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Minnesota Intelligent Transportation Systems



# **Minnesota Traveler Wants and Needs**

Prepared for the Minnesota Department of Transportation  
by:

Loral Federal Systems-Owego  
SRF Consulting Group, Inc.  
Intelligent Transportation Systems  
One Carlson Parkway North  
Mail Drop 0124  
Suite 150  
1801 State Route 17C  
Minneapolis, MN 55447-4443  
Owego, NY 13827-3998

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## 1. EXECUTIVE OVERVIEW

Minnesota is a recognized leader in the development and application of Intelligent Transportation Systems (ITS). Significant research has been conducted to understand the need for ITS, its benefit to the traveling public and other public agencies, and the best application of ITS technologies and services throughout the state. ITS products and services must compete for the same funding that is required to maintain the existing transportation infrastructure. ITS projects must therefore address the most important transportation needs and provide measurable benefits to the traveling public.

This market research effort, conducted for Minnesota Guidestar as part of the Polaris Project, identified the most important transportation needs and service requirements of a cross section of typical Minnesota travelers throughout the state. The research was conducted in a manner that did not predispose ITS as the potential solution, but rather sought to define transportation needs in language free of implementation or solutions. The research consisted of moderated group discussions, similar to focus groups, and a telephone survey. The group discussions had 146 participants while the telephone survey interviewed 1,078 persons from all over the state.

### **Positive Experiences With The Minnesota Transportation System**

Participants in the group discussions were asked to share their positive experiences with the current Minnesota transportation system. The most frequently mentioned system features they liked, and wanted preserved, as improvements are made to the system are listed below. The numbers in parentheses indicate the number of the 146 total participants who mentioned these as positive experiences. Further amplifying comments for these positive experiences are provided in Section 3.3.

- Freedom, convenience, independence of private auto (60)
- Roadways are well-maintained, especially in winter (52)
- Ability to arrive at destination quickly (50)
- Good road design and information signage (46)
- Convenient, easy access to freeways and major highways (41)
- Clean, scenic roadways and parkways (29)
- Accessible, convenient public transit (26)
- Ability to get help quickly for breakdowns or emergencies (19)
- Travel safety and security (16)
- Bike lanes and trails allow a bicycle to be a safe, alternate transportation mode (16)
- Multiple transportation modes and alternatives to driving are available (16)
- Availability of HOV lanes/carpools reduce commute time/cost (14)
- Opportunity to choose alternate routes to avoid delays (11)

## **Negative Experiences With The Minnesota Transportation System**

Participants in the discussion sessions were asked to share their negative experiences with the current Minnesota transportation system. The most frequently mentioned system features they disliked, or would like improved, are listed below. The numbers in parentheses indicate the number of the 146 total participants who mentioned these as negative experiences. Further amplifying comments for these negative experiences are provided in Section 3.4.

- Increased stress and reduced safety due to poor driver behavior and insufficient law enforcement (83)
- Poor road design/striping and poor signage contribute to stressful travel experiences (64)
- Poor road maintenance causes vehicle damage and/or makes driving hazardous (50)
- Difficulties in using public transit (46)
- Extended travel time due to congestion and delays (45)
- Road construction disrupts traffic and slows travel time (39)
- Lack of left turn lanes/signals cause congestion and hazardous situations (13)

## **Minnesota Transportation Traveler Wants And Needs**

The traveler wants and needs resulting from analysis of this statewide research are listed below. These need statements capture the ideas and themes most often expressed by travelers in describing their transportation needs. Definitions of each need statement are provided in Section 3.5. More detailed transportation service requirements identified by the travelers are provided in Section 3.7.

It was expected that different needs would be found among travelers with different travel modes, travel purposes, geographic locations and socio-economic characteristics; however, after analysis, a set of common wants and needs arose, and are listed as follows:

- Choice of travel modes
- Best route plan based on specific criteria
- Travel mode is available whenever needed
- Travel mode is available wherever needed
- Timely, accurate accident, traffic and congestion information
- Timely, accurate weather and road conditions information
- Clear, timely directions to follow desired route
- Get to destination directly without unnecessary stops, delays
- Safe from accident, injury, theft or violence
- Timely information on alternatives to avoid delays
- Easy access to comprehensive travel services and information
- Timely, accurate road construction, maintenance information
- Free of stressful experiences

- Able to make good use of travel time
- Good value for cost
- Get help quickly in event of accident, emergency or breakdown
- Comfortable and easy to use
- Fair, aggressive law enforcement
- Easy access for everyone
- Not disruptive to environment or communities

### **Benefits Desired From The Minnesota Transportation System**

Participants were asked to identify the most important benefits that would result from having an ideal transportation system in place. The most frequently mentioned benefits are listed below. The numbers in parentheses indicate the number of the 146 total participants who mentioned these benefits. Further amplifying comments for these benefits are provided in Section 3.6.

- Improved safety of the entire transportation system (92)
- Faster travel/shorter commute time (58)
- Reduced energy consumption/preserved natural resources (57)
- Reduced travel expense/cost of vehicle ownership/maintenance (48)
- Reduced stressful travel experiences (47)
- Improved transportation accessibility/availability (35)
- Economic growth/improved productivity (28)
- Reduced congestion (28)
- Ability to go anywhere at any time without need to drive or own a vehicle (23)

### **Quantitative Research Summary**

The quantitative phase identified the relative importance of, and current satisfaction with, each of the transportation needs using a scale of 1 to 10. A total of 1,078 travelers throughout the state representing different combinations of travel mode and purpose were surveyed. Nine hundred and one (901) of the respondents were selected randomly, with an additional 177 targeted to augment the public transit and carpool groups.

The following list defines the various traveler groups included in the survey:

- Heavy Drivers (drive extensively for business purposes)
- Travel To/From Work - Single Occupancy Vehicles (SOV)
- Travel To/From Work - Public Transit Users
- Travel To/From Work - Carpoolers
- Employed Non-Work Travel
- Not Employed Overall Travel
- Travel In Unfamiliar Areas

The results of this survey are presented in detail in Section 4.

ITS Architecture Wants And Needs Analysis, another Polaris Project research document, presents an analysis of the relationship between the Minnesota transportation traveler needs resulting from this research, and ITS services that address those needs. Minnesota Transportation Agency Wants And Needs, a complementary Polaris Project research document, identifies the wants and needs of Minnesota Transportation provider agencies.

## **2. SCOPE**

### **2.1 PURPOSE**

The purpose of the Polaris Traveler Market Research documented in this report is twofold: to identify the fundamental wants and needs of travelers using the Minnesota transportation system and to determine the relative importance of each want and need as well as how each want and need is currently being satisfied.

### **2.2 APPROACH**

The research was divided into two phases. The qualitative research phase focused on identifying the traveler wants and needs. The quantitative research phase focused on quantifying the relative importance of the wants and needs, and how well they are currently being satisfied throughout the state in the opinion of the different traveler groups.

The qualitative research phase included a series of moderated discussion sessions conducted in the Twin Cities metropolitan area and at selected locations throughout the state. Participants representing travelers of a broad range of transportation modes and travel purposes were recruited. These moderated sessions were held to gather information on the traveler's positive and negative experiences with the transportation system, their view of the characteristics and features of an "ideal" transportation system, and the benefits that would result from having an ideal transportation system in place. Traveler wants and needs were derived from an analysis of information collected across all the sessions.

The quantitative research phase included a statewide telephone survey. The survey was based on the list of wants and needs developed in the qualitative phase. Using a scale of 1 to 10, travelers throughout the state were asked to assess the relative importance of each want and need as well as how each want and need is currently being satisfied.

### **2.3 DOCUMENT STRUCTURE**

The results of this traveler market research are presented in Sections 3 and 4 of this report. Section 3 presents the objectives, research approach and results of the Qualitative Phase. Section 4 presents the objectives, research approach and results of the Quantitative Phase. Appendix A contains the question templates used in the Positive Experience, Negative Experience, Benefits and Question Set exercises. Appendix B contains the Traveler Telephone Survey Questionnaire.

### 3. QUALITATIVE RESEARCH

#### 3.1 OBJECTIVES

The objective of the qualitative research was to understand the fundamental transportation needs of Minnesota travelers throughout the state. The research was conducted in a manner that did not predispose ITS as the potential solution, but rather sought to define transportation needs in language free of implementation or solutions.

#### 3.2 METHODOLOGY

##### 3.2.1 Number and Locations of Sessions

A total of 11 sessions were conducted during August, September and October, 1995. Five of the sessions were held in the Twin Cities area. (The first session was a “dry-run” and was held to determine areas of the discussion sessions that needed refinement. The results from this session are included in the analysis.). The remaining sessions were held in Greater Minnesota (see Figure 1). Table 1 presents the date, location and number of participants of each discussion session.

**Table 1. Traveler Discussion Sessions**

Date	Location	Number of Participants
August 29 (“Dry-run”)	Minneapolis, MN	11
September 21	Minneapolis, MN	15
September 25	Minneapolis, MN	12
September 26	Brooklyn Park, MN	14
September 27 (Professional drivers)	Minneapolis, MN	15
October 2	Rochester, MN	14
October 3	St. Cloud, MN	13
October 9	Mankato, MN	14
October 10	Canby, MN	13
October 11	Detroit Lakes, MN	13
October 12	Duluth, MN	12
	<b>Total</b>	<b>146</b>

The locations were selected to achieve geographic balance so that participants would reflect a broad range of socio-economic characteristics with different transportation condition experiences and needs. A total of 146 people from seven geographic locations participated in the sessions.



Sessions

Figure 1. Locations of Traveler Discussion

The Twin Cities area (2.4 million population) is the major economic center of Minnesota and includes approximately one-half of the state's population. A number of the major roadways in the metropolitan area experience moderate to severe traffic congestion during the peak periods. The region's economic strengths include financial services, light manufacturing, transportation, information services and education.

As the largest cities in Greater Minnesota, Rochester (71,000 population), St. Cloud (49,000 population) and Duluth (85,000 population), each carry significant traffic to and from the Twin Cities. The Rochester economy is heavily influenced by the Mayo Clinic medical facility, but also has significant technology manufacturing employment. Along with its strong agricultural ties, St. Cloud has been experiencing strong economic growth, particularly in manufacturing, education and the service sector. Duluth is Minnesota's second largest metropolitan area and has the state's largest port facility, also with strong ties to mining, forestry and agriculture.

