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16. Abstract

The purpose of this project was to enhance the development of Intelligent Transportation System (ITS) technology for tourist use by generating appropriate guidelines. Guideline development was based upon a review of the literature and a nationwide survey. The literature review covered a wide range of areas that were relevant to the driving tourist. These areas were: a general overview of tourism; tourism and the tourist role; travel motivation and tourist preferences; tourist health; social and cultural impacts of tourism; tourist information use and preferences; and scenic byways. The entire literature review can be found in a separate interim report. A number of findings from the literature review were relevant to the development of in-vehicle information systems for the driving tourist. The nationwide survey, reported here, generated detailed national information about use of tourist information, tourist information sources, preferences for various types of information and features for an in-vehicle information system for tourist use, willingness to pay for an in-vehicle information system for tourist use, and several factors related to actual tourist travel. Survey information was weighted to the Nationwide Personal Transportation Survey (NPTS) so that it was nationally representative of people who take long overnight trips. The report concludes with a summary of the study and a set of guidelines to assist developers of information systems so that these systems will be appropriate for tourists who drive.

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December 1999

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INTRODUCTION

Tourism is pervasive. Bringing in about 6 percent of the gross national product in the United States (US), the tourist industry is an indispensable part of most national economies. Since antiquity, tourism has influenced cultures, spread ideas, and spurred development (see, e.g., Eby, Molnar, & Cai, 1999; Molnar, Eby, & Hopp, 1996).

The relationship between tourism and development, in particular technological development, has been a strong one. Today, information about tourist destinations can be obtained from the *Internet*, a worldwide computer network, hotel bills and guest services can be displayed on in-room television sets, and reservations can be made and tickets issued electronically. In the field of automotive transportation, there have been significant developments in communication and electronic technology (collectively called Intelligent Transportation Systems or ITS). These systems include automated highways, automatic traveler distress assistance, vision enhancement, and in-vehicle navigation and information systems. However, little of this technology has been tailored specifically for tourist use.

The purpose of this project was to enhance the development of ITS technology for tourist use by generating appropriate guidelines. Guideline development was based upon a review of the literature and a nationwide survey. During the course of this project, several preliminary results have been published and presented at national and international conferences. A complete listing of these activities can be found in Appendix A.

METHODS

Literature Review

The purpose of the literature review was to synthesize research in the field of tourism in order to provide a background for the development of transportation technology, such as in-vehicle information systems designed specifically for tourists who drive. Relevant literature was obtained from the University of Michigan Libraries and the Travel, Tourism, and Recreation Resource Center at Michigan State University. Articles were separated into relevant topic areas and synthesized.

Because the field of tourism is complex and multifaceted, the review (Molnar, Eby, & Hopp, 1996) covered a wide range of areas that were relevant to the driving tourist. The review began with an overview of tourism that included a discussion of tourism and how it has been affected by the introduction of the automobile, a review of tourism statistics, a description of the older driving tourist, and a brief mention of the trends that are likely to affect tourism in the future. The review then discussed the field of tourism research, the roles that people assume when traveling, and how these roles relate to the development of in-vehicle information systems. Next, we presented a review of travel motivation and factors that influence tourist preferences, such as expectations, potential health problems, and sociodemographic factors. Because one potential effect of in-vehicle navigation systems is the increase of tourist travel to a certain area, we included a discussion of the social and cultural impacts of tourism and suggestions on how the negative impacts might be diminished. The review also included a discussion of tourist health and how in-vehicle systems could provide information to lessen or prevent ill health. The review summarized the literature related to tourist information use and preferences, covering the areas of route choice, spatial behavior, map use and wayfinding, need for traffic information, likelihood to divert from a route, and the implications of all of this for in-vehicle information systems for tourists who drive. Also included in this section was a review of some recent data on traveler use and acceptance of advanced technology. Finally, we concluded our review with a brief discussion of the scenic byways system. The entire literature review can be found in an interim report (Molnar, Eby, & Hopp, 1996).

Nationwide Survey

Survey

The survey was developed by the researchers and was a professionally-produced questionnaire printed in multiple colors that could be electronically scanned for data entry. A monochrome version of the survey can be found in Appendix B. This version is slightly smaller than the actual survey. The survey, entitled *The Overnight Automobile Travel Survey*, was divided into four parts. The first part was concerned with general use of travel information. The second section was about information systems for overnight automobile trips. This section included questions about content preferences for route guidance, services, attractions, destinations, and in-vehicle guided tours. The third section focused on respondent demographics. The final section investigated several aspects of respondents' most recent overnight automobile trip, including trip purpose, type of auto used, planning, and lodging used. This section also asked about the importance of numerous factors in choosing the destination, choosing the route to the destination, and trip satisfaction. The survey also included an introductory letter and instructions on how to complete and return the survey.

Procedures

A total of 15,000 names were randomly selected from a national consumer database of approximately 94 million names of people residing in all 50 United States. The survey, a self-addressed envelope for survey return, and a small pencil were mailed to each sampled person. No follow-up procedures were conducted. A total of 1,380 useable surveys were returned, with respondents residing in all 50 states.

Analysis

All usable surveys were coded electronically using a computerized optical scanning device. Prior to scanning, all survey forms were carefully reviewed. Stray marks were eliminated and answers marked in pen were redone in pencil so that they could be detected by the scanner. Once scanned, the raw data files were cleaned and open-ended responses were keyed in and added to the data file. The SAS system of data analysis software was used for data file management and analyses because of its extensive data

transformation and documentation capabilities, and the capability for weighting survey respondents.

In order to make our results representative of the US population, survey data were weighted by the 1995 Nationwide Personal Transportation Survey (NPTS) data, based on sex, age, and household income of survey respondents. The NPTS, conducted under the sponsorship of the Federal Highway Administration, the Bureau of Transportation Statistics, the Federal Transit Administration, and the National Highway Traffic Safety Administration, serves as the only authoritative source of national data on daily personal travel (Research Triangle Institute, 1997).

We weighted our sample to the NPTS subsample of adults who reported taking a "long trip" in the 1995 survey. We used long trips (defined as trips where the farthest point was at least 75 miles from home) as a proxy for tourist travel. We expanded our sample to the NPTS long trip population rather than the total population because we were interested in the people who travel as tourists; it is their information needs and preferences which will best inform the development of in-vehicle information systems. By weighting our sample to the NPTS (already weighted to expand its sample data to estimates for the US population), we attempted to make our estimates representative of US adults who travel as tourists.

The process of weighting involved several steps. First, because we weighted our sample based on sex, age, and household income of respondents, we needed to make sure that all respondents had valid codes for these demographic characteristics. Therefore, in cases of missing data, we imputed values for sex, age, and household income based on the known distributions among our respondents with valid responses. Second, we recoded respondent age into four categories (18-29, 30-49, 50-64, and 65+) and household income into four categories (<$25,000, $25,000-$54,999, $55,000-$74,999, and $75,000+). This meant that each respondent could fall into one of 32 possible sex-age-income combinations (e.g., 18-to-29-year-old males with an income <$25,000). Third, we assigned each respondent to the appropriate sex-age-income combination and

compared the proportions in our sample to comparable proportions of sex-age-income combinations for the long-trip subsample of the NPTS. For some combinations, the ratio of the NPTS proportion over our sample proportion fell outside the desired range of 0.5 to 3. In these cases, we collapsed some of the sex-age-income combinations until each was inside the desired range. This resulted in reducing the number of possible sex-age-income combinations from 32 to 23. Finally, for each sex-age-income combination, we divided the NPTS *N* by our sample *n* to derive an expansion factor for that particular sex-age-income combination. We then used these expansion factors to develop weight variables for our sample.

RESULTS

Literature Review

The literature review in its entirety can be found in a separate document (Molnar, Eby, & Hopp, 1996). A number of findings from the literature review relate to the development of in-vehicle tourist information systems. These include:

- Sixty percent of person trips over 200 miles round trip in the US involve an overnight stay.
- In about one-half of all person trips over 200 miles round trip in the US, travelers utilize overnight travel facilities (hotel, motel, cabin, condo, campground, or recreational vehicle park).
- The majority of travelers experience some ill health during their trips, with roughly ten percent seeking medical diagnosis of their problem and about 50 percent self-treating the problem.
- Older drivers report needing specialized health-related information while traveling including information about insurance coverage and techniques for avoiding potentially contaminated food and water.
- Tourism can cause irritation to host citizenry. Quality information concerning cross-cultural differences is needed, particularly because it is often small incidents of impolite or inappropriate behavior that heighten tourist-host friction.
- The greater the similarity between expectations and actual travel experience, the greater the likelihood of tourist satisfaction.
- In 1994, about 35 percent of automobile trips over 200 miles round trip in the US were taken for entertainment or outdoor recreation purposes. Another 40 percent of trips are taken to visit friends or relatives.
- In about 65 percent of all automobile trips over 200 miles round trip in the US, there is at least one passenger in the automobile, along with the driver.
- One of the most frequently mentioned motivations for tourist travel is education; that is, the desire to learn about new things and about one's self.
- Although travel time is an important criterion for route choice, other factors such as enjoyment of scenery, safety, and personal convenience also appear to affect route choice decisions.
- For navigating along a route, it appears that information provided through linear, verbal means is more useful than information provided through pictorial means.

- For non-navigational spatial tasks like determining where one is in relation to the overall geography of a city, information provided pictorially appears to be more useful.

- In general, people use maps infrequently when driving. However, when traveling in unfamiliar areas, people do make use of maps.

- Many people have difficulty using maps and prefer to have other information in addition to maps.

- Travelers consult a wide variety of information sources and often use multiple sources of information.

- In unfamiliar areas, travelers often do not know where to obtain traffic information or have trouble using available information because of their lack of knowledge about the area.

- Travelers are unwilling to divert from a route in unfamiliar areas to avoid congestion unless they have specific information about alternate routes.

Survey

Demographics

A total of 1,380 completed surveys were returned. About two-thirds (62.9 percent) were male (N=791). About three-fourths (73.9 percent) were married, 10.1 percent were single, and 9.5 percent were divorced. The remaining 6.6 percent were either separated or widowed. Respondent age ranged from 18 to 88 years of age, with a mean age of 50.0 (SE = .40). Respondents were categorized by age group as shown in Table 1. Some tables do not add to 1,380 respondents because of missing data.

Table 1: Percentage of Respondents and Unweighted N by Age Group		
Age Group	**Percent**	**Unweighted N**
18 - 29	7.1	93
30 - 49	45.9	601
50 - 64	26.9	352
65 - up	20.1	263

Respondents had a wide range of household income levels. The percentage and unweighted number of respondents in each of the household income categories used in the study are shown in Table 2.

Table 2: Percentage of Respondents and Unweighted N by Household Income		
Household Income	**Percent**	**Unweighted N**
< $25,000	12.3	147
$25,000 - $54,999	42.5	507
$55,000 - $74,999	21.4	255
$75,000 - up	23.9	285

The highest level of education attained by the respondents was divided into five categories. Table 3 shows the percentage and unweighted number of respondents in each education level category.

Table 3: Percentage of Respondents and Unweighted N by Highest Education Level Attained		
Highest Education Level	**Percent**	**Unweighted N**
High School Degree or Less	20.1	272
Some College	29.5	399
College Degree	23.6	319
Some Graduate School	8.4	114
Graduate Degree	18.5	250

Use of Travel Information

This section of the survey was designed to assess the types of information respondents used when planning overnight automobile trips and the sources they have utilized to obtain tourist information.

Respondents were asked: *When planning overnight automobile trips to places you've never been, what types of information do you generally seek?* Thirteen types of information were listed and subjects could select all that applied. Table 4 shows the weighted percentage of respondents selecting each type of tourist information overall and by sex. The four most commonly sought types of tourist information were lodging, travel route, food/restaurants, and weather conditions. Religious and health care information were rarely sought. Generally, women selected all types of information more frequently than men, but the relative ordering of the types of information was generally the same. The largest difference between men and women was the higher frequency with which women sought information about shopping and weather conditions.

Table 4: Weighted Percentage of Respondents Selecting Each Type of Information Overall and by Sex

Type of Information	Overall	Male	Female
Lodging	83.5	82.5	84.7
Travel route	69.0	67.2	72.4
Food/restaurant	57.7	54.7	61.4
Weather conditions	57.6	53.6	61.9
Entertainment	47.1	44.4	50.6
Scenic byways	42.0	41.1	39.8
Road conditions	39.1	35.4	42.6
Historical	37.1	38.9	34.8
Cultural	25.5	22.6	27.9
Shopping	23.8	19.9	29.4
Sport/recreation	22.4	23.9	22.3
Spiritual/religious	5.6	4.5	7.1
Health care services	4.4	3.5	5.7

Table 5 shows the weighted percentage of respondents who indicated that they sought certain types of tourist information by age group. There were several interesting trends among the age groups. The frequency with which information was sought increased with age for food/restaurant, scenic byways, road conditions, and health care services. The opposite trend was found for entertainment and sports/recreation. There were no obvious trends for the remaining types of information by age group.

Table 5: Weighted Percentage of Respondents Selecting Each Type of Information by Age Group

Type of Information	18-29	30-49	50-64	65-up
Lodging	81.6	84.4	85.9	81.9
Travel route	68.2	69.2	69.4	68.2
Food/restaurant	53.0	55.5	63.3	59.6
Weather conditions	60.7	54.2	57.0	61.5
Entertainment	72.7	48.3	41.8	24.6
Scenic byways	24.0	43.2	49.9	45.4
Road conditions	33.4	35.1	40.7	54.8
Historical	21.1	39.1	45.6	36.1
Cultural	23.7	26.5	26.6	20.6
Shopping	24.7	23.4	25.9	22.0
Sport/recreation	27.1	26.5	16.2	15.1
Spiritual/religious	2.2	6.3	7.2	4.9
Health care services	2.7	3.1	7.2	5.5

Table 6 shows the weighted percentage of respondents who indicated that they sought certain types of tourist information by income level. The tendency to seek certain types of information differed occasionally by income level. The frequency with which information was sought increased with income level for lodging, historical, and cultural information. The opposite trend was found for road condition, spiritual/religious, and health

care service information. There were no obvious trends for the remaining types of information by income level.

Table 6: Weighted Percentage of Respondents Selecting Each Type of Information Household Income Level

Type of Information	< 25,000	25,000-54,999	55,000-74,999	75,000-up
Lodging	78.5	84.7	85.0	85.8
Travel route	69.1	70.9	62.7	69.0
Food/restaurant	56.8	57.7	57.7	59.1
Weather conditions	61.8	54.6	56.1	55.1
Entertainment	47.8	44.8	53.4	45.5
Scenic byways	37.3	43.7	39.0	44.2
Road conditions	45.9	40.1	33.6	30.4
Historical	34.8	36.8	38.7	42.9
Cultural	21.9	24.1	24.6	34.8
Shopping	27.7	21.8	21.9	27.2
Sport/recreation	17.5	23.3	19.8	27.1
Spiritual/religious	9.8	5.2	4.5	2.6
Health care services	9.5	2.6	2.2	2.9

Table 7 shows the weighted percentage of respondents who indicated that they sought certain types of tourist information by education level. The tendency to seek certain types of information differed somewhat by education level. The frequency with which information was sought increased with education for historical and cultural information. The opposite trend was found for road condition, shopping, spiritual/religious, and health care service information. There were no obvious trends for the remaining types of information by education level.

Table 7: Weighted Percentage of Respondents Selecting Each Type of Information by Highest Level of Education					
Type of Information	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Lodging	82.0	85.5	85.2	80.0	81.0
Travel route	70.0	69.8	66.7	67.8	69.7
Food/restaurant	59.0	60.7	57.5	48.9	55.3
Weather conditions	61.8	58.5	51.5	60.9	55.9
Entertainment	41.9	51.7	51.4	34.2	44.3
Scenic byways	37.1	41.4	43.4	51.2	42.7
Road conditions	45.1	40.1	35.6	36.2	34.0
Historical	27.0	31.0	38.7	51.7	54.7
Cultural	11.1	21.2	25.3	31.2	50.8
Shopping	25.1	23.2	25.1	28.0	19.4
Sport/recreation	20.0	20.0	26.4	15.9	28.7
Spiritual/religious	5.5	7.3	5.2	3.1	4.3
Health care services	8.0	4.0	2.9	3.9	3.2

Respondents were also asked: *Which of the following have you used for planning or taking overnight automobile trips?* A list of 13 travel information sources were listed, and the respondent could select all that applied. Table 8 shows the weighted percentage of respondents indicating that they have utilized certain types of tourist information sources overall and by sex. The three most commonly used sources were maps, recommendations from family/friends, and newspapers/magazines/brochures. The remaining information sources were each utilized by about one-quarter or less of respondents. Of special interest was the lack of utilization of in-vehicle information systems and other computer-based information sources. Women generally utilized all information sources more than men. However, the relative ordering of information sources was generally the same. The largest difference between men and women was the higher frequency with which women utilized recommendations from family or friends.

