FINAL REPORT

Traveler Information Services in Rural Tourism Areas
Appendix A: Tourist Intercept Surveys

Prepared for:

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1.0 INTRODUCTION AND BACKGROUND

The Branson Travel and Recreational Information Program (Branson TRIP) in Branson, Missouri, and the I-40 Traveler and Tourist Information System (I-40 TTIS) in northern Arizona are field operational tests (FOTs) being conducted through partnerships involving state and federal agencies and private organizations. The FOTs are funded in part by the National Advanced Rural Transportation Systems program. The focus of these FOTs is to provide the traveling public, especially tourists, with information about traffic and travel conditions, national and state parks, local events and attractions, and accommodations. These tests will demonstrate the degree to which Advanced Traveler Information Systems (ATIS) can improve traveler mobility and access, relieve congestion, and stimulate economic development in rural tourism areas.

Branson TRIP is a regional traveler information system that will provide comprehensive information on tourist attractions, weather, traffic, and road construction in the Branson/ Tri-Lakes area. Each year, over six million visitors are attracted to the Branson area because of the availability of over 38 live music and entertainment theaters, numerous outlet malls and shopping centers, and various outdoor recreation opportunities. The TRIP system is envisioned as the first phase of the Great Plains TRIP, which will encompass Nebraska, Iowa, Kansas, Missouri, Oklahoma, and Arkansas.

The I-40 TTIS will collect, process, and disseminate weather, road condition, and traveler information to I-40 corridor travelers. I-40 is an east-west interstate highway that crosses northern Arizona. Average daily traffic is more than 25,000 vehicles per day, including about 10,000 commercial vehicles. The I-40 corridor is the primary access to the Grand Canyon and over 20 other major national parks, monuments and recreation areas. Significant changes in elevation and adverse weather conditions occur along the corridor. Like Branson TRIP, the I-40 TTIS links existing and new data sources to provide tourists and travelers with information before departure, while en route, and at designated local sites. Information is available through systems managed by public and private organizations.

As with all ITS Operational Tests, the Joint Program Office of DOT's FHWA conducted an independent evaluation of the project. Battelle was selected to perform the evaluation. In all, there were five components of the evaluation. Section 1.1 provides an overview of the overall evaluation strategy while the remainder of this report discusses one component, Tourist Intercept Surveys, in more detail. Results from the other four components are discussed in Volumes II-V of this report.

1.1 Overview of the Overall Evaluation Strategy

The evaluation was designed to address technical challenges of developing advanced traveler information systems (ATIS) in rural environments, institutional benefits and issues, usefulness of the information to the traveling public, effectiveness of various media in

disseminating information to the public, and the overall impact of the information on traveler behavior. Specifically, the evaluation addresses five goal areas: mobility, access, congestion, economic development, and safety. The key measures associated with these goals are listed in the table below.

Table 1.1 Evaluation Goal Areas and Measures

Evaluation Goal Areas (Focus)	Evaluation Measures
Mobility (Traveler)	- Travel Time - Perceived Ease of Travel - Customer Satisfaction
Access (Destinations)	- Knowledge of Travel Options - Use of Alternative Modes and Routes - Perceived Availability of Options
Congestion (Transportation System)	- Number of Delays - Level of Service - Perception of Delay Frequency and Severity
Economic Development (Region)	- Duration of Visit - Intent to Return
Safety (Traveler)	- Number of Emergency Calls - Amount of Safety Information Available

The evaluation provides valuable information on the mechanisms for improvement in these areas. For example, the evaluation answers such questions as, "Are tourists aware of and using components of ITS? Which components of the deployed ITS are being used? Is the information obtained by tourists accurate and understandable? Does the information change tourists' travel behavior or plans? Does this technology improve the overall experience of the tourist?"

The evaluation strategy and approach were developed in cooperation with local partners. Separate evaluation workshops were conducted with the I-40 and Branson teams to prioritize the evaluation goals. Both workshops included representatives from the state and federal Departments of Transportation. The Branson workshop also included private partners and representatives from several participating communities. Despite the differences in participant make-up of the workshops, the conclusions were very similar. Both teams considered assessing improvements in visitor satisfaction the most important evaluation goal. Evaluating improvements in efficiency of the transportation system was the second highest priority for both teams.

The teams also agreed on the overall approach to conducting the evaluations. Four evaluation tests were conducted for each FOT site. These tests combined primary and secondary data collection and analyses for evaluating benefits and outcomes. At both sites, tourist intercept

surveys, focus groups and personal interviews, and system and historical data analysis were performed. The tourist intercept surveys collected primary data on user awareness and satisfaction. The focus groups and personal interviews provide more in-depth perspectives on issues affecting deployment, awareness, and use of the technology, as well as additional information on behavioral responses. The systems data was used to document the type, content, and sources of information made available through the various input systems and characterize the use of various user interfaces.

The fourth test at each site was to focus on specific traffic management issues. In Branson, a travel time/data accuracy study was to be conducted to assess the accuracy of travel information and estimate the travel time saved as a result of traffic routing recommendations. An I-40 route diversion study was conducted to evaluate behavioral responses to variable message signs (VMS) in a rural environment.

1.2 Objectives of the Tourist Intercept Surveys

The rural ITS test site programs (I-40 TTIS and Branson TRIP) have five central objectives: to improve mobility, increase awareness, reduce congestion, stimulate economic development, and improve safety (see Section 1.1). To evaluate the extent to which the ITS deployment has fulfilled these objectives, information was collected from tourists, the target population of the ITS deployments.

The intercept surveys were designed to obtain specific information on each of the five central evaluation objectives (mobility, access, congestion, economic impact, and safety). For example, the survey obtained from tourists measures of the perceived ease of travel (mobility), trip times (mobility), awareness of travel options (access), the perceived number and duration of delays (congestion), intent to return (economic impact), and perceived improvements to safety (safety). The surveys also were designed to collect information that could be used to assess awareness and use of the various ITS components and the performance of those components in providing accurate, understandable, and useable information. Table 1.2 summarizes the specific hypotheses and the evaluation measures that were collected by surveying tourists for each of the five central evaluation objectives and the two additional evaluation areas.

Table 1.2 Hypotheses and Evaluation Measures Related to the Tourist Intercept Surveys

Evaluation Area	Hypotheses	Evaluation Measures
ITS Awareness and Use	At least 25% of tourists are aware of at least one ITS component	Percentage of respondents reporting awareness
	At least 10% of tourists use at least one ITS component	Percentage of respondents reporting usage
System Performance	Over 80% of tourists using a specific component receive accurate, understandable, and easy to obtain information	Percentage of respondents indicating that the system is accurate, understandable, and easy to use.
Mobility	Tourists using ITS components will have a more satisfying travel experience than those that do not	Proportion of respondents indicating satisfaction with travel conditions
	Using ITS components will save time for tourists	Proportion of respondents indicating that the information saved time
	Using ITS components will make travel easier for tourists	Proportion of respondents agreeing that ITS made it easier to travel and avoid congestion Reported number of stops for directions
Access	Tourists will use alternative routes as a result of obtaining information from a deployed ITS component	Percentage of respondents who indicate use of alternative route
	Tourists will visit alternative attractions as a result of obtaining information from a deployed ITS component	Percentage of respondents indicating a change in attractions due to ITS
	Tourists using a deployed component of ITS will be more aware and able to visit more attractions than will non-users	Reported number of attractions visited
Congestion	The ITS components will help tourists avoid congestion	Percentage of respondents indicating that congestion was avoided
	Tourists using ITS will experience fewer and shorter delays	Reported number and length of delays
Economic Development	Tourists using an ITS component are more likely to return than tourists who do not use ITS	Percentage of respondents indicating an intent to return
	Tourists using components of the ITS will stay longer and spend more than will tourists who do not use an ITS component	Reported number of overnight stays and expenditures
	Tourists using ITS components will use them again and would be willing to pay a fee for such information	Percentage of respondents agreeing that they would use the source again and would pay a fee for use
Safety	ITS will improve travelers' perceptions of safety	Percentage of respondents agreeing that the highways are safe

2.0 OVERVIEW OF STUDY DESIGN AND METHODS

Information was collected from tourists using three different survey instruments: a screening instrument (screener questionnaire), a more extensive questionnaire (main questionnaire), and a qualitative supplement. The screening questionnaire was short, interviewer administered, and completed by all tourists intercepted in Branson and Northern Arizona. The main questionnaire was self-administered, collected more information, but was given only to a subset of tourists (640 tourists in Branson and 813 tourists in Northern Arizona). The qualitative supplement was used to obtain in-depth information from a very small number of tourists during the initial phase of data collection.

For each FOT, tourists were surveyed during two separate data collection periods. In both data collection periods, information from tourists was collected using an "intercept" approach. In this survey technique, information is collected by "intercepting" tourists as they enter or leave a pre-specified attraction or location. In particular, tourists were intercepted as they arrived at a site, or arrived at their vehicles prior to leaving, during their stay at a local hotel, and at information centers. At each site, the data collection team attempted to intercept one person from each traveling party or vehicle to complete a screening questionnaire. Following the completion of the screening questionnaire, all respondents were asked to complete the more lengthy main questionnaire.

The collected questionnaires were reviewed on-site and again prior to data entry for completeness, accuracy, and consistency. Following the review, information from the questionnaires was entered and converted to a database suitable for analysis.

Additional highlights to the study design include:

- Teams of two or three interviewers were used to intercept tourists as they entered or left an attraction or hotel.

- Each team intercepted tourists at one or more locations (different locations for each team).

- Tourists were intercepted during a two-day period in early summer and a four-day period in late summer/early fall.

- Each team intercepted tourists for 6-8 hours each day, with the goal of obtaining 10 completed main questionnaires per hour.

The remainder of this chapter provides a summary of four main aspects of the study design: Target Population, Recruitment/Intercepts, Selection of Sampling Sites and Times, and the Questionnaires. Additional details on the sampling design and methodology are contained in "The I-40 TTIS (Traveler and Tourist Information System Tourist Intercept Survey: Test Plan," and "The Branson TRIP (Travel and Recreational Information Program) Tourist Intercept Survey: Test Plan."

2.1 Target Population

The focus of the Arizona I-40 Traveler and Tourist Information System (TTIS) and the Branson Travel and Recreational Information Program (TRIP) is to provide the traveling public with current, accurate information on traffic and travel conditions as well as tourist information such as national and state park information, local events, attractions, and accommodations. With an emphasis on ITS applications surrounding national or state parks and tourist areas, the objectives of the rural FOTs are to determine the degree to which Advanced Traveler Information Systems (ATIS) can improve mobility and access, relieve congestion, and thereby, stimulate economic development in rural environments. With these objectives, tourists were the primary target population of interest. Although local residents may also benefit from the deployment of ATIS, it is the unfamiliar traveler (i.e., tourists) which were targeted for receiving the most benefit from ATIS.

Both FOT sites receive a major influx of tourists each year. Over six million visitors are attracted to the Branson area because of the availability of over 38 live music and entertainment theaters, outlet malls and shopping centers, and various outdoor recreation opportunities. Along the I-40 corridor in Arizona, the average daily traffic is more than 25,000 vehicles per day, including about 10,000 commercial vehicles. The I-40 corridor is the primary access to the Grand Canyon and over 20 other major national parks, monuments, and recreational areas. Most of these tourists visit the Branson or I-40 areas during the summer months and reported delays and congestion problems are more apparent during the summer. Therefore, the evaluation attempted to focus on assessing the effects of deploying ATIS during this peak travel period. Due to delays in the deployment, the tourist intercept surveys were not conducted in Branson until early fall. One effect of this delay was that different types of tourists were surveyed at each FOT. For example, tourists surveyed along the I-40 corridor were generally younger and were more likely to be traveling with children. Tourists surveyed in Branson were more likely to be older and traveling without children.

2.2 Recruitment/Intercepts

As described in Section 2.0, an intercept approach was used to identify and collect information from tourists. Each data collection team employed a seven-step process to survey tourists: (1) interception, (2) determining eligibility, (3) recruitment, (4) completion of the main questionnaire, (5) on-site data quality procedures, (6) distribution of incentives, and (7) identification of participants for qualitative interviews and/or focus groups. In the pilot phase participants were identified only for personal qualitative interviews. During the main phase, participants were identified for both personal interviews and focus groups (details on the focus groups and personal interviews that will be completed during the main phase of data collection are presented in a separate report). Each of the team members had separate responsibilities. One or two team members served as a “screening interviewer(s)” responsible for intercepting tourists, determining eligibility, and recruiting tourists, while the other team member (the “questionnaire administrator”) oversaw the completion of the main questionnaire, performed on-site data quality procedures, distributed the incentives, and identified participants for personal interviews/focus groups. Depending upon the survey team, the interviews operated interchangeably as screening

interviewers and questionnaire administrators; sometimes fulfilling both roles. The following summarizes the seven-step process, illustrated in Figure 2.1, by which tourists were intercepted, recruited, and surveyed.

Step 1: Interception The screening interviewer(s) were responsible for "intercepting" and the initial recruitment of tourists. Upon approaching a potential participant, the screening interviewer(s) introduced themselves and gave a brief explanation of the study. A pre-determined script was available for this initial contact, but most interviewers employed their own method for initiating contact and then used the prepared script for introducing the study.

Step 2: Determination of Eligibility Eligibility in the study was determined using a one-page questionnaire. Each question was read to the participant by the screening interviewer. Illustrations of the deployed ATIS components were also shown to the respondent to minimize confusion. Tourists were eligible for completion of the main questionnaire if they were tourists, drove into the area, and did not have language problems or any other difficulties that would prohibit the completion of the main questionnaire.

Step 3: Recruitment If the respondent was eligible for the study, the screening interviewer endeavored to recruit eligible participants to complete the main questionnaire. Typically this was not a scripted dialog but a free flowing discussion covering key elements such as: additional details on the study, an estimated time for completion (the main questionnaire took on average 10 minutes to complete), and mention of the incentives.