Representing rural Minnesota are Mankato (30,000 population), Canby (1,800 population) and Detroit Lakes (7,000 population). Mankato is closely tied to the agricultural sector but also depends on manufacturing, education and the service sectors. Canby, located west of Marshall, is principally rural agricultural and relatively isolated from other communities. Detroit Lakes is an area of tourism as well as agriculture.

### **3.2.2 Participant Characteristics**

A total of 16 people were recruited for each discussion session, with the expectation that no fewer than 12 would actually participate due to last-minute cancellations. Respondents were, with some exceptions, randomly recruited from telephone exchange areas of targeted geographic locations. The goal was to have a robust mix of people with different transportation/travel experiences and needs represented in each session. For the Twin Cities, the recruitment area was the seven-county region; respondents were given a choice of which session to attend. For Greater Minnesota locations, participants were recruited from a 30-mile radius of the targeted city.

The selection process yielded both male and female participants, at least 21 years of age, with a variety of travel modes and occupations, including those who were employed outside the home and those who were not (see Figure 2). Screening criteria were applied to respondents to ensure representation of certain types of travelers. The criteria included employment status, primary travel mode, work trip travel time, and occupation. These recruitment criteria varied by session as listed below. It should be noted that the data shown in Figure 2 does not include participants from the "dry run" and professional driver sessions. The "dry run" participant profile data was not included in Figure 2 because the main purpose of that session was to determine areas of the discussion sessions that needed refinement. Therefore, demographics on the screening criteria were not collected. However, the session data about transportation needs are included in the

analysis found in the remainder of this document. The professional drivers session was not included because the main selection criteria for this session was that the participant's occupation involved heavy use of the transportation system, such as a delivery truck driver. Therefore, the other selection criteria were not relevant to this group.

#### Twin Cities, Rochester, St. Cloud and Duluth

- No more than three unemployed or part-time workers
- At least two regular route public transit riders
- At least two carpoolers (with someone outside their household)
- At least eight workers traveling during the peak hours between 6:00 a.m. and 9:00 a.m. or between 3:00 p.m. and 6:00 p.m.
- One disabled person who uses specialized paratransit services
- A bicycle advocacy organizational representative (two Twin Cities sessions only)

#### Twin Cities Professional Drivers (One Session)

This session consisted exclusively of professional drivers using the Twin Cities transportation system. One or more participants were drawn from taxi, delivery, package/message delivery, refuse hauling and other fleet categories.

#### Mankato and Rochester

- No more than three unemployed or part-time workers
- At least two regular route public transit riders
- At least two carpoolers (with someone outside their household)
- At least eight workers traveling during the peak hours between 6:00 a.m. and 9:00 a.m. or between 3:00 p.m. and 6:00 p.m.
- One disabled person who uses specialized paratransit services
- Two people from the manufacturing sector

#### Canby

- No more than three unemployed or part-time workers
- At least eight workers traveling during the peak hours between 6:00 a.m. and 9:00 a.m. or between 3:00 p.m. and 6:00 p.m.
- Four people from the agricultural sector

#### Detroit Lakes

- No more than three unemployed or part-time workers

At least eight workers traveling during the peak hours between 6:00 a.m. and 9:00 a.m. or between 3:00 p.m. and 6:00 p.m.  
Four people from the tourism sector

Figure 2. Traveler Discussion Sessions - Participant Profile

### Duluth

No more than three unemployed or part-time workers  
At least two regular route public transit riders  
At least eight workers traveling during the peak hours between 6:00 a.m. and 9:00 a.m. or between 3:00 p.m. and 6:00 p.m.  
Four people from the mining/forestry sector

### **3.2.3 Session Activities**

The qualitative research sessions for travelers were based on a technique sometimes described as “structured brainstorming.” The sessions included a mix of verbal sharing and written exercises, directed by a professional moderator. Group participants were asked about their wants and needs relating to the transportation system. Individual exercises were conducted as follows:

#### **Positive Experiences**

The goal of this exercise was to determine the characteristics and features of the current transportation system that the participant liked and would like to preserve. The exercise began with several positive experience phrases being presented on a flip chart to the participants. These phrases were: "I like...", "I enjoy...", "I would not change...". Individual participants were then asked to write down their positive experiences by completing the sentence. These positive experiences were then collected verbally from the group and written on flip charts to form a group list. The final step in the exercise was for each participant to use the template (shown in Appendix A.1) and write what they felt were the top three positive experiences from the group list and why they felt those were the top three.

#### **Negative Experiences**

The goal of this exercise was to determine the characteristics and features of the current transportation system that the participant disliked or would like improved. The exercise began with several negative experience phrases being presented on a flip chart to the participants. These phrases were: "I dislike...", "I wish it did not..." and "I get upset when...". Individual participants were then asked to write down their negative experiences by completing the sentence. These negative experiences were then collected verbally from the group and written on flip charts to form a group list. The final step in the exercise was for each participant to use the template (shown in Appendix A.2) and write what they felt were

the top three negative experiences from the group list and why they felt those were the top three.

### **Ideal Characteristics**

The goal of this exercise was to determine the characteristics and features of a future transportation system that the participant would like to have. The exercise began with participants being asked to complete the following statement: "The ideal transportation system would..., would be..., is..., has..., provides..., does not..., should not... ". The participants were then asked to write down their ideas by completing the sentence. These ideas were then collected verbally and written on flip charts to form a group list. The desire was to end up with a group list of 100 to 150 ideas. Participants were not asked to pick the top three ideas from this list.

### **Benefits**

The goal of this exercise was to determine the benefits that result from having an ideal transportation system in place. The exercise began with several benefits phrases being presented on a flip chart to the participants. These phrases were "It improves...", "It encourages...", "It reduces..." and "It eliminates... ". Individual participants were then asked to write down the benefits they felt would result from having the ideal transportation system that was described in the Ideal Characteristics exercise. These benefits were then collected verbally from the group and written on flip charts to form a group list. The final step in the exercise was for each participant to use the template (shown in Appendix A.3) and write what they felt were the top three benefits from the group list, why they felt each benefit was important and how they would know when they received this benefit.

### **Question Set**

The goal of this exercise was to determine the ITS services characteristics and features desired by the participants. Each participant was asked to complete a set of written questions ( shown in Appendix A.4)

## **3.3 TOP POSITIVE EXPERIENCES SUMMARY**

The session data from the Positive Experiences exercise, consisting of the top three positive experiences identified by each participant, were analyzed to develop the following summary list. These positive experiences were grouped by common theme and ordered according to the frequency in which they were mentioned (indicated in parentheses). Each theme, and the statements that follow it, reflect the ideas and themes expressed by the participants.

Freedom, convenience, independence of private auto (60)

\* Always available any time to go anywhere (44)

\* Allows independence/control of your activities (16)

Roadways are well-maintained, especially in winter (52)

- \* Fast response for snow removal and treatment such as salting and sanding (41)
- \* Timely repair of roadway problems such as potholes (11)

Ability to arrive at destination quickly (50)

- \* Travel to your destination is safe and fast (31)
- \* Traffic is free-flowing on freeways and highways (19)

Good road design/informative signage (46)

- \* Signage keeps you from getting lost/helps you find services (22)
- \* Road design promotes traffic flow and safety (16)
- \* Signage warns you of conditions ahead (delays, construction) (8)

Convenient, easy access to freeways and major highways (41)

- \* Makes travel very quick and efficient (27)
- \* Allows many choices in getting to your destination (14)

Clean/scenic roadways and parkways (29)

- \* Many scenic roadways and parkways to choose from (17)
- \* Rest stops are well-maintained and conveniently spaced along the roadway(8)
- \* Adopt-A-Highway Program keeps roadways clean (4)

Accessible, convenient public transit (26)

- \* Less stressful than driving (13)
- \* Allows time to relax, read, meet people, enjoy scenery (13)

Ability to get help quickly for breakdowns or emergencies (19)

- \* Opticom system allows faster, safer emergency response (7)
- \* Air ambulance provides fast response and transport to hospitals, saving lives (7)
- \* Highway Helper program gives fast response to breakdowns (5)

Travel safety and security (16)

- \* Ability to arrive at your destination safely (12)
- \* Private auto safer mode than public transit (4)

Bike lanes and trails allow a bicycle to be a safe, alternate transportation mode (16)

Multiple transportation modes and alternatives to driving are available, such as public transit, walking (via the Skyway system), or flying (for long distances) (16)

Availability of HOV lanes/carpools reduce commute time/cost (14)

Opportunity to choose alternate routes to avoid delays caused by construction, congestion, weather or other incidents (11)

### **3.4 TOP NEGATIVE EXPERIENCES SUMMARY**

The session data from the Negative Experiences exercise, consisting of the top three negative experiences identified by each participant, were analyzed to develop the following summary list. These negative experiences were grouped by common theme and ordered according to the frequency in which they were mentioned (indicated in parentheses). Each theme, and the statements that follow it, reflect the ideas and themes expressed by the participants.

Increased stress and reduced safety due to poor driver behavior and insufficient law enforcement (83)

- \* Drivers who are inconsiderate/discourteous/preoccupied (merging, cutting in, talking on the telephone) (34)
- \* Violating laws and rules of the road (speeding, tailgating, illegal use of HOV lanes, failure to yield to emergency vehicles, improper or no use of turn signals) (32)
- \* Many people traveling over the 55 miles per hour speed limit, causing uneven traffic flow. Either increase the speed limit or enforce it (11)
- \* Dangers from older drivers with deteriorating skills (6)

Poor road design and poor striping/signage contribute to stressful travel experiences (64)

- \* Confusing/insufficient signage on freeways and rural roads (25)
- \* Road striping not visible enough at night or in inclement weather conditions (13)
- \* Highway entrance/exit ramps are too close together causing merging problems and driver confusion (13)
- \* Merge lanes that are too short and complex merging patterns cause confusion (8)
- \* Lanes on highways end abruptly (lane drops) causing merging problems (5)

Poor road maintenance causes vehicle damage and/or makes driving hazardous (50)

- \* Potholes and rough roads cause vehicle damage (37)
- \* Roads are not cleared of snow and ice soon enough (13)

Difficulties in using public transit (46)

- \* Inconvenient/unreliable bus schedules make it difficult to control your own travel schedule (14)
- \* Lack of availability (on weekends, in rural areas) (9)
- \* Reduction in transit funding causes reduction in service thereby discouraging people from using public transportation (7)
- \* Lack of security on bus or in bus stops (6)
- \* Bus drivers not trained in people skills (4)

- \* Not enough transit options (rail, subway) (4)
- \* Requirement to schedule Metro Mobility ride two weeks in advance makes it difficult and inconvenient to use (2)

Extended travel time due to congestion and delays (45)

- \* Delays caused by ramp meters seen as too long/unnecessary (19)
- \* Unsynchronized traffic lights disrupt traffic flow and cause delays (13)
- \* Congestion adds stress and uncertainty to travel (13)

Road construction disrupts traffic and slows travel time (39)

- \* Construction projects take too long to complete (17)
- \* Poor/uncoordinated planning of construction projects and too many construction projects at the same time cause disruption on both primary and alternate routes making delays difficult to avoid (13)
- \* Poor construction signage does not give motorists enough advanced warning to take an alternate route (9)

Lack of left turn lanes/signals cause congestion and hazardous situations (13)

### 3.5 WANTS AND NEEDS

Session data, from the Ideal Characteristics exercise, was analyzed to develop a list of the most consistently mentioned traveler transportation wants and needs. This analysis yielded the short definitions (found below in bold type) and an initial version of the expanded definitions. The expanded definitions were further refined through complete analysis of the responses to the Positive Experiences, Negative Experiences, Benefits and Question Set exercises. These refined expanded definitions appear below each bolded short definition.