Table 8: Weighted Percentage of Respondents Selecting Each Type of Information Source Overall and by Sex			
Type of Information Source	**Overall**	**Male**	**Female**
Maps	88.7	86.9	90.6
Recommendation from friend/family	73.0	69.4	78.3
Newspaper/magazine/brochure	67.6	67.2	66.9
Travel service/club	28.2	27.4	27.8
Rest stop information center	27.4	25.8	28.2
Billboards/signs	24.5	22.3	26.6
Travel agents	24.0	21.5	27.0
Television	21.2	20.0	22.5
Radio	13.2	12.0	14.7
Computer on-line service	10.3	10.3	10.7
Electronic ticketing	4.0	3.6	4.6
Virtual reality/simulation	2.0	2.0	1.5
In-vehicle information system	1.2	1.6	0.6

Table 9 shows the weighted percentage of respondents who indicated that they used certain tourist information sources by age group. There were several interesting trends among the age groups. The frequency with which respondents indicated that they utilized a certain information source increased with age for travel service/club, virtual reality/simulation, and in-vehicle information systems. The opposite trend was found for maps, recommendation from friend/family, billboard/signs, television, computer on-line services, and electronic ticketing. There were no obvious trends for the remaining types of information by age group.

Table 9: Weighted Percentage of Respondents Selecting Each Type of Information Source by Age Group				
Type of Information Source	**18-29**	**30-49**	**50-64**	**65-up**
Maps	93.0	87.9	87.9	87.3
Recommendation from friend/family	73.6	75.6	72.3	65.1
Newspaper/magazine/brochure	56.2	72.3	71.7	60.2
Travel service/club	13.9	25.5	36.3	42.6
Rest stop information center	21.8	28.7	26.8	27.0
Billboards/signs	33.5	26.7	20.6	13.4
Travel agents	24.8	22.6	27.9	25.3
Television	21.0	22.2	23.3	12.6
Radio	11.5	13.5	14.5	10.2
Computer on-line service	15.5	11.5	10.2	2.9
Electronic ticketing	6.8	4.7	2.8	0.9
Virtual reality/simulation	1.2	1.2	3.0	3.5
In-vehicle information system	0.3	1.1	0.6	2.6

Table 10 shows the weighted percentage of respondents who indicated that they used certain types of tourist information sources by income level. The tendency to use certain types of information sources differed somewhat by income level. The frequency with which the information source was used increased with income level for recommendation from friend/family, travel service/club, travel agents, computer on-line services, and electronic ticketing. The opposite trend was found for rest stop information centers, television, and radio. There were no obvious trends for the remaining types of information sources by income level.

Table 10: Weighted Percentage of Respondents Selecting Each Type of Information Source by Household Income				
Type of Information Source	**< 25,000**	**25,000-54,999**	**55,000 - 74,999**	**75,000-up**
Maps	81.6	91.4	87.3	89.9
Recommendation from friend/family	67.3	72.5	74.2	77.7
Newspaper/magazine/brochure	62.6	66.8	67.0	75.3
Travel service/club	15.5	27.9	33.3	32.4
Rest stop information center	28.2	27.4	26.9	22.4
Billboards/signs	23.6	25.9	24.3	23.5
Travel agents	18.4	21.2	30.9	34.1
Television	26.3	23.3	20.1	15.2
Radio	17.0	14.3	12.9	8.5
Computer on-line service	3.0	9.6	9.4	22.2
Electronic ticketing	2.5	4.6	3.6	6.1
Virtual reality/simulation	1.5	2.8	1.1	1.9
In-vehicle information system	2.2	0.9	1.6	0.9

Table 11 shows the weighted percentage of respondents who indicated that they used certain types of tourist information sources by education level. The tendency to use certain types of information sources differed by education level for some information sources. The frequency with which information sources were used generally increased with education for maps, recommendation from friend/family, newspapers/magazines/brochures, travel service/club, rest stop information centers, travel agents, computer on-line services, and electronic ticketing. The opposite trend was found for television and radio. There were no obvious trends for the remaining types of information by education level.

Table 11: Weighted Percentage of Respondents Selecting Each Type of Information Source by Highest Level of Education					
Type of Information Source	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Maps	84.7	87.2	90.0	89.6	94.1
Recommendation from friend/family	69.4	72.9	72.7	69.4	80.4
Newspaper/magazine/brochure	59.5	68.2	68.4	67.2	76.1
Travel service/club	21.1	28.1	24.9	40.7	35.8
Rest stop information center	27.1	26.1	25.5	29.7	30.6
Billboards/signs	23.3	25.5	25.8	22.8	23.7
Travel agents	13.6	25.1	27.3	25.5	32.5
Television	27.9	23.7	20.1	11.7	14.0
Radio	16.0	16.3	11.4	12.2	7.0
Computer on-line service	3.7	5.8	13.1	17.5	20.4
Electronic ticketing	2.2	4.1	3.7	3.7	6.7
Virtual reality/simulation	1.9	2.7	2.2	0.5	1.2
In-vehicle information system	1.0	1.7	1.3	0.5	0.9

Information Systems for the Automobile

This section of the survey was designed to investigate preferences for certain types of information to be included in five features of an in-vehicle information system for tourist use. The features were: route guidance, services, destination attractions, destination characteristics, and in-vehicle guided tours. This section also investigated how much people would be willing to pay to buy or rent an in-vehicle information system for tourist use. So that respondents could better understand what an in-vehicle information system is and how it works, this section of the survey began with a brief description of in-vehicle information technology. There was also a brief statement instructing respondents to think about overnight automobile trips of more than 100 miles away from home when reporting their preferences, and to exclude commuting trips and portions of trips in which the automobile was not used.

For each feature, subjects were asked to indicate how important to them it would be to include certain types of information with that feature. Importance ratings were indicated on a 5-point scale anchored with the labels "not very important" for one and "extremely important" for five. We present the results for each feature first by overall group and then by sex, age group, income level, and education level.

Route guidance

For this feature, respondents were given the following instructions: "*One possible feature of an in-vehicle information system is to provide route guidance, including turn-by-turn instructions to where you want to go as you are driving and information on routes and traffic conditions. How important would it be for this feature--route guidance--to include the following? For each factor, please indicate its importance to you.*" Several types of information related to a route guidance features of an in-vehicle information system were listed, each followed by the 5-point importance-rating scale.

As shown in Table 12 the two most important types of information reported for a route guidance feature were having a best route to a destination and having the route shown on a map. The next most important types of information, overall, were related to the road and driving environment. Of least importance were the ability to select alternate routes and the identification of scenic byways.

Also shown in Table 12, are the mean importance ratings for types of information in a route guidance feature by sex. As shown in the table, females rated each feature higher than males except for travel route shown on map. Female ratings exceeded 4.0 for six of 10 route guidance features, showing the importance of these in-vehicle information features for women. For both males and females, the rank order of importance ratings were about the same, indicating that the relative importance of these types of information were generally the same for both men and women.

Table 12: Mean Importance Ratings of Types of Route Guidance Information for an In-Vehicle Information System by Overall and Sex			
Type of Route Guidance Information	**Overall**	**Male**	**Female**
Selecting best route to destination	4.32	4.27	4.40
Travel route shown on map	4.25	4.23	4.27
Road conditions	3.98	3.84	4.15
Traffic congestion on route	3.91	3.79	4.04
Presence of construction	3.84	3.76	3.94
Weather conditions	3.84	3.68	4.02
Verbal/written instructions for getting to destination	3.78	3.59	4.01
Time or distance on route	3.77	3.71	3.87
Options/recommendations for alternate routes	3.70	3.61	3.83
Identification of scenic byways	3.28	3.15	3.38

As shown in Table 13, there were few differences between age groups in the importance placed on various types of information for a route guidance feature. The rank ordering of the youngest age group showed that these respondents placed greater importance on verbal/written instructions and time/distance information than did the other age groups.

Table 13: Mean Importance Ratings of Types of Route Guidance Information for an In-Vehicle Information System by Age Group				
Type of Route Guidance Information	**18-29**	**30-49**	**50-64**	**65-up**
Selecting best route to destination	4.43	4.34	4.27	4.13
Travel route shown on map	4.26	4.24	4.22	4.23
Road conditions	4.01	3.92	4.03	4.11
Traffic congestion on route	3.91	3.93	3.94	3.77
Presence of construction	3.77	3.86	3.91	3.74
Weather conditions	3.89	3.76	3.89	3.92
Verbal/written instructions for getting to destination	4.10	3.75	3.78	3.52
Time or distance on route	4.05	3.81	3.61	3.46
Options/recommendations for alternate routes	3.76	3.75	3.75	3.46
Identification of scenic byways	3.01	3.27	3.39	3.36

Shown in Table 14 are the mean importance ratings for types of route guidance information as a function of household income. There were few differences in importance rates between respondents with different levels of household income.

Table 14: Mean Importance Ratings of Types of Route Guidance Information for an In-Vehicle Information System by Household Income				
Type of Route Guidance Information	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
Selecting best route to destination	4.23	4.39	4.32	4.21
Travel route shown on map	4.23	4.28	4.26	4.15
Road conditions	4.06	3.98	3.94	3.92
Traffic congestion on route	3.73	3.89	4.01	3.97
Presence of construction	3.83	3.79	3.87	3.87
Weather conditions	3.96	3.85	3.82	3.70
Verbal/written instructions for getting to destination	3.82	3.82	3.71	3.67
Time or distance on route	3.81	3.82	3.75	3.66
Options/recommendations for alternate routes	3.60	3.71	3.75	3.69
Identification of scenic byways	3.20	3.34	3.23	3.14

Shown in Table 15 are the mean importance ratings for types of route guidance information as a function of the highest level of education achieved. Again, there were few differences in importance ratings between respondents with different levels of education.

Table 15: Mean Importance Ratings of Types of Route Guidance Information for an In-Vehicle Information System by Education Level

Type of Route Guidance Information	HS or less	Some College	College Degree	Some Grad	Grad Degree
Selecting best route to destination	4.38	4.34	4.33	4.24	4.24
Travel route shown on map	4.29	4.18	4.33	4.19	4.22
Road conditions	4.13	4.02	3.88	4.07	3.84
Traffic congestion on route	3.75	3.93	3.92	4.12	3.95
Presence of construction	3.79	3.80	3.86	4.03	3.91
Weather conditions	3.97	3.89	3.72	4.02	3.66
Verbal/written instr. for getting to dest.	3.95	3.72	3.89	3.56	3.69
Time or distance on route	3.77	3.77	3.87	3.87	3.62
Options/recommend. for alt. routes	3.60	3.72	3.81	3.85	3.58
Identification of scenic byways	3.20	3.29	3.34	3.38	3.17

Services

For this feature, respondents were given the following instructions: *"Another possible feature of an in-vehicle information system is to provide information on services you may find in the area, including several types of services and information about the services. How important would it be for this feature--information on services--to include the following?"* Several types of services, with associated 5-point importance rating scales, were listed followed by a listing of types of information about the services and more 5-point scales.

Shown in Table 16 are results related to service information overall, including types of services and information about the services. Only two types of services received positive ratings (i.e., average ratings of 3 or greater); lodging/food services and hospitals/health care providers. These findings are in agreement with the literature review that showed that the majority of tourists in the US utilize tourist facilities on most of their trips and they have a concern about health/emergency needs while they travel. The services that were ranked the lowest in importance overall for inclusion in an in-vehicle information system were schools, libraries, and government offices. Comparing across sexes, we found that women gave higher importance ratings than men for every type of service, with women giving positive ratings for lodging/food services, hospital/health care providers, police/fire departments, and banks/automated teller machines (ATMs).

Also shown in Table 16 are the mean importance ratings for types of service information. Overall, every type of service received a positive rating except for senior citizen/other discounts, travel club information, and handicap access. The types of service information receiving the highest importance ratings were hours of operation, prices, and telephone/FAX numbers. This result is not surprising since all three types of information are subject to frequent change and are, therefore, difficult for travelers to obtain.

Table 16: Mean Importance Ratings of Types of Services and Service Information for an In-Vehicle Information System by Overall and Sex			
Type of Service	**Overall**	**Male**	**Female**
Lodging and food services	4.27	4.17	4.38
Hospitals and health care providers	3.24	3.15	3.37
Police and fire departments	3.02	2.83	3.26
Banks and automated tellers machines	2.89	2.81	3.04
Pharmacies	2.75	2.60	2.96
Churches and synagogues	2.23	2.19	2.30
Government offices	1.76	1.70	1.84
Libraries	1.75	1.72	1.79
Schools	1.59	1.54	1.66
Type of Information			
Hours of operation	3.82	3.73	3.96
Prices	3.81	3.67	3.96
Telephone and FAX number	3.64	3.55	3.80
Credit card acceptability	3.41	3.38	3.45
Amenities	3.26	3.11	3.44
Senior citizen/other special discounts	2.95	2.85	3.06
Travel club ratings	2.89	2.85	2.92
Handicap access	2.08	1.95	2.20

Shown in Table 17 are the mean importance ratings by age group. The two oldest age groups only gave positive importance ratings to lodging/food services and hospital/health care providers. The two youngest age groups gave positive ratings to these and also to police/fire departments and banks/ATMs. In general, ratings declined with increasing age for police/fire departments, banks/ATMs, government offices, and schools. Also shown in Table 17 are the importance ratings for types of service information by age group. The results showed that ratings of importance for hours of operation and telephone/FAX numbers tended to decline with increasing age. We also discovered that ratings for senior citizen/other discount and travel club information generally increased with

age. As expected, respondents in the 65-years-of-age-and-older group rated senior citizen/other discounts higher than any other type of service information.

Table 17: Mean Importance Ratings of Types of Services and Service Information for an In-Vehicle Information System by Age Group

Type of Service	18-29	30-49	50-64	65-up
Lodging and food services	4.29	4.29	4.27	4.22
Hospitals and health care providers	3.45	3.22	3.19	3.13
Police and fire departments	3.44	3.03	2.97	2.56
Banks and automated tellers machines	3.55	3.00	2.55	2.23
Pharmacies	2.83	2.74	2.72	2.59
Churches and synagogues	2.08	2.21	2.36	2.27
Government offices	1.83	1.81	1.73	1.54
Libraries	1.66	1.81	1.75	1.67
Schools	1.64	1.64	1.56	1.47
Type of Information				
Hours of operation	4.11	3.90	3.81	3.31
Prices	3.86	3.82	3.86	3.72
Telephone and FAX number	3.92	3.72	3.55	3.28
Credit card acceptability	3.43	3.38	3.56	3.47
Amenities	3.49	3.31	3.26	2.89
Senior citizen/other special discounts	2.29	2.51	3.73	4.18
Travel club ratings	2.98	2.78	3.14	2.98
Handicap access	2.01	2.08	2.15	2.14

Shown in Table 18 are the mean importance ratings for service information as a function of household income. Generally, importance ratings for types of services decreased as household income increased, with the highest income level only giving a positive rating to lodging and food services and the lowest income level giving positive ratings to lodging and food services, hospitals/health care, police/fire, banks/ATMs, and pharmacies. Also shown in Table 18 are the mean importance ratings for types of service information by income level. Importance ratings decreased with increasing income for

hours, prices, senior citizen/other special discounts, and handicap access. The opposite trend was apparent for telephone/fax numbers.

Table 18: Mean Importance Ratings of Types of Services and Service Information for an In-Vehicle Information System by Income Level

Type of Service	< 25,000	25,000-54,999	55,000-74,999	75,000-up
Lodging and food services	4.26	4.36	4.24	4.12
Hospitals and health care providers	3.55	3.29	3.07	2.98
Police and fire departments	3.31	3.05	2.82	2.74
Banks and automated tellers machines	3.01	2.95	2.92	2.73
Pharmacies	3.02	2.77	2.61	2.64
Churches and synagogues	2.40	2.28	2.18	2.09
Government offices	1.90	1.76	1.66	1.71
Libraries	1.81	1.79	1.67	1.71
Schools	1.70	1.60	1.55	1.54
Type of Information				
Hours of operation	3.82	3.89	3.79	3.77
Prices	3.98	3.87	3.68	3.66
Telephone and FAX number	3.58	3.65	3.70	3.81
Credit card acceptability	3.35	3.54	3.37	3.39
Amenities	3.16	3.35	3.25	3.22
Senior citizen/other special discounts	3.43	2.88	2.65	2.66
Travel club ratings	2.84	2.86	2.84	3.00
Handicap access	2.42	2.11	1.89	1.87

Shown in Table 19 are the results for service information by education level. Ratings of importance for lodging/food services, hospitals/health care, police/fire departments, banks/ATMs, and pharmacies declined with increasing levels of education. Ratings for churches/synagogues were highest for those whose highest level of education was high school or some college and declined for both less and more education. Ratings

for the remaining types of services did not significantly vary by education level. Also shown in Table 19 are the importance ratings for types of service information to be included in an in-vehicle information system by education level. The analysis of education level showed that there were no importance ratings differences by education level for any of the types of service information.

Table 19: Mean Importance Ratings of Types of Services and Service Information for an In-Vehicle Information System by Education Level

Type of Service	HS or less	Some College	College Degree	Some Grad	Grad Degree
Lodging and food services	4.37	4.35	4.30	4.12	4.09
Hospitals and health care providers	3.36	3.44	3.15	2.98	2.98
Police and fire departments	3.18	3.16	2.93	2.91	2.70
Banks and automated tellers machines	2.89	2.95	2.93	2.79	2.80
Pharmacies	2.90	2.85	2.70	2.44	2.59
Churches and synagogues	2.24	2.42	2.26	1.93	1.98
Government offices	1.73	1.79	1.78	1.71	1.76
Libraries	1.68	1.74	1.78	1.80	1.85
Schools	1.50	1.61	1.66	1.50	1.65
Type of Information					
Hours of operation	3.57	3.81	4.01	3.88	3.87
Prices	3.75	3.86	3.89	3.74	3.73
Telephone and FAX number	3.33	3.64	3.87	3.70	3.76
Credit card acceptability	3.27	3.43	3.53	3.52	3.43
Amenities	3.04	2.27	3.44	3.39	3.27
Senior citizen/other special discounts	3.30	2.98	2.68	2.85	2.91
Travel club ratings	2.74	2.95	2.88	3.05	2.94
Handicap access	2.26	2.09	2.01	2.01	1.97

Destination Attractions

For this feature, respondents were given the following instructions: "*Another possible feature of an in-vehicle information system is to provide information on destination attractions, including several types of attractions and information about the attractions. How important would it be for this feature--information on destination attractions--to include the following?* Several types of attractions, with associated 5-point importance rating scales, were listed followed by a list of types of information about the attractions and more 5-point importance scales.

