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16. Abstract From just about all accounts, Americans are driving more than ever, not just to work but to shopping, to school, to soccer practice and band practice, to visit family and friends, and so on. Americans also seem to be complaining more than ever about how much they drive – or, more accurately, how much everyone else drives. However, the available evidence suggests that a notable share of their driving is by choice rather than necessity. Although the distinction between choice and necessity is not always so clear, it is important for policy makers. For necessary trips, planners can explore ways of reducing the need for or length of the trip or ways of enhancing alternatives to driving. For travel by choice, the policy implications are much trickier and touch on basic concepts of freedom of choice. This paper first develops a framework for exploring the boundary between choice and necessity based on a categorization of potential reasons for and sources of “excess driving” and then uses in-depth one-on-one interviews guided by this framework to characterize patterns of excess driving. This research contributes to a deeper understanding of travel behavior and provides a basis for developing policy proposals directed at reducing the growth in driving.					
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DRIVING BY CHOICE OR NECESSITY?

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ABSTRACT

From just about all accounts, Americans are driving more than ever, not just to work but to shopping, to school, to soccer practice and band practice, to visit family and friends, and so on. Americans also seem to be complaining more than ever about how much they drive – or, more accurately, how much everyone else drives. However, the available evidence suggests that a notable share of their driving is by choice rather than necessity. Although the distinction between choice and necessity is not always so clear, it is important for policy makers. For necessary trips, planners can explore ways of reducing the need for or length of the trip or ways of enhancing alternatives to driving. For travel by choice, the policy implications are much trickier and touch on basic concepts of freedom of choice. This paper first develops a framework for exploring the boundary between choice and necessity based on a categorization of potential reasons for and sources of “excess driving” and then uses in-depth one-on-one interviews guided by this framework to characterize patterns of excess driving. This research contributes to a deeper understanding of travel behavior and provides a basis for developing policy proposals directed at reducing the growth in driving.

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EXECUTIVE SUMMARY

Introduction

From just about all accounts, Americans are driving more than ever. Data from the Federal Highway Administration suggests that total kilometers of vehicle travel on roads in the U.S. has been increasing at an average rate of 4.9 percent per year since at least 1970, implying an increase in vehicle kilometers traveled (VKT) per person of 2.7 percent per year, from 8,710 to 15,686 VKT per person per year in 2000 (Handy 2002). They are driving more not just to work but to shopping, to school, to soccer practice and band practice, to visit family and friends, and so on. According to data from the Nationwide Household Travel Survey, trips for social and recreation purposes accounted for 13.4% of daily miles of travel by car in the U.S. in 2001 and 13.7% of car trips; visits to friends and relatives accounted for another 10.8% of miles traveled by car and 6.7% of car trips. According to the 1995 Nationwide Personal Transportation Survey, private vehicle trips for recreation accounted for 14% of all local trips and about 15% of total vehicle miles traveled on U.S. roads (Mallet and McGuckin 2000).

Americans also seem to be complaining more than ever about how much they drive – or, more accurately, how much everyone else is driving: congestion regularly tops the list of issues of greatest concern to residents of metropolitan areas in the U.S. (e.g. Nguyen 2003). Yet the available evidence suggests that a notable share of their driving may be by choice rather than necessity. Although many reasonable explanations for why Americans are forced to drive so much have been put forth (e.g. the spread of the suburbs, the lack of good transit alternatives), the categories of travel increasing the most are those that tend to be more flexible and optional. Americans made 86.5 more trips for social and recreation purposes per year on average in 2001 than in 1990 – almost one more trip every four days; they made 68.9 more trips for shopping, 85.9 more for family and personal business, and 17.5 more for visiting (Liss et al. c. 2003).

Other evidence suggests more directly that a significant amount of driving takes place by choice. In an attitudinal survey in the U.K., drivers reported that less than 50% of their annual driving was “essential,” with around 10% rated as “not at all important” and another 18% as “not very important” (Jones and Sloman 2003). Handy and Clifton (2001) found that as much as 50 percent of driving associated with trips to the supermarket in Austin could be attributed to the choice to shop at stores other than the one closest to home.

The distinction between choice and necessity is not always clear, however. What if that more distant supermarket offers some product, service, or quality that the closest supermarket doesn't? In that case, the shopper might consider the longer trip necessary. What about driving the kids to school or to soccer practice? Today's parents might argue that such trips are an absolute necessity. The distinction between driving by choice and by necessity is further complicated by the fact that day-to-day decisions about travel are shaped by long-term decisions about residential location, job location, and activity participation. Each one of these decisions involves some degree of choice, although some individuals have more choices than others, depending on their constraints of income, social ties, knowledge, etc. But once these decisions are made, they create a certain necessary level of daily driving and may considerably narrow the flexibility in trip frequency, destination, mode, and route.

The distinction between choice and necessity, though not always clear, is important for policy makers. For necessary trips, planners can explore ways of reducing the need for or length of the trip or ways of enhancing alternatives to driving, and everyone benefits if the planners are successful. For driving by choice, the policy implications are much trickier and touch on basic concepts of freedom of choice: "What we need to do is make certain that we're able to get [energy] resources... into the hands of consumers so they can make the choices that they want to make as they live their lives day to day," proclaimed White House spokesman Ari Fleischer in May 2001 (White House 2001). An understanding of the boundary between driving by choice and driving by necessity can help to clarify these philosophical issues and define the policy alternatives. The goal of this project was to explore the choices that individuals and households make about driving, in particular, the boundary between driving by choice and driving by necessity, and through this exploration contribute to a deeper understanding of travel behavior and provide a basis for developing policy proposals directed at reducing the growth in vehicular travel.

Proposed Framework

As noted, the distinction between driving by choice and driving by necessity is not entirely clear. One way to clarify this distinction is to ask, in what ways are people driving more than they really need to, thereby generating what might be called "excess" driving? As a starting point, excess driving is defined here as driving beyond that required for household maintenance

given choices about residential location, job location, and activity participation. The required level of driving can be defined more specifically as the minimum number of trips using the shortest routes to the closest destinations possible and using modes other than the car as often as possible. Excess driving is then defined as driving above and beyond the required level and can be generated by the choice of longer routes, farther destinations, greater use of the car, and more frequent trips than the minimum required. Excess driving would be generated, for example, by choosing to take a more scenic but longer route to get to work, choosing to shop not at the closest supermarket that meets one's needs but at a more distant one, choosing to take the car to the swimming pool when one could easily bike, or driving to the supermarket during the week because one forgot something important when one shopped on Saturday. Note that the timing of a trip does not generally contribute to excess driving distance, although it may influence the time spent driving (if trips are made during peak traffic hours) and it may be correlated with choices about frequency, destination, mode, and route and thus with levels of excess driving. Of course, these minimum requirements can be difficult to define, particularly the minimum requirements for destination and frequency. The closest supermarket may not meet one's needs, or one may have certain dietary requirements that necessitate a trip to the supermarket for fresh food more than once a week. Each individual has her own set of minimum requirements, given her own needs and constraints, that is not readily observable. To complicate matters further, even seemingly necessary trips – the commute to work, a trip to the grocery store – might involve some element of choice with respect to route, mode, destination, or frequency that contributes to excess driving.

A series of reasons for the four sources of excess driving (more frequently, longer route, more by car, farther destination) differ with respect to the degree of conscious choice involved (Table 1). Driving purely for the sake of driving is clearly a choice, as are driving because of the value of activities while driving and driving for the sake of variety. Excess driving because of habit or poor planning does not result from a conscious choice as much as it does from a lack of conscious thought. Misperceptions and lack of information, in contrast, are unconscious influences that may lead to excess driving. Excess driving can thus be intentional (as is the case for driving for the sake of driving, for the value of activities while driving, or for the sake of variety) or unintentional (as is the case for excess driving because of habit, poor planning, misperceptions, and lack of information). Similarly, these potential reasons for excessive

driving differ in their degree of apparent “rationality”: from the standpoint of traditional assumptions in travel behavior theory, driving for the sake of driving and other intentional excessive driving appear “irrational,” in that individuals are consciously choosing not to minimize their travel time (Goodwin and Hensher 1978).

Table 1. Typology of Excess Driving

			Sources of Excess Driving			
Reason for Excess Driving			More Frequently	Longer Route	More by Car	Farther Destination
Value of driving itself	CONSCIOUS CHOICE	INTENTIONAL -	e.g. a Sunday	e.g. to spend more time in	A3 e.g.	A4
Value of activities while driving			B1	B2	B3	B4
Variety seeking			C1	C2	C3	C4
Habit	LACK OF CONSCIOUS THOUGHT	UNINTENTIONAL -	D1	D2	D3	D4
Poor planning			E1	E2	E3	E4
Misperceptions	UNCONSCIOUS INFLUENCE		F1	F2	F3	F4
Lack of Information			G1	G2	G3	G4

This framework leaves many significant “gray areas,” where it is hard to pin down exactly what constitutes driving by choice versus driving by necessity. Two factors in particular that contribute to levels of driving but were excluded from the definition of excess driving presented earlier may merit further consideration: assessment of destination attractiveness and choice of activities.

Focus Groups

As a first step toward testing and refining the proposed framework, three focus group discussions were organized at the University of Texas at Austin in May and June 2002. The purpose of the focus groups was to look for evidence of these categories of excess travel, to test alternative ways of asking about excess travel, and to look for other issues or themes related to excess travel. Participants were recruited through an email message sent to a random sample of university employees, including faculty, staff, and student employees. The groups ranged in size

from 7 to 10 participants. The sessions were held on campus during the lunch hour, and boxed lunches were provided to participants as a recruiting incentive. The discussions were facilitated by the research team, using a prepared discussion guide that asked about travel on the day of the diary survey as well as more general patterns of travel; these questions were modified somewhat after the first focus group in an attempt to improve the effectiveness of the second and third focus groups. The discussions were audio taped and then transcribed. Using these transcripts, comments from participants were coded according to the framework described above to identify examples for each of the cells in Table 1 and looked for other important themes and patterns.

The focus group discussions pointed to some level of excess driving for everyone, and significant levels of excess driving for some. When the focus group participants were asked if they drive more than they want to, the response was an unambiguous yes from everyone. When asked if they drive more than they need to, the response was also an unambiguous yes from all but one or two participants. These results point to an apparent paradox: people drive more than they would like to yet they are not doing so entirely out of need. The discussions themselves point to two explanations for this paradox. First, people like some of the driving they do but not all of the driving they do, and the driving they would like to eliminate is generally the driving that they need to do. Second, people are often too lazy to do the planning it would take to reduce their driving, or they never stop to think about ways they could reduce their driving. Besides providing evidence of excess driving, this initial exploration of the question of driving by choice versus necessity suggests the need for further research to categorize the potential sources of excess driving, develop effective techniques for identifying excess driving, and quantify both the amount of excess driving and the contribution of various explanatory factors.

In-Depth Interviews

The results of the focus groups provided a basis for the development of an interview guide, which we used to conduct in-depth one-on-one interviews in Austin, TX in May, June, and July 2003. In the interviews, we looked for further evidence of excess driving and used the results to begin to assess which categories of excess driving are most pervasive and how excess driving varies across the population. Participants were recruited through an email message sent to a random sample of university employees, including faculty, staff, and student employees drawn from the published directory. Interviews were held on campus (or at satellite facilities for the

university) at a time and location chosen by the participants, who were offered a \$10 gift certificate at the university bookstore as an incentive. Three research assistants were trained to conduct the interviews, which were audiotaped and later transcribed. Using these transcripts, the research assistants coded the comments of the participants according to the framework described above to identify examples for each of the cells in Table 1 and looked for other important themes and patterns. The coding was reviewed by two of the authors for consistency. A total of 43 interviews were completed over a period of eight weeks.

The interview guide consisted of three sections. In the first section, the interviewer asked the participants to recount their trips on the previous day. For each trip, the interviewer then asked about possible alternatives in terms of mode, destination, and route, and whether the trip was necessary. The purpose of this section was to assess the flexibility of travel choices and identify examples of excess driving. In the second section, the interviewers asked the participant a series of questions designed to elicit examples of each type of excess driving, as outlined in Table 1. Some types of excess driving are easier to directly identify; for others, more indirect questions were used. Thus, the results may to some degree reflect differences in the effectiveness of our questions in finding different types of excess driving. The third section of the interview included three questions intended to assess the participant's own perspective on the extent to which they drive by necessity and by choice, as well as their general feelings about owning a car.

Although the amount of excess driving was not measured as a part of this study, the number of different types of excess driving for which participants provided evidence as an indicator of the extent of excess driving can be used. More frequent trips and longer routes were the most frequently mentioned sources of excess driving; more trips by car was the least frequent (Table 2). Variety-seeking was the most frequently mentioned reason for excess driving, followed by misperceptions, poor planning, and the value of activities while driving. On average, participants provided evidence of 5.2 different types of excess driving. Every participant offered at least one example of at least one type of excess driving, and some offered examples of as many as nine different types. Another indicator of the extent of excess driving is whether they had any flexibility in their trips on the previous day to drive less than they did. When asked about the flexibility of their trips on the previous day, 27 out of 43 participants said that they had some flexibility to not make the trip, use a shorter route, use a mode other than

driving, or go to a closer destination for at least one of their trips. Both indicators suggests that participants engaged in a measurable level of excess driving, though just how much in either absolute or proportional terms cannot be quantified based on the interviews.