#### **Choice Of Travel Modes**

Should provide a choice of modes that meet the traveler's needs.

#### **Best Route Plan Based On Specified Criteria**

Should provide help planning optimum travel modes and routes according to selected criteria including preferred mode(s), total travel time, cost, intermediate stops, scenery, etc.

#### **Travel Mode Is Available Whenever Needed**

Travel mode should be available whenever needed all day, everyday including holidays without having to wait. It should not be late, break down or go on strike.

#### **Travel Mode Is Available Wherever Needed**

Travel mode that provides transportation from origin to destination should be available in all areas where needed.

**Timely, Accurate Accident, Traffic And Congestion Information**

Sufficient advanced warning of accidents, and current and predicted traffic and congestion conditions should be available so that traveler can make informed alternative travel decisions prior to trip or en-route.

**Timely, Accurate Weather And Road Conditions Information**

Sufficient advanced warning of current and forecast weather and road conditions should be available so that traveler can make informed alternative travel decisions prior to trip or en-route.

**Clear, Timely Directions To Follow Desired Route**

Should provide easy to understand directions and guidance on how best to proceed from traveler's starting point or current location to traveler's destination following traveler's planned or alternate route.

**Get To Destination Directly Without Unnecessary Stop, Delays**

Should allow travel directly to destination without delay. Travel should be smooth flowing and free of unnecessary stopping, waiting, transfers, or traveling below the speed limit.

**Safe From Accident, Injury, Theft, Violence**

Travelers should have confidence that travel will be free of accident, injury, theft or violence.

**Timely Information On Alternatives To Avoid Delays**

Information on alternate routes, modes, departure times, etc. should be available in time to avoid travel conditions that cause unacceptable travel delays.

**Easy Access To Comprehensive Travel Services And Information**

Should provide easy access to accurate travel services information along traveler's route and at traveler's destination such as food, lodging, sights, entertainment, events, etc. Information should be available prior to trip or en-route.

**Timely, Accurate Road Construction, Maintenance Information**

Sufficient advanced warning of current and planned road construction and maintenance conditions should be available so that traveler can make informed travel alternatives decisions prior to trip or en-route.

**Free Of Stressful Experiences**

Travel should be free of experiences that cause confusion, frustration or fear such as: poorly lighted or striped highways, confusing/insufficient signage and directions information,

congestion, unnecessary starting and stopping, unknown road conditions, unsafe or discourteous driver behavior, unreliable transit schedules, etc.

**Able To Make Good Use Of Travel Time**

Should allow traveler to make good use of their travel time. Should be able to conduct business such as phone calls, banking or using a computer, etc. or enjoy leisure activities such as reading, music, TV, movies, games, eating, etc. while traveling.

**Good Value For Cost**

Should be economical and cost-effective for the value provided.

**Get Help Quickly In Event Of Accident, Emergency, Breakdown**

Accidents, emergencies and breakdowns should be quickly detected and reported. All necessary services should be readily available, respond quickly, and deal with the situation in a safe manner.

**Comfortable And Easy To Use**

Should be clean, comfortable, quiet, well-lit and marked, protected from weather, should not smell, should provide rest rooms, smoke-free options and good viewing of scenery. Transportation services should be easy to use.

**Fair, Aggressive Law Enforcement**

Should provide fair, aggressive enforcement of law and regulation violations such as speeding, tailgating, improper use of turn signals, slow travel in passing lanes, drunk driving, overweight loads, illegal use of HOV lanes, etc.

Other wants and needs, representing individual value statements indirectly related to ITS, were also identified.

**Easy Access For Everyone**

Should provide access to all, independent of age, disability or other special needs.

**Not Disruptive To Environment Or Communities**

Should not damage or pollute the environment. Should be balanced with the overall needs of the community and use minimum resources while addressing both residential and commercial concerns.

### **3.6 TOP BENEFITS SUMMARY**

The session data from the Benefits exercise consisted of the top three benefits, identified by each participant, that would result from having an ideal transportation system in place. The

characteristics of an ideal transportation system were described in the Ideal Characteristics exercise (described in Section 3.2.3). The Benefits exercise data were analyzed to develop the summary list below. These benefits were grouped by common theme and ordered according to the frequency in which they were mentioned (indicated in parentheses). Each theme, and the statements that follow it, reflect the ideas and themes expressed by the participants.

Improved safety of the entire transportation system (92)

- \* Any improvement that can be made to eliminate or reduce traffic accidents and deaths (better road design, driver training, more enforcement, automobile improvements) (68)
- \* Continued strict enforcement of drunk driving laws (9)
- \* More education for drivers on rules of the road and how to drive safely (8)
- \* Improved transportation system security measures that would make people feel safe and reduce the fear of using the system (7)

Faster travel/shorter commute time (58)

- \* Would get you to your destination quickly, without waiting (31)
- \* Less time spent traveling would allow for more personal time (27)

Reduced energy consumption/preserved natural resources (57)

- \* Would be friendly to the environment (reduced air pollution, noise, destruction of the environment) (31)
- \* Would encourage energy conservation (26)

Reduced travel expense/cost of vehicle ownership/maintenance (48)

- \* Maintenance and upkeep costs of private vehicle (fuel, insurance, repairs, parking) would be lower (20)
- \* Taxes (e.g. gas tax, income tax) would be lower (14)
- \* Would provide an overall transportation system that is self-sufficient, high-speed and costs little to use (14)

Reduced stressful travel experiences through improvements in the following areas: (47)

- \* Effects of weather on travel (9)
- \* Provision of more transportation mode alternatives (9)
- \* Congestion and its effects on travel (8)
- \* Effects of bad drivers (6)
- \* Road signage (so that drivers do not get lost or make mistakes due to insufficient warning) (5)
- \* Effects of construction on travel (2)
- \* Miscellaneous (8)

Improved transportation accessibility/availability (35)

- \* Would provide safe, affordable and comfortable transportation to everyone (elderly, disabled, low-income, families with children) (21)
- \* Alternate modes of transportation would be available at more locations (10)
- \* Use of public/mass transit would be encouraged (4)

Economic growth/improved productivity (28)

- \* Would link people with jobs/would help create jobs (13)
- \* Would promote better business climate/would bring people to businesses (9)
- \* Would allow use of travel time for working, reading, relaxing (3)
- \* Overall efficiency of travel would be improved (3)

Reduced congestion (28)

- \* Would allow traffic to flow freely/smoothly reducing travel time and stress (23)
- \* Reduced number of cars on the road would save on road repairs (5)

Would be able to go anywhere at any time without need to drive or own a vehicle (23)

### **3.7 TRANSPORTATION SERVICE REQUIREMENTS**

The data from the Question Set exercise (described in Section 3.2.3) was analyzed to develop a list of desired ITS user service requirements. Each service requirements group, and the statements that follow it, reflect the ideas and themes expressed by the participants. The underlined information represents the major service themes that were expressed by the exercise participants. The major bullets represent the key attributes associated with each service and the sub-bullets represent the desired features and ideas associated with each key attribute. These service requirements were not compiled on a question by question basis because the participants responded to the questions with common themes and ideas rather than individual question by question answers. Refer to Appendix A.4 for the specific question set that participants responded to.

#### 1.0 Travel Conditions Information

##### 1.1 Easy Access To Current Travel Conditions (Road And Weather)

- 1.1.1 For the local area or along a specific route
- 1.1.2 Current and future
- 1.1.3 Accurate, easy to understand

##### 1.2 Real-Time Notification Of Travel Condition Changes

- 1.2.1 Delivered in time for user to choose alternatives

##### 1.3 Available Whenever, Wherever Needed

- 1.3.1 24 hours a day, seven days a week, 365 days a year

- 1.3.2 Pre-trip and en-route
- 1.3.3 Many ways (signs, radio, TV, computer, telephone, fax)
- 1.3.4 Many locations (home, work, in-vehicle)

#### 1.4 Current Conditions Reported

- 1.4.1 Traffic level, congestion, weather, road surface condition, accidents
- 1.4.2 Construction, planned events, parking lot status

#### 1.5 Effects Of Conditions On Travel Reported

- 1.5.1 Delay times, reduced speeds, danger/hazards
- 1.5.2 Road/ramp closures, detours, parking availability
- 1.5.3 Expected condition duration (start/end times)

#### 1.6 Provide Warning Of Future Travel Conditions

- 1.6.1 Forecasted weather, future construction, upcoming events

#### 1.7 Provide Warning Of Future Travel Condition Effects

- 1.7.1 Delays, hazards, road/ramp closings, detours
- 1.7.2 Expected duration (start/end times) of effects on travel conditions

#### 1.8 Provide Coverage Across Required Geographic Area

- 1.8.1 Regional (multi-county, multi-city, multi-state)
- 1.8.2 Statewide

### 2.0 Transit Conditions Information

#### 2.1 Provide Easy Access To Current Transit Conditions Information

- 2.1.1 For the local service area or along a specific route (multiple segments/modes)
- 2.1.2 Current and future
- 2.1.3 Accurate, easy to understand