Table 20 shows overall respondents' average ratings for the importance of including various types of attractions in an in-vehicle information system. As can be seen in this table, many attraction types received positive ratings, with overall ratings being highest for monuments/landmarks/parks, cultural/historical landmark, scenic byways, and recreation areas. Of least importance to respondents were alcohol-related attractions (e.g., wineries, breweries, bars). Also shown in Table 20 are respondents' ratings of the importance of the types of information about the attractions. The results are similar to those found for types of service information, with all types of information receiving generally high ratings, and prices, hours, phone/FAX numbers, and credit card acceptability rated as the most important types of attraction information.

The comparison by sex (Table 20) showed that women reported higher importance ratings than men for cultural/historical landmarks, scenic byways, festivals/fairs/carnivals, theme/amusement parks, shopping malls, and performance arts. Men gave higher ratings than women only for sport arenas/sport facilities. All other types of attractions were rated equally by men and women. For most types of attraction information, importance ratings for women were higher than for men.

Table 20: Mean Importance Ratings of Attraction Types and Attraction Information for an In-Vehicle Information System by Overall and Sex			
Type of Attraction	**Overall**	**Male**	**Female**
Monuments, landmarks, and parks	3.62	3.61	3.63
Cultural and historical landmarks	3.52	3.46	3.57
Scenic byways	3.49	3.43	3.52
Recreation areas	3.42	3.47	3.38
Festivals, fairs, and carnivals	3.23	3.13	3.31
Museums and galleries	3.21	3.19	3.21
Tours	3.15	3.10	3.16
Theme and amusement parks	3.15	3.08	3.26
Shopping malls	3.01	2.82	3.22
Performance art	2.69	2.61	2.77
Sports arenas and facilities	2.59	2.71	2.48
Health and fitness centers	2.18	2.15	2.19
Breweries, brewpubs, and wineries	2.13	2.17	2.10
Nightclubs and bars	2.08	2.11	2.06
Type of Information			
Prices	4.04	3.93	4.17
Hours of operation	3.98	3.84	4.12
Telephone and FAX number	3.47	3.39	3.58
Credit card acceptability	3.37	3.34	3.40
Amenities	3.37	3.24	3.50
Sr. citizen/other special discounts	2.93	2.85	3.02
Travel club ratings	2.87	2.75	2.96
Handicap access	2.09	1.98	2.22

Table 21 shows respondents' average ratings for the importance of including various types of attractions in an in-vehicle information system for tourist use by age group. All age groups gave positive ratings to several types of attractions. The attraction receiving the highest importance rating for the age groups slightly differed. The highest importance

rating was theme/amusement parks for the 18-to-29-year-old age group, was monuments/landmarks/parks for the 30-to-49-year-old age group, and scenic byways for the two oldest age groups. For nearly all types of attractions, importance ratings decreased with increasing age.

Also shown in Table 21 are respondents' ratings of the importance of the types of information about the attractions. The age trends are similar to those found for types of service information. For nearly all types of attraction information, ratings decreased with increases in age except for the importance of senior citizen/other discounts.

Table 21: Mean Importance Ratings of Attraction Types and Attraction Information for an In-Vehicle Information System by Age Group				
Type of Attraction	**18-29**	**30-49**	**50-64**	**65-up**
Monuments, landmarks, and parks	3.72	3.72	3.53	3.28
Cultural and historical landmarks	3.51	3.59	3.46	3.34
Scenic byways	3.34	3.53	3.55	3.39
Recreation areas	3.71	3.56	3.20	2.82
Festivals, fairs, and carnivals	3.47	3.31	3.12	2.71
Museums and galleries	3.31	3.23	3.11	3.05
Tours	3.21	3.09	3.20	3.12
Theme and amusement parks	3.73	3.32	2.80	2.28
Shopping malls	3.56	2.95	2.93	2.64
Performance art	2.83	2.69	2.75	2.48
Sports arenas and facilities	3.04	2.69	2.39	2.03
Health and fitness centers	2.50	2.23	2.06	1.73
Breweries, brewpubs, and wineries	2.70	2.19	1.87	1.65
Nightclubs and bars	2.85	2.17	1.71	1.40
Type of Information				
Prices	4.19	4.09	3.98	3.75
Hours of operation	4.30	4.08	3.85	3.55
Telephone and FAX number	3.84	3.59	3.29	2.98
Credit card acceptability	3.38	3.35	3.42	3.41
Amenities	3.55	3.41	3.35	3.08
Sr. citizen/other special discounts	2.36	2.51	3.62	4.15
Travel club ratings	2.88	2.79	3.04	2.91
Handicap access	2.01	2.11	2.11	2.04

Table 22 shows respondents' average ratings for the importance of including various types of attractions in an in-vehicle information system for tourist use by income level. Respondents from all income levels gave positive ratings to several types of attractions. Few differences were found in ratings of importance for types of attractions to include in an in-vehicle information system by income level. Table 22 also shows mean importance

ratings for types of information about attractions. Again there were few differences among income levels for these ratings.

Table 22: Mean Importance Ratings of Attraction Types and Attraction Information for an In-Vehicle Information System by Income Level

Type of Attraction	< 25,000	25,000-54,999	55,000-74,999	75,000-up
Monuments, landmarks, and parks	3.64	3.71	3.55	3.49
Cultural and historical landmarks	3.48	3.56	3.51	3.54
Scenic byways	3.38	3.60	3.47	3.34
Recreation areas	3.42	3.48	3.42	3.36
Festivals, fairs, and carnivals	3.29	3.25	3.25	3.11
Museums and galleries	3.20	3.18	3.23	3.29
Tours	3.14	3.19	3.14	2.94
Theme and amusement parks	3.15	3.29	3.13	2.90
Shopping malls	3.22	3.04	2.97	2.78
Performance art	2.73	2.66	2.64	2.76
Sports arenas and facilities	2.48	2.68	2.56	2.68
Health and fitness centers	2.14	2.17	2.24	2.27
Breweries, brewpubs, and wineries	2.08	2.07	2.18	2.36
Nightclubs and bars	2.24	2.04	2.14	2.07
Type of Information				
Prices	4.16	4.13	3.94	3.83
Hours of operation	3.90	4.03	4.03	3.93
Telephone and FAX number	3.52	3.46	3.49	3.56
Credit card acceptability	3.21	3.48	3.32	3.37
Amenities	3.25	3.43	3.37	3.26
Sr. citizen/other special discounts	3.32	2.88	2.61	2.62
Travel club ratings	2.87	2.85	2.70	2.98
Handicap access	2.31	2.19	1.87	1.80

Table 23 shows respondents' average ratings for the importance of including various types of attractions in an in-vehicle information system by education level. The analysis by education level revealed several differences. Importance ratings generally increased with increasing education for monuments/landmarks/parks, cultural/historic landmarks, museums/galleries, performance art, and breweries/brewpubs/wineries. Importance ratings generally decreased with increasing education for theme/amusement parks, shopping malls, and sport arena/sport facilities. Ratings for other types of attractions showed no discernable trends.

Also shown in Table 23 are respondents' ratings of the importance of the types of information about the attractions by education level. Importance ratings for telephone/FAX numbers increased with education level, while the opposite effect was found for prices, senior citizen/other special discounts, and handicap access. There were no apparent differences for the other types of information about attractions. For those whose educational level was a college degree or higher, hours of operation were more important than prices, while those with less than a college degree rated prices as more important than hours.

Table 23: Mean Importance Ratings of Attraction Types and Attraction Information for an In-Vehicle Information System by Education Level					
Type of Attraction	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Monuments, landmarks, & parks	3.38	3.59	3.75	3.97	3.68
Cultural and historical landmarks	3.22	3.40	3.61	3.95	3.86
Scenic byways	3.38	3.51	3.52	3.57	3.56
Recreation areas	3.17	3.46	3.61	3.55	3.39
Festivals, fairs, and carnivals	3.14	3.23	3.34	3.38	3.12
Museums and galleries	2.84	3.12	3.25	3.66	3.65
Tours	3.12	3.19	3.17	3.18	3.05
Theme and amusement parks	3.13	3.29	3.33	2.78	2.81
Shopping malls	3.14	3.13	3.09	2.81	2.57
Performance art	2.28	2.69	2.82	2.90	2.99
Sports arenas and facilities	2.58	2.61	2.83	2.41	2.36
Health and fitness centers	2.03	2.20	2.30	2.20	2.18
Breweries, brewpubs, & wineries	1.88	2.02	2.35	2.39	2.27
Nightclubs and bars	2.10	2.02	2.27	1.89	2.00
Type of Information					
Prices	4.15	3.99	4.13	4.00	3.92
Hours of operation	3.77	3.94	4.17	4.11	4.05
Telephone and FAX number	3.08	3.43	3.72	3.65	3.63
Credit card acceptability	3.22	3.35	3.48	3.51	3.41
Amenities	3.17	3.37	3.50	3.55	3.37
Sr. citizen/other special discounts	3.34	3.00	2.64	2.86	2.76
Travel club ratings	2.77	2.88	2.90	3.05	2.87
Handicap access	2.33	2.12	1.96	2.08	1.95

Destination Characteristics

For this feature, respondents were given the following instructions: "*Another possible feature of an in-vehicle information system is to provide information on destination characteristics, including history, culture, climate, and other characteristics. How important would it be for this feature--information on destination characteristics--to include the following?* Several types of destination characteristics were listed, each with a 5-point importance rating scale.

Shown in Table 24 are the mean importance ratings for the types of characteristics about a destination that should be included in an in-vehicle information system overall and by sex. Most characteristics received positive ratings with local customs, historical events, and geography receiving the highest ratings overall. It is noteworthy that respondents gave the highest rating to information about local customs, given that the literature review identified this type of information as being very important for reducing host-tourist problems. This result shows that respondents may be sensitive to this issue when they travel. The analysis by sex showed little difference between men and women, with women generally giving higher importance ratings than men.

Table 24: Mean Importance Ratings of Types of Destination Characteristics Information for an In-Vehicle Information System by Overall and Sex

Type of Destination Characteristics Information	Overall	Male	Female
Local customs that tourists may not know	3.48	3.36	3.60
Major historical events	3.46	3.46	3.47
Geography of area	3.43	3.39	3.45
Products for which area is known	3.31	3.21	3.42
Wildlife, plants, and trees	3.22	3.17	3.26
Background of local people	2.89	2.82	2.95
Descriptions of famous local people	2.81	2.74	2.88
Political conditions	2.35	2.25	2.45

Shown in Table 25 are the mean importance ratings for the types of characteristics about a destination that should be included in an in-vehicle information system by age group. For all age groups, most characteristics received positive ratings with little difference between age groups.

Table 25: Mean Importance Ratings of Types of Destination Characteristics Information for an In-Vehicle Information System by Age Group

Type of Destination Characteristics Information	18-29	30-49	50-64	65-up
Local customs that tourists may not know	3.63	3.45	3.55	3.30
Major historical events	3.41	3.48	3.48	3.38
Geography of area	3.56	3.47	3.31	3.31
Products for which area is known	3.40	3.26	3.48	3.15
Wildlife, plants, and trees	3.26	3.30	3.16	3.00
Background of local people	2.95	2.91	2.95	2.71
Descriptions of famous local people	3.04	2.78	2.87	2.58
Political conditions	2.57	2.40	2.25	2.24

Shown in Table 26 are the mean importance ratings for the types of characteristics about a destination that should be included in an in-vehicle information system by household income. As with age group, most destination characteristics received positive ratings and there was little difference among income levels.

Table 26: Mean Importance Ratings of Types of Destination Characteristics Information for an In-Vehicle Information System by Income Level				
Type of Destination Characteristics Information	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
Local customs that tourists may not know	3.65	3.47	3.35	3.42
Major historical events	3.54	3.48	3.38	3.42
Geography of area	3.36	3.53	3.33	3.42
Products for which area is known	3.40	3.33	3.21	3.28
Wildlife, plants, and trees	3.16	3.38	3.06	3.09
Background of local people	2.97	2.94	2.78	2.86
Descriptions of famous local people	2.94	2.86	2.69	2.73
Political conditions	2.30	2.42	2.27	2.40

Shown in Table 27 are the mean importance ratings for the types of characteristics about a destination that should be included in an in-vehicle information system by education level. There was little difference among education levels on this measure. However, those with a college degree or less gave the highest importance rating to local customs, while those with at least some graduate schooling gave the highest ratings to major historical events.

Table 27: Mean Importance Ratings of Types of Destination Characteristics Information for an In-Vehicle Information System by Education Level					
Type of Destination Characteristics Information	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Local customs that tourists may not know	3.34	3.40	3.70	3.66	3.47
Major historical events	3.22	3.36	3.67	3.80	3.51
Geography of area	3.15	3.36	3.60	3.70	3.60
Products for which area is known	3.25	3.20	3.48	3.53	3.32
Wildlife, plants, and trees	3.21	3.07	3.30	3.53	3.34
Background of local people	2.61	2.86	3.08	3.10	2.97
Descriptions of famous local people	2.67	2.77	3.00	2.84	2.81
Political conditions	2.06	2.37	2.51	2.44	2.48

In-Vehicle Guided Tours

For this feature, respondents were given the following instructions: "*Another possible feature of an in-vehicle information system is to provide in-vehicle guided tours. With this feature, you could select a specialized tour of an area and the system would assist you in getting to each point of interest on the tour as well as provide a narrative description including sounds and pictures. Because the system would always know your location, the tour information would be appropriate for the point of interest you were visiting. How interesting would each of the following type of tours be to you? For each type of tour, please indicate its interest for you.* Several types of tours with 5-point importance rating scales were listed.

The average importance ratings for each type of tour, overall and by sex, are shown in Table 28. As can be seen in this table, nearly all tours received high ratings, with restaurants, scenic byways, state parks, historical and wildlife tours receiving the highest ratings. Tours receiving the lowest ratings were wineries, gaming, and brewpubs. In general, women gave higher ratings than men but the relative rankings of tours were nearly identical except for shopping.

Table 28: Mean Importance Ratings of Types of In-Vehicle Guided Tours for an In-Vehicle Information System by Overall and Sex			
Type of In-Vehicle Guided Tour	**Overall**	**Male**	**Female**
Restaurants	3.75	3.69	3.82
State parks	3.61	3.58	3.65
Scenic byways	3.56	3.43	3.66
Historical	3.52	3.54	3.48
Wildlife	3.46	3.45	3.47
Fall foliage	3.22	3.12	3.33
Native American lands and landmarks	3.21	3.09	3.33
Lighthouses	3.08	3.00	3.13
Shopping	3.00	2.84	3.18
Performing arts	2.69	2.58	2.81
Horticultural sites	2.63	2.55	2.74
Wineries	2.30	2.35	2.27
Gaming	2.19	2.25	2.12
Brewpubs	2.04	2.11	1.97

Shown in Table 29 are the average importance ratings for types of guided tours to include in an in-vehicle information system for tourists by age group. All age groups gave positive ratings to the majority of tour types. The youngest age group rated shopping, performing arts, wineries, gaming, and brewpubs higher in importance than other age groups.

Table 29: Mean Importance Ratings of Types of In-Vehicle Guided Tours for an In-Vehicle Information System by Age Group				
Type of In-Vehicle Guided Tour	**18-29**	**30-49**	**50-64**	**65-up**
Restaurants	3.88	3.70	3.81	3.62
State parks	3.72	3.73	3.39	3.23
Scenic byways	3.32	3.60	3.65	3.52
Historical	3.40	3.58	3.51	3.38
Wildlife	3.64	3.59	3.31	3.00
Fall foliage	3.06	3.23	3.26	3.29
Native American lands and landmarks	3.17	3.24	3.23	3.03
Lighthouses	3.10	3.12	3.04	2.85
Shopping	3.41	2.96	2.96	2.73
Performing arts	2.89	2.66	2.68	2.56
Horticultural sites	2.63	2.72	2.51	2.51
Wineries	2.67	2.31	2.18	2.01
Gaming	2.40	2.22	2.11	1.86
Brewpubs	2.46	2.16	1.76	1.48

Shown in Table 30 are the average importance ratings for types of guided tours to include in an in-vehicle information system for tourists by household income. The average rating in all age groups was positive for the majority of tours. There were no obvious trends among the income levels for any of the types of tours.