Step 4: Completion of the Main Questionnaire The questionnaire administrator was responsible for all aspects related to the completion of the main questionnaire. This consisted of: (1) receiving the eligible tourists identified by the screening interviewer at a pre-determined location, (2) transferring the unique identifier from the screener form to a main questionnaire form, (3) directing the tourist on how to complete the form and what to do with it once they are finished, and (4) answering questions from participants in the process of completing a questionnaire.

Step 5: On-Site Data Quality Procedures The questionnaire administrator reviewed all screening and questionnaire forms for completeness and accuracy. This review was conducted to ensure that the respondent did not inadvertently miss survey questions. If missing questions were identified, the questionnaire administrator attempted to question the respondent to obtain the response.

Step 6: Distribution of Incentives Following the successful completion of a main questionnaire and subsequent review, the questionnaire administrator was responsible for distributing the incentives. For the I-40 data collection, incentives consisted of illustrated rim guides, grand canyon buttons, traveler magazines, and coupons for discounted refreshments. In Branson, similar incentives were employed.

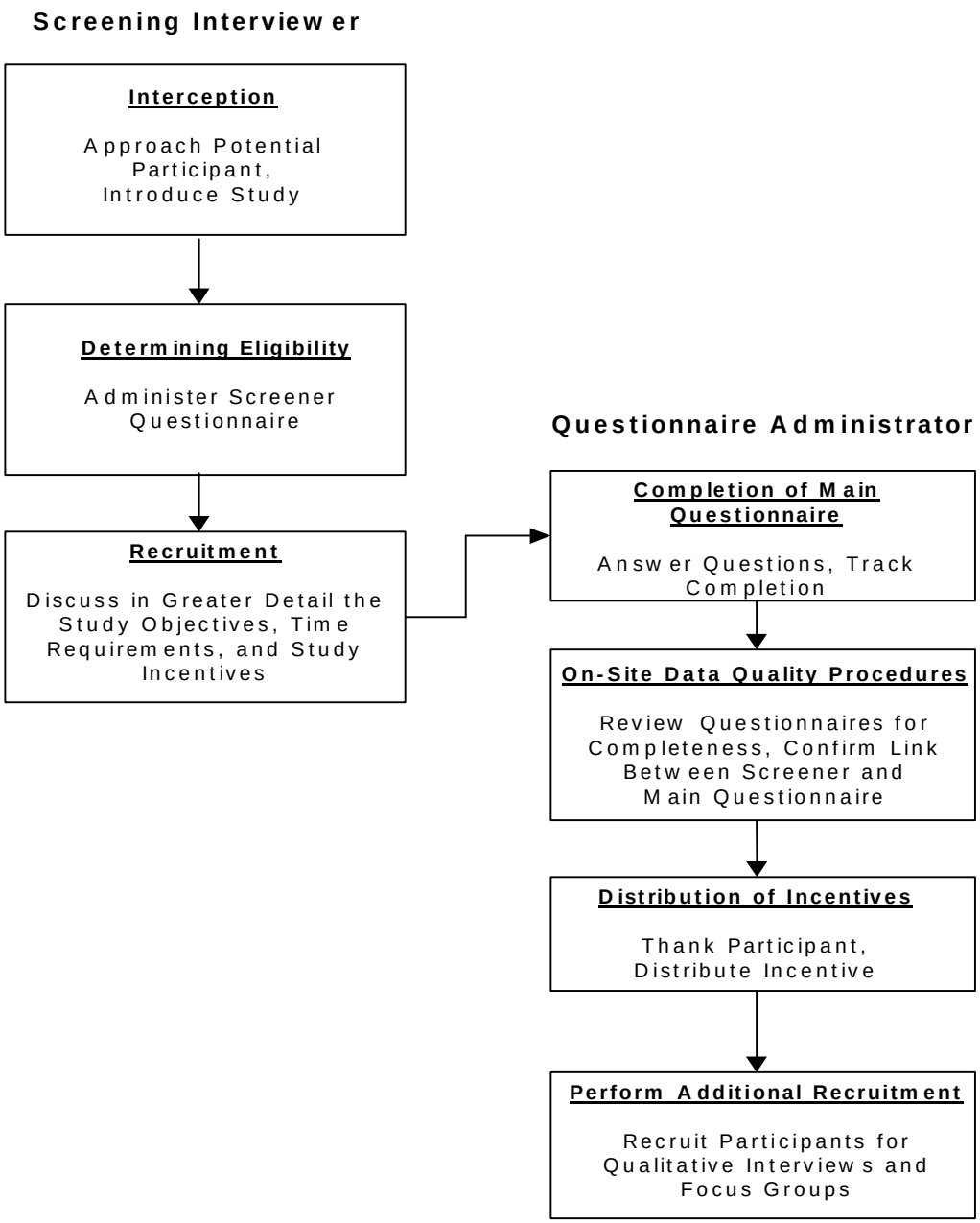


Figure 2.1 Sampling Approach for Surveying Tourists

Step 7: Identification of Participants for Focus Groups/Personal Interviews

Participants were identified for personal interviews and focus groups while they were receiving their incentives. Personal interviews were used during the pilot data collection phase as a pre-test for the focus groups which were conducted during the main phase of data collection. Very few tourists were identified for focus groups using this method. Most tourists that

participated in focus groups and/or personal interviews in the main data collection period were identified using other methods.

2.3 Selection of Sampling Sites and Times

As discussed in previous sections, tourists were surveyed twice for each FOT. Once for two days in early summer for the pilot phase of data collection and again for four days during late summer/early fall for the main phase of data collection. The pilot data collection phases were performed on June 19-20, 1998, and June 26-27, 1998, for the I-40 and Branson FOT, respectively. The main data collection phase was conducted on August 7-10, 1998, for I-40 and September 25-28, 1998, for Branson. Appendix E contains the specific sampling locations and times for each phase of data collection.

In both I-40 and Branson, the key objective of the pilot phase was to obtain the maximum amount of information on unknown issues surrounding sampling tourists at locations in the area. As such, it was desirable to maximize the learning experience by conducting intercept sampling under a variety of conditions and at several locations. These experiences were then used to guide the selection of the most productive and appropriate sites for the main phase of data collection.

The Grand Canyon National Park (GCNP) is by far the largest tourist attraction along the I-40 corridor. Therefore, sampling locations in both the pilot and main data collection phase were focused on locations in the GCNP and in the surrounding area. Similarly in Branson, there was an emphasis on conducting the tourist intercepts at the two largest tourist attractions: Silver Dollar City and Shepherd of the Hills. Additional sampling locations in I-40 and Branson were selected based upon prior knowledge or through random selection.

2.4 Questionnaires

Two main types of questionnaires were employed in this study: an interview-administered screener and a self-administered main questionnaire. Additionally, a third less focused questionnaire was used in a limited fashion during the pilot phase to obtain some qualitative information from tourists. Although every attempt was made to finalize the questionnaire before any data collection began, some modifications were made to the questionnaires throughout the course of the study. As expected, the vast majority of these changes were made following the first data collection effort. Therefore, the wording and content of the questionnaires employed during the Arizona pilot phase differ in some respects from those used in the other three data collection periods. Appendix A contains the questionnaires used in each data collection period.

The screener questionnaire was designed as a single page instrument with the primary objectives of determining eligibility and assessing the level of awareness and use of ATIS technologies by the respondents. As discussed in Section 2.2, the screener questionnaire was interview administered. When determining the awareness and use, the interviewer was instructed to show the respondent an example picture of the ATIS component in question. This illustration was included in the interviewing process as a means of focusing the respondent on the particular ATIS component deployed as part of the FOT.

The main questionnaire was a three-page self-administered instrument. That is, each respondent was asked to independently read and indicate their responses on the questionnaire. Although interview administered questionnaires typically have higher quality responses than do self-administered questionnaires, this method was adopted so that the maximum number of tourists could be sampled during a given time period.

Except for questions pertaining to determining the eligibility status and demographic questions, each question in the questionnaires pertained to one of the evaluation areas. Table 2.1 provides a link between the questions in each questionnaire and an evaluation area. The last four columns give the specific question number for each questionnaire. Question numbers beginning with an "S" are contained on the screener questionnaire.

Table 2.1 Questions by Evaluation Area

QUESTION	I-40 Pilot	Branson Pilot	I-40 Main	Branson Main
Demographic and Prior Knowledge				
Prior to making this visit, how familiar would you say you were with each of the following electronic highway traffic management technologies?	15	15	16	16
In what year were you born?	16	16	17	17
What is the highest level of education you have completed?	17	17	18	18
What is your home zip code in the U.S.?	18	18	19	19
Do you regularly access the world-wide-web/Internet once a week or more often either at home or at work?	--	19	14	20
[Which] Are you: Female/Male	19	20	20	21
Did you use any of the following sources of travel and traffic information in addition to the ones we asked about on page one?	2	2	2	2
Are you a tourist here or do you live and work in the area?	S1	S1	S1	S1
In coming to this part of Arizona (Branson area), did you drive, take a tour bus, or how did you get here?	S2	S2	S2	S2
[In coming to this part of Arizona] Did you drive here on I-40, I-17, or any other route?	S2A	--	--	--
How many people are traveling in your party?	S3	S3	S3	S3
In your party, who was the person mostly in charge of figuring out how to get here and how to get around?	S4	S4	S4	S4
Are you staying overnight within an hour's drive of this location?	S5	S5	S5	S5
[what type of lodging] Are you staying in?	S5A	S5A	S5A	S5A
What state or country are you from?	S6	S6	S6	S6
Awareness and Usage				
Have you heard of a special system used in the Branson area to provide travel and traffic information to tourists, such things as traffic and construction delays on routes into town, the hotels and shows available, and other tourist information?	--	S7	--	S7
Do you remember the name of the system?		S7A		S7A
The system if called TRIP. Have you heard of that?		S7B		S7B
Either before you left on your visit or while driving here, were you aware of any of the following items, regardless of whether you actually used them:				
Toll-free Number	S7A	--	S7A	S8A
Website	S7B	S8A	S7B	S8B
Kiosk	S7C	S8B	S7C	S8C
Variable Message Sign	S7D	S8C	S7D	S8D
Radio/ or Television (I-40)	S7E	S8D	S7E	S8E
Color Coded Alternative Routes (Branson)	--	S8E	--	S8F

Table 2.1 Questions by Evaluation Area (Continued)

QUESTION	I-40 Pilot	Branson Pilot	I-40 Main	Branson Main
Did you actually use:				
Toll-free Number	S7A1	--	S7A1	S8A1
Website	S7B1	S8A1	S7B1	S8B1
Kiosk	S7C1	S8B1	S7C1	S8C1
Variable Message Sign	S7D1	S8C1	S7D1	S8D1
Radio/ or Television (I-40)	S7E1	S8D1	S7E1	S8E1
Color Coded Alternative Routes (Branson)	--	S8E1	--	S8F1
[If used toll free number] Did you call before you left on your trip or since you got to Branson/Arizona	S7A2	--	S7A2	S8A2
[If used Website] Did you access the website before you left on your visit or since you got to Branson/Arizona	S7B2	S8A2	S7B2	S8B2
System Performance				
The information was accurate	1a	1a	1a	1a
The information was understandable	1b	1b	1b	1b
It was easy to obtain the information	1c	1c	1c	1c
The information helped you choose: A route	--	1ei	1ei	1ei
The information helped you choose: Attractions to Visit	--	1eii	1eii	1eii
The information helped you choose: A place to Stay	--	1eiii	1eiii	1eiii
Is there other information you did not get that would have been helpful in avoiding traffic problems or finding your way?	20	21	21	22
Mobility				
The information saved you time	1d	1d	1d	1d
The information made it easier to get here	1e	1h	1h	1h
It was easy to find your way to the attractions you are visiting today	8a	10a	8a	9a
It was easy to find your way to a parking lot today	8b	10b	8b	9b
It was easy to avoid traffic congestion today	8c	10c	8c	9c
Overall, you are pleased with travel conditions on this trip (such as traffic, safe conditions, clear routes, and so forth)	8e	10e	8e	9e
Overall, you were pleased with travel conditions on a previous trip to this area	8f	10f	8f	9f
In getting around the parks, hotels, and attractions you are visiting here, how many times, if at all, have you been unable to find your way and had to stop and use a map or ask directions?	10	12	10	13
Access				
The information confirmed you took the right route	--	1k	1k	1k
The information changed the routes you took	1f	1L	1L	1L
The information changed which attractions you decided to visit	1g	1m	1m	1m
As a result of getting information before or during your trip, which of the following did you do?	3	--	3	3
If you checked directions and or/took an alternative route one or more times during this visit, which, if any, of the following did you use to find that alternative route?	7	9	7	8
QUESTION	**I-40**	**Branson**	**I-40**	**Branson**

Table 2.1 Questions by Evaluation Area (Continued)

