Final Report

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Traveler Information and Tourism:

Assessment of Traveler Information and 511 Impacts upon Tourist Destinations and National Parks

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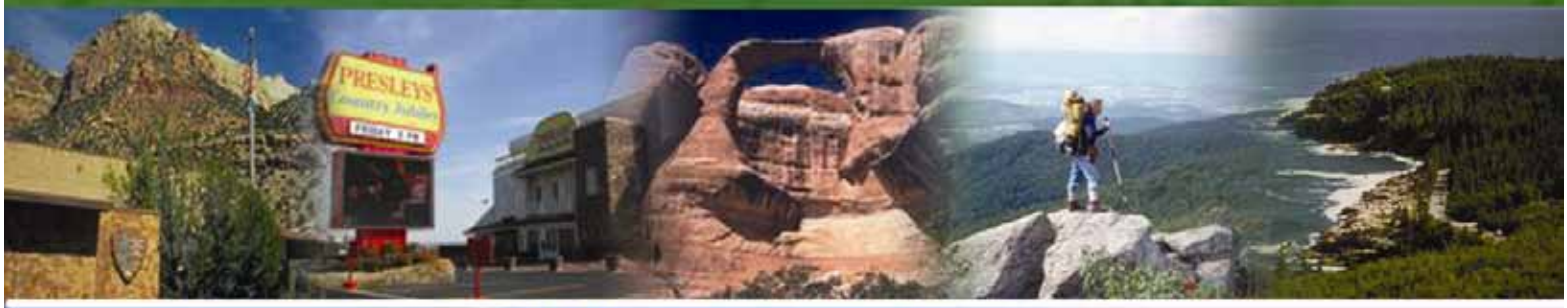

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16. Abstract

The study focused on traveler information systems in tourism areas and the impacts of those traveler information efforts. Case studies were conducted on four sites: Acadia National Park and Bar Harbor, Maine; Branson, Missouri; the I-81 Corridor in the Shenandoah Valley of Virginia; and Salt Lake City, Utah. These sites were selected based on a number of criteria, including the significance of tourism in the local economy; availability of a traveler information system with real-time information; maturity of the system; availability of data from previous studies of the system; presence of a 511 telephone system; rural or urban setting; and presence of a National Park.

Although the four sites vary dramatically in terms of the approach taken to tourists and information available to them, a number of cross-cutting findings emerged from the study. Integration of traveler and tourism information is in its early stages, and the visibility and awareness of such systems is low. Impact of the systems is generally limited, but evidence exists that the information when properly presented is valued by tourists and the tourism community and can have a significant impact. The study also found the differences between the transportation and tourism professions need to be bridged to make these systems most effective.

The report offers several recommendations to aid current and future traveler information system operators and their partners. Examples include targeting tourists in marketing and promotion efforts and orienting user interfaces to tourists; better coordination between transportation and tourism stakeholders; and sensitivity to presentation of traffic congestion information to minimize adverse impacts on tourist businesses.

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EXECUTIVE SUMMARY

This report presents the results of a study focusing on traveler information in tourism areas and the impacts of those traveler information efforts. Public traveler information systems, such as websites and phone systems that provide information on traffic congestion, incidents and weather, have become relatively common at the state level and in major metropolitan areas over the last decade. Some of these systems include within their service area major tourism destinations. During this same period, a number of traveler information systems have been implemented in tourist destinations, such as National Parks and their surrounding communities. The objective of this study was to examine four tourism areas in the United States in detail and to investigate how the traveler information systems serving those areas have addressed and impacted tourists and the tourism environment.

Selection of Study Locations

The four locations selected for the study were:

- Acadia National Park – Bar Harbor, Maine
- Branson, Missouri
- I-81 Corridor – Shenandoah Valley, Virginia
- Salt Lake City, Utah

These locations were selected on the basis of several criteria. One criterion was that tourist traffic and spending needed to represent a significant component of the local economy. Other key selection criteria included the availability of a traveler information system with real-time information; maturity of the traveler information system; and availability of data from previous studies of the system. The selection of sites also sought a balance in types of sites, including at least one urban area location, a rural location, a location near a National Park, and a location with a 511 telephone traveler information system.

The selected study sites satisfied these criteria very well. Acadia, Branson and the Shenandoah Valley are all tourism-dense rural or small urban environments where prior evaluations of the traveler information systems have been performed and, therefore, data were available. Acadia and the Shenandoah Valley both include major National Parks and were the subject of recent large-scale evaluations. Salt Lake City is a large urban area that serves as a transportation hub for a number of parks and ski areas, and it was the site of a major recent international tourism event, the 2002 Winter Olympic Games. A formal evaluation of the traveler information system during the Olympics was completed in 2003. Finally, both Salt Lake City and the Shenandoah Valley include a 511 system.

Study Site Analyses

The analysis of each of the four study sites included review of available data pertaining to the following:

- The design and operation of the system. Focus was on tourism content and orientation toward tourists in the systems' user interfaces, such as using tourism landmarks in addition to or instead of place names or roadway designations that are less familiar to non-locals
- User awareness and system usage data, such as historic data on web site sessions and telephone call volumes.
- Customer satisfaction data, from surveys or focus group for example.

In addition to analysis and synthesis of findings from these sources, the study featured interviews with up to a dozen stakeholders associated with each of the four study sites. They represented the agencies and their contractors that implemented and operate the traveler information systems as well as tourist business operators and representatives of state and local tourism promotion organizations. The majority of those stakeholder interviews were conducted in-person, during the site visit that was made to each of the four study locations. The stakeholder interviews focused on the strategic and institutional issues associated with how the traveler information systems address and impact tourists and the tourism environment.

Study Site Findings

The four study sites vary dramatically in terms of the approach taken to tourists. The Acadia – Bar Harbor area is served by numerous, relatively heavily-utilized traveler information systems oriented very much to tourists. There have been concerns expressed on the part of local business interests that providing detailed site-specific information on traffic congestion and parking information might project the image that the area is over-crowded or hard to access and could discourage visitors.

The Branson traveler information system does not particularly cater to tourists, but Branson is a very small town dominated by tourist traffic, so any traveler information system could be said to be oriented largely to tourists. The Branson system was implemented in the late 1990's. Due primarily to resource constraints and to a lessor extent to some technological challenges, it has fallen somewhat into disarray, with several of the information dissemination tools no longer operational and with very low awareness and usage levels.

The I-81 Corridor/Shenandoah Valley traveler information system is relatively new—having operated in its current form for only a few years. The system is nearly unique in the extent to which it fully integrates a very large volume of information of interest to tourists, including food, lodging and attractions. The system also includes a private sector component—it is operated by a regional telecommunications provider under the Virginia Department of Transportation's direction. Whereas, basic listings are free,

businesses can purchase enhanced listings on the website and phone system to increase their visibility to customers. The Shenandoah Valley traveler information system is being used by tourists, who express a fairly high degree of satisfaction with the system, but the tourist user base is probably small. Increasing awareness of the system among both the general travel audience and tourist travelers is one of the priorities of the system operators.

The Salt Lake City traveler information system does not differentiate between tourist travelers and other types of travelers and no special tourism information is presented on a regular basis. Rather, the Utah Department of Transportation's philosophy is to provide comprehensive high-quality information of interest to all travelers, with the understanding that some of them may be tourists. During the Olympics the tourists who used the system expressed a high degree of satisfaction. However, it is unlikely that the system is currently impacting a large number of tourists, or the tourism community, due primarily to a lack of awareness of the system by tourists.

Cross-Cutting Findings

Although each of the four study sites is unique, a number of common, cross-cutting findings emerged from the study:

Integration of traveler and tourism information is in its early stages. There are few systems that fully integrate content or overtly cater to tourists. However, there appears to be significant interest in the concept, and many agencies are taking steps in the direction of greater coordination.

Integration of multistate tourism information may be of growing interest. The three northern New England states of Vermont, New Hampshire and Maine have chosen to join forces in the TRIO project to provide tourists with both transportation and tourism information. The Utah Transportation Authority indicated that through their participation in the multi-state CANAMEX (Canada to Mexico) Corridor Program they had learned that some state tourism organizations had taken a keen interest in how tourism information might be included in CANAMEX traveler information activities.

Cumulative impacts on tourists are limited. Currently, traveler information systems are impacting relatively few tourists in proportion to the total number of tourist travelers. Primarily this is because there are few tourist-oriented traveler information systems and secondarily because overall awareness and usage levels of most traveler information systems are relatively low.

Traveler information is valued by tourists and the tourism community, and may have a significant impact in some locations. The very limited data available suggest that tourists generally value traveler information and that it does have some impact on their travel decisions. The survey data from Acadia indicated that tourists are influenced by traveler information, especially with regard to mode choice in that particular situation. Representatives of tourism organizations believe that traveler information is important

and that traveler information systems are important services. However, they have criticism and concern about the way those systems are designed and believe greater coordination between the two constituencies is needed.

Visibility and awareness levels are still low. Based on survey data, key informant interviews, and on-site observations by the study team**,** most traveler information systems are not very visible, for they do not stand out within the dense information environment and ubiquitous roadside clutter. The anomalous 40% awareness level of Maine's 511 system among Maine residents was most likely a result of negative controversy in the media and not a result of a marketing campaign. Tourist businesses have not been enlisted as partners in raising awareness of traveler information systems among their customers, despite their day-to-day connection with the target audience.

Coalition-building with the tourism community is not complete. Many tourism stakeholders are not fully "on board." Although they appreciate traveler information systems in concept, many of them feel some combination of confusion, concern or frustration regarding how traveler information systems have been coordinated with tourism information and believe promotion to be inadequate. They expressed a sense of encroachment on their turf and mistrust of transportation agencies' abilities to communicate traveler information in a way that will not create adverse business impacts.

Tourism concerns about adverse impacts are common, but vary by locale. In both Acadia and Branson some tourism stakeholders expressed serious concerns about the potential for traffic delay and incident information to "scare off" potential tourists, who might still be evaluating alternative destinations and conducting pre-trip planning via the Internet. On the other hand neither the Shenandoah Valley key informants nor those in Salt Lake City had strong reservations about telling travelers about traffic conditions. Contributing to these opposite views could be the scale of the transportation system and the geographic resolution of traveler information. In larger areas where only major roads are covered, tourism business operators may not feel that traveler information is as likely to steer customers away from their location as operators in rural areas with few roads.

Coordination with National Parks is still spotty, but there are signs of improvement. Although National Parks may be providing travelers with information for the park (e.g. Shenandoah's telephone information system for Skyline Drive), such systems are not closely coordinated with broader regional traveler information systems. Acadia National Park is an example of close coordination, whereas Shenandoah National Park has had little or no coordination. The Shenandoah and Utah experiences, where dialogue between the traveler information system operators and the parks is underway, suggest that coordination will increase.

Private partner revenue streams are still unproven. Value-added repackaging, advertising, and other revenue generation mechanisms have generally not been successful. The Virginia 511 system was the only one of the four case studies to feature a private party revenue model (paid advertising by food, lodging and attraction operators) and to date that model is not turning a profit.

Technologies appropriate for delivering transportation information may not be the same for tourism information. While travelers may find automated and succinct reports of travel conditions acceptable for trip-making decisions, tourism representatives tend to feel that tourists need more personalized attention, especially on telephone-based systems. Thus, except for imparting standardized information such as hours that a tourist attraction is open, live operator services that can help travelers plan a trip are thought to be more appropriate. In addition, despite substantial usage of tourism websites, tourism representatives thought they had little value for tourists during their trip due to lack of access.

Funding and operational issues for integrated traveler information systems remain to be solved. As the Branson example illustrated, one cannot assume that a system will be sustained. An on-going funding source is needed to ensure that the content is kept current and the technology supporting the system is maintained, if not enhanced, over time. This is true for traveler information systems that don't contain tourism information, and the addition of more content and linkages to other organizations requires even more resources to sustain the system.

Institutional Considerations in Integration of Traveler and Tourism Information

Two key factors were identified that appear to explain much of the current state of integration of traveler information and tourism information efforts. First, most traveler information systems have been created and operated by transportation agencies. In many cases, the initial objective was to consolidate and share information internally. Over time, these systems have incrementally expanded their focus. Only recently have most of the operators of these systems begun to consider tourists as an explicit subset of users or tourism promotion as an objective. The expansion of focus has often been unilateral—that is, the transportation agency operators of the systems have determined what new information to add and how to present it. These factors help explain the fact that most traveler information systems are not oriented to tourists, and there is not a great deal of coordination of information strategies between transportation agencies and tourism organizations.

Second, the transportation agencies responsible for most traditional traveler information systems and the tourism organizations responsible for tourism promotion come from very different worlds. These two groups are comprised of different institutional stakeholders, with differing organizational objectives, perspectives, and customs that affect how they approach providing information to travelers. These differences are reflected in the following ways:

- The nature of the traveler that they are used to serving may not be the same. Consumers of traditional traveler information and tourism information have different needs, motivations and concerns from tourists. Daily commuters usually have less flexible itineraries and a lower tolerance for delay and are, therefore, likely to be more motivated to actively seek out traveler information. Commuters

are also less particular about route choices; they are generally open to whatever route will get them to their destination in the least amount of time. Tourists, on the other hand, may be less sensitive to delays and less motivated to search out travel information. Tourists also have stronger route preferences—often the specific route is part of the vacation experience—and may be willing to tolerate congestion rather than miss out on the attractions and sites along a specific route.

- Facilitating mobility while minimizing the number of individual vehicle trips is usually one of the objectives of the transportation agencies that operate traditional traveler information systems. Tourism organizations seek to attract trips to their area and may prefer to tolerate traffic congestion rather than risk discouraging travel to their area by disseminating information showing severe congestion.

- Transportation agencies tend to have a macro orientation focusing on aggregate transportation network outcomes, such as reducing total delay and accidents. Tourism organizations, on the other hand, serve individual tourism businesses and have a more micro orientation--individual route selection matters.

Recommendations

Based on the findings of the study, the following recommendations are made to current and future traveler information system operators and their partners:

- Make traveler information systems more useful to tourists by targeting tourists in marketing and promotion efforts and orienting user interfaces to tourists, instead of focusing solely on adding tourist-specific content.

- Integrate traveler information system information into existing tourism information systems in addition to or rather than the reverse.

- Conduct vigorous marketing and promotion with the goal of educating tourists on the benefit of traveler information and how best to utilize the system, rather than simply promoting awareness.

- Establish long-term commitments to operations and maintenance.

- Continue to explore revenue-generation models but don't assume that they will significantly defray costs in the near-term.

- Reach out and coordinate with tourism stakeholders; leverage their expertise and capacity for reaching tourists directly and educating them regarding the value and the use of traveler information systems.

- Be sensitive to tourism stakeholders' concerns about scaring off tourists with congestion information. Managing those concerns can be as simple as

coordinating with tourism stakeholders and/or making slight modifications in the format of congestion alerts.

- Be patient and persistent and don't count on dramatic near-term successes. As with traveler information in general, significant benefits of traveler information for tourists and promotion of overall tourism will come only over time, as these impacts depend on changing travelers' mindsets and ingrained behaviors.

1.0 INTRODUCTION

This report is the fourth deliverable and final report for a cross-cutting study of the impacts of 511 and other traveler information systems on tourist destinations, including national parks. This report summarizes the study purpose and approach and presents findings and recommendations.

1.1 Study Objective

Tourism is a major sector of the U.S. economy accounting for $379.1 billion of Gross Domestic Product in 2002.[1] For some regions and communities, tourism is an economic mainstay, and marketing to tourists to enjoy the local attractions and spend their money is an important on-going endeavor. With transportation playing a crucial role for tourists in both reaching a destination and enjoying themselves while there, providing traveler information to assist tourists would appear to be a valuable service that transportation agencies could provide.

Proponents of traveler information have long advocated the potential benefits to travelers who take advantage of information available by 511 or other telephone number, the Internet, cable TV, and other means. In research on traveler information systems, users have reported a variety of benefits, such as assisting them in making better travel decisions, avoiding travel congestion and delays, or easing their concerns.[2] These benefits don't accrue to just travelers in metropolitan areas, but can apply to rural tourist settings as well. For example, in a recent study at Acadia National Park, traveler information helped visitors avoid parking and traffic congestion and encouraged them to take the shuttle bus service to reach desired destinations.[3]

While it appears that traveler information can provide benefits to tourists, there has not been an attempt to systematically document these systems in a manner that would provide useful lessons for tourist businesses and parklands. Neither have questions about the impact of roadway congestion, parking availability and other traveler information on the promotional efforts of tourist businesses been thoroughly investigated. For this reason the ITS Joint Program Office undertook this assessment of traveler information systems currently in use to determine how the interests of travelers, transportation agencies, and tourist businesses are addressed and, to the extent possible, further document specific tourism benefits. The objective of this assessment was to create a cross-cutting study document that would highlight the quantitative and qualitative information gathered in the study.

[1] Bureau of Economic Analysis. Data on Travel and Tourism. July, 2003. Reported at BEA Website http://www.bea.doc.gov/bea/dn2/home/tourism.htm.
[2] Lappin, J., "What Have We Learned about Advanced Traveler Information Systems and Customer Satisfaction?" U.S. DOT, JPO, December 2000.
[3] Zimmerman, C.A., Coleman, T.G., and J. Daigle. July 2003. Evaluation of ITS Field Operational Test at Acadia National Park: Final Report. Report to U.S. DOT ITS JPO.

1.2 Report Organization

Section 2.0 of this report presents the study methodology, including the selection of study sites and the overall approach to data collection and analysis. Sections 3.0 through 6.0 present the results of the investigation for each of four study sites. Section 7.0 presents overall study conclusions and recommendations.

2.0 STUDY METHODOLOGY

This section describes the process used to select study sites and the overall approach to data collection and analysis.

2.1 Selection of Study Sites

The objective in selecting study sites was to select a limited number of sites (four), thus allowing for in-depth analysis, while at the same time representing a variety of traveler information system approaches and settings. The process to select sites featured the following three steps:

1. Identification of Candidate Sites
2. Development of Site Selection Criteria
3. Application of Site Selection Criteria and Final Selection

Details of the process can be found in the Appendix.

2.1.1. Identification of Candidate Sites

A two-pronged approach was utilized to develop a list of candidate sites that was as comprehensive as possible, working from both an extensive list of traveler information systems and a large pool of significant tourist destinations. The objective in working from both directions was to minimize the chances of missing an important site that might not surface as one of the very top sites based strictly on one of the two criteria. This step resulted in the establishment of a list of 48 candidate sites that were tourist destinations that had some form of traveler information system.

2.1.2 Development of Final Selection Criteria

Several key criteria were identified to winnow down the list of 48 candidate study sites to a much smaller number of sites from which the final selection of four study sites would be made. Those criteria are:

- **Real-Time Information** – for a number of years the state-of the practice in advanced traveler information systems has been to provide real-time traveler information. Thus, only systems containing real-time traffic and/or transit information were considered candidates for study.

- **Tourism Orientation** – Opportunities for learning about how traveler information systems impact tourism are greatest when the traveler information systems are visible to tourists and at least to some extent, cater to their needs. Thus, other factors being equal, a premium was placed on systems that featured some coordination of traveler and tourism information.

- **Mature Systems** – A premium was placed on sites featuring traveler information systems that had been operating for at least a couple of years, where the systems are well established, promotion and marketing activities have had a chance to work and where awareness and usage levels among both locals and tourists would likely be highest.

- **Visible Systems** – A premium was placed on sites with traveler information systems that have received the most media attention, have the highest levels of awareness, have been promoted by businesses, have been well advertised and have been co-marketed with public or private sector products or services (e.g., information included in tourism board media kits). The rationale was that usage levels would be highest for these more visible systems.

- **Available Data** – As a cross-cutting study, the focus of this project was on drawing overarching conclusions based on analysis of results from various locales, rather than on performing extensive primary data collection. As a result, a premium was placed on potential study sites where existing usage and customer satisfaction data were available, and especially on locations where formal evaluations have been performed.

- **Other Considerations** – Above and beyond the preceding key selection criteria, there was an interest in insuring a varied pool of study sites. As a result, the following additional factors were taken into consideration in the final selection of sites:

    - At least one 511 service
    - Systems that feature multiple user interfaces
    - At least one site that includes a National Park
    - At least one site in a large urban environment
    - At least one site in a small town or rural environment

2.1.3 Selected Study Sites

The 22 candidate locations with high tourist density became the focus of more scrutiny from a traveler information standpoint. Table A-2 in the Appendix lists these 22 sites and the criteria for selection discussed in the preceding sections. The cells of the table are populated with information either derived from other sources or from the study team's personal knowledge about specific sites and their traveler information system. This latter point is pertinent to the following criteria: years of operation (maturity), media coverage, advertising, co-marketing, promotion by businesses, system usage data, and previous evaluations. Considerable effort would have been required to make contact with persons at individual sites to gather information for every cell in the table and, thus, many cells for those criteria show "NA" indicating that information was not available to the study team at the present time.

Given the unavailability of information for many of the criteria, it was not possible to systematically apply many of them to the 22 sites. Instead, drawing upon readily available information and the knowledge of the study team members three sites from the list of 22 most tourist intensive locations were identified that appeared to be the most promising candidates for in-depth study. These sites along with the rationale for selection are as follows:

- **North Carolina-Virginia, Shenandoah Valley**. It has 511 and a website; has been evaluated; is a rural corridor; and has a major public tourist destination (Blue Ridge/Shenandoah National Park.)

- **Maine, Acadia National Park**. It has 511 and websites; a park and gateway community; has been evaluated; and has a major public tourist destination (the Park.)

- **Missouri, Branson**. It has a variety of user interfaces; is a small town; has been previously evaluated; and has major commercial tourist destinations. In addition, in so much as the system appeared to have diminished over time, it was thought to represent an opportunity to investigate how and why a traveler information system might not flourish in what seems to be an ideal (high tourist density) setting.

Because the three sites selected from the 22 most tourist-intensive locations were all in rural areas or small towns, for the sake of balance in coverage a large urban location was selected from among the rest of the list of 48 candidate locations. The site selected was:

- **Utah, Salt Lake City**. It has both 511 and a website; is a large city; has been evaluated; has public and commercial tourist destinations; and recently hosted a major international tourist event, the 2002 Winter Olympic Games.

These four sites were, then, selected as the four project study sites.

2.2 Data Collection and Analysis

This section describes the overall approach to data collection and analysis that was utilized in examining the four study sites: Shenandoah Valley, Virginia; Acadia National Park, Maine; Branson, Missouri; and Salt Lake City, Utah. Data collection and analysis methods specific to each site, along with the results of the analysis, are described separately for each site in Sections 3.0 – 6.0.

2.2.1 Overall Data Collection Approach

The overall approach to data collection and analysis for the four study sites featured the following elements:

1. Initial Telephone Calls to Key Stakeholders
2. Remote Data Collection
3. Site Visits to Interview Key Informants and to Facilitate Data Collection

The research into each of the four study sites conducted during the site selection process did not include any contact with local traveler information system participants, so the logical first step in investigating each site was to make an initial phone call to one or two key stakeholders (i.e., traveler information participants) associated with each study site. The initial phone call(s) to each system focused on the following four objectives:

- Rounding out the understanding of the system (data content, dissemination methods, etc.);
- Identifying an initial set of system participants (potential key informants) and obtaining contact information;
- Assessing availability of data from existing sources; and
- Assessing the willingness of the system participants to cooperate with the cross-cutting study effort.

The last two factors were considered especially critical in determining whether to move forward with each study site. Data collection kick-off teleconferences were held with key stakeholders from each of the four sites in January and February 2004. A list of data needs was developed to serve as guide for the teleconferences and for data collection efforts overall. That data needs list is shown in Table 2.1.

The second component of the data collection and analysis effort consisted of remote (off-site, via e-mail, from websites, etc.) collection of as much data as possible, including previous evaluation reports, traveler information system usage data, etc. The initial telephone calls to the key stakeholders served to initiate that process.

The third element of the data collection and analysis effort consisted of site visits of 3 to 4 days in length to each of the four study locations. The visits provided an opportunity to view the traveler information system in operation, facilitate the collection of any data that had not previously been collected remotely, and most importantly, to interview key informants—individuals who have been involved in the development and operation of the traveler information system and/or who are in a position to provide perspective on the impact of, or relationship with, the traveler information and tourism activities in the area.

Table 2.1
Data Needs List

Data Area	Data Need
System Information	• Participants, roles and responsibilities (including exchange of information with other systems) • Business model/partnerships • System history (genesis, milestones, operating history, etc.) • Data sources and fusion techniques
Prior Evaluation Work and Data	• Existing evaluation documentation • Transportation system data (mode choice, average travel times, road and parking congestion levels, transit ridership, crashes, etc.) • Economic data (visitation data, tourism spending, number of tourist businesses, etc.) • Traveler information system usage data • Customer satisfaction data • Management and deployment issues (e.g., lessons learned) • Other data types and sources
Key Informant Contacts	• Local Transportation agencies • State & Federal Transportation agencies • Tourism/Economic Development agencies • Tourist attractions/businesses • Others
Awareness	• Media coverage • Traveler information system promotion and marketing

2.2.2 Data Availability Implications

At the outset, it was anticipated that limited data would be available on the transportation and economic impacts of traveler information systems. Although these sorts of impacts are important "ultimate" objectives of most traveler information systems, the challenges associated with identifying the influence of traveler information on these objectives have resulted in a marked absence of data. As indicated in Table 2.1 above, the initial data screening for each of the four study sites included a scan for this type of information, but it quickly became clear that data of this type were generally not available for the four study sites. As a result, increased focus was placed on available sources of data: usage (and awareness), customer satisfaction and key informant interviews. The latter in particular were expected to yield important perspectives on factors influencing traveler information system impacts on tourism. The study site reports (Sections 3.0 – 6.0) are organized around these three areas of data analysis.

3.0 ACADIA NATIONAL PARK, MAINE

This section presents the findings of the investigation of the traveler information system for the region of Acadia National Park on Mount Desert Island in Maine. Divided into three subsections, the section starts with an overall profile of the Acadia region and the traveler information systems that support it. The second section presents study findings, organized broadly into three areas: system usage, customer satisfaction, and perspectives of key informants. The final section summarizes findings and presents conclusions.

3.1 Site Profile

This section describes the general characteristics of the Acadia National Park/Bar Harbor, Maine area, including the transportation system, the tourism characteristics of the area, and the traveler information systems serving Acadia.

3.1.1 General Characteristics

Acadia National Park is located on Maine's Mount Desert Island along the rugged and beautiful northern New England coast (see Figures 3.1 and 3.2) known as Downeast. Although the year-round population of the Island is only about 9600, the number of people on the Island nearly triples in the warmer months when part-time residents and tourists return. The proximity of Acadia National Park to population centers of the Northeast helps to make it one of the most heavily visited National Parks. In 2003 it received 2.431 million visitors with 75% from June through September.[4]

Established in 1916 starting with donations of private land holdings, Acadia National Park today consists of 35,000 acres of forests, rocky outcrops, and lakes and streams. Owing to its history, the Park is interspersed with a number of public roads providing access to the town of Bar Harbor and several other small communities on Mount Desert Island. Access to the Island is by one road—State Route 3—or by boat, including the large Bay Ferry service to and from Nova Scotia and the cruise ships that now make Bar Harbor a port of call. Over 90% of the visitors arrive by private vehicle.[5]

Figure 3.1 Coast of Mount Desert Island, Acadia National Park

[4] National Park Service website, http://www2.nature.nps.gov/stats/.

[5] Zimmerman, C.A. T. Coleman, and J. Daigle. July, 2003. Evaluation of Acadia National Park ITS Field Operational Test: Final Report. For the U.S. DOT ITS Joint Program Office, Contract DTFH61-96-C00077.

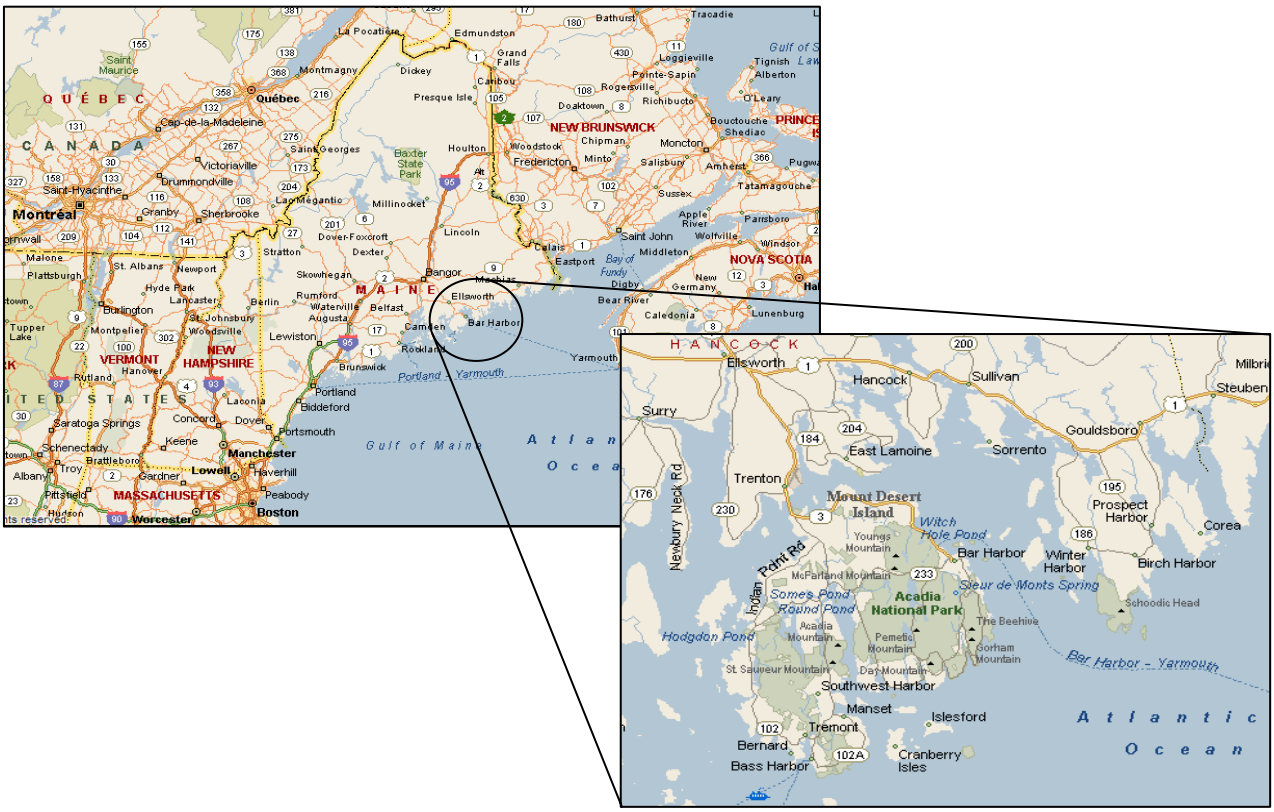


Figure 3.2. Map Showing Location of Acadia National Park on the Maine Coast

Throughout most of the year, the transportation concerns of Acadia and Mount Desert Island are no different from other rural areas and small towns of the region. It is the tourist season that challenges the capacity of the transportation system. The Park's General Management Plan of 1992 called for "replacing private automobiles with nonmotorized means and a public transportation system."[6] In 1998 a Park visitor survey revealed that visitors themselves were expressing concern about traffic and parking problems, even though they were highly satisfied with their visit overall.[7] Traffic congestion and limited parking in both the Park and towns led to the establishment in 1999 of the free shuttle bus system known as the Island Explorer, and it has been tremendously popular with both visitors and residents alike.

3.1.2 Tourism Characteristics

Tourism is considered vitally important to the Maine economy where it accounts for 15% of gross state product compared to 5% nationally.[8] Within the state the Downeast region (especially Mount Desert Island with Acadia National Park, Bar Harbor and other small vacation towns) receives a disproportionate share of those tourism dollars.

[6] National Park Service. 1992. General Management Plan, Acadia National Park. Bar Harbor, ME. 100 p.
[7] Littlejohn, M. 1999. Acadia National Park Visitor Study: Summer 1998. Report 108 Visitor Services Project. Cooperative Park Studies Unit, University of Idaho.
[8] "Governor Baldacci Announces an Economic Development Strategy for Maine." 2004. http://www.econdevmaine.com/GOVeconomicStrategyJan212004.htm.

Visitors to Mount Desert Island are drawn to the region for the beautiful scenery of Acadia National Park and other parts of the Island, where they can pursue a variety of activities from simple sightseeing to more active pursuits such as hiking, rock-climbing, sea kayaking, and biking. The picturesque small towns are also a major draw for shopping and dining, and Bar Harbor has become a frequent port of call for cruise ships.

Survey data[9] reveal that visitors to Acadia National park tend to be well-educated, from states in the Northeast, and arrive in parties of two to three persons, usually with family members. Over 90% arrive by private vehicle and they tend not be transit users at home. Most stay at least four nights and spend over $300 excluding lodging.

3.1.3 Traveler Information Systems

As illustrated in Table 3.1, a variety of information sources are available in Maine that provide traveler information, i.e. some type of real-time or static transportation information, tourism information, or a combination of both. Some are devoted specifically to Acadia and Mount Desert Island, while others include the region as part of statewide information. While there may be other public and private sector traveler information sources about the region, those listed in Table 3.1 are the most prominent and each of them is described in this section.

Table 3.1
Traveler and Tourism Information Sources in Maine

Traveler Information System	Operated By	Principal Type of Information
511 telephone number (1-866-282-7578 out-of-state)	Maine DOT	Traveler and Tourism
www.511maine.gov	Maine DOT	Traveler and Tourism
www.exploremaine.org	Maine DOT	Traveler
www.visitmaine.com	Maine Office of Tourism	Tourism
www.exploreacadia.org	Downeast Transportation, Inc.	Traveler
Acadia National Park information telephone number 1- 207-288-3338 (1-207-288-8800 TTY)	Acadia National Park	Tourism and Traveler
www.nps.gov/acad/home.htm	Acadia National Park	Tourism and Traveler
www.mainetourism.com	Maine Tourism Association	Tourism
www.barharborinfo.com	Bar Harbor Chamber of Commerce	Tourism

As will be noted in the discussion that follows, the information sources tend to be linked to each other. That is, information that is not resident on the "home" source is accessible through either a phone connection or link to another website. These linkages represent various degrees of integration of traveler and tourism information that provides an expanded set of content available to the tourist. However, some information sources

[9] Zimmerman, C.A. T. Coleman, and J. Daigle. July, 2003. Evaluation of Acadia National Park ITS Field Operational Test: Final Report. For the U.S. DOT ITS Joint Program Office, Contract DTFH61-96-C00077.

figure such linkages more prominently than do others, and thereby make it easier for the tourist to obtain the sought-for information.