Table 30: Mean Importance Ratings of Types of In-Vehicle Guided Tours for an In-Vehicle Information System by Income Level				
Type of In-Vehicle Guided Tour	**<25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
Restaurants	3.76	3.75	3.74	3.74
State parks	3.58	3.72	3.65	3.39
Scenic byways	3.48	3.63	3.52	3.44
Historical	3.38	3.61	3.51	3.46
Wildlife	3.34	3.60	3.48	3.34
Fall foliage	3.07	3.28	3.32	3.12
Native American lands and landmarks	3.28	3.28	3.13	3.05
Lighthouses	2.99	3.17	3.06	2.99
Shopping	3.18	3.04	2.91	2.84
Performing arts	2.67	2.71	2.64	2.74
Horticultural sites	2.47	2.78	2.67	2.49
Wineries	2.23	2.29	2.36	2.49
Gaming	2.17	2.31	2.10	2.11
Brewpubs	2.06	2.02	2.01	2.11

Shown in Table 31 are the average importance ratings for types of guided tours to include in an in-vehicle information system for tourists by education level. Again, the majority of tour types received positive ratings regardless of educational level. Among those respondents with a college degree or less, restaurant tours received the highest ratings while respondents with at least some graduate education rated historical tours the highest.

Table 31: Mean Importance Ratings of Types of In-Vehicle Guided Tours for an In-Vehicle Information System by Education Level					
Type of In-Vehicle Guided Tour	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Restaurants	3.71	3.80	3.84	3.61	3.66
State parks	3.45	3.52	3.81	3.78	3.63
Scenic byways	3.33	3.58	3.71	3.57	3.59
Historical	3.21	3.37	3.72	4.01	3.72
Wildlife	3.30	3.35	3.63	3.78	3.54
Fall foliage	3.23	3.11	3.31	3.68	3.14
Native American lands & landmarks	3.11	3.17	3.30	3.36	3.24
Lighthouses	2.85	3.09	3.20	3.38	3.03
Shopping	3.20	3.10	3.04	2.76	2.57
Performing arts	2.28	2.73	2.83	2.71	2.96
Horticultural sites	2.51	2.66	2.62	2.85	2.72
Wineries	2.06	2.25	2.49	2.54	2.40
Gaming	2.50	2.26	2.18	1.83	1.80
Brewpubs	1.89	2.02	2.23	2.12	1.98

Willingness to Pay for In-Vehicle Information Systems

Respondents were asked two questions about their willingness to pay for an in-vehicle information system for tourist use. The first question asked: *Assuming that you could buy an in-vehicle information system for tourists that provided route guidance, information on services, attractions, and destination characteristics, and in-vehicle guided tours, what is the most you would be willing to pay to buy the system for your present automobile?* Subjects wrote dollar amounts in the space provided. Responses were categorized for analysis.

Shown in Tables 32-35 are the weighted percentages of respondents indicating how much they would be willing to pay to add an in-vehicle information system to their present vehicle overall and by sex, age group, education, and income level. Subjects who left the

item blank were not included in these analyses. Overall, about 9 percent of respondents indicated that they would not pay for the system; about two-thirds indicated that they would pay less than $500; about one-fifth indicated they would pay between $500 and $999, and the rest were willing to pay $1000 or more. The analysis of willingness to pay by the demographic variables showed that the amount people were willing to pay did not vary much by sex, income level, or education level. The younger the respondent, however, the more money they were willing to pay to buy the system.

Table 32: Weighted Percentage of Respondents Indicating How Much they Would be Willing to Pay to Buy an In-Vehicle Information System by Overall and Sex

Amount Willing to Pay to Buy System, Dollars	Overall	Male	Female
0	8.9	7.5	10.0
1-499	62.5	64.0	62.1
500-999	19.3	19.4	19.2
1000 or more	9.2	9.2	8.6

Table 33: Weighted Percentage of Respondents Indicating How Much they Would be Willing to Pay to Buy an In-Vehicle Information System by Age Group

Amount Willing to Pay to Buy System, Dollars	18-29	30-49	50-64	65-up
0	3.8	7.6	10.5	16.8
1-499	61.4	62.9	65.7	65.3
500-999	24.1	19.3	17.8	13.4
1000 or more	10.8	10.2	6.0	4.6

Table 34: Weighted Percentage of Respondents Indicating How Much they Would be Willing to Pay to Buy an In-Vehicle Information System by Income Level				
Amount Willing to Pay to Buy System, Dollars	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
0	9.3	8.2	4.6	8.0
1-499	62.1	63.6	60.8	64.8
500-999	15.5	18.8	26.7	18.3
1000 or more	13.1	9.4	7.9	8.8

Table 35: Weighted Percentage of Respondents Indicating How Much they Would be Willing to Pay to Buy an In-Vehicle Information System by Education Level					
Amount Willing to Pay to Buy System, Dollars	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
0	11.9	7.6	8.2	5.1	10.9
1-499	53.8	65.9	60.4	62.0	69.1
500-999	20.1	17.0	22.1	24.6	16.1
1000 or more	14.2	9.6	9.4	8.3	4.0

The second question asked: *What is the most you would be willing to pay per day, in addition to the cost of an automobile rental, to rent the in-vehicle information system?* Subjects wrote dollar amounts in the space provided. Responses were categorized for analysis.

Shown in Table 36 are the weighted percentages of respondents indicating that they would be willing to pay certain amounts to rent an in-vehicle information system overall and by sex. Overall, about 10 percent of respondents indicated that they would not pay anything to rent the system; about 35 percent indicated that they would pay $1-to-$5 per day; about 30 percent indicated they would pay between $6 and $10 per day, and the rest were willing to pay $11 a day or more. The comparison between men and women showed that women, in general, were willing to pay more for renting the system.

Table 36: Weighted Percentage of Respondents Indicating How Much they Would be Willing to Pay per to Day Rent an In-Vehicle Information System by Overall and Sex			
Amount Willing to Pay to Rent System, Dollars	**Overall**	**Male**	**Female**
0	10.3	11.8	8.1
1-5	36.3	39.9	31.0
6-10	29.5	30.4	28.9
11 or more	23.9	18.0	32.1

Shown in Table 37 are the weighted percentages of respondents indicating that they would be willing to pay certain amounts to rent an in-vehicle information system by age group. In general, as age increased, people were willing to pay less per day to rent the in-vehicle information system.

Table 37: Weighted Percentage of Respondents Indicating How Much they Would be Willing to Pay Per Day to Rent an In-Vehicle Information System by Age Group				
Amount Willing to Pay to Rent System, Dollars	**18-29**	**30-49**	**50-64**	**65-up**
0	7.7	8.0	10.3	21.3
1-5	26.3	39.3	37.9	39.6
6-10	36.0	28.9	30.9	20.4
11 or more	30.1	23.8	20.9	18.7

Shown in Table 38 are the weighted percentages of respondents indicating that they would be willing to pay certain amounts to rent an in-vehicle information system by household income. Surprisingly, people indicated that would pay less money as their household income increased.

Table 38: Weighted Percentage of Respondents Indicating How Much they Would be Willing to Pay Per Day to Rent an In-Vehicle Information System by Income Level				
Amount Willing to Pay to Rent System, Dollars	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
0	12.0	8.3	7.3	9.9
1-5	28.8	33.7	43.7	44.4
6-10	27.4	31.8	29.0	28.4
11 or more	31.8	26.2	20.0	17.4

Shown in Table 39 are the weighted percentages of respondents indicating that they would be willing to pay certain amounts to rent an in-vehicle information system by education level. People with at least some graduate education indicated that they would pay lower amounts than those with a college degree or less.

Table 39: Weighted Percentage of Respondents Indicating How Much they Would be Willing to Pay Per Day to Rent an In-Vehicle Information System by Education Level					
Amount Willing to Pay to Rent System, Dollars	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
0	15.6	9.9	8.0	4.6	11.5
1-5	28.5	38.0	31.0	44.7	45.4
6-10	26.6	27.9	37.3	36.0	20.8
11 or more	29.3	24.2	23.7	14.6	22.3

Most Recent Overnight Automobile Trip

So that we could assess respondent tourist-travel patterns, the survey included a section for respondents to report on their most recent overnight automobile trip of more than 100 miles away from home in the past year as either a driver or passenger. If respondents had not taken an overnight automobile trip in the past year, they were instructed to skip this section of the survey.

Respondents were asked: *Thinking only of your most recent overnight automobile trip, what was the main purpose of this trip?* Respondents were given a list of several purposes and instructed to select only one purpose.

Shown in Tables 40-43 are the weighted percentages of respondents indicating the main purpose for their most recent automobile trip overall, and by sex, age group, income level, and education level. Overall, the most frequently select trip purpose was social/recreational/pleasure, with over 40 percent of respondents picking this purpose. Vacation counted for about 30 percent of the respondents; personal business was selected by about 20 percent of respondents; and work-related business was selected by about 7 percent of respondents. The comparison of sex showed that men were more likely than women to select work-related business and less likely to select social/recreational/pleasure. Both the youngest and oldest age groups differed from the two other age groups in that they were more likely to select social/recreational/pleasure and less likely to select work-related business than the middle age groups. Work-related business was more frequently selected by those in the two highest income levels and social/recreational/pleasure was less frequently selected by these same income levels. The frequency of selecting work-related business increased with education level. No other trends were apparent.

Table 40: Weighted Percentage of Respondents Indicating the Main Purpose for Their Most Recent Overnight Automobile Trip by Overall and Sex

Main Trip Purpose	Overall	Male	Female
Social/recreational/pleasure	42.1	40.4	44.2
Vacation	31.0	30.5	31.0
Personal business/other	19.6	19.0	21.0
Work-related business	7.2	10.2	3.9

Table 41: Weighted Percentage of Respondents Indicating the Main Purpose for Their Most Recent Overnight Automobile Trip by Age Group				
Main Trip Purpose	**18-29**	**30-49**	**50-64**	**65-up**
Social/recreational/pleasure	48.0	39.9	37.8	48.1
Vacation	22.8	35.1	30.8	26.4
Personal business/other	23.9	16.7	22.5	23.2
Work-related business	5.4	8.3	9.0	2.3

Table 42: Weighted Percentage of Respondents Indicating the Main Purpose for Their Most Recent Overnight Automobile Trip by Income Level				
Main Trip Purpose	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
Social/recreational/pleasure	40.1	45.3	37.3	38.2
Vacation	26.6	32.7	37.4	24.7
Personal business/other	28.0	16.3	15.3	26.5
Work-related business	5.3	5.8	10.0	10.6

Table 43: Weighted Percentage of Respondents Indicating the Main Purpose for Their Most Recent Overnight Automobile Trip by Education Level					
Main Trip Purpose	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Social/recreational/pleasure	37.3	40.1	46.2	50.4	41.3
Vacation	33.6	33.6	32.4	24.6	23.7
Personal business/other	23.5	20.7	14.9	15.7	22.6
Work-related business	5.7	5.7	6.6	9.4	12.5

Respondents were asked: *What was the main type of automobile used for this trip?* Respondents were given a list of several automobile types and instructed to select only one.

Shown in Tables 44-47 are the weighted percentages of people indicating the vehicle type used in their most recent overnight automobile trip overall and by sex, age

group, education level, and household income. An overwhelming majority of people indicated that they utilized a personal passenger vehicle. Rented vehicles were a distant second, accounting for less than 10 percent of respondents. These findings were generally consistent across sex, age group, income, and education.

Table 44: Weighted Percentage of Respondents Indicating the Main Automobile Used for Their Most Recent Overnight Automobile Trip by Overall and Sex

Main Automobile Used	Overall	Male	Female
Own passenger vehicle	78.8	78.6	79.5
Rental vehicle	9.2	8.0	10.4
Camping-related vehicle	8.2	8.8	7.2
Other	3.7	4.5	2.9

Table 45: Weighted Percentage of Respondents Indicating the Main Automobile Used for Their Most Recent Overnight Automobile Trip by Age Group

Main Automobile Used	18-29	30-49	50-64	65-up
Own passenger vehicle	80.0	78.8	75.9	87.3
Rental vehicle	5.1	9.9	11.9	6.2
Camping-related vehicle	7.4	7.5	10.4	5.5
Other	7.4	3.9	1.8	0.9

Table 46: Weighted Percentage of Respondents Indicating the Main Automobile Used for Their Most Recent Overnight Automobile Trip by Income Level

Main Automobile Used	< 25,000	25,000-54,999	55,000-74,999	75,000-up
Own passenger vehicle	75.9	81.6	77.7	75.8
Rental vehicle	10.4	9.3	7.1	13.2
Camping-related vehicle	11.0	6.6	8.3	7.7
Other	2.7	2.5	6.8	3.3

Table 47: Weighted Percentage of Respondents Indicating the Main Automobile Used for Their Most Recent Overnight Automobile Trip by Education Level					
Main Automobile Used	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Own passenger vehicle	80.6	78.1	79.7	74.7	80.5
Rental vehicle	9.3	8.0	8.9	9.9	11.2
Camping-related vehicle	8.7	10.0	6.1	8.1	5.8
Other	1.5	3.9	5.3	7.3	2.5

Respondents were asked: *Did anyone accompany you on this trip?* Respondents were instructed to select either yes or no.

Shown in Tables 48-51 are the weighted percentages of people indicating whether they traveled with another person on their most recent overnight automobile trip overall and by sex, age group, education level, and household income. A large majority of people (about 90 percent) indicated that they traveled with another person. This finding was consistent across sex, age group, income, and education.

Table 48: Weighted Percentage of Respondents Indicating at least One Companion on Their Most Recent Overnight Automobile Trip by Overall and Sex			
Did Anyone Accompany You on the Trip?	**Overall**	**Male**	**Female**
Yes	88.0	85.9	90.7
No	12.0	14.1	9.3

Table 49: Weighted Percentage of Respondents Indicating at least One Companion on Their Most Recent Overnight Automobile Trip by Age Group				
Did Anyone Accompany You on the Trip?	**18-29**	**30-49**	**50-64**	**65-up**
Yes	91.0	88.5	85.0	86.5
No	9.1	11.5	15.0	13.5

Table 50: Weighted Percentage of Respondents Indicating at least One Companion on Their Most Recent Overnight Automobile Trip by Income Level				
Did Anyone Accompany You on the Trip?	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
Yes	89.1	88.3	89.4	85.9
No	10.9	11.7	10.6	14.1

Table 51: Weighted Percentage of Respondents Indicating at least One Companion on Their Most Recent Overnight Automobile Trip by Education Level					
Did Anyone Accompany You on the Trip?	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Yes	90.4	90.3	88.3	77.1	84.2
No	9.6	9.7	11.7	22.9	15.8

Respondents were asked: *How long before this trip did you begin planning for the trip?* Respondents were given a list of time periods and asked to select one.

Shown in Tables 52-55 are the weighted percentages of people indicating the amount of time they spent planning for their most recent overnight automobile trip overall and by sex, age group, education level, and household income. Overall, about one-half of respondents spent less than 1 month planning for their trip; about one-quarter planned for 2-to-3 months; and the remaining quarter either did not plan at all or planned for 4 months or more. These findings were generally consistent across sex, age group, income, and education.

Table 52: Weighted Percentage of Respondents Indicating the Length of Time Planning for Their Most Recent Overnight Automobile Trip by Overall and Sex			
Length of Time Planning	**Overall**	**Male**	**Female**
No planning	17.0	15.6	18.8
Less than 1 month	51.3	53.1	48.9
2-3 months	25.7	25.9	26.2
4 or more months	6.0	5.3	6.1

Table 53: Weighted Percentage of Respondents Indicating the Length of Time Planning for Their Most Recent Overnight Automobile Trip by Age Group				
Length of Time Planning	**18-29**	**30-49**	**50-64**	**65-up**
No planning	20.5	14.3	18.4	20.5
Less than 1 month	53.1	51.7	50.6	47.6
2-3 months	19.9	27.9	25.0	27.3
4 or more months	6.6	6.1	6.0	4.5

Table 54: Weighted Percentage of Respondents Indicating the Length of Time Planning for Their Most Recent Overnight Automobile Trip by Income Level				
Length of Time Planning	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
No planning	19.8	16.5	13.5	16.6
Less than 1 month	48.8	48.7	57.1	59.2
2-3 months	27.4	27.4	23.2	20.4
4 or more months	4.0	7.4	6.3	3.8

Table 55: Weighted Percentage of Respondents Indicating the Length of Time Planning for Their Most Recent Overnight Automobile Trip by Education Level					
Length of Time Planning	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
No planning	20.7	16.6	11.4	24.8	17.2
Less than 1 month	48.8	48.8	57.7	44.8	53.1
2-3 months	23.9	27.4	27.4	23.8	24.2
4 or more months	6.7	7.2	3.6	6.7	5.4

Respondents were asked to indicate how many miles they traveled by automobile on the trip by writing in an estimated mileage value. Responses were categorized.

Shown in Tables 56-59 are the weighted percentages of people indicating the mileage for the automobile portion of their most recent overnight automobile trip overall

and by sex, age group, education level, and household income. Overall, respondents had taken fairly long trips, with over 50 percent of the trips greater than 500 miles in length. There was little difference in trip length by sex, income level, or education level. Trip distances increased slightly with age group.