Table 2. Number of Participants With Examples of Excess Driving

Reason for Excess Driving	Sources of Excess Driving			
	More Frequently	Longer Route	More by Car	Farther Destination
Value of driving itself	A1 14	A2 1	A3 0	A4 0
Value of activities while driving	B1 15	B2 17	B3 0	B4 0
Variety seeking	C1 14	C2 20	C3 13	C4 13
Habit	D1 14	D2 1	D3 2	D4 2
Poor planning	E1 30	E2 0	E3 3	E4 0
Misperceptions	F1 21	F2 12	F3 1	F4 2
Lack of Information	G1 4	G2 19	G3 0	G4 5

When asked directly about whether they drive more than they *need* to, 19 participants said “yes” and 24 participants said “no.” Those saying no were slightly older and had longer commutes on average than those saying yes, perhaps reflecting an association between efforts to minimize driving and both age and residential location. Those saying yes provided evidence of 6.1 different types of excess driving on average and 37% admitted to making extra trips to satisfy cravings. Those saying no provided evidence of 4.5 different types, a statistically significant difference from those saying yes, and only 13% admitted to making extra trips to satisfy cravings. The fact that those who say they do not drive more than they need to provided some evidence of excess driving according to our definitions is interesting. This inconsistency suggests either some discrepancy between our definitions and theirs or an ability on the part of participants to discount in their own minds the amount of excess driving that they do. As a result, a conservative assessment of excess driving would focus on the difference between the group saying they do not drive more than they need to and the group saying they do rather than absolute levels for either group.

When asked whether they drive more than they *want* to, 34 participants said “yes” and only nine said “no.” A much higher share of those saying yes were female compared to those saying no – 61.2% versus 44.4%, respectively; average age and average commute distance did not vary significantly. This result points to the possibility that women have a lower preference for driving overall. Those saying they drive more than they want provided evidence of 4.8 different types of excess driving on average, compared to 6.8 different types for those saying they do not drive more than they want. Similarly, only 21% of those saying they drive more than they want confessed to extra trips to satisfy cravings, compared to 33% for those saying they don’t drive more than they want. These seemingly contradictory results, where those who are happy with the amount of driving they do drive more than those who aren’t, also point to fundamental differences in preferences towards driving: those who do not drive more than they want to must have a much higher tolerance for driving than those who do drive more than they want.

Participants were also asked which statement better characterizes how they feel about their cars: “Owning a car gives me freedom,” or “Owning a car is a significant burden.” Nearly two-thirds of respondents agreed with the first statement, while nearly a third said that both statements are true for them; only two participants said that owning a car is solely a burden for them. Participants mentioned the ability to go where they want when they want to as providing an important sense of freedom and an ability to do what they want to do. “Driving is a necessity to make my life happen,” said one participant. “I feel like I get freedom because if I didn’t have a car, my social life on the weekends would be very curtailed,” said another. The feeling of freedom was clearly tied to driving by choice, while the feeling of burden was tied to driving by necessity. As one participant put it, “Freedom is when it’s a choice... The burden is when you have to commute to work.” This sentiment was implicit in the comment of another participant, “I hate errand driving. I like open road drives.” For the participants, the freedom associated with owning a car outweighs the burdens: “It can be a burden, too, but it is a gladly accepted burden.”

Interestingly, participants who said that they do not drive more than they *need* to were more likely to say that owning a car gives them freedom but is not a burden, compared to participants who said they do drive more than they need to. In other words, those who drive more than they need to, also feel owning a car is a greater burden. This result is somewhat surprising, in that those who drive more than they need to may do so at least partly out of choice;

it makes more sense if the extra driving increases the burden of owning a car because of costs associated with additional wear-and-tear. Participants who do not drive more than they *want* to were more likely to say that owning a car gives them freedom but is not a burden, compared to participants who said they do drive more than they want to. In other words, those who drive more than they want to, also feel owning a car is a greater burden. This result is not surprising. Providing answers to the question of whether participants drive more than they *need* to together with answers to the question of whether participants drive more than they *want* to yields interesting results (Table 3). Nearly one third of participants fall into the category of driving more than they need to, but also driving more than they want to. These participants are apparently driving by choice to some degree, but they are not happy about the driving they do out of necessity: they prefer to reduce certain kinds of driving. Close to half of all participants fall into the category of not driving more than they need to, but still driving more than they want to. These participants do not drive by choice and they would also like to reduce the driving they do out of necessity: they prefer to reduce all kinds of driving. Only 9 participants said they do not drive more than they want to, and these were split almost equally between those that said they drive more than they need to and those that don't. The former group is driving to some degree by choice, while the latter group is not, but both groups are satisfied with the situation. The differences between these four groups point to different policy approaches.

Table 3. Driving More Than You Want vs. Driving More Than You Need

Driving More Than You Want To	Driving More Than You Need To					
	Yes		No		Total	
Yes	14	32.6%	20	46.5%	34	79.1%
No	5	11.6%	4	9.3%	9	20.9%
Total	19	44.2%	24	55.8%	43	100.0%

Conclusions

Although these findings are exploratory, they begin to suggest the need for a combination of policies to address both individual- and community-level concerns (Table 4). For those who do not drive more than they need to but do drive more than they want to, policies must work to further reduce the need for driving. Policies that provide alternatives to driving or that reduce the length of driving trips would help. Such policies might include improved transit services and improved bicycle and pedestrian infrastructure. Land use policies that bring activities closer together could increase the viability of walking and biking and also reduce necessary driving distances. These policies would also benefit those who drive more than they need to and more than they want to, as would approaches such as voluntary travel behavior change programs, which help households one-on-one to reduce their driving, and certain applications of Intelligent Transportation Systems (ITS), particularly Advanced Traveler Information Systems (ATIS).

Table 4. Policy Implications

Driving More Than You Want To	Driving More Than You Need To	
	Yes	No
Yes	Alternatives to driving, voluntary travel behavior change programs, and Intelligent Transportation Systems	Alternatives to driving, including transit, bike/ped, land use policies
No	Pricing policies or additional road capacity	Alternatives to driving, and pricing policies

For those who do not drive more than they need to or than they want to, issues arise at the community level though not at the individual level. These individuals have little internal motivation to reduce driving, yet the driving that they do out of necessity has impacts on the community. Policies that provide alternatives to driving or that reduce necessary driving distances might lead to less driving for these individuals and thus benefits for the community, assuming that individuals do not make up for a reduction in necessary driving with an increase in

driving by choice. Pricing policies that increase the cost of driving would also encourage these individuals to take advantage of these alternatives and drive less if they can. Finally, for those who drive more than they need to but not more than they want to, two different policy approaches are possible. If the larger goal is to reduce environmental impacts and manage congestion, then pricing policies could help to discourage driving by choice. If the larger goal is to accommodate the desires of individuals to drive more than they need to, then additional road capacity may be appropriate. The fact that few of the participants in this study fall into this category supports a move towards less traditional transportation policies to address both individual- and community-level concerns.

Proposed transportation projects are often evaluated in terms of the travel-time savings they will yield and the estimated value of those savings to travelers. Although this study did not directly address the concept of the value of travel-time savings, it provides useful insights into the challenges of measuring it. In particular, it is clear that not all travel-time savings would be equally valued by drivers. Most obviously, drivers would value a reduction in time spent on necessary driving more than time spent driving by choice. On the other hand, drivers mostly dislike driving in congested traffic, so that any reduction in time spent driving in heavy traffic would be valued more than an equal savings in time spent driving in uncongested conditions by both those driving by choice and those driving by necessity. An approach to measuring the value of travel-time savings that is sensitive to such differences might influence the decision-making process for transportation projects in significant ways.

Besides providing evidence of excess driving, this initial exploration of the question of driving by choice versus necessity suggests the need for further research to categorize the potential sources of excess driving, develop effective techniques for identifying excess driving, and quantify both the amount of excess driving and the contribution of various explanatory factors. The results from the in-depth interviews can serve as the basis for the development of a survey instrument to address these issues quantitatively. Future efforts should focus on ways of distinguishing between the value of driving itself and the value of activities while driving and on ways of searching for excess driving caused by habit, misperceptions, and lack of information. The gray areas associated with destination choice and activity choice merit further consideration, as do the even grayer areas associated with residential location choice and job choice. In addition, an exploration of the decision-making processes underlying excess driving might yield

important new insights into travel behavior. A better understanding of the magnitude of excess driving and its sources will help in the formulation of policies designed to slow the growth in vehicular travel.

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CHAPTER 1: INTRODUCTION

From just about all accounts, Americans are driving more than ever. Data from the Federal Highway Administration suggests that total kilometers of vehicle travel on roads in the U.S. has been increasing at an average rate of 4.9 percent per year since at least 1970, implying an increase in vehicle kilometers traveled (VKT) per person of 2.7 percent per year, from 8,710 to 15,686 VKT per person per year in 2000 (Handy 2002). They are driving more not just to work but to shopping, to school, to soccer practice and band practice, to visit family and friends, and so on. According to data from the Nationwide Household Travel Survey, trips for social and recreation purposes accounted for 13.4% of daily miles of travel by car in the U.S. in 2001 and 13.7% of car trips; visits to friends and relatives accounted for another 10.8% of miles traveled by car and 6.7% of car trips. According to the 1995 Nationwide Personal Transportation Survey, private vehicle trips for recreation accounted for 14% of all local trips and about 15% of total vehicle miles traveled on U.S. roads (Mallet and McGuckin 2000).

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The distinction between choice and necessity is not always clear, however. What if that more distant supermarket offers some product, service, or quality that the closest supermarket doesn't? In that case, the shopper might consider the longer trip necessary. What about driving the kids to school or to soccer practice? Today's parents might argue that such trips are an absolute necessity. The distinction between driving by choice and by necessity is further complicated by the fact that day-to-day decisions about travel are shaped by long-term decisions about residential location, job location, and activity participation. Each one of these decisions involves some degree of choice, although some individuals have more choices than others, depending on their constraints of income, social ties, knowledge, etc. But once these decisions are made, they create a certain necessary level of daily driving and may considerably narrow the flexibility in trip frequency, destination, mode, and route.

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The goal of this project was to explore the choices that individuals and households make about driving, in particular, the boundary between driving by choice and driving by necessity, and through this exploration contribute to a deeper understanding of travel behavior and provide a basis for developing policy proposals directed at reducing the growth in vehicular travel. Chapter 2 proposes a conceptual framework for categorizing what might be called "excess" driving by the reasons for excess driving and the source of excess driving. Chapter 3 summarizes results from three focus groups held in May and June 2002 in Austin, TX that explored possible sources of excess driving and led to refinements in the proposed framework. Chapter 4 then summarizes results from a series of in-depth interviews conducted in May and June 2003 in

Austin, TX that used this framework to characterize patterns of excess driving. Finally, Chapter 5 concludes with a discussion of potential policy implications and questions for further research.

CHAPTER 2: PROPOSED FRAMEWORK

As noted, the distinction between driving by choice and driving by necessity is not entirely clear. One way to clarify this distinction is to ask, in what ways are people driving more than they really need to, thereby generating what might be called “excess” driving? As a starting point, excess driving is defined here as driving beyond that required for household maintenance *given* choices about residential location, job location, and activity participation. The required level of driving can be defined more specifically as the minimum number of trips using the shortest routes to the closest destinations possible and using modes other than the car as often as possible. Excess driving is then defined as driving above and beyond the required level and can be generated by the choice of longer routes, farther destinations, greater use of the car, and more frequent trips than the minimum required. Excess driving would be generated, for example, by choosing to take a more scenic but longer route to get to work, choosing to shop not at the closest supermarket that meets one’s needs but at a more distant one, choosing to take the car to the swimming pool when one could easily bike, or driving to the supermarket during the week because one forgot something important when one shopped on Saturday. Note that the timing of a trip does not generally contribute to excess driving distance, although it may influence the time spent driving (if trips are made during peak traffic hours) and it may be correlated with choices about frequency, destination, mode, and route and thus with levels of excess driving. Of course, these minimum requirements can be difficult to define, particularly the minimum requirements for destination and frequency. The closest supermarket may not meet one’s needs, or one may have certain dietary requirements that necessitate a trip to the supermarket for fresh food more than once a week. Each individual has her own set of minimum requirements, given her own needs and constraints, that is not readily observable. To complicate matters further, even seemingly necessary trips – the commute to work, a trip to the grocery store – might involve some element of choice with respect to route, mode, destination, or frequency that contributes to excess driving.

A series of reasons for the four sources of excess driving (more frequently, longer route, more by car, farther destination) differ with respect to the degree of conscious choice involved (Table 2-1). Driving purely for the sake of driving is clearly a choice, as are driving because of

the value of activities while driving and driving for the sake of variety. Excess driving because of habit or poor planning does not result from a conscious choice as much as it does from a lack of conscious thought. Misperceptions and lack of information, in contrast, are unconscious influences that may lead to excess driving. Excess driving can thus be intentional (as is the case for driving for the sake of driving, for the value of activities while driving, or for the sake of variety) or unintentional (as is the case for excess driving because of habit, poor planning, misperceptions, and lack of information). Similarly, these potential reasons for excessive driving differ in their degree of apparent “rationality”: from the standpoint of traditional assumptions in travel behavior theory, driving for the sake of driving and other intentional excessive driving appear “irrational,” in that individuals are consciously choosing not to minimize their travel time (Goodwin and Hensher 1978).