	Pilot	Pilot	Main	Main
How many separate attractions do you plan to see during this visit to northern Arizona/Branson?	9	11	9	12
Congestion				
The information let you know what problems to expect while driving here	--	1f	1f	1f
The information helped you avoid traffic congestion	1h	1g	1g	1g
During this visit to Northern Arizona/Branson area, about how many times, if at all, have you experienced serious traffic congestion such as sitting still in traffic or moving slowly and below normal speed, delaying you for ten minutes or more?	4	5	4	4
While coming to Branson (on I-40 or I-17 coming to N. Arizona), about how long in total do you think you were delayed by such problems?	5	6	5	5
While driving here, once you were in the Branson area, about how long in total do you think you were delayed by such problems?	--	7	--	6
If you experienced congestion either getting here or once in this general area, did you always stay on the same route and wait out the delay, or get off and use an alternative route?	6	8	6	7
Economic Development				
You would use this source of information again	1i	1i	1i	1i
You would be willing to pay a fee such as $1 to $3 for such information	1j	1j	1j	1j
How many overnights are you staying here in this area or within a one-hour drive?	12	3	12	10
Today is which day of your total visit?	13	4	13	11
How likely are you to return to Branson/Northern Arizona in the next two or three years?	11	13	11	14
If you would probably not return, how important are the following as reasons not to return? TRAFFIC	11 P1	13 P2	11 P1	14 P1
If you would probably not return, how important are the following as reasons not to return? PARKING	--	13 P1	11 P2	14 P2
If you would probably not return, how important are the following as reasons not to return? OTHER ROAD CONDITIONS	11 P2	13 P3	11 P3	14 P3
If you would probably not return, how important are the following as reasons not to return? OTHER REASONS	11 P3	13 P4	11 P4	14 P4
Not including hotel or rental car costs, but including restaurants, purchases such as film, souvenirs, tickets, admissions, tours, rentals and other expenses, how much do you estimate you and your immediate traveling party will spend during you visit here and places within one hour from here?	14	14	15	15
Safety				
The highways you used to get here to Branson/Northern Arizona were safe	8d	10d	8d	9d

3.0 RECRUITMENT RESULTS AND FIELD EXPERIENCES

3.1 Recruitment and Participation

Originally, recruitment was to proceed using a systematic sampling design where every nth person was selected for sampling. This approach, however, proved to be overly cumbersome. Therefore, recruitment of tourists for participation was less rigorous than originally planned. Typically, the survey collection teams recruited the next tourist as soon after completion of the previous case as possible. In essence, as interviewers completed cases at a different rate, this created an ad-hoc systematic sample particular to each interviewer. Despite its less than rigorous nature, this approach maximized the number of tourists that were intercepted. Overall, 3,977 tourists were intercepted during the course of this study. This number is probably a low estimate as some tourists were intercepted but refused to participate before any questions were asked. Although an attempt was made to characterize these refusals, it is possible that many of these contacts were not recorded. Table 3.1 presents a breakdown of the final disposition of all 3,977 tourists by data collection phase and FOT site.

The specific proportion of the tourist population that was ultimately sampled cannot be determined because counts for the tourists population were not available for the data collection period. The response rate for each phase of the study (defined by the following equation) is given in the last row of Table 3.1.

$$\text{Response Rate} = \frac{\text{Eligible and Complete}}{\text{Eligible and Complete} + \text{Refused Screener} + \text{Refused SAQ}}$$

Table 3.1 Disposition of Tourists

Disposition	Arizona			Branson			All
	Pilot	Main	All	Pilot	Main	All	
Eligible and Complete	240	573	813	226	414	640	1,453
Ineligible							
Ineligible because of responses	101	138	239	14	71	85	324
Language Barrier	3	176	179	0	0	0	179
Refusals							
Refused Screener	6	38	44	6	14	20	64
Refused Main SAQ	182	717	899	188	870	1,058	1,957
Total number of Tourists	532	1,642	2,174	434	1,369	1,803	3,977
Response Rate	56%	43%	46%	54%	32%	37%	42%

3.2 Field Experiences

Overall, the survey methodology was implemented with very few problems and many potential problems with conducting an intercept survey were solved or did not arise. The experiences learned in the field for this study have value for many of the other evaluation studies currently being conducted by FHWA. The following highlights some of these experiences:

- Weather – The weather in all four data collection periods was fair to good. On most occasions, it was dry with sunshine. Temperatures in Arizona on a few days were excessively hot, somewhat limiting the ability to convince participants to complete the main questionnaire in some of the outdoor locations. However, participants were more than willing to participate in the indoor locations. Therefore, having a mix of indoor and outdoor locations was one key to successfully intercepting tourists.

- Mix of Survey Teams – The survey teams in this study consisted of a wide range of individuals from all different backgrounds; from college students to retirees. Again, this mix helped with the success of the intercepts; sometimes tourists responded to a younger person, while at other times they could more closely relate to an older interviewer.

- Incentives – Incentives proved to be an important component of recruiting and encouraging respondents to complete the questionnaire. The incentives proved particularly useful in outdoor locations in Arizona (where temperatures were in the 80's - 90's). On several occasions, potential respondents approached the surveying team and were interested in participating solely because of the incentives. The quality of the incentives also played a role in recruiting tourists. For example, the Arizona Highways magazine and the Grand Canyon Rim guides were highly sought after incentives and thus were successful tools used to recruit potential participants. Buttons, pins, and drink coupons were not perceived to have value by the tourists.

- Willingness of Study Participants – In both Arizona and in Branson, tourists were generally more than willing to complete the screener questionnaire. Although many respondents ultimately did not complete the main questionnaire, the survey teams reported that many times the participant did not complete the main questionnaire not because they were unwilling, but because they were forced to leave (e.g., the bus for the parking lot arrived, etc.)

4.0 SUMMARY OF SURVEY RESPONSES

As discussed in previous sections, each question in the questionnaires pertained to a particular evaluation area. Appendix B contains a summary of the responses to each question separated by the data collection phase. Appendix C contains a summary of the responses to each question by awareness and usage of each ATIS component for the I-40 surveys and Appendix D contains a similar summary of responses by tourists surveyed in Branson. Both Appendix C and D begin with three tables summarizing the number of tourists used to calculate the percentage of tourists unaware, aware and not using, or aware and using the specific ATIS components (i.e., these tables provide the denominators for all calculations in subsequent tables).

The responses were combined in Appendix C and D because overall, the responses between the Pilot and Main data collection phases were similar. However, one aspect of this analysis was to compare differences between I-40 and Branson. Therefore, the responses of tourists to particular questions were tabulated separately for I-40 and Branson.

Highlights of the tables contained in Appendices B, C, and D are presented in the next three sections. For readability, all figures are contained at the end of the chapter.

4.1 Demographics and Prior Knowledge

In both I-40 and Branson, the age and education of tourists participating in the pilot data collection phase and the main data collection phase study were remarkably similar. However, differences were observed between tourists visiting the I-40 area and those visiting Branson. These differences may be due in part to the timing of the data collection though a similar trend was observed in both the Pilot and Main data collection phases. The following are highlights observed in the tables presented in Appendix B on demographic characteristics of tourists:

- Tourists participating in I-40 were significantly (p-value < 0.0001) younger than those participating in Branson. The median age of participants in I-40 was 42 compared to the median age of participants in Branson (54 years). Figure 4.1 presents the distribution of tourists by age for both I-40 and Branson.

- Roughly equal percentages of tourists surveyed in I-40 and Branson had obtained some college education (49 percent in I-40 and 43 percent in Branson). However, a higher percentage surveyed tourists in I-40 (32 percent) had obtained a graduate degree than had tourists surveyed in Branson (9 percent). Figure 4.2 presents the distribution of tourists by education level.

- The surveyed tourists were roughly split along gender lines regardless of the data collection phase.

- A large percentage of tourists surveyed in Arizona (21 percent) were from countries other than the United States. However, a much smaller percentage of

tourists surveyed in Branson (2 percent) were traveling from outside the United States.

Similar highlights can be observed on tourist's prior knowledge. These highlights include:

- In both Branson and I-40, a similar percentage of tourists expressed some familiarity with live video on local TV news (approximately 42 percent were familiar), electronic message signs on highways (73 percent were familiar), and highway ramp signals (70 percent were familiar) (see Figure 4.3).

- A larger percentage of tourists surveyed along I-40 were somewhat or very familiar with in-vehicle navigation systems (29 percent) and highway information on the internet (38 percent) compared to tourists surveyed in Branson (20 percent and 25 percent, respectively). Figure 4.3 illustrates the differences between I-40 and Branson in the percentages of respondents who were somewhat or very familiar with technologies. These differences may be due in part to the age differences observed in these two populations of tourists.

- When questioned, tourists in both Branson and I-40 reported obtaining and using travel information from sources other than those deployed as part of the FOTs. By far, the majority of tourists reported the use of maps (87 percent in I-40 and 80 percent in Branson) more than any other information source. Across all other sources of information, a higher percentage of tourists surveyed along I-40 reported using a particular source of information compared to tourists surveyed in Branson. Figure 4.4 summarizes the percentages of tourists reporting use of other travel information sources for each FOT.

4.2 Awareness and Usage of ATIS Components

As part of the I-40 TTIS FOT, five ATIS components were deployed. These components were: toll-free telephone systems, Internet websites, interactive computer screens in kiosks, variable message signs, and radio station advisories. The Branson TRIP FOT deployed the same five systems but also included color coded alternative routes. Awareness and usage of each ATIS component was asked on the screener questionnaire. To help the respondent focus on the specific ATIS component deployed (rather than a similar component that may not be part of the FOT deployment), illustrated memory joggers were shown to the respondent.

In any deployment of ATIS, one of the implicit objectives is to make the target audience (in this case tourists) aware of and users of the deployed components. Coinciding with awareness, use of the deployed components is another factor that can be used to measure the success of the ATIS deployment. In this study, tourists can be separated into three distinct groups: (1) those that are aware of and used at least one deployed ITS component; (2) those that are aware of at least one deployed ITS component, but did not use any of the deployed components; and (3) those that were unaware of all deployed ITS components. Figure 4.5

summarizes the percentage of surveyed tourists in each of these three groups for Arizona and Branson.

As presented in Figure 4.5, significantly more than 25 percent of the surveyed tourists in Arizona (78 percent) were aware of at least one of the deployed ITS components (p-value < 0.0001). Further, significantly more than 10 percent of the surveyed tourists in Arizona (45 percent) were aware of and used at least one of the deployed ITS components (p-value < 0.0001). Even higher percentages were observed in Branson, where approximately 85 percent of tourists were aware of at least one of the deployed ITS components and 48 percent were aware of and were using at least one of the deployed components.

Table B-2 in Appendix B presents the reported awareness and usage for each ATIS component by FOT site and data collection phase. Overall, the reported levels were similar for the pilot and main data collection phases. Figures 4.6 and 4.7 summarize the reported awareness and usage of the ATIS components after combining the responses from the pilot and the main data collection phases, in Arizona and in Branson, respectively. The table and figures illustrate the following:

- Awareness and use of the phone, website, and kiosk were much lower than either the variable message signs, the radio, or in Branson, the color coded routes.

- In both Branson and Arizona, the toll-free phone system was the ATIS component with the least amount of awareness and subsequent usage. In both FOT sites, the percentage of tourists reporting awareness and usage levels were similar. For Arizona, only 6 percent of the tourists surveyed were aware of the toll-free phone system and 1 percent reported using the system. In Branson, 8 percent reported awareness and 2 percent reported usage.

- Twenty-three percent of the surveyed tourists were aware of the website in Arizona and 12 percent were users compared to 17 percent awareness and 8 percent usage in Branson.

- At both FOT sites, approximately 10 percent of tourists were aware of the kiosks (12 percent in Arizona, 10 percent in Branson). Three percent of tourists reported using the internet website in both Branson and Arizona.

- Fifty-five percent of the surveyed tourists were aware of the deployed variable message signs in Arizona and a similar statistic was observed in Branson (61 percent were aware). In both locations approximately 30 percent of tourists indicated that they had used the variable message signs.

- In Branson, nearly twice as many tourists were aware of the radio advisories (70 percent) compared to tourists surveyed in Arizona (39 percent). A similar trend was observed among the users (25 percent in Branson compared to 13 percent in Arizona).

- In Branson, more tourists were aware of and used the color coded alternative routes than any other ATIS component (77 percent were aware and 55 percent reported usage).

4.3 System Performance

Several questions were asked pertaining to the performance of the deployed systems. In particular, respondents who reported using a specific ATIS component were asked two different types of questions pertaining to system performance: the quality of the information, and how the information was used. Figures 4.8 and 4.9 summarize the percentage of respondents that agreed or strongly agreed with both types of system performance questions. Three main results can be observed from the figures:

- In both Arizona and in Branson, between 50 percent and 80 percent of tourists felt that the information provided by ATIS components was accurate, understandable, and easy to obtain and in many cases these percentages were not significantly different than the hypothesized 80 percent level. In some cases, however, the percentage of tourists that agreed or strongly agreed that they received accurate, understandable, and easy to obtain information from ATIS components was significantly lower than 80 percent. In Arizona, the percentage of tourists who felt toll free telephone system information was easy to obtain (53 percent) is significantly less than 80 percent (p-value 0.0400). The percentage who felt the internet website gave accurate information (71 percent) is also significantly less than 80 percent (p-value 0.0491). The percentage who felt the message signs gave accurate (74 percent) and easy to obtain (72 percent) information are both significantly less than 80 percent (p-values 0.0167 and 0.0026, respectively). The percentage who felt the radio advisories gave accurate (56 percent), easy to understand (60 percent), and easy to obtain (52 percent) information are significantly less than 80 percent (p-value <0.0001 for all questions). In Branson, the percentage of tourists who felt the kiosks gave accurate (57 percent) and easy to obtain (43 percent) information is significantly less than 80 percent (p-value 0.0470 and 0.0026, respectively). The percentage who felt the radio advisories gave accurate (51 percent), easy to understand (58 percent), and easy to obtain(56 percent) information were all significantly less than 80 percent (p-value < 0.0001 for all questions).

- With the exception of kiosks, the percentage of tourists in Arizona agreeing or strongly agreeing that the information was accurate, understandable, and easy to obtain was not significantly different from the corresponding percentages of respondents in Branson. The percentage of respondents in Branson reporting that information from the kiosk was easy to obtain was significantly lower than that reported in Arizona (p-value 0.01). This may be due to the fact that only one kiosk was operational in Branson at the time of the data collection and this kiosk was not in an area easily accessible to tourists.