Table 56: Weighted Percentage of Respondents Indicating the Total Mileage for Their Most Recent Overnight Automobile Trip by Overall and Sex

Trip Mileage	Overall	Male	Female
More than 1000 miles	30.5	33.9	26.8
501 to 1000 miles	28.8	28.4	29.0
301 to 500 miles	21.9	21.2	23.9
100 to 300 miles	18.8	16.4	20.3

Table 57: Weighted Percentage of Respondents Indicating the Total Mileage for Their Most Recent Overnight Automobile Trip by Age Group

Trip Mileage	18-29	30-49	50-64	65-up
More than 1000 miles	29.1	26.5	34.4	38.7
501 to 1000 miles	34.8	28.4	29.2	24.5
301 to 500 miles	16.8	25.2	19.7	20.6
100 to 300 miles	19.3	20.0	16.7	16.3

Table 58: Weighted Percentage of Respondents Indicating the Total Mileage for Their Most Recent Overnight Automobile Trip by Income Level

Trip Mileage	< 25,000	25,000-54,999	55,000-74,999	75,000-up
More than 1000 miles	21.8	35.0	28.8	28.2
501 to 1000 miles	32.4	27.7	27.8	29.4
301 to 500 miles	21.7	21.3	26.1	22.7
100 to 300 miles	24.1	16.0	17.3	19.7

Table 59: Weighted Percentage of Respondents Indicating the Total Mileage for Their Most Recent Overnight Automobile Trip by Education Level					
Trip Mileage	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
More than 1000 miles	28.9	34.2	27.6	28.7	30.1
501 to 1000 miles	33.3	24.1	29.9	36.5	27.3
301 to 500 miles	17.4	21.6	27.4	18.1	22.0
100 to 300 miles	20.4	20.2	15.0	16.7	20.6

Respondents were asked: *How much driving did you personally do on this trip?* Respondents indicated the amount of driving by selecting the appropriate frequency.

Shown in Tables 60-63 are the weighted percentages of people indicating the amount of driving that they did personally on their most recent overnight automobile trip overall and by sex, age group, education level, and household income. Overall, respondents drove quite frequently, with over 60 percent indicating that they drove for all or most of the trip. Males drove much more frequently than females, with 85 percent of males driving for all or most of the trip compared to only 33 percent of females. The two youngest age groups tended to drive slightly less frequently than the older age groups; the lowest income respondents tended to drive less frequently than the higher income respondents; and frequency of driving did not seem to be influenced by education level.

Table 60: Weighted Percentage of Respondents Indicating Amount of Personal Driving on Their Most Recent Overnight Automobile Trip by Overall and Sex			
Amount of Personal Driving on Trip	**Overall**	**Male**	**Female**
All	42.9	55.9	23.7
Most	19.5	29.0	9.9
Some	21.6	10.5	35.9
None	16.0	4.6	30.5

Table 61: Weighted Percentage of Respondents Indicating Amount of Personal Driving on Their Most Recent Overnight Automobile Trip by Age Group				
Amount of Personal Driving on Trip	**18-29**	**30-49**	**50-64**	**65-up**
All	28.7	43.2	47.9	49.7
Most	15.6	19.6	20.6	19.8
Some	34.0	22.2	17.4	12.5
None	21.7	15.0	14.1	18.0

Table 62: Weighted Percentage of Respondents Indicating Amount of Personal Driving on Their Most Recent Overnight Automobile Trip by Income Level				
Amount of Personal Driving on Trip	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
All	39.9	41.9	45.0	44.2
Most	14.5	20.7	20.7	22.9
Some	22.3	22.5	18.9	24.9
None	23.4	15.0	15.4	8.1

Table 63: Weighted Percentage of Respondents Indicating Amount of Personal Driving on Their Most Recent Overnight Automobile Trip by Education Level					
Amount of Personal Driving on Trip	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
All	42.5	40.2	42.6	44.3	48.8
Most	19.5	20.2	19.8	19.1	17.3
Some	18.2	23.2	24.8	22.3	19.0
None	19.8	16.4	12.8	14.4	14.9

Respondents were asked: *How many nights did you spend away from home on this trip?* Respondents selected one range of nights from a given list.

Shown in Tables 64-67 are the weighted percentages of people indicating the number of nights they stayed away from home on their most recent overnight automobile trip overall and by sex, age group, education level, and household income. Overall, about 70 percent of respondents stayed away from 2-to-9 nights. The remaining respondents

either were away for a single night (about 15 percent) or for more than 10 nights (about 15 percent). There was little difference in the number of nights spent away from home by sex or age group. The number of nights spent away from home was slightly less for those in the highest income level and for those with a college degree or some graduate education.

Table 64: Weighted Percentage of Respondents Indicating the Number of Nights Spent Away From Home on Their Most Recent Overnight Automobile Trip by Overall and Sex

Number of Nights Spent Away from Home	Overall	Male	Female
1	15.9	15.1	17.1
2-3	36.8	37.4	36.1
4-9	32.8	32.3	33.9
10 or more	14.5	15.2	12.9

Table 65: Weighted Percentage of Respondents Indicating the Number of Nights Spent Away From Home on Their Most Recent Overnight Automobile Trip by Age Group

Number of Nights Spent Away from Home	18-29	30-49	50-64	65-up
1	18.0	16.9	17.2	8.9
2-3	39.7	39.1	32.6	31.7
4-9	29.9	33.6	30.7	37.3
10 or more	12.5	10.4	19.5	22.1

Table 66: Weighted Percentage of Respondents Indicating the Number of Nights Spent Away From Home on Their Most Recent Overnight Automobile Trip by Income Level

Number of Nights Spent Away from Home	< 25,000	25,000-54,999	55,000-74,999	75,000-up
1	16.5	14.5	17.1	20.0
2-3	38.1	37.4	37.0	37.8
4-9	30.9	32.7	34.7	32.1
10 or more	14.5	15.4	11.2	10.1

Table 67: Weighted Percentage of Respondents Indicating the Number of Nights Spent Away From Home on Their Most Recent Overnight Automobile Trip by Education Level					
Number of Nights Spent Away from Home	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
1	16.3	15.5	17.1	13.9	14.5
2-3	34.8	34.4	38.1	42.3	39.9
4-9	33.0	31.8	34.4	39.1	31.4
10 or more	15.9	18.3	10.5	4.7	14.2

Respondents were asked: *In what type of lodging did you stay most frequently on this trip?* Respondents were asked to select just one response from a list of accommodations.

Shown in Tables 68-71 are the weighted percentages of people indicating the primary lodging used on their most recent overnight automobile trip overall and by sex, age group, education level, and household income. Overall, about 50 percent of respondents stayed in a hotel/motel and about one-third stayed with a friend or relative. The remaining respondents either camped (about 10 percent) or had other lodging (about 8 percent). There was little difference in primary lodging by sex and education level. Respondents in the youngest age group were more likely to stay with a friend/relative than other age groups and less likely to stay in a hotel. Respondents in the two highest income categories were more likely to stay in a hotel and less likely to stay with a friend or relative than those in the two lowest income categories.

Table 68: Weighted Percentage of Respondents Indicating the Primary Lodging on Their Most Recent Overnight Automobile Trip by Overall and Sex			
Primary Lodging on Trip	**Overall**	**Male**	**Female**
Hotel/motel	49.9	51.6	48.2
Friend/relative home	33.0	30.5	36.7
Camping	9.4	9.2	9.9
Other lodging	7.7	8.7	5.3

Table 69: Weighted Percentage of Respondents Indicating the Primary Lodging on Their Most Recent Overnight Automobile Trip by Age Group				
Primary Lodging on Trip	**18-29**	**30-49**	**50-64**	**65-up**
Hotel/motel	43.3	50.4	53.9	54.6
Friend/relative home	41.5	31.8	29.6	32.2
Camping	6.9	10.2	8.7	8.2
Other lodging	8.2	7.5	7.9	4.9

Table 70: Weighted Percentage of Respondents Indicating the Primary Lodging on Their Most Recent Overnight Automobile Trip by Income Level				
Primary Lodging on Trip	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
Hotel/motel	49.0	46.3	53.3	58.9
Friend/relative home	33.7	36.5	26.5	28.3
Camping	4.6	10.9	10.6	10.0
Other lodging	12.7	6.3	9.5	2.9

Table 71: Weighted Percentage of Respondents Indicating the Primary Lodging on Their Most Recent Overnight Automobile Trip by Education Level					
Primary Lodging on Trip	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Hotel/motel	52.6	52.2	43.5	56.0	50.4
Friend/relative home	31.6	31.6	36.4	28.8	34.9
Camping	7.0	9.4	11.1	9.5	9.6
Other lodging	8.8	6.9	9.1	5.7	5.1

Respondents were asked: *On this trip, what was your main motivation for travel?* Respondents were asked to select one response from a list of possible motivations. Respondents could also select "other" and write in a motivation.

Shown in Tables 72-75 are the weighted percentages of people indicating the main motivation for taking their most recent overnight automobile trip overall and by sex, age

group, education level, and household income. Overall, relaxation and social interaction were the most frequently selected motivations, followed by recreation and business. We also found that about 16 percent of respondents selected "other." Examining these write-in responses revealed that the majority of these people may have confused "motivation" with "trip purpose" since many wrote down purposes such as "vacation." Thus, all of the results for this question should be interpreted with caution. There was very little difference between men and women on trip motivation except that men reported business as a motivation much more frequently. The analysis by age group also revealed few differences except that the oldest age group reported social interaction much more frequently and relaxation much less frequently than those in other age groups. Motivation for travel did not differ much among income levels except that those in the highest income category reported business more frequently than other income categories. As education level increased, relaxation, entertainment, and novelty/change all were selected less frequently as a motivation for traveling on the latest overnight automobile trip. The opposite trend was found for social interaction, business, and spiritual/religious motivations.

Table 72: Weighted Percentage of Respondents Indicating the Main Motivation on Their Most Recent Overnight Automobile Trip by Overall and Sex

Main Motivation for Trip	Overall	Male	Female
Relaxation	21.6	21.2	21.0
Social interaction	20.0	19.0	20.7
Recreation	14.1	14.2	15.0
Business	9.7	12.2	7.1
Adventure/exploration	7.4	8.0	6.9
Entertainment	7.0	7.2	6.7
Education	1.6	1.8	1.3
Novelty/change	1.6	1.6	1.6
Spiritual/religious	0.7	0.4	1.2
Health	0.6	0.3	0.6
Other	15.8	14.1	18.0

Table 73: Weighted Percentage of Respondents Indicating the Main Motivation on Their Most Recent Overnight Automobile Trip by Age Group				
Main Motivation for Trip	**18-29**	**30-49**	**50-64**	**65-up**
Relaxation	23.9	23.2	20.6	17.3
Social interaction	19.6	17.5	20.3	28.5
Recreation	13.8	14.9	12.0	13.6
Business	9.6	8.8	13.8	5.7
Adventure/exploration	7.3	9.9	3.8	1.9
Entertainment	4.3	7.1	8.4	5.6
Education	0.0	2.1	1.0	3.1
Novelty/change	1.3	1.3	2.6	2.5
Spiritual/religious	0.0	0.9	1.4	0.0
Health	0.0	0.5	0.8	1.4
Other	20.3	13.9	15.4	20.4

Table 74: Weighted Percentage of Respondents Indicating the Main Motivation on Their Most Recent Overnight Automobile Trip by Income Level				
Main Motivation for Trip	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
Relaxation	23.0	22.6	23.1	18.1
Social interaction	17.8	20.1	19.3	19.4
Recreation	12.0	13.8	15.7	14.8
Business	8.1	6.4	13.7	17.5
Adventure/exploration	5.6	8.6	6.0	7.0
Entertainment	8.7	6.7	9.4	4.5
Education	1.1	2.0	0.3	2.1
Novelty/change	2.0	2.2	0.6	0.7
Spiritual/religious	1.4	0.2	1.1	1.3
Health	2.0	0.2	0.0	0.0
Other	18.3	17.3	11.0	14.7

Table 75: Weighted Percentage of Respondents Indicating the Main Motivation on Their Most Recent Overnight Automobile Trip by Education Level					
Main Motivation for Trip	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Relaxation	22.3	23.7	24.8	19.5	13.9
Social interaction	17.9	18.1	21.0	22.8	22.9
Recreation	14.2	12.9	14.6	14.4	14.4
Business	8.3	7.4	10.5	12.1	14.7
Adventure/exploration	6.2	7.9	7.4	9.3	6.2
Entertainment	9.4	8.1	6.2	6.3	3.4
Education	1.6	2.4	0.2	1.1	3.0
Novelty/change	2.9	1.8	1.1	0.5	1.0
Spiritual/religious	0.7	0.2	0.6	1.3	1.5
Health	1.0	1.1	0.0	0.0	0.3
Other	15.6	16.6	13.7	12.8	18.9

Respondents were asked: "*On this trip, how important were the following factors in choosing the destination? For each factor please indicate its importance in choosing the destination.* Several factors, with 5-point importance rating scales were listed.

The average importance ratings for factors in choosing a destination for their last overnight automobile trip overall and by sex are shown in Table 76. Overall, accessibility, accommodations, scenery, safety, food/restaurants, climate/weather received positive ratings. Thus, very few factors in general, were involved in the respondents' choice of a destination. Comparing across men and women shows that, as with several other items, women indicated higher importance for most factors, but the ordering of the factors was generally the same for men and women.

Table 76: Mean Importance Ratings of Factors in Choosing the Destination on Their Most Recent Overnight Automobile Trip by Overall and Sex			
Factor in Choosing the Destination	**Overall**	**Male**	**Female**
Accessibility	3.41	3.33	3.52
Accommodations	3.31	3.29	3.35
Scenery	3.18	3.09	3.27
Safety	3.15	3.04	3.29
Food/restaurants	3.11	3.09	3.16
Climate/weather	3.08	2.95	3.23
Local prices	2.74	2.67	2.82
Entertainment	2.65	2.63	2.70
Historical attractions	2.52	2.51	2.54
Shopping	2.46	2.38	2.58
Festivals/events	2.46	2.41	2.49
Attitudes toward tourists	2.44	2.43	2.44
Sports/recreation	2.39	2.47	2.32
Museum/culture	2.35	2.32	2.38
Local way of life	2.20	2.17	2.24
Local transportation	1.97	1.96	2.00
Communication difficulty	1.66	1.65	1.67

Shown in Table 77 are respondents' mean importance ratings for factors in choosing a destination for their last overnight automobile trip by age group. Importance ratings increased with increasing age group for safety, food/restaurants, and museum/culture. Ratings decreased with age group for entertainment and sports/recreation. There were no discernable trends for the other factors.

Table 77: Mean Importance Ratings of Factors in Choosing the Destination on Their Most Recent Overnight Automobile Trip by Age Group				
Factor in Choosing the Destination	**18-29**	**30-49**	**50-64**	**65-up**
Accessibility	3.25	3.38	3.47	3.50
Accommodations	3.06	3.26	3.41	3.48
Scenery	3.10	3.17	3.23	3.10
Safety	2.74	3.07	3.37	3.34
Food/restaurants	3.01	3.00	3.26	3.31
Climate/weather	2.98	3.08	2.92	3.17
Local prices	2.66	2.73	2.75	2.81
Entertainment	2.86	2.68	2.51	2.48
Historical attractions	2.21	2.56	2.58	2.46
Shopping	2.51	2.45	2.50	2.34
Festivals/events	2.26	2.48	2.54	2.36
Attitudes toward tourists	2.31	2.39	2.53	2.50
Sports/recreation	2.51	2.51	2.18	1.98
Museum/culture	2.15	2.36	2.31	2.45
Local way of life	1.94	2.26	2.21	2.07
Local transportation	1.91	1.99	1.97	1.79
Communication difficulty	1.47	1.71	1.74	1.57

Shown in Table 78 are respondents' mean importance ratings for factors in choosing a destination for their last overnight automobile trip by household income. Importance ratings decreased with income for scenery, safety, festivals/events, attitudes toward tourists, and museum/culture. No other trends were evident.

Table 78: Mean Importance Ratings of Factors in Choosing the Destination on Their Most Recent Overnight Automobile Trip by Income Level				
Factor in Choosing the Destination	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
Accessibility	3.72	3.40	3.09	3.30
Accommodations	3.54	3.23	3.19	3.20
Scenery	3.49	3.22	3.03	2.87
Safety	3.53	3.15	2.88	2.84
Food/restaurants	3.25	3.12	3.02	3.06
Climate/weather	3.45	3.16	2.68	2.74
Local prices	3.10	2.77	2.39	2.54
Entertainment	2.85	2.70	2.43	2.59
Historical attractions	2.69	2.53	2.38	2.37
Shopping	2.87	2.47	2.24	2.31
Festivals/events	2.60	2.55	2.31	2.31
Attitudes toward tourists	2.70	2.43	2.37	2.08
Sports/recreation	2.46	2.44	2.28	2.38
Museum/culture	2.51	2.38	2.24	2.22
Local way of life	2.49	2.21	1.93	2.12
Local transportation	2.47	1.90	1.82	1.87
Communication difficulty	1.94	1.55	1.53	1.62

Shown in Table 79 are respondents' mean importance ratings for factors in choosing a destination for their last overnight automobile trip by education level. Importance ratings decreased with increasing education for nearly every factor.

Table 79: Mean Importance Ratings of Factors in Choosing the Destination on Their Most Recent Overnight Automobile Trip by Education Level					
Factor in Choosing the Destination	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Accessibility	3.60	3.48	3.32	3.16	3.26
Accommodations	3.51	3.43	3.21	3.21	2.95
Scenery	3.41	3.20	3.20	3.17	2.81
Safety	3.56	3.22	2.96	2.93	2.78
Food/restaurants	3.45	3.18	3.02	2.96	2.70
Climate/weather	3.35	3.23	2.93	2.91	2.70
Local prices	3.08	2.86	2.66	2.55	2.27
Entertainment	2.89	2.80	2.54	2.49	2.33
Historical attractions	2.70	2.45	2.56	2.62	2.25
Shopping	2.87	2.52	2.36	2.24	2.04
Festivals/events	2.70	2.57	2.37	2.34	2.11
Attitudes toward tourists	2.78	2.54	2.36	2.28	1.96
Sports/recreation	2.44	2.43	2.53	2.27	2.06
Museum/culture	2.36	2.34	2.36	2.41	2.30
Local way of life	2.35	2.34	2.13	2.16	1.83
Local transportation	2.31	2.03	1.89	1.58	1.70
Communication difficulty	1.99	1.67	1.58	1.46	1.36

Respondents were asked: "*On this trip, how important were the following factors in choosing the route to your destination? For each factor please indicate its importance in choosing the destination.* Several factors, with 5-point importance rating scales were listed.