511 Telephone and Website

In 2003 the Maine Department of Transportation launched its 511 telephone system and website to provide information for eight regions of the state, including Downeast, the area in which Acadia National Park is located. Road signage was placed on major highways throughout the state as shown in Figure 3.3.

Figure 3.3. 511 Signage at Maine Visitor Information Center on I-95 North Near Hampden

Maine's voice-activated 511 telephone service (or 866-282-7578 out of state) features the following eight top-level menu items:

- Highway Traffic
- Road Weather
- Regional Summary
- Acadia National Park
- Tourism
- Ferry Service and Transit
- Other States
- Help

High priority announcements are provided at the beginning and then the user is asked to select the menu item by speaking the words. Tourists interested in driving conditions can select specific routes (e.g. I-295) under highway traffic or get regional summaries for a

particular section of the state. Road weather advisories are also available by route or region. Information on other transportation alternatives is available under ferry service and transit.

Asking for tourism information transfers the caller outside the 511 system to information provided by the Maine Office of Tourism. The caller can request either event information, and hear a description of events around the state during the month, or visitor information centers, and obtain the addresses and telephone numbers of the seven centers. Acadia National Park takes the caller to the Acadia and Bar Harbor regional menu, and the menu options in that section of the 511 service include:

- Traffic within 25-miles of Acadia National Park
- Road weather
- Island Explorer, the free shuttle bus operating from the last week in June through Columbus Day
- Parking
- Transfer to Acadia National Park's telephone information system, where a caller can listen to automated information or speak to a live operator

The companion website operated by Maine DOT is www.511maine.gov (Figure 3.4). The transportation content is driven by the same database as the 511 telephone system. However, the Internet enables an expanded set of information to be provided and offers greater display options than possible by telephone, such as views from traffic cameras around the state, a French-language version of the website, and a text-only display of road conditions. The 511 website also has links to other webpages (Figures 3.6-3.8) that provide extensive tourist and recreation information.

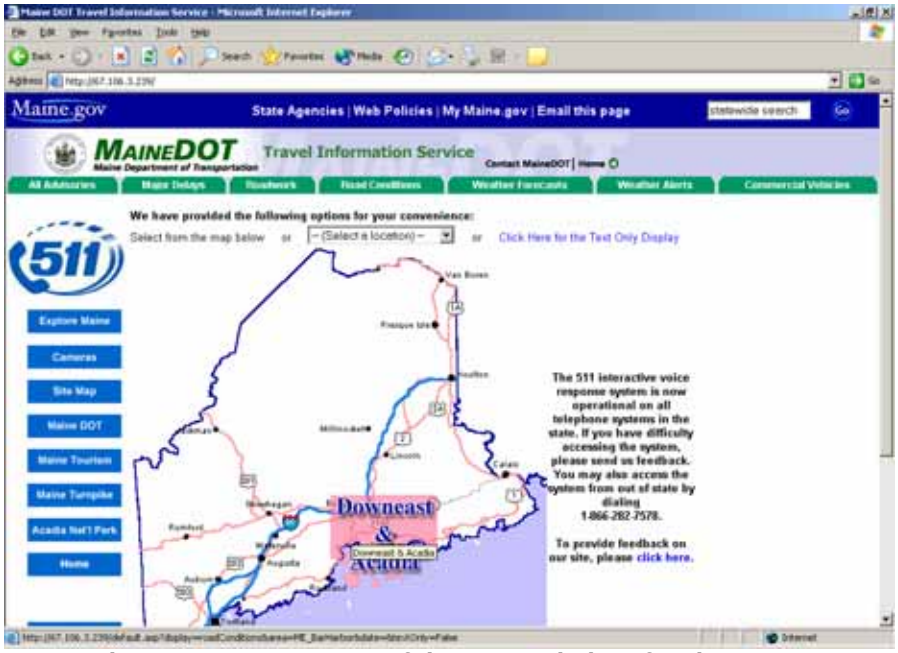


Figure 3.4. Homepage of the 511 Website of Maine DOT, with the Downeast and Acadia Region Highlighted

When a user moves the cursor over the region of Downeast and Acadia and clicks on the mouse, a detailed map is displayed. (Figure 3.4) By using tabs at the top of the page, the user can look at all advisories or focus on specific types of information: roadwork, road conditions, weather forecasts, weather alerts, or commercial vehicles. Some of the information is real-time such as accidents, weather, or current driving conditions, whereas other information is more static in nature, such as planned road construction or width limit on commercial vehicles.

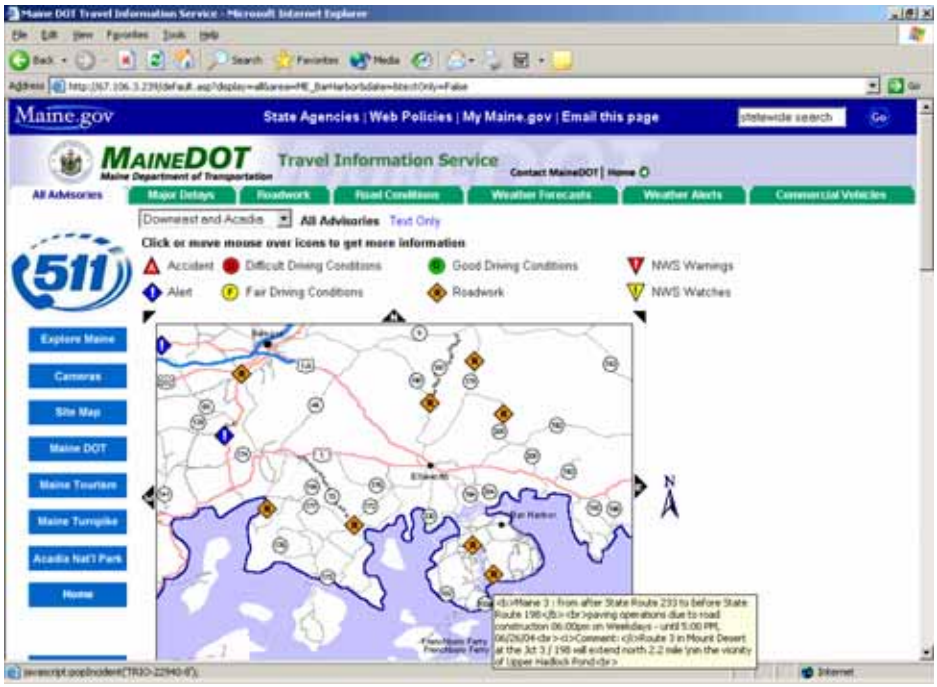


Figure 3.5. The Downeast & Acadia Page on www.511maine.gov, Illustrating the Categories of Information and Details Available

Transportation Alternatives Webpage

Linked to the 511 website is another Maine DOT website, www.exploremaine.org, that provides information on traveling by means other than private automobile, including air, bicycle, bus, ferry, and train, as well as information on scenic byways for traveling by car (Figure 3.5). While the target audience for the website appears to be the tourist or recreational visitor, it also provides travel options for commuters, such as carpooling information. From the "car" webpage, the user can be linked to www.511maine.gov to find "up to the minute travel information" before setting out.

Figure 3.6. Transportation Alternatives on the Explore Maine Webpage

Maine Office of Tourism Telephone Service and Website

The Maine Office of Tourism was established in 1992 within the Department of Economic Development. It has several 800 telephone numbers by which callers can make requests for information, such as the "Maine Invites You" brochure by mail. (The calls are actually answered by staff of the Maine Tourism Association under contract to the state.) In 2004, the Office of Tourism expects to expand the information available to callers who select the tourism option on the 511 telephone system by connecting them to a live operator to assist callers with travel planning.[10] However, the caller will be out of the 511 service at that point and getting back will require another call to 511. Already available at 1-888-Maine45, the live operator service is provided under contract by a Midwestern call center operator 24 hours a day and 7 days a week.

The Office of Tourism website www.visitmaine.com promotes tourism in the state and contains a wide variety of information arranged by region and category. Figure 3.7 shows the webpage for the Downeast and Acadia region available at the site. The visitor can select from information on lodging, dining, and various types of attractions and services to plan a visit to the region. Although the site offers transportation information under "plan your trip," it is restricted primarily to airlines, airports, and some transit. Maine DOT's 511 website has a link to www.visitmaine.com, but there is no link the other way nor is there other information related to traffic.

[10] Personal communications with Nat Bowditch, Assistant Director, Maine Office of Tourism.

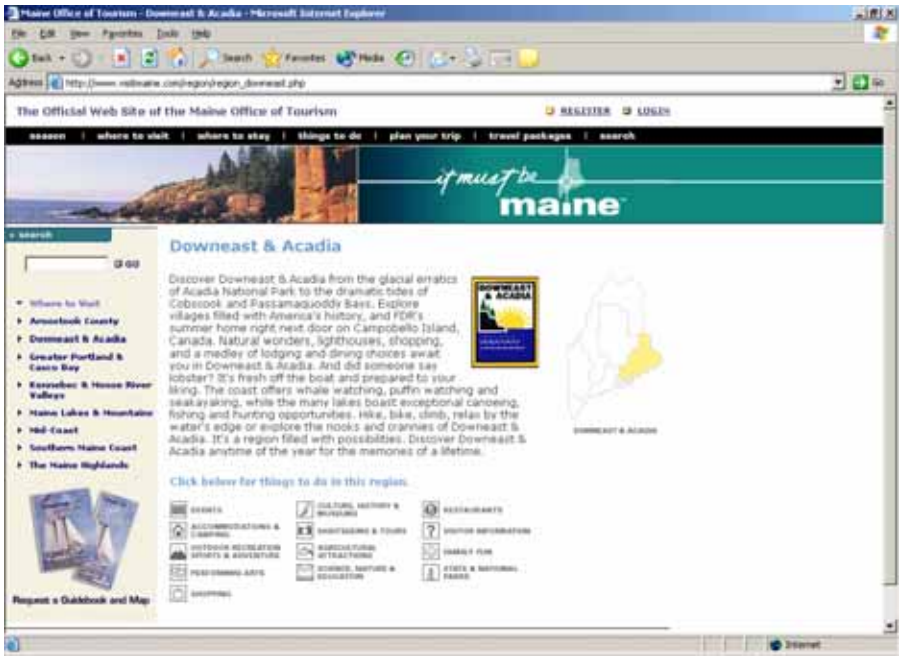


Figure 3.7. Downeast & Acadia Webpage on www.visitmaine.com

The Island Explorer Website

The website www.exploreacadia.com (Figure 3.8) promotes travel in Acadia National Park and other parts of Mount Desert Island by means other than the private vehicle. Chief among those alternatives is the free shuttle bus service known as the Island Explorer. The website provides information on routes and schedules of the bus. When the bus is in operation from late June through Columbus Day the site also displays real-time location of the buses and time of its departure from specific stops. The site has a car-free page that tells how to get to the Island by bus, train, plane, and ferry, and information about how to explore the Island car-free is shown, too. Links are provided to Acadia National Park's website and to the non-profit organization Friends of Acadia. Although Maine DOT's 511 website has a link to www.exploreacadia.com, there is no link the other way should a visitor start with this site first.

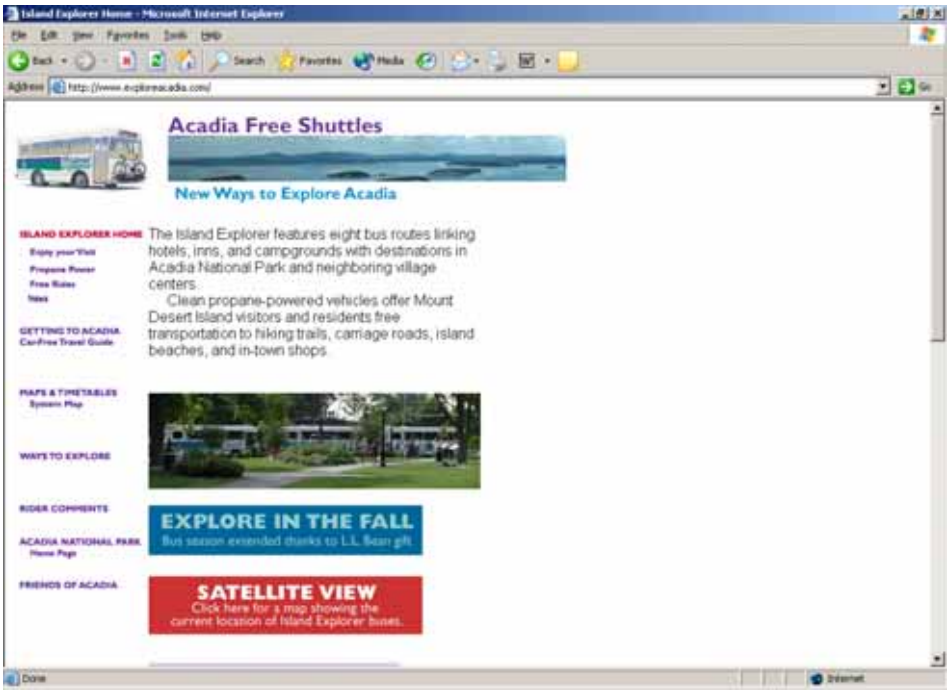


Figure 3.8. Island Explorer Website, www.exploreacadia.com

Acadia National Park's Website and Telephone Information Number

The Park has both a website, www.nps.gov/acad/home.htm (Figure 3.9), and a telephone information number 1-207-288-3338 (1-207-288-8800 TTY). For the visitor, the website provides a compendium of information about the history and features of the Park and things to do. It also provides information on how to get to the Park by various modes and especially highlights the Island Explorer for getting around within the Park. In 2002 as part of the ITS Field Operational Test, the website contained information on availability of parking at the two most heavily used parking lots. The Park may again provide the parking lot information in the future.

The Park's telephone service provides an automated touchtone, menu-driven traveler information service with the following main menu options:

- 1 for camping
- 2 for fees
- 3 for transportation alternatives, including Island Explorer, commercial bus operations, airports, CAT/Bay Ferries
- 4 for hours and seasons
- 5 for park activities including current traffic conditions (with a transfer to Maine DOT's 511 service)
- 6 for Park facilities, including parking conditions (with a transfer to Maine DOT's 511 service)
- 7 for Chambers of Commerce
- 0 for a live operator

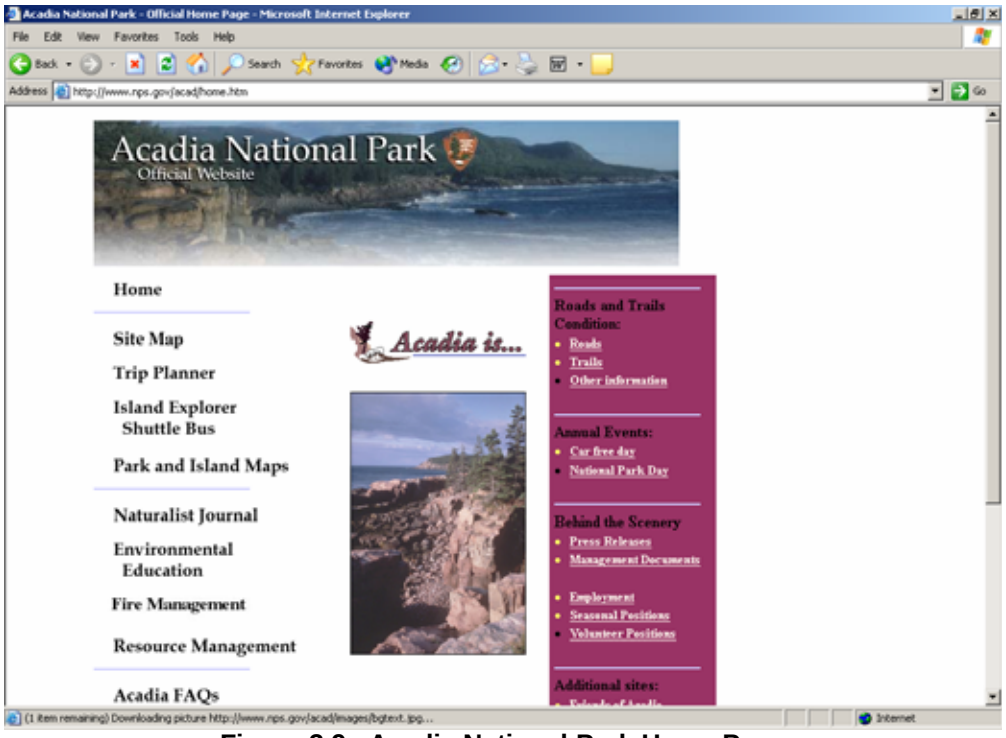


Figure 3.9. Acadia National Park Home Page

Maine Tourism Association Website

One of the oldest tourism industry groups in the U.S., the Maine Tourism Association was established in 1923. The Association is under contract to the state to staff the seven tourist centers on I-95 and provide other services. The association's website www.maintourism.com (Figure 3.10) serves as an advertising outlet for the many hotels, restaurants, and other tourist businesses comprising its membership. A visitor to the site can search for lodging, dining, attractions, or other services according to user-specified criteria, including the region of the state. An easy to see "travel resources" section includes such things as a link to Maine DOT's 511 website, contacts for train, plane, bus, and limousine services, and information on Maine Turnpike's renumbering of exits.

Figure 3.10. Maine Tourism Association Webpage

Bar Harbor Chamber of Commerce Website

The Bar Harbor Chamber of Commerce is a primary source of information about the town and Mount Desert Island in general. The vast majority of Chamber members are tourist businesses, and, thus, promotion of Bar Harbor as a tourist destination and providing information about places of lodging, dining, and other tourist services are important objectives. In addition to its website (Figure 3.11), it also publishes hardcopy materials and videos about the region. The website contains a limited amount of transportation information, such as a link to the Island Explorer website and information about getting to Bar Harbor from various East Coast locations. There is no link to the Maine DOT's 511 website.

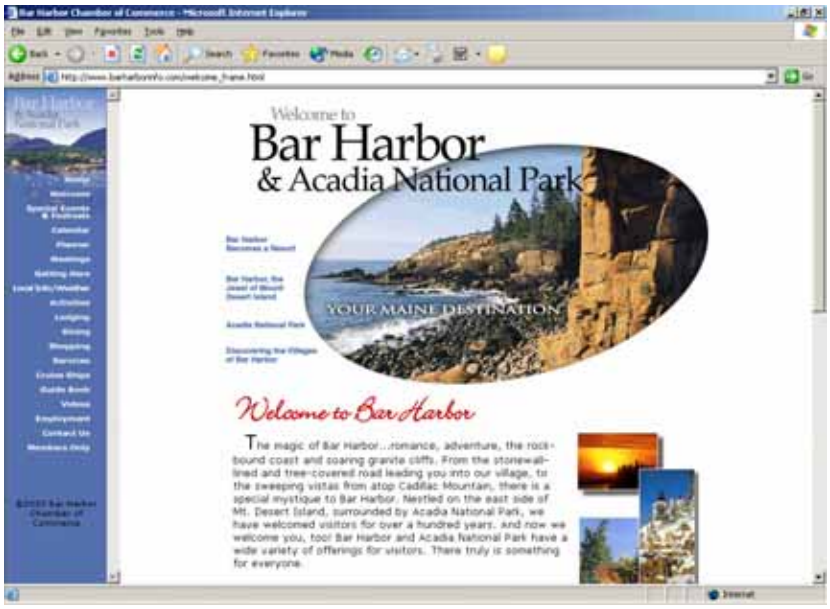


Figure 3.11. Bar Harbor Chamber of Commerce Website, www.barharborinfo.com

3.2 Findings

This section presents data on traveler information usage, customer awareness and satisfaction in Maine. Also presented are the findings from interviews with key informants who provided important perspectives on the traveler information services.

3.2.1 System Usage

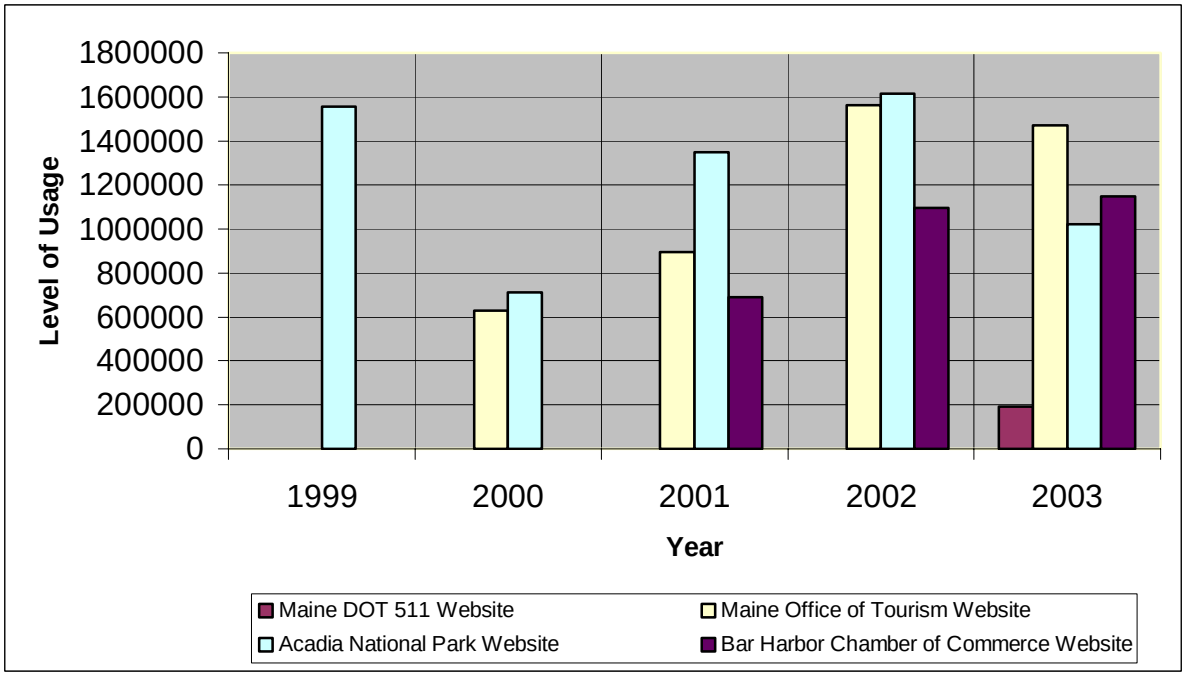
The various traveler information systems presented in the previous section have been in place for different amounts of time. For example, the Maine DOT's 511 phone and website were launched only in 2003, whereas the services of Acadia National Park have been in place for several years. Table 3.2 shows the usage statistics from 1999 through 2003 based on usage data that were made available for this study. It is difficult to compare the absolute numbers for website usage as service providers may not be measuring usage in the same way (e.g. hits versus page views versus sessions). However, it is possible to look at trends in usage over time for individual websites, as in Figure 3.12. In general the trend is one of growth. Indeed, anecdotal information from the providers indicates that usage of their websites is very robust, and there has been a reduction in use of phone-based requests for information as a result.

Table 3.2.
Usage Levels of Traveler Information Services in Maine

Provider	Traveler Information Service	1999	2000	2001	2002	2003
Maine DOT*	511 Phone					32152
Maine DOT**	511 Website					192028
Maine Office of Tourism	Phone Calls for Information	NA	NA	NA	NA	55229
Maine Office of Tourism	Tourism Website		627803	895717	1560854	1471874
Acadia National Park	Park Phone	14128	13486	11766	11722	8051
Acadia National Park	Park Website	1556425	712956	1350692	1613450	1020480
Bar Harbor Chamber of Commerce	Calls to 800 Number	NA	NA	20685	16993	12271
Bar Harbor Chamber of Commerce	Chamber Website			690273	1097242	1147680
Bar Harbor Chamber of Commerce	E-mail Requests			16748	17537	15819

*The 511 phone service was launched in May, 2003. Data are for May –December.
**The 511 website was launched in March, 2003. Data are for March-December.

Maine DOT's 511 website began in March of 2003, and its usage of 200,000 lags far behind the other websites. While its relative youth should be noted, it is also likely that the websites are tapping entirely different audiences. On the one hand, the 511 service is primarily transportation-oriented, (especially traffic and road conditions) and is unlikely to be the first website a visitor to the state would use when planning a trip. On the other hand, the other three websites are predominantly for tourists and while they provide some level of transportation information, they lack details about traffic. The one notable exception is that the Maine Tourism Association, which provides a relatively prominent link to 511 on its home page.



Note: Maine DOT 511 website launched in March 2003. Data shown are for 10 months.

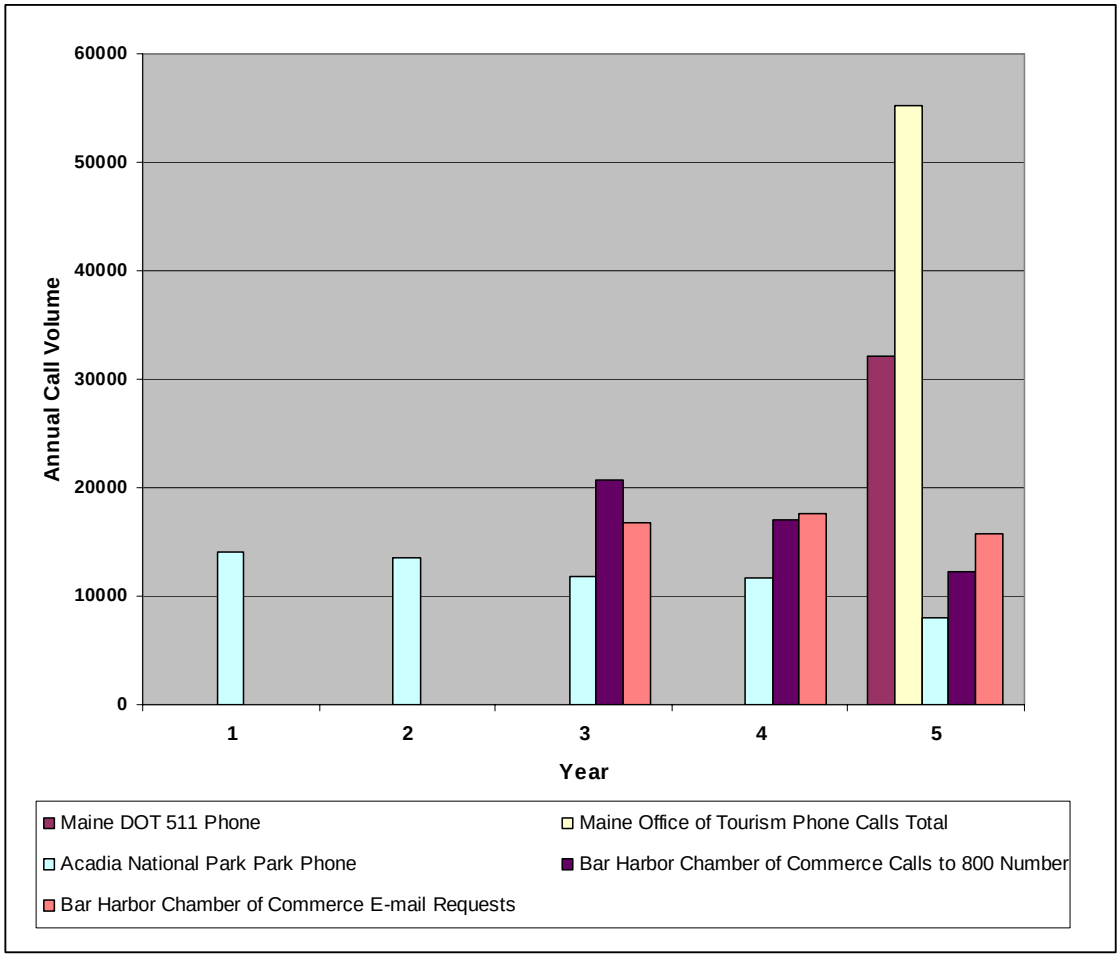
Figure 3.12. Usage of Traveler Information Websites in Maine

Turning to the telephone-based traveler information services, for those services with multiple years of data a general decline in usage is apparent in Figure 3.13, confirming the anecdotal observations of some of the key informants interviewed in this study. (Although only one year of data was available to the study team on usage of the Maine Office of Tourism phone calls, they were reported to have experienced a steep decline as well.[11]) Indeed, it may be a welcome trend, as staffed phone services are an operational expense that agencies and associations may wish to reduce.

On the other hand, Maine DOT's automated 511 telephone service was launched in 2003, with the expectation that usage of the service will continue to grow as it becomes more and more established in the state as a source of information on transportation information not only for commuters and other residents but for visitors to the state as well.

[11] Personal communication from Nat Bowditch, Maine Office of Tourism, March, 2004.

Nevertheless, it is hard to judge how much usage the 511 system is receiving from tourists. Tourists may be using the system to learn of traffic conditions along their route to Acadia or other destinations, but those calls can't be differentiated from calls by state residents Maine DOT estimated that the option for Acadia on the 511 phone service where tourists can learn about the Island Explorer or get information from Acadia National Park accounted for about 6-7% of total calls to the system during the summer of 2003,[12] and the monthly usage of the system was generally lower in the summer than during the winter. Another measure of the role of 511 in tourism is how many callers request a transfer to the information provided by the Office of Tourism on the service. In 2003, the Office of Tourism reported 313 calls transferred from 511 to their automated information. Thus, as was suggested in the discussion of website usage, the 511 telephone service may not yet be serving the tourism segment to a significant degree. When the 511 service begins to connect to the Maine Office of Tourism's round-the-clock call center with an operator who can assist tourists, and tourists are made aware of that feature on 511, the usage pattern may change.



Note: Maine DOT's 511 telephone service started in May, 2003. Data for May-December are shown.

Figure 3.13. Usage of Telephone & E-mail Traveler Information Services in Maine

[12] Personal communication form Sue Moreau, Maine DOT, January, 2004.

3.2.2 Customer Satisfaction

In 2003 the Maine Department of Transportation (MDOT) commissioned a statewide survey of 680 residents to gather their views on MDOT's performance and opinions about current services.[13] Pertinent to traveler information were the respondents' awareness and use of Maine's 511 traveler information system. 40.9% reported that they were aware of 511, and awareness was positively correlated with annual miles driven and household income. 64% of households earning $75,000 or more per year reported awareness compared to 19% with less than $25,000 in income. Yet awareness doesn't translate directly into usage of 511, for only 17% reported they had used the system. Nevertheless, 87% of those who had used the service said they found it "valuable" or "very valuable." While the high level of satisfaction with 511 is similar to that found in other locations,[14] the awareness level is about double. It is most likely attributable to the fairly high press coverage in the state when it was launched in May, 2003, and the controversy that ensued when some parts of the tourism industry voiced opposition to informing tourists of traffic and parking conditions at Acadia National Park.[15] Views of some key informants on this topic are presented below.

Although customer satisfaction data pertinent to the study are few, the results of the survey of visitors conducted as part of the ITS Field Operational Test at Acadia National Park provides some insight into tourists' use of and satisfaction with traveler information.[16] During the summer of 2002, visitors to Acadia had an opportunity to experience traveler information in the form of real-time information: when the Island Explorer would depart from specific stops, announcements of information about next stops on-board the bus, and the status of parking availability at the two most heavily used parking lots in the Park. A survey of 928 visitors revealed that visitors rated the traveler information sources very highly (86% or more) and that the information helped to relieve the stress or uncertainty of travel. The vast majority (78%) reported that using the information systems again on a future visit would be a pleasant experience.

Many visitors indicated that the traveler information impacted their travel decisions, a finding that supported a Park goal to encourage use of the Island Explorer and help spread demand for parking to sections of the Park with parking availability. For example, 43% of visitors who used the real-time parking information reported that they changed the time they visited a destination, 38% changed destinations, and 44% said it helped them to use the Island Explorer. Visitors who used the traveler information systems

[13] Pan Atlantic Consultants/Strategic Marketing Services. August, 2003. Report to the Maine Department of Transportation.
[14] 511 Deployment Coalition. 2004. The Value of Deploying 511.
[15] "What's the 511?" Editorial in the Bar Harbor Times, May, 2003; "Acadia parking jams to be excluded from traveler information." MaineToday.com, May 24, 2003; Cicotte, Carrie. "Acadia Nat'l Park - It seems like the ITS technology might be making a difference at Acadia National Park." Bar Harbor Times, May 29, 2003.
[16] Zimmerman, C.A. T. Coleman, and J. Daigle. July, 2003. Evaluation of Acadia National Park ITS Field Operational Test: Final Report. For the U.S. DOT ITS Joint Program Office, Contract DTFH61-96-C00077.

associated with the buses said that the systems made it easier to get around (>80%), saved time (69-80%), and helped them decide to use the bus (67-80%).

3.2.3 Perspectives of Key Informants

Valuable perspective on the traveler information systems was gained through discussions with those involved in developing and operating the systems. In addition, from an economic standpoint, the business community's perceptions of the role that traveler information systems should play and the impact of the current systems on their businesses were considered important for the study. This section discusses the results of interviews conducted in March, 2004 with sixteen key informants in either Augusta, the state capital, or on Mount Desert Island. Table 3.3 lists the interview subjects in terms of their position and the type of perspective that they could provide on the subject of this study. What follows are the major findings of the key informant interviews, organized around several themes.