#### 2.2 Real-Time Notification Of Transit Condition Changes

- 2.2.1 Delivered in time for user to choose alternatives

#### 2.3 Status Of Transit Vehicle

- 2.3.1 On-time or delayed
- 2.3.2 Expected arrival time

#### 2.4 Available Whenever, Wherever Needed

- 2.4.1 24 hours a day, seven days a week, 365 days a year
- 2.4.2 Pre-trip and en-route
- 2.4.3 Many ways (signs, computer, phone, fax)
- 2.4.4 Many locations (home, work, transit stops, transit vehicles)

## 2.5 Provide Warning Of Future Transit Conditions

2.5.1 Forecasted weather, future construction, upcoming events

## 2.6 Provide Warning Of Future Transit Condition Effects

2.6.1 Delays, schedule changes, route changes, transfer changes

2.6.2 Expected duration (start/end times) of effects on transit conditions

## 2.7 Provide Coverage Across Required Geographic Area

2.7.1 Regional (multi-county, multi-city, multi-state)

2.7.2 Statewide

## 3.0 Trip Planning

### 3.1 Provide Ability To Build A Best-Route Travel Plan

### 3.2 Calculate Optimum Route Plan Based On Mix Of User-Specified Criteria

3.2.1 Origin/destination(s), single/multiple travel mode(s), cost

3.2.2 Times: departure, arrival, trip duration

3.2.3 Route type: scenic, freeway, arterials, downtown, mix

3.2.4 Current or future travel conditions

### 3.3 Support “What If” Route Planning Based On Different Criteria Combinations

### 3.4 Support “Adhoc” Route Planning Based On Origin and Destination Only

### 3.5 Recommend Alternate Route(s)/Route Segment(s)

3.5.1 Based upon user-specified criteria changes or travel condition changes

3.5.2 Provide current conditions along alternate route(s)/segment(s)

3.5.3 Provide new estimated travel time for alternate route(s)/segment(s)

### 3.6 Available Whenever, Wherever Needed

3.6.1 24 hours a day, seven days a week, 365 days a year

3.6.2 Pre-trip and en-route

3.6.3 Many ways (signs, computer, phone, fax, in-vehicle devices)

3.6.4 Many locations

### 3.7 Provide Route Directions In Text And/Or Map Form

3.7.1 Segment names, travel times, estimated arrival times

3.7.2 Travel distance, cost (tolls and fares)

3.7.3 Parking location and availability

3.7.4 Notification of when to leave

3.7.5 Information on how to use mode (for public transit)

#### 4.0 Route Directions

4.1 Provide Directions From Any User-Specified Source To Any User-Specified Destination

4.2 Give Clear Step-By-Step Directions

4.2.1 Changes clearly noted with advance warning for users to prepare

4.2.2 Changes include turns, exits, lane changes, mode changes, transfers

4.3 Provide Directions To Destination In Text And/Or Map Form

4.3.1 Route highlighted on map, road/street names, parking locations

4.3.2 Travel times/distances for each segment

4.3.3 Total travel time/distance, cost (tolls, parking, fares)

4.3.4 Modes of transportation available, boarding/departure points

4.3.5 Vehicle/route identification, directions for connections/transfers

4.4 Available Whenever, Wherever Needed

4.4.1 24 hours a day, seven days a week, 365 days a year

4.4.2 Pre-trip and en-route

4.4.3 Many ways (signs, radio, computer, phone, fax, in-vehicle device)

4.4.4 Many locations

4.5 Allows Choice Of Travel Modes

4.6 Factors In Most Current Information

4.6.1 Current travel conditions

4.6.2 Transit schedule changes

4.6.3 Business closures, openings, moves

4.7 Provide Coverage Across Required Geographic Area

4.7.1 Regional (metro-wide, multi-county, multi-city, multi-state)

4.7.2 Statewide

4.8 Provide Help For Users Lost In Unfamiliar Places

4.8.1 Automatically determine user's location

4.8.2 Provide directions from that location to user-specified destination

4.9 Provide A "Tracking" Service

4.9.1 Automatically determines user's location

4.9.2 Guide user through directions (visual and/or voice)

4.9.3 Update directions as user progresses

- 4.9.4 Notify user of errors (missed/wrong turn) and update directions to get user back on track to destination

## 5.0 Emergency Assistance

### 5.1 Provide Fast Connection To The Correct Emergency Service(s)

- 5.1.1 Access to police, fire, emergency medical, highway assistance
- 5.1.2 Direct reporting of hazardous situations (drunk drivers, accidents)
- 5.1.3 Accommodates private auto or public transit

### 5.2 Provide Estimated Time Of Arrival (ETA) Of Emergency Vehicles

- 5.2.1 Based on current travel conditions
- 5.2.2 Allow users to query or receive constant updates on ETA

### 5.3 Available Whenever, Wherever Needed

- 5.3.1 24 hours a day, seven days a week, 365 days a year
- 5.3.2 Pre-trip and en-route
- 5.3.3 Many ways (telephone, in-vehicle device)
- 5.3.4 Many locations (roadside, rest stop, transit station, in-vehicle)

### 5.4 Easy To Activate

- 5.4.1 Automatic activation in an emergency (accidents)

## 6.0 Traveler Services Information

### 6.1 Provide Fast, Comprehensive Access To “Yellow Pages” Information About:

- 6.1.1 Restaurants (fast-food, family, casual)
- 6.1.2 Lodging/camping (hotels/motels, lodges, resorts, camp grounds)
- 6.1.3 Fuel/vehicle service (gas stations, convenience stores, service centers)
- 6.1.4 Emergency medical facilities/services (hospitals, clinics)
- 6.1.5 Tourist sights (parks, museums, monuments, theme parks)
- 6.1.6 Events (concerts, theater, sports, shows, fairs, conferences)
- 6.1.7 Entertainment (movie theaters, night clubs, comedy clubs)
- 6.1.8 Shopping (malls, outlets, downtown shopping districts)
- 6.1.9 Airlines
- 6.1.10 Rental vehicles

### 6.2 Allow Various Location Perspectives

- 6.2.1 Nearest to my current location, miles to next...
- 6.2.2 At this exit
- 6.2.3 Along my route
- 6.2.4 At my destination

### 6.3 Allow Specification Of User Preferences (Lodging, Restaurants)

### 6.4 Provide Capability To Make Reservations

### 6.5 Available Whenever, Wherever Needed

- 6.5.1 24 hours a day, seven days a week, 365 days a year
- 6.5.2 Pre-trip and en-route
- 6.5.3 Many ways (signs, radio, computer, telephone, fax, kiosk)
- 6.5.4 Many locations (airport, train/bus station, rest stop)

### 6.6 Provide Coverage Across Required Geographic Area

- 6.6.1 Regional (metro-wide, multi-county, multi-city, multi-state)
- 6.6.2 Statewide

### 6.7 Provide The Following Types Of Information

- 6.7.1 Description, location, directions (text and/or map)
- 6.7.2 Hours/dates/season, prices, availability
- 6.7.3 Parking, alternate transportation modes
- 6.7.4 Type of facility, type of food offered, quality rating

### 6.8 Information Must Be Kept Current

- 6.8.1 Rates, schedules, hours of operation, prices
- 6.8.2 Business closures/openings/moves

## 7.0 Travel Demand Management

### 7.1 What Would Have To Be Different Before Changing Current Mode Of Travel

- 7.1.1 Alternate modes must be competitive with, or comparable to, my current mode (faster, more available/accessible, more convenient, lower cost)
- 7.1.2 A change in jobs, work schedule or place of employment
- 7.1.3 A change in place of residence

### 7.2 What Would Have To Be Different Before Using A Non-Rush Hour Travel Time

- 7.2.1 Work schedule or having flex-time available at work
- 7.2.2 Job/employer

### 7.3 What Would Have To Be Different Before Using An Alternate Route

- 7.3.1 Travel time on alternate route would be as fast or faster than on current route
- 7.3.2 Convenience/access to/availability of alternate routes
- 7.3.3 Forced to make a change due to current route being closed, impassable or extreme congestion
- 7.3.4 A change in place of residence or employment

## **4. QUANTITATIVE RESEARCH**

### **4.1 OBJECTIVES**

The objective of the quantitative research was to measure how important the fundamental transportation needs, identified in the qualitative research, were to Minnesota travelers throughout the state, and how well these needs were currently being satisfied.

### **4.2 METHODOLOGY**

The study was conducted by phone using a list of random digit phone numbers. The sample was designed to match the statewide population distribution by county. Respondents were also selected to achieve a balance of males and females. All respondents were over 18 years old and residents of Minnesota who make at least one trip a week outside of their home by motorized vehicle or bicycle. A total of 901 respondents were interviewed using the above described random selection process. The profile on these respondents is shown in Figure 3.

Quotas were established for the following types of travelers:

Heavy Drivers - Those who drive extensively for business purposes during the work day were surveyed about this travel.

Commute To/From Work - Those who work three or more days per week and were not heavy drivers were surveyed about their commute to work. These respondents are further broken down into:

- \* Single Occupancy Vehicles (SOV)
- \* Public Transit Users
- \* Carpoolers

Employed Non-Work Travel - Those who work three or more days per week and were not heavy drivers were surveyed about their travel for all other purposes except work.

Not Employed - Those who are unemployed or who work only one to two days per week were surveyed about their overall travel.

Unfamiliar Areas - Those who travel some or a great deal for any purpose in unfamiliar areas within Minnesota.

Figure 3. Traveler Telephone Survey - Participant Profile

Respondents in each quota category were asked about their travel within the state of Minnesota. The respondents assigned rankings of importance and current satisfaction (1 being lowest and 10 being highest) to the list of wants and needs, from the standpoints of their type of travel. If a respondent qualified for more than one quota category, (e.g., Commute To/From Work and Employed Non-Work Travel) that respondent was placed in one of the qualifying categories and

asked to respond from the viewpoint of that category. It should be noted the questionnaire was answered by each respondent for one and only one category. Appendix B includes the telephone survey questionnaire.

After completing the 901 interviews, the number of respondents interviewed in the various traveler type segments (described above) was examined. It was decided that metro area carpoolers and bus riders were key segments that should be analyzed and reported independently. In the initial sample of 901 respondents, 8 carpoolers and 18 bus riders were interviewed. Ninety-five (95) additional interviews of carpoolers were then completed to increase its sample size to 103 respondents. Eighty-two (82) additional interviews of bus riders were also completed to increase its sample size to 100 respondents. With these additional carpooler and bus rider respondents, the ending sample size for the study was 1,078 respondents.