Respondents' average importance ratings for factors in choosing a route to the destination for their last overnight automobile trip overall and by sex are shown in Table 80. Overall, all factors received a positive rating except roadside development, scenic byways, and historical/cultural monuments. By far, the most important factor was the directness of the route. Comparing across men and women shows that, again, women

indicated higher importance for most factors, but the ordering of the factors was generally the same for men and women.

Table 80: Mean Importance Ratings of Factors in Choosing a Route to the Destination on Their Most Recent Overnight Automobile Trip by Overall and Sex

Factor in Choosing the Route	Overall	Male	Female
Directness	4.02	3.99	4.09
Travel time	3.57	3.46	3.75
Road conditions	3.55	3.45	3.71
Safety	3.54	3.37	3.75
Weather conditions	3.52	3.33	3.78
Congestion	3.40	3.23	3.61
Stores/gas/restaurants	3.40	3.30	3.55
Distance	3.40	3.31	3.54
Stop/delays	3.19	3.15	3.27
Level of stress	3.13	3.02	3.27
Scenery	3.11	3.07	3.16
Roadside development	2.64	2.51	2.80
Scenic byways	2.62	2.56	2.68
Historical/cultural monuments	2.36	2.35	2.38

Shown in Table 81 are respondents' mean importance ratings for factors in choosing a route to the destination for their last overnight automobile trip by age group. Importance ratings increased with age for road conditions and safety. Ratings decreased with age for travel time, stops/delays, and roadside development. There were no discernable trends for the other factors.

Table 81: Mean Importance Ratings of Factors in Choosing a Route to the Destination on Their Most Recent Overnight Automobile Trip by Age Group				
Factor in Choosing the Route	**18-29**	**30-49**	**50-64**	**65-up**
Directness	4.03	4.01	4.02	3.94
Travel time	3.84	3.58	3.49	3.17
Road conditions	3.52	3.49	3.56	3.71
Safety	3.34	3.45	3.63	3.83
Weather conditions	3.56	3.42	3.57	3.68
Congestion	3.33	3.36	3.53	3.39
Stores/gas/restaurants	3.54	3.33	3.41	3.38
Distance	3.49	3.43	3.27	3.23
Stop/delays	3.19	3.24	3.21	2.86
Level of stress	2.99	3.13	3.16	3.01
Scenery	2.93	3.12	3.12	3.04
Roadside development	2.78	2.64	2.54	2.46
Scenic byways	2.34	2.66	2.68	2.60
Historical/cultural monuments	2.20	2.41	2.40	2.23

Table 82 shows respondents' mean importance ratings for factors in choosing a route to the destination for their last overnight automobile trip by income level. Importance ratings decreased with increasing income for all factors except directness, travel time, congestion, stop/delays, and level of stress. For these factors, there were no consistent trends.

Table 82: Mean Importance Ratings of Factors in Choosing a Route to the Destination on Their Most Recent Overnight Automobile Trip by Income Level				
Factor in Choosing the Route	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
Directness	4.13	3.99	3.96	4.07
Travel time	3.72	3.54	3.45	3.56
Road conditions	3.94	3.52	3.38	3.28
Safety	3.82	3.50	3.37	3.28
Weather conditions	3.76	3.56	3.38	3.19
Congestion	3.41	3.33	3.41	3.39
Stores/gas/restaurants	3.74	3.44	3.16	3.03
Distance	3.72	3.36	3.26	3.19
Stop/delays	3.38	3.17	2.94	3.14
Level of stress	3.33	3.07	3.00	3.02
Scenery	3.39	3.14	2.95	2.71
Roadside development	2.96	2.66	2.40	2.36
Scenic byways	2.82	2.69	2.47	2.30
Historical/cultural monuments	2.55	2.35	2.32	2.15

Shown in Table 83 are respondents' mean importance ratings for factors in choosing a destination for their last overnight automobile trip by education level. Importance ratings decreased with increasing education for all factors except directness, travel time, congestion, and distance. For these factors, there were no consistent trends.

Table 83: Mean Importance Ratings of Factors in Choosing a Route to the Destination on Their Most Recent Overnight Automobile Trip by Education Level					
Factor in Choosing the Route	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Directness	4.02	3.89	4.16	4.04	4.10
Travel time	3.56	3.49	3.72	3.59	3.54
Road conditions	3.88	3.57	3.52	3.31	3.20
Safety	3.83	3.60	3.44	3.47	3.18
Weather conditions	3.86	3.56	3.44	3.24	3.23
Congestion	3.55	3.36	3.45	3.49	3.19
Stores/gas/restaurants	3.78	3.50	3.37	2.94	2.91
Distance	3.51	3.36	3.51	3.26	3.24
Stop/delays	3.36	3.16	3.28	3.07	2.99
Level of stress	3.34	3.17	3.23	3.08	2.65
Scenery	3.35	3.13	3.14	2.98	2.77
Roadside development	2.90	2.78	2.66	2.39	2.09
Scenic byways	2.77	2.69	2.66	2.46	2.28
Historical/cultural monuments	2.49	2.42	2.39	2.21	2.10

Respondents were asked: "*On this trip, how important were the following factors in your overall satisfaction with the trip? For each factor please indicate its importance to you.* Several factors, with 5-point importance rating scales were listed.

Respondents' average importance ratings for factors in overall satisfaction with their trip, overall and by sex, are shown in Table 84. Overall, only seven factors received positive ratings: availability/quality of accommodations, safety, road conditions on route, traffic conditions on route, food/restaurants, climate/weather, and scenery. All seven factors received similar average ratings. Comparing across men and women showed that women indicated higher importance for most factors, but the ordering of the factors was generally the same for men and women.

Table 84: Mean Importance Ratings of Factors in Satisfaction with Their Most Recent Overnight Automobile Trip by Overall and Sex			
Satisfaction with Trip Factor	**Overall**	**Male**	**Female**
Availability/quality of accommodations	3.55	3.54	3.58
Safety	3.50	3.35	3.69
Road conditions on route	3.50	3.37	3.67
Traffic conditions on route	3.50	3.38	3.64
Food/restaurants	3.45	3.40	3.50
Climate/weather	3.42	3.27	3.57
Scenery	3.24	3.18	3.27
Local price levels	2.99	2.89	3.10
Attitudes toward tourists	2.74	2.73	2.73
Entertainment	2.59	2.60	2.60
Shopping	2.57	2.49	2.67
Festivals/special events	2.46	2.46	2.44
Historical attractions	2.53	2.55	2.51
Sport/recreation	2.42	2.47	2.36
Museums/cultural attractions	2.38	2.38	2.36
Uniqueness of local way of life	2.31	2.26	2.38
Availability/quality of transportation	2.10	2.05	2.16
Communication difficulty	1.73	1.71	1.75

Shown in Table 85 are respondents' mean importance ratings for factors in overall satisfaction with their trip by age group. Importance ratings increased with increasing age for availability/quality of accommodations, safety, road conditions on route, and traffic conditions on route. Ratings decreased with age for entertainment and sport/recreation. There were no discernable trends for the other factors.

Table 85: Mean Importance Ratings of Factors in Satisfaction with Their Most Recent Overnight Automobile Trip by Age Group				
Satisfaction with Trip Factor	**18-29**	**30-49**	**50-64**	**65-up**
Availability/quality of accommodations	3.40	3.47	3.74	3.71
Safety	3.25	3.41	3.69	3.71
Road conditions on route	3.26	3.42	3.69	3.75
Traffic conditions on route	3.37	3.42	3.64	3.72
Food/restaurants	3.37	3.37	3.55	3.48
Climate/weather	3.39	3.40	3.39	3.35
Scenery	3.15	3.26	3.30	3.08
Local price levels	3.00	2.94	3.01	3.00
Attitudes toward tourists	2.55	2.67	2.94	2.74
Entertainment	2.73	2.61	2.59	2.29
Shopping	2.63	2.59	2.62	2.35
Festivals/special events	2.42	2.46	2.56	2.25
Historical attractions	2.24	2.54	2.63	2.49
Sport/recreation	2.60	2.54	2.28	1.96
Museums/cultural attractions	2.22	2.39	2.37	2.35
Uniqueness of local way of life	1.99	2.41	2.40	2.09
Availability/quality of transportation	2.07	2.11	2.07	1.87
Communication difficulty	1.57	1.74	1.82	1.60

Table 86 shows respondents' mean importance ratings for factors in overall satisfaction with their trip by income level. Importance ratings decreased with increasing income for all factors except availability/quality of accommodations, food/restaurants, local price levels, entertainment, and sport/recreation. For these factors, there were no consistent trends.

Table 86: Mean Importance Ratings of Factors in Satisfaction with Their Most Recent Overnight Automobile Trip by Income Level				
Satisfaction with Trip Factor	**< 25,000**	**25,000-54,999**	**55,000-74,999**	**75,000-up**
Availability/quality of accommodations	3.78	3.45	3.39	3.52
Safety	3.80	3.44	3.42	3.19
Road conditions on route	3.65	3.50	3.42	3.22
Traffic conditions on route	3.62	3.50	3.53	3.17
Food/restaurants	3.75	3.38	3.32	3.34
Climate/weather	3.62	3.48	3.28	3.10
Scenery	3.51	3.24	3.15	2.88
Local price levels	3.27	3.04	2.70	2.72
Attitudes toward tourists	2.99	2.74	2.66	2.44
Entertainment	2.75	2.60	2.46	2.53
Shopping	2.96	2.56	2.46	2.40
Festivals/special events	2.52	2.53	2.43	2.27
Historical attractions	2.70	2.58	2.38	2.26
Sport/recreation	2.36	2.50	2.43	2.36
Museums/cultural attractions	2.43	2.43	2.26	2.21
Uniqueness of local way of life	2.57	2.34	2.17	2.07
Availability/quality of transportation	2.54	2.04	1.97	1.89
Communication difficulty	2.02	1.66	1.64	1.60

Shown in Table 87 are respondents' mean importance ratings for factors in overall satisfaction for their last overnight automobile trip by education level. Importance ratings decreased with increasing education for all factors except sport/recreation, museums/cultural attractions, and uniqueness of local way of life. For these factors, there were no consistent trends.

Table 87: Mean Importance Ratings of Factors in Satisfaction with Their Most Recent Overnight Automobile Trip by Education Level					
Satisfaction with Trip Factor	**HS or Less**	**Some College**	**College Degree**	**Some Grad**	**Grad Degree**
Availability/quality of accommodations	3.63	3.65	3.55	3.51	3.27
Safety	3.79	3.53	3.42	3.27	3.25
Road conditions on route	3.79	3.54	3.40	3.43	3.22
Traffic conditions on route	3.73	3.57	3.44	3.27	3.26
Food/restaurants	3.70	3.56	3.38	3.25	3.10
Climate/weather	3.61	3.49	3.43	3.20	3.08
Scenery	3.37	3.27	3.31	3.16	2.95
Local price levels	3.33	3.11	2.90	2.88	2.44
Attitudes toward tourists	3.01	2.82	2.69	2.73	2.30
Entertainment	2.85	2.67	2.60	2.21	2.28
Shopping	2.82	2.72	2.54	2.26	2.15
Festivals/special events	2.64	2.55	2.47	2.36	2.04
Historical attractions	2.60	2.59	2.57	2.45	2.27
Sport/recreation	2.37	2.56	2.63	2.23	2.01
Museums/cultural attractions	2.41	2.38	2.46	2.22	2.27
Uniqueness of local way of life	2.40	2.46	2.36	2.19	1.90
Availability/quality of transportation	2.48	2.21	1.98	1.70	1.70
Communication difficulty	2.03	1.81	1.65	1.55	1.32

DISCUSSION

Summary

The purpose of this project was to enhance the development of Intelligent Transportation System (ITS) technology for tourist use by generating a set of guidelines that are appropriate for tourist use. Guideline development was based upon detailed information collected in a review of the literature and a nationwide survey.

The literature review covered a wide range of areas that were relevant to the driving tourist. These areas were: a general overview of tourism; tourism and the tourist role; travel motivation and tourist preferences; tourist health; social and cultural impacts of tourism; tourist information use and preferences; and scenic byways. The entire literature review can be found in an interim report (Molnar, Eby, & Hopp, 1996). A number of findings from the literature review were relevant to the development of in-vehicle information systems for the driving tourist.

The nationwide survey generated detailed national information about use of tourist information, tourist information sources, preferences for various types of information and features for an in-vehicle information system for tourist use, willingness to pay for an in-vehicle information system for tourist use, and several factors related to actual tourist travel. Survey information was weighted to the Nationwide Personal Transportation Survey (NPTS) so that it was nationally representative of people who take tourist trips.

The survey showed that when planning overnight automobile trips to places that they had never been, respondents most frequently sought out information about lodging, travel route, food/restaurants, and weather conditions. While these general preferences were fairly consistent across all demographics, some interesting trends were found. Women more frequently than men sought out shopping information. The frequency with which food/restaurant, scenic byways, road conditions, and health care services information was sought increased with age. The frequency with which entertainment and sports/recreation information was sought decreased with age. The frequency with which

lodging, historical, and cultural information was sought increased with income level. The opposite trend for income level was found for road condition, spiritual/religious, and health care service information. The frequency with which historical and cultural information was sought increased with education level. The opposite trend was found for road condition, shopping, spiritual/religious, and health care service information. Thus, it is apparent that certain types of tourist information are generally sought by all individuals, but other types of information sought can vary greatly from one demographic category to another.

The results from the survey also showed that when planning overnight automobile trips, three sources of information are most frequently consulted: maps, friends/family, and newspapers/magazines/brochures. Regardless of the demographic category, these three sources of information were the most frequently reported. Computer-related sources of information were utilized the least frequently. In order, these sources were: on-line services, electronic ticketing, virtual reality/simulation, and in-vehicle information system. Thus, the market potential for these tourist information sources, particularly in-vehicle information systems, appears to be untapped. Analysis by the various demographics showed some interesting trends. The largest difference between men and women was the frequency with which women utilized recommendations from family or friends. The frequency with which respondents indicated that they utilized travel service/club, virtual reality/simulation, and in-vehicle information systems increased with age, and the frequency with which respondents indicated that they utilized maps, recommendations from friends/family, billboard/signs, television, computer on-line services, and electronic ticketing decreased with age. The frequency with which recommendations from friends/family, travel service/club, travel agents, computer on-line services, and electronic ticketing information sources were used increased with income level, while the opposite trend was found for rest-stop information centers, television, and radio. The frequency with which maps, recommendation from friend/family, newspapers/magazines/brochures, travel service/club, rest stop information centers, travel agents, computer on-line services, and electronic ticketing information sources were used generally increased with education, while use of television and radio decreased with education. Again, it is apparent that

certain types of tourist information sources are generally utilized by all travelers, but utilization of other sources can vary greatly depending upon sex, age, income, and education.

The survey provided abundant detail on preferences for types of route guidance information. First, the positive importance scores for each type of route guidance information highlights the importance of including a route guidance feature on an in-vehicle information system for the driving tourist. The four top-ranked types of route guidance information were: selecting the best route to destination; travel route shown on a map; road conditions; and traffic congestion on route. These types of route guidance information were closely followed in ratings by: presence of construction; weather conditions; verbal/written instructions for getting to destination; time/distance on route; options/recommendations for alternate routes; and identification of scenic byways. The preferences of women and men differed in that women gave higher importance ratings for weather conditions, verbal/written instructions, and identification of scenic byways. The youngest age group placed greater importance on verbal/written instructions and time/distance on route than did the other age groups. There was little consistent difference in importance ratings for types of route guidance information by different income or education levels.

Detailed preferences about types of services and information about those services that should be included in an in-vehicle information system were collected in the survey. Overall, only three types of service information received positive ratings: lodging and food; hospitals/health care providers; and police/fire departments. The services that were ranked the lowest in importance were government offices, libraries, and schools. Comparing across sexes, we found that men gave positive ratings for lodging/food services and hospital/health care providers whereas women gave positive ratings to these services and to police/fire departments and banks/ATMs. The two oldest age groups only gave positive importance ratings to lodging/food services and hospital/health care providers, while the two youngest age groups gave positive ratings to these and to police/fire

departments and banks/ATMs. In general, ratings declined with increasing age for police/fire departments, banks/ATMs, government offices, and schools. Generally, importance ratings for types of services decreased as household income increased, with the highest income level only giving a positive rating to lodging and food services and the lowest income level giving positive ratings to lodging and food services, hospitals/health care, police/fire, banks/ATMs, and pharmacies. Ratings of importance for lodging/food services, hospitals/health care, police/fire departments, banks/ATMs, and pharmacies declined with increasing levels of education. Ratings for churches/synagogues were highest for those whose highest level of education was high school or some college and declined for both less and more education.