Table 3.3.
Acadia National Park/Maine Key Informant Interviews

Interview Subjects	Relationship Traveler and Tourism Information
Executive Director, Maine Tourism Association	Top manager of the industry association responsible for promoting tourism statewide; familiar with Maine 511; provides perspective on traveler information in context of tourists needs and regional tourism efforts within the state.
Assistant Director, Maine Office of Tourism	Within the Maine Department of Economic and Community Development, the Tourism Office was established in 1992; provides perspective on government efforts to promote tourism and role of information.
Transportation Planner, Maine Department of Transportation	Involved in ITS Field Operational Test at Acadia National Park; participated in development of Maine DOT's 511 phone and website; familiar with issues surrounding transportation and tourism information.
Manager, Planning, Development and Engineering, Maine Department of Transportation	Involved in ITS Field Operational Test at Acadia National Park; participated in development of Maine DOT's 511 phone and website; familiar with issues surrounding transportation and tourism information.
Director, Office of Policy and Communications, Maine Department of Transportation	Familiar with policy issues surrounding promotion of tourism and providing traveler information to tourists; perspective on relationship between public and private sector roles.
Conservation Director, Friends of Acadia	Non-profit organization supporting mission of Acadia National Park; involved in ITS Field Operational Test at Acadia National Park; familiar with tourism and transportation issues on Mount Desert Island.
Assistant Superintendent, Acadia National Park	Involved in ITS Field Operational Test at Acadia National Park and 511 service development; perspective on Park's relationship with tourism industry and transportation issues relative to Park's mission.

Table 3.3.
Acadia National Park/Maine Key Informant Interviews

Interview Subjects	Relationship Traveler and Tourism Information
President, Bar Harbor Chamber of Commerce	Familiar with range of views on traveler information for tourists represented by Chamber membership. Provide perspective on controversy about the traffic and parking information on 511.
Nature Tour Guide and Business Owner	Perspective on how traveler information is advantage or disadvantage to the business.
Owner and Operator of Bed and Breakfast	Perspective on how traveler information is advantage or disadvantage to the business.
Owner of Restaurant	Perspective on how traveler information is advantage or disadvantage to the business.
Concessionaire for Restaurants and Shops in the Park	Perspective on how traveler information is advantage or disadvantage to the business.
Owner of Several Restaurants	Perspective on how traveler information is advantage or disadvantage to the business.
Owners and Operators of Bed and Breakfast	Perspective on how traveler information is advantage or disadvantage to the business.
Owner of Art Gallery	Perspective on how traveler information is advantage or disadvantage to the business.
Motel Manager	Perspective on how traveler information is advantage or disadvantage to the business.

- **The local tourism business owners have little awareness of traveler information sources –** Local business people interviewed were familiar with very few of the telephone services and websites available to tourists, and their perception of some sources is negative. Most had become aware of 511 only through the controversy that was stirred up about the inclusion of information on when the Park's parking lots were full, and for some of them the controversy has left a negative impression about 511. The general lack of awareness and negative connotation of traveler information draws into question whether the business community can or will educate tourists about traveler information sources that are intended to help them travel about Mount Desert Island. Their direct link with the visitor puts them in an excellent position to advocate traveler information sources, as they already do for the Island Explorer through distribution of printed schedule information.

- **Disagreement over the appropriate content of traveler information aimed at visitors –** Fundamental differences of opinion exist among those interviewed about what information visitors need and how it should be presented to them. From the macro scale of the state, there is a desire to provide information to make travel "as smooth and effortless as possible" and, thereby, enhance Maine's status as a tourist destination and increase the economic benefit of tourism for the state. At a micro scale, however, there is concern about being too honest about traffic conditions in a particular area as local businesses object that tourists might be scared away.

Responding to this concern, Maine DOT has changed the wording on its 511 system not to refer to traffic congestion, but rather to cite "factual delay" where it exists. For the same reason the DOT also has a policy of not recommending alternate routes.

On the other hand, it was reported that travelers at visitor centers are seeking advice on how to avoid traffic problems so they can reach their destination more easily, and staff at those centers would be better able to respond with traveler information systems that offer route options to help visitors avoid traffic. As one person put it, there is a "need for honesty." Some businesses on Mount Desert Island raised concern about being too specific about parking and traffic information, as such problems are normal for a popular tourist destination. However, if the information is going to be provided, several asked for a more explicit pairing with alternatives such as the Island Explorer to counteract a potential negative impression. Some business owners also questioned the need for real-time information at all, once a visitor arrives on Mount Desert Island. In their view the traffic and parking are manageable. The reasons cited are a belief that there is a regular turnover of parking spots in the Park, that the Island Explorer runs close to schedule, and that the traffic problems are not the same as the metropolitan commuter traffic that many visitors experience at home.

- **The best technological means for delivering traveler information to tourists isn't always apparent –** All interviewees agreed that electronic delivery of traveler information is useful and is being used by many visitors already. They cited the growing use of the Internet, with some tourists coming armed with webpages they had printed. As a pretrip planning tool, the Internet is a clear winner, but few interviewees felt it was useful for en-route information as most tourists don't have web access while on vacation. In addition, owing to the hilly topography of Mount Desert Island, cell phones work poorly and will not be a reliable means for obtaining information in many locations of the Island, thereby limiting the use of 511 telephone service. An old technology that is being rethought for dissemination of tourist-oriented traveler information is highway advisory radio (HAR). Maine DOT noted that HAR licenses require continuous broadcasts, and tourism information can be interspersed with traffic information in the broadcast cycle.

- **How much tourism information can be automated? –** While the transportation community has become comfortable with automation of much of the information that it wants to present to travelers, the tourism community sees limitations in automating its information. The tourism community is more interested in providing personal assistance to help tourists customize a trip that meets their specific needs. This is true at both the state level and local level, where shopkeepers and B&B operators can pass on their personal recommendations and insights about the local scene. While tourism-oriented websites may be great for pretrip planning, once they hit the road personal interaction is needed. That kind of personalized service is now provided by staff at the seven Maine visitor centers. Moreover, the Maine Office of Tourism is making its round-the-clock live call center an option on Maine DOT's 511 telephone service to provide personalized assistance to the traveler on-the-go.

- **In-state competitiveness and interstate cooperation –** From the interviews both in Augusta and in Bar Harbor, it was clear that within-state regional rivalry for tourists' dollars exists. Both the state government agencies and the Maine Tourism Association strive to be even-handed in how they deal with regions on transportation issues and promote tourism. In general, the state is looking to grow tourism so that its economic benefit can be spread to as many parts of the state as possible. The state is also promoting interstate cooperation on transportation and tourism through a project with the states of New Hampshire and Vermont known as TRIO. The states are already sharing transportation data placing it on their 511 phone and websites, and they are planning to coordinate tourism information as well.

  Tourist destinations within Maine, on the other hand, are competitive and less prone to cooperate with each other, according to some business managers in Bar Harbor. One suggested that the negative traffic reports on 511 were intended to scare people from the Bar Harbor region. Indeed, competitiveness is so strong that the Bar Harbor Chamber of Commerce prohibits its members from holding membership in other Chambers, a policy not held by Chambers in other areas.

- **The value of linking tourism and transportation information received broad support from interviewees regardless of role, but there is still room for improvement –** As one informant put it, "travelers want seamless information for their trip and they don't care about different domains of information." Yet the tourism and transportation communities recognize that they see the world through different eyes and they need to do a better job working together. For example, the business community in Bar Harbor felt they had not been brought to the table in the development of the 511 system, even though a Chamber official had been involved in the early stages of the ITS Field Operational Test, which evolved to be a part of 511. Clearly, on-going involvement would have benefited both parties. Another example cited by a business manager was that they would like to work with Maine DOT on crafting language that describes traffic conditions so that tourists aren't unnecessarily dissuaded from using certain routes and thereby miss businesses.

- **The Park's mission and its constraints in dealing with transportation problems are not adequately appreciated –** Protecting the resources of the Park are as critical as providing access to those who want to visit it. From the Park's standpoint, providing factual information about traffic and parking conditions and offering alternatives are a logical ways to manage travel demand in the Park. Yet a significant portion of the business community reacted negatively when such information was offered on 511. While some business people interviewed are sensitive to the challenges the Park faces and are open to being part of the solution, others are more focused on maximizing the experience of their customers and aren't necessarily concerned about how their practices impact Park resources. While Acadia National Park is clearly the most significant tourist attraction of Mount Desert Island, Park managers still struggle to achieve their mission within the context of the local tourist economy.

3.2.4 Study Site Conclusions

A number of conclusions can be drawn from the various sources of information used in the study of traveler information pertinent to Acadia National Park. To begin with the number of telephone and web-based sources of traveler information in Maine in general and the region of Acadia National Park specifically suggest that tourists are well served with abundant information about transportation and tourism in the state. Public and privately funded sources are available that provide information on travel conditions and travel options; information to plan a visit, including lodging, activities, and points of interest; and details on Acadia that will help visitors maximize their enjoyment of the Park once they are there.

The linkages between the information sources are not universal or, if the linkage is there, it is not always easy for the traveler to use. Tourism websites in particular don't facilitate access to Maine DOT information. While tourists may need and want information relevant to their trip-making, there is no consensus in the tourism industry on what to provide and how to provide it. Businesses worry about negative images that factual traffic and parking information may convey to visitors, as the controversy over 511 clearly indicates.

Usage of traveler information sources, especially those related to tourism, are robust in the state in general and the Mount Desert Island area specifically. Only one year of data was available on usage of transportation information in the form of the 511 phone and website, and, thus, a trend is not yet apparent. Nevertheless, phone usage appears to be off to a reasonably healthy start. Clearly, the state intends for it to serve as a central means for accessing both transportation and tourism information, because the Office of Tourism's call center is directly connecting to 511.

Actual usage of transportation information sources by tourists is probably fairly low. While it is not possible to identify the proportion of tourists using the 511 phone system, only 17% of Maine residents report that they have used it. Maine DOT estimates that callers who selected the Acadia menu item from the phone system accounted for about 6-7% during the 2003 summer months, a period when volume of calls was low relative to the winter period. Thus, it isn't obvious that the goals of informing tourists about real-time traffic conditions are actually occurring at this point in time, at least through the 511 system.

The key informants provided diverse perspectives on the integration of traveler and tourism information and on their experience to date with delivering such information to tourists. The views were sometimes divergent, often reflecting the fundamental differences in goals and motivations of the role of the key informant. While they all tended to support the idea of providing tourists with an integrated set of information, work still lies ahead in reaching agreement on the appropriate content of traveler information systems and method of dissemination.

4.0 BRANSON, MISSOURI

This section presents the findings of the investigation of the Branson, Missouri traveler information system. This section is organized into three subsections. The first presents an overall profile of the Branson area and the traveler information systems. The second section presents study findings, organized broadly into three areas: system usage, customer satisfaction, and management and deployment issues. The final section summarizes findings and presents conclusions.

4.1 Site Profile

This section describes the general characteristics of the Branson, Missouri area, including its location and transportation system; the tourism characteristics of the area: and the traveler information systems serving Branson.

4.1.1 General Characteristics

Branson is located in Taney County, in southern Missouri, approximately 10 miles from the Arkansas border. Figure 4.1 shows the location of Branson and the area roadway network. Branson is a small town; its total land area is about 16 square miles and the 2000 Census population was 6,050.[17] The nearest large town is Springfield, located approximately 40 miles to the north. Compared to the State of Missouri overall and to the City of Springfield, the proportion of older residents is higher in Branson, about 20 percent compared to the state and Springfield figures of around 14 percent.[18]

The transportation system in the Branson area is dominated by two roadways: State Highway 76 which runs east-west, and US Highway 65, which runs north-south and provides the primary link between Branson and Springfield, Missouri to the north and Arkansas to the south. Highway 76 is a two-lane road with a center continuous two-way left-turn lane. US 65 is a four lane divided controlled-access highway that intersects Highway 76 in the eastern portion of Branson. The Branson central business district, including the city offices, is located in the area east of the Highway 76/US 65 Interchange. Nearly all of the theaters and other tourism attractions are located along Highway 76 west of the US 65 Interchange.

[17] United States Census Bureau; "Population, Housing, Area and Density: 2000"; http://www.census.gov/main/www/cen2000.html; April 2004.
[18] Ibid

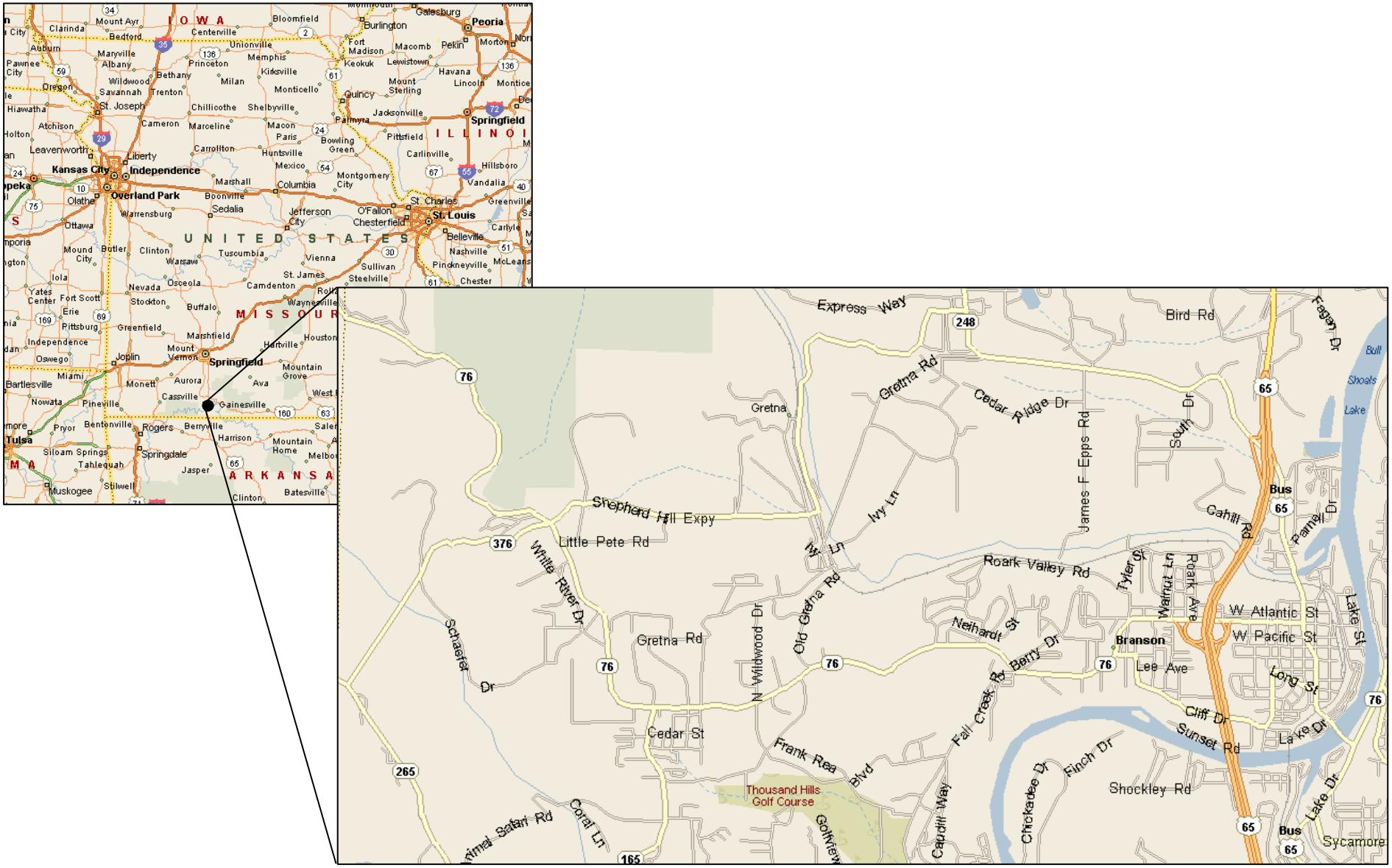


Figure 4.1. Branson Location and Detail Map

As will be discussed further in the context of the traveler information system, Highway 76, which runs along the crest of a ridge, appears to be the only obvious east-west route through the area and most logical way to access most of the attractions. However, there is in fact a well-developed network of alternate routes that roughly parallels Highway 76 and provides excellent access to points along the entire Highway 76 through Branson. These routes do not appear as obvious alternates to Highway 76 in part because of the topography of the area. Viewed from the high ridge of Highway 76, these routes drop down into side valleys and quickly wind out of view. To an unfamiliar traveler, it would not be at all visually clear that these routes parallel Highway 76.

Traffic is a significant concern in the Branson area. The main tourist season in Branson lasts approximately 9 months, from April through December. This period accounts for just over 90 percent of total visitation. During this period, severe traffic congestion is common on Highway 76 (Figure 4.2 shows a minor off-season traffic queue) from mid-morning through late evening, with traffic at a near stand-still during the peak periods in the evenings when the shows let out.

Figure 4.2. Traffic Queue on Highway 76

Under low-volume free-flow traffic conditions, the approximately 5-mile trip along the length of Highway 76 from the US 65 in the east to the western end of the Highway 76 development strip will take no more than 5 minutes. There are only two traffic signals along this stretch, one at either end of Highway 76. According to local key informants who were interviewed for this study, the same trip can take over an hour during peak traffic conditions. Traffic congestion and delay are at their most extreme on holidays, with the day after Thanksgiving being one of the most congested days of the year.

Traffic congestion on Highway 76 is the primary motivation for implementing a traveler information system. Traffic conditions have been the frequent focus of transportation studies for the area and research by the Chamber of Commerce/Convention and Visitors Bureau (CCCVB). A transportation study has recently been initiated by the City of Branson which is focusing on Highway 76 traffic congestion and the CCCVB surveyed their members in March 2004 regarding the value of the Highway 76 alternate route system.

There is no public transportation in Branson. However, there are several local private shuttle services that serve hotels and theatres.

4.1.2 Tourism Characteristics

Branson is a major tourist destination. Branson hosted an estimated 7.2 million visitors in 2003 and tourism spending in the area for that same year is estimated at $1.4 billion.[19] The Branson/Lakes Area Chamber of Commerce and Convention and Visitors Bureau describes tourism as the "chief industry" of the Branson area and reports that Branson is "the 16th most visited destination in the USA" and is ranked as the "#1 motor coach destination" in the United States.

As was discovered to be the case in many areas, there is a growing emphasis on outdoor recreational tourism activities (e.g., fishing and hiking) in Branson. Those activities, as well as the more general appeal of the rolling Ozark Mountain countryside, were a major component of the traditional tourism economy in Branson. However, by far and away the biggest tourism attraction in the Branson area is the approximately 45 live performance theaters featuring more than 80 shows, primarily musical and comedy acts. (See examples in Figure 4.3.)

The local entertainment tradition in Branson dates back to the early 1950's when country music performer Red Foley moved to Springfield to host the "Ozark Jubilee." Over the years other performers followed suit, many of them building their own theaters along the major east-west route through Branson, Highway 76, also known as "The Strip." Other national artists who performed in Branson and/or opened theaters include Roy Clark, the Osmond Family, Dolly Parton and Andy Williams. The reputation of Branson as something of a Midwestern Las Vegas was cemented in the early 1990's when the CBS news magazine television program "60 Minutes" dubbed the area the "Country Music Mecca."[20]

Figure 4.3. Musical Theaters

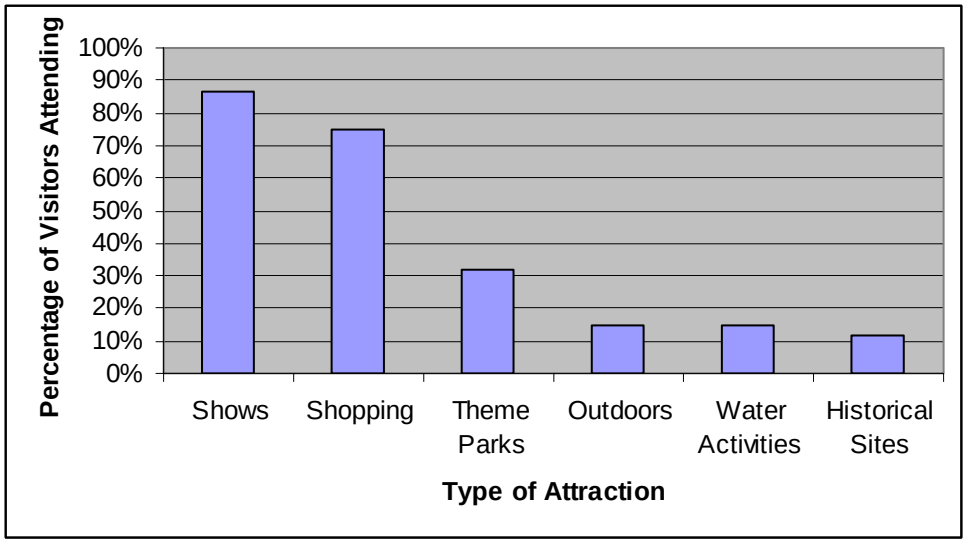
In addition to the fishing, hiking and other outdoor recreation attractions and the theaters and shows, other important elements of the Branson tourism environment include both large—e.g., "Silver Dollar City," a 61-acre, 1880's Ozark Mountain-themed amusement park opened in 1960—and smaller amusement venues such as miniature golf, go-kart, water

[19] Branson/Lakes Area Chamber of Commerce and Convention and Visitors Bureau; "2004 Fact Sheet"; March 2004.
[20] Branson/Lakes Area Chamber of Commerce and Convention and Visitors Bureau; "2004 Fact Sheet"; March 2004.

slide, and others typical of those found in resort areas. Retail shopping, outlet malls in particular, are also important visitor attractions in Branson. Retirement communities and time-share properties, some including golf courses, are a significant, growing and more recent addition to the Branson area tourism environment.

Figure 4.4 identifies the percentage of visitors who report visiting each of several different tourism attractions. The most visited attractions are shows and shopping, with at least three-quarters of all visitors indicating that they have visited these types of attractions.

Adults over the age of 65 and families comprise a significant percentage of Branson visitors, amounting to more than half of annual visitors. The overwhelming majority of visitors to Branson—86 percent—travel to Branson via personal vehicle. The average length of stay is about 4 nights. Fifty-three percent (53%) of visitors come from within a 300-mile radius.[21]



Source: Branson/Lakes Area Chamber of Commerce and Convention and Visitors Bureau, "2004 Fact Sheet".

Figure 4.4. Percentage of Branson Visitors Attending Various Types of Attractions

4.1.3 Traveler Information Systems

There are three major traveler information systems in the Branson area, each of which is described below:

- A multi-faceted, publicly-operated traveler information system;
- A low-tech, publicly operated color-coded alternate route identification system; and

[21] Branson/Lakes Area Chamber of Commerce and Convention and Visitors Bureau; "2004 Fact Sheet"; March 2004.

- Maps and other information provided through a multitude of privately operated "visitor centers."

Branson TRIP

The Branson area traveler information system is "Branson TRIP" (Travel and Recreation Information Program). The full system became operational in 1998. The TRIP system was developed and implemented as a joint effort of the Missouri Department of Transportation (MoDOT), the City of Branson, and a consultant, under sponsorship of the Federal Highway Administration (FHWA). FHWA contributed a substantial portion of the funding of the system as a rural ITS field operational test. The TRIP system focuses on providing information on Highway 76 and several alternate routes.

The TRIP system contained the following elements as originally deployed in 1998:

- Two (2), later increased to five or six, closed-circuit television ***(CCTV) traffic surveillance cameras*** intended for use by the Police Department for monitoring traffic conditions and as a primary source of traffic congestion information to be provided to travelers via the Internet.

- A network of inductive loop ***traffic detectors*** imbedded in roadways which feed the system with real-time traffic density and volume information.

- Two (2) ***dynamic message signs*** (DMS), both located on US 65, one to the north of the Highway 76 interchange and one to the south (see DMS sign example in Figure 4.5.)

Figure 4.5. Static and Dynamic TRIP Signs

- A ***highway advisory radio*** (HAR) system that provides an AM radio message on traffic conditions and special events.

- An interactive voice response (IVR) ***telephone system*** that provides automated information on traffic conditions for various zonal origin-destination pairs in the City of Branson (e.g., from "southeast" to "northwest").

- An Internet ***website*** (www.bransonstripusa.com) that was intended to include a real-time color-coded traffic congestion map, icons and text reports on incidents, and information on various local attractions, lodging and restaurants. The private TRIP partner, an ITS consulting firm, was charged with maintaining the tourism/traveler services content on the website.

- Traveler information ***kiosks*** deployed in hotel lobbies and private "visitor centers" that allow users to access the TRIP Internet website. Placement of the kiosks in the private facilities was the responsibility of the TRIP private partner.

- A central ***incident database*** housed on a computer server located at the City of Branson Police Department and intended to be monitored and updated by Police Department Dispatch staff.

Battelle evaluated the Branson TRIP Rural ITS field operational test on behalf of FHWA in 1998-1999.[22] As reported in that evaluation, not all of the plans for the system were realized during the original deployment. In the course of this study it was also discovered that a number of the TRIP components that were originally deployed are no longer operational, or not operating as intended. The reasons for these difficulties include technical, funding, and institutional issues, many of which are discussed later in this section within the context of the system's impact on tourism. A brief operating history and current status of each component of the Branson TRIP system is provided below.

- **CCTV Cameras** – The cameras utilize voice grade telephone lines to link back to the Police Department. According to MoDOT and the City of Branson, the system experienced considerable down-time and has not worked reliably.

- **Traffic Detectors** – Along with the website, the traffic detectors have proven to be one of the few highly reliable components of the system. They have reliably fed the color-coded traffic congestion map and IVR system which utilizes the same data, and have provided a useful source of traffic counts to the City of Branson.

- **Dynamic Message Signs** – The two dynamic message signs have suffered from technical difficulties (e.g., maintenance problems) and have exhibited some down-time over the years but have operated more-or-less continuously since their deployment in July 1998. However, the signs are not utilized to provide real-time traffic information as originally envisioned. For the most part, the signs are used to note special events and provide general advisories about heavy traffic conditions which are typical of those periods, and to refer travelers to the highway advisory radio.

[22]The set of final report documents were issued in 2000 and can be located by doing a "categorical search" in the "Advanced Rural Transportation Systems" portion of the USDOT on-line ITS Electronic Data Library: http://www.its.dot.gov/itsweb/welcome.htm.

- **Highway Advisory Radio** – The original plan calling for the system to be updated by a local commercial radio broadcaster did not work well. Responsibility for the HAR system then shifted to MoDOT and an automated system is now utilized to update the system with one of 40 pre-recorded messages depending on the traffic congestion information being reported by the IVR system. As with the DMS, the HAR system provides general traffic and travel information associated with annual special events and holidays, the start of the school year, general tips for driving in the rain and in snow and ice, and referrals to the IVR phone system. By far the most salient aspect of the HAR system operation is that the low power broadcast is essentially impossible to pick up in many cars outside of a ¼-mile radius of the transmitter located at the Highway 76/US 65 Interchange.

- **IVR Phone System –** The phone system has operated as originally intended essentially continuously since its deployment in August 1998.

- **Website** - According to various TRIP participants and Branson area contacts, the traveler services/tourism information content very quickly disappeared from the TRIP website and did not return. The Website itself was operational more or less continuously from its deployment in July 1998 through mid-2003, when the TRIP private partner quit hosting the site. The site has been down since that time, although MoDOT is working to get the website back up, this time hosted via a MoDOT server located at a MoDOT facility in Jefferson City, Missouri. Starting shortly after its deployment, the website did not include information on incidents, since the Police Department Dispatch staff did not have the staff resources to maintain that information.

- **Kiosks** - During the FHWA evaluation period in 1998-1999, only one kiosk was deployed, at a local private "visitor center." The kiosk was operational for only one month, after which the visitor center closed. Since that time, numerous other kiosks have been deployed—some reportedly featuring Internet access to the TRIP website. Lacking a sustaining source of revenue—one deployment featured a for-fee ticketing service via the kiosks—all of them have been withdrawn.

- **Incident Database** – Due to staff resource constraints, the police department dispatch office was never able to devote much attention to the TRIP database and so real-time traffic incidents have never been regularly included in the system. With limited staff and other higher priority public safety duties, dispatch staff often found that by the time they could input information on an incident, it had cleared.

Color-Coded Alternate Route Identification System

In addition to the Branson TRIP system, there is another public traveler information system in Branson: the Color-Coded Alternate Route System. Not to be confused with the "color-coded real-time congestion information" provided on the TRIP website and IVR, this low-tech, highly literal system utilizes road signs (see Figure 4.6)—and at one time actual painted markings on the roadway surface—to identify various alternate routes to Highway 76. These route designations are noted on the official CCCVB Branson area map as well as a number of the maps distributed by hotel front desk staff and private visitor centers.

Figure 4.6. Color-Coded Alternate Route Signs

Private Traveler Information Sources

In the Branson area there are a large number of private roadside purveyors of "visitor information," including road maps and attraction information. These providers are so numerous that they essentially compose a sub-sector of the local economy. However, as explained by a number of Branson area interview subjects, the primary purpose of these establishments is typically not to provide community or traveler information, per se, but rather to sell tickets to the various theater shows, and, in many cases, to pitch time-share condominiums.

In addition to the sheer number of these establishments, what distinguishes them is the extent to which they appear to be, evidently quite intentionally, "official" or "public" outlets for visitor/traveler information (see the example in Figure 4.7.) These facilities typically feature "visitor information" or "welcome center" as their sole signage and have gone so far in their attempts to establish credibility and to draw attention as to utilize the same white-on-blue sign color scheme used by the State of Missouri for official traveler services information, and even to using the word "official" on their signs. The visitor's introduction to these establishments begins on numerous billboards on US 65, starting not far outside of

Figure 4.7. Privately Operated Self-Proclaimed "Official" Tourist Information Outlet

Springfield (to the north) and on the Arkansas side of the Missouri-Arkansas border (to the south).

There appears to be minimal coordination between these private visitor information outlets and the Branson TRIP system. However, some of the private centers provide area roadway maps that prominently feature the color-coded alternate route system.

4.2 Findings

This section presents data on traveler information usage, customer awareness and satisfaction in Branson. Also presented are the findings from interviews with key informants who provided important perspectives on the traveler information services.

4.2.1 System Usage

1998 FHWA TRIP Evaluation

Since it is over 5 years old, and because a number of changes have occurred in the system since that time, the 1998 FHWA evaluation results do not reflect current conditions. However, they do provide a picture of how the system was utilized during its early, most robust period of operation.

The 1998 FHWA evaluation examined system usage data for a seven month period beginning immediately after the system became operational, in September 1998, through March 1999. The results indicate that of the various traveler information user interfaces for which usage observational data were available (kiosks, phone and website), only the TRIP website was utilized frequently. The average number of website user sessions had reached approximately 15,000 per day by the end of the evaluation period and appeared to be on an upward trend. It was not possible to determine how many discrete users accessed the website, or from where they accessed the site. Usage of the phone system never rose above more than an average of 3 or 4 calls per day during the 1998-1999 evaluation. No quantitative data on the one briefly deployed kiosk were available.

Awareness and usage of the various user interfaces was also measured using tourist intercept surveys, conducted at a variety of locations throughout Branson, including hotel lobbies and outlet malls. A total of 640 usable surveys were obtained. The average age of survey respondents was 54 years.

Figure 4.8 summarizes those results. Note that “radio” included both the HAR and any other non-TRIP-related radio traffic reports, and therefore does not provide a pure indicator of HAR awareness. “Route signs” refer to the two DMS on US 65. Both awareness and usage levels were highest for the user interfaces that featured prominent roadway infrastructure—the DMS and the color-coded alternate routes—where awareness levels ranged from approximately 60 to 75% and usage ranged from 30 to 55%. By contrast, the less visible phone system and website had usage levels of less than 10% and awareness levels less than 20%.

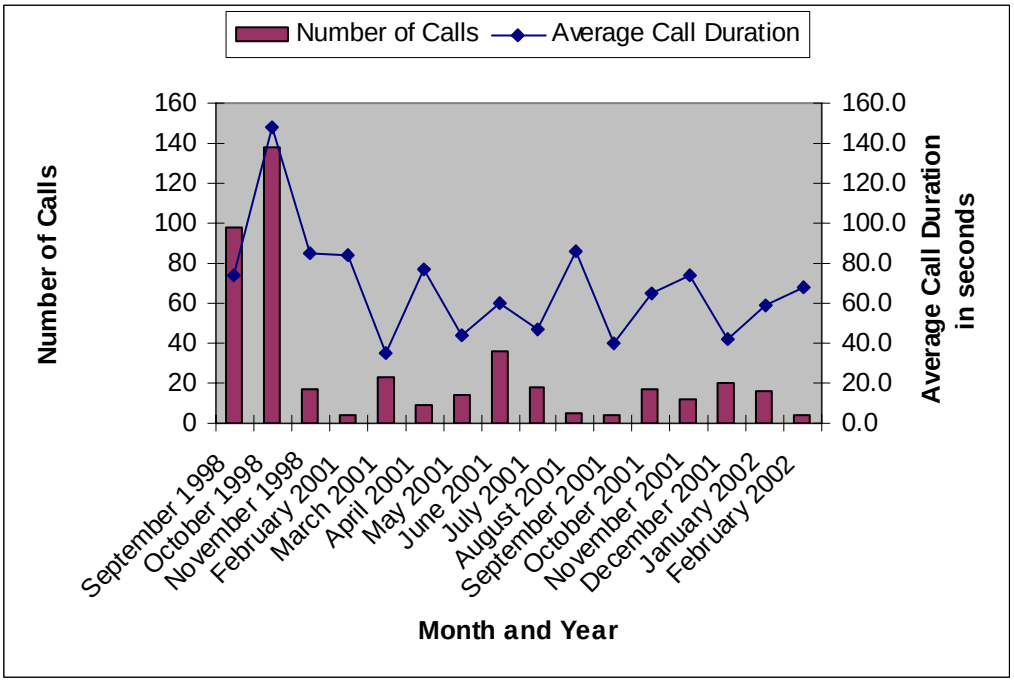


Figure 4.8. Monthly IVR Phone Usage and Average Call Durations

Recent TRIP System Usage

There have been no formal evaluations of the Branson TRIP system performed since the 1998 FHWA evaluation. Likewise, neither MoDOT nor the City of Branson has closely monitored usage of the system over the last several years. The only visitor surveys performed in Branson are done by the CCCVB and do not include questions relating to TRIP or travel planning. Data on website usage were lost when hosting of the website was transferred from the TRIP consultant to MoDOT in mid-2003. The only usage system data that are now available are for the IVR phone system.