Table 2-1. Typology of Excess Driving

Reason for Excess Driving			Sources of Excess Driving			
			More Frequently	Longer Route	More by Car	Farther Destination
Value of driving itself	CONSCIOUS CHOICE	INTENTIONAL -	e.g. a Sunday	e.g. to spend more time in	A3 e.g.	A4
Value of activities while driving			B1	B2	B3	B4
Variety seeking			C1	C2	C3	C4
Habit	LACK OF CONSCIOUS THOUGHT	UNINTENTIONAL -	D1	D2	D3	D4
Poor planning			E1	E2	E3	E4
Misperceptions	UNCONSCIOUS INFLUENCE		F1	F2	F3	F4
Lack of Information			G1	G2	G3	G4

Within the conscious choice category are the value that drivers derive from the act of driving itself and the value that drivers derive from the activities they can participate in while driving – watching the scenery, listening to the radio, getting out of the house, clearing one’s head, etc. Mokhtarian, et al. (2001) found significant evidence for these motivations in a majority of their sample, although participants in their study found it difficult to distinguish between the value of travel itself and the value of the activities while traveling. The “positive utility” of driving might

lead to the choice of longer routes (cells A2 or B2 in Table 1) and farther destinations (A4 or B4) than are necessary, either to extend the time spent driving or to enable more time for activities that one enjoys while driving. The positive utility of driving might also generate more driving trips than are necessary (A1 or B1), driving trips that are purely optional, such as a Sunday drive in the country. As Mokhtarian and Salomon (2001) have articulated, for these kinds of trips, driving itself is the purpose of the trip; Heinze (2000) calls such trips “original demand,” in contrast to derived demand. Even for some trips that involve a destination, driving is the primary purpose of the trip, and the destination is of secondary importance, nothing more than an excuse for the drive. The positive utility of driving might also contribute to more use of the car than is necessary (A3 or B3). Of course, even without any positive utility of driving, most individuals choose driving because it is faster and thus has less disutility than other modes. For most people, any positive utility to driving is likely to be frosting on the cake, so to speak, when choosing between modes.

A desire for variety also falls into the category of conscious choice. Ratner, et al. (1999) have found evidence that individuals sometimes switch away from their preferred option to less-preferred options purely for the sake of variety. With respect to travel behavior, variety-seeking behavior may influence the choice of routes (C2), the choice of destinations (C4), and the frequency of trips (C1), leading to driving in excess of that required. If individuals become bored with their usual choices, they may opt for longer routes or more distant destinations; if individuals get bored with their surroundings, they may opt for more frequent trips. Of course, if the usual choices are not the closest or shortest, then variety seeking behavior could work to *decrease* excess driving. However, given the general tendency to minimize travel distance when possible, variety seeking is likely to increase driving for most people on most occasions. As Mokhtarian and Salomon (2001) have noted, it is difficult to distinguish between the positive utility of travel and variety seeking as motives for choosing longer routes, more distant destinations, or more frequent trips, that is, whether the motivation is a desire for more time in the car or for variety in scenery. It can also be difficult to distinguish between pure variety seeking behavior and variable needs that might lead an individual to choose different destinations on different occasions. In the latter case, variable needs lead to variable levels of minimum required driving, which affects the level of driving that could be defined as excess. It

is also possible that variety seeking leads to different choices about modes (C3). Someone who usually drives may decide to take the bus one day, just for change, thereby decreasing excess driving. Someone else who usually bikes may decide to drive, thereby increasing excess driving. The remaining factors that can contribute to excess driving are not intentional: habit, poor planning, misperceptions, and lack of information. With these factors, drivers are not consciously choosing to drive more than they need to, but they could make different choices that would reduce their driving. The Travel Blending® Program, described by Rose and Ampt (2001), focuses on the potential for reducing driving by raising awareness and providing information. In a pilot study, driving declined by about 10% after participants were made aware of alternatives to their current patterns of driving. A review of other voluntary travel behavior change programs in the U.K. found evidence of similar declines in driving (Jones and Sloman 2003). These programs address all four of these sources of excess driving.

Excess driving due to habit perhaps involves a larger element of choice than excess driving due to poor planning, misperceptions, and lack of information. Garling and Axhausen (2003) define habitual behavior as that which involves no or little deliberation and no formation of intention – it involves little in the way of conscious thinking; choices evolve into habitual behavior over time and are only infrequently re-evaluated (Heggie 1979). Individuals may regularly travel longer routes (D2), visit more distant destinations (D4), and drive rather than use other modes (D3) without thinking about their choices, even when they are aware of alternatives. Habit may also contribute to more frequent trips than necessary (D1), for example, when an individual makes a weekly trip to the bank or a daily trip to the bakery. For many people, choices made by habit may come to seem a necessity, the idea that “I’ve always done it that way, so I have to do it that way,” although in some cases, behavior that appears to be a matter of habit is actually forced on individuals by institutional constraints (Jones 1978). The key to undoing habitual behavior is to get individuals to deliberate their choices once again (Bamberg et al. 2003; Fuji and Kitamura 2003; Garling and Axhausen 2003; Goodwin and Hensher 1978; Heggie 1979). The willingness to reconsider habitual behavior may depend on a variety of characteristics of the individual, including gender (Matthies et al. 2002).

For excess driving due to poor planning, choice also plays a role, though a lesser one; a lack of conscious thought is the main culprit. Poor planning may lead to more trips for a

particular activity (E1), for example, extra trips to the supermarket to purchase forgotten items. Poor planning in terms of the inefficient coordination of trips for different activities may also lead to more total trips as well as trips to more distant destinations (E4), for example, when an individual makes separate trips to the supermarket and the pharmacy, rather than linking these trips into one chain, or, better yet, using the pharmacy at the supermarket rather than one located across town (assuming both meet their needs). Poor planning of trip chains can also lead to longer routes if a driver backtracks to reach destinations in the chain (E2). Poor planning might also lead to more use of the car than is necessary (E3), if, for example, taking the bus to work is a viable option for an individual who can just get herself out of the house by a regular time each day. A factor closely related to that of poor planning is poor anticipation of needs. New needs for goods or activities emerge all the time, some of which can be foreseen and some of which can't. For those that can, individuals can reduce their driving by anticipating that need and taking care of it as part of an existing trip rather than making a separate trip later on.

The final two categories, misperceptions and lack of information, represent unconscious influences on excess driving. In neither case can the individual make different choices without some help. Mistakes in perception are behind many of the discrepancies between actual behavior and economic theory, particularly when individuals are choosing between unfamiliar alternatives (McFadden 2002). Misperceptions might include an individual's incorrect belief about what is the shortest route (F2), the closest destination (F4), or the quickest mode (F3). In this case, the individual believes he is making the choice that minimizes driving when he is not. Misperceptions might also influence the frequency of trips (F1), if, for example, an individual wrongly believes that a store is open until 10 but it really closed at 8 and so he is forced to come back the next day.

Lack of information may have similar effects. In this case, the individual simply doesn't know about other alternatives that would minimize driving. Again, he believes he is making the choices about route (G2), destination (G4), mode (G3), and frequency (G1) that minimize driving. As Heggie (1979) notes, individuals generally have limited information about alternative modes, routes, and destinations. Efforts by public agencies to provide information about routes, destinations, and modes to the general public aim at these sources of excess driving. For example, parking information systems in European cities that direct drivers to the

nearest available parking help to reduce excess driving in congested areas. However, simply providing information isn't always enough. As noted by Sharps and Martin (2002), individuals often make decisions without making use of important information, even when that information is readily available.

Gray Areas

This framework leaves many significant “gray areas,” where it is hard to pin down exactly what constitutes driving by choice versus driving by necessity. Two factors in particular that contribute to levels of driving but were excluded from the definition of excess driving presented earlier may merit further consideration: assessment of destination attractiveness and choice of activities.

According to travel behavior theory, individuals choose the option that provides them with the greatest utility. For destination choices, researchers assume that utility is determined by the cost of reaching the destination and the attractiveness of the destination. As defined above, excess driving occurs when the cost of driving is at least partially, if not wholly, offset by benefits of driving, in the form of the value of driving itself, the value of activities while driving, or the desire for variety. The individual's assessment of the attractiveness of potential destinations was taken as a given. However, some of the qualities that contribute to the attractiveness of potential destinations are clearly more important than others. A shopper might choose a more distant supermarket because she likes the atmosphere better there, another shopper might choose it because it offers better prices, and a third might choose it because she feels safer there. If travel costs were to go up, the atmosphere-oriented shopper might choose a closer supermarket, while the price- and safety-oriented shoppers might continue to shop at the more distant store despite the higher travel cost. Should all qualities contributing to the attractiveness of a destination qualify as contributing to the necessity of that choice and thus to the necessity of travel? Or should the more expendable factors, the ones with higher cross-elasticities with travel costs, be considered in defining excess travel? Kemperman, et al. (2002) suggest that the utility of a destination can decline over time simply as a result of repeated visits; if so, is the variety offered by a more distant destination a necessary or unnecessary quality? Mayo, et al. (1988), for example, found that “the far-off destination has a special allure about it

simply because it is far off,” at least for vacation travel – should that count as a necessary quality? The difficulty is in knowing where to draw the line.

In addition, excess driving was defined earlier as driving above and beyond the minimum required, *given* choices about residential location, job location, and activity participation. Residential location and job location are relatively inflexible in the short run and may be highly constrained even in the long run and so seem appropriate to exclude from consideration in defining excess travel. However, choices about activity participation may be quite flexible, at least for some activities on some occasions. It may be appropriate, then, to also consider activity choice to some extent in defining excess driving. Again, the challenge is in deciding where to draw the line. When an individual runs out to the supermarket after the kids are in bed to get a pint of ice cream, is that a necessary or an optional activity? Signing the kids up for piano lessons and the local soccer league, are those necessary or optional activities? What appears to be a question of choice to an observer may be perceived as a matter of necessity by the individual. Finding an objective way to make these distinctions may simply be impossible.

CHAPTER 3: FOCUS GROUPS

Although qualitative techniques do not yield statistically significant results, they are ideally suited for exploratory research such as this (Clifton and Handy 2003). As a first step toward testing and refining the proposed framework, three focus group discussions were organized at the University of Texas at Austin in May and June 2002. The purpose of the focus groups was to look for evidence of these categories of excess travel, to test alternative ways of asking about excess travel, and to look for other issues or themes related to excess travel.

Participants were recruited through an email message sent to a random sample of university employees, including faculty, staff, and student employees. The groups ranged in size from 7 to 10 participants. The sessions were held on campus during the lunch hour, and boxed lunches were provided to participants as a recruiting incentive. Participants were asked to complete a one-day travel diary survey prior to the focus group session and a short one-page survey at the beginning of the focus group. The travel diary included two additional questions designed to foster discussion in the focus groups: for each trip, participants were asked “If you could have, would you have ‘teleported’ to this place?” and “For this trip, how flexible was the destination? The activity?” The discussions were facilitated by the research team, using a prepared discussion guide that asked about travel on the day of the diary survey as well as more general patterns of travel (Appendix A); these questions were modified somewhat after the first focus group in an attempt to improve the effectiveness of the second and third focus groups. The discussions were audio taped and then transcribed. Using these transcripts, comments from participants were coded according to the framework described above to identify examples for each of the cells in Table 2-1 and looked for other important themes and patterns.

One of the challenges in sorting out the magnitude of different categories of excess travel is that the categories are not entirely independent. First, individuals can have multiple reasons for driving more than they need to. For example, poor planning may mean that an individual has to make an extra trip to the store, but a desire for variety leads him to choose a more distant store. Another individual may derive value from activities while driving and have a strong desire for variety, leading both to more trips and longer routes than are necessary. Second, one reason for excess driving can impact another reason for excess driving. For example, an individual may

initially choose a longer route because he enjoys listening to the radio while he drives, but eventually the choice becomes habit. Clearly, a lack of information can contribute to misperceptions or to poor planning. As a result, it was not always possible to differentiate excess driving according to these independent categories.

Another challenge is to find ways of identifying excess driving due to misperceptions and lack of information. Individuals are unlikely to be aware of misperceptions they hold or information they lack. Thus, simply asking them about their choices is not a particularly effective way of determining whether they drive more than they need to for either of these reasons. On the other hand, they may be able to think of examples where they later learned they were wrong or came across new information that would have changed their choices and reduced their excess driving. One approach might be to challenge them on their assumptions: are you certain that this is the shortest route? Another approach might be to provide them with complete information about the available choices to identify gaps in their information and then to ask whether their choices would change in response to this new information. The research team did not test either of these approaches in the focus groups, but instead focused on reasons for excess driving other than misperceptions and lack of information.

The focus group discussions offer interesting illustrations of the proposed framework but also demonstrate the complexity of distinguishing between choice and necessity. Findings on the value of driving itself, the value of activities while driving, variety seeking, habit, and planning and their impacts on trip frequency and route choice are discussed first (the intersection of rows A through E with columns 1 and 2). Because they were much sparser, findings with respect to impacts on mode choices and destination choices (columns 3 and 4) are presented separately. Finally, findings on the gray areas of activity choice and residential location choice are offered.

Value of Driving Itself

At one end of the continuum of reasons for excess driving is the value of driving itself. In the focus groups, the research team looked for evidence of the value of driving itself as well as the impact of this value, if any, on the amount of driving. In response to questions about “teleporting,” the value of physical travel in general was more evident than the value of driving in particular. Beside the value of activities while traveling, discussed below, the separation in

time and space that physical travel enables provides an important benefit:

It gives you the chance to unwind a bit before you get there

A couple of examples of the value of driving itself, specifically, did emerge, however. One participant talked about the enjoyment of a “cathartic drive” on the weekend, while a motorcycle rider described his enjoyment this way:

Yeah. I enjoy driving, it’s a mental exercise as much as a thing of transportation because you are vulnerable to automobiles on a motorcycle. You get on and you remember that you have to be aware of everything around you because no one else is going to watch out for you. You don’t have a big cushion of metal around you.