We also investigated the types of information people wanted about the services. The top ranked types of service information were: hours of operation; prices; telephone/fax numbers; credit card acceptability; and amenities. This result is not surprising since many of these types of information are subject to frequent change and are, therefore, difficult for travelers to obtain. Men and women had the same general pattern of responses for importance of various types of service information. Ratings of importance for hours of operation and telephone/FAX numbers tended to decline with increasing age, and ratings for senior citizen/other discount and travel club information generally increased with age. As expected, respondents in the 65-years-of-age-and-older group rated senior citizen discounts/other discounts higher than any other type of service information. Importance ratings decreased with increasing income for hours, prices, senior citizen/other special discounts, and handicap access, while the opposite trend was found for telephone/fax numbers. There were no differences by educational level for any of the types of service information.

The survey also investigated preferences for which types of attractions to include in an in-vehicle information system as well as preferences for the types of information about those attractions. Overall, numerous attractions received positive ratings indicating that a wide range of attractions could be included in an in-vehicle information system. Alcohol-related attractions (such as, wineries, breweries, bars) received the lowest ratings.

Women reported higher importance ratings than men for cultural/historical landmarks, scenic byways, festivals/fairs/carnivals, theme/amusement parks, shopping malls, and performance arts. Men gave higher ratings than women for sport arenas/sport facilities, recreation areas, breweries/brewpubs, and nightclubs. The attraction receiving the highest importance rating for the age groups slightly differed. The highest importance rating for the 18-to-29-year-old age group was theme/amusement parks; for the 30-to-49-year-old age group was monuments/landmarks/parks, and for the two oldest age groups, it was scenic byways that received the highest mean importance rating. Few differences were found in ratings of importance for types of attractions to include in an in-vehicle information system by income level. Importance ratings generally increased with increasing education for monuments/landmarks/parks, cultural/historic landmarks, museums/galleries, performance art, and breweries/brewpubs/wineries. Importance ratings generally decreased with increasing education for theme/amusement parks, shopping malls, and sport arena/sport facilities. The analysis of types of information for attractions showed the same basic demographic trends as for the types of information for services, with prices, hours, telephone/fax, credit card acceptability, and amenities receiving positive ratings overall.

Another possible feature of an in-vehicle information system that we investigated was information about the characteristics of a destination. Overall, the characteristics receiving positive ratings were: local customs that tourists may not know; major historical events; geography; products for which area is known; and wildlife/plants/trees. There was little difference in importance ratings for types of destination characteristics by sex, age group, income level, or education level.

We also proposed and investigated a potential feature of an in-vehicle information system that would provide in-vehicle guided tours complete with navigation assistance to a point-of-interest, narration, sound, and pictures. We investigated preferences for including various types of tours in the in-vehicle system. Overall, the majority of suggested tours received positive ratings suggesting that an in-vehicle guided tour feature would be well received by the driving tourist. The tours receiving highest ratings were restaurant, scenic byway, state park, historical, and wildlife tours. Tours receiving the lowest ratings

were winery, gaming, and brewpub tours. There were few differences between men and women except that women gave higher ratings to shopping tours. The youngest age group rated shopping, performing art, winery, gaming, and brewpub tours higher in importance than the other age groups. Tour ratings did not seem to vary by income level. For those with a college degree or less, restaurant tours received the highest ratings while those with at least some graduate education rated historical tours the highest.

When questioned about how much they would be willing to pay to have a system with the mentioned features added to their present vehicle, the majority of respondents were only willing to pay an amount less than $500, regardless of any of the demographic variables. At the time of the survey, the example system would have cost at least $1,500. Thus, designers of systems should strive to keep system costs down. When asked about how much extra they would be willing to pay per day to have the system in a rental vehicle, the majority of respondents indicated they would pay somewhere between $1 and $10. This range is quite reasonable and suggests that the rental car market would be a good one for in-vehicle information systems for tourist use. Women indicated that they would pay slightly more than men to rent the system; as the age group increased, respondents indicated that they would pay less to rent the system; and as education level decreased, respondents were willing to pay more to rent the system.

So that we could assess respondent tourist-travel patterns, the survey included a section for respondents to report on their most recent overnight automobile trip of more than 100 miles away from home in the past year as either a driver or passenger. If the respondent had not taken an overnight automobile trip in the past year, they were instructed to skip this section of the survey.

The results of this section revealed that, overall; the main trip purpose was social/recreational/pleasure or vacation; the majority of people used a personal automobile; they tended to travel with at least one other person; they generally spent one month or less planning for the trip; the total trip mileage was 500 miles or longer; the respondent did all or most of the driving; the trip generally kept them away from home for two or more

nights; most respondents primarily stayed in a hotel/motel or at friend's/relative's home; and the main motivation for the trip was either relaxation, social interaction, or recreation. These findings show that our respondents' tourist-travel patterns were quite similar to the patterns found in previous tourist surveys as discussed in the literature review (see Molnar, Eby, & Hopp, 1996).

We also asked respondents to indicate how important several factors were in choosing the route to the destination on their most recent overnight automobile trip. Overall, all factors received a positive rating except roadside development, scenic byways, and historical/cultural monuments. By far, the most important factor was directness of the route, highlighting the importance of this factor in developing route guidance algorithms for in-vehicle information systems for tourists. There were no consistent differences between men and women on these ratings. Importance ratings increased with increasing age for road conditions and safety. Ratings decreased with age for travel time, stops/delays, and roadside development. Importance ratings decreased with increasing income for all factors except directness, travel time, congestion, stop/delays, and level of stress. Importance ratings decreased with increasing education for all factors except directness, travel time, congestion, and distance.

Finally, we investigated factors that were most important for respondents' satisfaction with their most recent overnight automobile trip. Overall, seven factors received positive ratings: availability/quality of accommodations, safety, road conditions on route, traffic conditions on route, food/restaurants, climate/weather, and scenery. All seven of these factors can be positively enhanced through use of an in-vehicle information system on an overnight automobile trip. Comparing between men and women showed that women indicated higher importance for most factors, but the ordering of the factors was generally the same for men and women. Importance ratings increased with increasing age for availability/quality of accommodations, safety, road conditions on route, and traffic conditions on route. Ratings decreased with age for entertainment and sports/recreation. Importance ratings decreased with increasing income for all factors except availability/quality of accommodations, food/restaurants, local price levels, entertainment,

and sports/recreation. Importance ratings decreased with increasing education for all factors except sports/recreation, museums/cultural attractions, and uniqueness of local way of life.

Guidelines

Based on findings from the literature review and the nationwide survey, we formulated a set of guidelines for development of in-vehicle information systems (IVIS) for the driving tourist.

1. ***IVIS should provide different formats for information, including both pictorial and verbal formats.*** Designing IVIS with multiple options for providing traveler information rather than only one information source (e.g., an electronic map display) is important for several reasons. First, different information formats provide different levels of usefulness, depending on the specific route guidance tasks being undertaken. For example, a linear, verbal means of providing information appears to be more useful for navigating along a route, while a pictorial means of providing information appears to be more useful for determining where one is in relation to the overall geography of a city. Second, relying solely on maps is not people's preferred means of receiving route guidance information. People have difficulty using maps and prefer additional information sources. Third, in planning and taking trips, people make use of a variety of sources of information for route guidance and often use multiple sources.

2. ***IVIS must not only be flexible enough to offer information in a variety of formats, but must also allow users to choose the preferred format at any given time.*** Because of both individual and group differences in traveler information needs and preferences, some level of customization in the design of IVIS (allowing interaction between the system and user) is important. For example, we found important differences between men and women in terms of their information needs and preferences relative to route guidance. With the exception of "travel route shown on map," women consistently gave higher ratings of importance than men to all

possible route guidance features of an IVIS included in our survey. Interestingly, the order of the ratings for features (from highest to lowest) was similar for both men and women with the exception of verbal/written instructions for getting to destination. The mean rating for this feature ranked next to last for men, but fifth (out of 10) for women, indicating a much stronger preference among women for receiving route guidance information in a verbal/written format. Women's ratings of the importance of selected factors in choosing routes on their most recent overnight motor vehicle trip were also significantly higher than those of men, with the exception of directness of route, number of stops and delays, and presence of historical and cultural landmarks. In addition, women's ratings for weather conditions and safety ranked higher than comparable ratings for men and their rating for "presence of scenic byways" ranked slightly lower.

3. ***When designing IVIS for tourists' use, special effort should be made to accommodate the needs and preferences of drivers who are 65 years of age or older.*** This age group represents a unique section of the tourist population--they have time to travel, have a higher proportion of discretionary income, have declining cognitive/perceptual abilities, have strong preferences for driving-related tourism (e.g., scenic byways), and tend to drive with a copilot (Eby & Kostyniuk, 1998). We also found in the survey that this age group has unique information needs and preferences.

4. ***An IVIS for tourist use should include a navigation assistance feature.*** Information about the travel route was the second most frequently sought type of information in our survey and accessibility to a destination, which can be improved through use of navigation assistance, was the most important factor in choosing a destination for people on their most recent overnight automobile trip.

5. ***Routes provided by IVIS should be based on more than just minimizing travel time or distance.*** There appear to be many factors, in addition to travel time or distance, that tourists consider in making decisions about what routes to take to a

destination. Our survey results, for example, indicate that both men and women rated the importance of directness of route above travel time or distance as factors for choosing the route on their most recent overnight motor vehicle trip. Several other factors also received positive ratings including road conditions, safety, weather conditions, amount of congestion, presence of stores, gas stations, and restaurants, numbers of stops and delays, the stress of driving, and scenery. These findings suggest that tourists have in mind more than simply travel time and distance when they think about the best route to their destination. Interestingly, the presence of scenic byways was one of only three factors that did not receive a positive rating by respondents overall. Apparently, scenic byways, designed specifically for driving tourists, are of lesser importance to tourists than other factors in route choice.

6. ***Directions on alternate routes should be included as a route guidance feature of IVIS.*** Making decisions about whether and how to divert from a chosen route, especially in unfamiliar areas, requires more than just information about congestion conditions and travel time on the chosen route. Travelers want specific information about alternate routes before they will divert to an alternate route. In our survey, we found that both men and women assigned positive ratings of importance to a feature of an in-vehicle route guidance system that provided options or recommendations for alternate routes, suggesting a preference for this type of information.

7. ***At a minimum, the service information in an IVIS designed for tourist use should include lodging, food, health, safety, and banking information.*** The survey results showed that these items received the highest ratings by respondents and the literature review showed that tourists frequently report needing and wanting this type of information.

8. ***The type of attraction information to include in a tourist IVIS should be tailored to the target age group for the IVIS.*** The survey data showed that the youngest age group rated amusement parks, recreation areas, and shopping malls as the highest in importance for inclusion in an IVIS, whereas the oldest age group rated scenic

byways, cultural/historical sites, and monument/landmark sites as the highest in importance. In addition, the oldest age group rated the inclusion of senior citizen/other discounts as more important than any other type of attraction information.

9. ***The type of attraction information to include in a tourist IVIS should be tailored to the target education level.*** Several preference differences were found by education level. For example, the survey data showed that the type of attraction rated highest in importance varied as a function of education level. Monuments/landmarks/parks were rated highest by those with less than a high school degree, some college, and a college degree. Scenic byways were rated highest by those with a high school degree. Cultural/historical landmarks were rated highest by those with some graduate school and those with a graduate degree.

10. ***For both services and attractions, the IVIS should be able to provide information about prices, hours of operation, telephone/FAX numbers, and credit card acceptability.*** The survey results showed that these four types of information received the highest overall importance ratings. This result probably stems from the fact that this type of information changes frequently and is therefore difficult for tourists to find from other sources.

11. ***When providing destination information to a driving tourist, the IVIS should include information about the local customs, historical background, geography, unique shopping, and flora/fauna of the area.*** All these types of destination information received positive ratings in the study, with little difference between age groups. Also, two findings from the literature review support this guideline. First, information about local customs can enhance the tourist-host interaction. Second, tourist satisfaction is closely related to expectations of the tourist. By providing accurate and honest information about the customs, history, geography, shopping, wildlife, and plants of a destination area, tourists will be better able to set their expectations appropriately.

12. ***In-vehicle guided tours should be included in a tourist IVIS***. Guided tours have been popular since antiquity and are a mainstay of tourist areas. All of the tour types for an IVIS included in the survey received positive ratings, suggesting that this feature would be positively received by tourists who drive.

13. ***The type of guided tour information in a tourist IVIS should be tailored to the target age group for the IVIS***. The youngest age group rated restaurant, state park, and shopping tours as the most important for inclusion in an IVIS, whereas the oldest age group rated restaurant, scenic byway, and historical tours as the most important. Several other age-related differences were found.

14. ***The general lack of preference differences between men and women suggests that tourist-related IVIS does not need to consider sex differences for service, attraction, and destination information***. The literature review revealed few differences between men and women, including travel preferences, destination choice, information preferences, and tourist health. Further, the survey showed that women generally gave higher ratings to items than men, but the ranking of items was in the same order for both men and women.

15. ***The information content of an IVIS should be educational***. In other words, an effort should be made to educate people about attractions, destinations, and services. Since the literature review revealed that a strong motivation for tourist travel is education, the information content of IVIS should attempt to fulfill this desire.

16. ***Dependable weather condition information should be included in the IVIS, if possible***. The survey showed that weather condition information was a commonly sought type of information during trip planning and was a frequently mentioned factor in route planning and trip satisfaction. Accurate weather information can also enhance safety, another feature of trip satisfaction.

17. ***Dependable road condition information should be included in the IVIS, if possible***. The survey showed that road condition information was a commonly sought type of information during trip planning and was the third most frequently mentioned factor in choosing a route to a destination. Trip satisfaction was heavily influenced by both road and traffic conditions on the route to and from a destination. Thus, accurate information about construction, congestion, roadway surface conditions, and vehicle restrictions can positively influence trip satisfaction.

18. ***An electronic user-guide feature that would step people through what the system can provide and how to utilize the features should be included in IVIS, if possible***. Fewer than 2 percent of people in the survey had ever used an IVIS and only about 10 percent had used computer-related sources of tourist information. While these percentages have undoubtedly increased over the last few years, there will still be a large segment of the population that will have to be trained to use the technology. Some research suggests that one good way to train people to use ITS technology is through an electronic user guide (Eby, 1997, 1999; Eby & Kostyniuk, 1998; Kostyniuk, Streff, & Eby, 1997).

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Appendix A: Publications and Presentations Related to the Project

Publications:

1) Molnar, L.J. & Eby, D.W. (in preparation). *Characteristics of Overnight Automobile Travel: Results of a Nationwide Survey.*

2) Eby, DW. & Molnar, L.J. (in preparation). *Information Sources and Preferences for Planning and Taking Overnight Automobile Trips: A Survey of United States Tourists.*

3) Eby, D.W. & Molnar, L.J. (under review). *In-Vehicle Route Guidance Preferences of Driving Tourists.*

4) Eby, D.W. & Molnar, L.J. (under review). *Importance of Scenic Byways in Route Choice: A Nationwide Survey of Driving Tourists.*

5) Eby, D.W., Molnar, L.J., & Cai, L. A. (1999). Content preferences for in-vehicle tourist information systems: An emerging tourist information source. *Journal of Hospitality & Leisure Marketing*, **6**, 41-58.

6) Eby, D.W. (1999). Use of advanced traveler information systems by older drivers in the United States. In D. Roller (Ed.) *Advances in Automotive and Transportation Technology and Practice for the 21st Century: Surface Transportation Advances and Intelligent Transportation Systems.* (pp. 59-66). Croyden, England: ISATA Düsseldorf Trade Fair.

7) Molnar, L.J. & Eby, D.W. (1999). Preferences for in-vehicle guided tours for the driving tourist. In D. Roller (Ed.) *Advances in Automotive and Transportation Technology and Practice for the 21st Century: Surface Transportation Advances and Intelligent Transportation Systems.* (pp. 429-436). Croyden, England: ISATA Düsseldorf Trade Fair.

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14) Molnar, L.J., Eby, D.W., & Hopp, M.L. (1996). *Developing Information Systems for the Driving Tourist: A Literature Review.* Report No. UMTRI-96-11. Ann Arbor, MI: University of Michigan Transportation Research Institute.

Presentations:

1) Eby, D.W & Molnar, L.J. (2000). Feature preferences for advanced traveler information systems by United States tourists. *ISATA-Automotive and Transportation Technology Conference.* Dublin, Ireland. To be presented in September.

2) Eby, D.W. (1999). Use of advanced traveler information systems by older drivers in the United States. *Special Innovative Conference on Intelligent Transportation Systems and Telemetrics.* Vienna, Austria.

3) Eby, D.W. (1999). The appropriate roles of the public and private sectors in ITS. Panel Member. *Special Innovative Conference on Intelligent Transportation Systems and Telemetrics.* Vienna, Austria.

4) Molnar, L.J. & Eby, D.W. (1999). Preferences for in-vehicle guided tours for the driving tourist. *Special Innovative Conference on Intelligent Transportation Systems and Telemetrics.* Vienna, Austria.

5) Eby, D.W. & Molnar, L.J. (1998) Preliminary guidelines for development of advanced traveler information systems for the driving tourist: Information content. *1998 International Symposium of Automotive Technology and Automation (ISATA).* Düsseldorf, Germany.

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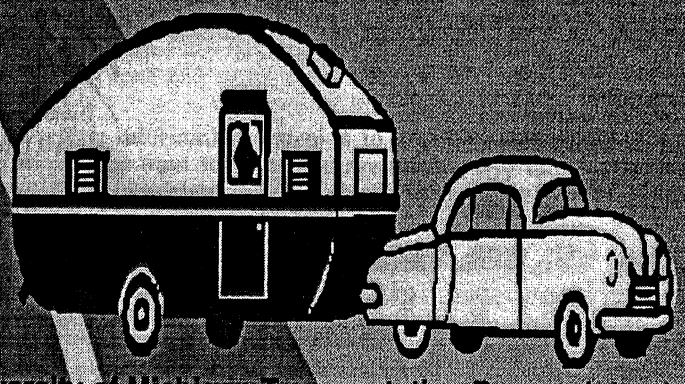
Appendix B: The Overnight Automobile Travel Survey

The Overnight Automobile Travel Survey



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The University of Michigan
Transportation Research Institute

Hello.