Phone system usage data are available for September – November 1998 and February 2001- February 2002. The number of calls by month and the average call durations are shown in Figure 4.8. After the high of 138 calls during October 1998 that was noted in the FHWA TRIP evaluation (equating to 4 calls per day), the number of calls to the TRIP system has never risen above 36 calls per month (June 2001)—an average of about one call per day—and are more typically less than 25 calls per month. With the exception of the peak month in October 1998 when call durations were significantly longer, most calls to the TRIP system have averaged between about 30 to 90 seconds.

Business Community System Utilization

Results of key informant interviews indicate that at least one tourist business in the Branson area valued and utilized TRIP data. A local entrepreneur who operates a ticketing and shuttle bus operation and a web design/information services company had

used the TRIP traffic count data to analyze visitor volumes for business planning purposes for several years, until the website became inoperative in mid-2003. He had also been using both historic traffic count data from TRIP and the real-time traffic conditions map to monitor traffic conditions as part of the daily management of his shuttle operations. This individual considers the TRIP traffic volume data an under-appreciated resource for business planning and believes that the TRIP map strengthened the appeal and utility of his website. He was frustrated that the website went down and indicated that if and when the site was back up he would continue to utilize it as in the past.

The inherent value of the TRIP traffic map as part of a value-added private sector website or kiosk operation was seconded by another local entrepreneur. This individual operates a large tourist services operation in Branson providing lodging reservations, show tickets and tour packages. He had previously deployed over 100 non-TRIP-related kiosks in the Branson area, primarily in hotel lobbies, and intended primarily to support show ticket sales. He also felt that the TRIP traffic map was a useful resource that could be packaged with other complimentary tourism information, as was the plan with the original TRIP kiosks. Independently, his company has developed a working version of Internet cell phone software that converts the color-coded traffic information on the TRIP traffic map to text messages, and he is considering usages for the system. He also expressed frustration that the TRIP website is down and suggested that he would consider contributing to the local hosting of the site.

Other Current Usage Perspectives

Based on on-site observation, it is not surprising that usage of TRIP is low. The TRIP system has a low profile—the handful of static signs referencing the system tend to fade into the busy background of billboards, marquees and competing private tourism information advertisements. Study team attempts to utilize the phone system during the March 2004 site visit were unsuccessful, as the system was experiencing technical difficulties. It would appear unlikely that large numbers of tourists are able to utilize the HAR system because of its extremely limited range. During the site visit, the study team was able to pick up a listenable HAR signal within an approximately ¼-mile radius of the transmitter located at the Highway 76/US 65 interchange.

Several key informants agreed that the current TRIP system is not very visible and unlikely to be well utilized by visitors. City of Branson staff and the operator of Silver Dollar City and other major attractions agreed that, if it were not for their own personal experience in developing the TRIP system, they doubt that they would be aware of the system and felt that it was probably used by few tourists. They agreed that aside from the DMS, the system is essentially invisible. The low general awareness of the TRIP system in Branson is evidenced by the fact that the CCCVB representative was only vaguely aware of the system and was not aware of all of the user interfaces.

Summary

Clearly, the current TRIP system is not well utilized. The website is now down, the phone system logs only a few calls per day, no kiosks are deployed, and the HAR can only be heard within a very small area. During the early stages of TRIP, usage of the website was robust. Due to the lack of recent data, it is unclear whether use of the website continued at high levels until it went down in 2003. It can be theorized that the great majority of website usage occurs pre-trip, as tourists are investigating Branson as a potential destination and doing their general trip planning, since this is the only time that most Branson visitors (families and seniors) likely have convenient access to the Internet.

Tourist surveys conducted in 1998 when TRIP was first deployed indicate that the most visible and most utilized user interfaces were those that could be used passively (i.e., didn't require users to make a call or visit a website) and featured physical roadway infrastructure or markings: dynamic message signs (61% aware and 30% using) and the color-coded alternate route system (77% aware and 55% using).

TRIP data are valued and utilized by at least two local tourist business operators, one of which used the TRIP traffic data for business planning, as a surrogate for tourist visitation volumes, and real-time traffic data to coordinate his daily shuttle operations. Appreciation for the inherent value of the TRIP information is evidenced by another local entrepreneur who has developed an application that accesses the TRIP traffic map data via Internet phones.

4.2.2 Customer Satisfaction

The only available customer satisfaction data are the tourist survey results from the 1998 FHWA evaluation and the results of a recent survey of businesses on the color-coded alternate route system.

FHWA TRIP Evaluation Tourist Survey

Although not representative of current conditions, the 1998 TRIP evaluation tourist survey results provide an indication of customer satisfaction when TRIP was essentially fully functional. Highlights of the survey results consist of the following:

- Most TRIP users found the information to be of high quality: between 50 and 80 percent of tourists felt that the information provided by TRIP was accurate, understandable and easy to obtain.

- For all user interfaces except radio, which included HAR and all commercial radio broadcasts, between 50 and 65 percent of respondents indicated that the information saved them time. Approximately 43 percent of radio users indicated this impact.

- Except for the phone system, between 10 and 60% of respondents reported that with TRIP information they confirmed their route, changed their route, changed the attractions they visited, or chose an attraction of which they were not previously aware. TRIP usage had the greatest impact in confirming that the correct route was taken and in choosing attractions not previously known. Between 35 and 60 percent of respondents, varying by user interface, cited these impacts.

- Between 20% (phone system) and 63% (dynamic message signs) of TRIP users indicated that the information helped them to avoid traffic congestion.

Color-Coded Alternate Route Chamber of Commerce Survey

Local tourism-oriented businesses are an important customer, or stakeholder, in a tourist-oriented traveler information system like TRIP. In March 2004, the Branson/Lakes Area Chamber of Commerce/Convention and Visitors Bureau conducted a short three-question survey of all of their members regarding the color-coded alternate route system. Respondents were asked whether the route system is useful, for comments or suggestions for how to improve the system, and ideas for alternatives to the route system. The survey was sponsored by the City of Branson Advisory Transportation Committee. The results, summarized below, provide perspective not only on the route system, but also on how businesses more generally view tourist-oriented traveler information.

Forty-one (41) of the 62 survey respondents—about 66 percent—agreed that the color-coded system was useful. Supporters noted that the system is literal, simple and appears on a number of area maps. Among supporters, criticisms and recommendations for improvements focused on more aggressive and coordinated promotion of the system, including training hotel desk staff in how to give directions using the color-coded alternate route system and making the system more visible. Many respondents said they use the color-coded routes in providing direction to tourists and that the tourists notice and use the color-coded route system. Several respondents noted how important the simple travel tool was to Branson's many senior visitors.

The 21 respondents who think the color-coded route system is not useful to visitors cited many of the same criticisms as supporters, most commonly that the system is inadequately marked and promoted (including educating front desk staff to refer to the map in giving directions). Additional concerns include the system being too confusing; unrecognizable by tourists because the system is unique to Branson; not referenced on all maps or by all businesses; and Branson being too full of other visual distractions. Perhaps symptomatic of the low visibility of the TRIP system, one respondent even suggested that a "dial-in" traveler information system was needed.

Summary

Lack of data prevents the formulation of any conclusions regarding current customer satisfaction with TRIP. However, the 1998 FHWA evaluation indicates that, when the system was essentially fully functional, it was viewed fairly positively and seemed to be positively impacting a substantial percentage of tourists. A high percentage of survey respondents found the information to be of high quality. Lower, but still considerable, percentages of visitors (between 20% and 65% depending on the user interface) indicated that the TRIP information confirmed that they took the correct route, resulted in choosing an attraction of which they were not previously aware, or helped them to avoid traffic congestion.

Most businesses support the (non-TRIP) color-coded alternate route system, finding it both necessary and useful. This suggests that there is a genuine perceived need for traveler information among the businesses that serve tourists. There were no concerns expressed among businesses about the system being used to detour potential customers away from their front door. The criticisms about the color-coded system appear to be those that would apply to TRIP, and any traveler information system, namely that the system and how to use it are not promoted aggressively enough to tourists or the front desk personnel who answer tourists' questions.

4.2.3 Perspectives of Key Informants

The investigation of management and deployment issues featured a site visit to Branson in March 2004 and interviews with key informants representing local and state TRIP development/operating experience and representatives of the local tourism business environment. Table 4.1 identifies the interview subjects and briefly summarizes their relationship to TRIP.

Table 4.1
Branson Key Informant Interviews

Interview Subject(s)	Relationship to TRIP
Assistant Engineer, Missouri Department of Transportation	Participant in TRIP since early planning stages; TRIP Program Manager for the last four years. Located in Springfield, Missouri.
City Engineer and Assistant Engineer, City of Branson	Active in the planning and deployment stages of TRIP.
Communications Officer, City of Branson Police Department	Involved in the planning and development of TRIP and during early operational stages, Police Department was responsible for inputting incident information into the TRIP database.
Owner, Shuttle Operation and Computer Services Firm	Participated in original TRIP development as a subcontractor (developed website); has continued to use TRIP traffic data and incorporates (repackages) the traffic map on this website.

Table 4.1
Branson Key Informant Interviews

Owner, Ticket Sales/Tour Package Firm	Participated in deployment of over 100 ticket sales kiosks (not part of TRIP program).
Director of Governmental Relations, Major Attraction Operator	Involved in early TRIP planning activities; a member of local Transportation Committee.

Interview Results

The following summarize the common themes and major findings of the Branson key informant interviews.

TRIP traveler information is valuable – Despite various concerns and frustrations regarding the way that TRIP was implemented and has been operated, all of the key informants, including representatives of the tourism business community, believed that the real-time traffic condition information available through TRIP—especially the color-coded congestion map—was inherently valuable. They felt that both residents and visitors are interested in information that would allow them to avoid severe traffic congestion on Highway 76. The private shuttle operator found the information useful to his own business, both for general planning purposes (the historic traffic volume data) and for day-to-day fleet management (the real-time traffic condition information), and he believes that the information is useful to tourists and provides an additional draw to his website. The ticket sales and tour promoter also felt that the TRIP traffic map was useful and would help attract tourists to a website or kiosk. Both business operators emphasized the importance of packaging as many types of tourism information and resources as possible together in one place. Although largely unfamiliar with TRIP, the Chamber of Commerce/Convention and Visitors Bureau representative also agreed that the TRIP concept was valid. The positive results of the business community survey regarding the color-coded alternate route system, not technically a part of TRIP, also suggests that tourism business owners believe that there is a need for traveler information and, if properly promoted and marked with signs, tourists will utilize it.

TRIP provides other useful data – The City Engineering Department representatives indicated that the comprehensive traffic count data provided by TRIP was a real asset for planning and analysis, which, being unable to fund a traffic counting program, they would otherwise not have available. Both the Engineering Department and the Police Department felt that the traffic surveillance cameras—if they worked reliably—would be useful traffic management tools. As noted above, at least one local businessman finds the historic traffic data available through TRIP to be very useful for business planning.

Not all tourists always want to avoid congestion – Despite the fact that all of the key informants agreed that tourists generally would have an interest in using TRIP to avoid congestion, the reality that not all tourists want to avoid congestion on all occasions was noted by several informants. Most of those informants believe that many tourists are happy to sit through the congested Highway 76 traffic during the first day of their visit to Branson, in order to "see the sites" and experience Highway 76 (including the traffic);

later in their visits they are motivated to avoid the congestion. The Police Department representative was slightly more pessimistic, citing the experience of officers in the field (directing traffic on the day after Thanksgiving, one of the busiest traffic days of the year) who will point grid-locked motorists to alternate routes only to be ignored. Although not a common sentiment, several informants cast doubt, more generally, on whether tourists, especially the families and seniors who come to Branson, are really strongly motivated to proactively "plan" or "manage" their travel experience. These informants suggested that many tourists may just view traffic congestion as to be expected.

TRIP is not heavily promoted and is not very visible – Nearly all of the key informants felt strongly that TRIP is not adequately marketed and that most tourists (and even residents) are aware of only the DMS and, if so, do not understand them to be part of a traveler information "system."

The local political and business community never fully committed – Several Branson-area key informants familiar with the entire history of the project felt that an important reason why the project has not met expectations is that the local political and business community never fully bought-in on the TRIP project; they never committed to promoting it. Most informants weren't sure exactly why this buy-in did not occur or what it would have taken to achieve such commitment. Some possible reasons are explored in Section 4.2.4.

There is no motivated, local TRIP "owner" - Several of the Branson-area key informants felt that the underlying problem responsible for a number of the TRIP short-comings—most notably the lack of adequate marketing—is that there is no local entity that is motivated to operate and monitor the effectiveness of the system, and has adequate funding to do so. As noted above, the lack of buy-in among the business community and "at City Hall" was another common theme and is related to this one. There does not appear to be any resentment over the way MoDOT has handled, or is handling, TRIP. (MoDOT, specifically the TRIP Program Manager, are really the only ones who have anything to do with the system.) However, the Branson area informants are realistic about how MoDOT budget constraints and lack of local physical presence—the MoDOT TRIP Program Manager is located in Springfield—limit MoDOT's ability to proactively manage TRIP on a day-to-day basis. The City of Branson informants agreed that although the idea of having the police department responsible for entering real-time incident information was good in theory, the dispatch staff responsible for doing so just don't have the manpower.

Tourism stakeholders are sensitive to negative traffic image – Although not a common theme, a couple of interview subjects noted that the City of Branson is concerned about potentially "scaring off" tourists by providing information on traffic congestion. Although they do not seem concerned about the real-time traffic map, which has always been a part of the website, "the City" did veto the original idea of making CCTV camera images available on the website. One informant also indicated that he had discovered that the "the City shut the system down" on major holidays, concerned about the potential bad publicity of showing severe traffic congestion. It was not clear exactly

what portions of TRIP were "shut down," but the informant is most likely referring to the stream of data from the traffic detectors which feeds the traffic map, generates the traffic counts, and feeds the phone system.

4.2.4 Study Site Conclusions

The Branson TRIP system is currently only partially functioning and is probably not significantly impacting a substantial number of users. However, it appears that in the past the system has provided some benefits to both tourists and local tourism businesses. Evidence includes some promising early results from the 1998 FHWA evaluation, which indicated very high levels of awareness and high levels of usage of the visible, passive en-route user interfaces that feature roadside infrastructure: the color-coded alternate route system and the two dynamic message signs. The 1998 survey also indicated that tourists felt the TRIP information was high quality. System usage statistics during the 1998 evaluation also indicated heavy, and apparently upwardly trending, usage of the website.

Further evidence of the benefit of tourist traveler information strategies comes from the business community. The 2004 Chamber of Commerce survey on the color-coded route system indicated that the majority of responding businesses felt that tourists need and will use alternate route information, that the existing color-coded route system is effective, and that it could be more effective if better promoted and marked. Finally, two local business owners indicated that the TRIP traffic map is a valuable contribution to their own traveler and tourism services, and they are eager to see the traffic map back on-line.

Despite some success, however, it appears that, on balance, traveler information strategies in the Branson area have fallen short of their ultimate objectives, and of their potential, given the apparent need for traveler information and heavy concentration of potential users. This conclusion is supported by the following observations:

- Phone usage statistics have always been very low
- The website has been down since mid-2003
- The HAR signal seems to be clear only within a ¼-mile radius of the transmitter site
- Based on observation by the study team, the opinions of several key informants, and the glaring absence of references to TRIP in the color-coded route survey responses, the system is not visible or promoted
- The apparent shift away from what is understood to be the original plan, which was to provide real-time, incident-specific information and alternate route information via the DMS and HAR, would seem to have reduced the potential benefit of the system. The signs and HAR do provide useful information on planned (construction, special events, etc.) information, but there is a notable absence of dynamic, real-time traffic incident information.

Analysis of the Branson TRIP experience suggests a number of lessons learned that may contribute to more effective operation of the TRIP system and which may be useful to other deployers of traveler information systems in similar tourism environments:

- **Partnering with other businesses competing for travelers' limited attention** – As observed by the study team and as noted by a couple of local key informants, the tourist/traveler information environment in Branson is completely saturated. It is unlikely that the public sector could ever "out shout" the private purveyors of information. Instead, these sources of information, which in Branson include the many private visitor centers and the front desks of hotels and attractions, should be utilized to promote the public traveler information resources. In reality, the public information is not in competition with the private—the private providers merely want to attract the tourists' attention so they can engage them in other business; they are not selling the information itself and would not be giving business away to refer their visitors to TRIP for ***additional*** information. Unfortunately, such a partnership was not achieved in Branson. The attempts at engaging the local business community were limited to the for-fee advertising on the website and kiosk placements in lobbies—ventures that were the responsibility of a non-local contractor.

- **The need to advertise, advertise, and keep advertising –** Traveler information systems featuring websites and phone systems are essentially invisible to travelers in that they have no visible roadside infrastructure. Especially in tourist-dense areas where so many attractions are competing for travelers' attentions, it is critical to heavily promote traveler information systems, and to continue to promote them. In the case of Branson, there was a flurry of initial promotion activity (brochures, etc.) which has tailed off to practically nothing.

- **Need to commit to long-term operations and maintenance** – Despite excellent intentions on the part of MoDOT, and valiant and successful efforts on the part of the TRIP manager to keep the system functioning (and even to improve it), all in the in the absence of practically any resources, it does not appear that the long-term operations and maintenance of the system have been fully addressed. Working remotely (from Springfield) and with very limited resources, MoDOT's ability to strengthen the system, such as through increased promotion and coordination with local businesses, is quite limited. To some extent this reflects a common challenge with ITS investments: difficulty in transitioning from the "project" stage, where full implementation normally marks the "end," to the "program" stage, where operations are the focus. Part of this phenomenon, which occurred to some extent in Branson, is the tendency for projects to be dependent on specific key people, who eventually leave, whereas programs institutionalize the process so that it can survive the coming and going of individual personnel.

- **Importance of engaging local entrepreneurs** – The shuttle operator/computer services firm owner, and the travel and ticket sales company owner that were interviewed were brimming with enthusiasm for the idea of combining public traveler information with their own traveler resources and were frustrated about

the lack of aggressive promotion of TRIP. Unfortunately, these individuals, and the many more like them that are undoubtedly to be found in Branson, were not effectively engaged in the private partner aspect of the TRIP implementation. That aspect was led by a competent, but non-local, firm that, although certainly vested in the success of the system, could (and did) choose to walk away from what was a non-productive investment. Local entrepreneurs—especially those who have "fought the wars" relative to competing for tourists attention and putting together partnerships with other businesses—provide not only partnership ideas that are responsive to local conditions but, being committed to the area and unlikely to leave, are more likely to stay and fight it out to make the business model succeed.

- **Cultivating grass roots support**. Like many state/local ITS investments, the TRIP system was funded largely with federal funds. Although there was certainly some local support for the project, interviews with key informants suggest that MoDOT Headquarters and the availability of federal funding were the driving forces in making TRIP happen, rather than strong grass roots support. Most local agencies won't say no to state and federal funding, but simply agreeing to the implementation of a traveler information system is no substitute for the kind of local commitment necessary to sustain it over the long term.

5.0 SHENANDOAH VALLEY, VIRGINIA

This section presents the findings of the investigation of the I-81/Shenandoah Valley traveler information system. This section is organized into three subsections. The first presents an overall profile of the Shenandoah Valley and the traveler information system. The second section presents study findings, organized broadly into three areas: system usage, customer satisfaction, and management and deployment issues. The final section summarizes findings and presents conclusions.

5.1 Site Profile

This section describes the general characteristics of the Shenandoah Valley, including its location and transportation system, the tourism characteristics of the area, and the traveler information systems that serve the Valley.

5.1.1 General Characteristics

The Shenandoah Valley (see Figures 5.1 and 5.2) is located in the Blue Ridge Mountains. As indicated in Figure 5.2, the Valley runs northeast-southwest in Western Virginia. The approximately 175-mile long Shenandoah Valley is bounded by the small town of Front Royal to the north and Roanoke to the south, the largest urban area in the Valley with a 2000 Census population of approximately 95,000.[23] The principal roadways serving the Shenandoah Valley are: Interstate 81, which runs through the center of the Valley for its entire length; Interstate 66, which links the northern end of the Valley with Washington, DC to the east; Interstate 64, which links the center of the Valley with the State Capitol, Richmond, approximately 100 miles to the east; and historic US Highway 11, which parallels I-81 through the Valley and which serves as an alternate route to I-81.

Figure 5.1. View of the Shenandoah Valley

[23] United States Census Bureau.

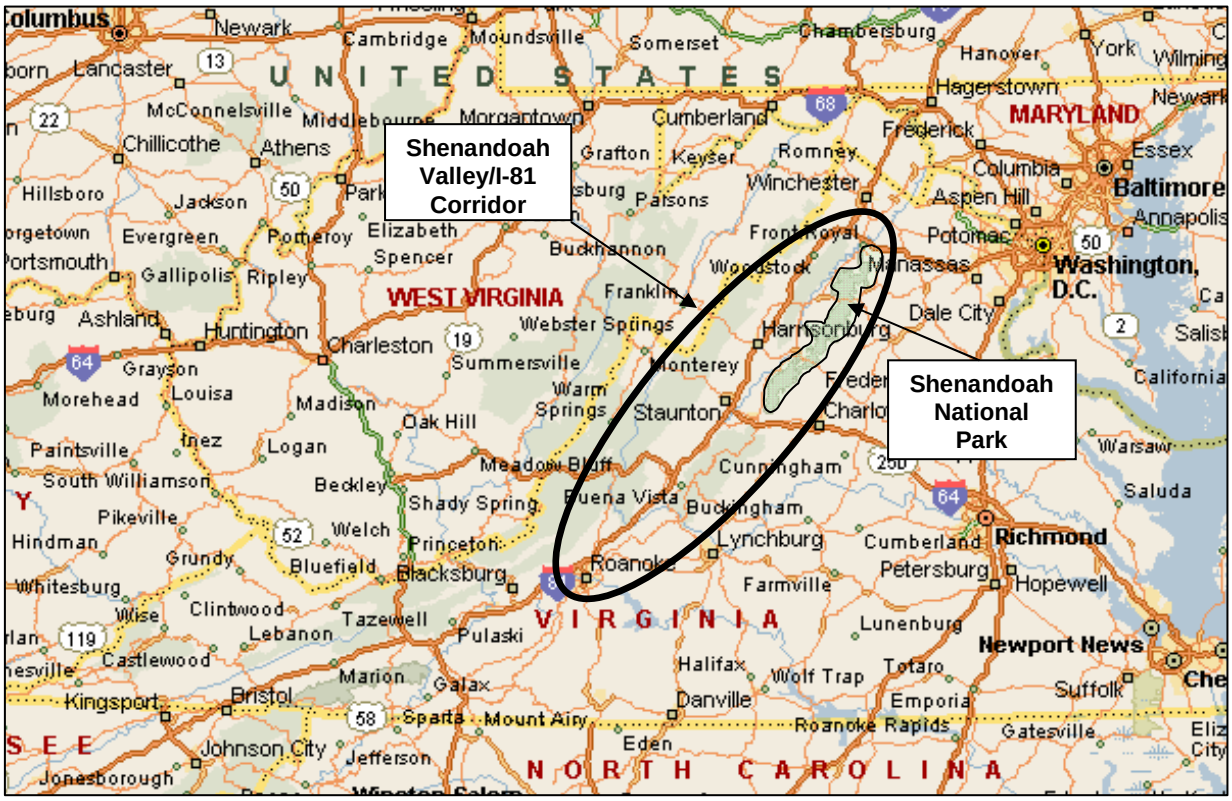


Figure 5.2. Shenandoah Valley/I-81 Corridor

According to an on-going study of transportation and traveler information issues at Shenandoah National Park,[24] the Park does not experience pervasive traffic congestion. However, internal major park roadways do become congested, especially at entrance stations and parking areas, during heavy visitation periods—the fall in particular. Traffic conditions along Interstate 81 are typical for a heavily traveled interstate route: roadway construction and incidents can create significant localized traffic congestion and delays.

5.1.2 Tourism Characteristics

The Shenandoah Valley is a popular tourist destination; with hiking and camping being popular activities (see Figure 5.3.) The biggest attraction is the 300-square mile Shenandoah National Park, located in the northern half of the Valley, just east of I-81 (see Figure 5.2). The Park received approximately 1.17 million visitors in 2003 (for reference, Grand Canyon National Park received 4.12 million visitors; the Lincoln Memorial 3.27 million visitors;

Figure 5.3. Hiking is a Popular Activity in Shenandoah National Park

[24] United States Department of Transportation Volpe National Transportation Systems Center, "Shenandoah National Park Alternative Transportation Planning Study;" project background materials; October 28, 2003; study on-going.

and Everglades National Park received 1.04 million visitors).[25] The Park includes the 105-mile Skyline Drive, a scenic highway owned and maintained by the National Park Service that runs the entire length of the Park and connects directly with the 469-mile Blue Ridge Parkway to the south. The Park and Skyline Drive are open year-round. Approximately 70% of total annual visitation occurs June through October, with October being by far the biggest month of the year,[26] when fall foliage viewing is a major activity. Other major tourist attractions and activities in the Shenandoah Valley include outdoor recreation (hiking, climbing, cycling, fishing, etc.), caves and caverns, Civil War battlefields, fall foliage, museums, and historic homes and gardens.

5.1.3 Traveler Information Systems

511 Virginia

The traveler information system for the I-81 Corridor/Shenandoah Valley is "511 Virginia." Figure 5.4 shows one of the 511 Virginia road signs on Interstate 81. The system is operated by the Virginia Tech Transportation Institute (VTTI) and the Shenandoah Telecommunications Company (Shentel), a regional communications provider, under sponsorship of the Virginia Department of Transportation (VDOT). 511 Virginia includes a voice-recognition telephone information system, accessible either via 511 or 1-800-578-4111, and an Internet website: 511virginia.org. The system serves a 350-mile long section of I-81 from the West Virginia state line south to the Tennessee state line, the entire length of Skyline Drive through Shenandoah National Park, and short sections of I-66, I-64 and I-77. 511 Virginia is in the process of being expanded statewide. Other system enhancements under consideration include dynamic message signs on Interstate routes, highway advisory radio, and counter-top Internet terminals and kiosks.

511 Virginia began as the "Travel Shenandoah" pilot project, starting in April 2000, featuring both a ten-digit toll free phone number and a website. Travel Shenandoah was renamed 511 Virginia in February 2002 as Travel Shenandoah became Virginia's first 511 service.[27] 511 Virginia is fed by two primary data sources. Shentel provides all of the tourism, traveler services and private business listing information. VTTI serves as a data clearinghouse and assembles information from a variety of sources, and provides information on incidents, weather and construction.

Figure 5.4. 511 Virginia Road Sign Located on I-81 South, Near Lexington

[25] National Park Service, Public Use Statistics Office, "Statistical Abstract, 2003;" http://www2.nature.nps.gov/stats/

[26] National Park Service, "Park Visitation Report – Shenandoah NP," 2003; http://www2.nature.nps.gov/NPstats

[27] Virginia Tech Transportation Institute, "Historical Development of the Travel Shenandoah Pilot Service", May 2002.

511 Virginia is a rare example of a traveler information system that fully integrates tourism content. A business listing in 511 Virginia is free and the system includes a very extensive listing of restaurants, lodgings and attractions. Shentel developed the listing using Electronic Yellow Pages and local area phone books. Additional regional tourism information was provided by the Shenandoah Valley Travel Association.[28] In addition to the free basic listings, businesses and attractions may purchase additional exposure and services, including highlighting as a "featured" listing on the website, inclusion of a website link to their own website, or a call transfer option from 511.

Shenandoah National Park currently has a very low profile on 511 Virginia. The only references to the Park appear on the website, in the Events section, and only when there is a specific event occurring at the Park. Early in the development of 511 Virginia there was some contact between VDOT, Shentel and the Park, but an on-going partnership was not established. Now that the basic system has been operational for over a year, VDOT, Shentel and the Park are interested in closer coordination and have renewed discussions.

The 511 Virginia phone service opening greeting includes any high priority traffic advisories and provides the following six top-level menu options:

- Traffic
- Construction
- Weather
- Road conditions
- Transportation
- Travel and tourism services.

The Traffic and Road Conditions options provide area-wide advisories, that is, users cannot select specific locations. The Construction and Weather options allow users to select specific locations. The Transportation option allows users to specify "car and vanpool" or "bus service." Information on the service is provided, including a phone number, and the user has the option of transferring to the service provider.

The Travel and Tourism Services 511 menu option has extensive information offered in four main categories: Food, Lodging, Shopping and Services, and Things to Do. Users first specify a city or Interstate mile marker for which they desire information, and then select one of the four categories. Within each category, there are several sub-options. For example, within Things to Do, there are seven options: Festivals and Theaters, Family Fun; Museums and Historic Sites; Outdoor Activities; Scenic Drives; Parks and Natural Wonders; and Wineries. Once a subcategory is selected, the system identifies how many listings are available and reads a short title for each description. At any time, the users can say "tell me more" for more detailed information, including phone numbers and, if the advertiser has paid for the service, the call will be transferred to the business.

[28] Virginia Tech Transportation Institute, "Historical Development of the Travel Shenandoah Pilot Service," May 2002.

The 511virginia.org website presents a similar array of information. As indicated in Figure 5.5, the centerpiece of the home page is a traffic map of the area, with icons for Incidents, Road Work, Difficult Driving Conditions, and Web Cams. The five transportation-related menu items above the map (Traffic, Road Work, Web Cams, etc.) provide more extensive information, e.g., the Traffic option provides a text list of any current incidents and warnings. Primary tourism content is accessed via the Food, Shopping and Services, Lodging, Things to Do and Events menu items on the left side of the web site. Selection of any of these menu items page brings up four featured listings in the category and expands the menu to include sub-options. For example, Figure 5.6 shows what is displayed when Food is selected, including the expansion of the menu options to include various types of restaurants. When one of those sub-options is selected, a text listing of individual businesses is provided, alphabetically by city, for the entire 511 service area, as shown in Figure 5.7.

Other Traveler Information Systems

Other traveler information systems operated in the Shenandoah Valley include the Shenandoah National Park Skyline Drive telephone information system and highway advisory radio system (see Figure 5.8). HAR systems are also operated by several local communities along I-81. 511 Virginia is the only regional traveler information system.

Figure 5.8. Shenandoah National Park HAR Sign near Luray Entrance

The Shenandoah Valley includes a network of visitor information centers operated by local and regional public and quasi-public tourism promotion groups, principally Chambers of Commerce or Convention and Visitors Bureaus. The regional tourism organization, covering the entire Shenandoah Valley, is the Shenandoah Valley Travel Association. In addition to the information centers, these groups typically also operate telephone information lines and websites. These resources do not constitute traveler information systems as they have been defined for this study because they do not include multi-modal or real-time traveler information. However, they are outlets for 511 Virginia promotional materials. VDOT provides these centers with 511 information cards (see Figure 5.9), 511 litter bags and other items. In the case of this study site, where traffic and tourism information is integrated, these items do play a role in the overall story.

Figure 5.9. 511 Information (circled) is Typically Not Prominent in Local Information Centers

Figure 5.5. 511virigina.org Home Page

Figure 5.6. Example of Featured Listings for "Food"

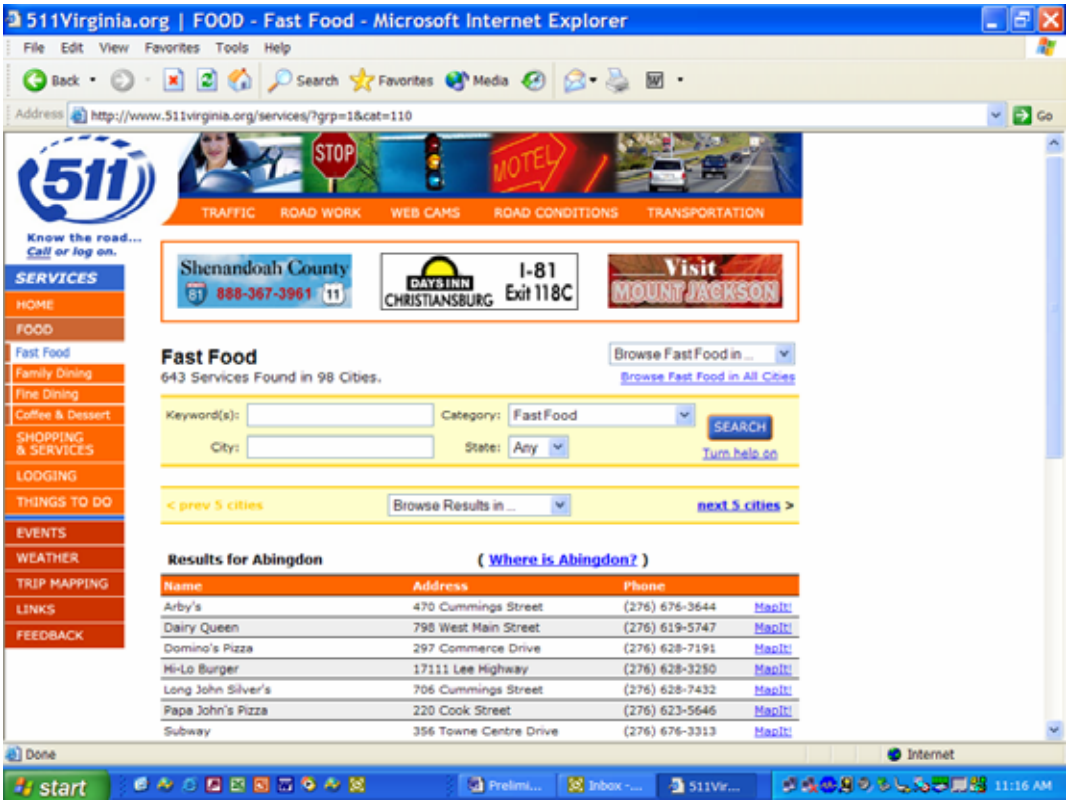


Figure 5.7. Example of Detailed Listings for "Food"

5.2 Findings

This section presents data on traveler information usage, customer awareness and satisfaction in the Shenandoah Valley. Also presented are the findings from interviews with key informants who provided important perspectives on the traveler information services.