Contrary to common stereotypes, the enjoyment of driving did not seem to vary consistently with gender. The participant who expressed the greatest enjoyment of driving and the participant who expressed the greatest displeasure with driving were both women. Overall, age also did not seem to play a role, although as suggested by another participant, a particular individual’s enjoyment of driving can change with age:

...when I was younger I enjoyed driving just for the fun of it but I always felt like it was kind of juvenile in a sense and I’ve only, at you know about 70 years old, I got over that.

Separating the value of driving itself from the value of activities while driving proved difficult. One way this problem was approached was to ask participants if they would still enjoy driving if they couldn’t do the things they enjoy doing while driving, such as looking at the scenery or listening to the radio. In one group, the participants responded,

If you couldn’t see anything or listen to music, no.

It wouldn’t be worth it.

These statements suggest that it is the activities while driving that they value rather than driving itself; the kinds of activities mentioned are discussed below. Whichever the source of enjoyment, the level of enjoyment clearly depended on several factors. First, participants enjoyed driving more or less depending on the destination of the trip. In general, trips associated

with optional activities were more enjoyable than trips associated with going to work, although the transition time between home and work was also important for some participants. When asked about the kinds of trips they would choose to “teleport” rather than drive, participants responded:

It’s the have-tos, you know, that yes, let’s just get there and get it over with.

I’d much rather, specifically to get to work, fall out of bed and bingo, be there, going to the store, those kinds of things. But usually going to see friends is when, I enjoy driving.

The only thing that I didn’t want to teleport was my walk to school in the morning, the transition time between home and work

Another important factor influencing the enjoyment of driving is the conditions in which the drive occurs, in particular, levels of traffic. This factor may partly explain the lack of enjoyment of driving to work, which tends to occur during peak traffic hours. Rather than the increase in travel time that results from congestion, participants seemed to be reacting to the fact of traffic itself and the frustrations associated with not being able to move freely. Several participants, including one bus rider, raised this issue:

It doesn’t matter if I’m a few minutes late, but I’m just sitting there just going, "somebody move."

So I can go right and go through this back neighborhood and go all the way around and avoid the traffic. Which probably I get home later than I would if I sat and waited.

[When the bus driver takes the surface street rather than the freeway] it’s not saving me any time... it’s just psychological. When they take the right instead of the left I start getting all excited.

Not surprisingly, then, participants talked about the enjoyment of driving in the country rather than the city. This enjoyment undoubtedly has to do with scenery (as discussed below) but is also tied to traffic conditions:

I drive a lot just for pleasure. And it’s never in the city. It’s always away from the city.

I, since I live out in the country now, I’m doing more pleasure driving, taking the back roads.

It’s country. It’s always country

There's something about getting in the car and getting out on a country road.

Another important factor is season. Participants talked about taking drives in the country in the spring to see the wildflowers or the fall to see the colors, but season came into play in other ways, too. One participant who drives a convertible doesn't enjoy driving when it gets too hot, not surprisingly. On the other hand, summer seems to be a time when participants feel like getting on the road:

I definitely wouldn't do it in the winter for any reason whatsoever. I do like warm summer nights.

The most obvious contribution of the value of driving itself on excess driving is on the generation of additional driving trips (A1). Most participants admitted to driving for the sake of driving (or for the sake of activities while driving, as discussed below). In these cases, driving is the activity, and any other stops along the way are ancillary to the drive itself:

And I've always driven just for pleasure. If I want something to do on the weekend, invariably it will involve driving somewhere, whether it's Marble Falls, or Lake Buchanan, or Johnson City. I'll just go away.

A lot of times there is no destination. It's just a drive. I'll just drive and work my way back around until I get home. Never, maybe stop for a drink or something, never stop at a park, never stop anywhere. Just go.

At the same time, participants talked about making fewer of these pleasure trips as traffic conditions in Austin have gotten worse. In other words, traffic may be leading to a decrease in excess driving:

I used to make them a lot more than I do now. As Austin changes I do lots less of that. But you can't [drive for fun in Austin] anymore, literally because your life is at stake.

People are angry. They are aggressive. They don't look. They don't use signals. They don't do anything. And it's not, it's not leisurely anymore. It's more of a life and death situation basically. And consequently I would just rather not have anything to do with it if I could manage to do it.

When I lived in Kansas I did that all the time. You know, get out on a country road and go visit a town that I had never been to. That was fun but I would never really consider doing that anymore here. It takes too long to get out of town.

If everyone else is teleporting then I might drive because I do enjoy driving.

In addition to trip frequency, the focus groups produced evidence that the value of driving itself is tied to route choice (A2). However, the direction of causality is more the reverse of that hypothesized: it's not so much that participants choose longer routes because they enjoy driving, rather that participants choose longer routes to avoid traffic and thus to enjoy driving more:

But since I don't want to stress out on 35 I take MoPac, which is longer but I enjoy it better.

Sometimes I'll take a slower street because it's more relaxing and because I'm not that anxious to get to work. There's a crossing guard that always waves at every car.

It takes longer in terms of mileage but it's so much more pleasant. But, if I don't have to be in a hurry I just sort of look at the entrance to the highway and think, ahh, forget it.

Then it's actually really fun to go. It takes longer but it's a beautiful drive going over Mt. Bonnell and so on. It's very nice.

A. Value of Activities While Driving

Activities while driving seem to provide more value to participants than driving itself. The discussions produced examples of several different kinds of activities the participants enjoy while driving, and everyone seemed to enjoy something about driving on at least some occasions. Only one participant said she would teleport all her trips if she could, but even she came up with things she enjoys about driving.

Looking at the scenery, from the natural landscape, to buildings, to the traffic itself, was the most common activity mentioned:

Yeah, I'm saying the scenery is usually the reason why I get out.

So, if I'm not specifically going someplace, you know, that I need to be there in a hurry or a deadline or whatever, then I enjoy the drive, just to see what's out there...

So, I'm always looking, it's more than driving, but, you know. I'm always looking for flowers, trees, shapes, things, architecture in particular.

I get up early enough to see the sun come up and that looks really nice coming up around Austin. Going home I see the sun going down as well.

I really like architecture too so when I see homes that, you know, and this place is just, Austin is great.

I watch the traffic itself.

You know, you always watch people do the lane hopping. I get a kick out of other drivers, how they drive, who's on the phone and who's jamming out like I am.

Participants also described their enjoyment of watching for changes in the scenery or seeing their neighbours or otherwise keeping tabs on the community:

I get to go through downtown and see how they are doing on the new city hall and see anything that's new or different as I come up here to the University.

But, uh, when I'm making short little trips in my neighborhood, I like driving around my neighborhood to see what's going on. If I teleported to the local grocery store and I teleported to my daughter's school, then I wouldn't know what was happening in my neighborhood. I wouldn't see whose houses were for sale or if someone had just moved in. That sort of keeps you up with what's going on in your own area.

Yeah, and when you work fulltime you don't have, I mean, I know all of my neighbors but we don't get to have a lot of interaction so seeing them and waving hello and all of that is sort of, and you know a little better about what is going on. I like it from that standpoint.

A desire to get to know the community, often associated with house hunting, provided another motivation for driving:

I forgot about that but that's part of what motivated some of our trips when we were trying to check out different areas of the city to buy a house. We did a lot of that kind of thing.

We did a lot of that right before we bought a house, for about a year, every weekend we would just kind of go drive around.

Learning how to get from here to there taking the back roads and stay off 35 and MoPac. I kind of like it. I really do like it, the wildflowers and the scenery, old houses, you know. I see myself doing more pleasure driving now.

Other participants mentioned sight-seeing trips for out of town visitors:

The only time I really want to go driving, would be like when I have guests in town. Because I'm not from around here and most of my family is in other places, so they come and visit and so we go to kind of see the sights.

When job candidates come into town in January and February I'm often assigned to drive them around Austin and show them the place so I show them various neighborhoods and take them up on Mount Bonnell, drive them out to Lake Travis and have a drink at the Oasis. I'm sort of the tour guide.

One participant described the value of talking with his son when they are in the car together, just about the only time during the day when they can talk:

I really enjoy, especially the after-school part when I pick him up and the drive home is kind of the only time, I've got him sitting still and we can actually talk. It's a chance for us to kind of go through the day and see how things are. I really enjoy that.

Another participant talked about the value of thinking while driving:

I do a lot of thinking time when I'm driving. I think about, okay, on my way to work, what do I need to do when I get there. What are things that I left yesterday undone. Then I'm driving to meetings and I'm thinking about okay, well, what happened in the last meeting and how did this...so I use a lot of thinking time in the car, which is probably dangerous when you think about it.

When asked about talking on cell phones while driving, however, few participants would admit to this practice, and those that did said they keep it to a minimum. Whether these responses were honest or not is not clear, but the participants seemed well aware of the safety concerns associated with cell phone use while driving.

The contribution of these different activities to excess travel varies considerably, however. Looking at the scenery, getting to know a community, and sight-seeing clearly generate additional trips (B1) and often contribute to the choice of longer routes (B2), sometimes generating significant amounts of excess travel. According to one participant,

...often times I would go the long route through Marble Falls, thirty minutes longer because there was less traffic and it's more scenic and it's just much more pleasure to drive that way for myself, just to be able to see nice scenery... And I did that every week, one or two days a week.

But other activities – keeping tabs, talking, thinking – do not themselves generate new trips or lead to the choice of longer routes. Instead, these activities seem to be more of a way of compensating for the negatives of driving, of making the time spent driving more useful and enjoyable. The compensation value seemed especially clear for listening to tapes or to the radio, particularly to the news and to the local National Public Radio (NPR) station, KUT:

Well, I listen to tapes. I carry a bunch of tapes with me, learn languages, or whatever, just something to keep going. I have to have something. Because, if I don't distract myself then I get angry, you know, people cut in front of you, you know, look both ways to see if anybody is coming and if they are coming they pull out in front of the one car that is coming. So I really have to mellow myself out or by the time I get to work I'm furious or home, either way.

I don't listen to music, but I listen a lot to NPR on the way to work and on the way home, catch up on news and ignore the traffic as much as possible.

I rely on NPR a great deal because I don't always have time to read the paper because of my schedule, so, I really appreciate, that, to me is not wasted time that I've got listening.

That's when I listen to the news. It's the only time that I do that. It's the only time I have to actually listen to the news....

Of course, listening to the radio may lead to more time in the car even if it doesn't lead to more time driving:

I enjoy listening to KUT. But, I only travel fifteen minutes in the car so. Like this morning, there was some story, I can't even remember what it was but I got to the garage before it was over and I

didn't get the end of the story. I could have sat in the garage like some people do. I notice people, they are probably listening to the end of the story.

Clearly, deriving some positive utility from such activities while driving does not always lead to more frequent trips; the activities that participants enjoy are often not sufficient motivation on their own for a trip. Deriving some positive utility from driving does not always lead to longer routes. Even so, a little positive utility may be enough to lessen the motivation to find ways to reduce driving.

B. Value of Activities While Driving

Variety seeking was not directly addressed in the focus group questions, but was a possible reason that participants might have offered for choosing longer routes (C2), different modes (C3), or more distant destinations (C4), or for making additional trips in the questions about trip flexibility (C1). The clearest example of travel generated by variety seeking was trips to get out of the house, in other words, to seek variety in location, a change in scenery; in this case, greater trip frequency led to excess driving (C1). Several participants talked about this kind of motivation, although it was sometimes difficult to distinguish from the value derived from looking at the scenery:

I have an elderly mother and I take her out. She can't walk around so we drive and go look at things. It's kind of nice to go out and see the flowers and things like that.

I do a lot of recreational driving I guess on the weekends in terms of, I'll get bored and say, oh, I'll go to Home Depot and look around and see, or just little places just to get out of the house, clear my head, especially if I'm working on something or if I'm writing. Sometimes I just need to leave for an hour.

I like being outdoors and I like being out of the city. I don't like to stay in the house if I can help it.

Participants also talked about the satisfaction of curiosity as a motivation for driving trips. This motivation is closely related to both the desire for variety and the desire to get to know a place but seems to represent something slightly different – an outcome of the driving trip but not really an activity along the way or at the destination:

Yes there is, a curiosity of what's on the other side of the road, curiosity of what's there.
I used to travel more in my work and when I would get to a new place I would want to see it.

When I first moved to Austin I did, from living in Minneapolis, I went out just to drive just to get myself lost and force myself to find ways around, Austin... I spent a lot of time finding ways to get around. ...places I like to live in the future, maybe places to buy a home, how a neighborhood feels, I do a lot of that still.

On the other hand, these “getting out of the house” trips often seemed to be driven more by a desire to get away from people at home than by a desire for a change of scenery:

I don't drive for fun out and about, nearly as much as I used to. In college you know you are in a dorm room and you want to get out and explore everything. But, the more that I've liked where I've lived, the less I will go out and just drive around.

Not anymore, but I used to do that, drive around, but that's when I had more people living with me and so I think that had something to do with it too. It was more of an escape than whereas now I have other escapes.

Even when I was twenty years old, if there was some anxiety between me and my spouse, that was my, that was my calming agent. I would say, okay, I'll be back in a little bit. Or even just raising kids. I'll be back in a little bit. Just go out in the country, drive right back, thirty minutes later I'm just fine. It calms me.

In contrast, other participants claimed that they would rather be home than anywhere else, pointing to the importance of the home environment as either an encouragement or a discouragement to excess driving:

I mean it really is just once we're in the house, kind of a personality thing. I just don't want to go back out and face the world. I'm in my little safe haven with my dog and my husband and I'm good.