- Despite reporting a high quality that information provided by the various ATIS components was of high quality, a relatively low percentage of tourists in both Branson and Arizona indicated that they used the information to choose attractions, routes, or a place to stay. For all components, less than 30 percent of the tourists agreed or strongly agreed that they used the information to choose an attraction, route, or a place to stay.

One reasonable conclusion, based upon the above three main results, is that while the information is accurate and understandable, tourists are not using the information to make informed decisions. Therefore, it might be advantageous to include additional information or to change the type and nature of the information provided by the ATIS components to help tourists use the information to choose an attraction, route, or place to stay. The tourists also seem to find that radio advisories in both Arizona and Branson, and the kiosks in Branson, did not provide accurate, understandable, and easy to obtain information.

4.4 Mobility

Users of the various ATIS components were asked whether the information they received saved them time, whether the information made traveling to Branson or their destination in the I-40 corridor easier, and whether the information allowed them to have a more satisfying travel experience. Figures 4.10 and 4.11 present the percentage of respondents in Arizona and Branson, respectively, who agreed or strongly agreed that the information they received saved them time, and/or made it easier to get to their destination. The figures illustrate the following results:

- With the exception of information received from the radio, over 50 percent of the respondents in Arizona indicated that they agreed or strongly agreed that the information they received saved them time. Most notably, over 70 percent of tourists receiving information from the website thought that the information saved them time. Generally, a smaller percentage (35 to 63 percent) of tourists reported that the information made it easier to get to their destination in the I-40 corridor. Each of these percentages is significantly larger than zero.

- A trend similar to that seen among Arizona respondents was observed in Branson. Again, with the exception of information received from the radio, over 50 percent of the respondents indicated that the information saved them time. A smaller percentage (30 to 40 percent) of respondents indicated that the information they received from the toll-free number, website, and kiosk, made it easier to get to their destination. Each of these percentages is significantly larger than zero.

Two types of questions pertaining to mobility were asked of all respondents regardless of whether they were aware of or had used an ATIS component. The first type of questions pertained to ease of travel and asked questions on topics such as: ease of finding attractions, parking lots, and avoiding congestion. The second type of questions addressed the perception of the respondent on the overall travel conditions. Figure 4.12 presents the responses to both types

of questions for tourists surveyed in Arizona while Figure 4.13 presents the corresponding responses for tourists surveyed in Branson. The following results from Arizona can be observed from Figure 4.12:

- The percentage of tourists who agreed or strongly agreed to the ease of travel questions did not vary by awareness or use of ATIS components. Seventy-five percent to 86 percent of the surveyed tourists agreed or strongly agreed that it was easy to find attractions, parking lots, and avoid congestion regardless of whether they were aware of or had used an ATIS component.

- Approximately 86 percent of the surveyed tourists agreed or strongly agreed that they were pleased with travel conditions on their current trip. There was no statistically significant difference in the responses of tourists based upon ATIS awareness or usage. A significantly lower percentage (approximately 40 percent) of tourists in Arizona were pleased with the travel conditions on a previous trip (p-value <0.0001) irrespective of ATIS awareness and usage.

One interpretation of this second result could be that the deployment of ATIS systems have benefitted tourists equally and because of the ATIS systems, tourists as a whole are more pleased with the travel conditions. However, a more reasonable conclusion might be that tourists who are return visitors build upon their past experience and purposefully avoid troublesome traffic conditions (e.g., driving at night rather than during the day).

The following results from Branson are illustrated in Figure 4.13:

- Compared to tourists surveyed in Arizona, there was more variation in the responses according to awareness and usage of ATIS components.

- A higher percentage of users (used at least one ATIS component) compared to tourists who were either unaware of, or aware of but not using an ATIS component, reported that they agreed or strongly agreed that it was easy to find attractions, parking lots, or avoid congestion. However, not all of these differences were statistically significant (users were significantly higher than tourists that were unaware, but no other comparisons were significantly different).

- Tourists who were aware of at least one ATIS component reported greater satisfaction with the travel conditions on the current and previous trip than did tourists who were unaware of the ATIS components. Approximately 76 percent of tourists who were aware of an ATIS component (whether they used it or not) agreed or strongly agreed that they were pleased with the travel conditions on their current trip compared to 57 percent among unaware users (p-value < 0.0001). No significant differences were found between tourists that were aware of an ATIS component and those that were also users.

- As in Arizona, regardless of whether they were aware of (or used) an ATIS component, tourists were more satisfied with travel conditions on their current trip than they were on a previous trip.

Tourists at both sites were asked the number of times they stopped for directions. In Arizona, approximately 55 percent of the surveyed tourists indicated that they had stopped at least once for directions (55 percent of tourists aware of but not using an ATIS component, 56 percent of users, and 51 percent of tourists that were unaware of all ATIS components). The distribution of the number of stops did not significantly differ among the three groups of tourists. In Branson, approximately 45 percent of the surveyed tourists who were aware of, but not using an ATIS component reported that they stopped at least once and asked for directions. Roughly 49 percent of ATIS users stopped for directions, but 77 percent of tourists that were unaware of any ATIS component stopped and asked directions. However, these percentages were not significantly different.

4.5 Access

Users of the ATIS components were asked to respond to several questions related to access. Highlighted in Figures 4.14 and 4.15 are the responses to a subset of these questions among tourists surveyed in Arizona and Branson, respectfully. Overall, the percentage of tourists in Arizona that indicated a positive response to the four access questions contained in the figures were higher than the corresponding percentages in Branson.

The obtained information did appear to change the routes taken or the attractions visited for some of the tourists using an ATIS component in Arizona. Between 24 and 53 percent of tourists changed the route taken because of the information they received. Between 24 and 47 percent of tourists in Arizona changed the attraction visited because of the information they received.

In Branson, the percentage of tourists who reported changing the routes taken or the attractions visited by using the toll free phone system or the kiosks was not significantly different from zero. Of the remaining components, 13 percent of website users, 19 percent of message sign users, and 16 percent of radio users reported changing the route taken because of the information they received. Also, 25 percent of website users, 9 percent of message sign users, and 9 percent of radio users reported changing the attraction visited because of the information they received.

Tourists surveyed in Arizona visited, on average, about three attractions irrespective of awareness or use of an ATIS component. That is, no significant differences in the average number of attractions visited were observed among tourists that were users, unaware, or aware but not using (3.8, 3.4, and 3.3 attractions, respectively). On average, tourists surveyed in Branson visited between 3 and 4 attractions. Tourists that were users of at least one ATIS component visited on average 4.3 attractions which was significantly higher than the 3.6 attractions visited, on average, by tourists that were aware of, but not users of an ATIS component. Tourists that were unaware of any ATIS component visited 4.4 attractions on

average, although this was not significantly different than either of the other two groups of tourists.

4.6 Congestion

Two key issues related to congestion were prior knowledge of problems commonly encountered when driving in and around the I-40 area and in Branson, and avoiding traffic congestion. Figures 4.16 and 4.17 summarize the responses to these two congestion questions for Arizona and Branson, respectively. In both Arizona and in Branson, a significant percentage of tourists using an ATIS component indicated that the ATIS component helped them avoid traffic congestion. However, among tourists using ATIS components in Arizona, less than 50 percent agreed or strongly agreed that the information let them know what driving problems to expect or helped them avoid traffic congestion. Similarly in Branson, with the exception of route signs, less than 50 percent agreed or strongly agreed that the information let them know what driving problems to expect or helped them avoid traffic congestion. Sixty-three percent of the users in Branson indicated that route signs helped them avoid traffic congestion, which is large compared to the other percentages observed. However, this result needs to be interpreted with care. Only a very limited number of variable message signs were operational at the time of the data collection and, despite efforts of the data collection teams to distinguish between the two, it is possible that the respondents were responding to "color coded route signs" instead of variable message signs.

Another measure of improvements to congestion is the number and length of delays among the surveyed tourists. Many of the surveyed tourists did not encounter a "significant" delay. In Arizona, 55, 64, and 81 percent of the surveyed tourists that were aware and using an ATIS component, aware and not using, and unaware, respectively, did not encounter any significant delays. A similar result, although somewhat lower, was observed among the tourists surveyed in Branson with 33, 42, and 40 percent, respectively, not encountering any significant delays. In both Arizona and in Branson, the distribution of tourists that did encounter a significant delay within the respective FOT area was very similar among the three groups of tourists. However, a higher percentage of tourists in Branson encountered more delays than tourists surveyed in Arizona.

4.7 Economic Development

Figure 4.18 summarizes the percentage of respondents surveyed in Branson and I-40 that indicated that they agreed or strongly agreed that they would use an ATIS component again. In every case, more than 40 percent of the respondents indicated a willingness to use a specific ATIS component again. Generally, the percentage of respondents agreeing or strongly agreeing that they would use a specific component again was similar between the tourists surveyed in Branson and those surveyed in Arizona.

Whether or not a tourist uses ATIS components has some effect on their likelihood to return to the area in the future. In Arizona, the percentage of users that indicated they would definitely or probably return (78 percent) was significantly larger (p-value 0.0314) than the

corresponding percentage of tourists that were unaware of ATIS components (70 percent). Neither of these percentages was significantly different than the percentage of tourists that were aware of, but not using a ATIS component who indicated that they might return (75 percent). In Branson, the percentage of users that indicated they were likely to return (87 percent) was significantly larger (p-value 0.0363) than the corresponding percentage of tourists that were aware of, but not using (80 percent). The percentage of tourists unaware of ATIS components who indicated they were likely to return (81 percent) was not significantly different from either of the other groups.

Whether a tourist is aware of and/or uses an ATIS component appears to have a marginally significant relationship with the number of nights spent in the area and in the amount of money spent during the visit (not including hotel or rental car costs). In Arizona, tourists that were unaware of any ATIS component spent an average of 2.1 nights in the area compared to an average of 2.2 nights for tourists that were aware of but not using an ATIS component and 2.6 nights for tourists that were users of at least one component. Further, a higher percentage of tourists (44 percent) that were users of an ATIS component spend more than $200 during their visit than did either of the other two groups of tourists (33 percent among aware, but not using tourists, and 32 percent among tourist that were unaware of any ATIS component). Among Branson tourists, there was no significant difference between the average number of nights spent in the area for tourists that were unaware of any ATIS component (3.3 nights) and those that were aware of an ATIS component (3.0 nights for non-users, 3.9 nights for users). However, the average number of nights for tourists that were aware of, but not users of an ATIS component was significantly lower than the corresponding average among users. There did not appear to be a significant difference between the three groups of tourists in terms of the amount of money spent during their visit. Approximately 69 percent of users, 61 percent of non-users, and 67 percent of tourists that were unaware of any ATIS component spent more than $200 during their visit.

Tourists surveyed in Arizona appeared to be more willing to pay a fee of $1 to $3 for travel related information than were tourists in Branson. This may be due in part to the vast number of tourist information centers in Branson offering free information to tourists. Figure 4.19 presents the percentage of the surveyed tourists that indicated a willingness to pay a nominal fee to obtain the information.

4.8 Safety

An overwhelming majority of tourists in both Branson and in Arizona agreed or strongly agreed that the highways in the area were safe. In Arizona, roughly 84 percent of respondents agreed or strongly agreed irrespective of whether they were aware of or used an ATIS component. In Branson, approximately 78 percent agreed or strongly agreed with some variation by awareness and use. Seventy-nine percent of tourists that used an ATIS component agreed or strongly agreed that the highways they used to get to Branson were safe compared to 75 percent among those tourists that were aware of, but not users and 52 percent among the tourists that were unaware of any ATIS component. However, this last result should be interpreted with care

as approximately 19 percent of the tourists that were unaware of any ATIS component did not respond to this question (compared to 2 percent of non-users, and 3 percent of users).