5.2.1 System Usage

VTTI conducted a comprehensive evaluation of 511 Virginia in 2003, with the final report issued in January 2004. The evaluation includes system usage, user survey and focus group analyses. Results include a few tourist-specific findings and findings pertaining to users in general. Both types of findings are summarized below.

Tourism Findings

The VTTI evaluation includes tourist awareness and usage findings from four analyses: tourist focus groups, a state-wide telephone survey, a caller intercept survey of 511 users, and data. The focus groups, statewide survey and 511 caller intercept survey included few findings specific to tourists' awareness and usage of the system. These results are summarized below:

- None of the 8 tourists that participated in the two tourism focus groups had heard of 511 Virginia. VTTI speculates that this may be related to the fact that most of them live outside the I-81 Corridor and may not have been exposed to 511 Virginia marketing. Across all focus groups (sessions were also held with residents and commercial vehicle operators), 14 of the total 41 participants (41%) had heard of 511 Virginia.

- The statewide awareness survey indicated that 9% of respondents from outside the 511 Corridor had heard of the system. Seven percent of those who were aware of the system had used it, amounting to less than 10 people.

- Thirty-nine percent of 511 phone survey respondents identified themselves as tourists. Most of them (57%) were in-state tourists.

The results of the system data analysis are summarized in Table 5.1. The table presents VTTI evaluation results for the period February 2002 through July 2003 and comparable monthly Shentel data for January through April 2004.

The percentage of out-of-state calls has historically been about 26% but has been slightly lower in the early part of 2004. That drop may be a function of fewer out-of-state tourists. The percentage of phone users selecting a menu item pertaining to traveler services was 8% historically, but is also lower in early 2004, perhaps also due to reduced tourism during the winter and early spring months. Among the specific traveler services categories, the most frequently requested on the phone system is Food, ranging from 38%

to 51% of all traveler service information requests in early 2004. The next most common category is Hotels and Motels, with between 13% and 20%. Note that Parks and Natural Wonders made the top-ten list only during March of 2004, when it accounted for 5% of the traveler services information requests. Based on the limited information available, it is questionable whether the absence of this category from the top ten reflects the downturn in winter park visitation, since it did not make the top-ten list in April, when park visitation historically is increasing.

It is difficult to draw conclusions based on the data in Table 5.1 due to the inability to differentiate tourists' use of traveler services information. If it is assumed that only tourists would be interested in the Shopping, Festivals and Theatres, and Parks and Natural Wonders selections, then (based on the phone system data) the absolute numbers of tourists accessing this information cannot be large. These categories represent small percentages of the total "services" information requests, and overall, services information requests account for less than 10% of total information requests.

Table 5.1
511 Virginia Phone and Website Usage Statistics

	Time Period				
Measure	Feb 2002 – Aug 2003	Jan 2004	Feb 2004	Mar 2004	Apr 2004
Percentage Out-of State Calls	26%	23%	23%	18%	18%
Percentage Phone System "Services"* Menu Selections	8%	2%	2%	6%	3%
Percentage of Phone Menu Selections for "Top 10" Service Categories**					
Shopping	Not Reported	6%	6%	5%	6%
Hotels and Motels		13%	19%	30%	20%
Festivals and Theatres		5%	7%	6%	7%
Food		49%	51%	38%	47%
Parks and Natural Wonders		--	--	5%	--
Other		27%	17%	16%	12%
Percentage of Call Transfers by Type of Service					
Shopping and Services	Not Reported	0%	0%	5%	0%
Attractions		7%	7%	9%	16%
Dining		7%	7%	7%	16%
Transportation		18%	18%	16%	19%
Lodging		49%	68%	63%	49%
Percentage of Web Site "Services" and "Events" Hits	Not Available	Not Reported	Not Reported	14%	28%

* = "Services" includes Food, Lodging, Shopping and Services and Things to Do.
** = The specific top ten varies somewhat month-to-month. For services where no statistics appear for a given month, it means that the service was not among the top ten most common selections. It does not mean that there were no selections for that service category.

General Findings

Overall usage information for the 511 Virginia system doesn't provide any additional specific information related to tourism, but it does provide a measure of the overall use of the system and a context for the tourism-related results presented in the preceding section. These findings are summarized below:

- Over the first 18 months of operation (February 2002 – August 2003):
  - Average monthly call volume was 11,670.
  - 69% of callers requested information on traffic; the next most popular request was for construction information (9%).
  - The peak call day is Sunday, between 2 and 3 PM, suggesting a high percentage of recreational travel use.
  - Very few callers (0.4%) utilize the call transfer function.

- Weather, Traffic, Accidents and Construction were the top information needs of 511 callers. Traveler services/tourism information showed up only under the "other" category, which was a top need only when tourists were en route.

- Thirty-six percent of 511 Virginia callers indicated that the primary reason for calling their first time was for traffic conditions information like congestion and delays.

- In the phone survey, the top three sources for planning for a trip to the I-81 Region were the Internet (45%), 511 Virginia (36%), and television (17%).

- The majority of phone survey respondents (62%) found out about 511 from the blue roadside signs.

- 71% of web survey respondents were looking for travel conditions information.

Summary

There is not much information available that focuses on tourists' awareness and usage of 511 Virginia. The only direct measurement was done through the VTTI tourist focus groups, which included only 8 people. None of those tourists were aware of or had used the 511 system. The only other clue to potential in-state tourist awareness and usage comes from the four 511 questions that were included in the statewide Quality of Life telephone survey. In that survey, 9% of respondents who live in Virginia but outside of the I-81 region were aware of 511. Some unknown percentage of these individuals can be assumed to be occasional tourists to the I-81 region, and the remainder either never travels in the I-81 region or travels there for work (either commuting or operating a commercial vehicle).

Tourist-related 511 Virginia system content is much less popular than traffic, road condition and weather information. Historically, only 8% of the total phone system menu

selections were for "services," which includes categories of information like food and lodging that would be of interest to non-tourists as well. The clearly tourist-oriented types of service information (e.g., Festivals and Theatres) represent a very small percentage of total services information requests (less than 10%). This suggests that the number of tourists using the phone system is not substantial. Based on only the two months of 2004 data available, services information is somewhat more popular on the website, amounting to between 14% and 28% of menu selections. Unfortunately, it is unclear how many people accessing traveler services information are tourists.

Overall, although limited data prevents more than a tentative conclusion, it does not appear that a substantial number of tourists utilize the 511 Virginia system.

5.2.2 Customer Satisfaction

Tourist Findings

The VTTI evaluation includes only one indicator of tourist satisfaction: a comparison of 511 usefulness responses among tourists, residents and commercial vehicle operators derived from the 511 phone user survey. The average rating among tourists was 4.3, equating to "somewhat useful." This rating is slightly lower than the overall average of 4.5 and the commercial vehicle operator (4.6) and resident (4.5) ratings. VTTI speculates that the lower rating by tourists may reflect a lack of familiarity with local roads and therefore a reduced valuation of traffic information (e.g., not knowing what roads are being referred to and/or not knowing what roads are good alternate routes).

General Findings

The VTTI evaluation does include customer satisfaction results for 511 users in general, in both the 511 phone survey and website survey sections. Major findings are summarized below:

- Satisfaction levels among website users are relatively high for traffic related information (e.g., 63% for the Travel Conditions page) but somewhat lower for the other types of information (e.g., 43% for Tourism and Attractions pages). Phone system users are very satisfied with the system: 99% said they would use it again and the average rating of the usefulness of the system was 4.5 out of 5.

- The 511 phone system appears to impact traveler decisions. When asked what made the 511 system useful, the most common response (27%) was that 511 helped to make travel decisions. Several respondents indicated that they specifically used the information they found on 511 Virginia to help them decide to switch to Route 11 when they heard on 511 Virginia that I-81 was experiencing back-ups. The next most common response (10%) was "useful information." Only 2% of respondents identified "services information" and only 0.06% identified "tourism information."

- Forty-nine percent of all callers indicated that they had changed their plans based upon what they had heard on 511 Virginia. Of those who indicated that they had changed their travel plans, the most common type of change was a change in route (78%). The next most common type of change (8%) was to cancel/reschedule the trip.

Summary

As with the system awareness and usage data, there are very little data on which to base conclusions related to tourists' satisfaction with 511 Virginia. The one direct measure—tourists' rating of the usefulness of the system—indicates that those that use the system find it useful. The phone survey further indicates that most 511 users report changing their travel decisions based on 511 information, with the most common change being a change in route . In terms of general satisfaction levels among all types of users, both the VTTI 511 phone survey and web survey indicate fairly high levels of satisfaction.

5.2.3 Perspectives of Key Informants

A total of ten 511 Virginia key informant interviews were conducted over the period January through April 2004. Seven of the interviews were conducted in-person during the site visit and three were conducted by telephone before or after the site visit. The purpose of the interviews was to garner input from both the operators of the 511 system (VDOT and Shentel) and representatives of the tourism community (Shenandoah National Park and numerous local tourism promotion agencies, e.g., Convention and Visitor Bureaus). Table 5.2 identifies the interview subjects by session, along with a brief summary of their relationship to the 511 system.

Table 5.2
Shenandoah Valley Key Informant Interviews

Interview Subjects	Relationship to 511 Virginia
Director, Shenandoah County Economic Development & Tourism	A county tourism promotion official; familiar with 511 Virginia. an advertiser on 511 Virginia; and provides regional tourism promotion perspective on 511 Virginia.
Management Assistant, Shenandoah National Park	Acting Public Affairs representative for the Park; provides perspective on how the Park's traveler information strategies and objectives relate to 511 Virginia.
Director, Luray-Page County Chamber of Commerce	Familiar with the 511 Virginia system; has been approached as an advertiser but has declined; provides perspective of local tourism promotion agency on 511 Virginia.
Director of Tourism, Lexington, Virginia Tourism Development	Familiar with the 511 Virginia system; has been approached as an advertiser but has declined; provides perspective of local tourism promotion agency on 511 Virginia.

Table 5.2
Shenandoah Valley Key Informant Interviews

Interview Subjects	Relationship to 511 Virginia
Executive Director, Harrisonburg-Rockingham Convention and Visitors Bureau	Familiar with the 511 Virginia system; provides perspective of local tourism promotion agency on 511 Virginia.
Director, Staunton Convention and Visitors Bureau	Familiar with the 511 Virginia system; provides perspective of local tourism promotion agency on 511 Virginia.
511 Project Manager, VDOT; 511 Marketing Director, VDOT; 511 Project Manager; Shentel; Vice President-Customer Service, Shentel	Developed and operate 511 Virginia.
Director, Roanoke Valley Convention and Visitors Bureau	Familiar with the 511 Virginia system; provides perspective of local tourism promotion agency on 511 Virginia.
Property Owner, Hampton Inn	Advertiser on 511 website.
Regional Manager, Cracker Barrel Restaurant	Advertiser on 511 website.

Interview Results

The following summarize the common themes and major findings of the Shenandoah Valley key informant interviews.

Tourism stakeholders value 511 traveler information – Most representatives of tourism organizations feel that 511 traffic information is a valuable resource for residents and tourists. To the extent that their enthusiasm is tempered, it is due primarily to concerns about the low visibility and low awareness of the system among tourists. To a lesser extent they also speculate that tourists and other recreational travelers are not strongly motivated to avoid traffic congestion—that they expect it, feel that it's not worth the effort to try to avoid it, or are just not significantly bothered by it. There was some speculation that the type of tourists who visit the Valley, which includes a significant number of seniors, may not be inclined to use high-tech tools for trip planning, especially once they reach the Valley. This may help explain why, despite an increasing emphasis on websites and phone systems, tourism organizations continue to rely heavily on traditional, low-tech strategies: brick-and-mortar visitor information centers and printed materials. Finally, although not a common sentiment, there was some concern among a couple of tourism stakeholders that 511 information could result in traffic detours that would reduce drive-by traffic for some businesses.

Shenandoah National Park is not currently involved – Until recently there has been very little communication between the Park and the 511 Virginia program and the Park has had a very low profile on the system. The Park, VDOT and Shentel note that there were some limited attempts at coordination very early in the development of 511 Virginia, but that those attempts did not result in meaningful partnership. With so many other issues to deal with, and possibly also due to the Park being unready to consider how 511 may fit into their (still informal) overall visitor information strategy, VDOT and

Shentel merely moved on to other issues. Now, with the basic 511 system well established, VDOT and Shentel are interested in greater partnering with the Park, and the Park, which is now focusing more on information strategies, is also ready to enhance coordination. Both VDOT and the Park credit this study and the Volpe Shenandoah National Park study on stimulating renewed partnering discussions.

Awareness and visibility of 511 Virginia appears low – Based on study team observations made over the course of several days in the Valley, 511 Virginia is not very visible, even when you are looking for indications of its existence. In this respect the traveler information system is like most others in rural or intercity environments. The only indications of the system visible along the roadway are the occasional blue 511 road signs on I-81. Study team observations are supported by those of most tourism stakeholders, who feel that awareness levels are low among travelers. These subjective assessments are supported by the findings of the VTTI evaluation.

Local tourism groups have not bought in – Nearly all of the tourism stakeholders are confused by VDOT's entry into the already well-established realm of tourism promotion. They are also confused by what they perceive as a lack of coordination on VDOT's part with the Virginia Tourism Corporation and local tourism organizations. Some of the tourism stakeholders also seem threatened by what they view as a competing source of information and frustrated because they feel that their options are either "pay to play" (participate as advertisers in 511) or risk losing tourists to the competing 511 service. This concern can at least in part be attributed to a lack of understanding on the part of the tourism stakeholders, since the 511 website does include "free" references to tourism agency websites (the "Links" portion of the site includes links to 12 travel associations, 11 Chambers of Commerce and numerous municipal sites). Although VDOT and Shentel made some attempts at coordination early on, they acknowledge that there has not been much coordination with the Virginia Tourism Corporation. As with coordination with Shenandoah National Park, they indicate that now that the 511 system is established, there will be additional coordination.

Advertisers expect evidence of return-on-investment – Both of the 511 advertisers that were interviewed and several of the tourism promotion agencies indicated that it is very important to be able to demonstrate a return on marketing investments, and that such feedback has not yet been made available by Shentel. They indicated that their initial participation as 511 advertisers was based on the sense that the 511 system was a good idea in general, and/or a general desire to support VDOT and be a good member of the business and tourism community. However, they noted that marketing resources are tight and that, if they are to continue to invest in 511 advertising, they will need to see data demonstrating the value of that investment, e.g., the number of hits on their links or selection of their menu item on the phone system. So far Shentel has not provided that information to advertisers but they indicate that they understand the desire for that information.

Advertiser revenues are insignificant so far – Based on anecdotal information from Shentel, advertising revenues from the 511 system are still quite modest and are not expected to be significant in the foreseeable future.

5.2.4 Study Site Conclusions

In terms of providing a single source for traveler information and traveler services and tourism information, 511 Virginia is extremely effective. 511 Virginia is a relatively rare example of a traveler information system that completely integrates traditional traveler information (incidents, construction, etc.) with an extensive array of services and tourism information. Although many regional and statewide public traveler information websites provide links to external sources of that information, the 511 Virginia website actually contains that information. Even more unusual, the 511 Virginia phone system also integrates and links to that sort of information. It is noteworthy that the 511 Virginia services and tourism information is actually collected by the system operators, rather than provided from an outside source. The breadth and overall volume of 511 Virginia traveler services and tourism information is also impressive and uncommon. The system includes as many listings for this type of information as found in phone books. The 511 Virginia objective of combining state-of-the-practice traveler services information with a wealth of services and tourism information was ambitious, and VDOT and their partners have succeeded in that objective.

Despite an extensive array of traveler services information there is certainly room for improvement with respect to tourism promotion. First, it would seem logical to significantly increase the coordination with Shenandoah National Park and to raise the profile of the Park on the 511 system. As the single largest tourist attraction in the area—and one which operates its own small scale traveler information system—it would seem appropriate for the Park to have a much bigger role in 511 Virginia and for there to be linkages between the two systems. VDOT, Shentel and the Park recognize this issue and have renewed discussions. Second, there appears to be substantial untapped potential for raising the awareness of 511 Virginia among tourists through improved coordination with local tourism organizations. Despite some efforts to engage this community, many of these organizations remain confused and skeptical about VDOT's motives for entering the tourism promotion arena. Many of the tourism stakeholders interviewed were unaware of the opportunities for a "free" presence on the 511 system, and tend to view Shentel's outreach efforts to date as "sales calls" to solicit for-fee participation in the system. Although the local visitor information centers do stock the 511 rack cards and other materials, they are not featured very prominently and the center staff doesn't always seem particularly aware of 511 Virginia system or to promote it.

Despite some lingering confusion and skepticism on the part of many local tourism organizations, there does not seem to be any wide-spread concern about potential adverse impacts associated with 511 Virginia information or the traffic detours it could stimulate. Such a concern was voiced by only one tourism agency representative. Also, despite some concerns about low awareness and usage, most tourism stakeholders feel that traveler information is useful and that anything that makes travel in the region easier is a

positive influence on tourism. There also appeared to be no concern regarding the potentially damaging impression, created by providing traffic congestion and incident information worldwide via the Internet, that traffic conditions in the Shenandoah Valley are a problem.

In terms of the influence of 511 Virginia on tourism, it appears unlikely that the system is currently having any significant impact, due to the relatively low awareness and usage levels. Although few tourists may be using the system, those who are constitute a significant proportion of the system user base (39%, based on the VTTI phone survey), they find the system useful and the information does impact their travel decisions. These findings suggest that with increased marketing and education the system has the potential to create significant positive impacts on tourism.

Interestingly, it appears that the primary appeal of the 511 Virginia system for tourists may be the same as that of other travelers: traffic information. Both system data on menu selections and VTTI survey data suggest that traveler services and tourism information is not very popular, despite the fact that tourists represent a significant percentage of system users. In fact, several of VTTI's conclusions support the notion of maintaining and enhancing the system's overall focus on traffic information:

- "The primary focus on the phone system should be providing timely traffic information."[29]
- "Travel condition information needs to be moved to a more prominent place on the website, as it was found to be the most desired information."[30]
- "Categories not related to travel conditions should possibly be eliminated."[31]

This suggests that in making traveler information systems useful to tourists it may be more important to make traditional traveler information easier for them to find and use rather than incorporating tourism attraction information.

Other conclusions drawn from the analysis of the 511 Virginia experience include the following:

Moving Beyond Awareness to Education – Although additional work remains to raise basic awareness, the results of both the VTTI evaluation and the input from key informants interviewed for this study indicate that awareness of 511 is only the first step. In order to meaningfully engage local tourism organizations in promoting 511, and to motivate a significant number of travelers to use the system, it is important to move beyond awareness to education. The VTTI evaluation noted the gap between awareness levels and usage levels and recommended that "511 Virginia should go beyond awareness marketing"[32] and "marketing should be focused on education as well as awareness."[33]

[29] Virginia Tech Transportation Institute, "511 Virginia Evaluation," January 2004, Executive Summary, page 4.
[30] Virginia Tech Transportation Institute.
[31] Virginia Tech Transportation Institute, page 5.
[32] Ibid, Executive Summary, page 5.

Coordinate with and Leverage the Extensive Tourism Promotion Community – The extensive network of state, regional and local tourism promotion organizations and their infrastructure—including visitor information centers, websites and phone systems—can potentially be an effective way to "mainline" the traveler information message directly to tourists. However, these organizations may be confused or suspicious of a public transportation agency or private partner's foray onto their turf, and establishing and maintaining trust can be expected to be a resource-intensive and on-going activity.

Commercial Advertising Dollars are Hard to Attract and Retain – To date, the experience in traveler information has generally been that it is extremely difficult to extract revenue from a traveler information operation, and this has been the experience so far with 511 Virginia. The Shenandoah experience indicates that attracting advertisers is only the beginning—in order to retain them they will need to be provided evidence of the benefit of their marketing investment.

DOTs and Telecommunications Companies Do What They Know - And they probably aren't experts on tourism. One of the real strengths of 511 Virginia is the breadth and depth of traveler services listing—an almost phone book-like database of restaurants, lodging, etc. Despite the exhaustive listings, however, the extent of meaningful coordination, let alone synergy, between 511 Virginia and major tourist attractions (e.g., Shenandoah National Park) and local tourism promotion organizations, has not yet reached its full potential. The lesson here is that traveler information partners who have not traditionally been involved in tourism promotion are, reasonably enough, likely to approach this new area using the skills and techniques with which they are familiar. In the case of 511 Virginia, it is not surprising that the tourism content is somewhat phone-book-like (long on listings, but not yet fully enmeshed with the broader tourism promotion community). Shentel, among other things, operates as a local telephone company. This is not a criticism, it just points to the fact that traveler information systems are the products of those who develop them, and if those developers are not experienced in tourism promotion, those systems may not fully realize their potential to positively impact tourism.

Raising Awareness and Attracting Users is a Major Challenge – When considering the vast array of 511 promotion activities undertaken by VDOT and its partners (rack cards, bumper stickers, VMS messages, gas pump stickers, newsletters, litter bags, press kits, static road signs, truck decals, tourism publications, public service announcements, billboards, etc.), it is apparent that they have been extremely vigorous—one of the more aggressive 511 promoters nationwide. Despite these efforts, however, awareness and usage of the system is still relatively low. In the dense information environment of today—especially for tourists, where so many competing interests are vying for their attention—it is very difficult to engage travelers, to rise above the background "noise." What may seem like a major promotional campaign, judged by traditional transportation agency public relations standards, may be far less than what is necessary, and far less than what is typical of commercial product advertising campaigns. There are other

[33] Ibid, Executive Summary, page 4.

challenges beyond just getting tourists' attention. If, as could be argued, many commuters are not yet accustomed to hands-on planning and management of their travel and are not regular consumers of traveler information products, it seems likely that tourists are even less so. Therefore, the marketing challenge with tourists goes beyond making them aware, it must focus on modifying their more passive, laid-back, vacation-traveler mind set.

6.0 SALT LAKE CITY, UTAH

This section presents the findings of the investigation of the Salt Lake City regional traveler information system. This section is organized into three subsections. The first presents an overall profile of the Salt Lake City Region and the traveler information system. The second section presents study findings, organized broadly into three areas: system usage, customer satisfaction, and management and deployment issues. The final section summarizes findings and presents conclusions.

6.1 Site Profile

This section describes the general characteristics of the Salt Lake City Region, including its location and transportation system, the tourism characteristics of the area, and the traveler information systems serving the region.

6.1.1 General Characteristics

As indicated in Figure 6.1, Salt Lake City is located in North Central Utah. The Salt Lake area is an example of a medium to large-sized urbanized area. The 2000 Census population for the Salt Lake City Urbanized Area is 887,650.

The roadway network in Salt Lake City is defined primarily by three Interstate routes: Interstate 80, which passes east-west through the northern portion of the urban area; Interstate 15, which passes north-south through the central portion of the urban area; and Interstate 215, which forms an inner-loop beltway. In addition to fixed route and demand-responsive bus transit, Salt Lake City public transportation options include two Light Rail Transit (LRT) lines.

Traffic congestion is a factor in the Salt Lake City, but it is not severe. Congestion levels in Salt Lake City are about average compared to other major metropolitan areas of similar size, such as Omaha and Albuquerque. According to the 2001 Urban Mobility Study conducted by the Texas Transportation Institute (TTI), which studied 75 urban areas in the United States, Salt Lake City ranked 39thth overall based on the "travel time index," with an index value of 1.20.[34] The travel time index measures the amount of additional time needed to make a trip during a typical peak travel period in comparison to free-flow speeds. For comparison, the most congested urban area—based on the travel time index—is Los Angeles with 1.83[35].

[34] Texas Transportation Institute, "2001 Urban Mobility Study," Exhibit A-2, 2001 Urban Mobility Conditions.

[35] Among the 21 cities of similar size (between 500,000 and 1 million population), Salt Lake City was ranked roughly in the middle, at #9, with a travel time index just below the average of 1.18. The average travel time index for all 75 urban areas is 1.39.

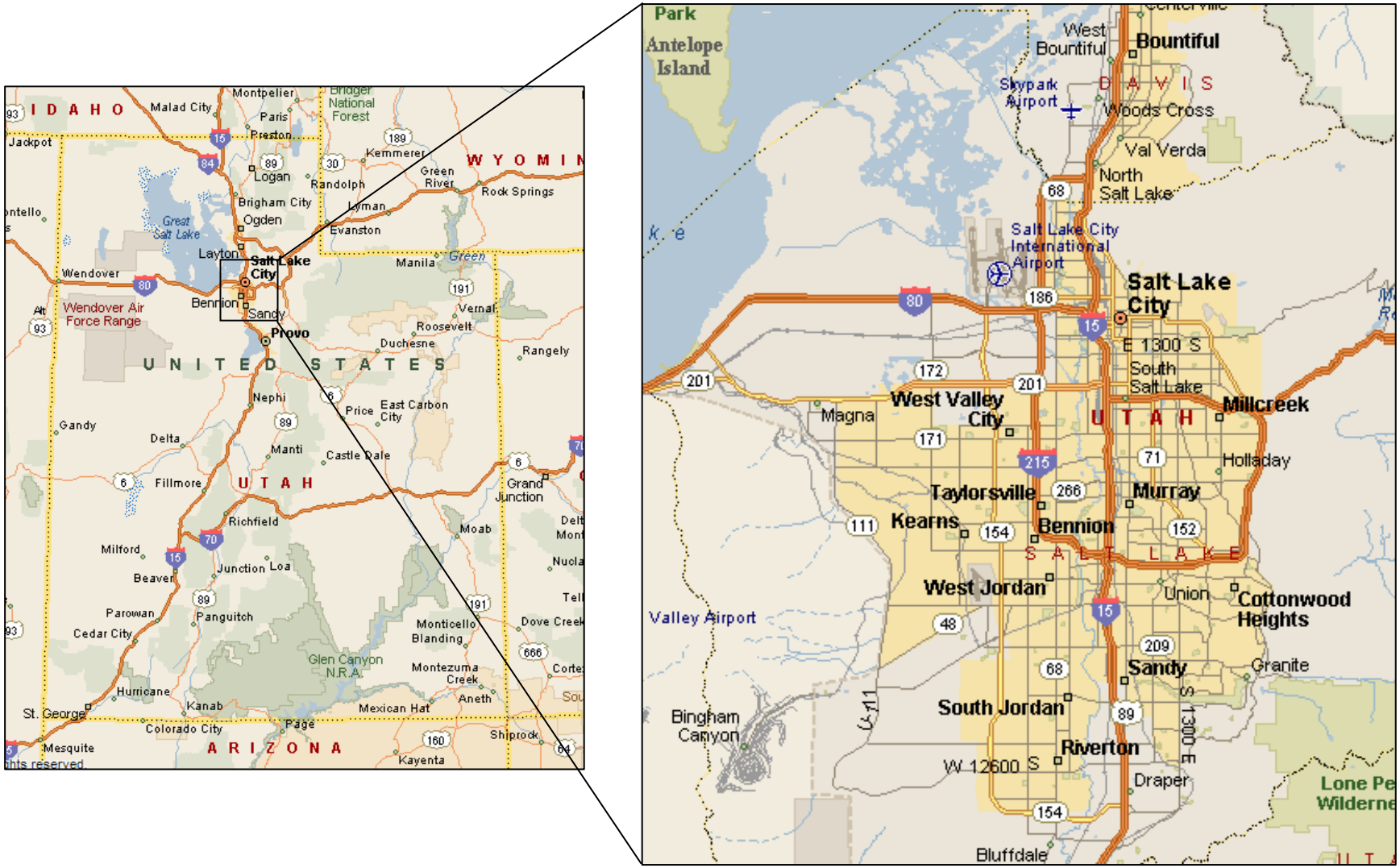


Figure 6.1 Salt Lake City Location and Detail Map

According to some key informants in the Salt Lake City area that were interviewed for this study, the many transportation improvements made for the 2002 Winter Olympic Games have helped ease congestion, or at least staved off further increases over 2001 levels. These individuals indicated that, generally, traffic congestion is only a problem on key Interstate and arterial street segments in the peak traffic periods and/or when incidents occur.

6.1.2 Tourism Characteristics

The most significant tourist activity in the Salt Lake City Region is skiing and snow-boarding. Approximately a dozen major ski resorts are located within 60 miles of the Salt Lake City area, which includes the nearby resort town, Park City. Such proximity is unrivaled by other North American ski destinations. Internationally recognized ski resorts in the Salt Lake City region include Sundance and Snowbird. Other, year-round, tourist attractions and activities include hiking and cycling as well as the Church of Latter Day Saints historical sites, Temple Square, and Family History Library. Table 6.1 presents statistics from the Salt Lake Convention and Visitors Bureau, showing the percentage of tourists that engage in various activities, for both the winter and summer seasons.

Figure 6.2 Sign to Ski Areas Located in Big and Little Cottonwood Canyons East of Salt Lake City

Table 6.1
Salt Lake City Top Tourist Activities

Winter		Summer	
%	**Activity**	**%**	**Activity**
71%	Downhill Skiing	36%	Shopping
26%	Snowboarding	34%	City Sightseeing
3%	Telemark (skiing)	31%	Dining
55%	Dining and Nightlife	20%	Arts/Entertainment
36%	Shopping	17%	Historic Sites
34%	Sightseeing	8%	National/State Parks
25%	Snowmobiling	7%	Amusement/Theme Parks

Source: Salt Lake Convention and Visitors Bureau, "2004 Future Forecast", 2004, page 66.

During the winter, the vast majority (81%) of Salt Lake Region visitors travel to the area by air. During summer months, most visitors (61%) travel to the area by automobile.[36] There is significant private automobile traffic between Salt Lake City and the surrounding ski areas. About 20% of skiers and snowboarders spend the night in Downtown Salt Lake City.[37] As expected, most (87%) local residents and day visitors

[36] Salt Lake Convention and Visitors Bureau, "2004 Future Forecast," 2004, page 66.
[37] Salt Lake Convention and Visitors Bureau, "2004 Future Forecast," 2004, page 65.

(85%) to the ski areas drive their own cars; about 73% of out-of-state skiers either drive their own vehicles or rental cars.[38] Overall, considering all types of visitors, about 80% of skiers and snowboarders arrive by automobile. About 6% use commercial shuttles.

Although there are no National Parks located in the Salt Lake City immediate area, there are several major, popular National Parks in Southern Utah, including Arches and Canyonlands (Moab, Utah), Bryce Canyon, and Zion, as shown in Figure 6.3. The Salt Lake City International Airport is one of the closest major airports to these parks and, according to local tourism interview subjects, Salt Lake serves as a major gateway to the parks.

Locations of Utah National Parks and Monuments

Zion National Park in Southwest Utah

Arches National Park in Eastern Utah

Figure 6.3. Utah National Parks and Monuments

[38] Ski Utah, "Skier and Snowboarder Survey 2002/2003, Final Report," page 33.

A highlight of recent tourism activity in the Salt Lake City region was the 2002 Winter Olympic Games. (Figure 6.4 shows the entrance to the Olympic Park.) The Games were the largest Winter Olympics Games thus far, with 1.5 million tickets sold and an average of 70,000 to 80,000 visitors arriving in Salt Lake City every day for 17 days.[39]

Figure 6.4. Entrance to Utah Olympic Park, Near Park City

6.1.3 Traveler Information Systems

The traveler information system in the Salt Lake City area is operated by the Utah Department of Transportation (UDOT). The system, "CommuterLink," includes a website (http://www.utahcommuterlink.com/ie.htm) and a 511 telephone traveler information system (866-511-8824 for callers from outside of Utah). Traveler information is also disseminated through the dynamic message signs and highway advisory radio components (Figure 6.5) of the comprehensive Salt Lake regional freeway management system (FMS). The CommuterLink system was launched in 1999. The telephone information system migrated to the three-digit 511 number in December 2001, just prior to the 2002 Winter Olympic Games.

Figure 6.5. CommuterLink Highway Advisory Radio Sign

CommuterLink is a typical metropolitan area, state DOT-operated traveler information website. All of the traveler information content of the site is accessible via the home page. As indicated in Figure 6.6, the home page consists of a traffic map with color-coded traffic congestion information. Users can specify up to six different types of icons to be displayed on the map indicating: CCTV camera locations, DMS locations, current incidents, current construction, planned events (e.g., construction) and weather events. The coverage area of the map is user-definable. The default configuration shows the Salt Lake City region. Other options consist of statewide, Ogden, Park City or Provo views.

[39] Utah Department of Transportation, "ITS at the 2002 Salt Lake City Winter Olympic Games: Event Study – Traffic Management and Traveler Information," section 2.2.2, April 2003.