Although most participants talked about a desire for better scenery or the avoidance of traffic as a motivation for choosing longer routes (as described above), rather than a desire for a change of scenery per se, one participant pointed to variety as a motivation (C2):

Yeah. When I lived out in Bastrop there were a lot of times that I took a totally different route just because I wanted to see something different that morning, or that afternoon. It had nothing to do and time and distance...

Habit

Habit proved hard to separate from other potential reasons for excess driving. Some of the driving associated with the value of activities while driving had clearly become habit for participants, but not to the point that they would continue it if they no longer derived value from those activities. Another type of habit had to do with variation in choices, for example, the habit of taking a different route a couple of times a week or the habit of using surface streets when the freeway is backed up (D2). Again, habit alone did not seem sufficient for the participants to continue these practices in the absence of other benefits from these choices. The frequency of trips to the supermarket also seemed to be a matter of habit (D1), but there was no indication that these habits led to an excessive number of trips. A direct question about habitual behaviour might have succeeded in identifying other impacts of habit on travel.

Poor Planning

When asked about grocery shopping, participants admitted to extra driving because of poor planning in two ways. First, they didn't always anticipate all their needs, leading to emergency trips beyond their regular shopping trips (E1) or to the lack of any kind of regular shopping schedule. Second, they often didn't stop on the way home but instead went home first and then back out, thus missing an opportunity to reduce driving through trip chaining (E1 and E2).

Yeah, that's true. A big grocery, once a week, but even between there, yeah, milk, bread, goodies.

I go big, big shopping once a week and then usually about one time other during the week there needs to be some emergency supplies brought in that we've run out of.

That's it, you bet. It can be really bad choices of stuff too. Like, uh, I've got no cigarettes. I know it, I'll go home first and then drive back and drive right by the place, because I get focused, I want to go home. Then I have to turn around and go back. That's, boy, that's at least two or three times a week when I could have avoided having to go back out, almost borderline lazy. I don't know what it is. It's, you know...I worry about it, but I get over it.

I'm irregular too. I'm single and I can't get on a schedule. I can't go out there and buy a big load of groceries by myself because they might spoil or go bad on me. So I go when I need it.

But participants also described spontaneous needs that they could not have anticipated, although "desires" might be a more accurate label than "needs."

Probably at least three times a week. Just run up there because on the spur of the moment we want some particular thing, get ice cream and popcorn. I have two young children so they want snacks.

You can't plan for cravings.

Not all participants made extra trips in the face of such cravings, however. In particular, participants living outside of the urbanized area and thus farther away from stores indicated that the inconvenience of shopping deterred extra trips for them. These participants preferred to go without rather than drive to the store. Although distance seemed to be the biggest deterrent, traffic also discouraged extra trips:

We live far out and we just do without. It's at least ten or twelve miles to the grocery store and I'm not going to do that.

Well, I know in my case that if I, because I don't live, I mean there's no grocery store in our town so if I don't get it on the way home then I have to go without. So if I'm making a cake and I don't have any flour, well, we're not going to have a cake. We're just going, forget that one. Or if I need peaches and we only have pears, well, we're going to have pears, cause we don't have it. So, you know, in that case I don't make any extra trips because it's just too far. It makes no sense to go for one thing.

If I'm out of butter, if I'm out of milk, if I'm out of sugar, we borrow. Our neighbors borrow, we don't want to jump in the car and wind through, get down to Bee Caves, it's just not worth it. It's not worth doing that. So I don't make, just jump in, what we call impulse buys.

Because it used to be easier just to jump in the car and go pick up that extra milk I forgot or my mom needed something or whatever. But now I have to weigh it against, do I really want to get back out in that, I mean, getting out of my driveway is a major operation... I don't want to go back out there. No, forget it. So, I just don't, I do my once a week I hit all the stores, in fact that was the day I wrote it down.

On the other hand (ironically, in view of the fact that higher-density urban areas are generally considered more environmentally benign than low-density suburban/ exurban sprawl), for or those who live near a store, making an extra car trip is “no big deal”:

Our store, the store we go to is only about half a mile from our house and we live on a cul-de-sac so it's easy to get out of the driveway and it's a low traffic area.

I think there's something to be said about being further away from the grocery store and, making me, forcing you to plan better. Like my location, I can go whenever I want. It's no big deal, so I don't plan as much. I do some basic but there's still that, if I happen to forget something I can run down the street, no big deal.

A lack of constraints on time also led to less planning and thus excess driving for one participant, a part-time employee:

I feel like I'm cheating... it makes no sense for me to go home and then go all the way out to the grocery store and then turn around and come back. Since I've got the extra time, I just go and do it.... And of course I'm out there when nobody else is. So I'm toodling to the grocery store and thinking nothing about it.

At the same time, a few participants said that because they plan, they believe they don't make extra trips:

I would say I probably couldn't do it less if I planned, because, I plan... So it's really one big shopping every two weeks and one little shopping. I don't think I could do it any less really.

Other participants described efforts to efficiently chain their trips because of the distance to store or out of a desire to avoid traffic:

The nearest store from my house is three or four miles away. So, I stop to think, do I really need to do this? Now what else do I kind of need to do in the next couple of days and I'll wind up being gone for two hours when I could have run my one trip for the one thing that I really needed to do in twenty minutes, because I've gone to five stores because it's all, I want to get it out of the way. Fight traffic once.

I go whenever we need things because I'm in town, in Leander and it's easier for me to go to Wal-Mart or HEB from there and pick up some things rather than driving from my house...

I tend to choose my destinations in a way that I can go out and do all the driving and traveling at one time rather than mix up the trips. I'd rather not go out and just keep getting in that scene if I don't have to. So I gear myself up for one big trip.

I plan once a week on Saturdays. But, I never, I rarely stop on my way home because to me stopping at the grocery store at the way home is like getting into another traffic jam, it's just people. So I don't want to stop and do anything, I just want to go straight home.

The question of planning can get even more complicated, involving issues of laziness, expectations, and even storage:

I also do without for the reason of laziness. Partly also I try to teach my kids it's a virtue. "Dad, we want ice cream." Just tough luck, this is how you grow up. But it does tend to promote a sort of attitude where you want to have everything on hand so my kitchen is a mess. It's always a mess, probably because I'm one of the people that goes less than once a week to the store so I buy large quantities of stuff and I have to have somewhere to put it. There's always a pile of potatoes and beer, so it won't fit in anywhere. So I drive less as a result, but it's also irritating in other ways.

Mode Choice

Although a notable share of participants regularly used modes other than driving, examples of excess driving because of the choice to drive when other options were available were rare (Column 3). For many participants, particularly those living outside of the urbanized area, transit, walking, and biking were not considered a realistic option, and some had no bus service in their area at all (at least that they were aware of):

I'm locked into car by location... [there is] no bus from where I live.

I've got to drive because I live out in the middle of the country. I have no, in fact I don't have a nearest cross street.

Now, my home is much further so it's not on a UT bus route so it's not much of an option.

For others, the extra time involved in taking the bus meant that they did not consider transit

an option; they were not willing to spend the extra time travelling:

I have flexibility ... if I rode the bus it would take three times longer... I choose to spend that extra hour each day at home. I take my motorcycle or car...

But if I were to take the bus, I would have to leave a full hour earlier than that. I'm not really willing to give up an extra hour on either side really to do that.

But in a few cases, participants admitted that the time difference was not so great; that they drove rather than taking the bus (or bike) because of a lack of planning (E3) or because of laziness:

But I find that I will do, I would ride my bike more or take the bus more if I planned ahead more and allowed the time or allow, you know, even to do errands I would do it more if I thought about it sooner and so it's partly just laziness and thinking ahead.

I definitely could have taken the bus, which is something, I have to leave the house about twenty minutes earlier to take the bus,

...but I drove. Because if I take the bus then that's going to be thirty minutes to get here. If I drive it's going to take me fifteen, max. And, yeah, fifteen minutes doesn't seem like that much or I could have planned to take work on the bus but it's just...

...but if I'm going from my house to anywhere else, it's just not convenient. I would have to walk five or six blocks, okay, I'm lazy. Five or six blocks to the bus stop. I guess it's not that far.

Not surprisingly, weather also played a factor in the choice to drive, with a number of participants indicating that either hot or cold weather discouraged them from walking or taking the bus:

Short trips where I could walk but I'm too lazy because it's hot.

When it's 50 degrees outside. ...I was born and raised in Austin, that's cold...

The focus groups also produced evidence that the value of activities while travelling by other modes is often a contributing factor in choosing that mode. For example, a bus rider said,

That's one of my great joys in life is to have time to read the paper and that's when I have the time [when I'm riding the bus].

Other participants talked about their enjoyment of the scenery and fresh air while walking, but also about the value of the exercise they get when they choose to walk. However, most of the walking trips that participants made on the day they completed the travel diary were on campus, where driving wasn't an option. In other words, these walking trips did not replace driving:

Walking from the garage to my office... I get a little exercise, very little, and see what's happening along [the way]. So part of the walking is to just see things...

I like getting out and walking. For me, just for the exercise and the fresh air. If I could walk to work I would but it's ten miles, a little too far, but anywhere on campus I love to walk, and any short distances, just for the exercise.

Destination Choice

Examples of excess driving due to the choice of destinations (Column 4) were also hard to identify. The value of driving itself and the value of activities while driving often contributed to visits to distant destinations (A4 and B4), but these destinations were not the motivation for the trip; as described earlier, driving was the primary activity. In these cases, the visit to the distant destination cannot fairly be tagged as the reason for excess driving. Variety seeking seemed to have a connection to the choice of supermarkets beyond the closest one (C4), but participants were mostly seeking variety in products rather than variety in the destination more generally. Some participants regularly chose the store that offers the greatest variety in products, while others chose different stores for the different products they offer:

Yeah, well, uh, I go to Whole Foods Market on 6th and Lamar most often. And then Wheatsville is actually my closest store but I, very often I will choose Whole Foods over Wheatsville because it has more variety.

Well, if I have to make a stop on the way home during the week, which is just a short little fill in thing, uh, I stop at the Randalls because it's right on the thoroughfare right past, going past my house. But on the weekends when I go shopping, I usually opt for HEB because I think the prices are better. And it's about the same distance from my house. If I'm entertaining or want, cooking a special meal I'll probably go to Central Market.

The benefits of habit in the choice of supermarket (D4), particularly the benefit of knowing

the store and the products it offers, were also noted by participants:

I know where the toilet paper aisle is at the HEB at Hancock Center. I don't want to go looking anywhere else. I know where it is and I want to go there. It's habit, routine...

I'm guessing that most people have their favourite grocery stores or their favorite shopping centers or malls or stuff like that. So, I mean, I usually stick with the same thing when I'm coming into town specifically for a certain purpose then I know that I can get the best produce at Central Market. And I know I can get what I need, you know, at the mall. Everything is one stop shopping there. And, so, I mean, I usually stick with the same thing.

But knowledge that a more distant store carried particular products contributed to the decision to shop at the more distant store; in this case, a lack of knowledge might have limited excess driving rather than increasing it (G4):

Mine would be the closest, about 99% of the time. If it's [presentation] ... that I'm concerned with, then I'll go to a different one just because I know that I can guarantee that the fruits and vegetables are there. Sometimes it's variety too. If I want something specific the HEB by my house doesn't always cater to that big a variety. I've learned, obviously you can't go to this one if you are looking for this item. I don't mind driving across town if I know that they are going to have shrimp like that.

Activity Choice

Few participants admitted to flexibility in the activities they participated in on the day they completed the travel diary. Optional activities included going out to eat and driving to the swimming hole, for example. Other participants said that they had flexibility as to participating in an activity on that day but that it had to be done sometime. But most participants seemed a bit at a loss to come up with activities that were not necessary, a reaction implicit in these comments:

I could shop less if I did less eating.

I'm an American citizen and I'm just busy, busy, busy. The less time I'm on the road the more time I have to participate in whatever activities.

There's the inflexibility of being married. You have to go where your spouse wants to go. [All laughing]

The shopping associated with food cravings described earlier might also be considered optional. The fact that some participants chose to do without rather than make the extra trip to the store helps to support such a designation. But participants at least jokingly insisted that, for example, satisfying a craving for chocolate was a definite necessity. These findings suggest that defining excess travel for a given set of chosen activities is probably appropriate, or at least they do not establish a basis for defining certain activity choices as contributing to excess driving.

Location Choice

Residential location choice was also taken off the table as a source of excess driving. However, the focus group discussion produced interesting examples of the trade-offs between commute distance and exurban living that participants were willing to make. Several participants made a conscious choice to live farther away despite the commute distance as well as the poor access to stores and services. These participants recognized that their choice leads to more driving but were willing to pay this price to live outside of the urbanized area:

Because I live, not in town, the idea of teleporting is real nice because I wouldn't have to drive for thirty minutes or forty minutes... I wouldn't want to live in Austin though so, that's the choice that I make.

I know in our case I've always lived in a small town and when we moved, we moved farther out in the country.... Now, cows are our neighbors. ...that was a conscious choice... So, we have no neighbors. There's something to that. That's the choice that we made, even though that meant a thirty/thirty-five minute ride into Austin every day. So, lifestyle choices.

Others have moved or are considering a move in order to reduce commute distance:

Yeah, I used to live down south... and I didn't like having to allocate one to two hours of time each day for the commute. So we moved to much closer. It's about a fifteen, ten minute drive to work.

Another participant highlighted the connections between residential location choice, job choice, and job location, and efforts to compensate for commuting:

I did work at a job that was ten minutes from my home, which is far south. But I was a little bit bored so I chose to take this job that was more interesting even though I was aware that I would be commuting longer. And so, because I chose that I decided to make the best of the commute, you know, by reading, listening to books on tape or thinking or other things in the car. However, uh, now I'm thinking about moving. Either closer or maybe to another city.