Figure 4.1 - Respondents by Age Group

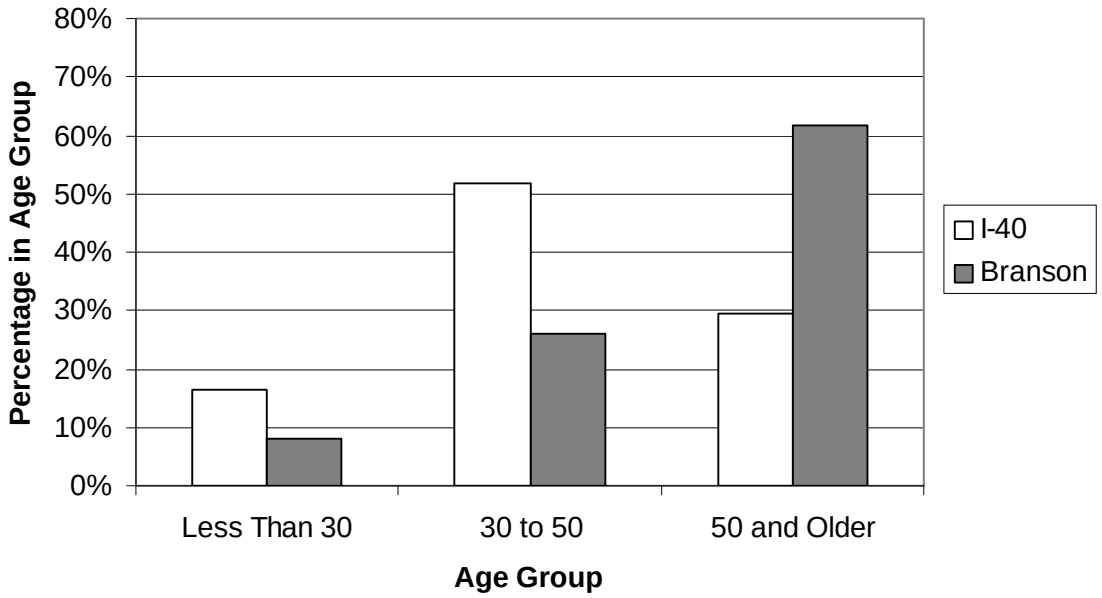


Figure 4.2 - Respondents by Education Level

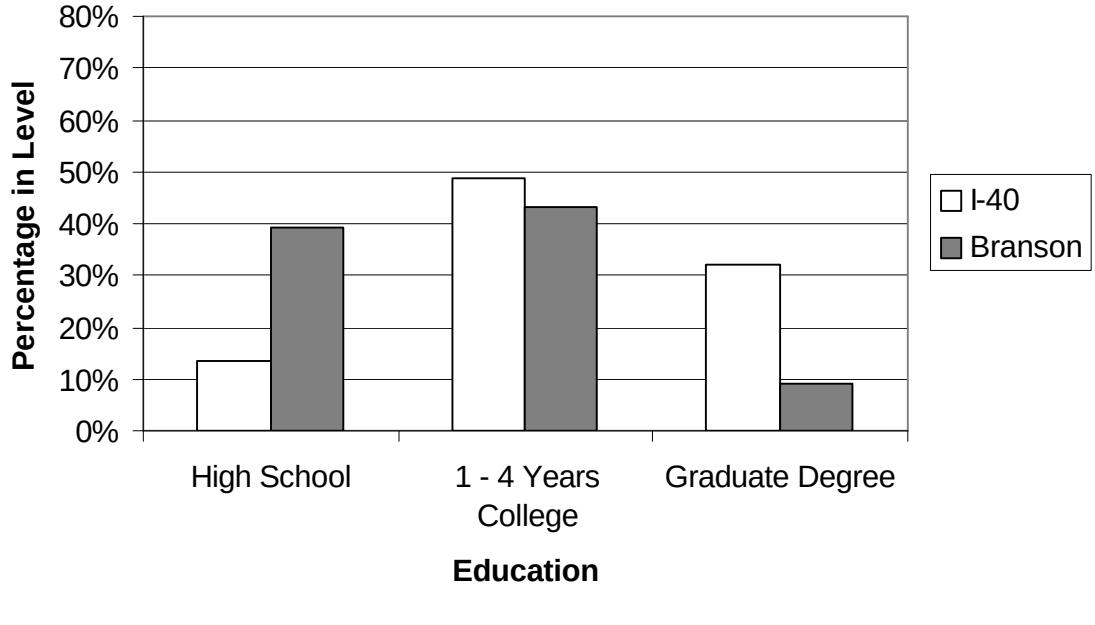


Figure 4.3 - Prior Familiarity with Technologies

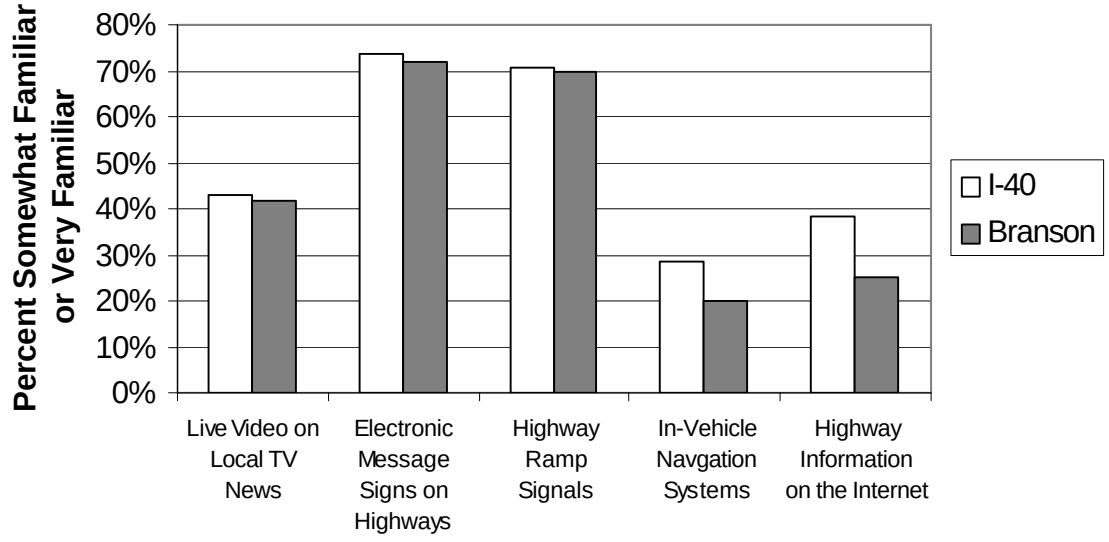


Figure 4.4 - Use of Other Travel Information Sources

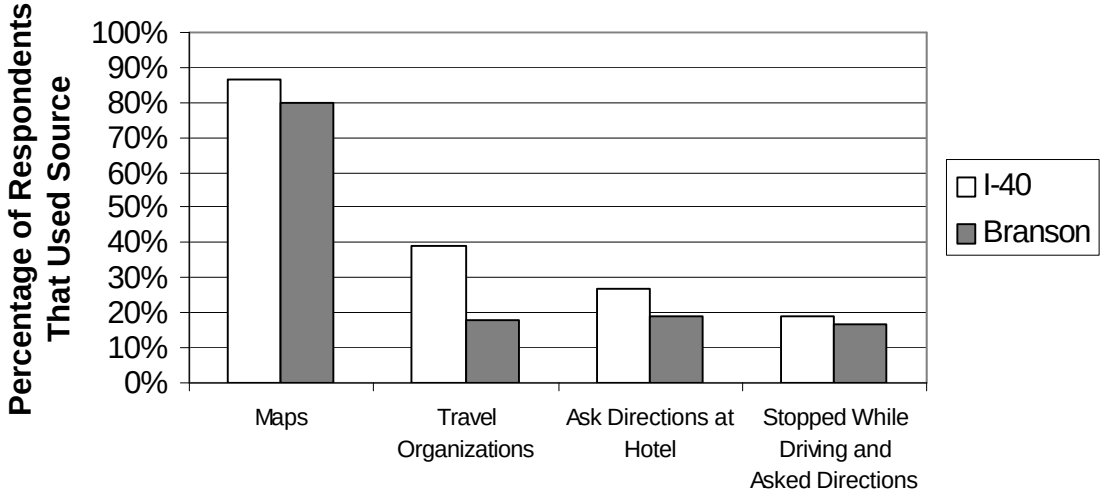


Figure 4.5 - Awareness and Use of at Least One Deployed ATIS Component

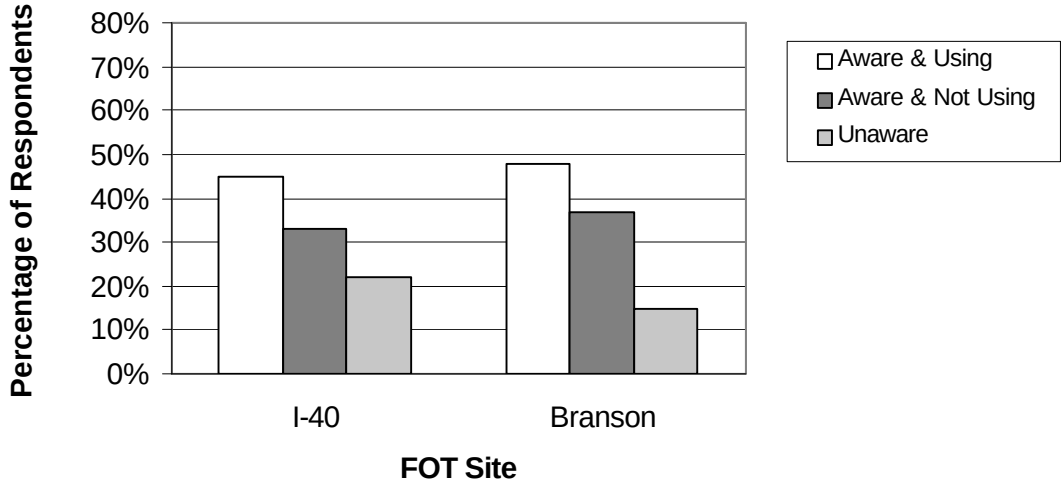


Figure 4.6 - Awareness or Use of ATIS Components (I-40)

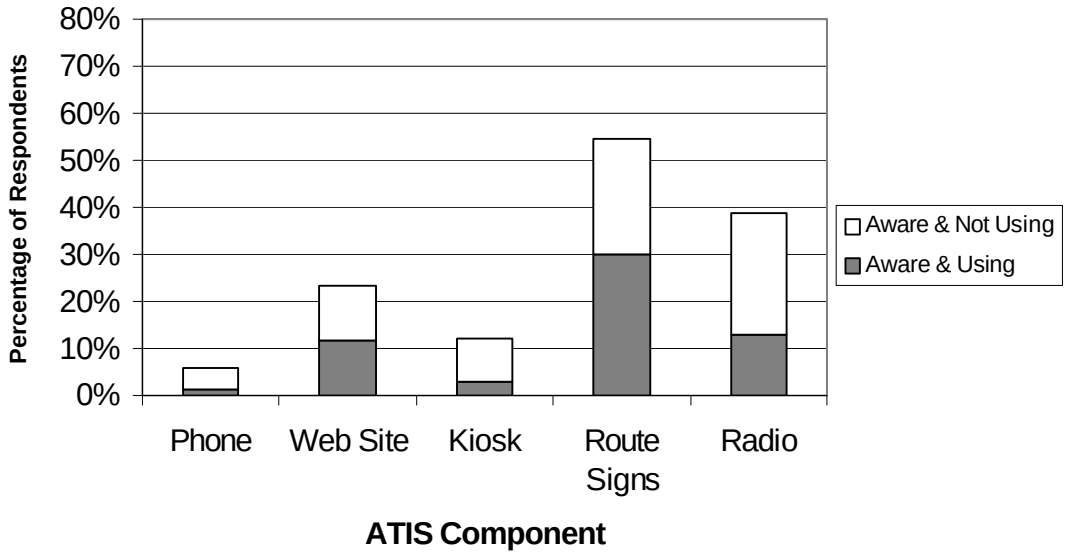
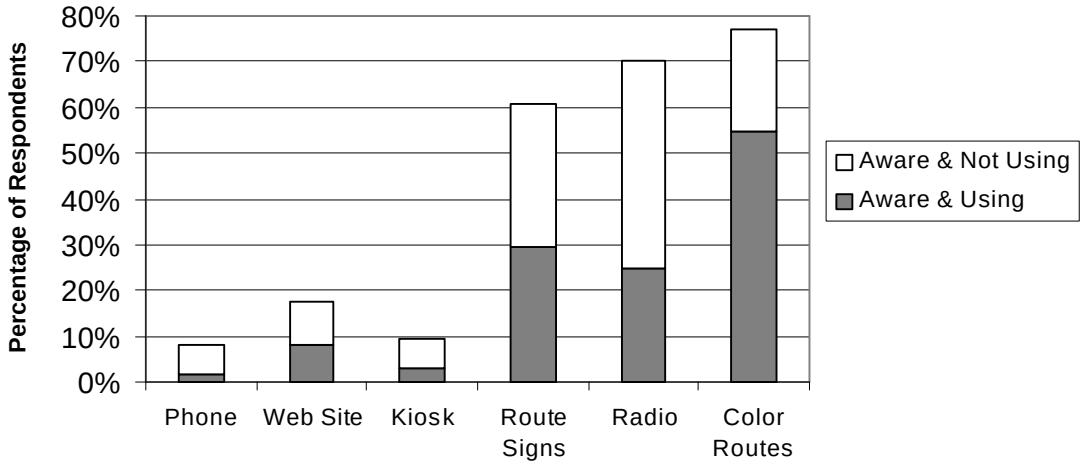


Figure 4.7 - Awareness or Use of ATIS Components (Branson)



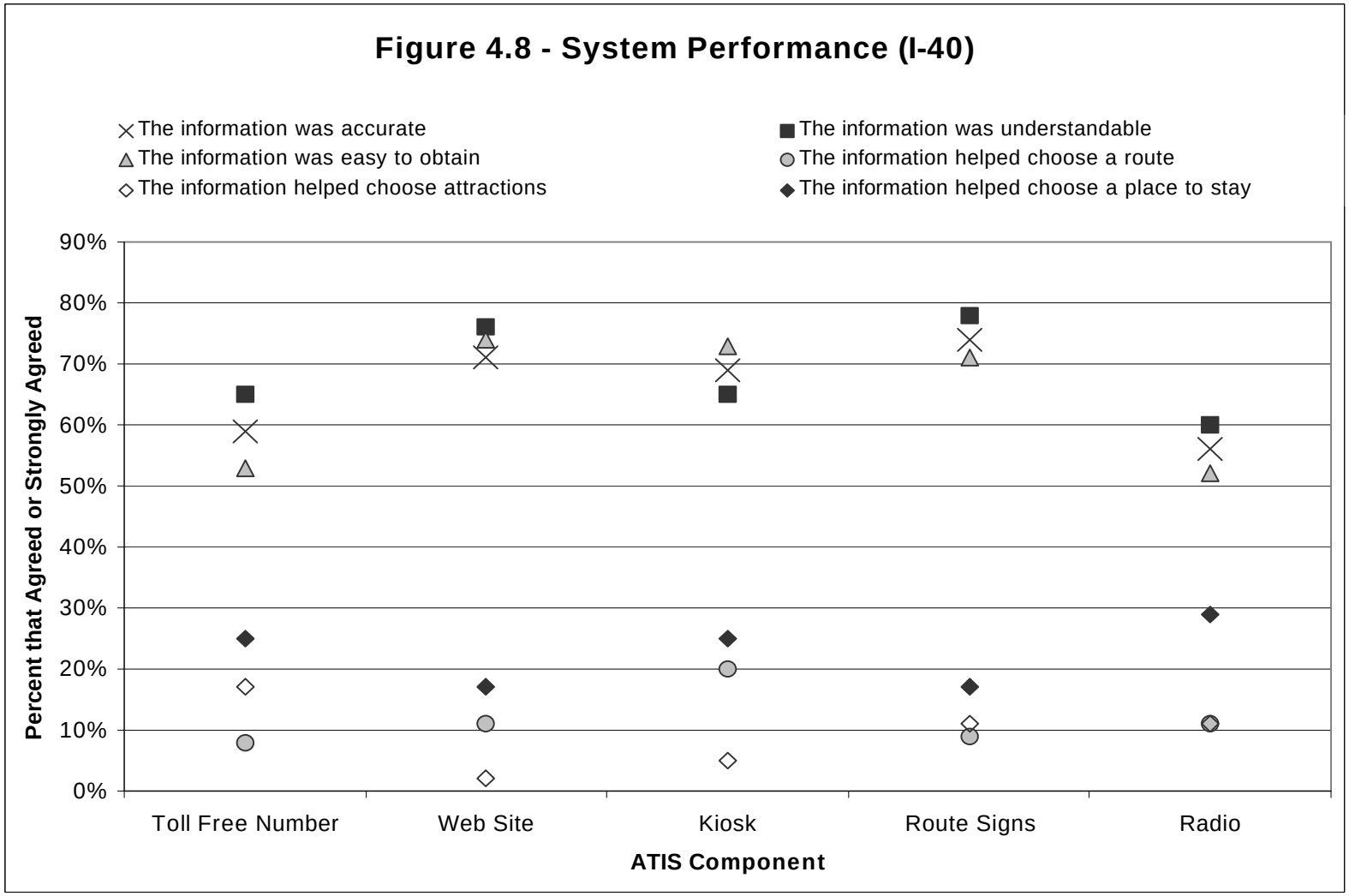


Figure 4.8 - System Performance (I-40)
The information was accurate
The information was understandable
The information was easy to obtain
The information helped choose a route
The information helped choose attractions
The information helped choose a place to stay
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent that Agreed or Strongly Agreed
Toll Free Number
Web Site
Kiosk
Route Signs
Radio
ATIS Component