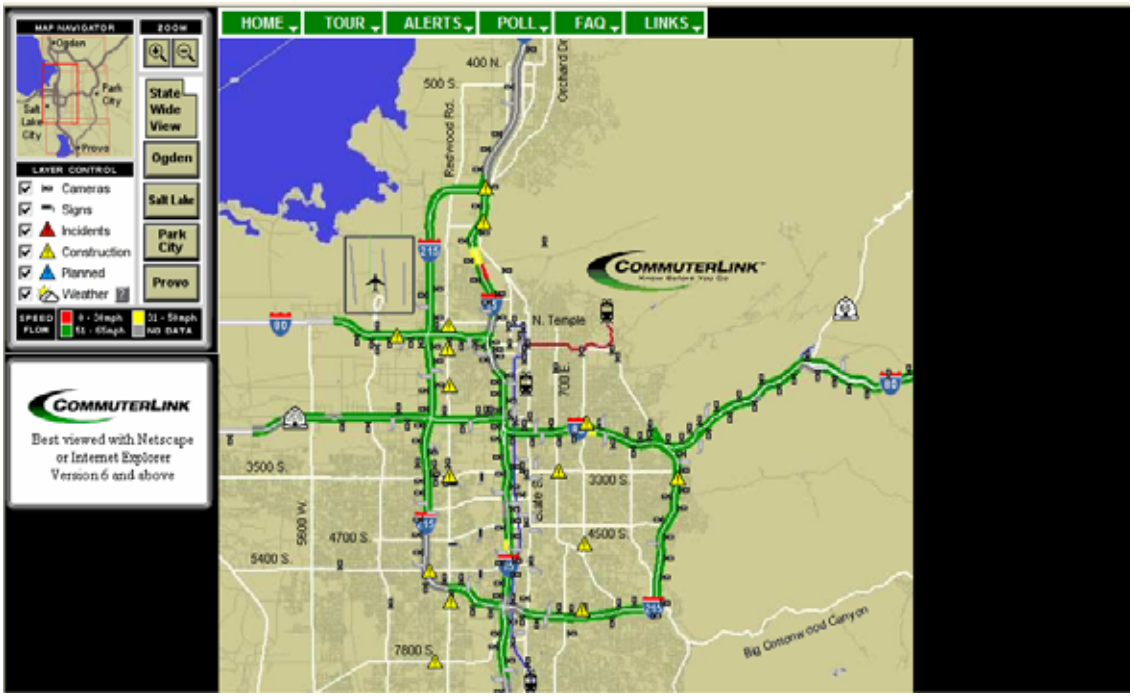


Figure 6.6. CommuterLink Website Home Page

The CommuterLink 511 telephone system includes the following main menu options:

- Traffic
- Public Transit
- Road Conditions
- Ferries.

Traffic information is available statewide. For each requested roadway, a description of current incidents, including accidents and construction, is provided. Options under public transit include buses, TRAX (light rail), demand-responsive transit and rideshare. General information on transit fares and service hours is provided along with referrals to the transit operators customer service lines and websites (no transfer options are provided). Road condition information focuses on winter road/weather conditions and consists of reports from UDOT snowplow operators. This information is available only during the winter months (November-April). Ferry information consists of a summary of the various statewide ferry services and associated general information (fees, service hours, etc.). The 511 system currently does not include any mechanism for connecting to tourism information.

During the 2002 Winter Olympic Games, both the CommuterLink website and the 511 system included a main menu item for "Olympics." The Olympics information consisted of directions to events and daily schedules. Aside from the Olympics, the UDOT approach has been to provide a quality source of traveler information without regard to

whether the end user is a local resident or visitor. Currently, neither the CommuterLink website or the 511 system include any explicit tourist content nor are their user interfaces in any way oriented to tourists (e.g., use of tourist-oriented geographic references in addition to or in place of locally recognized names). The only connection between the CommuterLink website and tourist information is via the link to the main State of Utah website, "Utah dot Gov" (http://www.utah.gov/main/index). That website includes a "Visiting Utah" menu item with submenus for "Travel and Tourism," "State Parks," "Arts and Culture," and similar items.

Figure 6.7. Sign for Park City HAR

Other traveler information systems in the Salt Lake City region include Highway Advisory Radio systems associated with several ski areas. The sign in Figure 6.7 advertises the Park City HAR.

6.2 Findings

This section presents data on traveler information usage, customer awareness and satisfaction in Salt Lake City. Also presented are the findings from interviews with key informants who provided important perspectives on the traveler information services.

6.2.1 System Usage

There are no usage data for the CommuterLink system specific to tourists. Nevertheless, the usage data that UDOT regularly tracks and an evaluation of the CommuterLink system performed by UDOT during the 2002 Winter Olympics Games do provide an indication of overall usage parameters.

The Olympics evaluation considered the entire Salt Lake City ITS system and featured an array of data collection activities, including analysis of the CommuterLink website and 511 system usage data. The following summarize the major findings of that analysis.[40]

- Usage of the website spiked dramatically during the Olympics, experiencing over 52 million hits over the 17-day period compared to 8 million hits for a normal 17-day period in July. The 52 million hits equates to about 120,000 individual website sessions, or an average of about 7,000 per day. Usage was greatest during the first few days of the Games and then fell off dramatically.

- Most (76%) of the website users only used the site once.

[40] Utah Department of Transportation, "ITS at the 2002 Salt Lake City Winter Olympic Games: Event Study – Traffic Management and Traveler Information," April 2003, sections 4.1.2 and 4.2.2.

- The Olympics evaluation contains no information on the percentage of website users who selected Olympics information. However, it does report that about 5% of the website visitor sessions were from outside the United States.

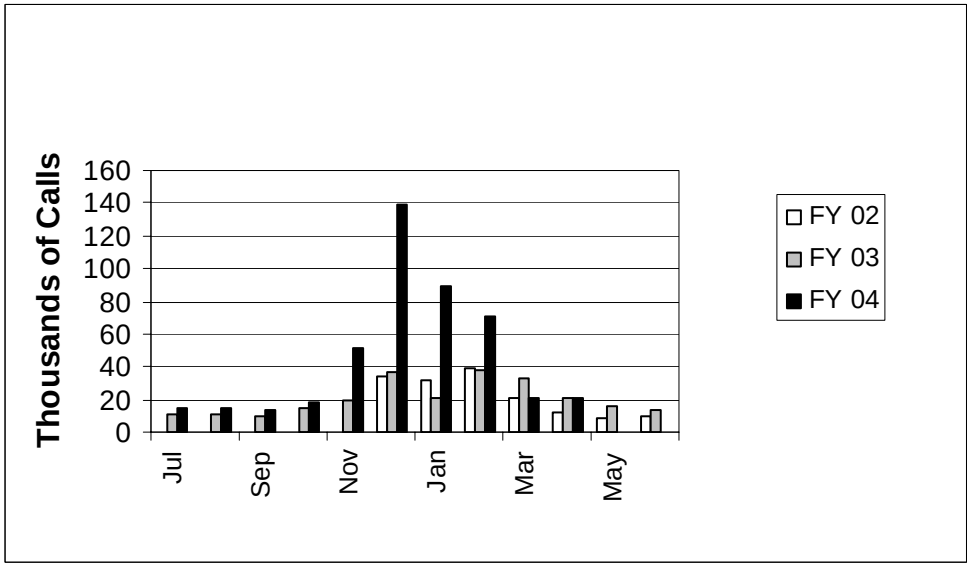
- Usage of the 511 phone system was also much higher during the first few days of the Games than during preceding months. During the first few days of the Games there were between 3,000 and 4,000 calls per day to the system. Over the remainder of the Games, volumes dropped down to between 1,000 and 2,000 calls per day, where they remained over the next three months.

- The duration of 511 calls averaged around 2 minutes and remained steady over the course of the Games.

- Usage of the 511 phone system was highest between 3 PM and 7 PM, with 48% of daily calls. There were relatively few calls (4%) associated with the AM commuting period of 6AM – 9AM.

- Approximately equal numbers of callers to the 511 system—approximately 1/3 each—requested information on Traffic, Transit and the Olympics.

Historic usage data for the 511 telephone system and website help put the Olympics statistics into perspective and illustrate longer-term trends. Figure 6.8 presents telephone system call volumes by month and UDOT Fiscal Year (July-June), beginning with the system turn on in December 2001 (a couple of months prior to the Olympics) through April 2004. Monthly call volumes were fairly high from the beginning, around 35,000 calls, due to the Olympics. After the Olympics call volumes dropped to about 10,000 calls per month (the system received around 3,000-4,000 calls per day during the Olympics). Call volumes began to rise again the following winter, reaching 20,000 calls per month in November 2003. Call volumes rose again during the winter of Fiscal Year (FY) 2004, peaking at about 140,000 calls in December.



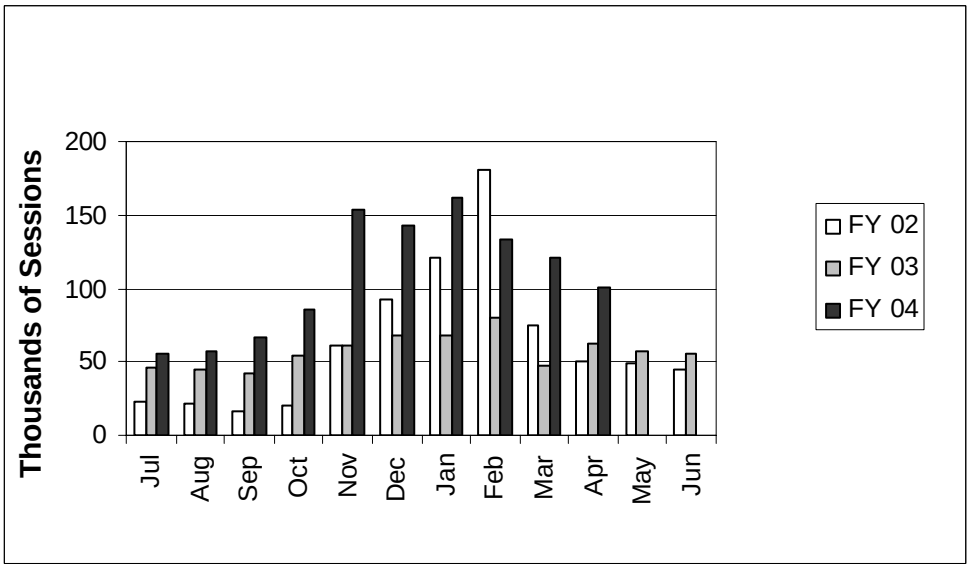
Source: Utah Department of Transportation, 2004.

Figure 6.8 Utah 511 Telephone System Call Volumes

Figure 6.9 presents monthly website user sessions for FY 2002, 2003 and partial FY 2004. Website usage closely parallels that of the phone system: usage is highest during the winter months; usage has increased steadily year over year; and overall peak volumes—on the order of plus or minus 150,000 sessions per month—occurred during the last winter. Unlike the phone system, which debuted essentially in conjunction with the 2002 Winter Olympic Games, the CommuterLink website has been operating continuously since mid-1999. Prior to the Olympics, over the period May 1999 to October 2002, monthly user sessions ranged from about 8,000 to about 37,000 and averaged about 20,000 sessions per month. Website usage spiked dramatically during the Olympics (February 2002) to almost 181,000 sessions/month.

No information is available on website menu selections. Data on telephone menu selection[41] indicates that during the Olympics 29% of all menu selections were for Olympics information. Since the average menu selections per call was about 1.2, meaning that most calls were for a single menu selection, this suggests that about the same percentage of calls to the system were to collect strictly Olympics information. After the Olympics, the usage statistics vary considerably by season (as do volumes, which are much higher in winter months). During the winter, most (79%) of the menu selections (and calls) are for road condition information. During the summer, when this information is not available and when call volumes overall are much lower, the most popular item is traffic, accounting for about 66% of menu selections.

[41] Spreadsheet provided by UDOT, June 2004.



Source: Utah Department of Transportation, 2004.

Figure 6.9. Utah CommuterLink Website User Sessions

No data are available on the proportion of website or phone system usage by tourists—before, during or after the Olympics. In terms of the proportion of tourist usage during the Olympics, in the most basic sense there are only two possibilities: either that Olympics-era system usage did or did not include a significant percentage of Olympics tourists (non-locals). Considering the phone system usage statistics, both call volumes and menu selection percentages, either explanation is more-or-less equally plausible. In the first case, the additional 20,000 calls during the Olympics month were by Olympics tourists and the "hole" created by their departure was, over time, filled by some combination of new local and new tourist users. The second possibility is equally plausible, however. In that scenario, the Olympics usage "bulge" was by *local* Olympic event attendees who were using the system only for Olympics information (a possibility supported by the fact that menu selections per call have always hovered around 1.0 in the wintertime, meaning most callers are calling for one type of information); those locals stopped using the system after the Olympics; and either returned the next winter to use the system for other purposes or were replaced by entirely new users the next winter. This second possibility is also supported by the fact that 40% of the 1.5 million Olympic event tickets sold were purchased by Utah residents.[42] Ultimately, the data do not allow for any definitive conclusions.

Summary

No usage data specific to tourists is available for CommuterLink. The general usage data that is available indicates that both the 511 system and the website are heavily utilized—monthly calls and user sessions both exceed 140,000 during the peak winter period.

[42] Utah Department of Transportation, "ITS at the 2002 Salt Lake City Winter Olympic Games: Event Study – Traffic Management and Traveler Information," section 2.2.2, April 2003, Section 2.2.1.

During the winter, almost 80% of 511 callers are using the system strictly to obtain road condition information (snow, ice, etc.). Usage of both systems falls off steeply during the summer.

Usage of both the website and the 511 system were much higher during the Olympics. A substantial percentage of 511 system usage during the Olympics was Olympics-related--almost 30% of all menu selections. Since most callers selected only one menu item per call, almost that same percentage of calls to the system were for Olympics information exclusively. In the case of the website, usage fell off sharply after the Olympics but remained at levels significantly higher than before. Usage of the phone system dropped by half immediately following the Olympics but over the next two years rebounded to levels equal to and, during peak months, exceeding the Olympic levels. In the case of the website it appears clear that the Olympics-related marketing blitz had a lasting impact. The phone system data suggest a slower but steady increase in post-Olympics usage.

6.2.2 Customer Satisfaction

The Olympics evaluation is the only source of customer satisfaction data on the CommuterLink system. That evaluation featured a telephone survey of residents and visitors and addressed both the website and the 511 system. Both surveys focused on measuring three parameters: awareness, usage and satisfaction. The major findings of the survey are presented in Table 6.2.

Table 6.2
CommuterLink Olympic Survey Results

	Website		511	
Parameter	**Visitor**	**Resident**	**Visitor**	**Resident** [1]
Number of valid completed surveys	448	242	443	242
Awareness	41%	70%	25%	44%
Usage	14%	15%	4%	2%
Satisfaction (answered yes to "worked well?")	98%	97%	75%	100%
Information Consulted				
Traffic	61%	100%	63%	75%
Road Conditions	3%	24%	16%	0%
Olympics	39%	12%	42%	0%
Weather	0%	3%	37%	0%
Other[2]	23%	15%	0%	25%

Source: Utah Department of Transportation, "ITS at the 2002 Salt Lake City Olympic Games: Event Study – Traffic Management and Traveler Information," sections 4.1.4 and 4.2.4, April 2003.

[1] There were only 4 resident users of the 511 system and, therefore, the results for satisfaction and information consulted are not statistically significant).

[2] In the case of the website, other information includes links to other websites and CCTV camera views. For the phone system other information includes ferries and public transit.

A substantial percentage of visitors were aware of the CommuterLink system, with more visitors aware of the website than the 511 system. Usage lagged significantly behind awareness among visitors. Only 14% of visitors had used the website and only 4% had used the 511 system. Visitors expressed a high degree of satisfaction with CommuterLink, with satisfaction higher for the website than for the 511 system. Among both residents and visitors, traffic information is the most popular type of information. As would be expected, Olympics information was more popular among visitors.

Summary

Since UDOT does not focus on tourists on a continuing basis, the only evidence of tourists' satisfaction with CommuterLink comes from the survey conducted during the Olympics. That survey indicates that a substantial number of tourists were aware of CommuterLink, although less so for the 511 system than the website. Although usage levels lagged behind awareness levels, given the large number of tourists in the area during the Olympics, the relatively low percentages likely equate to a sizable number of tourists. A very high percentage of those tourists who had used CommuterLink felt that it worked well for them.

6.2.3 Perspectives of Key Informants

Fourteen key informants representing 11 different organizations were interviewed on site in the Salt Lake City conducted in April 2004. Represented organizations included UDOT, who developed and operate CommuterLink, tourism promotion groups (e.g., Convention and Visitors Bureau), public transit, and operators of private transportation shuttle services. Table 6.3 identifies the interview subjects by session, along with a brief summary of their relationship to CommuterLink.

Table 6.3
Salt Lake City Key Informant Interviews

Interview Subject(s)	Relationship to CommuterLink
ITS/Bridge Engineer, FHWA Utah Division	Participated in the development and implementation of CommuterLink, its operation during the Olympics, and is participating in its on-going operation.
VP/General Counsel and Transportation Demand Management Coordinator, Salt Lake City Chamber of Commerce	Regional tourism promotion.
Director of Communications, Ski Utah	Ski industry tourism promotion organization.
Vice President, Tourism Sales and Services and Director of Communications, Salt Lake City Convention and Visitors Bureau	Salt Lake City region tourism promotion.
General Manager, Park City Transportation Services	Operates private transportation shuttle services in the region, focusing on the ski market and trip from Salt Lake City to Park City.
Executive Director, Park City Chamber of Commerce/Convention and Visitors Bureau	Regional tourism promotion.

Table 6.3
Salt Lake City Key Informant Interviews

Transportation Director, Salt Lake City	Participated in the development and implementation of CommuterLink, its operation during the Olympics, and is participating in its on-going operation.
ITS Project Manager, Utah Transit Authority	Participated in the development and implementation of CommuterLink, its operation during the Olympics, and is participating in its on-going operation.
511 Project Manager/ATIS Engineer, ITS Deployment Engineer, and Director of Communications, UDOT; CommuterLink/511 Account Manager; Public Relations Officer	Developed and operate CommuterLink. Public Relations firm provides marketing/communications support, including during the Olympics.
Transportation Manager, Express Shuttle	Operates commercial van shuttle operation.

Interview Results

The following summarizes the common themes and major findings of the Salt Lake City key informant interviews.

UDOT takes a "traditional," non-tourist-oriented state DOT approach to traveler information – That is, aside from the Olympics (when there was an explicit recognition of tourists) they do not differentiate tourists as a special user group. CommuterLink includes no tourism content or tourist-oriented user interface features. Aside from the Olympics, there is very little coordination of traveler information activities with tourism groups. UDOT views local traveler information as useful to all types of travelers, be they local or visitors, and has focused on providing quality information to an undifferentiated audience. There is also some perception that tourism information is primarily a pre-trip need, that is, before the visitor arrives in Salt Lake City. Once visitors are in the region, their information needs can be addressed the same as a resident traveler information consumer. The extent to which tourism organizations are aware of CommuterLink is a result of coordination and the advertising blitz conducted during the Olympics. Part of reason UDOT has not ventured at all into the tourism area may also stem from their strong interest in protecting the credibility of CommuterLink. Just as they allow no non-traffic messages on their DMS because they don't want to erode their effectiveness as traffic information outlets, they are cautious about putting anything on CommuterLink that would appear as advertising.

Tourism density is lower in Salt Lake City than other study sites – Salt Lake City is a large urbanized area and the travel and traveler information environment is dominated by commute travel. The major regional transportation issues are not impacted by tourist travel. Overall, transportation and traffic are not significant issues for tourists—the tourism organizations don't often hear about these issues from visitors. This contrasts sharply with Branson and Acadia where tourism is such a massive component of local travel that traffic and tourism are closely related. Although there is significant private auto travel between Salt Lake City and the ski resorts, most tourists don't travel during

peak commute periods. It is only during peak commute periods that the region experiences any significant recurring traffic delay.

Limited awareness of 511 – Among tourism groups, awareness of the 511 system is lower than that of the CommuterLink website. Awareness of the website is a result of the heavy promotion that occurred during the Olympics and of the visibility of CommuterLink in media traffic reports. (UDOT and CommuterLink are sourced in both television and radio traffic reports.) This difference in awareness levels between the telephone service and the website are likely due in part to the fact that the latter has been in existence and been promoted for 3 years longer than the former.

Support for traveler information among tourism groups – Although they do not generally see traffic and transportation issues as critical for tourists, representatives of the tourism organizations that were interviewed generally expressed support for CommuterLink. They feel that it is most useful for ski-related travel between Salt Lake City and nearby ski resorts. Weather conditions, including avalanches and preemptive avalanche control activities, often impact travel in the canyons between the city and the ski resorts. Many skiers—both locals and visitors—drive to the resorts. Both of the private shuttle operators that were interviewed were heavy users of the CommuterLink website and were very supportive of the system. One even expressed interest in placing free 511 promotional signs or decals on their vans to indicate to customers that their drivers and dispatchers benefit from up-to-the-minute traffic information.

Tourism community unconcerned about detour impacts or negative traffic impressions associated with traveler information – None of the representatives of tourism promotion organizations expressed concern about CommuterLink encouraging traffic detours that would adversely impact tourism businesses or of creating the impression that traffic is a major problem in the area. This perspective appears to be based on the nearly universal belief that traffic conditions are not generally a problem in the area and not a significant problem for tourists. The tourism representative from Park City noted that, if anything, the traffic congestion information on CommuterLink would serve to support the City's attempts to discourage personal auto use (due to parking constraints). Although not an issue for CommuterLink, UDOT did note that this issue has been raised as a concern by at least one state tourism organization on the multi-state CANAMEX Corridor project.

Traffic management during the Olympics was successful – The consensus opinion among key informants is that traffic was not a major problem during the Olympics, and that the traffic management and traveler information strategies were successful. The intensive Olympic traffic management effort focused on reducing residents' "background" travel, thus freeing up capacity for Olympics-related travel. Some interview subjects suggested that traffic concerns were over-stated, perhaps even intentionally. Regardless, the approach appears to have worked well.

Olympics had a galvanizing effect on regional traveler information and overall ITS coordination, as well as a carry-over effect on CommuterLink usage – The Olympics

provided a compelling motivation for transportation agencies to cooperate regionally. They also entailed an intensive promotional campaign for CommuterLink. Both the agency coordination and the traveler information awareness activities appear to have had an important "halo effect," providing a legacy of on-going coordination and, according to UDOT, increased traveler information usage levels relative to pre-Olympics levels.

Tourists may be less likely than commuters to adjust travel plans – As was the case in Branson and the Shenandoah Valley, several informants suggested that tourists are generally less likely to be interested in traveler information or in adjusting their travel plans based on it. It was suggested that many tourists expect to face traffic issues as part of the overall travel experience.

6.2.4 Study Site Conclusions

It's difficult to gauge the overall and continuing impact of CommuterLink on tourists in large part because UDOT, as a rule, does not differentiate tourists as a unique user group. Also, no tourist-specific usage data are available. Tourists were recognized as an important submarket during the 2002 Winter Olympics Games and CommuterLink marketing was linked with Olympic information dissemination efforts.

A substantial percentage of Olympics visitors were aware of the CommuterLink website and 511 system, although usage levels lagged behind awareness and the overall percentages were not high. Nevertheless, given the very high number of tourists in the area, even these relatively small percentages equate to a sizable number of tourists. The argument for tourist usage is bolstered by the fact that, during the Olympics, 29% of 511 menu selections were of the Olympics menu item and nearly that percentage of total calls was to collect exclusively Olympics information. Based on survey results, it is clear that most tourists who used CommuterLink felt that it worked well for them.

In addition to the proportionately small but positive impact CommuterLink likely had on Olympic tourists, the Olympics had a positive and lasting impact on CommuterLink usage (the website in particular) and ITS partnering in general in the Salt Lake City area. This suggests that traveler information-tourism impacts can flow in both directions. A tourist-dense environment, or a major tourist event, even a one-time event like the Olympics, can provide a lasting legacy of ITS and traveler information benefits to residents and future visitors.

A key factor in understanding the findings of the Salt Lake City case study is the relatively low-density tourism environment and the absence of a pronounced tourist traffic "problem." These factors likely explain UDOT's lack of focus on tourists as well as the relative (compared to the other sites) lack of significant concern or interest in traveler information on the part of the tourism community. Simply stated, traffic is not a big problem for tourists because traffic is not a big problem in general. Likewise, tourists are not a large enough percentage of travelers for UDOT to devote special attention to on a regular (non-Olympics) basis.

Overall, the Salt Lake City case study provides an important representative of one end of the traveler information-tourism continuum: that of a larger urban area where tourism travel is not a major focus or concern and where traveler information efforts do not differentiate tourists as a unique user subgroup. The question of whether CommuterLink could have a greater positive impact on tourists is ultimately secondary to the broader question of what sort of traveler information tourists in the Salt Lake City area want and are prepared to use and how they prefer to access that information. To date, that question has not been a focus of either the transportation or tourism community.

7.0 CROSS-CUTTING CONCLUSIONS AND NEXT STEPS

This section presents the overall conclusions of the study on traveler information systems and tourism. The section is organized into four subsections. The first summarizes the state-of-the-practice for the treatment of tourism information in traveler information systems. Second is a summary of the major findings and conclusions of the study, drawing on each of the four study sites. The third section presents a graphical construct that organizes and explains the current state-of-the-practice and study findings. The final section presents recommendations for how the results of this study may be useful to current and future traveler information system operators and their partners in the tourism community.

7.1 A Typology of Traveler Information-Tourism Information Approaches

The process for selecting study sites focused on identifying four productive study sites that represent a range of circumstances and approaches and was not intended as a comprehensive, in-depth review of the state-of-the-practice. Nevertheless, the screening process provided an opportunity to make some observations regarding the various approaches now being used to provide tourism as well as transportation information to travelers.

As traveler information systems were reviewed, a typology emerged. That typology incorporates various levels and combinations of two key parameters:

- The size and development pattern of the location associated with the service area (e.g., urban versus rural; large dense population concentration versus smaller, less population concentration, etc.); and
- The level of integration of traditional traveler information (e.g., traffic congestion, incidents, construction, weather) with tourism information (food, lodging, and attractions including information on parks). Integration refers to both transportation and tourism data being delivered in some form through the dissemination method of a particular system, such as phone or website.

The traveler information-tourism integration typology can be summarized as a two-by-three matrix containing a total of 6 types, as indicated in Table 7.1. The character, relative incidence and examples of the various types are discussed below.

Table 7.1
Traveler Information-Tourism Integration Typology

Size/Form of Information Service Area	Level of Integration		
	No Integration	Limited Integration	Extensive Integration
Statewide or Large Urban Areas	Type 1	Type 2	Type 3
Small Urban & Rural Areas	Type 4	Type 5	Type 6

Type 1, 2 and 3 systems all serve either a statewide or large urban service area. Such areas have relatively low "tourist density". That is, even though the area may be a major tourist destination (e.g., San Francisco or New York City), tourism travel represents a relatively low percentage of the overall travel in the area. Type 1 systems contain no tourism information; are in no way oriented to tourists (e.g., use of landmarks familiar to tourists rather than or in addition to references meaningful only to locals); and contain no links or transfer options to external sources of tourism information.

Most 511 telephone systems and some 511 websites can be characterized as Type 1. Examples include 511 systems in the San Francisco Bay area and Minnesota's statewide system. While they may have extensive real-time and static information about transportation, there is no attempt to provide information specifically for tourists.

Type 2 systems are large urban or statewide systems that include links or transfers to tourism information that lie outside the traveler information system per se. Overall, Type 2 website systems are the most common type of traveler information system. In the case of websites, the linkage to tourism information may be fairly direct and obvious—such as a link to the State Office of Tourism featured prominently on the home page—or more round-about and indirect. An example of the latter would be a "Links" button on the home page which leads to a list of links, one of which is a general state website that in turn includes a link to tourism information. A good example of this type of system is the Salt Lake City CommuterLink website (http://www.commuterlink.utah.gov/ie.htm), described in Section 6. In Kentucky's 511 telephone system, a caller can choose to be transferred to a live tourism call center serving southern and eastern Kentucky, operating between 6 AM to 11 PM in the Eastern Time Zone, to obtain information on restaurants, lodging, attractions, and activities.

Type 3 systems are large urban area or statewide systems that integrate traveler information and tourism content and/or feature user interfaces specifically oriented to tourists. The level of tourism information integration varies. There are few such systems, because most large area systems serve regions where tourists are a small proportion of the overall travel information market. A good example is the 511 telephone system (866-510-1930) for Interstate 4 in Orlando, Florida. It does not include tourism content per se, but the user interface utilizes references familiar to tourists, such as

Disney World, and provides the same content as it would if that section of I-4 had been requested by road name.

Type 4, 5 and 6 traveler information systems serve smaller urban or rural areas. Overall, there are fewer of these types of systems than statewide or large urban area systems. With the exception of a relatively small number of very high tourist density locations like Branson, Missouri and Bar Harbor, Maine, most rural and small urban areas do not have the traffic problems or dense concentrations of non-local travelers that spur traveler information system deployment. Small urban and rural high-density tourism environments typically have no dedicated traveler information systems at all, and, thus, Type 4 systems are rare. More typical are websites, such as those operated by National Parks that include some integrated but seldom truly real-time, traveler information. For example, websites operated by some National Parks and the "travel basic" sites for each park accessible via the National Park Service website often contain seasonal road closures and static "how to get around" information.

A common version of Type 5 information systems is one where linkages have been established between a tourism information system and an external source of real-time traveler information. An example is the www.Yosemite.com website operated by the Merced County Association of Governments. That system contains some integrated static information on transportation as well as a link (under "Links") to real-time traffic information from the California Department of Transportation and the Travel Advisory News Network (TANN). In Massachusetts www.masscountryroads.com contains a link to real-time traffic information provided at the regional traffic center housed at the University of Massachusetts, and the Cape Cod Commission's "Transportation Information Center" website (www.gocapecod.org) contains several links to portions of the Boston area SmarTraveler information system that pertain to roadways serving Cape Cod.

Examples of Type 6 traveler information systems include the Branson, Missouri TRIP system, as originally deployed, when the website included integrated traveler and tourism information. The Acadia National Park website and telephone information system—when they included real-time parking availability information—is another example of a Type 6 traveler information system. One of the most robust examples of a traveler information system with extensive, fully integrated tourism content is the Virginia Department of Transportation 511 system serving the Shenandoah Valley/I-81 Corridor.

7.2 Major Findings

This section highlights the major study findings. First, the overall study conclusions, which are followed by a discussion of the impacts of traveler information.

7.2.1 Study Conclusions

The following are the major conclusions of the study:

1. **Integration of traveler and tourism information is in its early stages.** As noted in the typology discussion in Section 7.1, there are not many examples of traveler information systems that truly integrate tourism content or that are oriented to tourists. This is primarily because the concept is relatively new and traveler information system state-of-the-practice is only now reaching the point where these sorts of enhancements to basic traveler information systems are being seriously considered. Thus, integration with tourism information is a cutting-edge practice and one poised for further growth. In fact, during the course of this study, in the midst of the 511 National Model Deployment project in Arizona, the system design was modified for tourism content. Originally planning to establish a top-level phone system menu item for the Grand Canyon (the only tourism attraction for which they had information), the deployment team changed the menu item to "Tourism" and included an option to transfer to the Arizona Office of Tourism due to interest from tourism officials.

2. **Integration of multistate tourism information may be of growing interest.** Despite the competitiveness of the tourism industry, some areas of the country are starting to see value in responding to tourists' needs for information that spans the entire length of their trip. The three northern New England states of Vermont, New Hampshire and Maine have chosen to join forces in the TRIO project to provide tourists with both transportation and tourism information. In Salt Lake City, UDOT indicated that through their participation in the multi-state CANAMEX (Canada to Mexico) Corridor Program they had learned that some state tourism organizations had taken a keen interest in how tourism information might be included in CANAMEX traveler information activities.

3. **Cumulative impacts on tourists are limited.** Currently, traveler information systems are impacting relatively few tourists in proportion to the total number of tourist travelers. Primarily this is because there are few tourist-oriented traveler information systems and secondarily because overall awareness and usage levels of most traveler information systems are relatively low. Section 7.2.2 discusses these factors in greater detail.

4. **Traveler information is valued by tourists and the tourism community, and may have a significant impact in some locations.** The very limited data available suggest that tourists generally value traveler information and that it does have some impact on their travel decisions. The survey data from Acadia indicated that tourists are influenced by traveler information, especially with regard to mode choice in that particular situation. Tourism organization stakeholders believe that traveler information is important and that traveler information systems are important services, although they do have criticism and concerns about the way those systems are designed and feel that greater coordination between the two constituencies is needed.

5. **Visibility and awareness levels are still low.** Based on survey data, key informant interviews, and the on-site observations of the study team**,** most traveler information systems are not very visible, for they do not stand out within the dense information environment and ubiquitous roadside clutter. The anomalous 40% awareness level of Maine's 511 system was most likely a result of negative controversy in the media and not a result of a marketing campaign. Tourist businesses have not been enlisted as partners in raising awareness of traveler information systems among their customers, despite their day-to-day connection with the target audience.

6. **Coalition-building with the tourism community is not complete.** Many tourism stakeholders are not fully "on board". Although they appreciate traveler information systems in concept, many of them feel some combination of confusion, concern or frustration regarding how traveler information systems have been coordinated with tourism information and believe promotion to be inadequate. They expressed a sense of encroachment on their turf and mistrust of transportation agencies' abilities to communicate traveler information in a way that will not create adverse business impacts.

7. **Tourism concerns about adverse impacts are common, but vary by locale.** In both Acadia and Branson some tourism stakeholders expressed serious concerns about the potential for traffic delay and incident information to "scare off" potential tourists, who might still be evaluating alternative destinations and conducting pre-trip planning via the Internet. On the other hand neither the Shenandoah Valley key informants nor those in Salt Lake City had strong reservations about telling travelers about traffic conditions. Contributing to these opposite views could be the scale of the transportation system and the geographic resolution of traveler information. In Salt Lake City and the Shenandoah Valley, only major highways are covered by the traveler information system; no specific information on local roads or parking is provided. In Branson and Acadia—compact areas with small transportation systems—information is provided on local roads that directly serve individual businesses and, in the case of Acadia, on specific parking lots. Another possible factor centers on urban form. Acadia and Branson are both relatively compact, discrete travel destinations—what could be considered "point destinations." Salt Lake City and Shenandoah are larger, more diffuse) destinations—what could be considered "area destinations." For example, many tourists in the Salt Lake Region are destined for ski resorts outside of town or fairly distant national parks. It might be that tourism stakeholders in Branson and Acadia feel that tourists are more likely to avoid their point destinations based on traffic concerns whereas stakeholders in the more geographically dispersed areas feel that localized traffic issues are unlikely to scare tourists off of the entire area.