For the participants in these focus groups, all of whom work at the University of Texas, located in the centre of Austin, the choice to live outside of the urbanized area necessitated more driving than those who chose to live more centrally. The result can only be considered excess driving if the choice to live farther away is considered optional. But that approach would also require some judgment about what distance from work is necessary.

Focus Group Conclusions

When the focus group participants were asked at the end of the discussions if they drive more than they want to, the response was an unambiguous yes from everyone. When asked if they drive more than they need to, the response was also an unambiguous yes from all but one or two participants. These results point to an apparent paradox: people drive more than they would like to yet they are not doing so entirely out of need. The discussions themselves point to two explanations for this paradox. First, people like some of the driving they do but not all of the driving they do, and the driving they would like to eliminate is generally the driving that they need to do. All of the participants could point to regular or occasional driving trips that they like to make and wouldn't choose to "teleport." As one participant put it,

I don't think anybody really wants all of their transportation to be [by "teleporting"]. Or all the [by driving] as well

Second, people are often too lazy to do the planning it would take to reduce their driving, or they never stop to think about ways they could reduce their driving. Several participants told stories about convoluted sequences of trips or extra trips that they clearly recognized now as inefficient. The enjoyment that some participants derive from driving might also help to explain their failure to take advantage of opportunities to reduce their driving. The focus group discussions point to some level of excess driving for everyone, and significant levels of excess

driving for some.

Besides providing evidence of excess driving, this initial exploration of the question of driving by choice versus necessity suggests the need for further research to categorize the potential sources of excess driving, develop effective techniques for identifying excess driving, and quantify both the amount of excess driving and the contribution of various explanatory factors.

CHAPTER 4: IN-DEPTH INTERVIEWS

The results of the focus groups provided a basis for the development of an interview guide, which was used to conduct in-depth one-on-one interviews in Austin, TX in May, June, and July 2003. The research team looked for further evidence of excess driving in the interviews, and used the results to begin to assess which categories of excess driving are most pervasive and how excess driving varies across the population. The following discussion is based on the results of the one-on-one interviews.

Participants were recruited through an email message sent to a random sample of university employees, including faculty, staff, and student employees drawn from the published directory. Interviews were held on campus (or at satellite facilities for the university) at a time and location chosen by the participants, who were offered a \$10 gift certificate at the university bookstore as an incentive. Three research assistants were trained to conduct the interviews, which were audiotaped and later transcribed. Using these transcripts, the research assistants coded the comments of the participants according to the framework described above to identify examples for each of the cells in Table 1 and looked for other important themes and patterns. The coding was reviewed by two of the authors for consistency. A total of 43 interviews were completed over a period of eight weeks.

University employees are diverse, though not necessarily representative of the population of Austin as a whole. Most obviously, all participants are employed, at least part-time; several participants were also students (Table 4-1). The participants ranged in age from 23 to 67, with an average age of 43.9 years, and 58.1% were women. The majority of participants live with at least one other adult, though these households are about equally split between those that have children and those that don't. Commute length ranged from 5 to 90 minutes, with an average length of 27.8 minutes; many participants live outside of the City of Austin. One indication that the participants may not be representative of the population of the region as a whole is that 12 out of the 43 participants explicitly mentioned listening to National Public Radio while driving, considerably higher than the share for the U.S. as a whole of around 5 percent (Clemetson 2004).

The interview guide consisted of three sections. In the first section, the interviewer asked the participants to recount their trips on the previous day. For each trip, the interviewer then

asked about possible alternatives in terms of mode, destination, and route, and whether the trip was necessary. The purpose of this section was to assess the flexibility of travel choices and identify examples of excess driving. In the second section, the interviewers asked the participant a series of questions designed to elicit examples of each type of excess driving, as outlined in Table 2-1. The questions are included in Appendix B. Some types of excess driving are easier to directly identify; for others, more indirect questions were used. Thus, the results may to some degree reflect differences in the effectiveness of our questions in finding different types of excess driving. The third section of the interview included three questions intended to assess the participant's own perspective on the extent to which they drive by necessity and by choice, as well as their general feelings about owning a car.

Table 4-1. Characteristics of Interview Participants

	Number	Percent
Gender		
Male	18	41.9%
Female	25	58.1%
Household Structure		
1 Adult - No Children	10	23.3%
1 Adult - 1 or More Children	2	4.7%
2 Adults - No Children	15	34.9%
2 Adults - 1 or More Children	13	30.2%
3 or more Adults	2	.74%
Employment Status		
Full-time	36	83.7%
Part-time	7	16.3%
Student Status		
Full-time	3	.70%
Part-time	4	9.3%
Not a Student	35	81.4%
	Mean	SD
Age	43.9	11.0
Length of Commute (minutes)	27.8	17.7

The interviews offered interesting illustrations of the proposed framework, but also demonstrated the complexity of identifying excess driving and distinguishing between driving by choice and necessity. The research team first discussed findings from the first and second sections of the interview guide on the value of driving itself, the value of activities while driving,

variety seeking, habit, planning, misperceptions, and lack of information and their impacts on trip frequency, route choice, mode choice, and destination choice. Following this discussion, the results were reviewed from the third section of the interview guide. Counts and statistics are provided as a way of summarizing the results and identifying patterns only; they do not provide an accurate portrait of excess driving for the population as a whole.

Evidence on Types of Excess Driving

Value Of Driving Itself. In the conscious choice category of reasons for excess driving is the value of driving itself. In the interviews, the research team looked for evidence of the value of driving itself as well as the impact of this value, if any, on the amount of driving. The value of driving proved difficult to separate from the value of activities while driving. When asked whether they ever went for a drive for the sake of driving, many participants said they had (Table 4-2). But participants often then gave examples of going for drives to see the wildflowers or other scenery, in other words, for the sake of activities while driving rather than for the sake of driving itself. One approach to this problem was to ask participants if they would still enjoy driving if they couldn't do the things they enjoy doing while driving, such as looking at the scenery or listening to the radio; few said that they would. Thirty-three out of 43 participants said that they would "beam up" rather than drive if they could; responses ranged from "yes" to "hell, yes!" to "My wife and I were just fantasizing about this the other day...." But 10 participants said they would not want to "beam up" for all of their trips and noted that they would miss traveling if they did; three of these participants explicitly mentioned that they would give up their driving trips but not their biking and walking trips, but the others said that they would miss driving itself. A few comments suggest that at least for some people, there really is something about driving that they value (Table 4-3, Comments 1 through 5). Many participants noted that while they now rarely go for a drive for the sake of driving, they more often did when they were younger, suggesting that the value of driving itself may depend on lifecycle stage (Comments 6 and 7).

Table 4-2. Number of Participants With Examples of Excess Driving

Reason for Excess Driving	Sources of Excess Driving			
	More Frequently	Longer Route	More by Car	Farther Destination
Value of driving itself	A1 14	A2 1	A3 0	A4 0
Value of activities while driving	B1 15	B2 17	B3 0	B4 0
Variety seeking	C1 14	C2 20	C3 13	C4 13
Habit	D1 14	D2 1	D3 2	D4 2
Poor planning	E1 30	E2 0	E3 3	E4 0
Misperceptions	F1 21	F2 12	F3 1	F4 2
Lack of Information	G1 4	G2 19	G3 0	G4 5

Table 4-3. Examples of Comments

Reason for Excess Travel	Examples
Value of Driving Itself	1 "I enjoy driving. I love driving. I just enjoy it."
	2 "One does trips sometimes for the sake of traveling, rather than for the sake of getting somewhere."
	3 "I could have flown [to Tulsa] but, you know, it was something that I used to do, the drive, and I have been itching for a road trip, so I decided to drive."
	4 "You can experience the wind, the smells [in my MG convertible]. If you pass flowers you will actually smell them..."
	5 "It wasn't a very long drive, but it had a spirit of adventure – you know, pack everything in the car and go, even though it doesn't take very long."
	6 "And I think when you're younger, too, you also like driving more."
	7 "If I was driving in a Corvette that might be a different thing, but I don't have anything exciting that I am driving in and I'm 37 years old.. now being married, responsibility with kids..."
Value of Activities While Driving	8 "I wanted to hear the rest of this book that I was listening to. So, I got in the car and drove to the store and bought something and came back. But it was really an unnecessary trip."
	9 "I guess [I would miss] the scenery, not seeing all the new construction, keeping up with the latest in the road's changes [if I 'beamed' up for all my trips]."
	10 "My wife... likes to look at the houses in the neighborhood so she will take more of an indirect route, where I am very much more, what is the best route to get."
	11 "I usually watch the traffic."
	12 "When I was driving her home [before we got married], we'd just take a long drive. She didn't know Austin very well, so it was a pretty good trick."
	13 "I gave up the radio for Lent... I pray while driving... I mean it's not the best way to pray, but, you know, it's an option"
Variety Seeking	14 "I don't know, just sometimes I want to go some place different."
	15 "Now my husband is just the opposite – he'll try to get out for any reason."
	16 "When I was younger... I had a lot of roommates, and so the only place I actually had any real privacy was in my car."
	17 "I also think it's a good thing to vary your route occasionally, especially to and from work, just to keep from getting in the rut of driving on autopilot.... something different, a break from the normal."
Habit	18 "I just have a habit of buying a week's worth of stuff."
	19 "I go everyday... I could [shop less than once per day] by eating canned peas for the rest of my life, but I'm not going to... My can opener is for cat food."
	20 "You know there is something shorter but you take the way you know because it works."
	21 "I am sure [I chose driving yesterday] out of habit...[I used to have reasons to drive] now it's just kind of out of habit."
	22 "I just love HEB. It's just my store. I never think about going anywhere else."
	23 "I have a collection of restaurants that I go to and some are further away than others."
Poor Planning	24 "Poor planning is the main thing that makes us have to drive, basically."
	25 "I could plan better to do more things in one trip rather than making a trip and then making another trip and then making another trip. It is probably because of not planning."
	26 "We plan pretty well because we don't like driving around."
	27 "I plan to try to be as efficient with the car [as possible]"
	28 "... I was in the army several years in army transportation corps... it probably has had some effect on me as far as driving around and planning because that is what I did in the army."

Table 4-3. Examples of Comments - Continued

Reason for Excess Travel	Examples
Poor Planning - Continued	29 "If I need to go get groceries and maybe need to pick up something else from another store, I'll do it on one trip. Rather do that than a bunch of separate trips."
	30 "I'm actually pretty conscientious about planning my routes so I'm making a circuit or driving in a pattern that makes sense."
	31 "... I could be home and say, 'Oh, we need that,' then I'll run back since it is just a mile down the road."
	32 "I tend to, when I drive, I do multiple errands . When I lived in Austin, I used to do what I call 'spoke driving' – just go to a store, come back, just jump in the car and go do one thing and come back. Because I don't live convenient to things now, wh
	33 "It's pretty difficult – it's not like we can go to the corner.... You try not forgetting things... We don't have the luxury to say 'I'll run out and do this' or 'I'll run out and do that'. We have to really plan what we do and make the trip count."
	34 "I am writing my dissertation and I think, 'I've got to have some Pepperidge Farm cookies,' and it won't go away till I go there."
	35 "I've lost about 30 pounds over the last year and half because we have stopped [running to the store for ice cream] as much."
	36 "Maybe three weeks ago, the girls wanted some ice cream and I had to go get them some. I didn't have to, but, you know, they give you that, 'Dad.'"
	37 "... my little girl said that she needed a tea party, and it became – became a big deal.... And so we just made a special trip to the store to buy her fancy tea. I figured if happiness could be acquired at HEB for a dollar and a quarter, why not?"
	38 "I'm good at telling the boys no."
	39 "Well, definitely if I did more planning in terms of taking the bus to work. That would certainly reduce some driving."
	40 "... if I planned more the work drive, I could almost eliminate that.. So, if I plan more in the morning I could do that."
Misperceptions	<p>41 "I am not sure that I took the shortest route. I perceive it to be the shortest route. "</p> <p>42 "... sometimes you think you know but you don't"</p> <p>43 "I get lost or distracted or whatever."</p> <p>44 "I think I wandered... So I am not very reasonable. Why did I do that? I don't know."</p> <p>45 "I picked up the groceries but forgot to pick up the prescription. I unloaded the groceries at home and didn't find it. I had to go back to the store in Austin."</p> <p>46 "So they close on Mondays and we've forgotten that like three or four times. So we've made that mistake before."</p> <p>47 "I didn't know on Sundays that they closed at 6.... I should have called to see and make sure that they were open before I went."</p> <p>48 "I had heard a rumor that it had closed but someone else told me that it hadn't. So I decided to believe the person that said that it hadn't."</p>
Lack of Information	<p>49 "... I am going to some new destination and I really don't know how to get there very well."</p> <p>50 "Yeah, almost every drive I did when I first came to Austin [I drove farther than I needed to]."</p> <p>51 "I am the queen of not knowing where I am."</p> <p>52 "If I might have thought ahead and called and found out what the bus routes were..."</p> <p>53 "I don't know anything about the bus timing and how to get there."</p> <p>54 "I'm trying this experiment; I'm gonna ride the bus. I'm gonna get it down and see if I can do it."</p> <p>55 "I could have taken the bus, but it takes too long... I am not willing to experiment with it..."</p>

Whichever the source of enjoyment, the level of enjoyment clearly depended on several factors. First, participants enjoyed driving more or less depending on the destination of the trip. In general, trips associated with optional activities were more enjoyable than trips associated with going to work, although the transition time between home and work was also important for some participants. Another important factor influencing the enjoyment of driving is the conditions in which the drive occurs, in particular, levels of traffic. This factor may partly explain the lack of enjoyment of driving to work, which tends to occur during peak traffic hours. Rather than the increase in travel time that results from congestion, participants seemed to be reacting to the fact of traffic itself and the frustrations associated with not being able to move freely. Several participants complained about the behavior of other drivers on the road. Not surprisingly, then, participants talked about the enjoyment of driving in the country rather than the city. This enjoyment undoubtedly has to do with scenery (as discussed below) but is also tied to traffic conditions.