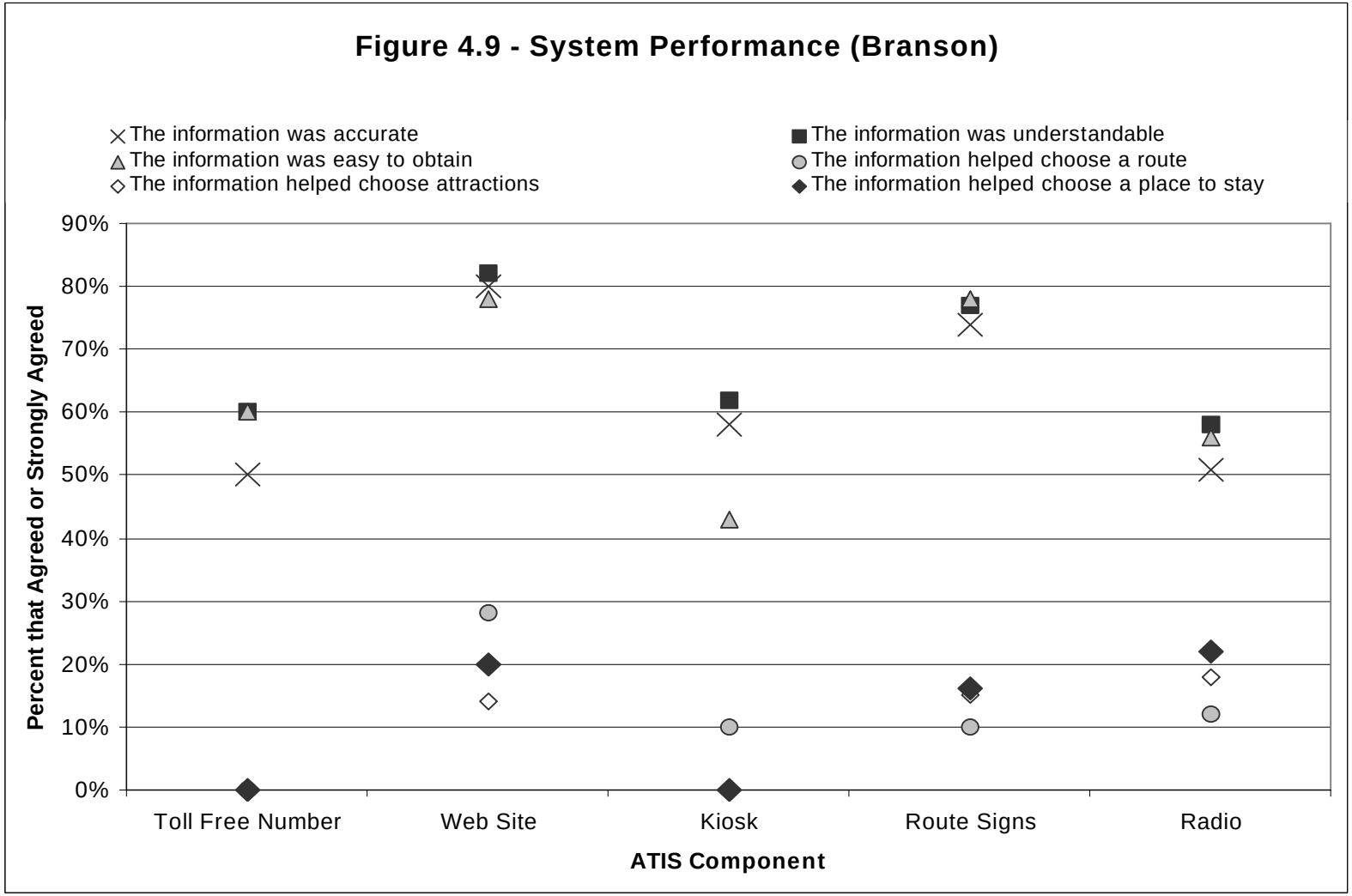


Figure 4.9 - System Performance (Branson)
The information was accurate
The information was easy to obtain
The information helped choose attractions
The information was understandable
The information helped choose a route
The information helped choose a place to stay
Percent that Agreed or Strongly Agreed
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Toll Free Number
Web Site
Kiosk
Route Signs
Radio
ATIS Component

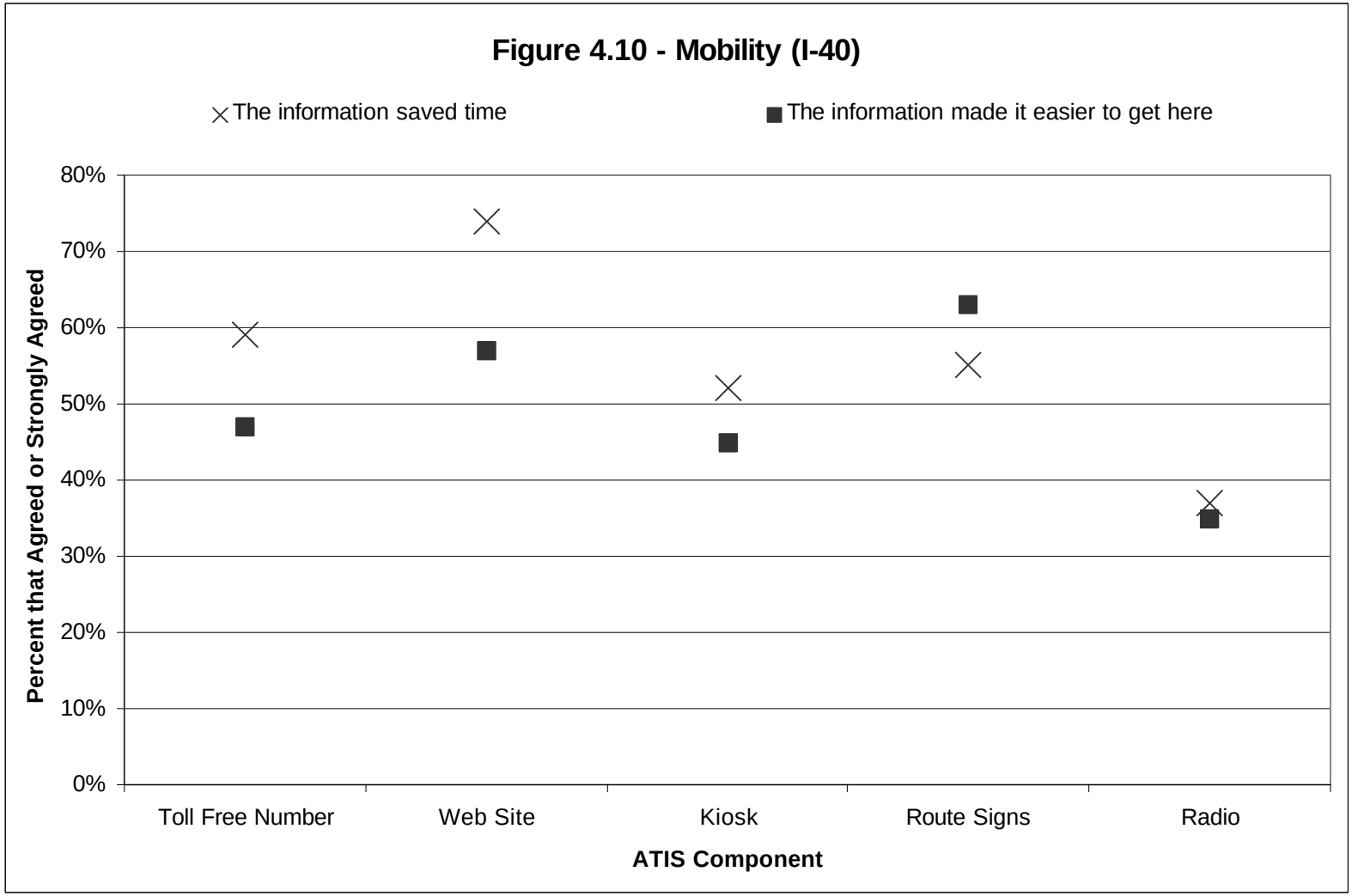


Figure 4.10 - Mobility (I-40)
The information saved time
The information made it easier to get here
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent that Agreed or Strongly Agreed
Toll Free Number
Web Site
Kiosk
Route Signs
Radio
ATIS Component

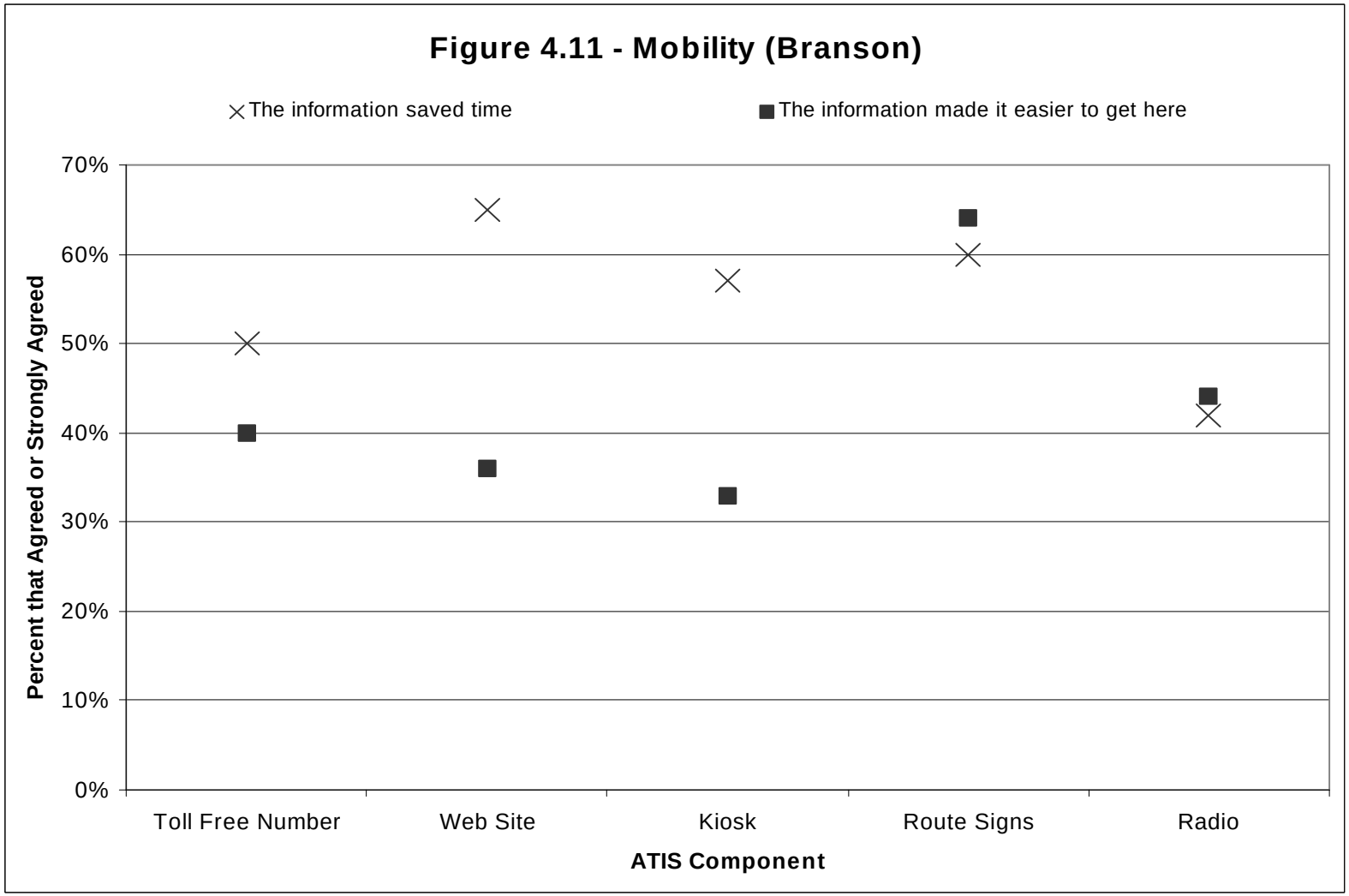


Figure 4.11 - Mobility (Branson)
The information saved time
The information made it easier to get here
70%
60%
50%
40%
30%
20%
10%
0%
Percent that Agreed or Strongly Agreed
Toll Free Number
Web Site
Kiosk
Route Signs
Radio
ATIS Component