#### **4.3 WANTS AND NEEDS IMPORTANCE SUMMARY**

The survey results for the wants and needs importance are presented in Table 2. The needs are ordered according to the mean importance values (on a scale of 1 to 10) for participants represented by the “Random Sample” column. Additional columns are included showing the values for the different travel mode/purpose combinations.

#### **4.4 WANTS AND NEEDS SATISFACTION SUMMARY**

The survey results for the wants and needs satisfaction are presented in Table 3. The needs are ordered according to the mean satisfaction values (on a scale of 1 to 10) for participants represented by the “Random Sample” column. Additional columns are included showing the values for the different travel mode/purpose combinations.

**Table 2. Wants and Needs Importance Summary (1 to 10 Scale)**

Traveler Group	Importance							
	Random Sample <sup>1</sup>	Heavy Drivers	Workers To/From Work			Workers Non-Work	Non-Workers	Unfamiliar Areas
			SOV	Carpool	Bus			
Number of Respondents	901	121	153	103	100	175	175	251
Wants and Needs								
Safe	9.38	9.27	9.27	9.63	9.31	9.45	9.45	9.39
Available Whenever Needed	9.14	9.43	9.12	9.10	8.55	9.01	9.34	8.96
Get Help Quickly in Emergency	9.02	8.62	8.72	8.87	8.56	9.06	9.39	9.11
Available Wherever Needed	8.93	9.32	8.74	8.89	7.71	8.76	9.19	8.79
Comfortable, Easy to Use	8.49	8.62	8.37	8.26	8.42	8.57	8.54	8.44
Fair, Aggressive Law Enforcement	8.46	7.93	8.41	8.38	8.47	8.38	8.98	8.43
Directly Without Delays	8.36	8.89	8.51	8.35	8.49	8.26	8.10	8.25
Good Value for Cost	8.29	7.93	8.15	8.39	8.55	8.31	8.65	8.25
Free of Stressful Experiences	8.15	7.85	7.88	8.11	8.02	8.11	8.39	8.29
Timely Road/Weather Information	7.98	7.70	7.70	7.65	6.90	7.74	8.50	8.08
Clear, Timely Directions	7.79	7.25	6.68	6.31	7.06	7.86	8.39	8.46
Timely Construction/Maintenance	7.47	7.18	6.95	7.34	6.29	7.27	7.80	7.86
Timely Traffic/ Incident Information	7.09	6.91	6.70	7.08	6.22	6.89	7.56	7.30
Timely Alternatives Information	6.78	6.57	6.18	6.71	6.13	6.53	7.13	7.26
Access to Travel Service Information	6.63	5.53	5.81	5.27	5.27	6.67	6.95	7.52
Best Route Plan	6.32	5.72	5.34	5.93	6.75	6.45	6.67	6.98
Good Use of Travel Time	5.95	6.77	5.47	5.87	6.99	6.03	5.78	6.03
Choice of Travel Modes	5.55	4.06	5.01	6.67	7.59	5.72	6.33	5.96

Notes:

<sup>1</sup>Random sample does not include additional carpool (95) and additional bus rider (82) interviews.

**Table 3. Wants and Needs Satisfaction Summary (1 to 10 Scale)**

Traveler Group	Satisfaction Ranking By Trip Purpose							
	Random Sample <sup>1</sup>	Heavy Drivers	Workers To/From Work			Workers	Non-	Unfamiliar
			SOV	Carpool	Bus	Non-Work	Workers	Areas
Number of Respondents	901	121	153	103	100	175	175	251
Wants and Needs								
Available Whenever Needed	8.76	8.91	9.01	8.00	6.50	8.89	8.90	8.45
Comfortable, Easy to Use	8.71	8.30	8.90	8.23	7.89	8.79	8.87	8.67
Available Wherever Needed	8.49	8.74	8.78	7.81	5.97	8.55	8.54	8.20
Safe	8.01	8.00	8.12	7.83	8.22	8.10	8.00	7.88
Directly Without Delays	7.97	7.60	8.25	7.35	7.71	8.07	8.17	7.79
Good Value for Cost	7.93	7.36	7.91	7.61	7.61	8.09	8.20	7.97
Clear, Timely Directions	7.75	7.72	7.61	7.31	7.45	7.83	8.01	7.65
Timely Road/Weather Information	7.66	7.53	7.60	7.07	7.12	7.69	8.18	7.37
Access to Travel Service Information	7.65	7.38	7.52	6.79	6.78	7.69	7.82	7.78
Get Help Quickly in Emergency	7.64	7.60	7.81	7.29	7.18	7.41	8.07	7.47
Good Use of Travel Time	7.58	7.52	7.47	7.24	8.09	7.69	7.53	7.65
Free of Stressful Experiences	7.30	6.55	7.35	6.16	7.63	7.43	7.75	7.26
Fair, Aggressive Law Enforcement	7.16	7.22	7.38	6.33	6.89	7.17	7.25	6.93
Best Route Plan	7.16	6.68	7.07	6.52	7.57	7.27	7.54	7.18
Timely Traffic/ Incident Information	7.04	6.68	6.89	6.84	6.81	6.98	7.59	7.01
Timely Construction/Maintenance	6.91	6.89	7.03	6.37	6.75	6.83	7.27	6.69
Timely Alternatives Information	6.90	6.76	6.80	6.01	6.40	7.06	7.28	6.82
Choice of Travel Modes	6.69	6.24	6.44	7.07	6.97	6.99	7.20	6.61

Notes:

<sup>1</sup>Random sample does not include additional carpool (95) and additional bus rider (82) interviews.

## **APPENDIX A. TRAVELER DISCUSSION SESSION**

**A.1 Top Three Positive Experiences Template**

**A.2 Top Three Negative Experiences Template**

**A.3 Top Three Key Benefits Template**

**A.4 Question Set**

## A.1 Top Three Positive Experiences Template

Session #: \_\_\_\_\_

Participant #: \_\_\_\_\_

### Top Three Positive Experiences

Please indicate below your selection of the top three positive experiences from the ones we have just listed. Please select from only those items listed. Indicate why they are the top three.

1. What is a top Positive experience?

Letter #: \_\_\_\_\_ Description: \_\_\_\_\_

Why is this a top experience?

---

---

---

2. What is a top Positive experience?

Letter #: \_\_\_\_\_ Description: \_\_\_\_\_

---

---

---

3. What is a top Positive experience?

Letter #: \_\_\_\_\_ Description: \_\_\_\_\_

Why is this a top experience?

---

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---

## A.2 Top Three Negative Experiences Template

Session #: \_\_\_\_\_

Participant #: \_\_\_\_\_

### Top Three Negative Experiences

Please indicate below your selection of the top three negative experiences from the ones we have just listed. Please select from only those items listed. Indicate why they are the top three.

1. What is a top Negative experience?

Letter #: \_\_\_\_\_ Description: \_\_\_\_\_

Why is this a top experience?

---

---

---

2. What is a top Negative experience?

Letter #: \_\_\_\_\_ Description: \_\_\_\_\_

Why is this a top experience?

---

---

---

3. What is a top Negative experience?

Letter #: \_\_\_\_\_ Description: \_\_\_\_\_

Why is this a top experience?

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### A.3 Top Three Key Benefits Template

Session #: \_\_\_\_\_

Participant #: \_\_\_\_\_

#### Identify your top 3 key benefits

Choose from the entire listing what the three most important benefits are and answer the following questions about each one. Please select from only those items listed.

1. What is your key benefit?

Letter #: \_\_\_\_\_ Description: \_\_\_\_\_

Why is this benefit important to you?

\_\_\_\_\_

How will you know when you get this benefit?

\_\_\_\_\_

2. What is your key benefit?

Letter #: \_\_\_\_\_ Description: \_\_\_\_\_

Why is this benefit important to you?

\_\_\_\_\_

How will you know when you get this benefit?

\_\_\_\_\_

3. What is your key benefit?

Letter #: \_\_\_\_\_ Description: \_\_\_\_\_

Why is this benefit important to you?

\_\_\_\_\_

How will you know when you get this benefit?

\_\_\_\_\_

#### A.4 Question Set

A. What are some things that are working well today that you would not want changed as improvements are made to the transportation system? Why is it important to leave these unchanged?

B. \_\_\_\_\_ I do not travel during rush hour.

\_\_\_\_\_ I do travel during rush hour. (If you travel during rush hour, please answer the following additional questions.)

- What is your current **primary mode of travel**?
- What would have to be different before you would change your **current mode of travel**? Why would these make it possible for you to use an alternate mode of travel?
- What would have to be different before you would **use a non-rush hour travel time**? Why would these make it possible for you to travel during non-rush hour?
- What would have to be different before you would **use an alternate route**? Why would these make it possible for you to travel by an alternate route?

Select five of the remaining questions, C through N. Please rank the additional five questions that you answer. Place the number 1 through 5 in the space provided. One is most important.

In earlier exercises, we talked in general terms. In answering these questions, please be as specific as possible.

#### Travel Planning (Pre-Trip/En-route)

\_\_\_\_\_ C. Ideally, **what** information and services would help you **plan your travel mode, route and time**? Why would these be helpful to you?

\_\_\_\_\_ D. Ideally, **what** information and services would help you **adjust your travel plans en-route**? Why would these be helpful to you?

\_\_\_\_\_ E. Ideally, **what** information and services would help you **reach your destination without getting lost**? Why would these be helpful to you?

\_\_\_\_\_ F. Ideally, **what** information and services would help you arrive at your destination **on time**? Why would these be helpful to you?

#### Travel Safety (Pre-Trip/En-route)

\_\_\_\_\_ G. Ideally, **what** would make your travel **safe and accident-free**? Why would these be helpful to you?

- \_\_\_ H. Ideally, **what** information and services would help you in the event of an **emergency or urgent need during your travel**? Why would these be helpful to you?
- \_\_\_ I. Ideally, **what** information and services would you like regarding **weather and road conditions**? Why would these be helpful to you?
- \_\_\_ J. Ideally, **what** information and services would you like regarding **vehicle services (e.g.; fuel, repairs, towing, etc.)**? Why would these be helpful to you?