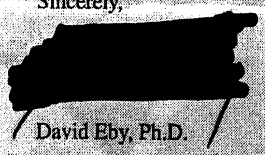
People are traveling in automobiles more now than ever before and they are taking trips that frequently require an overnight stay. By improving our understanding of what people do and what people need on overnight automobile trips, we are hoping to improve the efficiency, safety and enjoyment of these trips!

Your household has been randomly selected to have the opportunity to tell us about your overnight travel. What you have to say about your travel is very important to us. The survey can be completed by you or any adult member of your family that lives in the household.

Participation in this survey is voluntary. If you come to a question you do not wish to answer, please go on to the next question. The information you provide will not be available to anyone except my survey staff and the information will be connected only with an identifying number. You will not be identified in any reports on this study, and all study records will be kept confidential to the extent provided by federal, state, and local law.

I thank you in advance for taking the time to complete the survey and mail it back to us. If you have any questions about the survey, I can be reached at 313-763-2466.

Sincerely,



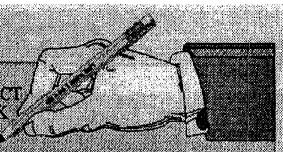
David Eby, Ph.D.
Project Director

MARKING INSTRUCTIONS

- Use number 2 pencil only.
- Make dark marks that fill the oval completely.
- Erase cleanly any mark you wish to change.
- Make no stray marks.

INCORRECT MARKS ⊘ ⊗ ⊖ ⊜

CORRECT MARK ●



In this survey, we are interested in overnight automobile trips of more than 100 miles away from your home, taken as either a driver or passenger. For trips that include both automobile travel and travel by some other means, please think only about the automobile portion of the trip as you answer questions. (For example, if you traveled by airplane from your home to Orlando, Florida, and then rented a car and drove to Disney World, we would be interested only in the portion of your trip that included your automobile travel.) Do not include trips taken in commuting to and from your place of work or school.

If you were to win a week-long, all expenses paid trip of your choice, which would you choose?

- ○ Big game safari
- ○ Dude ranch
- ○ Guided tour of historic ruins
- ○ Health resort
- ○ Ocean cruise
- ○ Religious or spiritual retreat
- ○ Secluded beach resort
- ○ Theme or amusement park
- ○ Other (please specify)_____

Your Use of Travel Information

When planning overnight automobile trips to places you've never been, what types of information do you generally seek? Please select all that apply.

- ○ Cultural
- ○ Entertainment
- ○ Food or restaurant
- ○ Health care service
- ○ Historical
- ○ Lodging
- ○ Road condition
- ○ Scenic byways
- ○ Shopping
- ○ Spiritual or religious
- ○ Sports or recreational
- ○ Travel route
- ○ Weather condition
- ○ Other (please specify)_____

Which of the following have you used for planning or taking overnight automobile trips? Please select all that apply.

- ○ Billboards or signs
- ○ Electronic ticketing
- ○ In-vehicle information systems
- ○ Maps
- ○ Newspapers, magazines, or brochures
- ○ Personal computer on-line service
- ○ Radio
- ○ Recommendations of family or others
- ○ Rest stop information centers
- ○ Travel agents
- ○ Travel services or clubs
- ○ Television
- ○ Virtual reality or simulated experience
- ○ Other (please specify)_____

Information Systems for Your Automobile

This section has to do with technology called in-vehicle information systems that help travelers plan and take trips. In-vehicle information systems can both show you and tell you information about navigation, services, attractions, and destination characteristics, and give you in-vehicle guided tours. These systems can be attached to the automobile itself or come as part of a portable computer.

As you answer these questions, please think about in-vehicle information systems as they might be used for overnight automobile trips of more than 100 miles away from your home, taken as either a driver or passenger. For trips that include both automobile travel and travel by some other means, please think only about the automobile portion of the trip as you answer questions. Do not include trips taken in commuting to and from your place of work or school.

One possible feature of an in-vehicle information system is to provide route guidance, including turn-by-turn instructions to where you want to go as you are driving and information on travel routes and traffic conditions. How important would it be for this feature--*route guidance*--to include the following? For each factor, please indicate its importance to you.

	Not Very Important				Extremely Important
Selecting best route to your destination	①	②	③	④	⑤
Verbal or written instructions for getting to destination	①	②	③	④	⑤
Travel route shown on a map	①	②	③	④	⑤
Presence of construction	①	②	③	④	⑤
Traffic congestion on route	①	②	③	④	⑤
Time or distance on route	①	②	③	④	⑤
Road conditions	①	②	③	④	⑤
Weather conditions	①	②	③	④	⑤
Identification of scenic byways	①	②	③	④	⑤
Options or recommendations for alternate routes	①	②	③	④	⑤

What other types of information would you be interested in having available as part of a *route guidance* feature of an in-vehicle information system?

Another possible feature of an in-vehicle information system is to provide *information on services* you may find in the area, including several types of services and information about the services. How important would it be for this feature-- *information on services*--to include the following?

For *each type of service*, please indicate its importance to you.

	Not Very Important				Extremely Important
Lodging and food services	1	2	3	4	5
Police and fire departments	1	2	3	4	5
Banks and automated money tellers	1	2	3	4	5
Government offices	1	2	3	4	5
Libraries	1	2	3	4	5
Schools	1	2	3	4	5
Churches and synagogues	1	2	3	4	5
Hospitals and health care providers	1	2	3	4	5
Pharmacies	1	2	3	4	5

For *each type of information* about the services, please indicate its importance to you.

	Not Very Important				Extremely Important
Telephone and FAX number	1	2	3	4	5
Hours of operation	1	2	3	4	5
Prices	1	2	3	4	5
Amenities	1	2	3	4	5
Handicap access	1	2	3	4	5
Credit card acceptability	1	2	3	4	5
Travel club ratings	1	2	3	4	5
Senior citizen and other special discounts	1	2	3	4	5

What other types of services or information about those services would you be interested in having available as part of a *service information* feature of an in-vehicle information system?

Another possible feature of an in-vehicle information system is to provide *information on destination attractions*, including several types of attractions and information about the attractions. How important would it be for this feature--*information on destination attractions*--to include the following?

For *each type of attraction*, please indicate its importance to you.

	Not Very Important				Extremely Important
Nightclubs and bars	1	2	3	4	5
Breweries, brewpubs, and wineries	1	2	3	4	5
Museums and galleries	1	2	3	4	5
Cultural and historical landmarks	1	2	3	4	5
Performance art	1	2	3	4	5
Festivals, fairs, and carnivals	1	2	3	4	5
Tours	1	2	3	4	5
Health and fitness centers	1	2	3	4	5
Sports arenas and facilities	1	2	3	4	5
Recreation areas	1	2	3	4	5
Monuments, landmarks, and parks	1	2	3	4	5
Scenic byways	1	2	3	4	5
Theme and amusement parks	1	2	3	4	5
Shopping malls	1	2	3	4	5

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For *each type of information* about the attractions, please indicate its importance to you.

	Not Very Important				Extremely Important
Telephone and FAX numbers	1	2	3	4	5
Hours of operation	1	2	3	4	5
Prices	1	2	3	4	5
Amenities	1	2	3	4	5
Handicap access	1	2	3	4	5
Credit card acceptability	1	2	3	4	5
Travel club ratings	1	2	3	4	5
Senior citizen and other special discounts	1	2	3	4	5

What other types of attractions or information about those attractions would you be interested in having available as part of a *destination attraction information* feature of an in-vehicle information system?

Another possible feature of an in-vehicle information system is to provide information on destination characteristics, including history, culture, climate, and other characteristics. How important would it be for this feature--*information on destination characteristics*--to include the following? For *each* characteristic, please indicate its importance to you.

	Not Very Important				Extremely Important
Major historical events	1	2	3	4	5
Background of local people	1	2	3	4	5
Descriptions of famous local people	1	2	3	4	5
Local customs that tourists may not know	1	2	3	4	5
Products for which area is known	1	2	3	4	5
Political conditions	1	2	3	4	5
Geography of area	1	2	3	4	5
Wildlife, plants, and trees	1	2	3	4	5

What other types of information would you be interested in having available as part of a *destination characteristic information* feature of an in-vehicle information system?

Another possible feature of an in-vehicle information system is to provide in-vehicle guided tours. With this feature, you could select a specialized tour of an area and the system would assist you in getting to each point of interest on the tour as well as provide a narrative description including sounds and pictures. Because the system would always know your location, the tour information would be appropriate for the point of interest you were visiting. How interesting would each of the following types of tours be to you? For each type of tour, please indicate its interest for you.

	Not Very Important				Extremely Important
Brewpubs	1	2	3	4	5
Fall foliage	1	2	3	4	5
Gaming	1	2	3	4	5
Historical	1	2	3	4	5
Horticulture sites	1	2	3	4	5
Native American lands and landmarks	1	2	3	4	5
Lighthouses	1	2	3	4	5
Performing arts	1	2	3	4	5
Restaurants	1	2	3	4	5
Scenic byways	1	2	3	4	5
Shopping	1	2	3	4	5
State parks	1	2	3	4	5
Wildlife	1	2	3	4	5
Wineries	1	2	3	4	5

What other tours would you be interested in having available as part of an *in-vehicle guided tour* feature of an in-vehicle information system?

_____

_____

Assuming that you could buy an in-vehicle information system for tourists that provided route guidance, information on services, attractions, and destination characteristics, and in-vehicle guided tours, what is the most you would be willing to pay *to buy* the system for your present automobile?
$_____

What is the most you would be willing to pay per day, in addition to the cost of an automobile rental, *to rent* the in-vehicle information system?
$_____Per day

You and Your Household

How old were you on your most recent birthday? AGE

Are you: ○ Male ○ Female

What is your marital status?

- ○ Married
- ○ Single, never married
- ○ Divorced
- ○ Separated
- ○ Widowed

What is the highest level of education you have completed?

- ○ Less than high school
- ○ High school diploma (or equivalent)
- ○ Some college
- ○ College degree
- ○ Some graduate education
- ○ Graduate degree or higher

Including yourself, how many adults, age 18 and older, live in your household at the present time? _____

How many children, under age 18, live in your household at the present time? _____

In the past 12 months, what was the total income of all adult family members living in your household?

- ○ Less than $5,000
- ○ $5,000 to less than $15,000
- ○ $15,000 to less than $25,000
- ○ $25,000 to less than $35,000
- ○ $35,000 to less than $45,000
- ○ $45,000 to less than $55,000
- ○ $55,000 to less than $65,000
- ○ $65,000 to less than $75,000
- ○ $75,000 or more

Where is your primary residence?

STATE

ZIP CODE

Most Recent Overnight Automobile Trip

For this section, we are interested in the most recent overnight automobile trip of more than 100 miles away from your home, that you took during the past 12 months, either as a driver or passenger. For trips that included both automobile travel and travel by some other means, please think only about the automobile portion of the trip as you answer questions. Do not include trips taken in commuting to and from your place of work or school.

IF YOU DID NOT TAKE AN OVERNIGHT AUTOMOBILE TRIP DURING THE PAST 12 MONTHS, SKIP TO LAST QUESTION ON SURVEY.

Thinking only of your most recent overnight automobile trip, what was the *main* purpose of this trip? Select only one response.

- ○ Work-related business
- ○ Shopping
- ○ Other family or personal business
- ○ Combined business and pleasure
- ○ Vacation
- ○ Visit with friends or relatives
- ○ Pleasure driving
- ○ Other social or recreational
- ○ Other (please specify)_____

What was the *main* type of automobile used for this trip? Select only one response.

- ○ Auto or truck without camping equipment
- ○ Auto or truck with camper trailer or camping equipment
- ○ Rental car
- ○ Self contained recreational vehicle
- ○ Motorcycle
- ○ Company car
- ○ Other (please specify)_____

Did anyone accompany you on this trip?

○ Yes ○ No → IF NO, SKIP THE NEXT QUESTION

What is the age, gender, and relationship of each person who accompanied you in the automobile on this trip?

Person 1: Age_____	○ Male	○ Female	○ Family member	○ Nonfamily member
Person 2: Age_____	○ Male	○ Female	○ Family member	○ Nonfamily member
Person 3: Age_____	○ Male	○ Female	○ Family member	○ Nonfamily member
Person 4: Age_____	○ Male	○ Female	○ Family member	○ Nonfamily member
Person 5: Age_____	○ Male	○ Female	○ Family member	○ Nonfamily member
Person 6: Age_____	○ Male	○ Female	○ Family member	○ Nonfamily member

How long before this trip did you begin planning for the trip?

- ○ No planning involved
- ○ Less than one month before trip
- ○ 2-3 months before trip
- ○ 4-5 months before trip
- ○ 6-12 months before trip
- ○ More than 12 months

In what state did this trip start?

STATE

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What was the farthest point you traveled to on this trip? State or Province _____

How many miles did you travel on this trip? Miles for total trip _____

Miles for automobile portion of trip _____

How much of the driving did you personally do on this trip?

- ○ None
- ○ Some
- ○ Most
- ○ All

How many nights did you spend away from home on this trip?

- ○ 1
- ○ 2-3
- ○ 4-9
- ○ 10-14
- ○ 15 or more

In what type of lodging did you stay *most frequently* on this trip? Select only one response.

- ○ Friend's or relative's home
- ○ Hotel, motel
- ○ Bed and breakfast
- ○ Rented cabin, condo, or vacation home
- ○ Owned cabin, condo, or vacation home
- ○ Camper, trailer, recreational vehicle, tent
- ○ Military housing
- ○ Dormitory housing or hostel
- ○ Corporate-owned lodging
- ○ Enroute--did not stay anyplace overnight
- ○ Other (please specify)_____

On this trip, what was your *main* motivation for travel? Select only one response.

1 ○ Adventure or exploration
2 ○ Business
3 ○ Education
4 ○ Entertainment
5 ○ Health
6 ○ Novelty or change
7 ○ Prestige or status
8 ○ Recreation
9 ○ Relaxation
10 ○ Social interaction
11 ○ Spiritual or religious fulfillment
12 ○ Other (please specify)_____

On this trip, how important were the following factors in *choosing the destination*? For *each* factor, please indicate its importance in choosing the destination.

	Not Very Important				Extremely Important
Accessibility to destination	1	2	3	4	5
Attitudes toward tourist	1	2	3	4	5
Availability and quality of accommodations	1	2	3	4	5
Availability and quality of local transportation	1	2	3	4	5
Climate and weather conditions	1	2	3	4	5
Communication difficulty due to language barriers	1	2	3	4	5
Entertainment	1	2	3	4	5
Festivals and special events	1	2	3	4	5
Food and restaurants	1	2	3	4	5
Historical attractions	1	2	3	4	5
Local price levels	1	2	3	4	5
Museums and cultural attractions	1	2	3	4	5
Safety	1	2	3	4	5
Scenery	1	2	3	4	5
Shopping	1	2	3	4	5
Sports and recreational opportunities	1	2	3	4	5
Uniqueness of the local people's way of life	1	2	3	4	5

On this trip, how important were the following factors in *choosing the route to your destination*? For *each* factor, please indicate its importance in choosing the route.

	Not Important				Extremely Important
Amount of congestion	1	2	3	4	5
Directness of route	1	2	3	4	5
Distance	1	2	3	4	5
Number of stops and delays	1	2	3	4	5
Presence of historical and cultural landmarks	1	2	3	4	5
Presence of scenic byways	1	2	3	4	5
Presence of stores, gas, restaurants	1	2	3	4	5
Road conditions	1	2	3	4	5
Roadside development	1	2	3	4	5
Safety	1	2	3	4	5
Scenery	1	2	3	4	5
Stress of driving	1	2	3	4	5
Travel time	1	2	3	4	5
Weather conditions	1	2	3	4	5

On this trip, how important were the following factors in your *overall satisfaction with the trip*? For *each* factor, please indicate its importance to you.

	Not Important				Extremely Important
Attitudes toward tourist	1	2	3	4	5
Availability and quality of accommodations	1	2	3	4	5
Availability and quality of local transportation	1	2	3	4	5
Climate and weather conditions	1	2	3	4	5
Communication difficulty due to language barriers	1	2	3	4	5
Entertainment	1	2	3	4	5
Festivals and special events	1	2	3	4	5
Food and restaurants	1	2	3	4	5
Historical attractions	1	2	3	4	5
Local price levels	1	2	3	4	5
Museums and cultural attractions	1	2	3	4	5
Road conditions on travel route	1	2	3	4	5
Safety	1	2	3	4	5
Scenery	1	2	3	4	5
Shopping	1	2	3	4	5
Sports and recreational opportunities	1	2	3	4	5
Traffic conditions on travel route	1	2	3	4	5
Uniqueness of local way of life	1	2	3	4	5

Do you have any additional comments about your overnight automobile travel?

Thank you very much for taking the time to answer these questions. Please mail the completed questionnaire in the enclosed envelope or send it to:

Social and Behavioral Analysis
The University of Michigan Transportation Research Institute
2901 Baxter Road Ann Arbor, MI 48109-2150

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