□	3
I/We would travel by public transit more	□	4
I/We would carpool more	□	5
I/We would combine auto trips more	□	6
None of these	□	7

15. If you could save money by driving this vehicle less, which of the following trips do you think you would reduce? ***Please check all that apply.***

Weekday trips during the morning peak period (6:00 a.m. to 9:00 p.m.)	☐	1
Weekday trips during the afternoon peak period (3:00 p.m. to 6:30 p.m.)	☐	2
Weekday trips during the middle of the day (9:00 a.m. to 3:00 p.m.)	☐	3
Weekday trips during the night (6:30 p.m. to 6:00 a.m.)	☐	4
Weekend trips	☐	5
None of these	☐	6

16. What do you think should be the Minnesota Department of Transportation's top priority for 2004 and beyond?

Top priority: _____

_____

_____

17. Do you have other comments about transportation issues in the Twin Cities or in Minnesota? We appreciate your comments.

Comments: _____

_____

_____

	Option A
Type of Arrangement:	***Purchase with cash***
Up-Front Costs:	You pay $24,900 when you get the vehicle.
Regular Monthly Payments:	None.
Mileage Limits and Charges:	***You may drive as many miles as you want***, but higher mileage will lower the vehicle's trade-in or resale value.

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Option B

Type of Arrangement:	***Purchase with financing***
Up-Front Costs:	You pay a $3,500 down payment when you get your vehicle and begin your loan. You also pay your first month's loan payment.
Regular Monthly Payments:	You make loan payments of $410 per month for five years, which includes sales tax.
Mileage Limits and Charges:	***You may drive as many miles as you want***, but higher mileage will lower the vehicle's trade-in or resale value.
After Five Years...	***The vehicle belongs to you***, and you do not need to make any more payments.

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	Option C
Type of Arrangement:	***Standard lease***
Up-Front Costs:	You pay a $500 lease acquisition fee when you get your vehicle and begin your lease. You also pay your first month's lease payment and a refundable security deposit.
Regular Monthly Payments:	You make lease payments of $370 per month for three years, which includes sales tax.
Mileage Limits and Charges:	If you drive more than 36,000 miles over the term of the lease (12,000 miles per year), you will pay $.15 per mile for each mile over the limit when you return the car. If you drive less than 36,000 miles, there are no refunds for the 'unused' miles.
After Three Years...	***The lease is concluded.*** You must return the vehicle, but you have the option of purchasing the vehicle at a fair market value established by a standard used vehicle pricing guide.

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Option D

Type of Arrangement: ***Lease with monthly mileage payments***

Up-Front Costs: You pay a $500 lease acquisition fee when you get your vehicle and begin your lease. You also pay your first month's lease payment and a refundable security deposit.

Regular Monthly Payments: You make lease payments of $220 per month for three years, which includes sales tax, plus the mileage-based fees described below.

Mileage Limits and Charges: You pay $0.12 per mile for every mile you drive. Your mileage is automatically recorded and reported to a central billing agency by a tamperproof device installed in your vehicle. Your mileage charges are added to your regular monthly bill, like a phone bill. You may have the charges itemized, if you desire.

After Three Years... ***The lease is concluded***. You must return the vehicle, but you have the option of purchasing the vehicle at a fair market value established by a standard used vehicle pricing guide.

Monthly Cost Calculator for Option D

Use the table below to help you figure out how much it will cost to drive under the mileage-based lease. With this option, your monthly bill will be different each month. It will be higher for months when you drive your vehicle more and lower for months when you drive your vehicle less. The table below shows approximately how much your monthly charges would be for different mileages.

If you drive this many miles per...		On average, you will pay this amount each **month**...
month	**year**	
400	4,800	$220 + $48 = $268
500	6,000	$220 + $60 = $280
600	7,200	$220 + $72 = $292
700	8,400	$220 + $84 = $304
800	9,600	$220 + $96 = $316
900	10,800	$220 + $108 = $328
1,000	12,000	$220 + $120 = $340
1,100	13,200	$220 + $132 = $352
1,200	14,400	$220 + $144 = $364
1,300	15,600	$220 + $156 = $376
1,400	16,800	$220 + $168 = $388
1,500	18,000	$220 + $180 = $400
1,600	19,200	$220 + $192 = $412
1,700	20,400	$220 + $204 = $424
1,800	21,600	$220 + $216 = $436
1,900	22,800	$220 + $228 = $448
2,000	24,000	$220 + $240 = $460
2,100	25,200	$220 + $252 = $472

Option E

Type of Arrangement:	***Lease with monthly mileage payments***
Up-Front Costs:	You pay a $500 lease acquisition fee when you get your vehicle and begin your lease. You also pay your first month's lease payment and a refundable security deposit.
Regular Monthly Payments:	You make lease payments of $260 per month for three years, which includes sales tax, plus the mileage-based fees described below.
Mileage Limits and Charges:	You pay $0.04 per mile for every mile you drive. Your mileage is automatically recorded and reported to a central billing agency by a tamperproof device installed in your vehicle. Your mileage charges are added to your regular monthly bill, like a phone bill. You may have the charges itemized, if you desire.
After Three Years...	***The lease is concluded***. You must return the vehicle, but you have the option of purchasing the vehicle at a fair market value established by a standard used vehicle pricing guide.