**Other Traveler Information and Services (Pre-Trip/En-route)**

- \_\_\_ K. Ideally, **what** information and services would you like regarding **sights, events, entertainment and shopping** when traveling in an unfamiliar area? Why would these be helpful to you?
- \_\_\_ L. Ideally, **what** information and services would you like regarding **food and lodging** when traveling in an unfamiliar area? Why would these be helpful to you?
- \_\_\_ M. Ideally, **what travel payment services (e.g.; tolls, order ahead, reservations, etc.)** would you like to be available? Why would these be helpful to you?
- \_\_\_ N. Ideally, **I would like** information and services regarding (fill in the blank) \_\_\_\_\_ . Why would these be helpful to you?

## **APPENDIX B. TRAVELER TELEPHONE SURVEY QUESTIONNAIRE**

N. K. FRIEDRICHS & ASSOCIATES, INC.  
 2500 CENTRE VILLAGE Project #50-715  
 431 SOUTH 7TH STREET Draft #8  
 MINNEAPOLIS, MN 55415

**QUESTIONNAIRE  
 POLARIS STATEWIDE TELEPHONE SURVEY**

Hello, this is (NAME) from Friedrichs & Associates. We are working with the Minnesota Department of Transportation to conduct a survey with Minnesota residents.

1-A. We are interviewing people who are age 18 and older. Are you 18 or older?

- YES 1 → CONTINUE.
- NO2 → ASK FOR SOMEONE ELSE IN THE HOUSEHOLD WHO IS 18+. IF AVAILABLE, BEGIN AT INTRODUCTION. IF NOT AVAILABLE, MAKE AN APPOINTMENT TO CALLBACK OR TERMINATE.

B. In which Minnesota county do you live? **DO NOT READ LIST**

<u>Metro Counties</u>		<u>Non-Metro Counties</u>		→ Do you live in the country, in a town or city <u>under</u> 5,000 residents, or in a city of 5,000 or larger?
Anoka	1	Blue Earth	1	
Carver	2	Olmsted	2	
Chisago	3	Otter Tail	3	
Dakota	4	St. Louis	4	
Hennepin	5	Stearns	5	In the country
Ramsey	6	Wright	6	Town or city under 5,000
Scott	7	Other:		City 5,000 or larger
Washington	8			
			7	

C. IF DOES NOT LIVE IN MINNESOTA, TERMINATE.

D. RECORD RESPONDENT'S GENDER:

- Male 1
- Female 2

2-A. Are you employed outside of your home?

- YES 1 → CONTINUE.
- NO2 → SKIP TO PAGE 5, QUESTION 6.

B. How many days per week do you normally work outside of your home?

→ IF 3 OR MORE, CONTINUE.  
IF LESS THAN 3, SKIP TO PAGE 5, Q 6.

3-A. When you go to work, do you usually -- **READ LIST:**

- |   |   |                               |
|---|---|-------------------------------|
| Drive <u>alone</u>  | 1 |                               |
| Drive or ride with <u>someone else</u><br><u>in the vehicle</u> | 2 | → CONTINUE.                   |
| Ride the bus  | 3 |                               |
| Ride a non-motorized bike                                       | 4 |                               |
| or Walk   | 5 | → SKIP TO PAGE 5, QUESTION 6. |

B. When you leave your home for purposes other than work, do you usually -- **READ LIST:**

- |  |   |
|--|---|
| Drive <u>alone</u>                                       | 1 |
| Drive or ride with someone else<br><u>in the vehicle</u> | 2 |
| Ride the bus   | 3 |
| Ride a non-motorized bike                                | 4 |
| or Walk  | 5 |

4-A. Some jobs require very little travel during working hours and other jobs such as a delivery driver or a realtor require extensive travel. How much travel does your job require for work related purposes in the state of Minnesota -- **READ LIST:**

- |               |   |   |
|---------------|---|---|
| A great deal  | 1 | Æ <b>CONTINUE. (HEAVY DRIVER QUOTA)</b> |
| Some          | 2 |   |
| or Hardly any | 3 | Æ <b>SKIP TO F.</b>                     |

B. Is all of your travel for work purposes on a specific route, or do you travel in different areas?

- |                       |   |
|-----------------------|---|
| All on specific route | 1 |
| Different areas       | 2 |

C. What is your occupation?

D. In a typical week, approximately how many miles do you drive for work purposes in the state of Minnesota?

E. **SKIP TO NEXT APPROPRIATE SECTION -- PAGE 3 OR 6.**

4-F. Approximately how many miles is it from your home to work?

miles

- Don't Know 0
- DON'T GO TO A WORKPLACE X

G. In any of your travel in the state of Minnesota, for work or other purposes, how often do you travel in unfamiliar areas where you need a map or directions to find your destination? Would you say you travel in unfamiliar areas -- **READ LIST:**

- |                |   |   |
|----------------|---|---|
| A great deal   | 1 | <b>(QUALIFIES FOR TRAVEL IN UNFAMILIAR AREAS)</b> |
| Some           | 2 |   |
| or Hardly ever | 3 |   |

**H. SKIP TO NEXT APPROPRIATE SECTION -- PAGE 3, 8, 10, OR 14.**

**SECTION FOR METRO COUNTY RESIDENTS ONLY**

5-A. At what time of day do you usually travel to work? -- **READ LIST:**

- Before 6 A.M. 1
- Between 6 and 9 A.M. 2
- or After 9 A.M. 3

B. On a typical work day, how many minutes of drive or ride time does it take you to get from home to work?

minutes

DOESN'T GO TO A WORKPLACE X

C. At what time of day do you usually travel home from work -- **READ LIST:**

- Before 3 P.M. 1
- Between 3 and 6 P.M. 2
- or After 6 P.M. 3

5-D. On a typical work day, how many minutes of drive or ride time does it take you to get from work to home?

minutes

DOESN'T GO TO A WORKPLACE X

E. How often do you experience traffic congestion when going to or from work -- **READ LIST:**

- Regularly 1
- Sometimes 2
- or Rarely 3

F. In what city or suburb do you work?

- Minneapolis 1 Æ **ASK G.**
- St. Paul 2 Æ **ASK H.**
- Other: Æ **SKIP TO I.**

G. Do you work downtown, at or near the University of Minnesota, or somewhere else in the city of Minneapolis?

- Downtown 1
- At or near U of M 2
- Somewhere else in Minneapolis 3

H. Do you work downtown or somewhere else in the city of St. Paul?

- Downtown 1
- Somewhere else in St. Paul 2

I. **SKIP TO NEXT APPROPRIATE SECTION -- PAGE 6, 8, 10, OR 14.**

**SECTION FOR NON-EMPLOYED OR  
NON-REGULAR WORK TRAVELER**

6-A. When you leave your home to shop, or for recreational purposes, or any other reason, do you usually --  
**READ LIST:**

- |   |   |                    |
|---|---|--------------------|
| Drive <u>alone</u>  | 1 | Æ <b>CONTINUE.</b> |
| Drive or ride with <u>someone else</u><br><u>in the vehicle</u> | 2 |                    |
| Ride the bus  | 3 |                    |
| Ride a non-motorized bike                                       | 4 |                    |
| or Walk   | 5 |                    |

B. In a typical week, about how many trips do you make for shopping, recreation, or any other purpose? Do you make -- **READ LIST:**

- |                      |   |                                 |
|----------------------|---|---------------------------------|
| None                 | 1 | Æ <b>DISCONTINUE INTERVIEW.</b> |
| 1 or 2 trips         | 2 | Æ <b>CONTINUE.</b>              |
| 3 to 7 trips         | 3 |                                 |
| or more than 7 trips | 4 |                                 |

C. In any of your travel in the state of Minnesota, how often do you travel in unfamiliar areas where you need a map or directions to find your destination? Would you say you travel in unfamiliar areas -- **READ LIST:**

- |                |   |   |
|----------------|---|---|
| A great deal   | 1 | <b>(QUALIFIES FOR TRAVEL<br/>IN<br/>UNFAMILIAR AREAS)</b> |
| Some           | 2 |   |
| or Hardly ever | 3 |   |

**D. SKIP TO PAGE 12 OR 14.**

SECTION FOR HEAVY DRIVERS (Q4-A) REGARDING TRAVEL FOR WORK PURPOSES

7. You said earlier that you travel a great deal for work purposes. I would like you to think of your work related travel in the state of Minnesota as I ask the following questions.

A. I will read a list of items that may or may not be important to you in your work travel. Using a scale of 1 to 10 in which 1 means not at all important, and 10 means extremely important, please rate the importance of each item. You may use any number from 1 through 10 to give your answers.

Let's begin with (READ STATEMENT). Using a scale of 1 through 10, how important is this item in your work related travel in the state of Minnesota? **CONTINUE TO READ LIST (ROTATE ORDER).**

How important is it that:	<u>RECORD</u> <u>RESPONSE, 1-10</u>	DON'T
<u>KNOW</u>		
1. Choices are available for <u>ways</u> to travel such as car, bus, or carpool	_____	X
2. Information is available to help <u>plan</u> your travel such as available ways to travel, route options, schedules, and cost	_____	X
3. Your method of transportation is available <u>whenever</u> needed	_____	X
4. Your method of transportation is available <u>wherever</u> needed to take you <u>anywhere</u> you want to go	_____	X
5. Timely, accurate information is available about traffic and accidents on the roads that you travel	_____	X
6. Timely, accurate information is available about weather and road surface conditions for the area that you travel	_____	X
7. Easy to understand <u>directions</u> are available to get you to your destination	_____	X
8. You get to your destination directly without delay	_____	X
9. Your travel is safe from accident, injury, theft, and violence	_____	X
10. You get timely information about ways to avoid travel delays such as different routes, different departure times, etc.	_____	X
11. You have easy access to travel information such as where to buy gas, food, lodging, sights, entertainment, and so forth	_____	X
12. Timely, accurate information is available about construction, road repair and maintenance for the roads that you travel	_____	X
13. Your travel is free of stressful experiences	_____	X
14. Your method of transportation allows you to make use of your travel time such as listening to music, reading, or doing business by phone	_____	X
15. Your method of transportation is a good value for the money	_____	X
16. You can get help quickly in case of an emergency or accident	_____	X
17. Your method of transportation is comfortable and easy to use	_____	X
18. There is fair, aggressive enforcement of laws such as speeding, drunk driving, etc.	_____	X

7-B. Now I would like you to think of how satisfied you are with each of these items in your work related travel in the state of Minnesota. Using a scale of 1 through 10 in which 1 means not at all satisfied, and 10 means extremely satisfied, please rate your level of satisfaction with each item.