The most obvious contribution of the value of driving itself to excess driving is on the generation of additional driving trips (A1 in Table 4-2), although these were reportedly infrequent. Only one participant pointed to the value of driving itself as leading to the choice of a longer route (A2). On the other hand, some participants noted that they will sometimes take longer, more scenic routes in order to enjoy driving more – the reverse direction of causality. No examples of the value of driving itself leading to the choice to use the car over other possible modes was found. No examples of the choice of further destinations than necessary because of the value of driving itself were found, although participants sometimes noted that they will stop somewhere when going for a drive for the sake of driving. In this case, the destination is ancillary to the drive itself.

Value of Activities While Driving. Activities while driving seem to provide more value to participants than driving itself. The interviews produced examples of several different kinds of activities the participants enjoy while driving, and everyone seemed to enjoy something about driving on at least some occasions. Participants most often mentioned watching the scenery and listening to the radio or to tapes as things they enjoy doing while driving (Comments 8 and 9). Talking with friends and family members was also frequently mentioned. Others

mentioned the importance of having time to oneself or time to think. Several participants noted that they enjoy what might be called “checking things out” – seeing what’s going on in the community, watching progress on construction projects, exploring a new neighbourhood (Comments 9 and 10). Only one participant confessed to regularly talking on a cell phone while driving. More unusual activities included courting (Comment 12) and praying (Comment 13).

The contribution of these different activities to excess travel varies considerably, however. Looking at the scenery, getting to know a community, and sight-seeing clearly generate additional trips (B1) and often contribute to the choice of longer routes (B2), sometimes generating significant amounts of excess travel. But other activities – checking things out, talking, thinking – do not themselves generate new trips or lead to the choice of longer routes. Instead, these activities seem to be more of a way of compensating for the negatives of driving, of making the time spent driving more useful and enjoyable. The compensation value seemed especially clear for listening to tapes or to the radio. Only one participant confessed to prolonging a drive in order to finish a tape (Comment 8), though others noted that they sometimes sit in the car until a story on the radio is finished. Clearly, deriving some positive utility from such activities while driving does not always lead to more frequent trips or to longer routes. Even so, a little positive utility may be enough to lessen the motivation to find ways to reduce driving.

Variety Seeking. Participants had less trouble identifying excess driving associated with a desire for variety. Most participants said that they will sometimes take a different route just for a change of pace, and nearly half of participants said that they sometimes take a longer route (C2). A third of participants agreed that they sometimes take a trip just to get out of the house or for a change of scenery (C1). These trips were sometimes motivated by curiosity but also sometimes by a desire to get away from home or just to do something (Comments 14 through 16). One participant suggested that varying one’s route (C2) is important for getting out of a rut (Comment 17). The impact of a desire for variety on mode choice (C3) is more complicated, however. Most commonly, participants who usually drive said that they will sometimes choose to walk, leading to a decrease in driving and suggesting that driving for these trips is not always necessary. A few participants who usually walk, bike, or take transit said that

they will sometimes decide to drive just for a change of pace, in this case leading to an increase in driving. Determining the impact on excess travel of the choice of farther destinations because of a desire for variety was also complicated. If the farther destination truly offers a quality that a closer destination does not, then the additional driving involved in getting there would not fall into our definition of excess driving. However, several respondents suggested that they sometimes chose more distant destinations, most often a restaurant, because they felt like getting away or wanted to visit a particular area.

Habit. The interview questions designed to identify excess driving due to habit focused on two relatively habitual trips, the trip to work and the trip to the grocery store. Habit seemed to have its clearest impact on trip frequency (D1). A number of participants said that they grocery shop once a week or more out of habit (Comment 18) and, when pressed, said that they could make fewer trips than they do, at least with better planning. Thus, excess driving due to habit was difficult to separate from excess driving due to poor planning. On the other hand, two participants who said they grocery shop almost every day offered justifications for this high frequency that suggest an element of need: a preference for fresh food in one case (Comment 19), and an enjoyment of being with people in the other. Although driving is clearly a habit for almost all participants (with the exception of a few who regularly walk, bike, or take the bus), only two said that they could use an alternative mode but continue to drive out of habit (D3; Comment 21). Only two participants said that they use a more distant store out of habit when a closer one would do (D4; Comment 22). Of course, it is possible that other participants are not consciously aware of their habitual behavior, or rationalize it as being necessary or desirable rather than just an automatic pattern.

The route to work was clearly a matter of habit for participants (D2), many of whom said they had experimented with different routes before finding the one they liked best. Some participants admitted that their habitual route might be somewhat longer in terms of distance than the alternatives, but it was either shorter in terms of time or involved fewer traffic lights or less traffic or was otherwise more comfortable for them. Many participants make it a habit to sometimes use alternative routes depending on the time of day or if traffic is particularly bad that day, but the alternative route was shorter or not significantly longer than the usual route in most

cases. Thus, habitual routes did not seem to generate excess driving, although one participant suggested the possibility (Comment 20).

Poor Planning. Participants split about equally into those who confessed to driving more than they needed to because they are poor planners (Comments 24-25) and those who claimed to have largely minimized the driving they do because they are good planners (Comment 26-30). These differences seemed to be a matter of personality as much as of demographics, although parents often expressed a need to be efficient because of time pressures associated with family responsibilities. Location also plays a role: participants who live farther away from stores make a point of planning their trips to minimize their driving (Comments 32 and 33).

When asked about grocery shopping, participants admitted to extra driving because of poor planning in two ways. First, they didn't always plan their shopping well enough to make it through to their next regular shopping trip, leading to extra trips beyond their regular shopping trips (E1) or to the lack of any kind of regular shopping schedule. Nearly three-quarters of participants could name such an occasion, generally within the last week or two. Many participants confessed to extra trips to deal with an emergency, take care of unanticipated needs, or satisfy cravings (Comments 34 and 35). A number of participants gave examples of trips to satisfy the demands of their children (Comments 36 and 37), although one mother said she resists such pressure (Comment 38). Trips to deal with an emergency can be classified as necessary, but trips to satisfy cravings or the demands of children are less clearly a matter of necessity. However, not all participants chose to make an extra trip when faced with such a situation. In particular, participants who lived farther from a grocery store often said that they simply make do or do without. Others said that they will make an extra stop on the way home from somewhere else, in which case their driving does not increase, or go to a nearby store rather than the usual store, thereby limiting the increase in driving. Those who live very close to a store are more likely to make extra trips (Comment 31), though in these cases the participant sometimes chooses to walk rather than drive.

Second, participants often did not stop on the way home but instead went home first and then back out, thus missing an opportunity to reduce driving through trip chaining (E1). Participants were about equally split between those who make an effort to do all their shopping

on the way home from work or other locations, so as to eliminate the need to go back out again, and those who choose to get home more quickly and deal with shopping later. Many participants said that they consciously plan their errands so as to maximize what they accomplish on one trip and so as to minimize the amount of driving involved (Comments 27-30). Over a quarter of respondents claimed to be such good planners that their shopping trips are as efficient as they can be. However, only three participants said that with better planning, they could use a mode other than driving for at least some of their trips (E3; Comments 39 and 40).

Misperceptions. Questions in this section focused on situations that participants could recall in which they drove more than they needed to because of misperceptions. Because participants may not always be aware of such situations, the results may underestimate the amount of excess driving generated by misperceptions. Into this category, the research team put examples that reflected misperceptions, forgetfulness, and other mental mistakes. In contrast to excess driving due to a lack of information, discussed below, these examples represent situations in which participants had the information necessary for driving less but did not use it or in which they believed the wrong thing. As a couple of participants acknowledged, what they believe is not necessarily accurate (Comments 41 and 42). The most common examples had to do with trips to a destination that the participant believed would be open at that time but was in fact closed, leading to a return trip at a later time (F1; Comment 46); in these cases, as a number of participants noted, a phone call ahead of time would have eliminated the extra driving (Comment 47). Several participants also mentioned examples of forgetting to pick something up or leaving something behind, necessitating a return trip as well (Comment 45). Other described mental lapses that led to longer trips than necessary (F2; Comments 43 and 44), or relying on the wrong person for information (Comment 48). However, most participants claimed that such incidents are rare or extremely rare.

Lack Of Information. Questions in this section focused on situations that participants could recall in which they drove more than they needed to because of a lack of information. As was the case for misperceptions, participants do not always know when they are driving more than they need to because of a lack of full or accurate information. The results may

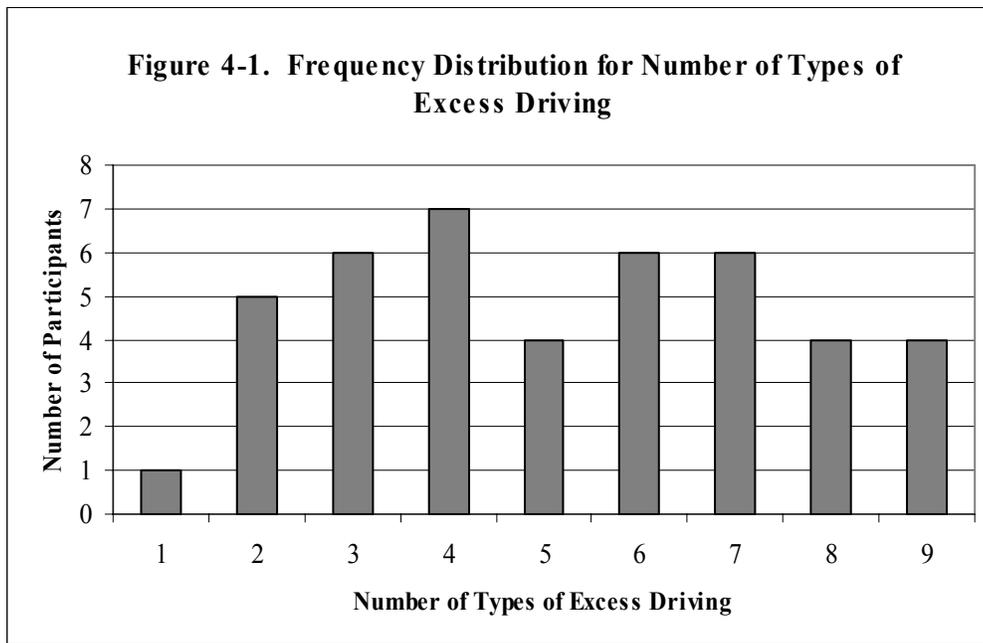
underestimate the extent of excess driving attributable to a lack of information. Lack of information is difficult to separate from misperceptions; in this category, the research team included examples where the participant had no information or the wrong information for a reason not of their own doing. In one of the most common examples, participants took longer routes to get to a new destination because they were unfamiliar with the area. Many participants had to think back to when they were new to Austin or to when they were visiting other places to find such examples (Comments 48 through 50), however. In addition, many participants said that they simply don't know enough about bus service to consider taking transit (Comments 52-53); it was not clear from the interviews whether bus service would in fact be a viable option for these participants, however. Participants also suggested the importance of experiential knowledge with respect to riding the bus: some are willing to experiment to see if it works for them (Comment 55) and some are not (Comment 54).

Driving By Choice or Necessity?

Although the amount of excess driving was not measured as a part of this study, the number of different types of excess driving for which participants provided evidence as an indicator of the extent of excess driving can be used. On average, participants provided evidence of 5.2 different types of excess driving. Every participant offered at least one example of at least one type of excess driving, and some offered examples of as many as nine different types (Figure 4-1). Another indicator of the extent of excess driving is whether they had any flexibility in their trips on the previous day to drive less than they did. When asked about the flexibility of their trips on the previous day, 27 out of 43 participants said that they had some flexibility to not make the trip, use a shorter route, use a mode other than driving, or go to a closer destination for at least one of their trips. Both indicators suggests that participants engaged in a measurable level of excess driving, though just how much in either absolute or proportional terms cannot be quantified based on the interviews.

When asked directly about whether they drive more than they *need* to, 19 participants said "yes" and 24 participants said "no" (Table 4-4). Those saying no were slightly older and had longer commutes on average than those saying yes, perhaps reflecting an association between efforts to minimize driving and both age and residential location. Those saying yes

provided evidence of 6.1 different types of excess driving on average and 37% admitted to making extra trips to satisfy cravings. Those saying no provided evidence of 4.5 different types, a statistically significant difference from those saying yes, and only 13% admitted to making extra trips to satisfy cravings. The fact that those who say they do not drive more than they need to provided some evidence of excess driving according to our definitions is interesting. This inconsistency suggests either some discrepancy between our definitions and theirs or an ability on the part of participants to discount in their own minds the amount of excess driving that they do. As a result, a conservative assessment of excess driving would focus on the difference between the group saying they do not drive more than they need to and the group saying they do rather than absolute levels for either group.



When asked whether they drive more than they *want* to, 34 participants said “yes” and only nine said “no” (Table 4-4). A much higher share of those saying yes were female compared to those saying no – 61.2% versus 44.4%, respectively; average age and average commute distance did not vary significantly. This result points to the possibility that women have a lower

preference for driving overall. Those saying they drive more than they want provided evidence of 4.8 different types of excess driving on average, compared to 6.8 different types for those saying they do not drive more than they want. Similarly, only 21% of those saying they drive more than they want confessed to extra trips to satisfy cravings, compared to 33% for those saying they don't drive more than they want. These seemingly contradictory results, where those who are happy with the amount of driving they do drive more than those who aren't, also point to fundamental differences in preferences towards driving: those who do not drive more than they want to must have a much higher tolerance for driving than those who do drive more than they want.