8. **Coordination with National Parks is still spotty, but there are signs of improvement**. Although National Parks may be interested in implementing a system for providing travelers with information for a park (e.g. Shenandoah's telephone information system for Skyline Drive), such systems are not closely coordinated with broader regional traveler information systems. Acadia National Park is an example of close coordination, whereas Shenandoah National Park has had little or no coordination. The Shenandoah experience also indicates that conditions may be improving, however, as the Park is currently conducting a traveler information study and discussions with VDOT have renewed. Another indication that coordination may be improving comes from Salt Lake City, where UDOT and the Utah Transit Authority both noted that the region serves as a gateway to several National Parks in southern Utah and that coordination of ITS is under consideration.

9. **Private partner revenue streams still unproven.** The experience with ITS private partnerships overall, and with traveler information systems in particular, has been that early expectations have not been met. Value-added repackaging, advertising, and other revenue generation mechanisms have generally not been successful. The Virginia 511 system was the only one of the four case studies to feature a private party revenue model (paid advertising by food, lodging and attraction operators). Based on results to date, the revenue generating mechanisms used in that system are not yet paying for themselves and are not expected to become significant in the foreseeable future.

10. **Technologies appropriate for delivering transportation information may not be the same for tourism information.** While travelers may find automated and succinct reports of travel conditions acceptable for trip-making decisions, tourism representatives tend to feel that tourists need more personalized attention, especially on telephone-based systems. Thus, except for imparting standardized information such as hours that a tourist attraction is open, live operator services that can help travelers plan a trip are thought to be more appropriate. In addition, despite substantial usage of tourism websites, tourism representatives thought they had little value for tourists during their trip due to lack of access.

11. **Funding and operational issues for integrated traveler information systems remain to be solved.** As the Branson example illustrated, one cannot assume that a system will be sustained. An on-going funding source is needed to ensure that the content is kept current and the technology supporting the system is maintained, if not enhanced, over time. This is true for traveler information systems that don't contain tourism information, and the addition of more content and linkages to other organizations requires even more resources to sustain the system.

7.2.2 Tourism Impact Considerations

One of the major study findings presented in Section 7.2.1 was that the cumulative impact of traveler information systems on tourists is probably fairly low, in relation to the total volume of tourist travel. Relatively low levels of system awareness and usage and the limited number of traveler information systems catering to tourists were noted as the primary causes. This section discusses two other issues that should be considered in assessing traveler information system impacts on tourists.

Tourists Impacts Are Possible with General-Audience Systems

In the course of focusing on the relationship between traveler information and tourism information—such as in the discussion of the typology presented in Section 7.1—it can be easy to begin to associate tourism impacts with the level of traveler information integration with tourism information. However, it is important to remember that "generic" traveler information systems, that is, those that feature no explicit tourism content or orientation, can also certainly impact tourists. In the most basic sense tourists, as travelers, are indeed an audience for such traditional, general-audience information.

Unfortunately, there are essentially no data available describing the impact of general-audience traveler information systems on tourists under recurring day-to-day conditions. (The Salt Lake City data describes only general satisfaction and only during the Olympics, which were atypical conditions.) As a result, it is impossible to identify the impact of such traveler information systems—which are the most common—on tourists. However, evaluation of traveler information systems have shown that the systems have positive impacts on users in general, such as avoiding congestion, reducing uncertainty and stress, and improving travel time reliability.

Although it seems likely that general-audience traveler information systems positively impact tourists to some extent, awareness of traveler information systems is relatively low even among locals. Furthermore, awareness is only the first step. The evaluation of the Virginia 511 system particularly emphasized the importance of moving beyond awareness to education, noting that many survey respondents had heard of the 511 system but did not understand what it was. The challenge with tourists would be even greater. Finally, a number of informants in several of the study sites hypothesized that tourists in general might be less inclined to seek out and use traveler information, citing a more laid-back "I'm on vacation" attitude. If true, a considerable marketing task lies ahead.

Limited Data Availability

Although enough data are available to suggest overall conditions, our ability to draw firm conclusions about the nature and extent of tourist impacts is significantly limited by the shortage of data on tourist impacts. The lack of data is due partly to the fact that relatively few traveler information systems are currently explicitly oriented to the tourist sub-market and therefore do not attempt to track tourists' usage or tourism impacts. As

the coordination of traveler and tourism information advances it can be expected that these data will become more plentiful.

To a lesser extent, the lack of data is also a function of the overall scarcity of information on traveler information impacts in general. Few deployers of traveler information systems survey their users and fewer still do so on a regular basis. Thus, there are limited data indicating specifically how traveler information impacts travel decisions and the overall travel experience and there is very little observational data on transportation efficiency (throughput, delay, etc.) and safety (accidents) impacts of traveler information. Many traveler information system operators lack the resources necessary to perform such analysis. Moreover, since most traveler information systems still have low market penetration, system-wide impacts are not detectable.

7.3 A Traveler Information-Tourism Framework

To organize and help explain many of the key study findings, a framework based on two key components is proposed. The first component places the efforts to coordinate traveler information and tourism information into the broader context of the evolution of "traditional" traveler information systems (i.e., commuter and traffic oriented) to more comprehensive, multi-modal information systems. The second component elaborates some of the differences in perspective between the traditional traveler information constituencies and the traditional tourism information constituencies. These differences underlie a number of the management and deployment issues identified in this study.

7.3.1 A Largely Incremental, Evolutionary and Unilateral Enhancement Process

Over time the content and intended audiences of traveler information systems have evolved. That evolutionary process applies to even the genesis of public traveler information systems, since many of the early systems began as internal transportation agency management tools, populated with data and utilizing user interfaces and references meaningful to agency personnel. Advances in telephone system technology and especially the Internet made it relatively easy for agencies to disseminate information previously available to institutional users directly to travelers. Over time, the information content and format of these traveler information systems evolved to better serve the general traveling public audience.

This evolution of many traveler information systems from in-house transportation agency tools to increasingly more information-rich and public traveler-oriented resources has entailed a series of system enhancements. Cumulatively, the various enhancements (additions of each new type of information and/or changes in user interfaces or formats to accommodate new types of users) can be compared to the layers of an onion, as represented illustrated in Figure 7.1.

One of the key aspects of this evolutionary process, one that explains a number of the management and deployment issues identified in this study, is that traveler information systems have most often evolved organically in a "ground-up" rather than "top down"

fashion. That is, the traveler information systems have started small, focusing on a limited mission, such as sharing construction and maintenance information among state DOT offices. Expansions into new types of information and to new audiences have been made in a relatively ad hoc manner and have not always included explicit coordination with the new affected stakeholders, that is, they have often been unilateral. Rather than starting with the question, "what does this stakeholder group want?" and considering all of the options for addressing those needs, the process has more often been driven by what was "easy" to add to existing traveler information systems: "we have this data; why not make it available?" or "we have this website, what else could we easily put on it?" This tendency toward unilateral development of enhancements is represented in Figure 7.1 by the asymmetrical arrows.

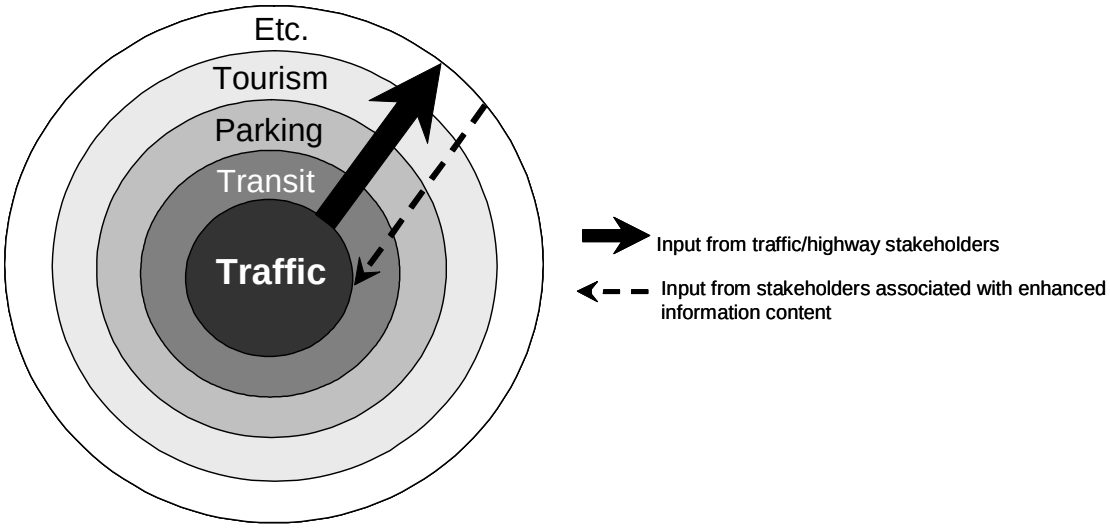


Figure 7.1. Graphical Representation of Evolution of Traveler Information Systems and Integration of Tourism Information

Such an incremental, existing user-driven process is not unique, and the purpose of calling attention to it is not to criticize. Rather, the importance in noting this incremental, capability-driven (rather than stakeholder needs-driven) process in traveler information system development is that it helps to explain some of the findings of this study pertaining to management and deployment issues.

7.3.2 Different Worlds

Each of the incremental enhancements to traditional (traffic and commuter-oriented) traveler information systems—each layer in the "onion" (see Figure 7.1)—introduces a new information constituency, including both information users (the traveling public as well as institutional users) and the community of other stakeholders associated with the new information. For example, when a traditional traffic information-oriented system adds transit information the new constituency includes transit agencies and transit riders. Likewise, when a system begins to add tourism content or references to other sources of tourism information, the tourism constituency is affected. That constituency includes

tourist travelers, tourist attraction operators, operators of other businesses catering to tourists (e.g., hotels, motels, campgrounds), and the tourism promotion community—including state offices of tourism and local and regional tourism organizations. The key is that very seldom does the introduction of a new type of information represent a foray into truly unpopulated territory—"a blank slate." Rather, it represents crossing a border into an area already populated with individual stakeholders with their own institutions, opinions, priorities and methods.

In the preceding section it was noted that the enhancement of traditional traveler information systems with new types of information has usually been dominated by the interests and capabilities of roadway-oriented transportation agencies—the ones who typically own and operate the existing systems—and that their resource constraints and system capabilities play the major role in defining the enhancement. The extent to which absence of greater input and control from the constituencies associated with the new information impedes the success of the enhancement process depends largely on how different the new constituency is from the traditional one (the roadway agency.) In the course of this study, it became clear that the long-standing and highly structured tourism community is different in many ways from the traditional traveler information community and that those differences have played an important role in experiences to date.

As indicated in Figure 7.2, the integration of traveler information and tourism information can be viewed as featuring three elements: the traditional traveler information "world," the traditional tourism promotion world, and the overlap or intersection representing integration of traveler and tourism information. The distinguishing, differing and sometimes opposing characteristics of the traveler information and tourism constituencies are represented in Figure 7.2 by the radiating spokes.

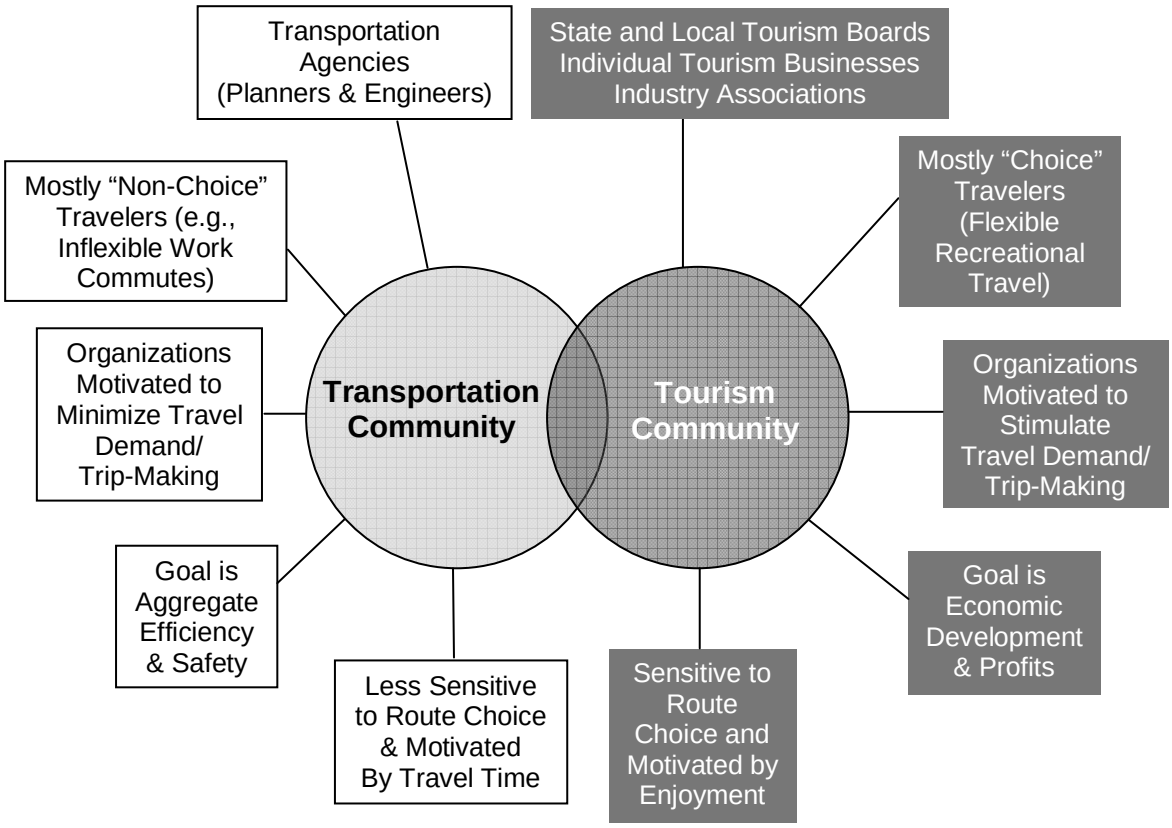


Figure 7.2: World Views Affect Development of Traveler Information Systems

First, it should be noted that the area of overlap is, proportionally, quite small, given that it is not currently a significant component of either constituency's mission. In many cases, the working relationship between the two groups of stakeholders has been the product of slightly adversarial interactions between state departments of transportation and tourism interests regarding roadway signage, construction, traffic patterns, etc. State DOT's typically utilize a very rigorous and fairly restrictive set of rules and policies. Relations between tourism and traffic interests are sometimes confrontational, given the sometimes opposing motivations—roadway safety and efficiency versus promotion and revenues.[43]

The varying characteristics of the traditional traveler information and tourism constituencies are elaborated below, organized around five key dimensions that are summarized in Figure 7.2.

Key Organizational Stakeholders

The key organizational stakeholders are very different within the traveler information and tourism spheres. The transportation community includes state and local traffic departments, transit operators, Federal highway and transit funding partners. The

[43] Some locations, such as the state government of Maine, are attempting to bridge these world views by focusing on the economic development role of transportation in facilitating the growth of tourism.

individual stakeholders tend to be engineers and planners. Major tourism organizational stakeholders include state government tourism offices, regional and local tourism organizations (e.g., Convention and Visitors Bureau, Chamber of Commerce), individual tourism business operators, and industry associations. The individual stakeholders in these organizations tend to be business people or oriented toward economic development.

Lack of an existing, positive working relationship between these two constituencies and the very different types of individuals that compose them have played a role in shaping the traveler-tourism information coordination experiences investigated in this study. These factors underlie a number of the specific management and deployment issue findings of this study, such as the confusion and mistrust of VDOT's 511 system and intentions on the part of several tourism organization representatives in the Shenandoah Valley.

Travel Flexibility and Tolerance Levels of the Information Consumers

Consumers of traditional travel information and traditional attraction-oriented tourism information differ in their needs and motivations. Commuters have relatively inflexible travel needs and have low tolerance for delay. Most daily commuters cannot choose to cancel or significantly postpone their trip to and from work, and they are highly motivated to seek out and use the fastest route/mode and investing the effort necessary to gather and utilize traveler information makes sense.

Tourists, on the other hand—once they reach the general area of their final destinations—may have much more flexible timetables and itineraries and more tolerant of (less motivated to avoid) travel delay. With more relaxed timetables, more relaxed vacation mentalities ("I get there when I get there") and with less potential gain to offset the "hassle" of finding and utilizing traveler information, tourists may not be as motivated to seek out and utilize traveler information as commuters.

These differences in traveler information users were referenced by a number of key informants across several of the case studies and were cited by several key informants as hurdles to tourist utilization of traveler information systems.

Minimizing Versus Stimulating Travel

In most congested urban areas, the transportation agencies that design and operate traditional traveler information systems seek to facilitate mobility while minimizing the number of individual vehicle trips. Tourism stakeholders, on the other hand, have a strong interest in stimulating travel to and within their area. It is a primary mechanism for economic development, and they tend to tolerate the downside of vehicular travel rather than risk scaring away customers.

This difference in perspective was evident in the key informant interviews and manifested in the findings about management and deployment issues. Transportation agencies generally do not show sensitivity to the potentially damaging aspect of their

message—that is, of creating the impression among tourists that it is difficult to get around in the area. Conversely, tourism promoters are finely attuned to the nuances of public relations and are concerned about "managing" the tone of traffic advisories that could impact tourists.

Aggregate Versus Localized Outcomes

The transportation agencies that design and operate most traveler information systems have as their primary objectives to minimize cumulative, aggregate (system-wide) delay and incidents. While they obviously pay attention to individual roadway segments, the ultimate organizational objective is to improve overall efficiency (throughput and travel times) for all users over the entire transportation system. With a "macro" traveler information mentality, they believe that decisions made by informed travelers will help spread demand more efficiently over available capacity and travelers will bypass areas of increased accident risk.

This contrasts sharply with the objectives of tourism promoters. As evidenced in the key informant interviews, they too wish to minimize delay and reduce accidents and understand that mobility does impact tourists, but their overall orientation is much more "micro" in scale, focusing on specific businesses and specific routes. Transportation agency personnel are focused primarily on the "ends"—system efficiency and safety—whereas tourism promoters focus on the "how" of travel (what roads, what modes, what times) because it impacts where the dollars flow and how they reach travelers with their promotional message. These differences in viewpoints underlie the differences in route choice sensitivity described below.

Route Choice Sensitivity and Travel Objectives

Not only are transportation agency personnel relatively insensitive to route choice as long as overall efficiency and safety are improved, commuters and other users of traditional traveler information customers may be relatively insensitive to route choice, too, and instead be concerned about travel time reliability.[44]

This is the opposite of the typical tourist mentality. The stops, attractions along specific routes, and sometimes the scenic drive itself are often important parts of the overall itinerary. Being on vacation and perhaps making the trip only once, they're willing to tolerate some delay in order to see what is to be seen along the route. As was speculated by some key informants in Branson, visitors who have already experienced the Highway 76 strip may become motivated to find less congested routes. In many cases, however; especially in areas where a higher percentage of tourism is by pass-through travelers rather than those for whom a given local area (like Branson) is their single final destination, it can be hypothesized that tourists aren't as willing to switch routes if it means they'll miss an attraction.

[44] Jung S., J. Larkin, V. Shah, A. Toppen, M. Vasudevan, and K. Wunderlich, On Time Reliability Impacts of ATIS, Volume III, EDL Report #13859, May 2003.

7.4 Recommendations for System Operators and Partners

The findings of this study suggest a number of recommendations for how traveler information system operators and their partners can enhance the tourism-related benefits of their systems:

- **Don't assume that the benefits to tourists will necessarily stem primarily from placing tourism information (attractions, lodging, etc.) on traveler information systems** – The Shenandoah Valley experience in particular suggests that tourists focus on the same traditional sorts of traveler information as do other users. While more traditional tourism information may also be of use, the most effective way to make systems more useful to tourists may be to increase tourist-oriented marketing and insure that place names and other aspects of data format and the user interface are meaningful to tourists (e.g., as in Orlando, where road segments can be accessed based on the tourist attractions they serve.) It could be argued that as short-term users, tourists have less to gain from a traveler information system than daily commuters and, therefore, are even less likely to tolerate inconveniences and data quality problems.

- **Consider integration of traveler information into tourism information sources in addition to, or even instead of, the reverse** – This study has focused on traveler information systems and how they incorporate or link to tourism information. Given the challenges for transportation agencies in trying to engage and effectively serve tourists, it may be that working from the opposite direction would be equally or more effective. That is, incorporating traveler information into tourist information sources. The best approach likely features data integration on both sides.

- **Conduct vigorous marketing oriented to both awareness and education** – Travelers often face a cluttered, frenetic information environment, especially in high-density tourist areas. By transportation agency standards, what may appear to be an intensive marketing campaign may fall short of the desired goal of attracting a substantial number of new traveler information system users. It is likely that tourists, who may be less motivated to actively seek out information that may allow them to avoid congestion and figure out transportation alternatives, are even harder to attract. Intensive and continuing marketing efforts are necessary. In addition to simply establishing the name, phone number and website address, those efforts should include education on how to use the system and its benefits to users.

- **Establish long-term commitments to operations and maintenance** – The Branson experience in particular illustrates how the benefits of traveler information system investment can dwindle over time when inadequate resources are devoted to system operations, maintenance and on-going evaluation and enhancement. This is especially a problem in cases where a non-local entity is responsible for design and implementation of a local traveler information system.

In such cases, once the original deployment funding is gone, and if the implementer has not established adequate on-going program funding, the fate of the system depends on local stakeholder commitment.

- **Don't count on revenue generation to significantly subsidize operation and maintenance expenses** – It may be useful to continue to experiment with various revenue-generation mechanisms, but in the case of systems implemented by public agencies, it should be expected that public funds will be necessary to fully support on-going system operations and maintenance.

- **Reach out and coordinate with tourism stakeholders** – The ability of transportation agency-operated traveler information systems to provide significant benefits to tourists and tourism is greatly enhanced through coordination with tourism stakeholders. They're the experts about how to reach tourists and what information is important to them. If tourists are considered a significant subset of traveler information system users, tourism stakeholders should be involved in the design and operation of the system. Such partnering during design will also promote long term support from the tourism community, which represents a valuable existing resource for getting the traveler information message to tourists.

- **Investigate tourists' needs and preferences** – If a transportation agency operator of a traveler information system is serious about serving tourists, before simply adding seemingly tourist-relevant information, investigate what tourists really want. This includes the type of information desired and how they prefer to get it. It also includes consideration of how these needs and preferences may vary by type of tourist (e.g., families versus senior couples), type of tourist environment, stage in the travel planning and trip-making process (e.g., pre-trip versus en-route), and transportation mode. Coordination with tourism stakeholders is of course important but they should not be expected to have all the answers; their interactions with tourists usually focus on tourism information (attractions, lodging, etc.) rather than on traveler information per se.

- **Be sensitive to tourism stakeholders' possible concerns about sending the wrong message** – Tourism stakeholders don't deny the value of traveler information but they are sometimes concerned about scaring off tourists by creating the impression that traffic is a major problem in the area, or detouring tourists away from specific attractions. Managing this concern can be as simple as discussions with tourism stakeholders to promote mutual understanding of concerns and objectives. It could also entail some fairly subtle crafting of the traveler information message and how and when it is disseminated, especially in cases where very detailed information is being provided about specific local streets and other facilities that could have a direct negative impact on adjacent businesses.

- **Be patient and persistent—don't count on dramatic near-term successes** – As with traveler information in general, significant benefits of traveler information for tourists and in promoting tourism in general will come only over time, as they are dependent on changing travelers' mindsets. Many travelers aren't yet in the habit of proactively consulting information—of making a concerted effort to inform themselves—in order to avoid delays and hazards. It will take time and persistent efforts to modify those ingrained attitudes and behaviors, and it's likely to be harder to do with tourists than with daily commuters. Don't "sell" a traveler information system on its potential to generate dramatic short-term benefits to travelers in general or to tourists. Make sure that those who commit funding and who decide whether it continues understand the importance of traveler information but also that benefits will increase over time.

APPENDIX

Methodology for Identification of Candidate Study Sites

This appendix provides additional information pertaining to the process used to develop the list of 48 candidate sites and selection of the four study sites. This discussion supplements the information in Section 2.1 of the report.

Identification of Traveler Information Systems

A fairly broad and flexible definition of traveler information systems was used at this initial stage. Such a system should contain at least some real-time information (either traffic or transit) and it should include traffic information; that is, most transit-only sites were immediately eliminated from consideration. The rationale for real-time information was that the U.S. DOT ITS program advocates advanced traveler information systems that present travelers with information most helpful to trip-making, especially current (i.e. real-time) travel conditions. The rationale for the inclusion of at least some traffic information was that the vast majority of trips in nearly all regions of the country are made by personal vehicle and, thus, at a minimum the traveler information system should include traffic.

At the onset of the project, it was clear that there are a very large number of traveler information systems and, therefore, a comprehensive inventorying process including first-hand examination of all candidate systems would be infeasible. Furthermore, it was recognized that a number of traveler information system inventories, of varying levels of comprehensiveness, already exists. For these reasons, the identification of traveler information systems began with a review of the following five existing inventories:

- **Scan of Existing Telephone Traveler Information Systems – Interim Report** *(PBS&J for Federal Highway Administration; March 1, 2001)* – included 39 systems divided into four categories: Roadway Condition/Construction Information Systems; Transit Information Systems; Traffic/Multi-modal Information Systems; and Private Sector Audio Portals.

- **Inventory of Traveler Information Web Sites** *(Volpe Center, 2003)* – a list of approximately 290 traffic web sites that was assembled as part of Federal Highway Administration's 2003 Website Recognition Awards.

- **Inventory of Transit Information Web Sites** *(Volpe Center, 2003)* – a list of approximately 350 websites that were either in rural areas or contain some type of information potential useful to visitors to the location of the transit system. The list was culled from a larger of list of 1500 transit web sites that was assembled on behalf of the Federal Transit Administration.

- **Attributes of Existing 511 Services** – a database containing various information on 20 511 systems throughout the United States.

- **ITS Deployment Tracking Database** (United States Department of Transportation, 2002) – an inventory of the ITS elements, including traveler information systems, deployed in US metropolitan areas.

Identification of Top Tourist Destinations

During the research associated with the selection of study sites it became clear that almost every town or region in the United States considers itself a "tourist destination" of some sort, whether the main attraction be the "world's largest ball of twine" or the Golden Gate Bridge. This, coupled with a lack of good comprehensive data on tourism necessitated a patchwork approach combining available data from various sources with the judgment of the study team and JPO manager.

The objective was to identify a manageable but fairly extensive working list, in rough rank order, of the 50 "top" United States tourist destinations (i.e., cities/regions). The list was later shortened to 48 locations after some National Park locations were combined with nearby cities. The following sources were utilized to develop the list:

- The first 30 destinations are the top cities by overseas visitation (United States Office of Travel and Tourism Industries; http://tinet.ita.doc.gov/cat/f-2002-45-561.html).

- The most visited National Parks (parks, memorials, seashores, etc.), based on National Park Service data (http://www2.nature.nps.gov/stats/). The Parks were often coincident with 30 destinations by overseas visitation. Thus, where appropriate the top parks were listed as part of the top 30 destinations.

- Destinations #30-36 (Bozeman, MT; Branson, MO; Gatlinburg TN; Hilton Head, SC; Hyannis, MA; and Ocean City, MD) are cities from the list of "20 Tourism Cities" identified on the USDOT ITS Deployment Tracking website (http://itsdeployment2.ed.ornl.gov/its2002/touristcitiesresults.asp).

- Destinations #37-48 are a combination of the top national parks not included with the top visited cities (second bullet item, above) and several other cities that do not appear on any of the other lists but were added based on the study team's perception of their level of tourism activity (e.g., Salt Lake City, Nashville, etc.).

Cross-Referencing Traveler Information Systems with Top Tourist Destinations

After assembling the lists of traveler information systems and top tourist destination, the two lists were cross-referenced. From the destinations list a database was created that included the associated traveler information systems. As an additional check, the on-line USDOT Intelligent Transportation System Electronic Document Library (http://www.its.dot.gov/welcome.htm) and papers from the last several years' ITS

America and Rural ITS Annual Conferences were reviewed. No additional sites were identified from either of these sources.

Investigating the Top Candidate Locations

Given the fairly large number of candidate sites (most destinations included three or more traveler information systems of various types), it was not feasible to collect extensive information on each site at this stage in the process. Instead, whatever useful data that were included in the source traveler information system inventories was carried forward into the candidate site database. In most cases that information did not include specific information on content—one of the important selection criteria—so it was decided to collect this information for only a subset of the 48-site candidate list, with deeper investigation of content deferred until the list was shorter.

To determine the sites for which information content should be investigated in depth, the study team developed the concept of "tourist density," which describes the relationship between the tourist-related travel and spending of the location in proportion to the overall travel and economy of the location. A three point scale was utilized to subjectively categorize each location (based on the study team's general understanding of the nature of each tourist destination). A rating of "3" indicates a location where tourism related travel and spending represents a relatively high proportion of the overall travel and economy. A rating of "2" and "1" represent middle and low proportions, respectively. The rationale is that the potential for a strong relationship between the traveler information system and tourism, both in terms of tourism impacts and tourism-oriented traveler information systems, is greatest in areas where tourism is a proportionally larger and more important part of the economy. Thus, sites with a value of 3 in tourist density were considered the highest potential study sites.

Twenty-one of the 48 candidate tourist areas were rated as "3's" for tourist density. For each of these sites, the identified traveler information systems were further investigated to identify the content of the system and the extent of tourist orientation. This information was added to the candidate site database. In addition to the 21 locations with a tourist density score of "3," several "2" locations were also examined. Later, when examining the content of the 3-rated sites, the study team determined that large urban areas were under-represented and added an additional category 2 site, Salt Lake City, Utah.

Candidate Study Locations

Table A-1 presents the list of 48 candidate study sites, sorted by tourist density rankings. The table includes basic descriptive information (city/region, state, traveler information system name, etc.), and short summaries of content and tourism orientation. Sites with incomplete information are those with tourist density less than 3 and for which the information was not available from the original traveler information system inventory.

Table A-1
Candidate Locations

Tourist Density (3=High, 1=Low)	Location ID #	State	Region/City	Associated National Park(s)	Traveler Information System Name	Operating Organization(s)	Dissemination Methods		Content	
							Telephone (list number)	Web Site (list address)	Information Provided	Tourist-Specific Content
3	4.	FL	Orlando		I-4 Traveler Information System (511)	Florida Department of Transportation, District 5 (Orlando)	511 or 866-510-1930		Provides traffic reports for I-4 only. Caller identifies segment of I-4 by entering a city, county, town, state road number, the name of a specific attraction (e.g. Disney World, Universal Studios) , or road name. Whichever specific attraction is entered, the system presents information for the "attraction area" segment of I-4. So, the individual attraction name is just a cross-reference to a general "attraction area".	None.
					icFlorida.com/WFTV.Com	WFTV		http://www.icflorida.com/autos/traffic/	Traffic information consists of a TeleAtlas regional map with "traffic incident icons". The traffic map is just one of over a dozen major menu selections at www.wftv.com/icflorida, which include weather, news, travel, restaurants and shopping. It is unclear where this commercial web site actually gets its traffic data, although there is a MetroNetworks logo (unclear what if any info comes from the public sector).	The traffic page itself does not feature any special content for tourists, although the overall webi site, of which the traffic page is a component, includes considerable information targeted specifically at tourists, including info on tourist destinations, airport flight status information, etc.
					Trafficinfo.org	University of Central Florida Transportation Systems Institute		http://www.trafficinfo.org/	Real-time average travel speed by lane, for 39 miles of I-4 through Orlando, FL.	None.
					Traffic.com	Traffic.com		http://www.traffic.com/Orlando/index.html	Traffic.com provides traffic condition information for several US cities, Orlando being one of them. Information is provided on a NavTech regional map, with "clickable" icons for traffic incidents/advisories. Their web site states that they get their information from their own roadside sensors, supplemented with information gleaned from scanners and from their own mobile units on the road and in the air.	None.
					Traffic Information	State DOT		http://www3.dot.state.fl.us/trafficinformation/	Statewide map of Florida with color-coded clickable icons (green for "normal", red for "emergency operation") on individual roads. Clicking an icon provides a listing of historic traffic flow rates (vehicles per hour) for the facility, on the current day of week and month.	None.
					Transportation Engineering Bureau Web Page - Road Closure Report	City of Orlando Transportation Engineering Bureau		http://cityoforlando.net/public_works/traffic/index.htm	Tabular listing of road closure events (not real-time, per se)	None.
					Traffic Incidents by Region	Florida Highway Patrol		http://www.fhp.state.fl.us/traffic/	Statewide map divided by counties. Clicking on a county gives a tabular listing of current incidents (e.g., crashes), including location, dispatch time, arrival time and short description.	None.

Table A-1
Candidate Locations, continued

Tourist Density (3=High, 1=Low)	Location ID #	State	Region/City	Associated National Park(s)	Traveler Information System Name	Operating Organization(s)	Dissemination Methods		Content	
							Telephone (list number)	Web Site (list address)	Information Provided	Tourist-Specific Content
3	6.	HI	Oahu/Honolulu		Traffic Info Center	College of Engineering, U of HI		http://www.eng.hawaii.edu/Trafficam/	University run website that has map of major highways, with links to HI DOT lane closure info. and County construction/activity info. Also provides webcam images. Links to other transportation related sites, like the Institute for Transportation Engineers and ride share info	None.
						HI DOT		http://www.hawaii.gov/dot/publicaffairs/	No real time info, only traffic web cameras (actually on a city/county site), rideshare info, vanpool.	None.
3	7.	NV	Las Vegas			NV DOT	877-NVROADS	http://www.nevadadot.com/traveler/roads/	Web provides emergency/winter (realtime when available) and construction information (real time). Phone seems to only do road conditions for select roads, more so in the Reno area, but does cover I-15 thru Las Vegas	This site includes only general info traveler information; no information is actually on the site that is oriented to tourists. The only tourism connection is that the "traveler information" home page includes a link to a visitors guide that in turn includes a link to the Las Vegas Convention and Visitors Bureau. That site in does not include any real-time traveler information.
						ABC News (KTNV)		http://ktnvfeeds.smartconnect.net/	traffic cameras	None (no links to hotels/attractions info)
3	17.	CA	Anaheim			Caltrans	800-427-ROAD 916-445-7623	http://www.dot.ca.gov/hq/roadinfo/	Enter in highway number for lane closure, emergency, construction info	None.
							1-800-COMMUTE	http://caltrans511.dot.ca.gov/	Provides links about Orange County to other sites (ie Caltrans, CA HW Patrol)	None.
						Depart. Of Public Works		http://www.anaheim.net/depts_servc/pub_works/traffic/index.html	City of Anaheim site provides road construction info and says that it has ITS infrastructure with communications systems, and changeable message signs. It's "realtime" traffic link does not work.	None.
								http://www.octa.net/	Transit routes and schedules, fare info, and trip planner. No realtime traffic info	Info, including "travel tips" directed towards commuters.
							949-451-1TIP	http://www.traveltip.net	OCTA claims to be one of the first to complete a "master plan" for an ITS. The map was not functional when I visited the site, but appears to list congestion levels, advisories such as planned road work, emergency closures, and accidents. Provides links to transite agencies	None.
								http://www.trafficdodger.com/	Provides map with congestion levels and icons for advisories/incidents. Also allows you to enter in starting and ending points and will give you the best route with the current traffic conditions.	None. For commuters.
						Dept. of CA Highway Patrol		http://cad.chp.ca.gov/	Provides realtime (updated every 60 seconds) incident information - where, when, and the type of incident.	None.