Monthly Cost Calculator for Option E

Use the table below to help you figure out how much it will cost to drive under the mileage-based lease. With this option, your monthly bill will be different each month. It will be higher for months when you drive your vehicle more and lower for months when you drive your vehicle less. The table below shows approximately how much your monthly charges would be for different mileages.

If you drive this many miles per...		On average, you will pay this amount each **month**...
month	**year**	
400	4,800	$260 + $16 = $276
500	6,000	$260 + $20 = $280
600	7,200	$260 + $24 = $284
700	8,400	$260 + $28 = $288
800	9,600	$260 + $32 = $292
900	10,800	$260 + $36 = $296
1,000	12,000	$260 + $40 = $300
1,100	13,200	$260 + $44 = $304
1,200	14,400	$260 + $48 = $308
1,300	15,600	$260 + $52 = $312
1,400	16,800	$260 + $56 = $316
1,500	18,000	$260 + $60 = $320
1,600	19,200	$260 + $64 = $324
1,700	20,400	$260 + $68 = $328
1,800	21,600	$260 + $72 = $332
1,900	22,800	$260 + $76 = $336
2,000	24,000	$260 + $80 = $340
2,100	25,200	$260 + $84 = $344

Option X

Type of Arrangement:	***Standard insurance***
Up-Front Costs:	You pay $800 per year ($66.67 per month).
Mileage Charges:	***None.***
Payment Terms:	You can either pay the total amount of your insurance bill at once, or you can pay it monthly in 12 equal payments.

Option Y

Type of Arrangement: ***Mileage-based insurance***

Up-Front Costs: You pay a flat rate of $195 per year ($16.25 per month), plus mileage charges as described below.

Mileage Charges: You pay $0.06 per mile for every mile you drive. Your mileage is automatically recorded and reported to a central billing agency by a tamperproof device installed in your vehicle. If you drive less, you pay less. If you drive more, you pay more.

Payment Terms: You receive an itemized bill (like a phone bill) each month for the fixed amount of the insurance and your mileage charges.

Monthly Cost Calculator for Option Y

Use the table below to help you figure out how much it will cost to drive under mileage-based insurance. With this option, your monthly bill will be different each month. It will be higher for months when you drive your vehicle more and lower for months when you drive your vehicle less. The table below shows how much your monthly insurance charges would average out to be for different mileages.

If you drive this many miles per...		On average, you will pay this amount each **month**...
month	**year**	
400	4,800	$16 + $24 = $40
500	6,000	$16 + $30 = $46
600	7,200	$16 + $36 = $52
700	8,400	$16 + $42 = $58
800	9,600	$16 + $48 = $64
900	10,800	$16 + $54 = $70
1,000	12,000	$16 + $60 = $76
1,100	13,200	$16 + $66 = $82
1,200	14,400	$16 + $72 = $88
1,300	15,600	$16 + $78 = $94
1,400	16,800	$16 + $84 = $100
1,500	18,000	$16 + $90 = $106
1,600	19,200	$16 + $96 = $112
1,700	20,400	$16 + $102 = $118
1,800	21,600	$16 + $108 = $124
1,900	22,800	$16 + $114 = $130
2,000	24,000	$16 + $120 = $136
2,100	25,200	$16 + $126 = $142

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Option Z

Type of Arrangement: ***Mileage-based insurance***

Up-Front Costs: You pay a flat rate of $310 per year ($25.83 per month), plus mileage charges as described below.

Mileage Charges: You pay $0.04 per mile for every mile you drive. Your mileage is automatically recorded and reported to a central billing agency by a tamperproof device installed in your vehicle. If you drive less, you pay less. If you drive more, you pay more.

Payment Terms: You receive an itemized bill (like a phone bill) each month for the fixed amount of the insurance and your mileage charges.

Monthly Cost Calculator for Option Z

Use the table below to help you figure out how much it will cost to drive under mileage-based insurance. With this option, your monthly bill will be different each month. It will be higher for months when you drive your vehicle more and lower for months when you drive your vehicle less. The table below shows how much your monthly insurance charges would average out to be for different mileages.

If you drive this many miles per...		On average, you will pay this amount each **month**...
month	**year**	
400	4,800	$26 + $16 = $42
500	6,000	$26 + $20 = $46
600	7,200	$26 + $24 = $50
700	8,400	$26 + $28 = $54
800	9,600	$26 + $32 = $58
900	10,800	$26 + $36 = $62
1,000	12,000	$26 + $40 = $66
1,100	13,200	$26 + $44 = $70
1,200	14,400	$26 + $48 = $74
1,300	15,600	$26 + $52 = $78
1,400	16,800	$26 + $56 = $82
1,500	18,000	$26 + $60 = $86
1,600	19,200	$26 + $64 = $90
1,700	20,400	$26 + $68 = $94
1,800	21,600	$26 + $72 = $98
1,900	22,800	$26 + $76 = $102
2,000	24,000	$26 + $80 = $106
2,100	25,200	$26 + $84 = $110

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Appendix C

Cost Estimation

C. Cost Estimation

This section describes how the prices used in the stated-preference survey were derived. These prices were customized based on the respondents' answers regarding their next vehicle acquisition. The algorithm and assumptions used to compute the prices are described.