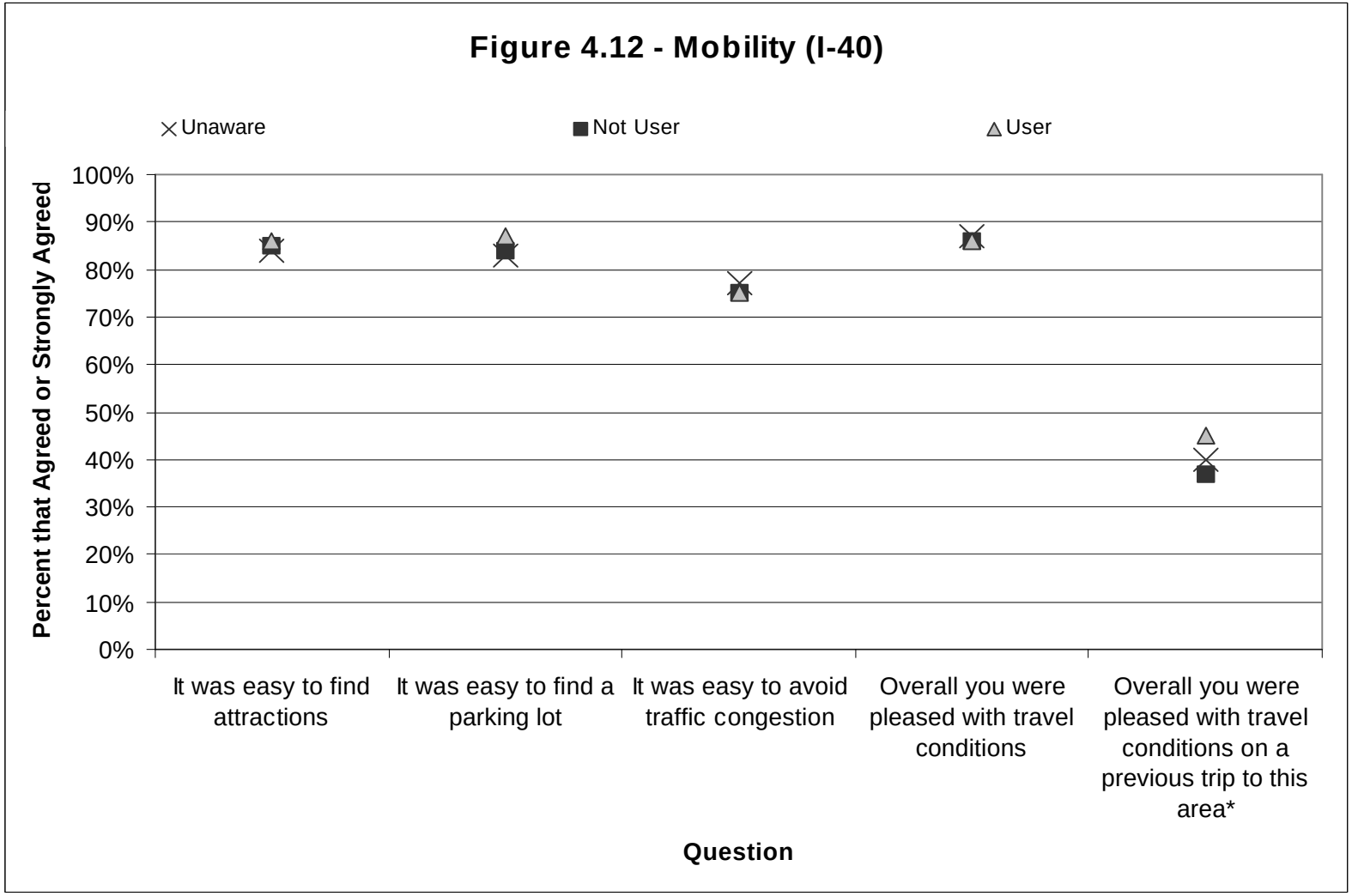


Figure 4.12 - Mobility (I-40)
Unaware
Not User
User
Percent that Agreed or Strongly Agreed
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
It was easy to find attractions
It was easy to find a parking lot
It was easy to avoid traffic congestion
Overall you were pleased with travel conditions
Overall you were pleased with travel conditions on a previous trip to this area*
Question


Figure 4.13 - Mobility (Branson)
Unaware
Not User
User
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent that Agreed or Strongly Agreed
It was easy to find attractions
It was easy to find a parking lot
It was easy to avoid traffic congestion
Overall you were pleased with travel conditions
Overall you were pleased with travel conditions on a previous trip to this area*
Question

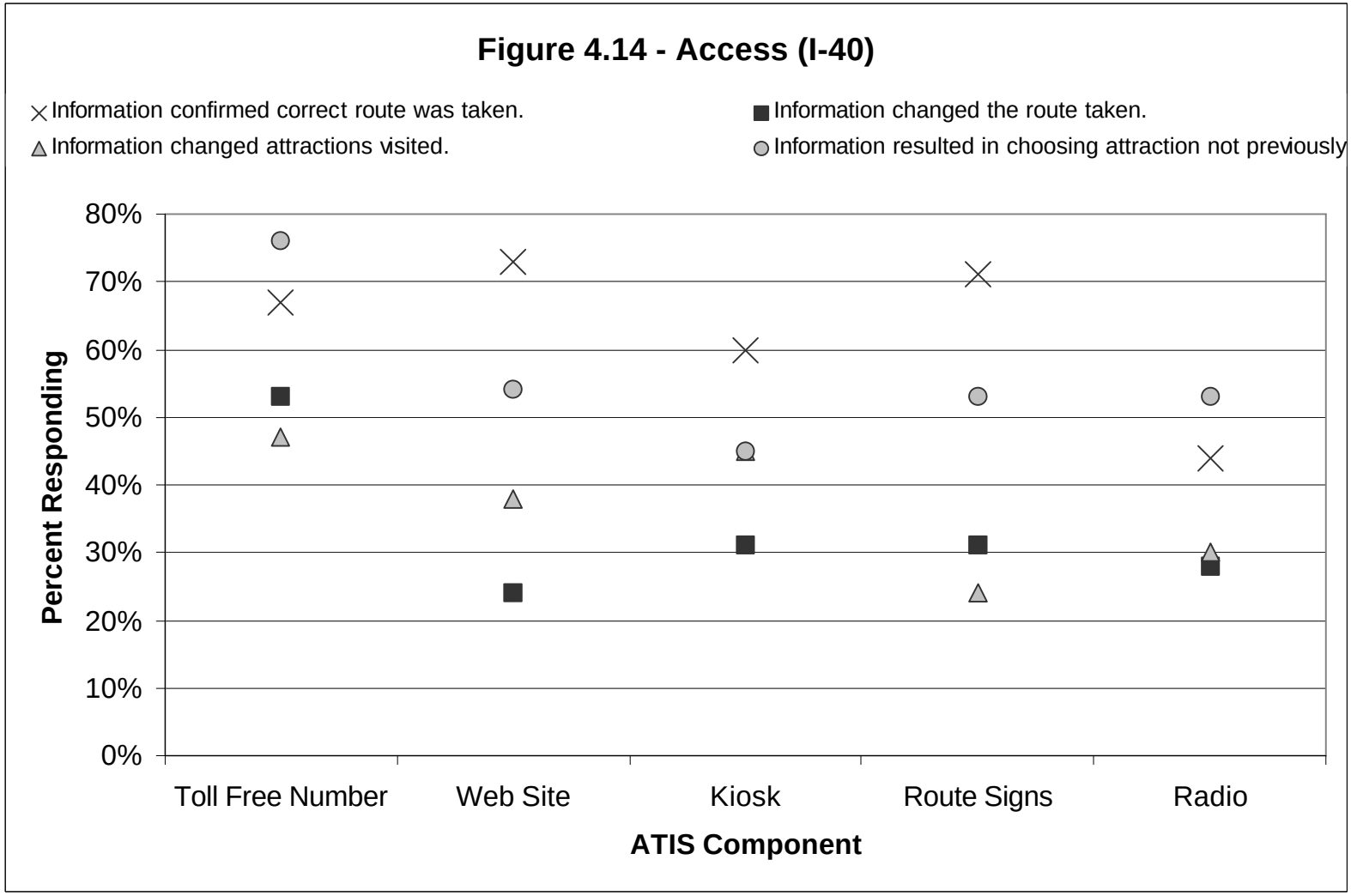


Figure 4.14 - Access (I-40)
Information confirmed correct route was taken.
Information changed the route taken.
Information changed attractions visited.
Information resulted in choosing attraction not previously
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent Responding
Toll Free Number
Web Site
Kiosk
Route Signs
Radio
ATIS Component

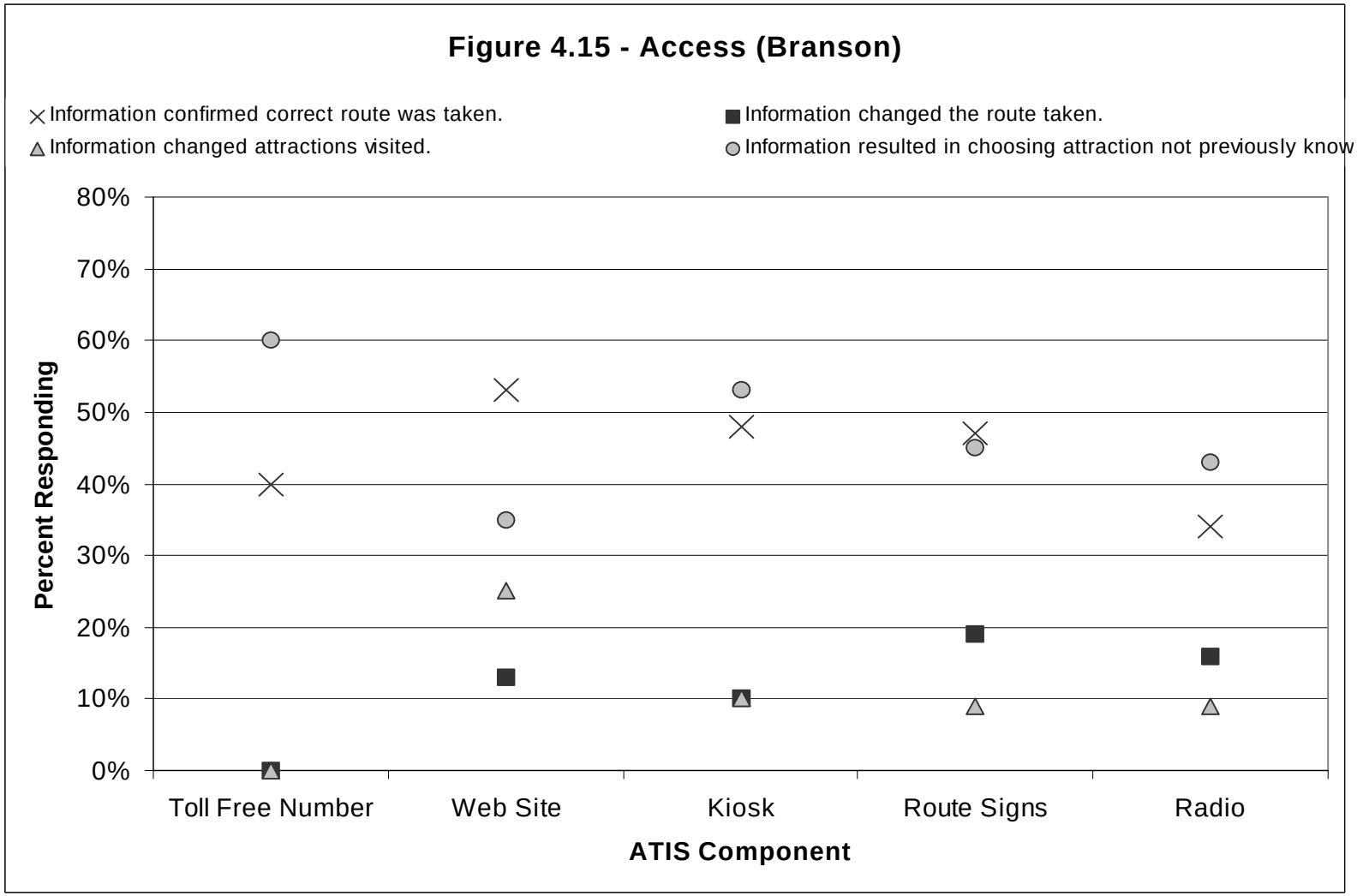


Figure 4.15 - Access (Branson)
Information confirmed correct route was taken.
Information changed the route taken.
Information changed attractions visited.
Information resulted in choosing attraction not previously know
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent Responding
Toll Free Number
Web Site
Kiosk
Route Signs
Radio
ATIS Component