Table A-1
Candidate Locations, continued

Tourist Density (3=High, 1=Low)	Location ID #	State	Region/City	Associated National Park(s)	Traveler Information System Name	Operating Organization(s)	Dissemination Methods		Content	
							Telephone (list number)	Web Site (list address)	Information Provided	Tourist-Specific Content
3	20.	FL	Ft. Lauderdale			Broward Co Mass Transit	934-357-8400	http://www.broward.org/bct/	Number Not in Service, website only provides route maps and timetables, no real time info	website has "Visitors page" with info on how to use the bus system to get to attractions
					My Florida	DOT		http://www11.myflorida.com/trafficinformation/default.htm	Provides historical traffic data reports, road construction info, and link to DOT map	None.
					Traffic Information	State DOT		http://www3.dot.state.fl.us/trafficinformation/	Statewide map of Florida with color-coded clickable icons (green for "normal", red for "emergency operation") on individual roads. Clicking an icon provides a listing of historic traffic flow rates (vehicles per hour) for the facility, on the current day of week and month.	None. No tourist information on the site nor are there any links to sites with tourist info.
					FHP Traffic Reports	FL Highway Patrol		http://www.fhp.state.fl.us/traffic/	Real time traffic incidents info for entire state.	Site does not provide any information oriented to tourists. However, it does contain a link back to the FDOT traveler information main page, which includes links to some information that although still oriented to intercity travelers in general, could be considered tourist-oriented (e.g., locations of welcome centers and rest stops).
					511 - Smart Traveler Info System		511	http://www.smartraveler.com/sfl/phone.asp?city=sfl&cityname=South+Florida	Click on maps and routes for realtime road info - delays and construction	Site provides only traveler information for a general audience. There is no content, nor nothing about the user interface oriented to tourists. In order to use the clickable real-time maps a tourist would need to know road numbers or names relative to tourism destinations (e.g. beaches or Everglades)
3	22.	AZ	Phoenix		511 - Statewide	DOT	888-411-ROAD / 511	http://www.azfms.com/	Current system provides only information by milepost for state routes and Interstates. That information includes current (real-time) traffic conditions, including construction/closures and major incidents. Includes call transfers to Phoenix Transit customer information line. Arizona is site of national 511 Model Deployment, which will include a wide range of additional data types and user interface changes, to be implemented in late 2003 through mid-2004. The co-branded traveler information web site includes a Phoenix color-coded traffic map with traffic flow represented by color and a statewide map with clickable icons for construction and incidents. The site also includes CCTV camera views on the Phoenix freeway system.	Theoretically, the Grand Canyon National Park is able to submit input to the system but does not do so. As part of the Model Deployment, a top-level menu item is being added for Grand Canyon information. That is the only tourist-specific content.
								http://www.etaktraffic.com/phoenix/	Tele Atlas / Metro Networks regional map of Phoenix - clickable icons or drop down menu of construction and incidents (real time)	None.
3	23.	LA	New Orleans			LA DOTD		http://www.dotd.state.la.us/press/traffic_cameras/traffic.asp	Traffic Cameras	None
						LA DOTD		http://www.dotd.state.la.us/roadclosures/closureslist.asp	clickable state map provides construction and road closure info (updated weekly)	None
3	24.	FL	Florida Keys		Traffic information	State DOT		http://www3.dot.state.fl.us/trafficinformation/	Statewide map of Florida with color-coded clickable icons (green for "normal", red for "emergency operation") on individual roads. Clicking an icon provides a listing of historic traffic flow rates (vehicles per hour) for the facility, on the current day of week and month.	None.
					FHP Traffic Reports	FL Highway Patrol		http://www.fhp.state.fl.us/traffic/	Real time traffic incidents info for entire state.	None.

Table A-1
Candidate Locations, continued

Tourist Density (3=High, 1=Low)	Location ID #	State	Region/City	Associated National Park(s)	Traveler Information System Name	Operating Organization(s)	Dissemination Methods		Content	
							Telephone (list number)	Web Site (list address)	Information Provided	Tourist-Specific Content
3	25.	HI	Maui			HI DOT		http://www.hawaii.gov/dot/publicaffairs/	No traffic info for Maui, only list of Roads. Airport descriptions and water vessel schedules. DOT statistics page "not yet developed."	None.
3	31.	MO	Branson			Missouri Department of Transportation		http://www.modot.state.mo.us/	Statewide work zone map with construction icons. Tabular road condition information as reported by maintenance and construction crews.	None.
						MO DOT		http://www.modot.state.mo.us/local/d8/d8.html	Springfield area roadwork and current traffic conditions as reported by maintenance and construction crews.	None.
					Branson Trip	Castle Rock Consultants & Missouri DOT		http://www.tripusa.com/missouri/branson/	No longer operational, but did include web site and interactive voice response phone system. Private partner has pulled out, but MoDOT states that they intend to put it back on line in the future. When operational, both provided real-time traffic flow and incident information, the web site via a color-coded map with icons.	None specifically, although the traveler information system itself was motivated by the need to provide information to tourists.
3	32.	TN	Gatlinburg	Great Smokey Mountains NP		NPS	(865) 436-1200	http://www.nps.gov/grsm/index.htm	"road info" page that provides road and trail closures (updated daily)	Site built for tourist. Includes park information on these topics: Recreational Opportunities, Trip Planning, Nature Info, Education, and Resource Protection. It includes camping info, maps, and facilities info. Also includes link to www.gatilnburg.com, which includes lodging, shopping, attractions, and dining info.
								http://www.gatlinburg.com/		Lots of tourist information and links to National Park Service website; a tour and travel page is under construction and this may contain traffic information.
3	33.	SC	Hilton Head			SC DOT		http://www.dot.state.sc.us/	Road Conditions map for entire state, with clickable regions listing construction sites.Also links to transit information. But not oriented toward out-of-state tourist who is not familiar with the counties and roads within the state.	Tourism information not integrated well, just a link to South Carolina Tourism sites, e.g. http://www.discoversouthcarolina.com/.
						Smart Traveler Info, group of Telematics Company		http://www.smart-traveler.info/usa_sc_hilton_head.html	Coming soon, with info on driving conditions and an interactive traffic map. Web design has good integration of transportation and tourist information, but transportation fields are not populated with actual data. Appears to be a generic format that the owner of the site can use for any tourist destination in the country.	Tourism information is in the form of advertisements from businesses
3	34.	MA	Hyannis	Cape Cod	Trans Info Center	Cape Cod Commission		http://www.gocapecod.org/	This is a government site and mixes the Commission's business with travelerSpecific data for traveling to Cape Cod - traffic cameras, traffic reports, road construction reports. Links to www.smartraveler.com	No specific tourism content in terms of hotels, restaurants, attrractions, etc.
					Smart Traveler	Smart Route Systems		http://www.smartraveler.com/scripts/bostraffic.asp?index=12&city=bos&cityname=Boston	Road conditions for Cape Cod and it's approaches	no direct tourism references
3	35.	MD	Ocean City					www.ococean.com	Information on parking and buses, but not traffic.	Tourist site for Ocean City.
								www.chart.state.md.us	State Highway site. Has interactive mapping and by selecting Eastern Shore region can access a traveler information page.	No tourism information

Table A-1
Candidate Locations, continued

Tourist Density (3=High, 1=Low)	Location ID #	State	Region/City	Associated National Park(s)	Traveler Information System Name	Operating Organization(s)	Dissemination Methods		Content	
							Telephone (list number)	Web Site (list address)	Information Provided	Tourist-Specific Content
3	36.	NC-VA		Shenandoah Valley / Blue Ridge Parkway	511 - Interstate 81, VA	VA Tech TI, VA DOT, SHENTEL	511 or 1-800-578-4111	http://www.511virginia.org/	"511Virginia provides travelers, tourists, and local residents along Interstate 81 in Virginia with easily accessible, up-to-date information" - realtime advisories, traffic conditions, construction.	Yes. Food, lodging, attractions, shopping links on webpage. Phone also has Traveler and Tourism services section.
						VA DOT	800-367-ROAD	http://www.virginiadot.org/	Interactive state map with road conditions and advisory icons. Phone provides traffic conditions and incidents/alerts for selected roads in state.	None.
						Natinal Park Service (NPS)	828 298 0398	http://www.nps.gov/blri/index.htm	website lists "travel basics", i.e. how to get there, what the weather is like. The phone number is a daily update of road conditions and weather	NPS site and phone for tourists
					Smartlink	NC DOT		http://www.ncsmartlink.org/	interactive state map (NC) with road advisories for each county	Yes, tourism link to VisitNC.com
					Safe Drive Guide	NC DOT		http://www.doh.dot.state.nc.us/impact/SafeDrive/	interactive map for state construction info	None.
3	37.	NC		Great Smokey Mts		NPS	(865) 436-1200	http://www.nps.gov/grsm/index.htm	"road info" page that provides road and trail closures (updated daily)	Site built for tourist. Includes park information on these topics: Recreational Opportunities, Trip Planning, Nature Info, Education, and Resource Protection. It includes camping info, maps, and facilities info. Also includes link to "area community" websites, which include lodging and dining, etc. info.
					Smartlink	NC DOT		http://www.ncsmartlink.org/	Interactive state map (NC) with road advisories for each county. Not packaged well for tourists, because need to know counties in the state.	Yes, tourism link to VisitNC.com, which has attractions, lodging, and dining info.
					Safe Drive Guide	NC DOT		http://www.doh.dot.state.nc.us/impact/SafeDrive/	interactive map for state construction info	None.
3	39.	AZ		Grand Canyon	511 - Statewide		888-411-ROAD / 511	http://www.azfms.com/	Current system provides only information by milepost for state routes and Interstates. That information includes current (real-time) traffic conditions, including construction/closures and major incidents. Arizona is site of national 511 Model Deployment, which will include a wide range of additional data types and user interface changes, to be implemented in late 2003 through mid-2004.	Theoretically, the Grand Canyon National Park is able to submit input to the system but does not do so. As part of the Model Deployment, a top-level menu item is being added for Grand Canyon information. That is the only tourist-specific content.
						NPS		http://www.nps.gov/grca/index.htm	General info on climate and directions to the park. No real-time traffic info.	yes, all directed to the visitor of the park
3	40.	CA		Yosemite NP		Caltrans	800-427-ROAD 916-445-7623	http://www.dot.ca.gov/hq/roadinfo/	This is a statewide Caltrans telephone and website. Enter in highway number for lane closure, emergency, construction info for both web and phone.	None.
						Yosemite.com		http://www.yosemite.com/	This is a Chamber of Commerce website with links to NPS website and to the Caltrans website. Provides directions on how to get to Yosemite using various transportation modes. Also includes Maps of the four entrances. Integrates travel info with tourism information,	This site is directed to travelers in the Yosemite area. It includes dining, lodging, camping, things to do, and places of interest information. There are advertisements paid for by restraunts and lodges.
						NPS	209-372-0200	http://www.nps.gov/yose/now/conditions.htm	Within the park only, road closure info - phone is more up-to-date. Site also lists the various shuttle buses operating in the park	Yes, all info is intended for tourist visiting park. It includes a trip planning page that has info on when to visit, where to lodge or camp, permit info, and warnings about the wilderness.

Table A-1
Candidate Locations, continued

Tourist Density (3=High, 1=Low)	Location ID #	State	Region/City	Associated National Park(s)	Traveler Information System Name	Operating Organization(s)	Dissemination Methods		Content	
							Telephone (list number)	Web Site (list address)	Information Provided	Tourist-Specific Content
3	41.	VA	Jamestown	Colonial NHP		NPS		http://www.nps.gov/colo/index.htm	general climate and driving directions, no true traveler information systems	Content is for tourists.
						VA DOT	800-367-ROAD	http://www.virginiadot.org/	Interactive state map with road conditions and advisory icons. Phone provides traffic conditions and incidents/alerts for selected roads in state. Tourist would need to know road numbers for Jamestown and Williamsburg to access traffic information.	None.
3	43.	FL-MS		Gulf Islands NP		NPS		http://www.nps.gov/guis/index.htm	General climate and driving directions, notraffic or road closure information.	Content is for visitors of park.
3	47.	CO		Rocky Mountain National Park		NPS	970-586-1206	http://www.nps.gov/romo/index.htm	Website offers general/static info on driving directions, shuttle bus sevice and climate. Phone number goes directly to ranger station, who can answer road closing info - most used during early winter and spring. Has link to CODOT website, but it was not working.	Content is for visitors of park. It includes travel, camping, permit, activities, and facilities info. Also includes maps.
						CDOT	303-639-1111 or 877-315-7623	http://www.cotrip.org/	Reports daily on road conditions throughout state. Information intensive DOT site, also providing info on weather, traffic camera's, VMS, HAR, rest stop info, etc. Phone number provides same info.	Links to travel information, such as CO's tourism site, a "tips and topics," "welcome centers and rest areas," etc. No direct tourism info on phone hotline.
3	48.	ME		Acadia		NPS		http://www.nps.gov/acad/index.htm is the site off the national NPS webpage. Also see the local site www.nps.gov/acad/home.htm.	General info on driving directions, climate, etc. and a link to Island Explorer for bus info. No link to Maine DOT 511 website or information on 511 telephone service.	Content is for visitors of park. It includes travel, camping, permit, activities, and facilities info. Also includes maps.
						ME DOT		http://www.state.me.us/mdot/	General DOT website, with traveler info such as "scenic byways" and info on different ways of traveling in ME. Provides link to 511 website for realtime traffic information by region, and "Downeast and Acadia" region is one of the selections.	Several links and pages directed to the tourist (historic bridges, Maine Tourism).
					511 - Statewide Travel Information Service	ME DOT	511 or 866-282-7578	http://www.511maine.com	Website has interactive map that has clickable icons for alerts, accidents, and roadwork for Maine, NH, and VT. It appears that the alerts and accidents are real time, but roadwork info looks to be static. Regions of the state can be selected, including "Downeast and Acadia." Voice operated phone lets you get info on traffic, weather, highway conditions, Acadia, and can connect you to the tourism phone info.	One link to a Maine Tourism Page and one link to Acadia's Island Explorer website. Phone provides content on Acadia and can connect you to tourism info.
						Run by "Downeast Transportation, and supported in part by park fees		http://www.exploreacadia.com/index.html	Website provides info on the park bus service, "Island Explorer" - such as bus routes and schedules and real time location of buses when the service is operating. The site also provides info on the various ways to get to Acadia, but no info on traffic incidents, road conditions, etc. No link to Maine DOT 511 website.	Content is for visitors of park. Provides only transportion info, such as how to get to park and how to travel around the park once there. No link to tourism sites such as that operated by the Chamber of Commerce www.barharborinfo.com.

Table A-1
Candidate Locations, continued

Tourist Density (3=High, 1=Low)	Location ID #	State	Region/City	Associated National Park(s)	Traveler Information System Name	Operating Organization(s)	Dissemination Methods		Content	
							Telephone (list number)	Web Site (list address)	Information Provided	Tourist-Specific Content
2	1.	NY	New York City	Gateway Nat. Rec. Area				http://www.hudsontma.org/		
								http://www.troopers.state.ny.us/TrafMgmt/TrafMgmtindex.html		
							pay service	http://metrocommute.com/		
								http://www.co.westchester.ny.us/dpw/trafficupdt.htm		
					Traffic.com			http://www.traffic.com/NewYork/index.html		
								http://www.nyc.gov/html/dot/html/motorist/atis.html		
								http://www.nps.gov/gate/index.htm		
								http://www.nycvisit.com/		
								http://www.state.nj.us/travel/transportation.shtml		
								http://www.panynj.gov/		
									traffic, transit	
2	5.	CA	San Fransico			Caltrans	800-427-ROAD	http://www.dot.ca.gov/hq/roadinfo/		
						Caltrans		http://video.dot.ca.gov/		
					Traffic Incident Info page	Dept of CA Highway Patrol		http://cad.chp.ca.gov/		
					Bay Area Traffic	KPIX - TV News		http://www.kpix.com/traffic/ALL.html		
					bayinsider.com	KTVU.com - news		http://www.bayinsider.com/autos/traffic/		
					Bay Area Transit Info	Metro Transportation Commission		http://www.transitinfo.org/		
					511.org / Travinfo	MTC, CA HW patrol, CADOT	510- 817-1717 / 511	http://www.511.org/		
					SF Gate Traffic	SF Gate		http://www.sfgate.com/traffic/		
					Smart Traveler	Caltrans	1-800-COMMUTE	http://caltrans511.dot.ca.gov/sf/index.htm		
								http://www.etaktraffic.com/travinfo/		
								http://www.pressdemocrat.com/traffic/		
									traffic, transit	
2	8.	DC-VA-MD	DC Metro area			VA DOT	800-367-ROAD			
								http://www.mwcog.org/traveler/		
								http://www.wtopnews.com/index.php?nid=6		
								http://www.sunspot.net/news/traffic/etak/		
								http://www.ddot.dc.gov/information/work_sites/bridge.shtm		
								http://www.washingtonpost.com/wp-dyn/metro/traffic/		
								http://www.mdta.state.md.us/mdta/servlet/dispatchServlet?url=/Emergency/emergencyDisplayIndex.jsp		
								http://www.chart.state.md.us/travinfo/travinfo.asp		
								http://www.wmata.com/riding/system_alert.cfm		
								http://www.dpwt.com/TraffPkgDiv/index.html		
								http://www.virginiadot.org/home-nova.asp		
								http://www.hovcalculator.com/		
							877-9595-222	http://www.springfieldinterchange.com/		
								http://www.trafficland.com/		
								http://www.wilsonbridge.com/home.html		
									traffic, transit depending upon agency	
2	10.	MA	Boston			Smart Route for HA HW Dept	617-374-1234	http://www.smartraveler.com/scripts/bosmap.asp?city=bos&cityname=Boston		
								http://www.boston.com/traffic/		
								http://www.massturnpike.com/tp_traveler/tp_traveler.html		
								http://www.bigdig.com/thtml/traffic.htm		
						Mass Highways			traffic, transit	

Table A-1
Candidate Locations, continued

Tourist Density (3=High, 1=Low)	Location ID #	State	Region/City	Associated National Park(s)	Traveler Information System Name	Operating Organization(s)	Dissemination Methods		Content	
							Telephone (list number)	Web Site (list address)	Information Provided	Tourist-Specific Content
2	12.	CA	San Diego			Caltrans	800-427-ROAD	http://www.dot.ca.gov/hq/roadinfo/		
								http://www.sdcommute.com/		
								http://www.thesandiegochannel.com/traffic/		
								www.ridelink.org		
							1-800-COMMUTE	http://caltrans511.dot.ca.gov/		
2	15.	FL	Tampa/St. Petersburg					http://traffic.tbo.com/		
								http://www.traffic.com/Tampa/index.html		
					Traffic Information	State DOT		http://www3.dot.state.fl.us/trafficinformation/	Statewide map of Florida with color-coded clickable icons (green for "normal", red for "emergency operation") on individual roads. Clicking an icon provides a listing of historic traffic flow rates (vehicles per hour) for the facility, on the current day of week and month.	None.
								http://www.fhp.state.fl.us/traffic/		
2	19.	WA	Seattle	Olympic National Park	511 - Statewide		511			
						King County Metro Transit	206-553-3000			
								http://www.king5.com/livetraffic/		
								http://www.seattleinsider.com/autos/traffic/		
								http://www.smarttrek.org/		
						WSDOT		http://traffic.wsdot.wa.gov/	traffic, transit, ferries	
								http://www.pan.ci.seattle.wa.us/html/traffic.htm		
								http://www.etaktraffic.com/seattle/		
2	21.	CO	Denver			Regional trasportation Dist	303-299-6000 / 800-366-7433			
								http://www.denvergov.org		
								http://www.denverpost.com/dpo/smarttravelerframe/		
								http://www.trexproject.com/		
								http://www.cotrip.org/		
2	29.	FL	West Palm Beach		511 - Smart Traveler Info System		511	http://www.smartraveler.com/sfl/phone.asp?city=sfl&cityname=South+Florida	traffic, possibly transit	
					Traffic information	State DOT		http://www3.dot.state.fl.us/trafficinformation/	Statewide map of Florida with color-coded clickable icons (green for "normal", red for "emergency operation") on individual roads. Clicking an icon provides a listing of historic traffic flow rates (vehicles per hour) for the facility, on the current day of week and month.	None.
								http://www.fhp.state.fl.us/traffic/		
								http://www.sun-sentinel.com/news/traffic/etak/pb.html		
2	30.	MT	Bozeman		511 - Statewide	MT DOT	511 / 800-226-ROAD	http://www.mdt.state.mt.us/travinfo/	traffic, weather	
2	38.	AL-MS-TN		Natchez Trace Parkway		NPS		http://www.nps.gov/natr/index.htm		
								http://www.mstraffic.com/		
								http://www.tdot.state.tn.us/information-office/const.htm		
								http://www.dot.state.al.us/		

Table A-1
Candidate Locations, continued

Tourist Density (3=High, 1=Low)	Location ID #	State	Region/City	Associated National Park(s)	Traveler Information System Name	Operating Organization(s)	Dissemination Methods		Content	
							Telephone (list number)	Web Site (list address)	Information Provided	Tourist-Specific Content
2	44.	TN	Nashville					http://www.newschannel5.com/news/traffic.html		
								http://www.cctv.tdot.state.tn.us/cctvnash/		
								http://www.tdot.state.tn.us/		
2	45.	UT	Salt Lake City		511 - Statewide		511		Realtime information on 4 categories: traffic reports by city or route #; public transit (bus, TRAX-light rail, FlexTrans-ADA paratrans, or Rideshare), Road Conditions (reported by snow removal from Nov to Apr); and Ferries (Lake Powell)	None.
					"Eye on I-15"	KSL-TV		http://www.ksl.com/TV/i15/i15.htm	Channel 5 TV provides links to various traffic cameras, road construction, and road condition sites - all focus on I-15	None.
						UT DOT		http://www.dot.state.ut.us/public/traveler_info.htm	Provides construction info, winter road conditions, and links to Commuterlink and scenic byway info. Some of this site was broken, eg pictures didn't show up and a link didn't work. I'm not sure if this is temporary or whether site is on it's last leg.	No direct info - links to info about Utah's scenic Byways and link to UTAH.com (official tourism site)
						UDOT		http://www.utahcommuterlink.com/ie.htm	Real Time interactive map of salt lake area with traffic speeds, icons for incidents, camera locations, construction, weather, and sign (DMS?) locations. Clicking on icons will provide more specific info. Related closely with 511	None.
					UTAH.com	Utah Travel Council		http://www.utah.com/transportation/	basic information on travel in Utah - directions, mode info and contacts.	"The Official Travel Site of Utah" - massive amount of info for the traveler: weather, lodging, dining, places to see, national park info, recreation, things to do, and visitor info center.
						Salt Lake Convention & Visitors Bureau		http://www.visitsaltlake.com/home.shtml	Travel info with basic "getting around section for travelers" and maps. No realtime traffic info.	Site is geared toward the traveler with info on lodging, dining, and places to see and things to do.
						Utah Transit Authority		http://www.utabus.com/	schedule, fare, map info on transit in Salt lake for bus, light rail, etc. No Realtime info, but does provide a "detour" section which talks about road closings, etc.	None.
1	2.	CA	Los Angeles			Caltrans	800-427-ROAD	http://www.dot.ca.gov/hq/roadinfo/		
						Caltrans		http://video.dot.ca.gov/		
					Traffic Dodger	Ontime Systems Inc		http://www.trafficdodger.com/		
					Traffic Incident Info page	Dept of CA Highway Patrol		http://cad.chp.ca.gov/		
					Los Angeles City TrafficInfo	ATSAC and LADOT		http://trafficinfo.lacity.org/		
					Traffic Assistant			http://www.trafficassist.com/		
					Smart Traveler	Caltrans	1-800-COMMUTE	http://caltrans511.dot.ca.gov/la/index.htm		
					Metro.net	LA MTA		http://www.mta.net/		

Table A-1
Candidate Locations, continued

Tourist Density (3=High, 1=Low)	Location ID #	State	Region/City	Associated National Park(s)	Traveler Information System Name	Operating Organization(s)	Dissemination Methods		Content	
							Telephone (list number)	Web Site (list address)	Information Provided	Tourist-Specific Content
1	3.	FL	Miami		511 - Smart Traveler Info System		511	http://www.smartraveler.com/sfl/phone.asp?city=sfl&cityname=South+Florida	traffic, possibly transit	
					Traffic Information	State DOT		http://www3.dot.state.fl.us/trafficinformation/	Statewide map of Florida with color-coded clickable icons (green for "normal", red for "emergency operation") on individual roads. Clicking an icon provides a listing of historic traffic flow rates (vehicles per hour) for the facility, on the current day of week and month.	None.
						Florida Highway Patrol		http://www.fhp.state.fl.us/traffic/		
1	9.	IL	Chicago			IL DOT	800-452-4368			
						Il DOT, TRW, Smart Route	847-705-4620			
								http://www.traffic.com/Chicago/index.html		
								http://www.chicagotribune.com/includes/traffic/chi0.htm		
					Gateway Traveler Information System	Gary-Chicago-Milwaukee Corridor Coalition (Illinois, Indiana and Wisconsin DOTs)		http://www.gcmtravel.com/gcm/home.jsp	Wide range of real-time and static multimodal traveler information including: real-time map of road congestion and construction, construction and closure reports, congestion and travel time reports, and video images.	None.
								http://www.ci.chi.il.us/CDOT/TravelAdvisories/trafficAlert.html		
								http://www.icepack.org/		
						Illinois Department of Transportation		http://www.dot.state.il.us/	Contains links to the Gateway Traveler Information System.	None.
								http://www.travelinfo.org/		
1	11.	GA	Atlanta					http://www.ajc.com/metro/content/metro/traffic/		
								http://wsbradio.com/traffic/index.html		
								http://www.georgia-navigator.com/		
								http://www.11alive.com/life/travel/traffic/		
1	13.	PA	Philadelphia			PA Turnpike	800-331-3414	http://www.paturnpike.com/		
						SEPTA	215-580-7800	http://www.septa.org/		
								http://www.phillytraffic.com/index.html		
								http://www.traffic.com/Philadelphia/index.html		
								http://www.smartraveler.com/scripts/phlmap.asp?city=phl&cityname=Philadelphia		
								http://www.dot.state.pa.us/internet/secinet.nsf/frmpage2travelerInformation		
								http://www.dvrpc.org/transportation/travelsmart.htm		

Tourist Density (3=High, 1=Low)	Location ID #	State	Region/City	Associated National Park(s)	Traveler Information System Name	Operating Organization(s)	Dissemination Methods		Content	
							Telephone (list number)	Web Site (list address)	Information Provided	Tourist-Specific Content
1	14.	TX	Houston			Houston Metro	713-635-4000			
								http://www.dot.state.tx.us/		
								http://www.houstontranstar.org/		
								http://traffic.tamu.edu/construction/construction_report.aspx		
								http://traffic.tamu.edu/incmap/		
1	16.	CA	San Jose			Caltrans	800-427-ROAD	http://www.dot.ca.gov/hq/roadinfo/		
							1-800-COMMUTE	http://caltrans511.dot.ca.gov/		
1	18.	TX	Dallas/Fort Worth		Traffic.com			http://www.traffic.com/DallasFtWorth/index.html		
								http://www.traffic.com/Dallas/index.html		
								http://www.ntta.org		
								http://www.dot.state.tx.us/		
								http://dfwtraffic.dot.state.tx.us/		
1	26.	NJ	Newark					http://www.state.nj.us/turnpike/nj-conditions.htm		
								http://www.njcommuter.com/trafficinfo/		
								http://www.smartraveler.com/scripts/nycmap.asp?city=nyc&cityname=New_York&area=nj		
								http://www.traffic.com/nynorthernnj/index.html		
								http://www.panynj.gov/		
								http://www.wnbc.com/traffic/		
1	27.	NY	Buffalo					http://www.thruway.state.ny.us/construction/index.html		
1	28.	CA	Riverside/San Bern.			Caltrans	800-427-ROAD	http://www.dot.ca.gov/hq/roadinfo/		
							1-800-COMMUTE	http://caltrans511.dot.ca.gov/		
								http://www.trafficdodger.com		
1	42.	OH	Akron / Cleveland	Cuyahoga NP		NPS		http://www.nps.gov/cuva/index.htm		
								http://www.odotonline.org/otis/		
								http://wspd.com/traffic.html		
								http://www.ohioturnpike.org/		
								http://engineer.co.summit.oh.us/cgi-bin/displayContent.pl?type=section&id=1		
								http://ci.akron.oh.us/asp/ta.asp		
								http://www.cleveland.com/traffic/		
1	46.	TX	San Antonio					http://sag.sanantonio.gov/traffic/		
								http://www.dot.state.tx.us/		

Table A-2
Scores on Selection Criteria for Candidate Tourist Destinations

			Content and Integration					Awareness				Availability of Data		Additional Weighting Factors						
State	Region/City	Associated National Park(s)	Multimodal Content	Real-time Information	Tourism Content	Tourist User Friendly	Years of Operation	Media Coverage	Advetising	Co-Marketing	Promotion by Businesses	System Usage Data	Previous Evaluations	511 Service	Multiple Dissemination Methods	National Park	Large Urban Area	Small Town or Rural Area	Commercial Tourism Environment (e.g. theme park)	Public Sector Tourism Environment (e.g. public park)
FL	Orlando		NO	YES	YES	MED.	>1	YES	NO	NA	NA	YES	NO	YES	YES	NO	YES	NO	YES	NO
HI	Oahu/Honolulu		NO	YES	NO	LOW	NA	NA	NA	NA	NA	NA	NA	NO	NO	YES	YES	NO	YES	YES
NV	Las Vegas		NO	YES	NO	LOW	NA	NA	NA	NA	NA	NA	NA	NO	NO	NO	YES	NO	YES	NO
CA	Anaheim		YES	YES	NO	LOW	NA	NA	NA	NA	NA	NA	NA	NO	YES	NO	YES	NO	YES	NO
FL	Ft. Lauderdale		YES	YES	YES	LOW	>1	YES	YES	NA	NA	YES	YES	YES	YES	NO	YES	NO	YES	NO
AZ	Phoenix		NO	YES	NO	LOW	>5	YES	NO	NO	NO	YES	YES	YES	YES	NO	YES	NO	YES	NO
LA	New Orleans		NO	NO	NO	LOW	NA	NA	NA	NA	NA	NA	NA	NO	NO	NO	YES	NO	YES	NO
FL	Florida Keys		NO	YES	NO	LOW	NA	NA	NA	NA	NA	NA	NA	NO	NO	NO	NO	YES	YES	YES
HI	Maui		NO	NO	NO	LOW	NA	NA	NA	NA	NA	NA	NA	NO	NO	NO	NO	YES	YES	YES
MO	Branson		NO	YES	NO	LOW	>3	YES	YES	YES	YES	NA	YES	NO	NO	NO	NO	YES	YES	NO
TN	Gatlinburg	Great Smokey Mountains	NO	NO	YES	HIGH	NA	NA	NA	NA	NA	NA	NA	NO	YES	YES	NO	YES	YES	YES
SC	Hilton Head		YES	NO	YES	HIGH	NA	NA	NA	NA	NA	NA	NA	NO	NO	NO	NO	YES	YES	NO
MA	Hyannis	Cape Cod	NO	YES	NO	MED.	>5	YES	YES	NA	NA	YES	YES	NO	NO	YES	YES	NO	YES	YES
MD	Ocean City		YES	YES	YES	LOW	>3	NA	NA	NA	NA	NA	NA	NO	NO	NO	NO	YES	YES	YES
NC-VA		Shenandoah Valley/Blue Ridge Parkway	NO	YES	YES	HIGH	>1	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	NO	YES
NC		Great Smokey Mountains	NO	YES	YES	MED.	NA	NA	NA	NA	NA	NA	NA	NO	NO	YES	NO	YES	NO	YES
AZ		Grand Canyon	NO	YES	YES	MED.	>1	NA	NA	NA	NA	YES	YES	YES	YES	YES	NO	YES	NO	YES
CA		Yosemite	NO	YES	YES	MED.	>1	NA	NA	NA	NA	NA	NA	NO	YES	YES	NO	YES	NO	YES
VA	Jamestown	Colonial National Historic Park	NO	YES	YES	LOW	>1	NA	NA	NA	NA	NA	NA	NO	YES	YES	NO	YES	NO	YES
FL-MS		Gulf Islands	NO	NO	YES	HIGH	NA	NA	NA	NA	NA	NA	NA	NO	NO	YES	NO	YES	NO	YES
CO		Rocky Mountain	YES	YES	YES	MED.	NA	NA	NA	NA	NA	NA	NA	NO	YES	YES	NO	YES	NO	YES
ME		Acadia	YES	YES	YES	HIGH	>1	YES	NO	YES	NO	YES	YES	YES	YES	YES	NO	YES	NO	YES

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