Let's begin with (READ STATEMENT). Using a scale of 1 through 10, how satisfied are you with this item in your work related travel in the state of Minnesota? **CONTINUE TO READ LIST (ROTATE ORDER).**

How satisfied are you that:	<u>RECORD RESPONSE, 1-10</u>	<u>DON'T KNOW</u>
1. Choices are available for <u>ways</u> to travel such as car, bus, or carpool	_____	X
2. Information is available to help <u>plan</u> your travel such as available ways to travel, route options, schedules, and cost	_____	X
3. Your method of transportation is available <u>whenever</u> needed	_____	X
4. Your method of transportation is available <u>wherever</u> needed to take you <u>anywhere</u> you want to go	_____	X
5. Timely, accurate information is available about traffic and accidents on the roads that you travel	_____	X
6. Timely, accurate information is available about weather and road surface conditions for the area that you travel	_____	X
7. Easy to understand <u>directions</u> are available to get you to your destination	_____	X
8. You get to your destination directly without delay	_____	X
9. Your travel is safe from accident, injury, theft, and violence	_____	X
10. You get timely information about ways to avoid travel delays such as different routes, different departure times, etc.	_____	X
11. You have easy access to travel information such as where to buy gas, food, lodging, sights, entertainment, and so forth	_____	X
12. Timely, accurate information is available about construction, road repair and maintenance for the roads that you travel	_____	X
13. Your travel is free of stressful experiences	_____	X
14. Your method of transportation allows you to make use of your travel time such as listening to music, reading, or doing business by phone	_____	X
15. Your method of transportation is a good value for the money	_____	X
16. You can get help quickly in case of an emergency or accident	_____	X
17. Your method of transportation is comfortable and easy to use	_____	X
18. There is fair, aggressive enforcement of laws such as speeding, drunk driving, etc.	_____	X
C. All things considered, how satisfied are you with your travel for work related purposes	_____	

D. **SKIP TO PAGE 16.**

SECTION FOR EMPLOYED RESPONDENTS (NON-HEAVY DRIVERS AT Q4-A) REGARDING TRAVEL TO AND FROM WORK

8. I would like you to think of your travel to and from work as I ask the following questions.

A. I will read a list of items that may or may not be important to you in your travel to and from work. Using a scale of 1 to 10 in which 1 means not at all important, and 10 means extremely important, please rate the importance of each item. You may use any number from 1 through 10 to give your answers.

Let's begin with (READ STATEMENT). Using a scale of 1 through 10, how important is this item in your travel to and from work? **CONTINUE TO READ LIST (ROTATE ORDER).**

How important is it that:	<u>RECORD</u> <u>RESPONSE, 1-10</u>	DON'T
<u>KNOW</u>		
1. Choices are available for <u>ways</u> to travel such as car, bus, or carpool	_____	X
2. Information is available to help <u>plan</u> your travel such as available ways to travel, route options, schedules, and cost	_____	X
3. Your method of transportation is available <u>whenever</u> needed	_____	X
4. Your method of transportation is available <u>wherever</u> needed to take you <u>anywhere</u> you want to go	_____	X
5. Timely, accurate information is available about traffic and accidents on the roads that you travel	_____	X
6. Timely, accurate information is available about weather and road surface conditions for the area that you travel	_____	X
7. Easy to understand <u>directions</u> are available to get you to your destination	_____	X
8. You get to your destination directly without delay	_____	X
9. Your travel is safe from accident, injury, theft, and violence	_____	X
10. You get timely information about ways to avoid travel delays such as different routes, different departure times, etc.	_____	X
11. You have easy access to travel information such as where to buy gas, food, lodging, sights, entertainment, and so forth	_____	X
12. Timely, accurate information is available about construction, road repair and maintenance for the roads that you travel	_____	X
13. Your travel is free of stressful experiences	_____	X
14. Your method of transportation allows you to make use of your travel time such as listening to music, reading, or doing business by phone	_____	X
15. Your method of transportation is a good value for the money	_____	X
16. You can get help quickly in case of an emergency or accident	_____	X
17. Your method of transportation is comfortable and easy to use	_____	X
18. There is fair, aggressive enforcement of laws such as speeding, drunk driving, etc.	_____	X

8-B. Now I would like you to think of how satisfied you are with each of these items in your travel to and from work. Using a scale of 1 through 10 in which 1 means not at all satisfied, and 10 means extremely satisfied, please rate your level of satisfaction with each item.

Let's begin with (READ STATEMENT). Using a scale of 1 through 10, how satisfied are you with this item in your travel to and from work? **CONTINUE TO READ LIST (ROTATE ORDER).**

How satisfied are you that:	RECORD <u>RESPONSE, 1-10</u>	DON'T
<u>KNOW</u>		
1. Choices are available for <u>ways</u> to travel such as car, bus, or carpool	_____	X
2. Information is available to help <u>plan</u> your travel such as available ways to travel, route options, schedules, and cost	_____	X
3. Your method of transportation is available <u>whenever</u> needed	_____	X
4. Your method of transportation is available <u>wherever</u> needed to take you <u>anywhere</u> you want to go	_____	X
5. Timely, accurate information is available about traffic and accidents on the roads that you travel	_____	X
6. Timely, accurate information is available about weather and road surface conditions for the area that you travel	_____	X
7. Easy to understand <u>directions</u> are available to get you to your destination	_____	X
8. You get to your destination directly without delay	_____	X
9. Your travel is safe from accident, injury, theft, and violence	_____	X
10. You get timely information about ways to avoid travel delays such as different routes, different departure times, etc.	_____	X
11. You have easy access to travel information such as where to buy gas, food, lodging, sights, entertainment, and so forth	_____	X
12. Timely, accurate information is available about construction, road repair and maintenance for the roads that you travel	_____	X
13. Your travel is free of stressful experiences	_____	X
14. Your method of transportation allows you to make use of your travel time such as listening to music, reading, or doing business by phone	_____	X
15. Your method of transportation is a good value for the money	_____	X
16. You can get help quickly in case of an emergency or accident	_____	X
17. Your method of transportation is comfortable and easy to use	_____	X
18. There is fair, aggressive enforcement of laws such as speeding, drunk driving, etc.	_____	X
C. All things considered, how satisfied are you with your travel to and from work	_____	

D. **SKIP TO PAGE 16.**

SECTION FOR EMPLOYED RESPONDENTS (NON-HEAVY DRIVERS AT Q4-A) REGARDING NON-WORK TRIPS

9. I would like you to think of your travel for shopping, recreation, and all other purposes in the state of Minnesota, except work, as I ask the following questions.

A. I will read a list of items that may or may not be important to you in your non-work travel. Using a scale of 1 to 10 in which 1 means not at all important, and 10 means extremely important, please rate the importance of each item. You may use any number from 1 through 10 to give your answers.

Let's begin with (READ STATEMENT). Using a scale of 1 through 10, how important is this item in your non-work travel in the state of Minnesota? **CONTINUE TO READ LIST (ROTATE ORDER).**

How important is it that:	RECORD <u>RESPONSE, 1-10</u>	DON'T
<u>KNOW</u>		
1. Choices are available for <u>ways</u> to travel such as car, bus, or carpool	_____	X
2. Information is available to help <u>plan</u> your travel such as available ways to travel, route options, schedules, and cost	_____	X
3. Your method of transportation is available <u>whenever</u> needed	_____	X
4. Your method of transportation is available <u>wherever</u> needed to take you <u>anywhere</u> you want to go	_____	X
5. Timely, accurate information is available about traffic and accidents on the roads that you travel	_____	X
6. Timely, accurate information is available about weather and road surface conditions for the area that you travel	_____	X
7. Easy to understand <u>directions</u> are available to get you to your destination	_____	X
8. You get to your destination directly without delay	_____	X
9. Your travel is safe from accident, injury, theft, and violence	_____	X
10. You get timely information about ways to avoid travel delays such as different routes, different departure times, etc.	_____	X
11. You have easy access to travel information such as where to buy gas, food, lodging, sights, entertainment, and so forth	_____	X
12. Timely, accurate information is available about construction, road repair and maintenance for the roads that you travel	_____	X
13. Your travel is free of stressful experiences	_____	X
14. Your method of transportation allows you to make use of your travel time such as listening to music, reading, or doing business by phone	_____	X
15. Your method of transportation is a good value for the money	_____	X
16. You can get help quickly in case of an emergency or accident	_____	X
17. Your method of transportation is comfortable and easy to use	_____	X
18. There is fair, aggressive enforcement of laws such as speeding, drunk driving, etc.	_____	X

9-B. Now I would like you to think of how satisfied you are with each of these items in your non-work travel in the state of Minnesota. Using a scale of 1 through 10 in which 1 means not at all satisfied, and 10 means extremely satisfied, please rate your level of satisfaction with each item.

Let's begin with (READ STATEMENT). Using a scale of 1 through 10, how satisfied are you with this item in your non-work travel in the state of Minnesota? **CONTINUE TO READ LIST (ROTATE ORDER).**

	<u>RECORD</u> <u>RESPONSE, 1-10</u>	<u>DON'T</u> <u>KNOW</u>
How satisfied are you that:		
1. Choices are available for <u>ways</u> to travel such as car, bus, or carpool	_____	X
2. Information is available to help <u>plan</u> your travel such as available ways to travel, route options, schedules, and cost	_____	X
3. Your method of transportation is available <u>whenever</u> needed	_____	X
4. Your method of transportation is available <u>wherever</u> needed to take you <u>anywhere</u> you want to go	_____	X
5. Timely, accurate information is available about traffic and accidents on the roads that you travel	_____	X
6. Timely, accurate information is available about weather and road surface conditions for the area that you travel	_____	X
7. Easy to understand <u>directions</u> are available to get you to your destination	_____	X
8. You get to your destination directly without delay	_____	X
9. Your travel is safe from accident, injury, theft, and violence	_____	X
10. You get timely information about ways to avoid travel delays such as different routes, different departure times, etc.	_____	X
11. You have easy access to travel information such as where to buy gas, food, lodging, sights, entertainment, and so forth	_____	X
12. Timely, accurate information is available about construction, road repair and maintenance for the roads that you travel	_____	X
13. Your travel is free of stressful experiences	_____	X
14. Your method of transportation allows you to make use of your travel time such as listening to music, reading, or doing business by phone	_____	X
15. Your method of transportation is a good value for the money	_____	X
16. You can get help quickly in case of an emergency or accident	_____	X
17. Your method of transportation is comfortable and easy to use	_____	X
18. There is fair, aggressive enforcement of laws such as speeding, drunk driving, etc.	_____	X

C. All things considered, how satisfied are you with your non-work travel in Minnesota \_\_\_\_\_

D. **SKIP TO PAGE 16.**

SECTION FOR NON-EMPLOYED RESPONDENTS REGARDING ALL TRAVEL IN MINNESOTA

10. I would like you to think of your travel for shopping, recreation, and all other purposes in the state of Minnesota as I ask the following questions.