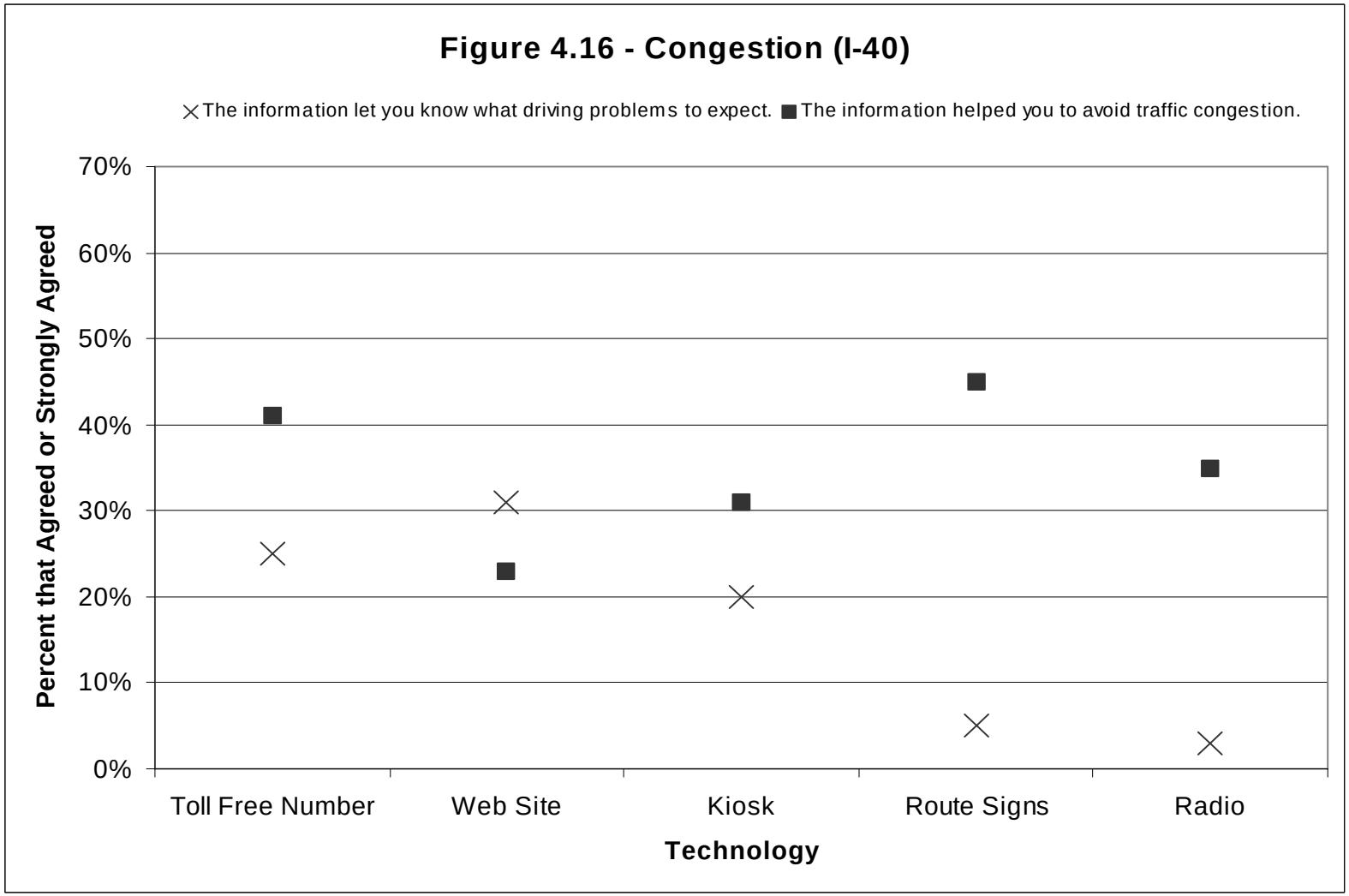


Figure 4.16 - Congestion (I-40)
The information let you know what driving problems to expect.
The information helped you to avoid traffic congestion.
Percent that Agreed or Strongly Agreed
70%
60%
50%
40%
30%
20%
10%
0%
Toll Free Number
Web Site
Kiosk
Route Signs
Radio
Technology

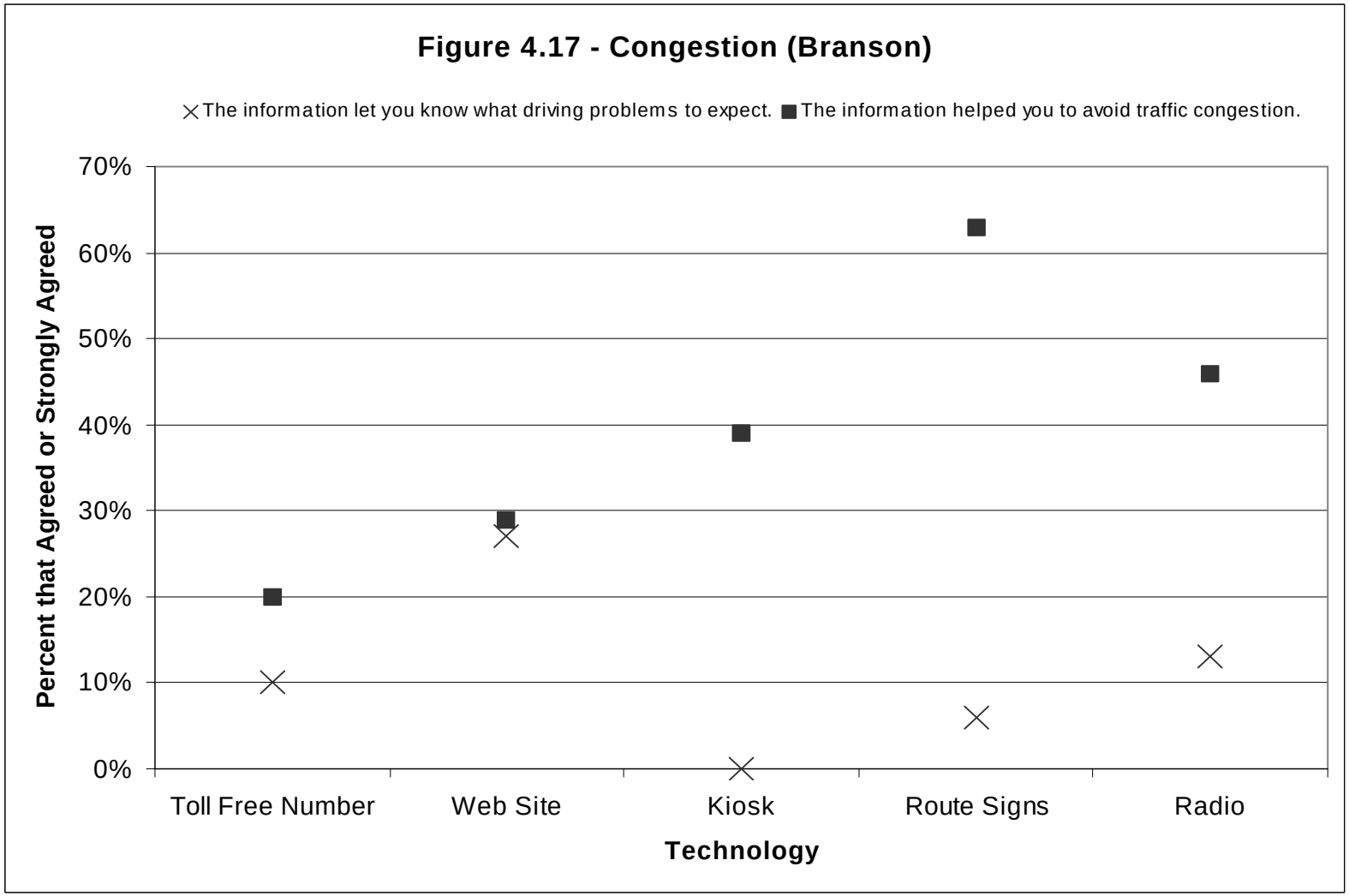


Figure 4.17 - Congestion (Branson)
The information let you know what driving problems to expect.
The information helped you to avoid traffic congestion.
Percent that Agreed or Strongly Agreed
70%
60%
50%
40%
30%
20%
10%
0%
Toll Free Number
Web Site
Kiosk
Route Signs
Radio
Technology

Figure 4.18 - Economic: Respondents That Had Used ATIS Component that Would Use Again

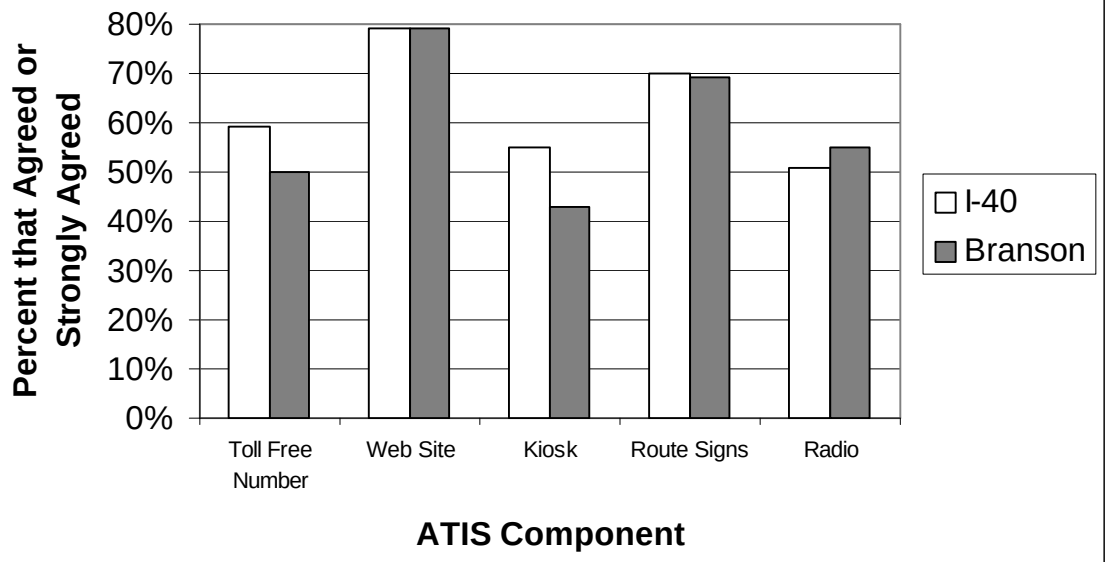
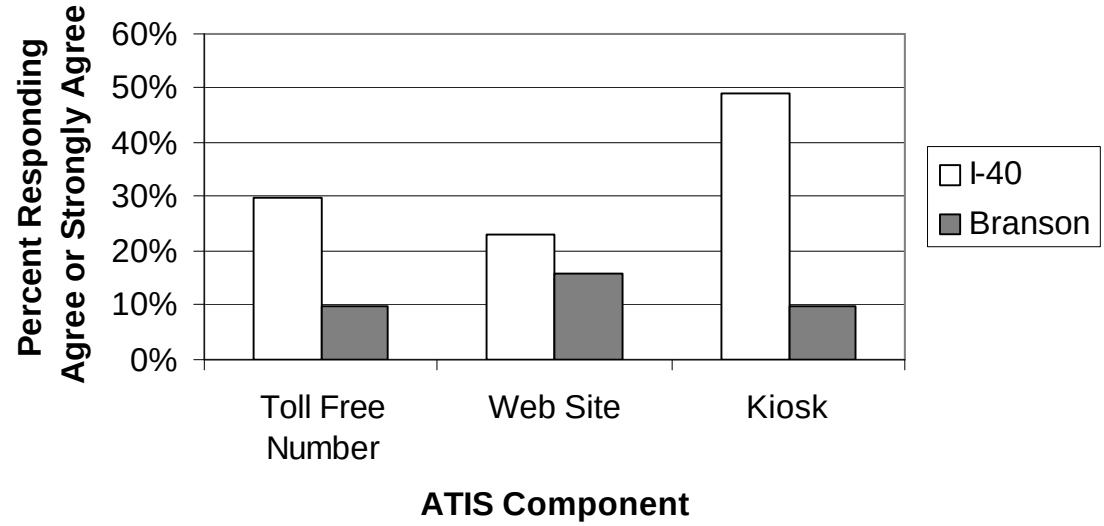


Figure 4.19 - Economic: Respondents That Had Used ATIS Component That Would Be Willing to Pay a Fee of $1 to $3 for Such Information



5.0 DISCUSSION

This document reports the results for one aspect of the overall evaluation: Tourist Intercept Surveys. It is important that theses results be viewed together with those from other aspects of the evaluation. In particular, the tourist surveys were conducted while the technology was still being deployed. For example, in Branson, only one kiosk was operational at the time of the main data collection. Nevertheless, this component of the evaluation provides useful information that can be used both in this evaluation and in future evaluations of the FOTs.

The recruitment and field experiences demonstrate that tourist intercept surveys are a useful and practical method for obtaining information from tourists. Generally, tourists appeared willing to participate in the study and were appreciative of the chance to provide information that could be used to improve the traffic conditions in the area. The combination of an interviewer-based screener and a self-administered questionnaire was successful in balancing the need to obtain a large number of respondents while minimizing the overall data collection costs. Because of its success, this approach should be adopted in future evaluation efforts where information is to be collected from tourists.

Although information was collected on several evaluation areas (System Performance, Mobility, Access, Congestion, Economic Development, and Safety), care needs to be taken when interpreting the survey results. In particular, in both Branson and I-40, only a very small percentage of the surveyed tourists were aware of and using the phone, website, or kiosk. Furthermore, in both Branson and I-40, the ATIS components were not fully deployed at the time of surveying. It may be possible that some of the comparisons between unaware and aware/using tourists have changed since the time that the surveys were conducted because the deployments have progressed.

Despite the status of the FOT deployment, some useful results were observed by surveying tourists. For example, as somewhat expected, tourists were less aware and less likely to be users of proactive components (phone, web, kiosk) than they were of passive components (route signs, radio, color coded routes). In the future, this trend might shift as society becomes more familiar with technology-based components such as the internet or internet-based kiosks. Additionally, information on the quality and the way that the information was used to make decisions was also obtained. This information can be used to refine the deployed systems.