C.1 ALGORITHM

The following steps are applied to compute the prices:

- **Step 1**: Obtain data from the initial survey on the characteristics of the vehicle to be acquired next. Default values (see next section) are used where respondents did not provide information.
- **Step 2**: Use Edmunds web site (www.edmunds.com) to find a vehicle that matches the description from Step 1 as closely as possible. The following pricing information are obtained: MSRP and purchase price for new vehicles, dealer trade-in and dealer retail for used vehicles.
- **Step 3**: Use the Automotive Lease Guide (ALG) software to determine the loss in value over the lease term.
- **Step 4**: Calculate the monthly payments using standard financial formulas. The interest rate is obtained from www.bankrate.com.
- **Step 5**: For mileage-based lease, assume 80 percent of the standard lease cost is fixed, and the remaining 20 percent is spread over 12,000 miles per year to determine the mileage charge.
- **Step 6**: Obtain the annual insurance premium from Edmunds web site for the vehicle selected in Step 2, or use the value from the initial survey if it is not too different from that obtained from Edmunds web site.
- **Step 7**: For mileage-based insurance, assume 35 percent of the standard insurance premium is fixed, and the remaining 65 percent is spread over 12,000 miles per year to determine the mileage charge.

C.2 ASSUMPTIONS

The assumptions that are made for obtaining the various cost elements are described in this section.

Personal Information

- **Zip Code**: Is obtained from the initial survey. If no information is available, a default value of 55155 (Zip code for Mn/DOT) is used.

Vehicle Information

- **Vehicle Make**: Is obtained from the initial survey. If no information is available, the vehicle make is assumed to be Ford (most popular domestic brand).
- **Body Type**: Is obtained from the initial survey. If no information is available, the body type is set to auto.
- **Purchase Price**: Is obtained from the initial survey. If no information is available, the purchase price is set to $25,000-30,000 for new vehicles ($26,163 national average in 2002) and to $10,000-15,000 for used vehicles ($13,840 national average price for used vehicle sold by new vehicle dealership in 2002).
- **Vehicle Model**: Is obtained from the initial survey. If no information is available, a guess is made based on make, body type, and purchase price.

Loan Details

- **Term**: A five-year term is used, which is the average loan term.
- **Sales Tax**: Is set to 6.5 percent of the purchase price (Minnesota sales tax rate).
- **Registration Fee**: Is set to zero (to make loan, leasing, and pay cash consistent).
- **Other Taxes, Government Fees**: Are set to zero.
- **Down Payment**: Is set to 15 percent and rounded to the nearest $100 (10-20 percent is recommended from Edmunds discussions).
- **Acquisition Fee**: Is set to zero (should be none, from Edmunds discussions).
- **Processing Fee**: Is set to zero (should be none, from Edmunds discussions).
- **What Is Capitalized into Loan?**
  - Purchase price + sales tax + first year registration – down payment.
  - Note: If sales tax, etc. are paid up-front, down payment will just be reduced by this amount.
- **Up-Front Payment**: Is equal to the first month's loan payment + down payment.

Leasing Details

- **Term**: A three-year term is used, which is the most common lease term.
- **Mileage Cap**: Is set to 12,000 miles per year (common amount).
- **Registration Fee**: Is set to zero (to make loan, leasing, pay cash consistent).
- **Other Taxes, Government Fees**: Are set to zero.
- **Down Payment**: Is set to zero (recommendation from Edmunds discussions).

- **Acquisition Fee**: Is set to $500 (flat amount, amount varies by bank, from Edmunds discussions).
- **Processing Fee**: Is set to zero (should be none, from Edmunds discussions).
- **What Is Capitalized into Lease?**
  - Purchase price – down payment (zero) + first year registration.
- **Sales Tax**: Is set to 6.5 percent of each monthly payment (Minnesota sales tax rate).
- **Security Deposit**: Is set to one month's lease payment (from Edmunds discussions).
- **Up-Front Payment**: Is equal to the first month's lease payment + security deposit + acquisition fee.
- **Excess Mileage Fee**: Is assumed to be $.15 per mile for most vehicles, with at least 110 percent of mileage-based lease mileage charge for very expensive vehicles.
- **Disposition Fee**: Is set to zero (usually $300-400, waived if purchase vehicle or lease another vehicle).

Insurance Details

- **Annual Premium**: Is obtained from the initial survey. If no information is available, a value from Edmunds web site is used. Also, the survey value is overridden with the Edmunds value if the survey value is less than one-third the Edmunds value or more than three times the Edmunds value.

Mileage-Based Leasing Details

- **Fixed Cost Portion**: 80 percent is used for new vehicles (GM research), and for used vehicles the same value is assumed as for new vehicles.

Mileage-Based Insurance Details

- **Fixed Cost Portion**: 35 percent is used (Progressive brochure example).