

3. EXECUTIVE SUMMARY

Yellowstone National Park is a popular attraction for visitors from all over the United States and many foreign countries. Between three and four million visitors travel to Yellowstone each year. The vast majority tours the park in their private vehicles. Only about one percent of YNP visitors ride tour buses or snow coaches. As early as 1973, park officials were starting to acknowledge that the roads in Yellowstone were "overburdened" and that traffic was becoming a problem.

The National Park Service is conducting a major effort to develop and promote alternative forms of transportation in the national parks. Plans are being developed for a new generation of transportation vehicles that will be attractive to visitors and will motivate them to leave their private vehicles in a parking lot and ride the new busses or trams. Glacier National Park has rebuilt and successfully reintroduced its fleet of vintage "red busses". Yellowstone is considering building a new fleet of retro designed "yellow busses" reminiscent of the fleet they operated during the first half of the 20th century. A prototype of this bus was introduced in 2003. The goal, according to one NPS official, is "to make the alternative vehicle experience so positive that visitors won't even consider driving their own cars."

One way of making alternative transportation more attractive might be to provide a portable interactive information system that would be available to visitors riding alternative touring vehicles. Such a system would provide the visitor with various kinds of interpretive and trip planning information.

The objectives of this study were to:

- (1) Explore visitors' motivations and expectations for visiting Yellowstone National Park and how well these motivations were being met,
- (2) Explore how alternative transportation systems might be designed to better meet visitor expectations and enhance their visit experience,
- (3) Identify types of information visitors would like to have available during their trip through the park and how they would like to have it presented,
- (4) Develop a simulation of a prototype visit enhancement system that meets the information requirements identified during the first phase.

WTI conducted a series of surveys and focus groups in order to obtain answers to these questions and to obtain information to guide the design of a prototype visit enhancement system. The main body of the survey consisted of 50 statements concerning vacation/recreation goals. The statements were based on Maslow's classic hierarchy of needs that provided a model describing peoples' motivations for working. Maslow's hierarchy included physiological, safety, belonging, esteem, and self-actualization needs. We found this model inadequate for describing motivations for recreation. To revise the list of motivating factors to better describe recreational activities, the original list was expanded to include four additional factors, autonomy, novelty, pleasure/enjoyment, and altruism. Survey items were crafted to represent each of these nine motivating factors. These statements were rated on a seven-point scale according to the extent visitors expected to meet each goal during a visit to Yellowstone.

The survey also included a number of open-ended questions exploring what activities visitors undertook, what features would make alternative transportation in Yellowstone desirable, and what types of information people want to have available while in the park. There were also several questions to allow us to define the demographics of the visitor population.

Surveys were distributed to 400 park visitors in Yellowstone gateway communities during summer 2002. Of these, 103 surveys were returned by mail.

A series of four focus groups was then conducted in Yellowstone National Park and in nearby communities. Focus group participants were recruited to match the demographics of the survey respondents and were familiar with travel and tourism in Yellowstone. The main issues of interest concerned participants' views on public transportation in the park and what would make public transportation desirable to visitors. We also explored what types of information visitors would want available while visiting and how that information could best be presented on an interactive communication system aboard the vehicles.

The majority of the respondents indicated that they would engage in sightseeing, learning about animals, viewing wildlife, walking, viewing nature, and photography during their visit to Yellowstone. Only four percent of survey respondents said that they might ride a tour bus during their visit.

Survey results showed that for the most part, respondents expected to meet most of the listed vacation goals. There was an open-ended question asking what features or amenities would make a tour bus or tram desirable to respondents. The feature mentioned by the most respondents (42 %) was convenience, which was characterized as frequent stops, multiple routes, and the ability to get on and off at will. Approximately twenty percent of respondents, though, said that they would not use alternative transportation through Yellowstone.

Another question asked what kinds of information they would like to see provided by an electronic information system. Types of information that interested the most respondents included park maps, (74 %), weather (74 %), road conditions (70 %), nature (68 %), park news (56%), historical information (53%), and special events (51%). Types of information that interested the fewest respondents were shopping information (21 %), nature sounds (21 %), seasonal/winter views (20 %), and games (9 %).

Focus groups were then conducted to elaborate on the most interesting findings of the surveys. Many people said that they enjoy the freedom of going through the park in their own cars. People want to be able to control where they go in the park and how long they stay at each stop. Most people said that if the park were to adopt alternative transportation, it should be voluntary, not mandatory.

There was much more support for a shuttle type system than for tour buses. People visiting the park do not want to have to stay with a group the entire day, stopping, moving on, and eating on the same schedule as the rest of the group. This mirrors the results of the surveys, in which most participants said that they wanted the convenience and independence that a shuttle bus system could provide.

Several features were mentioned as necessary conditions to entice visitors to choose public transportation over their own vehicles. The most frequently mentioned features were visibility, flexibility, comfort, and cost. Most people said that the vehicles should have big windows, and several said that they should have removable tops.

Some people thought that having an interactive computer would be a valuable tool to enhance their visit through the park. Other people said that they go to a National Park to get away from technology and that a computer system would be intrusive. Many of the older participants commented that the younger generations are much more computer-oriented and may be more interested in the idea.

Hikers thought that having access to a Doppler radar image of the park would be a big help in avoiding hiking in the rain. Some people suggested that the visitor centers should make use of this kind of weather technology regardless of whether an interactive computer system is adopted.

Several people said that visiting Yellowstone is an educational experience, and if a computer system could enhance the amount of information they can receive while in the park, it would make their visits more rewarding. Many people want to know more about the park itself, the plant and animal life, the geology and the history, and they would like to have a greater depth of information provided than is currently presented in pamphlets and interpretive displays. It was suggested that trivia or other educational games might be nice to have to pass the time between attractions. Other types of information that people were interested in receiving included campground availability, special events, and park news such as what research is currently going on, for example monitoring wolves in the park. It was also suggested that a computer system could be useful in keeping children occupied because they often become bored during the lapses between wildlife and geothermal sightings.

Several global characteristics were suggested to create a computer system that visitors would enjoy. It would need to be very user-friendly because several visitors said that they are not computer literate. It would also have to be unobtrusive to those who are not interested in using it lest become a distraction from other visitors' goals of enjoying nature and escaping modern technology.

Based on these results, we developed a prototype interactive information system that initially has been fielded as an Internet web site to support usability testing and evaluation. A later generation of the system will be ported to a PDA-type device for field-testing. Information with a short useful life (e.g., weather) could be obtained via wireless transfer or an IR communication link at tourist centers.

Based on the user requirements, the system provides information in the following categories:

Maps. Road and trail maps with two levels of zoom, transit maps showing routes and schedules (assuming introduction of shuttle buses.)

Weather. Current and forecast weather including weather cams at selected attractions, weather maps with forecast weather, satellite and Doppler radar images.

Interpretive. The animals of Yellowstone Park, the plants of Yellowstone Park, thermal features of Yellowstone, fire and the Yellowstone forests, and history of Yellowstone.

Park information. Park rules and regulations, scheduled events, and today's news and events.