Table 4-4. Want and Need Comparisons

	More Than You Want - Yes	More Than You Want - No	More Than You Need - Yes	More Than You Need - No
Number	34	9	19	24
Percent Female	61.8%	44.4%	57.9%	58.3%
Age	43.2	46.3	40.3	46.8
Length of Commute (min)	28.7	24.4	23.9	31.0
Average Number of Types of Excess Driving*	4.8	6.8	6.1	4.5
Percent of Participants Who Make Trips for Cravings	21%	33%	37%	13%
Percent of Participants Who Say Owning Car is Freedom	59%	89%	58%	71%

*Between group difference is statistically significant.

Participants were also asked which statement better characterizes how they feel about their cars: “Owning a car gives me freedom,” or “Owning a car is a significant burden.” Nearly two-thirds of respondents agreed with the first statement, while nearly a third said that both statements are true for them; only two participants said that owning a car is solely a burden for them. Participants mentioned the ability to go where they want when they want to as providing an important sense of freedom and an ability to do what they want to do. “Driving is a

necessity to make my life happen,” said one participant. “I feel like I get freedom because if I didn’t have a car, my social life on the weekends would be very curtailed,” said another. The feeling of freedom was clearly tied to driving by choice, while the feeling of burden was tied to driving by necessity. As one participant put it, “Freedom is when it’s a choice... The burden is when you have to commute to work.” This sentiment was implicit in the comment of another participant, “I hate errand driving. I like open road drives.” For the participants, the freedom associated with owning a car outweighs the burdens: “It can be a burden, too, but it is a gladly accepted burden.”

Interestingly, participants who said that they do not drive more than they *need* to were more likely to say that owning a car gives them freedom but is not a burden, compared to participants who said they do drive more than they need to (Table 4-4). In other words, those who drive more than they need to also feel owning a car is a greater burden. This result is somewhat surprising, in that those who drive more than they need to may do so at least partly out of choice; it makes more sense if the extra driving increases the burden of owning a car because of costs associated with additional wear-and-tear. Participants who do not drive more than they *want* to were more likely to say that owning a car gives them freedom but is not a burden, compared to participants who said they do drive more than they want to. In other words, those who drive more than they want to, also feel owning a car is a greater burden. This result is not surprising.

Putting answers to the question on whether participants drive more than they *need* to together with answers to the question on whether participants drive more than they *want* to yields interesting results (Table 4-5). Nearly one third of all participants fall into the category of driving more than they need to but also driving more than they want to. These participants are apparently driving by choice to some degree but they are not happy about the driving they do out of necessity: they prefer to reduce certain kinds of driving. Close to half of participants fall into the category of not driving more than they need to but still driving more than they want to. These participants do not drive by choice and they would also like to reduce the driving they do out of necessity: they prefer to reduce all kinds of driving. Only 9 participants said that they do not drive more than they want to, and these split almost equally between those that said they drive more than they need to and those that don’t. The former group is driving to some degree

by choice, while the latter group is not, but both groups are satisfied with the situation. The differences between these four groups point to different policy approaches.

Table 4-5. Driving More Than You Want vs. Driving More Than You Need

Driving More Than You Want To	Driving More Than You Need To					
	Yes		No		Total	
Yes	14	32.6%	20	46.5%	34	79.1%
No	5	11.6%	4	9.3%	9	20.9%
Total	19	44.2%	24	55.8%	43	100.0%

CHAPTER 5: CONCLUSIONS

Although these findings are exploratory, they begin to suggest the need for a combination of policies to address both individual- and community-level concerns (Table 5-1). For those who do not drive more than they need to but do drive more than they want to, policies must work to further reduce the need for driving. Policies that provide alternatives to driving or that reduce the length of driving trips would help. Such policies might include improved transit services and improved bicycle and pedestrian infrastructure. Land use policies that bring activities closer together could increase the viability of walking and biking and also reduce necessary driving distances. These policies would also benefit those who drive more than they need to and more than they want to, as would approaches such as voluntary travel behavior change programs, which help households one-on-one to reduce their driving, and certain applications of Intelligent Transportation Systems (ITS), particularly Advanced Traveler Information Systems (ATIS).

Table 5-1. Policy Implications

Driving More Than You Want To	Driving More Than You Need To	
	Yes	No
Yes	Alternatives to driving, voluntary travel behavior change programs, and Intelligent Transportation Systems	Alternatives to driving, including transit, bike/ped, land use policies
No	Pricing policies or additional road capacity	Alternatives to driving, and pricing policies

For those who do not drive more than they need to or than they want to, issues arise at the community level though not at the individual level. These individuals have little internal motivation to reduce driving, yet the driving that they do out of necessity has impacts on the community. Policies that provide alternatives to driving or that reduce necessary driving

distances might lead to less driving for these individuals and thus benefits for the community, assuming that individuals do not make up for a reduction in necessary driving with an increase in driving by choice. Pricing policies that increase the cost of driving would also encourage these individuals to take advantage of these alternatives and drive less if they can. Finally, for those who drive more than they need to but not more than they want to, two different policy approaches are possible. If the larger goal is to reduce environmental impacts and manage congestion, then pricing policies could help to discourage driving by choice. If the larger goal is to accommodate the desires of individuals to drive more than they need to, then additional road capacity may be appropriate. The fact that few of the participants in this study fall into this category supports a move towards less traditional transportation policies to address both individual- and community-level concerns.

Proposed transportation projects are often evaluated in terms of the travel-time savings they will yield and the estimated value of those savings to travelers. Although this study did not directly address the concept of the value of travel-time savings, it provides useful insights into the challenges of measuring it. In particular, it is clear that not all travel-time savings would be equally valued by drivers. Most obviously, drivers would value a reduction in time spent on necessary driving more than time spent driving by choice. On the other hand, drivers mostly dislike driving in congested traffic, so that any reduction in time spent driving in heavy traffic would be valued more than an equal savings in time spent driving in uncongested conditions by both those driving by choice and those driving by necessity. An approach to measuring the value of travel-time savings that is sensitive to such differences might influence the decision-making process for transportation projects in significant ways.

Besides providing evidence of excess driving, this initial exploration of the question of driving by choice versus necessity suggests the need for further research to categorize the potential sources of excess driving, develop effective techniques for identifying excess driving, and quantify both the amount of excess driving and the contribution of various explanatory factors. The results from the in-depth interviews can serve as the basis for the development of a survey instrument to address these issues quantitatively. Future efforts should focus on ways of distinguishing between the value of driving itself and the value of activities while driving and on ways of searching for excess driving caused by habit, misperceptions, and lack of information.

The gray areas associated with destination choice and activity choice merit further consideration, as do the even grayer areas associated with residential location choice and job choice. In addition, an exploration of the decision-making processes underlying excess driving might yield important new insights into travel behavior. A better understanding of the magnitude of excess driving and its sources will help in the formulation of policies designed to slow the growth in vehicular travel.

APPENDIX A. FOCUS GROUP QUESTIONS

Travel for the sake of travel:

The “teleport” question... For what trips, if any, did you say you would NOT teleport? Why?

Would you want all of your travel to be instantaneous, if you could? Why or why not?

What kinds of things do you like to do while you're driving? (prompts: listening to the radio, thinking, eating, looking at the scenery, watching other drivers, talking on the phone)

Is your desire to do these things ever your primary motivation for going for a drive? Can you give me some examples?

If you couldn't do these things (e.g. say your radio was broken), would you still enjoy driving? What is it about driving that you would still enjoy?

Flexibility in choices:

What were your least flexible activities on the survey day? In other words, what activities, if any, did you have to participate in that day? What were your most flexible activities? In other words, what activities, if any, could you have simply skipped?

XX seems like it should be a flexible activity, that you've got a choice to do it or not. What makes it inflexible for you?

Pick one of your trips where your destination was flexible. Tell us what destination you picked, what other destinations you could have picked, and why you picked the one you did.

Did you pick the closest possible destination? If not, why not? Do you always pick this more distant destination? Do you sometimes pick different destinations? Why?

Did you always take the shortest route possible? If not, why not?

Grocery Shopping:

Grocery shopping is one of those things every household has to do, but we have some choice about how often, when, and where we shop.

How often do you go grocery shopping?

Those of you who shop more than once a week, why do you shop so often?

Is there some reason you have to? Or do you choose to? Or is it just how things seem to work out?

Could you get away with shopping once a week if you did a better job of planning?

When do you usually go grocery shopping? Why then?

Where do you do most of your grocery shopping?

Is this the store closest to home? If not, why don't you shop more at the local store?

Do you shop at more than one store? Why?

Closing:

Do you drive more than you need to? In what ways? [probe: because of discretionary activities, or because of discretionary travel itself?]

Do you drive more than you'd like to?

APPENDIX B. IN-DEPTH INTERVIEW QUESTIONS

Part 1.

First I'd like you to take me through your day yesterday and tell me about all of the trips that you made. When did you leave the house, where did you go, and how did you get there?

Take basic notes on trips – where they went and what mode – in table provided.

What did you do after that?

and so on...

If no driving trips, jump to “non-driver” questions.

If driving trips, start with first one and repeat these questions for each.

OK, now let's talk about this trip that you made.

Could you have done something other than drive?

If yes, probe:

What other options did you have?

Why did you pick driving?

If no, probe:

Why not?

Could you have gone to a different place for that activity?

If yes, probe:

What other options did you have? Was there a closer option?

Why did you pick the place you did?

If no, probe:

Why not? Was it the closest option?

Did you take the shortest route to get to that place?

If no, probe:

What other options did you have?

Why did you pick that route?

If yes, probe:

Did you pick that route because it's the shortest or for some other reasons, and if so, what?

Did you consider any other routes, and if so, why didn't you take one of them?

Could you have skipped making that trip yesterday?

If yes, probe:

What other options did you have? Not making the trip at all? Going on a different day?

Why did you choose to make that trip yesterday?

If no, probe:

Why not?

Repeat for each driving trip.

Non-driver questions:

Was yesterday a typical day?

If no, Why not? Jump to Part 2.

If yes, this person should have been screened out! Ask why they don't drive, how they usually get around, would they like to drive, does not driving constrain his/her ability to do what he/she wants, other questions you can think of.

Part 2.

Now let's talk about your travel more generally.

These questions are supposed to get at driving for the sake of driving and driving because of the value of activities while driving:

Remember Star Trek, how Captain Kirk could beam himself instantly from place to place? If you could beam yourself up for all your trips, would you do it?

If no,

For what trips wouldn't you beam yourself up? Why?

If yes,

What is it you don't like about traveling?

Do you ever go for a drive just for the sake of driving?

If yes,

Where do you go? What is it you like about these drives?

What do you like to do while you drive?

Do you ever go for a drive just to be able to [do this]? Can you give me an example?

Do you every pick a longer route because it is better for [the things you like to do while driving]?

Can you give me an example?

If you couldn't [do these things] – say it was [dark, the radio was broken, you couldn't open the windows] – would you still enjoy driving? Why *or* why not?

These questions are supposed to get at desire for variety:

Do you ever choose a different driving route because you're bored with the old one? Can you give me an example? Was it longer than the regular way?

Do you ever choose to take the bus or walk or use some mode other than driving just for a change? Can you give me an example?

Do you ever go for a drive just for a change of scenery? Can you give me an example?

Do you ever pick a store or restaurant or other place farther from home than your usual one just for a change of pace? Can you give me an example?

These questions are supposed to get at excess driving because of habit and poor planning:

OK, let me ask about your drive to work. Do you have a usual route you take? Is this the shortest possible route? Do you ever think about taking a different route?

Now let's talk about grocery shopping for a minute. Do you have a usual store where you do most of your food shopping? *If yes*, What store is it? *If no*, What combination of stores do you usually use?

Is there a closer store where you could grocery shop? *If yes*, Why isn't that store your usual store? Do you ever think about shopping at that store? *If no*, Are there closer stores that just don't meet your needs, or is your usual store the closest one?

Tell me more about your grocery shopping routine. How frequently do you go? Do you think you could make do with grocery shopping less frequently than this?

Do you ever have to run to the store because you forgot something or ran out of something? When was the last time this happened and can you tell me a little about it?

Do you ever make a trip to the store because you decide you need something and can't wait until the next trip? When was the last time this happened and can you tell me a little about it?

Do you ever stop to do your shopping on the way home from work? Do you think you could do more of this than you do? If so, why don't you?

Are there any other ways you think a little planning could help you reduce how much you drive?

These questions are supposed to get at excess driving because of lack of information:

Can you think of a time you drove more than you needed to because you didn't know about a shorter route? ...a closer store than the one you were using? or other kinds of destination where you discovered a closer option? Can you describe what happened?

Can you think of a time you went somewhere and found it closed and had to go home? Can you describe what happened?

What do you know about the options for taking the bus to work?

Part 3.

Would you say that you drive more than you need to?

If yes,

In what ways?

If no,

What's your secret?

Would you say that you drive more than you want to?

If yes,

In what ways? What driving would you rather not do?

If no,

Would you want to drive more than you do? If so, what constrains you from driving more?

Which of these statements better characterizes how you feel about your car: “Owning a car gives me freedom,” or “Owning a car is a significant burden.”

If they say both, When does it feel like freedom, and when does it feel like a burden?

Anything else you would like to add?

Thanks for your time!

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