A. I will read a list of items that may or may not be important to you in your travel. Using a scale of 1 to 10 in which 1 means not at all important, and 10 means extremely important, please rate the importance of each item. You may use any number from 1 through 10 to give your answers.

Let's begin with (READ STATEMENT). Using a scale of 1 through 10, how important is this item in your travel in the state of Minnesota? **CONTINUE TO READ LIST (ROTATE ORDER).**

How important is it that:	<u>RECORD RESPONSE, 1-10</u>	DON'T
<u>KNOW</u>		
1. Choices are available for <u>ways</u> to travel such as car, bus, or carpool	_____	X
2. Information is available to help <u>plan</u> your travel such as available ways to travel, route options, schedules, and cost	_____	X
3. Your method of transportation is available <u>whenever</u> needed	_____	X
4. Your method of transportation is available <u>wherever</u> needed to take you <u>anywhere</u> you want to go	_____	X
5. Timely, accurate information is available about traffic and accidents on the roads that you travel	_____	X
6. Timely, accurate information is available about weather and road surface conditions for the area that you travel	_____	X
7. Easy to understand <u>directions</u> are available to get you to your destination	_____	X
8. You get to your destination directly without delay	_____	X
9. Your travel is safe from accident, injury, theft, and violence	_____	X
10. You get timely information about ways to avoid travel delays such as different routes, different departure times, etc.	_____	X
11. You have easy access to travel information such as where to buy gas, food, lodging, sights, entertainment, and so forth	_____	X
12. Timely, accurate information is available about construction, road repair and maintenance for the roads that you travel	_____	X
13. Your travel is free of stressful experiences	_____	X
14. Your method of transportation allows you to make use of your travel time such as listening to music, reading, or doing business by phone	_____	X
15. Your method of transportation is a good value for the money	_____	X
16. You can get help quickly in case of an emergency or accident	_____	X
17. Your method of transportation is comfortable and easy to use	_____	X
18. There is fair, aggressive enforcement of laws such as speeding, drunk driving, etc.	_____	X

10-B. Now I would like you to think of how satisfied you are with each of these items in your travel in the state of Minnesota. Using a scale of 1 through 10 in which 1 means not at all satisfied, and 10 means extremely satisfied, please rate your level of satisfaction with each item.

Let's begin with (READ STATEMENT). Using a scale of 1 through 10, how satisfied are you with this item in your travel in the state of Minnesota? **CONTINUE TO READ LIST (ROTATE ORDER).**

	<u>RECORD RESPONSE, 1-10</u>	<u>DON'T KNOW</u>
How satisfied are you that:		
1. Choices are available for <u>ways</u> to travel such as car, bus, or carpool	_____	X
2. Information is available to help <u>plan</u> your travel such as available ways to travel, route options, schedules, and cost	_____	X
3. Your method of transportation is available <u>whenever</u> needed	_____	X
4. Your method of transportation is available <u>wherever</u> needed to take you <u>anywhere</u> you want to go	_____	X
5. Timely, accurate information is available about traffic and accidents on the roads that you travel	_____	X
6. Timely, accurate information is available about weather and road surface conditions for the area that you travel	_____	X
7. Easy to understand <u>directions</u> are available to get you to your destination	_____	X
8. You get to your destination directly without delay	_____	X
9. Your travel is safe from accident, injury, theft, and violence	_____	X
10. You get timely information about ways to avoid travel delays such as different routes, different departure times, etc.	_____	X
11. You have easy access to travel information such as where to buy gas, food, lodging, sights, entertainment, and so forth	_____	X
12. Timely, accurate information is available about construction, road repair and maintenance for the roads that you travel	_____	X
13. Your travel is free of stressful experiences	_____	X
14. Your method of transportation allows you to make use of your travel time such as listening to music, reading, or doing business by phone	_____	X
15. Your method of transportation is a good value for the money	_____	X
16. You can get help quickly in case of an emergency or accident	_____	X
17. Your method of transportation is comfortable and easy to use	_____	X
18. There is fair, aggressive enforcement of laws such as speeding, drunk driving, etc.	_____	X

C. All things considered, how satisfied are you with your travel in the state of Minnesota \_\_\_\_\_

**D. SKIP TO PAGE 16.**

SECTION FOR TRAVEL IN UNFAMILIAR AREAS IN MINNESOTA

11. You said earlier that you sometimes travel in unfamiliar areas. I would like you to think of your travel in unfamiliar areas in the state of Minnesota as I ask the following questions.

A. I will read a list of items that may or may not be important to you in your travel. Using a scale of 1 to 10 in which 1 means not at all important, and 10 means extremely important, please rate the importance of each item. You may use any number from 1 through 10 to give your answers.

Let's begin with (READ STATEMENT). Using a scale of 1 through 10, how important is this item in your travel in unfamiliar areas in the state of Minnesota? **CONTINUE TO READ LIST (ROTATE ORDER).**

How important is it that:	<u>RECORD</u> <u>RESPONSE, 1-10</u>	DON'T
<u>KNOW</u>		
1. Choices are available for <u>ways</u> to travel such as car, bus, or carpool	_____	X
2. Information is available to help <u>plan</u> your travel such as available ways to travel, route options, schedules, and cost	_____	X
3. Your method of transportation is available <u>whenever</u> needed	_____	X
4. Your method of transportation is available <u>wherever</u> needed to take you <u>anywhere</u> you want to go	_____	X
5. Timely, accurate information is available about traffic and accidents on the roads that you travel	_____	X
6. Timely, accurate information is available about weather and road surface conditions for the area that you travel	_____	X
7. Easy to understand <u>directions</u> are available to get you to your destination	_____	X
8. You get to your destination directly without delay	_____	X
9. Your travel is safe from accident, injury, theft, and violence	_____	X
10. You get timely information about ways to avoid travel delays such as different routes, different departure times, etc.	_____	X
11. You have easy access to travel information such as where to buy gas, food, lodging, sights, entertainment, and so forth	_____	X
12. Timely, accurate information is available about construction, road repair and maintenance for the roads that you travel	_____	X
13. Your travel is free of stressful experiences	_____	X
14. Your method of transportation allows you to make use of your travel time such as listening to music, reading, or doing business by phone	_____	X
15. Your method of transportation is a good value for the money	_____	X
16. You can get help quickly in case of an emergency or accident	_____	X
17. Your method of transportation is comfortable and easy to use	_____	X
18. There is fair, aggressive enforcement of laws such as speeding, drunk driving, etc.	_____	X

11-B. Now I would like you to think of how satisfied you are with each of these items in your travel in unfamiliar areas in the state of Minnesota. Using a scale of 1 through 10 in which 1 means not at all satisfied, and 10 means extremely satisfied, please rate your level of satisfaction with each item.

Let's begin with (READ STATEMENT). Using a scale of 1 through 10, how satisfied are you with this item in your travel in unfamiliar areas in the state of Minnesota? **CONTINUE TO READ LIST (ROTATE ORDER).**

How satisfied are you that:	<u>RECORD</u> <u>RESPONSE, 1-10</u>	DON'T
<u>KNOW</u>		
1. Choices are available for <u>ways</u> to travel such as car, bus, or carpool	_____	X
2. Information is available to help <u>plan</u> your travel such as available ways to travel, route options, schedules, and cost	_____	X
3. Your method of transportation is available <u>whenever</u> needed	_____	X
4. Your method of transportation is available <u>wherever</u> needed to take you <u>anywhere</u> you want to go	_____	X
5. Timely, accurate information is available about traffic and accidents on the roads that you travel	_____	X
6. Timely, accurate information is available about weather and road surface conditions for the area that you travel	_____	X
7. Easy to understand <u>directions</u> are available to get you to your destination	_____	X
8. You get to your destination directly without delay	_____	X
9. Your travel is safe from accident, injury, theft, and violence	_____	X
10. You get timely information about ways to avoid travel delays such as different routes, different departure times, etc.	_____	X
11. You have easy access to travel information such as where to buy gas, food, lodging, sights, entertainment, and so forth	_____	X
12. Timely, accurate information is available about construction, road repair and maintenance for the roads that you travel	_____	X
13. Your travel is free of stressful experiences	_____	X
14. Your method of transportation allows you to make use of your travel time such as listening to music, reading, or doing business by phone	_____	X
15. Your method of transportation is a good value for the money	_____	X
16. You can get help quickly in case of an emergency or accident	_____	X
17. Your method of transportation is comfortable and easy to use	_____	X
18. There is fair, aggressive enforcement of laws such as speeding, drunk driving, etc.	_____	X

C. All things considered, how satisfied are you with your travel in unfamiliar areas in the state of Minnesota

\_\_\_\_\_

**ASK OF EVERYONE**

12. I have a few questions for classification purposes. This information will be kept confidential. Is your age --  
**READ LIST:**

18 to 24	1
25 to 34	2
35 to 44	3
45 to 54	4
55 to 64	5
or 65 or older	6

13-A. Do you have a disability that requires a special vehicle or means of transportation?

YES	1	Æ	<b>CONTINUE.</b>
NO	2	Æ	<b>SKIP TO QUESTION 14.</b>

B. How do you usually travel? **DO NOT READ LIST, UNLESS NECESSARY.**

Metro Mobility/Handi Cabs or similar public transportation	1
A modified car or van that you drive	2
Other: _____	3

14. Is your annual family income before taxes under \$30,000 or \$30,000 or more?

Under \$30,000      1Æ    Is it -- **READ LIST:**  
Under \$20,000      1  
or \$20,000 or more      2  
REFUSED      3

\$30,000 or more      2Æ    Is it -- **READ LIST:**  
Under \$40,000      4  
\$40,000 to \$49,999      5  
\$50,000 to \$69,999      6  
or \$70,000 or more      7  
REFUSED      8

REFUSED      X

15. RECORD RESPONDENT'S NAME:

TELEPHONE NUMBER:

ZIP CODE:

VERIFY GENDER RECORDED EARLIER:    Male      1  
Female2

THANK RESPONDENT AND DISCONTINUE INTERVIEW.

16. INTERVIEWER:

DATE: