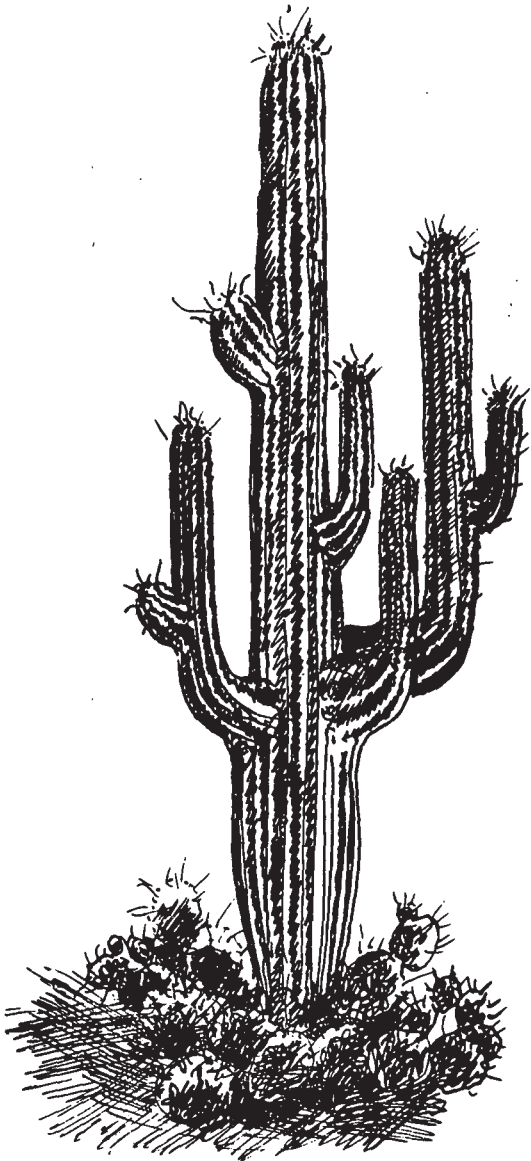


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**Cooperative National Park
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COOPERATIVE NATIONAL PARK RESOURCES STUDIES UNIT
University of Arizona/Tucson - National Park Service

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SPECIAL REPORT NO. 4
IMPROVING VISITOR COMMUNICATIONS
IN GRAND CANYON NATIONAL PARK

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ABSTRACT

During the summer of 1985 a study of "visitor communications" was conducted in Grand Canyon National Park. The primary focus of the project was observing visitors' behavior to ascertain their information needs and use of information services. In addition, park employees were interviewed for their ideas on visitor behavior and management concerns in this area. The project included an inventory and evaluation of visitor information services to identify communication concerns. Based on these concerns, recommendations for improving information services were made and selected recommendations were tested in the park to evaluate their effectiveness.

The major concern identified in the study was the lack of information services dedicated to orienting visitors to the park. Inadequate road signing, the limited availability of self-help information services (with very few services geared toward foreign visitors), and poor communication within the National Park Service (NPS) and between NPS and concessions contribute to this orientation problem.

Major recommendations for resolving the communications concerns include: implementation of a comprehensive signing system, development of interesting, informative, self-service displays, improvement in training for park (NPS and concessions) employees, and establishment of an Information Office. The Information Office would function to disseminate information to the "pre-arrival" audience and to coordinate information services in the park.

It is strongly suggested that the techniques used in this study, visitor observation and testing of new information services, be adopted by park personnel and utilized on a regular basis for continual monitoring and improvement of visitor information services.

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I. INTRODUCTION

This project follows up on a study by Underhill (1984) which identified "visitor communications" as a significant source of dissatisfaction for visitors to Grand Canyon National Park. In the Underhill study some of the communication problems cited by visitors included: inability to get advance information on the park; poor signing; poor explanations or inadequate materials on park geology, ecology, rules, etc.; poor and conflicting maps; and no comprehensive brochure given out at the park entrance. In short, many visitors felt the Park Service "could do more to make their visit both more informative and more pleasant" (Underhill 1984).

Although the 1984 report raised the issue of a visitor communication problem, that study was not intended as a vehicle for analyzing the problem in depth. As a result of the Underhill report, the NPS asked for a study to see how communication could be improved in the park. This study has been funded by the Grand Canyon Natural History Association (NHA).

The primary focus of this study is to view the situation through the eyes of the visitor, in order to understand what visitors now see and what they want to see in terms of information services. An effort has been made to pinpoint specific concerns regarding visitor communications and to develop recommendations for improving the information services in Grand Canyon. The intent is to stimulate thought and action regarding the concerns identified and not to propose the only solutions. Some fairly specific actions are recommended, however, it remains the responsibility of park managers to refine and adapt any improvements suggested in this report.

A. Methods

This project consisted of a literature survey and an on-site investigation during the summer of 1985. Literature in fields such as communications and environmental education provided insight on observation techniques and on principles of media application. On-site research in the park consisted of three phases -- 1) an inventory of information services and visitor needs, 2) an evaluative assessment of the current communications network, and 3) the development of recommendations. The methodology used is outlined below:

1. Inventory

- a. Identify visitor contact points, i.e., where people can be reached (automobile, campground, Visitor Center, etc.) Table 1 contains a list of contact points.
- b. Describe the media and information available at contact points. Appendix A includes an inventory of information services in the park.

Table 1. Visitor Contact Points

Automobile
 Park Radio
 Entrance Stations (South, Desert View, North)
 Road Signs
Official NPS Information Stations
 Visitor Center
 Yavapai Museum
 Hermit's Rim Information Booth
 Desert View Information Booth
 Tusayan Museum
 North Rim Information Desk (Grand Lodge)
Park Newspaper
Naturalist Programs
Scenic Viewpoints
 Mather Point
Rim Footpaths
Campgrounds
 Mather
 Trailer Village
 North Rim
Concessions
 Lodges, Gift Shops, Restaurants
 Transportation Desks -- Bright Angel,
 Yavapai, El Tovar, Maswik, Grand Lodge
 General Store
 Interpretive Facilities
 Bright Angel History Room
 Desert View Watchtower
 Guided Tours
 Mule
 Bus
Shuttle Bus
Backcountry Reservation Office (South and North Rim)
Trailheads and Backcountry
Pre-Arrival

- c. Define visitor information needs. Visitor needs include information that visitors indicate they want (indicated both directly and as implied by their actions) and that Park managers want them to have. Unobtrusive observations, recorded visitor behavior and informal interviews were conducted to determine what information visitors need and to what extent they use available information services. The technique of observing visitors in typical behavior settings yields valuable data on visitor behavior (Webb et al. 1966, Burch 1974, Whyte 1977, Madden and Love 1982, Downing 1983). In addition, employees of the Park Service, Natural History Association, and concession companies were interviewed for their ideas on visitor behavior and priority messages to be delivered to visitors.

2. Evaluation

- a. Apply specified criteria (see Table 2) to the information services in the park. These criteria are based on principles of media application found in the literature (Seehafer 1959, Randall and Haines 1961, Sharpe 1976, Fazio and Gilbert 1978, Murphy 1980, Peine et al. 1984). In this phase, specific communication concerns are brought to light as gaps between the established criteria and the current situation are discovered. For example, an important information need may not be addressed at a certain contact point, or a particular medium may be visually unappealing.

Table 2. Criteria for Evaluating Information Services

Content

Accuracy of information
Appropriateness -- relevance to visitor needs and management concerns

Distribution

Availability (time and location) relative to visitor needs
Marketing -- visibility, accessibility

Presentation/Design -- compliance with principles of media application

Appeal or attractiveness
Clarity, readability

Visitor Use

Awareness
Use -- assimilation and use to plan activities or learn about the park

3. Recommendations

- a. Develop recommendations for meeting visitor needs through the revision of existing media and application of new media.
- b. Solicit feedback on recommendations from park staff and field test selected recommendations for effectiveness. To test recommendations, observations of visitor behavior were made "before and after" the application of media changes.

II. RESULTS

The discussion of results is broken down by visitor contact points identified in the park. For each contact point, specific communication concerns revealed by the evaluation process are discussed and suggestions for addressing these concerns are presented. These recommended solutions are certainly not the only ones or even the best. Supporting data, the inventory of information services and observations of visitor behavior, are included in Appendices A and B.

A. Automobile

According to Park Service traffic statistics, approximately ninety percent of visitors to Grand Canyon arrive by private automobile (NPS 1985a). Currently, the principal means for reaching these visitors include the park radio, entrance stations, and road signs.

1. Park Radio

The obvious deficiency with the content of the radio message is the lack of up-to-date information. Because of the considerable time lag before the message is broadcast (messages are prepared several months ahead of the time they are aired), visitors can not get the up-to-date information they need, such as where and when road construction will delay their trip or whether the campgrounds are filling up by noon. Computerizing the radio system would enable the staff to update messages more frequently.

Some radio broadcasts convey rather negative messages -- be prepared for long lines, campgrounds are usually full, etc. The negative tone of some messages is compounded by the colorless, monotone voice that delivers it. The lack of enthusiasm and the downbeat message result in an overall unappealing broadcast. Consulting with radio/TV professionals (volunteers from NAU, for example) could improve the quality of the broadcasts. One way to provide more interesting radio messages would be to broadcast different messages in different areas of the park. For example, present mostly orientation¹ information along the South Entrance road and interpretive information about scenic viewpoints along the Desert View and Hermit's Rim Drives.

The distribution of the radio message is not as good as it could be. Although, theoretically, the transmission is available to all visitors with a radio in their vehicle, the signal often can not be picked up and some people may never know about the station if they miss one of the two road signs announcing it (The signs are not highly visible and can easily be overlooked.). Periodic checks could be made to determine if the broadcast is being transmitted clearly. The station can be more effectively advertised with larger, more enticing signs (see Appendix C -- Road Signs).

1. For purposes of this study, information is classified into two categories. Orientation information explains where, when, and how people can obtain services and participate in activities in the park. Interpretive information promotes deeper understanding of natural and cultural resources in the park.

Another option to consider for reaching people in their vehicles is providing a CB channel for the exchange of park information. A survey of vehicles in the park revealed that approximately 15 - 20% were equipped with CB radios (see Appendix B -- Table 1). Eighty percent of those with CB equipment were RV's -- so, while a CB channel would certainly not reach a majority of visitors, it would reach a fair number, many of whom need up-to-date information about camping, road and weather conditions, etc. The cost of providing such an information service would be quite low. The Park Service could provide an avid CB operator with an RV site for the summer in exchange for running the operation.

2. Entrance Stations

Information now available at the South and Desert View entrance stations includes a park map, a one-page outline of activities in the park and, upon request, a list of camping options in the Grand Canyon area (Appendix A -- Figures 1A, 2A, and 3A). The numbered-site format on the park map presents some confusion for visitors. Visitors might follow the map more easily if sites were labeled with the appropriate names whenever this can be done without creating too much clutter. The curved-road layout is confusing, so it is important not to distort the locations of key areas like Yaki Point. Including a two-page, fold-out map in the park newspaper would provide a good overall perspective of the park -- the location of the North Rim in relation to the South Rim Village and the curved layout of the roads, for example.

The park newspaper, the Grand Canyon GUIDE, is not available at the entrance stations (the North Rim is an exception -- see North Rim section). As noted in the introduction, lack of comprehensive information at the entrance was a complaint cited in the 1984 Underhill study. The design, distribution, and content of the GUIDE are discussed later in this report.

The entrance stations are open from 8 a.m. to 5 p.m., yet people enter the park at all hours of the day and night. Consequently, a lot of people don't get the park map and information sheet. During observations at the South entrance station, an average of 150 cars per hour passed through the entrance after the station was closed (see Appendix B -- Table 1B). Information distributed at the stations could be made available for these after-hour visitors. A rack holding the handouts could easily be constructed and attached to the booth. When the station closes the rack can be extended out a "safe" distance (so people won't bump their vehicles into the booth), allowing all visitors access to this information.

3. Road Signs

Inadequate road signing is one of the primary concerns identified in the park. Signing problems include the use of vague, uninformative terms on signs and inappropriate placement of signs. Inadequate signing not only presents an aggravation to visitors but also creates other serious problems for park managers to consider. Signing problems were the most common concern voiced by park and concession employees who contributed to this study. Many employees (patrol rangers in particular) cited the tremendous safety hazards involved. These concerns were confirmed by observations of

park traffic for this study (see Appendix B -- Table 2B). Drivers make abrupt turns and stops because they see a sign too late or, not seeing any sign, think they have already passed their turnoff; drivers pull in front of bus drivers and other official vehicles to stop them forcibly and ask directions.

Another consideration related to signing is the work time park employees "waste" fielding questions about directions. As a maintenance engineer pointed out, maintenance workers in the public eye (road and sanitation crews, for example) are continuously interrupted in their work with questions from visitors about how to get somewhere -- the most common questions involve how to find the park exits and Mather Campground. All park employees should be ready to give information in a courteous and friendly manner, but every time a sign serves the purpose more work is accomplished. The best signing in the world will never eliminate all visitor questions -- some people simply will not read signs -- but adequate signing should be available for visitors who will use this information.

The signing problem is so severe that to provide truly adequate road signing will require a major overhaul of the current "system" (Actually, there is no system, which is the root of the problem -- the historically piecemeal approach to signing has resulted in inconsistency and inadequacy in signing throughout the park.). The inherently confusing layout of the park (irregular intersections, loops and one way drives) demands a well-designed, consistent signing system to effectively guide visitors through the park. Possibly, a symbol system could be developed -- using colors and/or figures to represent lodges and other destination points. (See Table 3 for an example of a suggested road signing system. Park employees may very well come up with modifications that better meet park needs.)

Another way to systematize traffic regulation would be to paint a shoulder stripe along the main roads on the South Rim and in the Village. This would be particularly helpful in steering visitors away from residential areas. A stripe recently painted along the road heading (eastbound) toward the Grand Canyon Lodges General Offices is a good example. Before the stripe was painted, 70% percent of the vehicles traveling this way came to an almost complete stop at the curve in the road; after the stripe was painted, less than 15% hesitated (see Appendix B -- Table 2B). Whatever type of signing system is chosen for the park, it could be implemented by a specifically funded project, so that this problem can finally be dealt with in a comprehensive manner. This project should be overseen and followed-up by an interdivisional team that includes employees who come into daily contact with visitors -- patrol rangers, maintenance workers, and interpretive staff. If budgeting constraints preclude separate funding, small amounts from these three divisions might be diverted to this project, and work could be spread over several years.

Appendix C includes an inventory of signs in the Village as well as specific signing suggestions.

Inadequate, misleading, and confusing signing on highways leading to Grand Canyon is a concern not directly under the control of park managers (see Desert View and North Rim sections). NPS may very well be able to initiate a cooperative effort with the Forest Service and Arizona Department of Transportation to improve signing in the region.

Table 3. Possible Symbol/Color System for Road Signing

Site	Color	Symbol
Visitor Center/ Shrine of Ages	Red	Deer
General Store/ Yavapai Lodge	Dark Blue	Squirrel
Mather Campground	Dark Green	Pine
Trailer Village	Light Green	Agave
Yavapai Point & Museum	Yellow	Sun
El Tovar Hotel	Silver	Conquistador
Bright Angel Lodge	Brown	Mule
Maswik Lodge	Purple	Bird
Hermit's Rim Interchange	Pink	Flower
Tusayan Museum	Orange	Kachina
Desert View	Light Blue	Tower

The symbol and its associated color will lead visitors to their destinations.

B. Official NPS Information Stations

Official NPS information stations are areas where NPS staff are located specifically to disseminate information to visitors. These areas include the Visitor Center, Yavapai Museum, Hermit's Rim Information Booth, Desert View Information Booth, and Tusayan Museum.

1. Visitor Center

a. Information Desk Approximately half of Grand Canyon visitors go to the Visitor Center, the primary facility designed to orient visitors to the park. The staff at the information desk is well-trained and knowledgeable. The only significant concern related to this information source is employees' use of jargon and local terminology which can be confusing to visitors. This criticism also applies to personnel in other areas of the park (naturalist programs, the BRO) and to some audio and print messages delivered to the public (newspaper, phone message for ranger programs). Because this is a fairly prevalent problem, and one that is difficult for long-term employees to detect, a list of terms to avoid or to use only when clearly defined is provided and should be included in the Interpreters Training Manual (see Table 4).

b. Self-Help Services Statistics gathered by the Visitor Center staff indicate that only about 20% of those who enter the Visitor Center actually contact a person at the information desk; the rest get by on information they can garner on their own (NPS 1985b). This study examined visitor use of two self-service information displays, an information board on the north wall of the Visitor Center and a shuttle service display at the entrance.

The information board contains descriptions of camping and lodging options as well as activities available in the park, such as mule rides and bus tours. The subject of hiking was not covered on the board when this study began. Because hiking is a popular activity (or at least one which arouses a lot of curiosity) and a visitor examining the board mentioned "What about hiking trails?" it was suggested that a hiking section be added. The Visitor Center staff quickly responded by including some hiking information. This proved to be helpful to visitors using the board. In future observations, several visitors were heard making hiking plans while reading the board (deciding where to go, how long it would take, and what they would need to bring).

Table 4. Discouraged Terms For Park Employees

The following terms should be avoided, unless accompanied by a clear, concise definition:

Local names, such as Babbit's.

Abbreviations, such as B.A., E.T., OMB, etc.

Possible unfamiliar terms, such as kiosk, backcountry, (can't really be avoided, but make sure the person knows you aren't talking about his backyard), forest, (when you mean U.S. Forest Service land, then specify that).

Vague terms, such as Business Center (specify by location or type of service, depending on what the person really wants to know).

Scientific terms, such as riparian, hypolimnion, tectonics (make sure you understand them before you try to explain them to someone else).

Contributions to this list are invited, park staff can think of many more.

The shuttle information display also proved very helpful in answering some common questions visitors had. It is particularly good because people find the map quite easy to follow. The percentages of people in the Visitor Center consulting the general information board and shuttle display were 40 and 25, respectively (see Appendix B -- Table 3B). This represented a larger segment of the Visitor Center audience than the segment that went to the information desk. Less than 5% of the people observed using these self-service displays went on to pose a question at the information desk. These data strongly support the argument for continuing and upgrading self-service information at the Visitor Center in particular, and throughout the park in general.

Limited funding presents the major obstacle to upgrading self-service information in the Visitor Center. The staff has used available resources well, doing as much as they can with the standard materials of letter boards and printed signs. The free phone in the Visitor Center lobby, which allows visitors to contact lodges for information, is a good example of the type of service that can be provided with electrical and audio-visual equipment. Future projects that would greatly improve visitor services include creating a computerized information system for visitors and developing computer simulations. Up-to-date and comprehensive information about accommodations and activities could be made available through terminals in the Visitor Center lobby. Children would especially enjoy using these.

Hiking is an ideal subject for computer simulation. In an interactive program visitors could be queried about what kind of shoes they are wearing, how much water they are carrying, etc. Then at the end of the Simu-Hike, the programs would tell visitors how their hike turned out -- "You had heat stroke at Indian Gardens," "Your rescue by helicopter cost you \$XXXXX," "You died two miles up from the river," "Congratulations, you had a wonderful time." Such computer-aided information services could also be available at lodges and the BRQ.

Utilizing expertise, labor, and even equipment donated by universities and private companies would help defray the costs of developing these sophisticated information services. In the long run, once the hardware and software are up and running, the maintenance costs would be lower than supporting "human answer machines" like interpretive personnel at the desk.

Additional concerns at the Visitor Center include:

- 1) The [START] sign at the entrance to the exhibit room could be eliminated. Less than half of the people notice the sign, so usually half of the people go in one direction and half go in the other (see Appendix B -- Table 4B). People naturally tend to start off to their right. Although the exhibit is designed for people to start on the left, proceeding from ancient inhabitants of the canyon to the most recent, the chronological order allows the exhibit to maintain continuity and sense if people start on the right, going "backward in time" (from the most recent to the most ancient)
- 2) The NHA center offers a good variety of publications. One deficiency mentioned by the clerks was the lack of Utah and single Arizona maps for sale. NHA may want to experiment selling these.

- 3) Some employees delivered the phone message about naturalist programs too quickly, not allowing enough pause time for listeners to write down information if they wished. Also the unfamiliar word "kiosk" (see Table 4), was used in the message. Suggested improvements were acted upon by Visitor Center staff during the course of this project, i.e., the pace was slowed and "kiosk" was eliminated.

2. Yavapai Museum

Interpretive/educational services at the museum are generally good. The video display in the lobby is very popular with children and foreign visitors because it presents a very simple, visual message. Although foreign visitors comprise about one-third of the visitor population, this video is one of the few media in the park that uses metric dimensions, a unit of measure better understood by foreign visitors. At any particular time, 25 - 30% of the visitors in the museum lobby were looking at the video and about 60% of the visitors were at the windows (see Appendix B -- Tables 6B and 7B).

An interpreter is usually available for informal questions at the window. This allows opportunities for good information with interested visitors. The microphone in the lobby is generally used only to announce programs, however, one ranger used it to make a brief presentation, providing information on the shuttle and mule rides (two of the most common questions asked by visitors) and air quality (an important issue at the canyon). Because of the relatively small audience and size of the museum this worked quite well (it would not work as well in the Visitor Center, where the P.A. can not be heard as clearly by everyone). All rangers at the museum might find this an excellent approach to communicating with visitors.

Very little self-service orientation information is available at Yavapai Museum, except for a schedule of naturalist programs and a "Restrooms in the Parking Lot" sign. Even these few aids are helpful to visitors. The program schedule raises a number of questions, such as where the programs will be given and what they will cover. It may be helpful to add this information to the schedule. The NHA clerks report that the Restroom sign has reduced (though, of course, not completely eliminated) the number of "restroom questions."

Dispensing orientation information is not the main mission of Yavapai Museum. However, a comparison of question logs from the Visitor Center and the museum reveals that people ask similar questions at both places (Appendix B -- Tables 5, 6, and 7). The major difference between the two facilities is that fewer "interpretive" questions are asked at the Visitor Center. It is interesting, though not too surprising, that staff at the windows in the museum receive questions predominantly of an interpretive nature, while clerks at the desk field most of the orientation questions such as "What is there to do around here?" and "How do I get to _____?" Thus, the bulk of orientation information provided at the museum comes from desk clerks, whose primary responsibility is handling sales transactions. Nevertheless, they do an excellent job of assisting visitors with the information they need.

Welcome To Grand Canyon National Park!

Services & Activities:

Lodging	Visitor Center	Hiking
	Yavapai Museum	River Trips
Camping		Bus Tours
	Hermit's Rest	Air Tours
Food		Mule Rides
	Desert View/ Tusayan Museum	
Parking/ Auto Services		Foreign Languages
	Scenic Viewpoints	
Shuttle		

Figure 1. Self-Service Information Display

While the Visitor Center is designed to be the primary orientation facility, park managers estimate that about an equal number of visitors make each location their first stop (O'Brien 1985). To maintain the educational nature of the museum, and provide the orientation information people want, an outside self-service information board could be provided for visitors to Yavapai Museum. The board might include categorized information on foreign language assistance, accommodations, activities, etc. (see Figure 1). The display could be located on the walkway between the parking lot and the museum.

3. Hermit's Rim Information Booth

The Hermit's Rim Information booth is only seasonally staffed from Memorial Day to Labor Day when the shuttle operates. The primary justification for the booth is its role in facilitating visitor use of the shuttle. It is also important in that it provides the principal opportunity that dayhikers of the Bright Angel trail have for personal contact with Park staff before starting their hike (see Trailheads and Backcountry section).

Members of the park interpretive staff, including those who work at the information booth, indicated to the authors that they favor returning to usage of the historical term "Hermit's Rim" rather than continuing to use the more recently adopted "West Rim". It is also suggested that the term "Desert View" be used in place of "East Rim". The terms West Rim and East Rim are confusing to most visitors who barely manage to absorb the idea that they are on the South Rim. Some visitor comments along these lines: "I thought we were on the South Rim, how come this says 'West Rim'?" "I don't want to go to the East Rim, I want to go to the Desert View Tower." If this terminology change is adopted, all personnel and all media (newspaper, signs, etc.) should drop the west and east rim designations.

The conflict between bicyclists and motor vehicles on the Hermit's Rim Road is an important concern. Patrol rangers and shuttle operators are especially concerned with the hazards involved. Bicyclists are not well-informed of their responsibilities and rights. Only one small, barely visible sign on the booth advises bicyclists to check with a ranger before going out on the road. Signs along the course of the drive are also needed to inform bicyclists of what is expected of them.

One suggestion is to move the information booth west, up the road (just west of the pipe railings where shuttle passengers board). Here rangers could more readily notice and properly instruct bicyclists who are starting out on the drive. Would such a move have a negative effect on the ability of rangers to serve shuttle passengers? A question log kept at the booth clearly shows that shuttle questions dominate, the most common question being "where do I catch it?" Moving the booth should not negate this if the recommendations for the shuttle are implemented (see Shuttle section). Signs will direct people past the barricades and shuttle information posted at the railings will answer most questions. The booth will still be highly visible to all shuttle users and, in fact, will help draw people over to the railings, alleviating some confusion about which bus stops are for the Village and which for Hermit's Rest.

HERMIT'S RIM SCENIC DRIVE

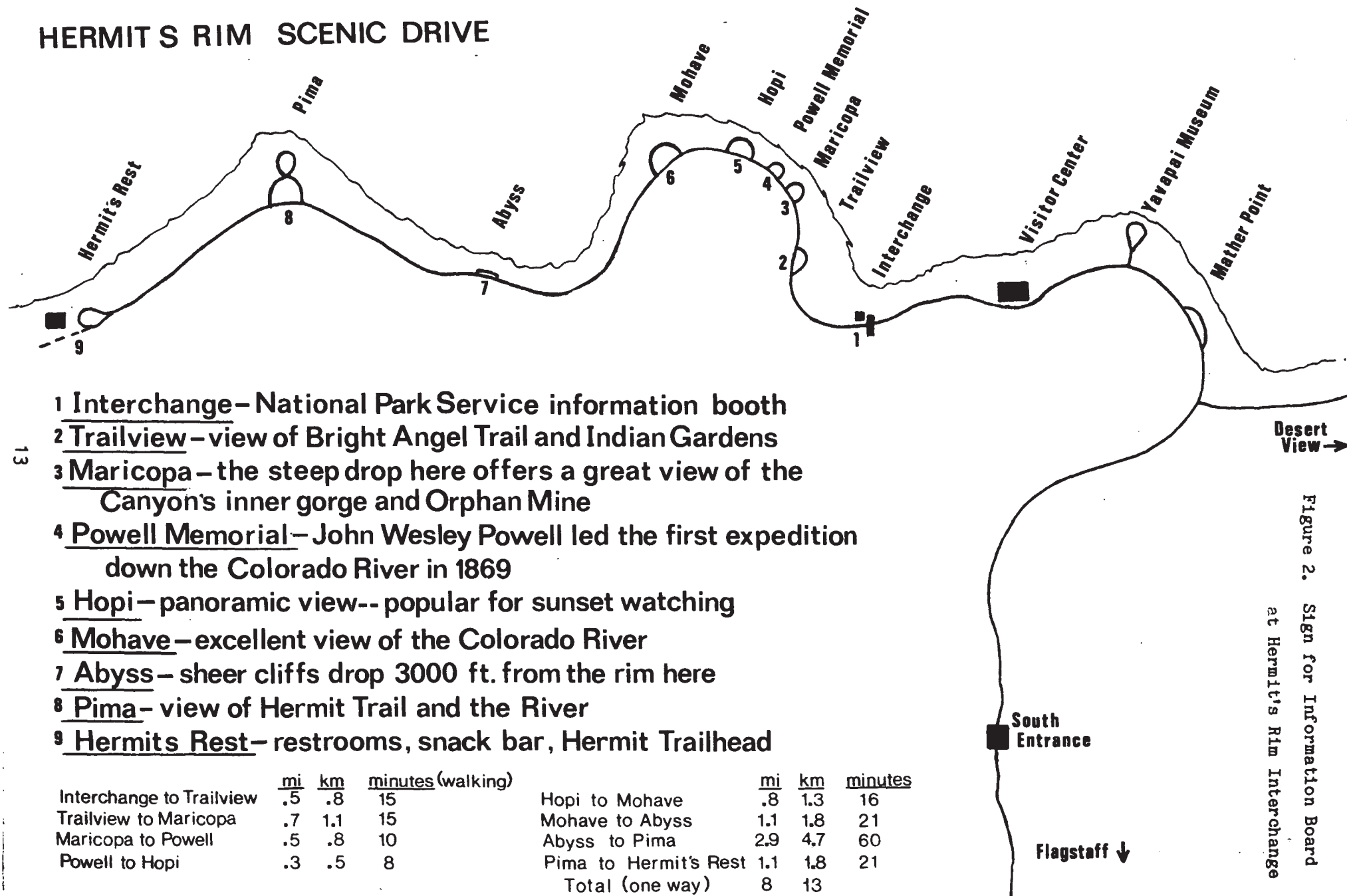


Figure 2. Sign for Information Board at Hermit's Rim Interchange

As part of an experiment to test the usefulness of signs posted in the shuttle, the same signs with descriptions of viewpoints along the drive were posted on the information booth. Staff at the booth reported that visitors really liked being able to consult these signs. Figure 2 is an example of an information sheet and map that could be posted on the booth. Posting more comprehensive, helpful information signs in the shuttle buses, at the shuttle stops, and at the booth will significantly reduce the demand for handouts. Such handouts have become impractical because of their expense and tendency to transform into litter.

4. Desert View Information Booth

A major problem at Desert View is that many visitors do not realize they have entered the park. Highway signs are misleading. At the Cameron turnoff a sign reads: [Grand Canyon 54 miles]. Then, 25 miles later people enter the park. People looking out from Desert View Point often ask if they are looking at the Painted Desert. Compounding this orientation problem is the lack of a good, highly visible, contact station. Desert View staff are remodeling some former restroom facilities into a contact station. Employees have begun working on a suggestion to develop an information display (similar to the one on the North wall of the Visitor Center) which can be used at the Desert View information booth and then transferred to the contact station when it is completed. These actions will greatly improve the situation here.

Some road signs on the way to and in the Desert View area can be improved. A large orientation sign at the Desert View entrance listing distances to destination points in the park (similar to sign #18 in Appendix C) would be helpful. The "Grandview Point 1000 FT" sign (facing eastbound traffic) could be moved east because it is currently located across from a small pullout that is just west of Grandview. Drivers not noticing or understanding the "1000 ft" notation may be misled into this other pullout. Also a sign for Lipan Point is needed.

5. Tusayan Museum

Tusayan Museum is designed as an educational facility. One recommendation made during this study (which has already been implemented) was to replace a sign that is posted on the door of the museum when the ranger on duty is out on the Ruins trail. The former sign read: [Questions? Ranger on Ruins Trail]. The problem with this sign was that it did not mention that a brief interpretive activity was in progress and that the ranger would be back in a few minutes. The visitor at the door was left wondering if or when the building would be opened again.

C. Park Newspaper

As noted in a previous section, how the park newspaper, the Guide, is distributed can have a significant impact on communication between park staff and visitors. The newspaper is currently available for ten cents at all NPS information stations (when open), Yavapai, Bright Angel, and Maswik lodges, and at the general store. The GUIDE contains a wealth of information on many topics which visitors need to know. Since the park began selling the newspaper, many people are not getting this information and, most important, they don't know about the opportunity to obtain it. In May of 1985, visitation at naturalist programs decreased by 17% from the previous year, while overall visitation increased by 17% over the same time (Frederick 1985 - personal interview). It is very possible that the switch from free distribution to selling the Guide accounted for or helped account for this drop. Staff at the information desk also report that their question load has increased since the GUIDE has been sold (NPS 1985b).

The surest way to ensure that visitors entering the park have access to a GUIDE is to distribute it at the entrance stations. The logistical problems of selling the GUIDE at the entrance station would be tremendous. The park can not simply tack on a ten cent fee for each visitor and give them a GUIDE. Money collected at the gate for entrance fees and the paper would have to be stored and accounted for separately. Free distribution to all entering would be the ideal situation from a communication viewpoint. One suggestion for dealing with the question of funding the GUIDE is to combine the park map, any information sheets designed for handout at the entrance station, and the newspaper into one publication that is printed quarterly. This would save tremendously on yearly printing, storage and revision costs. Another suggestion is to investigate the possibility of obtaining funding to support publication of the GUIDE from Kodak, the Tusayan Chamber of Commerce, or other organizations with interests in the park. (Current management plans are to develop and distribute a "Site Bulletin" at the entrance station and continue selling the GUIDE; combining these may prove financially feasible).

If Guides are not made available to all visitors free of charge, then, at the very least, marketing of the papers should be improved. The GUIDE vending machines² are not easily distinguishable from any other daily sold in front of the grocery store and in lodges. At the Visitor Center the open newspaper rack is hidden in an obscure corner. Test putting "advertising" signs above the newstands and see if sales improve.

The GUIDE format is basically good, but simplifying and enlarging the front page so that it is primarily an index that indicates what the paper contains and makes the paper attractive to visitors might make it more useful. The front page could be designed so that it can be "digested" in the brief drive from the South entrance station to the Village.

-
2. GUIDES are distributed two ways. One is by vending machine, into which a coin must be inserted. The other is by an open rack. In the second method, a person is trusted to deposit the dime or more in a collection box, paying for it.

The schedule of interpretive programs would be easier to follow if published in a "TV Guide" format. This format would be more helpful for visitors because the most important criteria for attending a program is how the time and location of the program fit into the visitor's schedule. A sample layout is in Figure 3.

Orientation information provided in the GUIDE is sufficient for most visitors' needs. The content of the paper could be enhanced by including more feature articles and "lightening up" the tone of the articles. The paper has excellent potential as a medium for presenting information on park management issues. Visitors may not have time to read an in-depth article while in the park, however, they may be reached later while traveling or at home when they have the paper with them. Informing the public about park issues and park management actions are objectives in NPS director Mott's "Twelve Point Plan" for the parks. Currently, at Grand Canyon the public receives very little information in these areas and the GUIDE could provide a good channel for addressing this deficiency. Figure 4 includes examples from other park newspapers of some interesting touches that may be added to the GUIDE -- using bold, attention-getting headlines, cartoons, humor, etc.

D. Naturalist Programs

Over the course of this project, many park programs were observed (programs observed are noted in Appendix A). Concerns with individual interpreters are not discussed here, but rather, more widespread problems are examined, problems that apply to the programs in general and that can be addressed on a systemic level.

The problem of visitors encountering technical language, local terminology, and "resource jargon" was mentioned previously in this report (see Visitor Center section). In addition to inserting the list of discouraged terms in the Interpreters Training Manual, interpretive staff might include in a training session some tips on presenting clear definitions of possibly unfamiliar terms, such as ecology, riparian, or geologic time.

One problem noted regarding content of the programs was the presentation of inaccurate information and poor representation of park issues. Inaccuracies range from inconsistent numbers (a visitor may hear stories about anywhere from 500 to 5000 burros that once inhabited the Canyon) to misunderstanding of a subject (a wide variety of cultural descriptions can be found in archaeological presentations). Interpreters revealed widely varying notions about important management issues such as air quality and aircraft management. Many did not understand basic facts involved or current park research/actions related to the issues. Obviously, it is up to each individual to perform his/her duties responsibly and supervisors can only do so much to encourage interpreters to check their facts.

NATURALIST PROGRAMS — GRAND CANYON NATIONAL PARK

ALL PROGRAMS OFFERED DAILY, UNLESS OTHERWISE NOTED

LOCATIONS: VISITOR YAVAPAI EL TOVAR
CENTER MUSEUM HOTEL

ACTIVITIES:

ORIENTATION SLIDE SHOW --	8:30 am to 7:30 pm on the hour and half hour							
CANYON TALK -- A 15 minute talk on some aspect of the geological, cultural, or natural history of the Canyon.	1:15 pm 2:15 pm	10 am 12:15 pm 3:30 pm						
GEOLOGY TALK		2 pm 6 pm						
GEOLOGY WALK		8:30 am 2 pm						
RIM WALK			1:15 pm					

Figure 3. Schedule of Naturalist Programs

Bad Guys Use Parks Too

Yes, Virginia, it's true. You're not safe from rip-off artists in national parks. In fact, there are predators who make a living from those who let their guard down in America's parklands.

Some of the favorite places for "car clouting" are trailhead park areas. Patrol rangers, already too thin, concentrate their attention there. Most "pros" can enter almost any locked vehicle doors in less than a minute. Trunks are harder to enter. If you must leave valuables in your car and you don't have a trunk, place them well out of sight.

Park rangers need your help with this problem, so report anything suspicious, pronto.

FOR THE BIRDS
By Coralee Hays



"Deerest" Dilemma

Warm weather visitors enjoy watching the mule deer herd in Fruita as they graze serenely on alfalfa at dusk. Talk about a just plain nice experience! Depending on the year, about 60-100 move down nightly from daytime solitude in the mesas above Fruita. Their trails crisscross the hillsides.

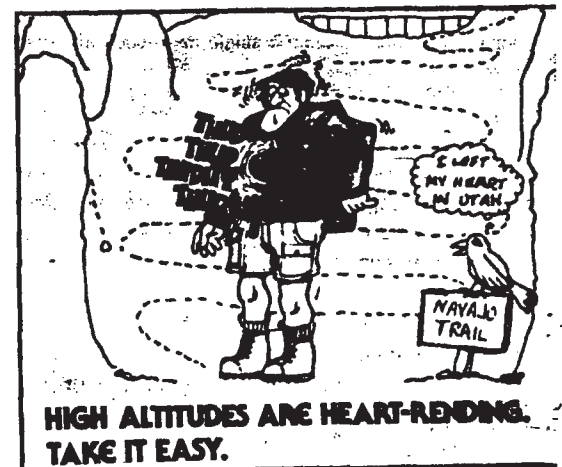
Like many pleasant things in life the deer herd presence has a flip side that's not so good. The deer are natural browsers, not grazers, and they just love the tops of young fruit trees. Even larger trees are not safe. The deer love to rub against the bark. Once the trees are stripped of bark all way 'round, they're goners.

from: Capitol Reef Scene
(summer 1985)

from: Bryce Hoodoo (summer 1985)



Figure 4. Newspaper Design



Rearrangement and enhancement of the training schedule could improve the interpreters' knowledge bases. Specifically, change the emphasis from beginning-of-the-season training (when some interpreters have not yet arrived in the park and those who are there have become bored and disinterested from continuous training sessions) to regular (perhaps bi-monthly) training meetings throughout the season (NPS 1985b).

During the summer of 1985, two mid-season sessions were conducted to inform staff of important park issues -- the new water pipeline and aircraft management. Considering the importance of these issues neither session was very well attended, (an average of 15 - 20 people). One reason for the low attendance may have been that the meetings were held after hours and were voluntary. Although the informal nature of the programs was appropriate, the dissemination of information in the meetings could have been more efficient.

Improved interaction between the Resource Management and Interpretation Divisions also would improve naturalist programs. Resource staff can support the interpretive staff by preparing "issue statements" about significant management concerns and updating these statements seasonally. Resource specialists also can provide expertise in their specific areas. For instance, during this project, the park archaeologist, when invited to review the archaeology section of the Interpreters Training Manual, made appropriate revisions. She should also be involved in developing a more comprehensive section on archaeology for next season.

E. Scenic Viewpoints

Scenic pullouts are important as contact points -- some such as Mather Point can be critical in introducing the visitor to the Park; some provide interesting interpretive information, and others are simply nice quiet places for people to stop and "listen to the canyon."

1. Mather Point

In recorded observations, at least 50% of the cars passing by Mather Point (westbound) stopped at the point (see Appendix B -- Table 8B). Because some of these vehicles include park employees and people returning from a day visit to Desert View, the actual percentage of entering visitors who pull into Mather point is probably higher. This makes Mather Point the first stop for many visitors and a prime orientation area. The information available at the point is inadequate for introducing the visitor to the park, since most orientation information is lacking. Visitors observed at the point voiced numerous questions that could not be answered by the current facilities (see Appendix B -- Table 9B).

The following recommendations would improve the existing large orientation map:

- 1) Include arrows between map locations and the enlargements.
- 2) Print a large "YOU ARE HERE" message on the Mather Point spot.
- 3) Repair the Grand Canyon Village enlargement (reportedly, this repair is in progress) and include a list of services next to it as is done with the other enlargements.
- 4) Since this is often a visitor's first contact with park services, explain the seasonal shuttle to Hermit's Rest -- and that private vehicles are not allowed.
- 5) Include distances (miles and kilometers) on the map.
- 6) Include the Rim Trail on the map -- show people that they can easily walk to Yavapai Museum.

Other information services that should be provided at the point include: 1) a bulletin board similar to the one suggested for Yavapai Museum (Figure 1), and 2) a vending machine for GUIDES, if they continue to be sold.

F. Rim Footpaths

Signs on footpaths in the Village can be improved both to assist those who chose to walk and to encourage people to walk. In particular, signs should direct people between the Visitor Center, Mather Business Center, Yavapai Lodge, and the campgrounds. Directional signs are needed on the path between the Visitor Center and Business Center, and at the intersection where one either goes toward Yavapai Lodge or the Post Office. Employees use this path so often they do not realize that visitors do not know the Visitor Center is just across the street and the store is up the hill. A sign is also needed at the end of the sidewalk in front of the general store, directing people to Mather Campground.

The Rim Trail provides less hardy visitors an opportunity to explore the park a bit, without the stress of negotiating a trail descending into the Canyon. The pictures and descriptions in the self-guiding pamphlet on vegetation and wildlife are too general to be of much value to visitors (NPS 1985b). A nature trail with labeled sites (like the Cape Royal Trail) would be of interest to the many people who are quite curious about the plants and animals along the rim. The nature trail could be incorporated into the Rim Trail or established on a loop around the visitor center (an excellent opportunity to serve the mobility disabled).

G. Campgrounds

According to visitor surveys, 25 to 30% of overnight visitors to Grand Canyon stay in a campground (Solmonson 1984, Underhill 1984).

1. Mather Campground

Staff at the registration booth provide good information on rules and other basic orientation questions. Because they are usually faced with long lines, however, they can not take the time to answer all the questions visitors may have. Improving self-service information at the campground would greatly lessen the burden on the staff at the entrance. This can be

done by upgrading and adding information boards. The bulletin board on the ranger station would be improved if it were better organized. A good start has been made at providing some foreign language information, but there is room for more -- posting notices about where foreign language interpreters are located, for example. A prime spot for posting information about activities, restaurants, etc. is at the restrooms scattered throughout the campground. Virtually everyone staying at the campground will use these areas. Campground staff could work cooperatively with interpretive staff members to develop these services.

2. Trailer Village

The information services at Trailer Village are similar to those at Mather Campground -- knowledgeable staff at the registration desk and some unorganized attempts to deliver self-service information. An excellent map of shuttle stops is posted in the office, and the staff reports that most people find it very useful. The bulletin board could include more information on the variety of services and activities in the park and it could be better organized.

H. Concessions

The concession-operated contact points include lodges, stores, restaurants, interpretive facilities, and guided tours.

1. Lodges, Gift Shops, Restaurants

According to visitor statistics 40 to 45% of overnight visitors stay in lodges in the park or Tusayan (Solmonson 1984, Underhill 1984). Transportation desks in the lodge lobbies are the most visible and reliable information source for visitors. Staff at these desks are generally well informed about the park. Naturally they are more well-versed on tours offered by the concession, but they also provide helpful basic orientation information.

GUIDEs offered for sale in newspaper vending machines at the Maswik, Bright Angel, and Yavapai lodges provide the only official Park Service information available. The least expensive way to improve NPS oriented self-service information would be to develop bulletin boards with a layout as described for Yavapai Museum. Grand Canyon National Park Lodges (GCNPL) is developing some video-cassette messages for use in the lobbies; this will be helpful. Both NPS and GCNPL could work together to produce a cable television program about the park that can be broadcast in motel rooms. The most serious information deficiency in the lodges is the lack of shuttle information. An explanation of this service should be posted in the rooms or at least in lobbies (The signs posted on the buses could be used as models. See Figures 7 and 8).

2. General Store

The outside window displays on hiking safety and water are excellent. They capture visitors' attention and bring up some good questions. The neglected bulletin boards near the Post Office could be used more effectively by making them more attractive and better organized.

3. Guided Tours

The same concerns identified in NPS programs occur in concession-operated tours -- inaccurate information and a lack of knowledge about NPS resource management concerns. NPS and GCNPL employees should be required to attend joint training sessions during regular working hours. The Resources Division of NPS is an excellent source of "issue statements" for tour guides' reference.

Mule Rides The brochure provided to mule riders (mailed to guests with advance reservations) is well-designed and contains much helpful information, however, it contains the following misleading points:

- Stating that Backcountry reservations are available at the National Park Visitor Center Backcountry Office -- this needs to be updated since reservations are now issued at the new and separate Backcountry Reservation Office.
- Raincoat available free of charge -- a ten dollar deposit was required, not optional as stated.
- Water discussion -- while the brochure states that any canteens may be disallowed, the description of what would be approved for use on the trip is inadequate. Canteens which met the specifications outlined in the brochure were not allowed on the trips. Because proper canteens are an important safety precaution and each person should have access to water without having to ask the wrangler to stop the train and pass around the canteen, it is recommended that suitable canteens be available for sale at the Transportation desk.

The above concerns and recommendations were noted and plans for improvements were made by concession staff (GCNPL 1985).

I. Shuttle

During the summer, 8000 to 11,000 people a day may use the park's shuttle service (Scheiner 1985 - personal interview). According to Underhill (1984), at least 70% of visitors who stay in the park two to three days use the service and 35% of one day visitors use it. The shuttle is thus an important aspect of many visitors' experience in Grand Canyon.

1. Shuttle Stops

The shuttle bus stops are not clearly identified for visitors; people often don't notice the "orange and tan" maps at each stop. For example, at the entrance to the Bright Angel Lodge, people are unsure of where to catch the guided tour buses, which are directly in front of the lodge, or the free shuttle buses, which are below the parking lot. In a situation such as this, and at the El Tovar, where the bus stop is not visible from the lodge entrance, signs leading people to the shuttle stops are needed. The Hermit's Rim Interchange is another area of confusion; people are uncertain about which buses go around the Village and which go on the scenic drive. On numerous occasions, passengers aboard the Village Shuttle would realize that they had gotten on the wrong vehicle and were headed for Maswik Lodge rather than Hermit's Rest. Appendix B (Table 10B) contains a log of visitor comments indicating their confusion at shuttle stops. Typical comments include: "Are you sure the bus comes here?" "Do you know where this bus goes?"

The maps at the shuttle stops are difficult to read. At some stops the signs are in bad locations where they are not readily noticed. If people do notice the signs they usually try to read them, but the print is small, often unreadable, and the legend is complicated and confusing. The times of shuttle operation are unclear (terminology such as "in season" is vague; on some signs the lettering is deteriorating). The signs also contain out-of-date information -- Maswik is still identified as the Motor Lodge.

2. Inside the Shuttle

Once inside the shuttle buses, passengers encounter more difficulties obtaining the information they need. The maps in the buses, although fairly well designed, are not in good positions for people to read because they are high above everyone's head. The information given by the bus drivers is inconsistent (both among different drivers and for the same driver on different runs). They occasionally dispense incorrect information, identifying the General Offices of Grand Canyon National Park Lodges as NPS headquarters, for example. A few drivers actually give out too much information, maintaining an almost continuous stream of output. After a while, passengers stop listening to this and fail to filter the important information from the driver's constant drone.

Passengers are not well-informed about the following:

- 1) What is available at each stop -- restaurants, scenic attractions, etc. (a common question on the shuttle is "Where can I see the canyon?" -- people who live in the park forget that visitors don't know where the Rim is);
- 2) Schedules for other shuttle services -- Hermit's Rest, South Kaibab Trailhead.
- 3) Shortcuts on the Village Loop route (many people do not realize that they need not travel the entire loop to get to Mather Campground from the Visitor Center, for example).

Passengers in the front bus of tandem shuttles can usually ask questions of the driver personally. Unfortunately, this can create a hazardous situation when passengers' questions place excessive demands on drivers who need to focus their attention on operating the buses safely. People in the trailers miss a lot of information because many drivers don't speak clearly, and even if they do, the P.A. system works so poorly in many cars that the drivers can't be heard.

At the beginning of the 1985 summer season, when the new routes to Hermit's Rest and the South Kaibab Trail were just getting underway, many NPS and concession personnel were not aware of the routes and time schedules. For example, the day the Kaibab shuttle began operation, none of the personnel on duty in the BRO knew about it. They were still directing visitors to the Bright Angel Lodge for trailhead transportation. Although GCNPL personnel are under no obligation to inform visitors of when the last bus of the day goes to Hermit's Rest, visitors do look to these people (and anyone else who works in the park) for that sort of information. Actions NPS can take to address this problem include providing more visible, helpful self-service information and promoting better communication and a spirit of cooperation both within the agency and between NPS and concessions. This broad suggestion applies to most of the communication concerns identified in the park (see CONCLUSION).

In summary, most visitors are quite confused about the shuttle operation. They board a bus not knowing where they are going or what is available at various stops. They depend almost entirely on the drivers for this information. The following suggestions are designed to provide as much self-help information to shuttle users as possible, thus reducing the number of individual questions addressed to drivers and helping visitors get the information in which they are interested. (Federal Transportation Services, the company operating the shuttle service, was very helpful and cooperated fully in efforts to test selected recommendations)

- 1) Use a larger, simplified map at the bus stops. The shuttle display at the Visitor Center should be followed as a model for the new signs. Concessions staff and signmakers should consult with a representative from the interpretive staff when designing the new signs.
- 2) Place the shuttle maps in more effective locations, and be sure they are oriented to the road. Most people sit on the benches while waiting for the bus, so, when possible, put the maps in front of people where they will see them. Unfortunately, the design of some bus stops does not allow for very effective placement of the signs.
- 3) Clearly identify each bus stop by posting large signs such as: [EL TOVAR SHUTTLE STOP]. When necessary, post signs leading to the stop (from Bright Angel Lodge, El Tovar, Hermit's Rest Interchange). For example, place a sign at the Bright Angel entrance that reads:

[<---- FREE SHUTTLE BUS - below parking lot]

BRIGHT ANGEL LODGE

SHUTTLE STOP

25

*WEST RIM SHUTTLE

You May Walk (approximately 2 minutes) Or
Ride The Shuttle From This Stop
To Transfer To The West Rim Shuttle

* West Rim term used during study,
rather than Hermits Rim

Figure 5. Sign for Shuttle Stop -- Bright Angel Lodge

When the shuttle is operating on the Hermit's Rim road, post signs at the Bright Angel stop indicating the distance to the Interchange -- many people wait ten minutes at this stop, not realizing that they could walk to the Interchange in just a couple of minutes.

In a test conducted at the Bright Angel stop, 85% of the people looked at a sign identifying the stop and giving directions to the Hermit's Rest shuttle (see Figure 5). Forty percent of the people who consulted the sign decided to walk down to the Interchange (see Appendix B -- Table 11B). Once people get to the Interchange they need to be directed past the auto barricade. Place directional signs on the posts of the shelter at the Village stop and on top of the barricade, facing eastward. A comparison between visitor comments during the pre-test and test periods (Appendix B -- Tables 10B and 11B) reveals the reduction in visitors' confusion at the Bright Angel stop.

- 4) Post a time schedule (example in Figure 6) at each stop. In an experiment at the Bright Angel stop, about half of the people consulted the time schedule (Appendix B -- Table 11B).
- 5) Stress to the drivers that they should follow the information sheet outlining what they should be relaying at each stop. Although all the drivers will never say exactly the same thing, following this outline can reduce problems of drivers dispensing too little or too much information. Conduct periodic checks on the drivers to enforce this as much as possible.
- 6) Improve training for the drivers. Invite them to training sessions for NPS staff. Most important, clarify their responsibilities. Are they supposed to be providing a guided tour or just a bus service? We believe they can help the park by providing factual park information.
- 7) Post a list of bus stops and site descriptions inside the bus on the side panels. Figures 7 and 8 are copies of signs that were posted on a trial basis on Village Loop and Hermit's Rest shuttles. The signs are designed to be six inches wide so they will fit in the side panels or, if posted on the window, not significantly block anyone's vision. An average of 75% of the passengers used these signs (Appendix B -- Table 13B). Again, a comparison of visitor comments during the pre-test and test periods (Appendix B -- Tables 12B and 13B) shows that the signs answered many visitors' questions and helped them make plans.
- 8) Improve communications between concessions (including FTS and GCNPL) and NPS. Improvements may be accomplished by conducting joint training sessions and publishing a cooperative community newsletter (The exchange between existing newsletters -- NPS Daily Reports, Pinyon Press, and Shuttle Newsletter -- are sporadic and largely ineffective.). Lack of awareness of the shuttle schedule by some employees is just one example of how poor communication among park employees harms the visitor.

Time Table

The Free Shuttle stops at the Bright Angel Lodge at the following times:

6:17 a.m.	2:32 p.m.
6:39	2:43
7:01	2:54
7:23	3:05
7:45	3:16
8:07	3:27
8:29	3:38
8:51	3:49
9:13	4:00
9:35	4:11
9:57	4:22
10:08	4:33
10:19	4:44
10:30	4:55
10:41	5:06
10:52	5:17
11:03	5:27
11:14	5:39
11:25	5:50
11:36	6:01
11:47	6:12
11:58	6:23
12:09 p.m.	6:34
12:20	6:45
12:31	6:56
12:42	7:07
12:53	7:18
1:04	7:29
1:15	7:51
1:26	8:13
1:37	8:35
1:48	8:57
1:59	9:19
2:10	9:41
2:21	10:03

Figure 6. Shuttle Schedule
Bright Angel Lodge

Shuttle Stops: Village Loop

5:45 a.m. to
10 p.m. daily

• Visitor Center / Shrine of Ages

Park information; Exhibits; Slide programs; Ranger talks and walks; Books and maps; Church Services (Shrine)

• El Tovar Hotel

Lodging; Restaurant; Gift shops--- Hopi House, Verkamps; Rim Trail -- paved trail along the Canyon Rim

• Bright Angel Lodge

Lodging; Restaurants; Gift shops; Tour arrangements; Lookout Studio; Rim Trail

• West Rim Interchange

Transfer to West Rim Shuttle (Memorial Day through Labor Day); Bright Angel Trailhead

• Maswik Lodge

Lodging; Cafeteria; Gift shop; Tour arrangements

• Ranger Office / Hostel

Also at this stop: U.S. Magistrate

• Public Garage

Also at this stop: Grand Canyon National Park Lodges -- General offices; Western Union Telegram Service

• Visitor Center / Shrine of Ages

• Mather Campground / Camper Services / Backcountry Office

Showers, laundromat, ice; Camping and backpacking equipment; Permits for overnight backpacking in the Canyon

• Trailer Village

Campground with hook-ups

• General Store / Post Office / Yavapai Lodge

Groceries, department store, delicatessen; Valley National Bank; Lodging, Gift shop, Restaurant, and tour arrangements at Lodge

• Yavapai Rooms & Lodge

3 Stops: Rooms # 7001 to 7095; # 7101 to 7196 and 7400; North entrance to Lodge

• Yavapai Point and Museum

Exhibits; Ranger talks and walks; Views of Phantom Ranch, the Colorado River, and Suspension Bridge; Books and maps; Rim Trail

Figure 7. Shuttle Sign -- Village

Shuttle Stops : West Rim**

Buses leave West Rim Interchange from
7:30 a.m. to 6:45 p.m.

West Rim Interchange

Park Service Information Booth; Transfer to West Rim shuttle;
West Rim Interchange to Trailview: .5 miles, 15 min. walk on
a paved trail along the Canyon Rim

Trailview

Views of Bright Angel trail, South Rim Village, and Indian
Gardens; Trail Talk presented by Ranger at 9:30 a.m.;
Trailview to Maricopa Point: .7 miles, 15 min. walk (paved trail)

Maricopa

Lost Orphan Mine; Geology Talk presented by Ranger at 10:30 a.m.;
Maricopa Point to Powell Memorial: .5 miles, 10 min. walk on
an unpaved trail

Powell Memorial

Major Powell made the first journey down the Colorado River
through the Grand Canyon in 1869 with nine other men; Powell
Memorial to Hopi Point: .3 miles, 10 min. walk (unpaved)

Hopi

Panoramic view of Grand Canyon -- popular point for sunset
watching; Hopi to Mohave Point: .8 miles, 18 min. walk (unpaved)

Mohave

Good view of the Colorado River -- Hermit and Granite Rapids;
River Talk presented by Ranger at 11:30 a.m.; Mohave Point
to the Abyss: 1.1 miles, 21 min. walk (unpaved)

Abyss

Sheer cliffs drop three-thousand feet to the Tonto Plateau;
Abyss to Pima Point: 2.9 miles, 60 min. walk (unpaved)

Pima

Views of Hermit trail and the foundation of an old mule riders'
camp; Pima Point to Hermit's Rest: 1.1 miles, 21 min. walk
(unpaved)

Hermit's Rest

Gift shop, Snack bar, Restrooms; Hermit Trailhead
Total distance from West Rim Interchange to Hermit's Rest:
8 miles

* Last bus of the day leaves Hermit's Rest at 7:30 p.m.; If
you stay at Hopi Point for sunset, a bus will be there to
return you to the West Rim Interchange.

** West Rim term used during study, rather than Hermit's Rim

J. Backcountry Reservations Office

According to BRO staff and observations in this study, at least fifty percent of the people coming into the BRO do not know they need permits for overnight backpacking (see Appendix B -- Table 14B). Informing the "pre-arrival" audience of the reservation system is a critical concern. On the broadest level, better information on national parks and backpacking in general should be disseminated on national and international levels (10 - 20% of backcountry users are from foreign countries.). On a more localized level Grand Canyon staff can become involved. Information about the Grand Canyon backcountry should be distributed through outdoor stores and other national parks and monuments in prime target areas (where most backcountry users originate). In Tucson for example, where many of the canyon's backcountry users originate, several hiking stores, Saguaro National Monument, and a local Parks and Monuments bookstore would be good distribution points. Although the widespread distribution of backcountry trip planners might be impractical, a basic information sheet could be made available. The distributors could either post this information or copy and hand it out to customers.

The morning orientation talks in the BRO provide an excellent means of conveying essential information to backpackers. Rangers who conduct these meetings voiced a concern that the traffic at the desk distracts the audience's attention. In more isolated conditions, the rangers could deliver their message more effectively. Experiment with conducting the meetings outside on the porch or moving the display boards to create a "quiet corner." The rangers generally do a good job with these meetings, but could benefit from some public speaking training. Backcountry staff suggested that backcountry and interpretive employees schedule some joint training sessions (not only to assist BRO staff in speaking skills, but to familiarize both staffs with each others' operations).

The "Hikers with Advanced Reservations" sign above the BRO desk serves no beneficial purpose. Most people ignore the sign and those who don't may find that other people take advantage of them. For example, one man waited for thirty minutes in front of this sign, while people who arrived after him received service (Apparently, staff at the desk were not keeping track of the sequence of arrivals.). Essentially, this man was penalized for making advanced reservations and following instructions. A desk sign with this message might be displayed on busy days in the spring, which is really the only time it is needed.

The use of inappropriate terminology similar to that in the Visitor Center occurs in the BRO. Inform the staff of the list in the interpreters' training manual and invite them to add any words that present particular problems for their office.

K. Trailheads

The most commonly used trails, the Bright Angel, South and North Kaibab, Hermit's Rest, and Grandview, have similar information at or near the trailheads. They present basic information on safety (water, heat), rules, and routes. No foreign language information is available. With the exception of recently installed displays at the South and North Kaibab trailheads, trailhead information is not presented in very appealing, colorful ways. Displays that use humor, interesting pictures, and unusual/provocative ideas will attract visitors' attention.

Trail-related information most needed by visitors is a safety message about water, heat stroke, mule encounters, etc. (GCNPL 1985, NPS 1985b). To deliver these messages effectively, managers must have a better understanding of who the audience is. What are the characteristics of people who require rescue on the trails? Are they primarily dayhikers? Are they foreigners, relatively young or old, in groups or alone? Do they have contact with rangers, read signs, read newspapers, or listen to the radio before they get in trouble? With the answers to these questions managers can develop communication strategies for reaching these people.

Backcountry and interpretive rangers stressed the importance of personal contact with hikers. Although "rope" time has been reduced recently, allowing personnel as much rope time as possible should be a scheduling priority.

L. North Rim

Due to time limitations, not much study time was available for investigation on the North Rim. Concerns and recommendations expressed here are a compilation of brief on-site observations and interviews with staff.

1. Entrance Station

GUIDEs are distributed free of charge at the entrance station. The incomplete map on the back page of the newspaper should be expanded to a full page map that includes the Cape Royal and Point Imperial roads in the proper perspective. Currently, interpreters draw these roads on the maps of visitors who come to the information desk.

It was suggested that a pullout just past the entrance station be used as a self-service orientation area for visitors who enter the park after-hours. The area should be lighted for night use and advertised by a sign on the entrance station.

2. Road Signs

The signing situation at the North Rim is not as severe a problem as on the South Rim, primarily because it is a smaller area with less traffic. Based on our observations, a few improvements are suggested:

- a) The sign on the entrance road at the turnoff for Cape Royal and Point Imperial is too small. Enlarge the sign and the letter size.
- b) Visitors ignore or don't understand the [Service Road] signs. State explicitly that only Authorized Vehicles are allowed.
- c) A sign for Walhalla Overlook is needed.
- d) As recommended for the South Rim, the Arizona Department of Transportation, Forest Service and NPS could coordinate efforts to provide adequate regional signing (Signing at the Jacob Lake area is particularly difficult to follow.).

3. NPS Contact Station

Because of the location of the NPS information desk, in a corner of the lobby in Grand Lodge, NPS is generally the last informational contact that visitors make. Lodge visitors usually see the tour desk and registration desk before they see the NPS station, and campground guests may never find the station. The station has no interpretive displays. The establishment of a separately housed NPS contact station/Visitor Center would give NPS much greater control and establish better contact with visitors. Until this can be done, there could at least be a sign over the information desk that visitors can see when they enter the lodge so they know where NPS personnel are. The Natural History Association bookcases could also be rearranged to allow visitors easier access to the desk. Place the bookcases on either side of the desk, parallel to each other so an opening extends toward the lodge entrance.

4. Scenic Viewpoints and Rim Footpaths

A more visible sign could be placed on the Lodge patio that directs people to the trail for Bright Angel Point and the Transept Trail. More signs are needed for the Transept Trail, which few visitors find (People walk along the road, not knowing there is a trail right alongside of them.). The Bright Angel Point path could be an excellent nature trail with interpretive signs. Again, as at the South Rim, the pamphlets for the North Rim footpaths are too general.

At Cape Royal, a sign directing people to the nature trail and program sites placed in the parking lot would greatly facilitate their use. 5.

5. Backcountry

If the Backcountry Office displays were relevant to the North Rim area, not miniatures of the South Rim displays, hikers would greatly benefit. Information on winter hiking and cross-country skiing should be displayed. The concerns about hiker safety and mule encounters are the same for the North Kaibab as for the major trails on the South Rim.

M. Pre-Arrival Audience

As stated in the introduction, obtaining advance information on the park is a problem for some people. As both park employees and visitors noted, it is practically impossible to get through to the park on the phone. If someone does get through, often they are not connected to the appropriate office.

The establishment of an Information Office with the primary responsibility of disseminating information to the pre-arrival audience would help solve this problem. The office would operate the General Information phone number for the park. The phone line should have a recorded message and a person or persons available to answer questions if the caller needs additional information.

The Information Office would not only function as a clearinghouse for disseminating information to the public, but as the keystone in a network of communication within NPS, and between NPS and concessions. This office would coordinate information exchanges so that information would flow more efficiently and the appropriate people would be aware of things they need to know. Other responsibilities could include overseeing visitor information services, i.e., continue what this project has initiated. The office could be housed in the Administrative Division and should work alongside, not within, Visitor Services. The objective is to facilitate better cooperation and coordination among all divisions and areas of the park including the North Rim.

On a national level the Park Service might consider a national information number (probably an 800 number) that could serve as a guide to the National Park System. It could encourage use of less well-known areas, suggest combinations of units to visit, and dispense regional or specific park numbers where advance information can be obtained.

III. CONCLUSION

As stated in the Introduction, the Park Service asked for a study to see how communications between the park and visitors could be improved. The primary focus has been to view the situation through the eyes of the visitor. In this section, we consolidate our findings into four main recommendations, suggest follow-up actions, and then list specific concerns, and possible solutions with page references.

1. Orientation Information:

Visitors to Grand Canyon National Park need orientation information as well as interpretation of the park's natural and cultural purpose. This study indicated that many visitors are obtaining inadequate orientation information; this detracts from the enjoyment of their park visit, and indirectly lessens their acceptance and understanding of interpretive messages.

2. Self-Help Information Services:

Numerous studies have shown that visitors to units of the National Park Service are generally well educated, reasonably affluent, and interested in their parks. Many would utilize information from newspapers, handouts, signs, bulletin boards, or other self-helps to plan and enjoy their visit. At present, there are many deficiencies in this type of information at Grand Canyon. While this report makes a number of suggestions, they are only that, and managers should recognize that the best source of information on visitor needs and how to meet them with a minimum drain on manpower is to obtain suggestions from the dedicated staff that is in daily contact with park visitors.

Through observation and the testing of various approaches, this study has demonstrated that visitor confusion and the tying up of park personnel answering "housekeeping" questions can be greatly reduced through the use of well planned self-help techniques. The friendly ranger is always important, but he or she can best be utilized on interpretive rather than orientation information.

3. Signs:

Confusing and inadequate use of signs, especially on roads within, and to some extent leading to, the park is a serious problem. Part of the problem is that no single division has jurisdiction. We recommend creating a task force on a "project" with responsibility for addressing the sign problem. If new funds are not forthcoming for such an effort, it can be funded over one or more years by using monies from maintenance, interpretation, visitor services, etc.

4. Information Office:

One of our observations during this study and previous studies at Grand Canyon as well as other parks has been the lack of communications between Park Service personnel and between the Park Service and concessionaires. There is a great tendency to compartmentalize operations and not venture onto anyone else's "turf" even to the extent of telling them what you are doing - never to suggest how they might do a better job. It is difficult to communicate with visitors when there is poor communications within the unit.

One way to overcome this is to establish an information office reporting to the Superintendent or Deputy. Its function would be (1) to see that all park units and concessionaires are kept informed of what each is doing - that there is a good exchange of information within the park; (2) to provide information to the Regional Office or Washington about the park that should be available regionally and nationally; (3) to operate a park information service for written or phone requests to the park; and (4) to see that visitors to the park are receiving the information they need and that various channels and techniques for communicating are kept open and improved.

A. Follow-up Actions

Continue to check on the communications media and methods covered in this project. Try some of the suggestions, then refine, adapt, or discard as proves appropriate. Many recommendations of this study are not fully developed. Some areas of concern, such as the shuttle, lent themselves to specific application of improvements during the study period. Many details remain to be worked out for resolving most concerns. The capable and knowledgeable Grand Canyon staff can build on and flesh out the suggestions made here.

One critical aspect in working out the details is the testing of improvements. For example, in this project, suggested improvements for the shuttle were tested and the signs used were modified after field-testing so that they were more appropriate to either management concerns or visitor needs. They are now part of the park's regular program.

Continue evaluating information services by updating the information inventory and conducting further visitor observations. Certainly, the data collected for this report is not exhaustive and more hours of observation should be quite revealing. The observations should be performed by park employees in daily contact with visitors. They have excellent insights and ideas; their comments are important sources of information.

The key word in this conclusion is continuing. This study is meant to be a stimulus and a model for pursuing the enhancement of visitor information services in Grand Canyon National Park.

We urge careful consideration of the specific concerns and recommendations that follow.

B. Summary of Concerns and Recommendations

<u>Park Radio</u>	<u>page</u>
Concerns: Lack of up-to-date information.....	4
Unappealing presentation.....	4
Transmission often inaudible.....	4
Recommendations: Computerize radio system.....	4
Consult with professionals.....	4
Check on transmissions.....	4
Provide a CB channel.....	5
 <u>Entrance Stations</u>	
Concerns: No comprehensive information handout.....	5
Park map difficult to follow.....	5
No after-hours information.....	5
Recommendations: Include 2 page map of entire	
park in GUIDE.....	5
Label sites on map with names.....	5
Provide handouts for after-hours visitors...	5

Road Signs

Concerns: Many signs vague, poorly located.....	5
No comprehensive signing system.....	6
Poor regional highway signing.....	6
Recommendations: Change or add specific signs.....	63
Develop signing system and fund special project to implement it.....	6
Cooperate with ADOT with USFS to improve regional signing.....	6

Visitor Center

Concerns: Use of unfamiliar terms.....	7
Limited opportunities for upgrading current self-help services.....	8
Recommendations: Develop and familiarize staff with a list of discouraged terms.....	8
Develop computerized information services.....	9

Yavapai Museum

Concerns: Little self-service information (NHA clerks provide the bulk of orientation information).....	10
Recommendations: Provide an outside information display (including foreign language assistance).....	12

Hermit's Rim

Concerns: "West Rim" term confusing.....	12
Bicyclists uninformed of rules.....	12
Little self-service information at the information booth.....	12
Recommendations: Use "Hermit's Rim" rather than "West Rim".....	12
Increase NPS visibility to bikers.....	12
Post map and information sheet on the booth.....	14

Desert View

Concerns: Lack of visitor orientation (misleading highway signs, low NPS visibility).....	14
Recommendations: Improve signing.....	14
Establish contact station.....	14
Provide self-help information board.....	14

Park Newspaper: Grand Canyon GUIDE

Concerns: Inadequate distribution.....	15
Little representation of Park management issues.....	16
Recommendations: Provide GUIDE free of charge or market it more visibly.....	15
Simplify front page to an index.....	15
Include more in-depth articles on park management issues.....	16

Naturalist Programs

- Concerns: Presentation of inaccurate/inappropriate information.....16
- Recommendations: Enhance training sessions.....19
- Establish better information exchange between divisions.....19

Mather Point

- Concerns: Inadequate orientation information.....19
- Recommendations: Upgrade and develop more self-help information (Information boards, GUIDEs)...20

Rim Footpaths

- Concerns: Inadequate signing between the Visitor Center, Mather Business Center, and campgrounds.....20
- Recommendations: Install directional signs on commonly used footpaths.....20

Campgrounds

- Concerns: Inadequate self-service information.....20
- Recommendations: Upgrade and develop information displays.....20

Concessions

Lodges, Restaurants, General Store

- Concerns: Inadequate self-service information (particularly lacking shuttle information).....21
- Recommendations: Develop information displays.....21

Guided Tours

- Concerns: Presentation of inaccurate/inappropriate information.....22
- Recommendations: Enhance training, coordinate with NPS.....22

Shuttle Service

- Concerns: Inadequate information about routes, stops, schedule, etc. at bus stops and in buses.....23
- Recommendations: Improve self-help information at stops and in buses.....23
- Enhance driver training.....26
- Improve coordination between NPS and concessions.....26

Backcountry Reservation Office

- Concerns: Pre-arrival audience uninformed of permit system.....30
- Recommendations: Distribute backcountry information.....30
- Establish better coordination between Backcountry and other divisions.....30

Trailheads

- Concerns: Inadequate information on trail safety.....31
- Recommendations: Develop displays with more appeal and foreign language assistance.....31
- Schedule staff to provide maximum amount of visitor contact.....31

North Rim

- Concerns: Incomplete park map in the GUIDE.....31
- Low NPS visibility (no contact station).....32
- Lack of backcountry information tailored to the area.....32
- Recommendations: Include a full page map in the GUIDE.....31
- Establish a separate contact station.....32
- Develop displays relevant to North Rim (particularly winter activities).....32

Pre-Arrival Audience

- Concerns: Inadequate pre-arrival information.....33
- Recommendations: Establish an Information Office.....33

REFERENCES

- Burch, W.R. 1974. Observation as a Technique for Recreation Research. In Land and Leisure Concepts. Maaroufa Press Series, Chicago.
- Downing, K. 1983. Naturalist Evaluation. Unpublished paper. University of Utah.
- Fazio G. and D. Gilbert. 1978. Public Relations and Communications for Natural Resource Managers.
- Grand Canyon National Park Lodges. 1985. Personal Interviews. Director and Assistant Director of Transportation.
- Madden, K. and K. Love. 1982. User Analysis: An Approach to Park Management. Am. Soc. Land. Arch., Wash., D.C.
- Murphy, J. 1980. Handbook of Radio Advertising. Chilton Book Co., Radnor, Penn.
- National Park Service. 1985a. Traffic Statistics Monthly Reports.
- National Park Service. 1985b. Interviews with Grand Canyon National Park Personnel.
- O'Brien, J. 1985. Personal Interview. Chief, Visitor Services, Grand Canyon National Park.
- Peine, J., C. Walker, P. Motts, and W. Hammitt. 1984. Evaluating Communications with Visitors to Great Smoky Mountains National Park. USDI, NPS, Res. Mgmt. Rept. Ser-75.
- Randall, R. and E. Haines. 1961. Bulletin Boards and Displays. Davis Pub., Worcester, Mass.
- Seehafer, G. and J. Laemmar. 1959. Successful Radio and Television Advertising. McGraw-Hill, New York.
- Sharpe, G. 1976. Interpreting the Environment. McGraw-Hill, New York.
- Solomonson, S., G. Haas, and D. Ross. 1984. Assessment of Visibility Impairment on Visitor Enjoyment and Utilization of Park Resources. Col. State Univ., Ft. Collins.
- Underhill, A.H. 1984. Grand Canyon National Park Visitors. Tech. Rept. no. 14, Coop. Natl. Park Res. Studies Unit, Univ. of Ariz., Tucson.
- Webb, E., E. Campbell, R. Schwartz and L. Sechrest. 1966. Unobtrusive Measures: Nonreactive Research in the Social Sciences. Rand McNally, Chicago.
- Whyte, A. 1977. Guidelines for Field Studies in Environmental Perception. MAB Tech. Note no. 5, UNESCO.

APPENDIX A -- INVENTORY OF INFORMATION SERVICES

The information services available at contact points in the park are described.

A. Automobile

1. Radio

- Messages: Fees -- Golden Age, Golden Eagle passes; Brief description of services in the Village -- Visitor Center, lodging, campgrounds, general store, clinic, GUIDES; warning to be prepared for long lines and parking problems. North Rim also has a radio broadcast. (available 24 hrs, but broadcast often can not be picked up)

2. Entrance Stations

- Staff -- Because of time limitations, staff at the entrance generally provide minimal assistance.
- Handouts: Map -- locations of common destination points in the Village and Desert View, brief list of services, important phone numbers (Figures 1A & 2A); "Grand Canyon: A Park For All Seasons" suggests activities appropriate for different amounts of time visitors may wish to spend in the park (Figures 3A & 4A); Camping options in the Grand Canyon area (given upon request -- Figure 5A). North Rim distributes GUIDES at no charge (map on back)
- Sign on the booth -- indicates availability of accommodations. (Hours 8:00 a.m. - 5 p.m. (Sign is posted 24 hrs.))

3. Road Signs -- see Appendix C

B. Official NPS Information Stations

1. Visitor Center

- Staff -- includes NPS information desk and NHA sales desk. Because of the Visitor Center's intended role as the primary orientation area, staff at the information desk are equipped with a substantial amount of source material, including an index file of answers to common questions.
- Handouts -- accommodations; hiking brochures (French, German); foreign language general brochure (French, German, Spanish; river companies, handicapped access, park map -- same as available at entrance stations.
- NHA publications -- a full list of publications is not included here (it can be found in the park's annual Visitor Services and Interpretation Report), but the visitor can find materials ranging from travel brochures to technical geology references.
- Exhibits -- dioramas depicting cultural history and life zones of the park; special photographic and art displays.
- Boat displays and historical background of river running.
- Orientation slide shows (2 -- one focuses on activities in the park and the other on natural and cultural history of the area).

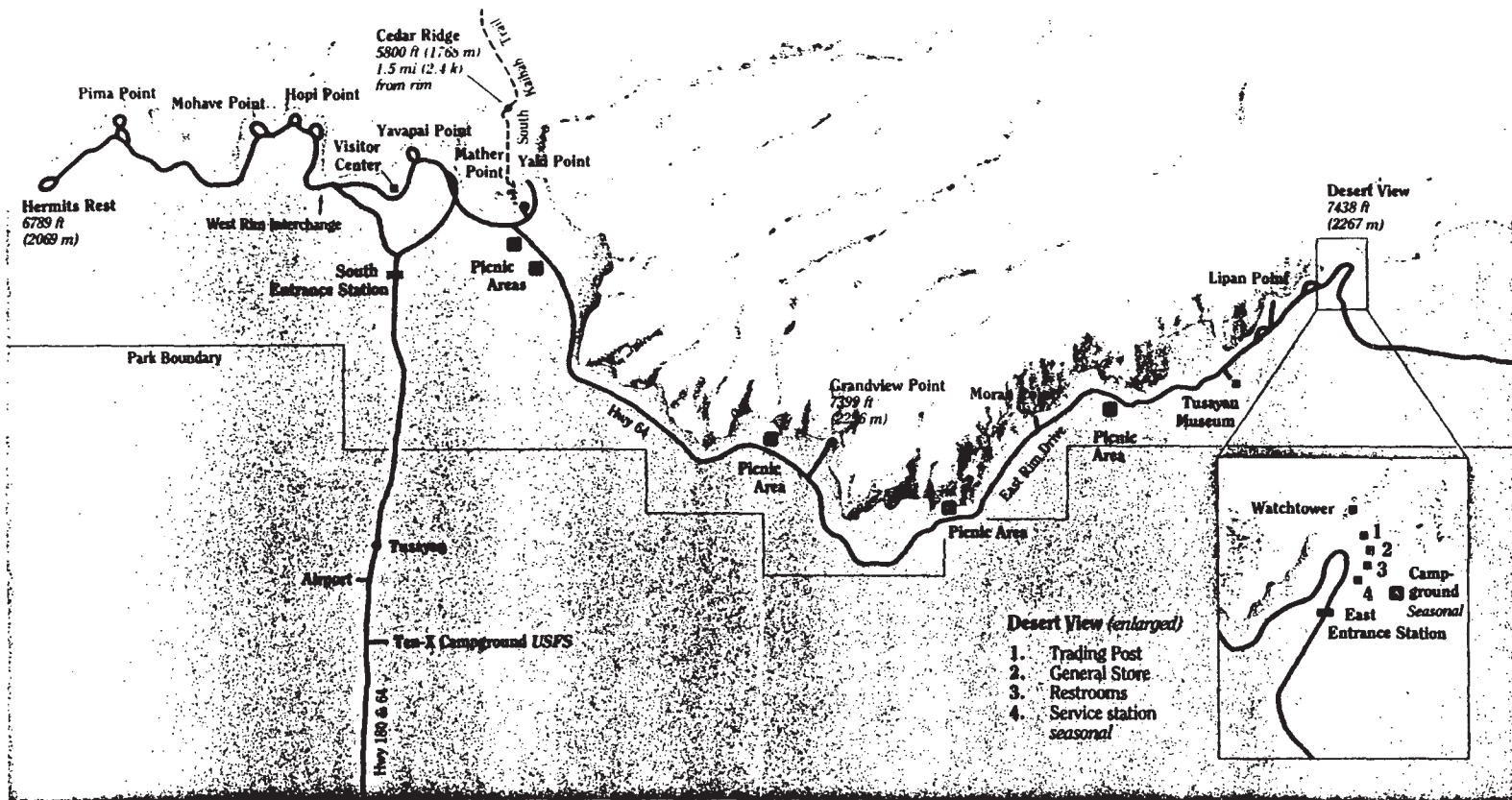


Figure 1A. South Rim Map

Grand Canyon National Park

South Rim

CAMPING—In Campgrounds Only

Backcountry permit required for overnight use below rim.

Always carry water when hiking into Canyon.

Please do *not* collect firewood.

Grand Canyon National Park

National Park Service Visitor Activities and Programs (recorded message) 638-9304

Weather and Park Information (recorded message) 638-2245

The Grand Canyon Guide—visitor information on interpretive programs, lodging and other facilities within the park. Available at the Visitor Center.

Emergency 638-2477

Clinic 638-2551. If no answer call Park Headquarters 638-7888

Grand Canyon National Park Lodges

Lodging 638-2631 (same day reservations) or 602-638-2401 (advance reservations)

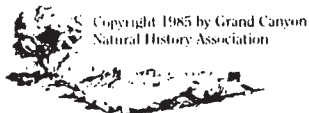
Transportation Desk (Bright Angel Lodge front lobby) 638-2631. Reservations for mule rides, bus tours, Phantom Ranch meals and lodging, and taxi.

Tusayan

(7 miles south of Grand Canyon Village)

Services available

Camping	Theater
Restaurants	Airport
Air Tours	Lodging
Propane	Groceries
Service Stations	Souvenirs
Diesel Fuel	Car Rental
Gasoline	
Horseback Riding (seasonal)	



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Grand Canyon National Park South Rim Village

6860 ft (2091 m)

- | Roads | Buildings | Foot Trails |
|---|---|-------------|
| 1. Visitor Center, National Park Service; Information, Restrooms, Exhibits, Orientation Program | 2. Mather Amphitheater | |
| 3. Navajo Museum, Restrooms | 4. Service Station | |
| 5. Navajo Lodge & Cafeteria (seasonal) | 6. Mather Center, U.S. Post Office, General Store, Bank, Parking, Restrooms | |
| 7. Shrine of the Ages Building | 8. Public Garage | |
| 9. Historic Railroad Station | 10. Verkamp's (souvenirs) | |
| 11. Hopi House (souvenirs) | 12. El Tovar Hotel & Dining Room | |
| 13. Kachina Lodge | 14. Thunderbird Lodge | |
| 15. Bright Angel Lodge & Restaurant | 16. Kolb Studio | |
| 17. Kermode | 18. Maswik Lodge & Cafeteria | |
| | 19. Community Building | |
| | 20. Ranger Office | |
| | 21. Abright Framing Center | |
| | 22. Clinic & Pharmacy | |
| | 23. R.V. Waste Disposal Station | |
| | 24. Backcountry Reservation Office (Backcountry Permits) | |
| | 25. Sage Loop Campfire Circle | |

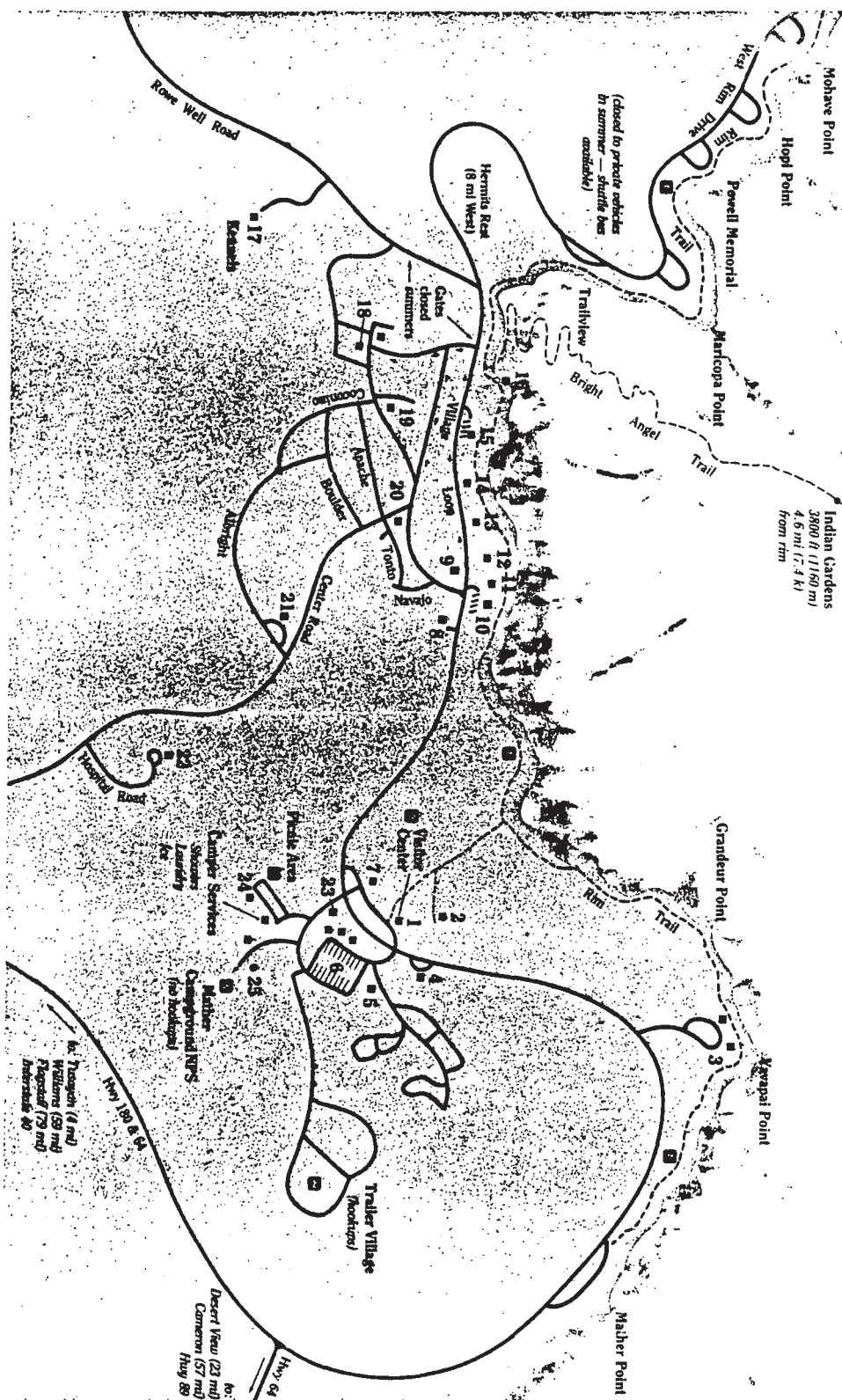


Figure 2A. South Rim Village Map

GRAND CANYON

A Park For All Seasons

With so much to see and do, careful planning will help you enjoy your visit to Grand Canyon National Park.

If You Have Only Two or Three Hours:

- Start at the Visitor Center and explore the exhibits that trace the natural and human histories of the Grand Canyon. Check at the desk for literature and for talks that may be scheduled during your visit.
 - Consider a visit to the Yavapai Museum (No. 9 on the map), located about a mile east of the Visitor Center. To get there, you can walk, drive, or take a free shuttle bus during the summer months.
-

If You Have a Half-Day to Spend:

- In addition to the areas already described, consider visiting some of the spectacular overlooks along the West Rim Drive. This road follows the canyon rim for approximately 8 miles from Bright Angel Lodge to Hermits Rest (numbers 1 through 8 on the map). Shuttle buses serve the area on a regular schedule from Memorial Day through Labor Day, when other vehicles are not permitted. Points of interest are (1) Hermits Rest, (2) Pima Point, (3) Mohave Point, (4) Hopi Point, (5) Powell Memorial, (6) Maricopa Point, and (7) Trail View. From the West Rim you'll have a good view of the mighty Colorado River—especially from Hopi and Pima Points.
 - Another half-day schedule to consider is a leisurely walk along any portion of the self-guiding Rim Trail. People of all ages can enjoy this walk. The nearly level trail is 10 miles long, running from Mather Point (10) to Hermits Rest (1). The only steep section of trail exists between the Bright Angel Lodge and Trail View. The Canyon Shuttle Bus stops at all major points (1 through 10) in season; so you can alternate riding with walking, as desired. Trail brochures for the self-guiding portion of the trail are available from leaflet boxes just outside the Visitor Center, Yavapai Museum, and Verkamps Curio Shop.
-

If You Have a Full Day to Discover and Explore, You May Want to Add Some of the Following Activities to Those Already Suggested:

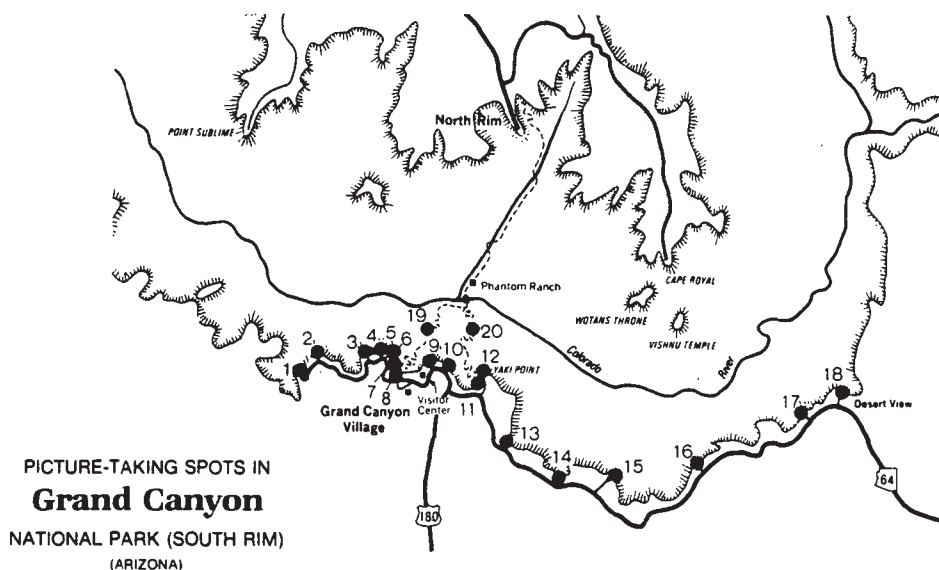
- Take a ride along the scenic East Rim Drive to Desert View (18) at the east entrance of the park (25 miles—45 minutes). Points of interest include (12) Yaki Point, (13) Duck on the Rock, (14) Thor's Hammer, (15) Grandview Point, (16) Moran Point, and (17) Lipan Point. Tusayan Museum is located about 3 miles before Desert View. Here you'll see displays and ruins that show the lifestyle of those who lived here 800 years ago. At Desert View you'll enjoy spectacular views of the Canyon, the Colorado River, and the Painted Desert. The Watchtower is also a popular attraction.
- Attend a National Park Service Evening Program in the Grand Canyon Village (year around) or at Desert View (summer only). Information is available at the Visitor Center or Tusayan Museum.
- A variety of hiking trails are available along the rim and into the canyon that will allow you to better enjoy and appreciate the real significance of the park. The Bright Angel and South Kaibab Trails are recommended. Check at the Visitor Center for further information on canyon hiking.

Figure 3A. Grand Canyon - A Park For All Seasons

If You Plan to Visit for Several Days, You Might Want to:

- Plan a backpacking trip within the canyon. Overnight camping permits are required. Permits can be obtained at the Backcountry Reservation Office. Hiking equipment can be rented spring through fall.
- Daytime and overnight mule trips are available; however, reservations usually need to be made several months in advance for summer trips. Winter trips (weather permitting) can require little or no advance arrangements. Check at the Bright Angel Lodge Transportation Desk for information and reservations.
- In summer, Colorado River Float Trips of 3 or more days are available, but require reservations well in advance. More information is available at the Visitor Center.
- Commercial bus and scenic air tours are also available.
- See the sunrise or sunset on the canyon rim. Suggested locations include Pima Point (2), Hopi Point (4), Yavapai Point (9), Yaki Point (12), and Lipan Point (17).

No matter how long you visit Grand Canyon, remember, be sure to have a camera and a plentiful supply of film on hand to record your activities and to capture the colors, moods, and constantly changing lighting in pictures as mementos of your visit. Also, it's through your thoughtfulness that future generations will enjoy the spectacular grandeur of the park. Please be considerate and obey all the rules set forth by the National Park Service.



- | | |
|--------------------------|--------------------------|
| 1. Hermits Rest | 11. Head of Kaibab Trail |
| 2. Pima Point | 12. Yaki Point |
| 3. Mohave Point | 13. Duck on the Rock |
| 4. Hopi Point | 14. Thor's Hammer |
| 5. Powell Memorial | 15. Grandview Point |
| 6. Maricopa Point | 16. Moran Point |
| 7. Trail View | 17. Lipan Point |
| 8. Bright Angel Overlook | 18. Desert View |
| 9. Yavapai Point | 19. Bright Angel Trail |
| 10. Mather Point | 20. Kaibab Trail |



PREPARED AS A PUBLIC SERVICE BY EASTMAN KODAK COMPANY

**Figure 4A. Grand Canyon - A Park
For All Seasons (reverse)**

NATIONAL PARK SERVICE
GRAND CANYON NATIONAL PARK
CAMPING INFORMATION
For 1984 & 1985

CAMPGROUND	LOCATION	FEE	RESERVATIONS	SEASON
MATHER (Family sites only -- NO GROUPS) NO HOOKUPS	South Rim - 1/2 mile back from rim	\$6 per night per site and additional reservation fee for each period reserved up to seven (7) days	Reservations may be made eight (8) weeks in advance through Ticketron outlets nationwide. If no outlets are available in your area, you may write to MATHER CAMPGROUND, National Park Service, Box 129, Grand Canyon, AZ 86023 for information or reservation forms which will be returned to you and must be filled out with enclosed payment and sent to the address on the form. A ticket will be sent to you by return mail which must be in your possession when you arrive at Mather Campground. TELEPHONE RESERVATIONS NOT ACCEPTED. From Oct 1 to May 15, Mather Campground is operated on a first-come, first-served basis. MAIL TO: GROUP RESERVATIONS, MATHER CAMPGROUND, Grand Canyon National Park, Grand Canyon, AZ 86023. If vacancies available, also on first-come, first-served basis. Organized groups of six (6) or more people with sponsorship or charter of recognition and credibility. Try to rendezvous outside of campground and all enter at once. Limit vehicles (3 medium), as some may have to be parked outside.	Summer months
MATHER (Group sites)	South Rim - 1/2 mile back from rim	\$2.00 per person, per night	NONE. First-come, first-served only.	WINTER months
DESERT VIEW NO HOOKUPS	25 miles east of Grand Canyon Village	\$5 per night. per site	NONE. First-come, first-served only.	May 1 to October
NORTH RIM (Individual) NO HOOKUPS	On rim (Bright Angel Point)	\$6 per night per site.	NONE. First-come, first-served only.	May 15 to October
NORTH RIM (Group sites)	On rim (Bright Angel Point)	\$2 per person, per night.	BY MAIL ONLY. Mail to: GROUP RESERVATIONS, NORTH RIM, Grand Canyon National Park, Grand Canyon, AZ 86023. Organized groups of six (6) or more people with sponsorship or charter of recognition and credibility	May 15 to October
INNER CANYON (BACKCOUNTRY)	Below Rims (Foot Access Only)	No fee REQUIRED	(Permit BY MAIL: Write to BACKCOUNTRY RESERVATIONS, P.O. Box 129, Grand Canyon, AZ 86023. BY PHONE: (For Information Only) (602) 638-2474 (11-5 M-F MST)	
MULE RIDE RESERVATIONS,	Below Rims	FEE	BY MAIL: Fred Harvey, Inc., Reservation Office, Grand Canyon, AZ 86023 BY PHONE: (602) 638-2401	
PHANTOM RANCH RES. TRAILER VILLAGE--South Rim--1/2 mile back from rim (WITH HOOKUPS)		FEE	BY MAIL: Fred Harvey Inc., Reservations Office, Grand Canyon, AZ 86023 (602) 638-2401	

8766TC

- Self-Service information displays -- 1) letter board above the information desk with list of services, including tours, restaurants, and accommodations; 2) detailed information about activities and accommodations in the park (display case on north wall of the Visitor Center; 3) shuttle display -- routes, times, stops, instructions (located between two glass partitions at the entrance to the visitor center); 4) wall map of the park; 5) schedule of naturalist programs (2 -- one inside and one outside the building).
- Grand Canyon GUIDES (open newspaper rack).
- Lobby phone -- visitors can contact lodges free of charge.
- Phone message -- recorded listing of naturalist programs, times, and locations (24 hrs).
- After-hours display placed at the door to the Visitor Center so visitors can read it. It contains information on the evening program, BRO, and availability of accommodations.
(Hours: summer -- 8 a.m. - 8 p.m.; winter -- 8 a.m. - 5 p.m.)

2. Yavapai Museum

- Staff -- includes NHA sales clerks and roving interpreters.
- Handouts -- park map; river companies; foreign language general brochures (French, German, Spanish).
- NHA publications -- similar stock to that in Visitor Center, though not quite as extensive.
- Exhibits -- fossils, geologic time clock, formation of the canyon, maps and legends of sites in the canyon (coordinated with window panorama), rocks.
- Video (no audio) -- cartoon depicting formation and dimensions of the canyon.
- Signs -- schedule of programs at the museum (3 signs); announcement board with evening program, weather conditions, and other messages (changed daily).
- GUIDES (open newspaper rack).
(Hours: summer -- 8 a.m. - 8 p.m.; winter -- 9 a.m. - 5 p.m.)

3. Hermit's Rim Information Booth

- Staff -- primarily to answer questions about the shuttle. (Available Memorial Day to Labor Day, 8 a.m. - 6 p.m.)
- Handouts -- map indicating viewpoints along the drive and mileages between points; West Rim Nature Guide; South Rim Day Hikes; Hiking The Bright Angel (German); general park brochure (German); handicapped access; river companies (all handouts are available when staff on duty, in limited supply, and distributed only upon request).
- Sign -- a schedule of naturalist programs at the interchange and at viewpoints along the road is posted on the booth.
- GUIDES (open newspaper rack).

When the shuttle is not operating and the booth is closed, the only information available at the interchange consists of two signs on the Rim that describe the history of the road.

4. Desert View Information Booth

- Staff (scheduled hours for the summer are 8 a.m. - 5 p.m., but occasionally no one is available to staff the station during these hours).
- Signs -- description of accommodations in the park vicinity; schedule of programs at Desert View.
- GUIDEs (open newspaper rack).

5. Tusayan Museum

- Staff (Hours: summer -- 7:30 - 6:30; winter -- 9 - 4:30)
- Displays -- information on historical and current Indian culture.
- Ruins Trail -- self-guiding tour of ancient village.
- Sign -- Schedule of programs at the Museum.
- GUIDEs (open newspaper rack).

6. Grand Lodge Information Desk (North Rim)

- NPS staff -- from mid-May to mid-October the information desk is open from 8 a.m. to 7 p.m. daily.
- NHA publications.
- Signs -- descriptions of interpretive activities and guided tours (concessions); church directory.

C. Naturalist Programs

The following programs were offered during the summer of 1985:

Canyon Talks (Yavapai Museum, Visitor Center) -- 15 min (9)*
Early Morning Rim Walk (Interchange) -- one hour (1)
Cedar Ridge Hike -- 3 1/2 hours
Geology Walk (Yavapai Museum) -- one hour (2)
Trailview Talk -- 20 min (2)
Maricopa Geology Talk -- 20 min (3)
Mohave River Talk -- 20 min (3)
Fossil Hunt (Interchange) -- one hour (1)
Geology Talk (Yavapai Museum) -- 20 min (3)
Rim Walk -- 1 1/2 hours (3)
Sharing Nature with Children (Mather Amphitheater) -- 1.5 hours (1)
Daily Special -- 1 1/2 hours (2)
Kaibab Trail Geology Hike -- two hours (1)
Evening Program -- 1 1/2 hours (10)
Photographic Talks -- various (given by Kodak representative) (2)
Hopi Sunset Talk -- 20 min.
Sage Loop Campfire Program -- one hour

* Numbers in parenthesis indicate the number of times the program was observed for this study.

D. Scenic Viewpoints

1. Mather Point

- Staff -- roving interpreters stop at Mather Point on an irregular basis, usually in the afternoon on their way to the Kaibab Trail Hike.

- Signs -- Statistics on the Grand Canyon and Colorado River; Dimensions of the Canyon and the River, description of rock layers; Orientation map -- identification of major scenic viewpoints, list of services available at Tusayan, Desert View, and Hermit's Rest, enlargement of Village area (lettering on the map is deteriorating). (Available 24 hrs)

Interpretive sign displays are located at the following viewpoints:

Desert View Point, Lipan, Moran, Grandview, Duck on a Rock, Yaki Point, S. Kaibab Trailhead, Mather Point, Yavapai Point, Rim Trail (between Bright Angel Lodge and Yavapai Museum), Hermit's Rim Interchange, Trailview 1, Powell Memorial, Pima Point, Hermit's Rest, Cape Royal, Point Imperial, Walhalla Point.

E. Rim Footpaths

- Signs -- Orientation signs: Visitor Center parking lot -- distances to general store, Yavapai Lodge, campgrounds; Rim Trail -- orientation map at Verkamps, Visitor Center (near parking lot), and Yavapai Museum; Rim Trail intersection with Visitor Center path -- distances to Verkamps, Yavapai Museum and Visitor Center.
- North Rim -- Signs leading to Bright Angel Point and Transept Trail; Cape Royal Nature Walk -- self-guiding interpretive signs.
- Pamphlets -- self-guiding trail guides: Life On the Rim (vegetation and wildlife), Geology of the Grand Canyon, West Rim Nature Walk, Tusayan, Bright Angel Point, Cape Royal, Point Imperial (all 25 cents).

F. Campgrounds

1. Mather Campground

- Staff.
- Handouts -- campground rules; camping options in the park vicinity (Figure 5A and 6A).
- Bulletin board (on the ranger station) -- handwritten notices about the shuttle schedule, a few ranger programs, and hours of operation for the showers, laundromat, general store, and BRO; excerpts from foreign language brochures (German); church directory.
- Signs: [Quiet Hours], [No Collecting Firewood], Sage Loop Campfire Program.

2. Trailer Village

- Staff.
- Signs in the registration office -- campground rules; notices about helicopter and bus tours, Imax, movies, and church services; map of shuttle stops.
- Handouts -- park map (designed by Grand Canyon National Park Lodges).

3. North Rim Campground

- Signs -- instructions for self-service registration; schedule of naturalist programs; campground rules.

NOTICE TO CAMPERS

We are sorry, but all the campsites on the South Rim of Grand Canyon National Park are FULL. Camping is NOT permitted at any other location within the park. All available camping areas are outside of the park boundary.

The following campgrounds are available outside the park:

SOUTH

1. Seven (7) miles south, on the left (east) side of Highway 64, GRAND CANYON CAMPER VILLAGE. Restroom facilities, showers, groceries, ice, curio shop, and firewood. Open year-round. Telephone (602) 638-2887.
2. Ten (10) miles south on the left side of Highway 64, TEN-X CAMPGROUND, a Kaibab National Forest facility. Chemical toilets, water. No reservations. Open May 1st through November 1st. 70 sites. Roadside camping along Highway 64 is prohibited. USFS (602) 638-2443.
3. Twenty-seven (27) miles south, just north of Junction Hwy. 180/64, on the left (east) side of the highway, CAMPO DEL ARROYO GRANDE. Electrical hookups, groceries, ice and complete restroom facilities with hot showers. Open approximately February to November. Telephone (602) 635-4513.
4. Twenty-eight (28) miles south at the junction of Hwy 180/64, on the right (west) side of the highway, FLINTSTONES BEDROCK CITY. Electrical hookups, restrooms, hot showers, curio shop, restaurant, groceries and ice. Open April 1st through October 31st. Telephone (602) 635-2600.
5. Twenty-eight (28) miles south at the junction of Hwy. 180/64, CANYON GIFTS, on the right (west) side of the road, next to the VALLE MOTEL. Restrooms, gas station, restaurant, and curio shop. Telephone (602) 635-9343.
6. Fifty-two (52) miles south on Highway 64, KOA CAMPGROUND. Full services. Open March 1st to November 1st.
7. Fifty-six (56) miles south on Highway 64, KAIBAB LAKE CAMPGROUND. A Kaibab National Forest facility. Chemical toilets, no water. 59 sites, open May 1st through October.
8. Sixty (60) miles south, one mile east of Highway 64 on I-40 (take exit 167), CIRCLE PINES CAMPERLAND. Full hookups, showers, restrooms, laundry, groceries and ice. Open approximately April to November, 120 sites. Telephone (602) 635-2121.

EAST

1. Fifty-eight (58) miles east, one (1) mile north of Junction Hwy. 64/89, on Highway 89, CAMERON MOTEL. Full hookups, no restrooms or showers, no tents. 10 sites, open year-round. Telephone (602) 679-2261.
2. Fifty-seven (57) miles east, one (1) mile south of Junction Hwy. 64/89, on Highway 89, CAMERON TEXACO. Restrooms, no showers, open year-round. Telephone (602) 679-2281.

Additional camping is available in Williams (60 miles south) or in Flagstaff (80 miles southeast).

VA6468

Figure 6A. Notice to Campers

G. Concessions

1. Lodges

- Staff -- (hours variable) transportation and lodge registration desks.
- Signs -- tour schedules, restaurant facilities.
- GUIDEs (Maswik, Bright Angel, and Yavapai -- newspaper vending machines).
- Park map published by Grand Canyon National Park Lodges (Figures 7A and 8A).

2. Gift Shops and Restaurants

- Staff -- hours variable.

3. General Store

- Staff (hours: summer 8 a.m. to 8 p.m.)
- Outside displays -- hiking safety, water, sales display.
- Sign -- two-sided bulletin board -- community announcements and personal messages (located in front of the post office); schedule of naturalist programs (one sign at front door to the store and one at the bulletin board).
- GUIDEs (newspaper vending machines).

4. Guided Tours

- Grand Canyon National Park Lodges offers bus tours (Desert View, Hermit's Rest, Sunset) and mule trips.

5. North Rim Concessions

- Staff -- grocery store, gift shop.
- Signs -- description of naturalist programs at the gift shop and shower building.
- Guided mule and horse trips.
- Grand Lodge -- tour and registration desks

H. Shuttle

1. Bus Stops

- Map -- bus stops in Village and along Hermit's Rest, operating hours.

2. Inside the Buses

- Drivers and P. A. system.
- Map -- bus stops.

I. Backcountry Reservation Office

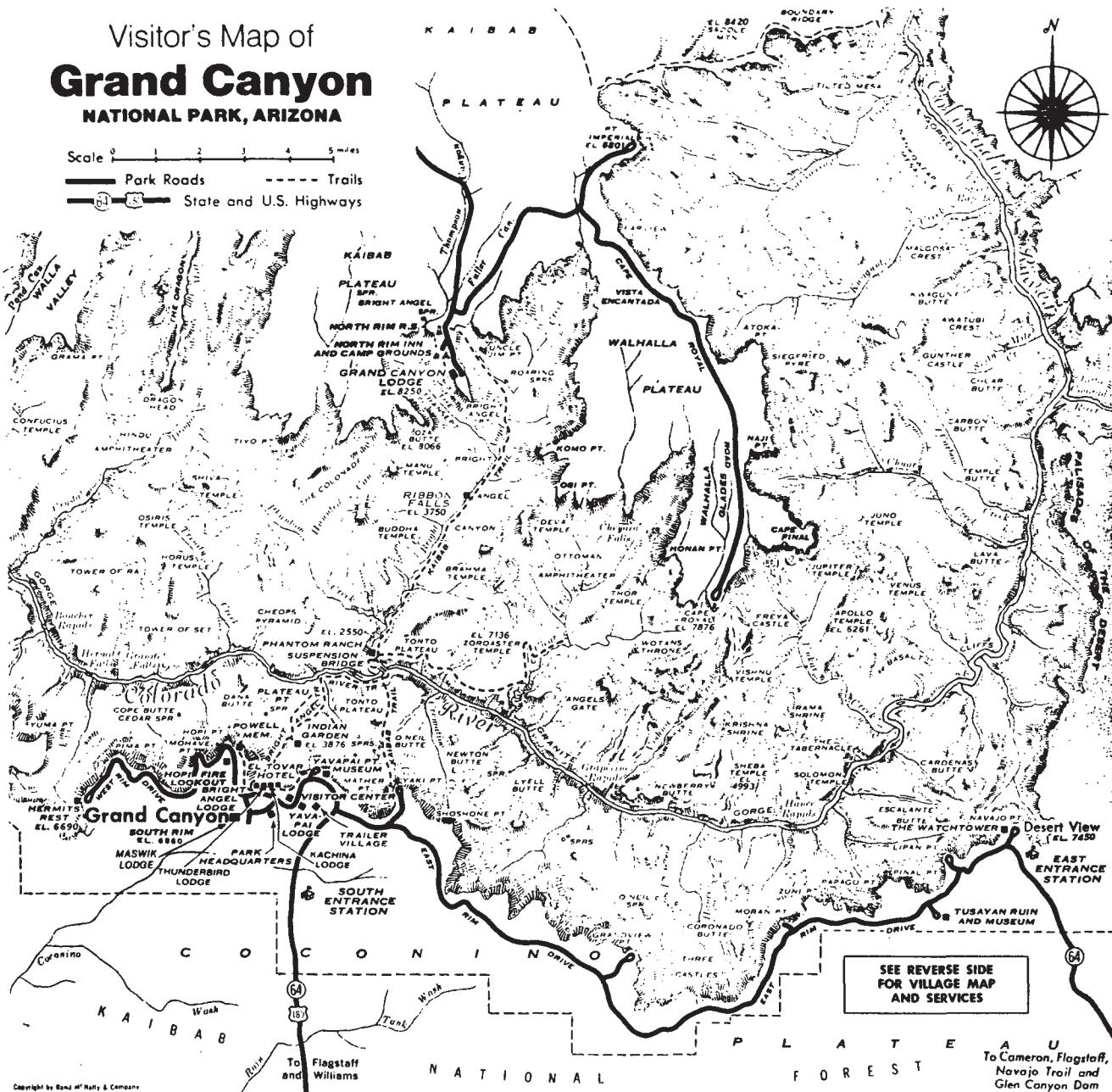
- Staff -- desk duty and daily (morning) orientation talks on rules and safety (hours: 8 a.m. - 12 p.m., 1 p.m. - 5 p.m.)
- Handouts -- trip planners -- map, rules, safety, reservation request form; day hikes (Fr and German); river
- Displays -- maps (routes, water sources), scenic photos, backcountry rules and safety.
- The North Rim backcountry office is a scaled-down version of that on the South Rim (smaller version of board displays, one staff person, hours: 7 a.m. - 11 a.m., 4 p.m. - 5 p.m.)

Visitor's Map of Grand Canyon NATIONAL PARK, ARIZONA

Scale 0 1 2 3 4 5 miles

— Park Roads — Trails

— State and U.S. Highways



Grand Canyon NATIONAL PARK, ARIZONA

The first non-Native American to discover the Grand Canyon of Arizona was Don Lopez de Cardenas, a captain in Coronado's expedition, in 1540.

It was made a National Monument in 1908 and became a National Park in 1919. It has an area of over 1,900 square miles, is about 190 miles long, and contains 277 miles of the Colorado River.

The Grand Canyon is probably the world's most spectacular example of the power of erosion — a chasm 277 miles long (measured by river course) and up to 18 miles wide. The Canyon bottom below Yavapai Point is 2,400 feet above sea level, 4,500 feet below the South Rim and 5,400 feet below the North Rim — making an average depth of about one mile.

The Canyon is cut into a low, rounded mountain, called the Kaibab Plateau. As the rock walls break down, the chasm gradually widens. Scientists estimate that it has taken from three to six million years to cut the Grand Canyon. The work is by no means finished. The powerful forces of the rushing river, of rain, snow, heat, frost and wind are still sculpting the fantastic shapes of precipitous bluffs and towering buttes.

The Colorado River is one of the great river systems in the United States (over 1,400 miles long), and the area it drains totals nearly 12% of the United States. At the river gauging station near the Kaibab Suspension Bridge in Grand Canyon, the river averages 300 feet in width, is up to 100 feet deep, and flows at an average speed of 4 miles an hour. Prior to the completion of Glen Canyon Dam, the river carried an average of nearly one-half million tons of suspended sand and silt through the Grand Canyon every twenty-four hours. The Colorado River flows west through the Grand Canyon, later bends to the south and empties into the Gulf of California in Mexico.

Six of the seven climatic belts recognized throughout the world are represented in the Grand Canyon region. They vary from that of Mexican desert at the Canyon bottom to the Arctic-Alpine type of the San Francisco peaks.

Animal life in the Grand Canyon region includes about 70 species of mammals, 250 species of birds, 25 reptiles and 5 amphibians. During the growing season, both rims and canyon slopes are covered with a great variety of wild flowers.

The finest and most spectacular views of the Grand Canyon are obtained from the inner-canyon trails which the National Park Service has literally carved out of the sides of the cliffs.

Many hundred small ruins of ancient Indian pueblos have been discovered in the Canyon and on the rims. Five Indian tribes live in the region today: the Hopi, Navajo, Havasupai, Paiute, and Hualapai.

THINGS TO SEE AND DO AT GRAND CANYON:

The Grand Canyon Rim Drive: A 70-mile round-trip conducted sight-seeing trip in motor coaches along the South Rim offers startling views into various sections of the Canyon. The morning trip over the West Rim Drive includes Trail View, Hopi and Pima Points and leads to Hermit's Rest, a unique cliff house with observation lounge and porch. The afternoon trip over the East Rim Drive to Yavapai Point Museum, Moran Point and Lipan Point reaches its climax at Desert View, where the Watchtower offers an unsurpassed view of the Grand Canyon, the Painted Desert and Kaibab National Forest.

Trail Trips into the Canyon: These conducted trips on mule-back provide the most intimate and awe-inspiring views and should not be missed by able-bodied visitors. Daily one-day trips to Plateau Point and two-day trips to Phantom Ranch (a unique resort providing all facilities for a comfortable stay in the bottom of the Canyon) are offered.

Illustrated talks are given every summer evening at Mather Amphitheater. They deal with human history, natural history, geology, and the seasons. See bulletin boards for schedules.

Other Points of Interest: Lookout Studio near Bright Angel Lodge; the Visitor Center between Yavapai Point and the Village (Canyon exhibits and orientation help; no admission fee); Yavapai Point Museum (observation station); Tusayan Museum and Ruin near Desert View (Museum open in summer, self-guiding trail through ruin open all year).

Hotel, Lodges and Cabins on the South Rim: El Tovar Hotel, Bright Angel Lodge, Thunderbird Lodge, Kachina Lodge, Yavapai Lodge, and Maswik Lodge—all under Fred Harvey Management.

South Rim Open All Year!

HOSPITALITY BY *Fred Harvey* AN *AMFAC* COMPANY
No. 25 - Rev. 1985

Figure 7A. Visitor's Map of Grand Canyon (Fred Harvey)



Grand Canyon NATIONAL PARK LODGES

ROOM ACCOMMODATIONS

Bright Angel Lodge
El Tovar Hotel
Kachina Lodge
Thunderbird Lodge
Yavapai Lodge
Maswik Lodge
Trailer Village (RVs)

FOOD FACILITIES

Bright Angel Lodge
Cocktail Lounge
Coffee Shop
Steak House
Fountain
El Tovar Hotel
Cocktail Lounge
Dining Room
Maswik Lodge
Cocktail Lounge
Cafeteria
Yavapai Lodge
Cocktail Lounge/Dancing
Cafeteria
Fast Food

TRANSPORTATION SERVICES

Transportation Desks located at
Bright Angel, Maswik & Yavapai
Lodges

Coach Trips
West Rim to Hermit's Rest
Smooth Water Flat Trip
Monument Valley Expedition
East Rim to Desert View
Indianland Tours

Mule Trips (Bright Angel)
Transportation Desk Only
One Day to Plateau Point
Two Day to Phantom Ranch

Scenic Airplane Tours
Scenic Helicopter Tours
Private Car Tours
Taxi Service

GIFTS AND CURIOS

Bright Angel Lodge
Desert View
El Tovar Hotel
Hermit's Rest
Maswik Lodge
Lookout Studio
Maswik Lodge
Yavapai Lodge

OTHER FACILITIES

Movie Theater (Community Building)
Laundry (Camping Service)
Meeting & Banquet Rooms
Public Showers (Camping Service)
Bicycle & Crated Cars
Beauty & Barber Shop (Bright Angel)
Western Union Agent
Service Station (Desert View)

*Open subject to seasonal
business demands
**Available 8:00 AM - 4:00 PM
***Check at hotel desks for
show times

Village and Vicinity Map

SERVICES - SOUTH RIM

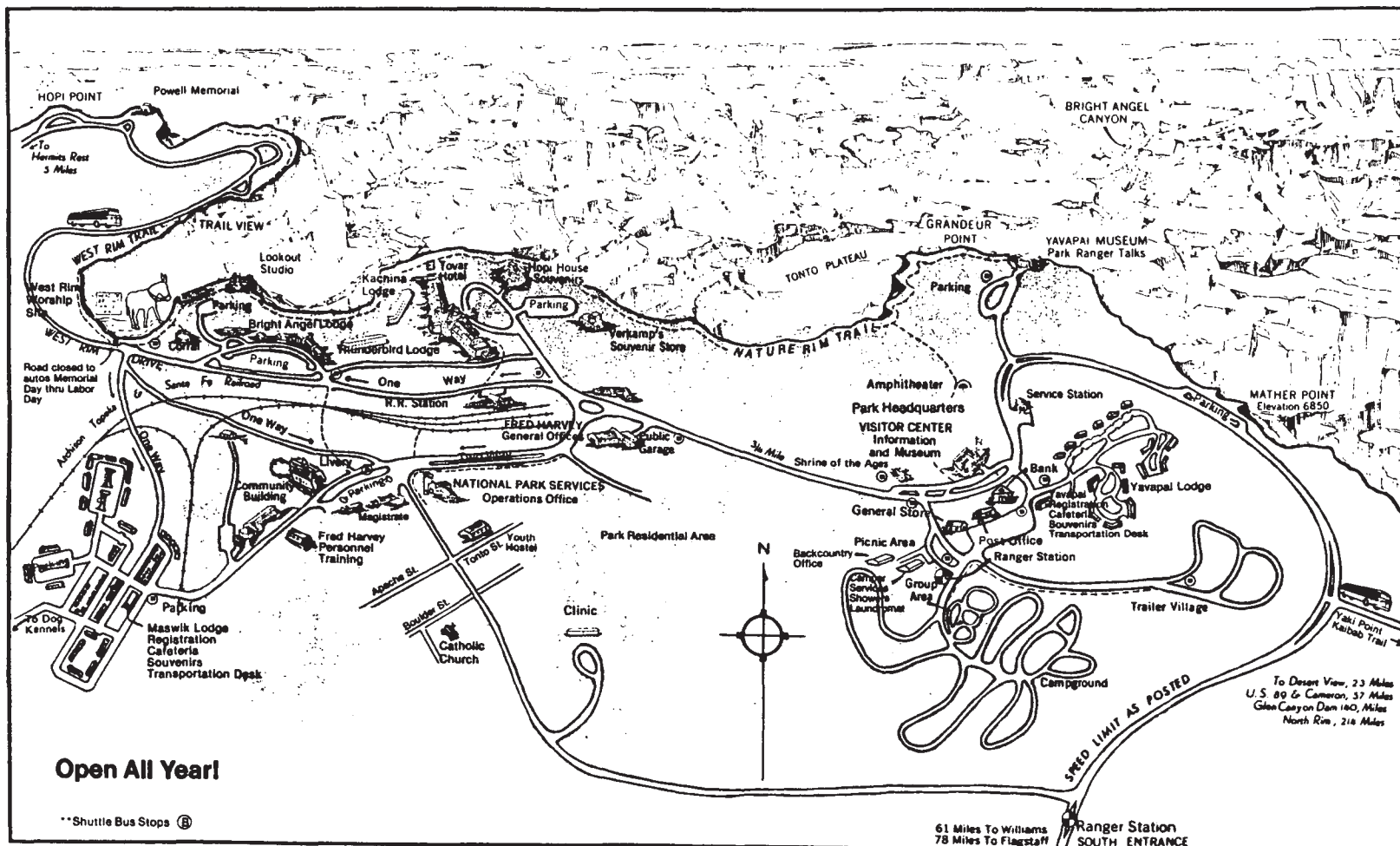


Figure 8A. Visitor's Map of
Grand Canyon (FH) (reverse)

APPENDIX B -- VISITOR OBSERVATIONS: DATA SUMMARY

recorded from obtrusive observations and visitor interviews (p. 3)

Table 1B. Vehicles With Citizen Band Radios

Site	Date	Time	Total * # Vehicles	# Vehicles w/ CB Antennae	# RV's w/ CB's
Mather Point (includes eastbound and westbound vehicles)	7-5-85	9:45 - 10:45 a.m.	569	136	115
South Entrance (northbound vehicles)	7-10-85	5:00 - 6:00 p.m.	145	16	12
South Entrance (northbound vehicles)	7-12-85	5:15 - 6:15 p.m.	167	26	21
South Entrance (northbound vehicles))	7-13-85	5:30 - 6:30 p.m.	130	36	28
South Entrance (northbound vehicles)	7-14-85	5:00 - 6:00 p.m.	138	12	10
Total			1149	226	186

% of vehicles with CB's = 19.7%

% of vehicles with CB's that are RV's = 82.3%

Table 2B. Driver Behavior at Selected Road Locations

Site*	Date	Time	Total # Vehicles	# Confused** Drivers
Intersection at Shrine and road to Mather Campground (1) (northbound drivers)	6-4-85	9:00 - 10:00 a.m. 1:00 - 2:00 p.m.	273	98 (36%)
Loop Drive between El Tovar & Br. Angel (2)	6-5-85	10:00 - 11:00 a.m. 12:00 - 1:00 p.m.	298	184 (62%)
Intersection at Loop Drive & Navajo (eastbound drivers, before shoulder stripe painted)	6-6-85	11:00 - 12:00 p.m. 2:00 - 3:00 p.m.	396	284 (61%)
(eastbound drivers, after shoulder stripe painted)	8-2-85	10:00 - 11:00 a.m. 12:00 - 1:00 p.m.	432	58 (13%)

* Sites are identified in Figure 1B

** "confusion" includes when drivers hesitate, slow down, brake quickly, look at map, make illegal/unsafe maneuvers.

Figure 1B. Sites for Driver Observation

Table 3B. Visitor use of self-service displays in the Visitor Center

Display	Date	Time	# Visitors Consulting		
			Entering	Display	Desk

Bulletin Board					
(glass case, north wall)	6-18-85	1:00 - 2:00 p.m.		96	2
	6-19-85	10:30 a.m. - 12:00 p.m.		194	9
	7-27-85	2:00 - 3:00 p.m.	210	82	3
	7-31-85	3:00 - 4:00 p.m.	261	95	5
	8-1-85	11:00 a.m. - 12:00 p.m.	249	108	2
Total			720	575**	21

Shuttle Information					
(entrance)	7-27-85	2:00 - 3:00 p.m.	210	43	2
	7-31-85	3:00 - 4:00 p.m.	261	62	3
	8-1-85	11:00 a.m. - 12:00 p.m.	249	77	4
Total			720	182	9

% of those entering VC who examine bulletin board = 39.6%
% of those entering VC who examine shuttle display = 25.3%
% of those examining display who consult desk = 4.4%
* Number of people who ask a question at the information desk after consulting a self-service display.
** 285 on 7/27, 7/31, and 8/1

Table 4B. Visitor Behavior in Exhibit Room of Visitor Center

Date	Time	Total # Entering	# Starting to Left	# Starting to Right
6-18-85	12:00 - 1:00 p.m.	112	63 (56%)	49 (44%)
6-19-85	9:30 - 10:30 a.m.	83	48 (57%)	40 (43%)

Table 5B. Visitor Center Information Desk -- Summary of Question Log*

Dates	Times	Questions(#)
6-23-85	8:00 - 10:00 a.m.	Picnic(3) Sunrise/set(6)
6-24-85	12:00 - 2:00 p.m.	Map/Directions(71) 4wd roads(1)
6-27-85	12:00 - 1:00 p.m.	Ranger programs(12) Parking(4)
6-28-85	2:00 - 4:00 p.m.	Hiking(24) Shuttle(34) Campgrounds(15) Showers(4) Food(29) Restrooms(4) Other Nat'l Parks(6) Phone(3) Mail(5) Film(1) River trips(11) Swimming(2) Air/Bus tours(14) Imax Theatre (6) Mules(10) Lodging(10) Ticketron/ Reservations(2) Golden Age/Eagle Pass(23) Activities -- what is there to do?(25) Havasu(3) NPS/SCA employment(2) Gas(1) Hiker in trouble(1) Kennels(1) Souvenirs(2) Weather(3) Fishing(1) Greyhound bus(1) Foreign language assistance(3) Handicapped access(2) Laundry(1) Horses(3) Lost & Found(3) Time(2) Backpacking equip.(1) Scenic views(4) Telephone(2)

* Data obtained from observations made by project personnel and logs kept by desk staff. See page 3.

Table 6B. Yavapai Museum -- Visitor Behavior* and Summary of Question Log

Date	Time	# Visitors in Lobby	# Visitors at Windows	# Visitors at Video	Questions/ Comments**
5-27-85	3:00pm	29	21	6	Rapids(2) Fishing(1)
	3:15	31	9	9	Hiking/trails(4) Shuttle(9)
	3:30	34	15	12	Sunrise/sunset(8) Scenic Views(2)
	3:45	20	11	7	North Rim(3) NPS career(4)
	4:00	37	24	10	Air traffic(2) Geology(10)
					River trips(2) Ranger talks(3) Phantom Ranch(5) Bird i.d.(2) Mule rides(8) Canyon/River dimensions(2) Parking(1) Plant i.d.(1)
6-21-85	12:30pm	10	8	0	Smoke? (fire visible on the N. Rim) (14)
	12:45	26	20	2	Weather(3)
	1:00	35	23	6	
	1:15	32	29	1	
	1:30	29	20	5	
Total		283	190 (67%)	58 (21%)	

* While recording visitor comments, visitor positions were noted every fifteen minutes

** Above comments addressed to interpreter at window

Table 7B. Yavapai Museum -- Visitor Behavior* and Summary of Question

Date	Time	# Visitors in Lobby	# Visitors at Windows	# Visitors at Video	Questions/ Comments**
7-9-85	2:15pm	30	17	11	Shuttle(17) Hermit's Rest(4)
	2:30	31	18	12	Water(3) Imax(2)
	2:45	35	20	12	Hiking/trails(23) Havasui(2)
	3:00	33	21	9	Desert View(2) Scenic Views(6)
	3:15	36	25	8	Maps/directions(21) Ranger talks/walks(16)
7-13-85	11:30	29	18	7	Rim trail(5) Food(6)
	11:45	27	15	6	Restrooms(5) Showers(2)
	12:00pm	33	21	9	Film(2) Time(6)
	12:15	29	20	9	Activities(13) Picnic area(3)
	12:30	23	12	8	Other Parks(2) Souvenirs(1)
7-15-85	10:00am	33	16	14	River trips(4) Bird book(1)
	10:15	29	17	11	Foreign Lang(6) Lodging(4)
	10:30	39	18	15	Indian dances/demos(3) Place Name(1)
	10:45	30	18	9	Smoke? (fires visible on the North Rim (5)
	11:00	18	12	5	Golden Age(2) Mule rides(8)
Total		455	268 (59%)	145 (32%)	Sunrise/set(5) Phantom Ranch(2) Campgrounds(3) Lost & Found(1) Handicapped(3) Mail(2) Geology brochure(1)

* Visitor positions were noted every 15 minutes

** Comments addressed to NHA desk clerk

Table 8B. Vehicles Entering Mather Point

<u>Date</u>	<u>Time</u>	<u># Vehicles Passing the Pt. (westbound)</u>	<u># Vehicles Pulling into the Point</u>
6-1-85	6:30 - 7:30 p.m.	123	67
6-8-85	2:30 - 3:30 p.m.	211	96
6-15-85	10:30 - 11:30 a.m.	299	156
7-8-85	9:30 - 10:30 a.m.	342	176
		975	495 (51%)

Table 9B. Visitor Use of Orientation Map at Mather Point

<u>Date</u>	<u>Time</u>	<u># Visitors Consulting Map</u>	<u>Comments*</u>
7-8-85	10:45 - 11:45 a.m.	121	Hiking/trails(3) Where are we?(11) Where is ____?(6)
7-20-85	3:30 - 4:30 p.m.	115	Grandview Horseshoe Mesa South Rim Village How far is ____?(9) Scenic Views(3) Rim trail(2) What is ____ like?(4) I can't read this (Village Map, (letters falling off))(2) What is "Bright Angel"(1) Mule rides(4) Campgrounds(3) Lodging(2) What can we walk to from here(2) Let's go to Hermits Rest (unaware of shuttle service)(4) I thought we were on the South Rim, What's the West Rim(2) Let's feed the squirrels!(2) How late is ____ open?(2)

* Comments addressed to companions or other people at the display

Table 10B. Visitors at Shuttle Bus Stops

Pre-test with currently available information.
Observer is at bus stop and recorded visitor comments

<u>Site</u>	<u>Date</u>	<u>Time</u>	# <u>Visitors</u>	# Visitors Consulting	<u>Comments</u>
				<u>Maps</u>	
Bright Angel	7-23-85	2:30- 3:30pm	29	11	Does the shuttle come back here(2) Do you think a bus is coming(2)
Bright Angel	7-25-85	11:00- 12:00	51	24	Does the Tusayan shuttle stop here(1) Are we at the wrong stop(2) Does this go to Hermit's Rest?(4) Is this a shuttle stop(1) When does the next bus come(7) Here we are; here's where we want to go (consulting map)(9) Where can we see the Canyon(1) It's hard to tell where we are (consulting map)(1)
			80	35	

Table 11B. Visitors at Shuttle Bus Stops

Test: put up new signs then recorded visitor comments (Figures 5 & 6)

<u>Site</u>	<u>Date</u>	<u>Time</u>	# <u>Visitors</u>	# Visitors Consulting	<u>Comments</u>
				<u>Sign/Schedule</u>	
Bright Angel	7-18-85	12:00- 1:00pm	61	42/29	This is the Bright Angel Stop(11) The bus will be here in a few minutes(6)
Bright Angel	7-18-85	3:00- 4:00pm	37	33/19	We can get to the West Rim from this bus (5) Let's walk to the next bus stop (39)
Total			98	75/48 (77%/49%)	

Table 12B. Visitors on the Shuttle Bus

Pre-test, observer sat on bus and recorded visitor comments

Date	Time	# Visitors		Questions/Comments*
		# Visitors Entering	Consulting Maps in Bus	
6-4-85	12 - 2pm	141	3	Does this bus go to ____? (43) Where did we start(3) Restaurants(16)
6-5-85	8:30 - 10:30am	83	1	Where can I see the canyon? (4) Trailhead shuttle(8)
6-10-85	10:30 - 1:00pm	153	2	What's at this stop(29) Hermit's Rest(31) Time schedule(9)
6-11-85	4 - 7pm	205	2	How do we get to ____?(32) Scenic Views(11) Let us know when we get to ____ (7) Ranger programs(5) Activities -- what is there to do here(4)

people on wrong bus at Interchange -- 9

* Questions not necessarily addressed to driver, but to companions and other passengers also.

Table 13B. Visitors on the Shuttle Bus

Test with new signs and locations. Again, observer sat on bus and recorded visitor comments. See Figures 7 and 8 in text.

Date	Time	# Visitors		Questions/Comments
		# Visitors Entering	Consulting Signs in Bus	
7-16-85	9:30am - 1:30pm (Village Loop Route)	129	93	The sign says there is ____ at this stop(18) We change buses at the Interchange to to to Hermits Rest(14)
7-17-85	8:30am - 12:30pm	158	120	We'll be at ____ in ____ stops(12) We want to get off at this stop to see ____ (6) See, here's where we are now(8) This bus goes to ____ (11)

Table 14B. Visitors in the Backcountry Reservation Office

Date	Time	# Visitors Entering	# Visitors Consulting Displays	# Groups Adv Res	Questions/ Comments
5-23-85	3 - 5pm	40	21	8	Taxi service(1) Havasupai(6) Equipment, food, water, etc.?(7)
5-24-85	9 - 12	72	39	4	Shuttle(8) Trail info.(7) Parking(13) River(3) Dayhikes(21) Lodging(3) Campground(3) Trip planner(8) Waiting list (14) Distance to Los Angeles? (1) Snake i.d.? (1) Other Parks(2)

APPENDIX C -- ROAD SIGNS

Appendix C includes an inventory of signs in the Village as well as specific signing recommendations. Signing recommendations are indicated by the "*" notation and proposed new signs by the "***" notation. Consult the map in Figure 1 for locations corresponding to sign numbers.

1 Elevation __ft __meters

2 Mather Point __mi __km

3 Camp Only in Campgrounds

4 Fees

5 Litter Subject to Fine

* 3 and 5 -- The entrance road is overloaded with signs; visitors are likely to stop reading signs if the roadside is cluttered with them. To reduce the string of signs facing visitors on the entrance road, combine the messages from the signs at these two locations into one sign. For example:

!		!
!	CAMP ONLY IN CAMPGROUNDS	!
!		!
!	and please remember	!
!		!
!	LITTERING IS SUBJECT TO FINE	!
!		!

6 Park Information Tune to 1610 A.M.

* 6 -- Make the radio sign larger and more enticing. For example, a sign used in a study in Great Smoky Mountains National Park (Peine et al. 1984) was designed as follows:

!		!
!	WANTED - RADIO LISTENERS	!
!		!
!	TUNE TO 1610 AM FOR	!
!		!
!	SECRETS OF CHEROKEE ORCHARD	!
!		!

7 Reduce Speed, U.S. Fee Area Ahead

* 4 and 7 -- Two signs on the South entrance road mention fees. Combine the fee messages from the two signs into one at location # 7.

8 <---- Clinic Albright Academy

9 one side reads: Use Either Lane

the other reads: Residents/Employees

Visitors

* 9 -- The sign at the entrance station indicating which lanes visitors and residents should use is low and close to the station. By the time drivers see the sign, they discover they are in the wrong lane. Drivers then make unsafe maneuvers attempting to cross over to the other lane. Raise the sign so visitors can see it from a distance of several car lengths. The sign would need to be constructed so that it could be turned around when necessary.

10 Flagstaff mi km
Williams mi km

11 Service Road

* 11 -- Move the [Service Road] sign at the beginning of the clinic road (11a) out to face the main road (11b), so visitors can clearly see that they are not supposed to turn onto the clinic road.

12  Grand Canyon Village
Desert View Cameron ---->

13 Highway 64 ---->

14 same as #10

15 <---- Clinic Albright Academy

16 <---- Yaki Point Desert View

17 <---- Cameron Desert View

18  Grand Canyon Village
Visitor Services

* 18 -- Move the sign at 18a north to 18b so it is not so close to the Desert View intersection. To clarify the term "village" and give people some idea how far ahead things are, add to this sign distances (miles and km) to the Visitor Center, lodges, and campgrounds. Because of the importance of this sign in orienting visitors, it should be particularly easy to notice and read, i.e., big.

19 Mather Point ---->

20 <---- Mather Point

21 Yavapai Museum ---->

22 <---- Williams Cameron Desert View

23 <---- Yavapai Museum

* 20 and 23-- For many visitors, finding their way out of the park is very confusing. Park employees report that some people come back two or three times for directions after making it out to Yavapai Museum or Mather Point. To guide visitors better visitors out of the park, add a line with "Park Exits -- HWYs 64 and 180" and a directional arrow to signs at these two locations.

25 <--T General Store Yavapai Lodge
 Visitor Center ---->

```

!      VISITOR CENTER ----->
!
! <----- GENERAL STORE, YAVAPAI LODGE, PARKING
!
!   ↑
!   CAMPGROUNDS, BACKCOUNTRY OFFICE
!
!
```

```

!      Park Exits -- HWYs 64 & 180 /
!              Yavapai Museum          ----->
!
! <----- Bright Angel Lodge / Hermit's Rest
!
!       ↑
!       Visitor Center

```

```

!                                     Park Exits -- HWYs 64 & 180
!
!      <-----          Yavapai Museum
!
! Bright Angel Lodge / Hermit's Rest ---->
!
!      ↑
!      General Store / Yavapai Lodge
!      Post Office

```

30 Yavapai Lodge General Store ---->

** 31 -- A sign is needed to direct people exiting the Mather Business Center parking lot:

#31

```
!      <---- VISITOR CENTER/PARK EXITS      !
!
!      YAVAPAI LODGE ROOMS ---->             !
!
```

32 Yavapai Lodge General Store ---->

33
 Yavapai East ↑
 <---- Yavapai West

34 <---- Lodge Parking
 ↑
 General Store

35 <---- Trailer Park Campground

36 Trailer Park Campground ---->

37 Business Center ---->
 <---- Visitor Center

* 37 -- Instead of the term "Business Center", which is not very descriptive, use "General Store, Bank, and Post Office". This also applies to signs at locations 41, 64 and 70.

38 RV Campground (symbol)

39 Trailer Village
 Hookups

40 ↑
 Backcountry Office
 <----
 Campground Registration

* 40 -- The small arrow above the line "Campground Registration" is barely visible. Enlarge the sign and the arrow.

41 Business Center ---->
 <---- Visitor Center

42 Mather Campground Registration -- No Hookups

43 Campground Full
 Exit ---->

- 44 Mather Campground ---->
 ↑
 Trailer Village
- 45 ↑
 Mather Campground
 Trailer Village
- 46 Camper Services
 Laundry Ice ---->
 (shower and picnic symbols)
 Backcountry Office
- 47 Parking
- 48 Picnic (symbol)
- 49 same as 49 in opposite direction
- 50 RV Dump Station
- 51 Campground/Hiker Services
 <---- (RV and tent symbols)
 Backcountry Office

* 51 -- This sign is partially obscured by overhanging branches. Also, the term "Camper/Hiker Services" is vague, which probably explains why so many people pass this turnoff and end up at Maswik Lodge looking for Mather campground. Change this sign to read :

```

!                                     !
!   <----- Campgrounds/ Backcountry Office   !
!                                     !
!               showers, picnic areas           !
!               (international symbols)         !
!   ↑                                     !
!   Bright Angel Lodge / Maswik Lodge           !
!                                     !

```

** 52 and 53 -- The following signs should be added to the Visitor Center/Mather Campground intersection:

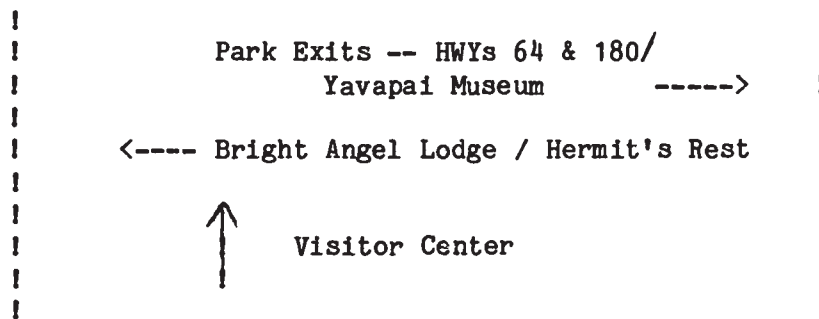
#52

```

!                                     !
!               Park Exits -- HWYs 64 & 180 /   !
!   <----- Yavapai Museum                     !
!                                     !
!   Bright Angel Lodge / Hermit's Rest ---->   !
!                                     !
!   ↑                                     !
!   Campgrounds / Backcountry Office           !
!                                     !

```

#53



54 Parking

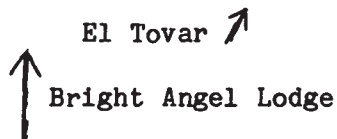
55 Shrine of The Ages (on both sides of the sign)

56 Camper/Hiker Services
(RV and tent symbols) ----->
Backcountry Office
<----- Visitor Center

57 Parking

58 Public Garage (hours of operation)

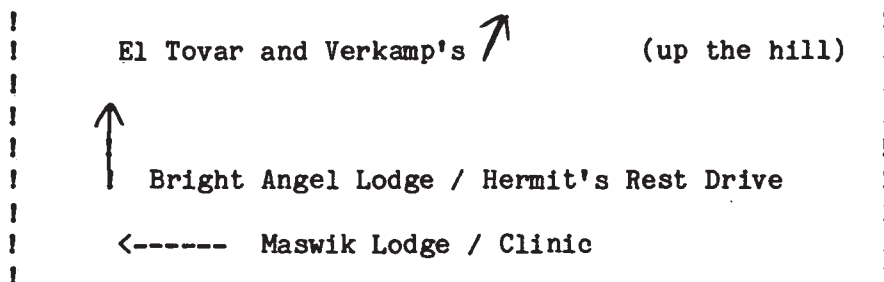
59 <----- Clinic Maswik Lodge



60 ↑ West Rim (bed and fork symbols)

61 El Tovar Verkamp's ----->

* 59, 60, and 61 -- The cluttered arrangement and small size of these signs aggravates the confusion created by the irregularity of the intersection. Eliminate the sign at location #60 and install one large sign at location #59 that reads:



Replace the sign at #61 with a sign facing the El Tovar exit that reads:

```

!
!           <----- Park Exits -- HWYs 64 & 180           !
!
!           Bright Angel Lodge / Hermit's Rest Drive -----> !
!
!

```

62 Parking -- El Tovar, Hopi House, Verkamp's

* 62 -- Move this sign forward or trim the tree, because it is obscured by branches.

```

63      ↑
      El Tovar   Verkamp's
      <----- Bright Angel Lodge

```

* 63 -- Approaching drivers can not read this sign until they have already made a decision to enter the lane. Move the sign out in front of the tree behind which it is now located.

```

64  Visitor Center   Park Exits - HWY's 64 & 180
      Business Center

```

* 65 -- Over 50% of the vehicles passing this way hesitate and almost completely stop. Some drivers even try to enter the bus lane. Install a new sign that directs people to the Bright Angel Lodge, Bright Angel Trail, and Parking ahead.

66 Bright Angel Lodge Registration and Restaurant

* 66 -- Add "Bright Angel Trail" to this sign.

```

67  <----- Maswik Lodge   Park Exits
      ↑
      West Rim

```

* 67 -- The sign here is often hidden by large RV's that park next to it. Move it to the other side of the road where no one can park.

68 West Rim Closed -- Free Shuttle

* 68 -- Elevate the sign here so approaching drivers can see it sooner. Change the term "West Rim" to "Hermits Rim" (see section on Hermits Rim Information Booth).

* 69 -- When the Hermits Rim drive is open to private vehicles a high concentration of vehicles builds up at the Trail-view parking areas and nearby road shoulder. To let people know that more scenic pullouts are ahead, install a sign that reads:

```

                                     #69
!
!      8 SCENIC PULLOUTS -- NEXT 8 MILES  __KILOMETERS      !
!
!

```

70 ↖ Village Loop Drive
 ↘ Business Center/Park Exits

* 70 -- To this sign add a line directing people to the campgrounds. This will help visitors take the Loop Drive back and avoid the Maswik area.

71 ↑ Maswik Lodge

72 <---- Parking

73 Mushwhip Lodge

* 73 -- Eliminate the old "Mushwhip" sign.

* 74 and 78 -- Install signs that can be seen by westbound drivers (74) and east and southbound drivers (78). The signs should include directions to Park Exits -- HWYs 64 & 180/Visitor Center/Campgrounds/General Store/Maswik Lodge Parking

75 Maswik Registration

76 <---- Kennels

* 75 and 76 -- Combine the two signs into one.

77 Kennels ---->

79 Parking

80 <---- Community Building

81 Community Building ---->

82 ↖ Village Loop Drive
 Pharmacy Clinic ---->

83 and 84 ↖ Village Loop Drive
 ↘ Business Center Park Exits

* 84 -- Move this sign west (to 84 b) so drivers see it sooner.

85 ↑ Maswik Lodge
 Pharmacy Clinic ---->

** 86 -- Install a large arrow directing people around the curve in the road, away from the residential street.

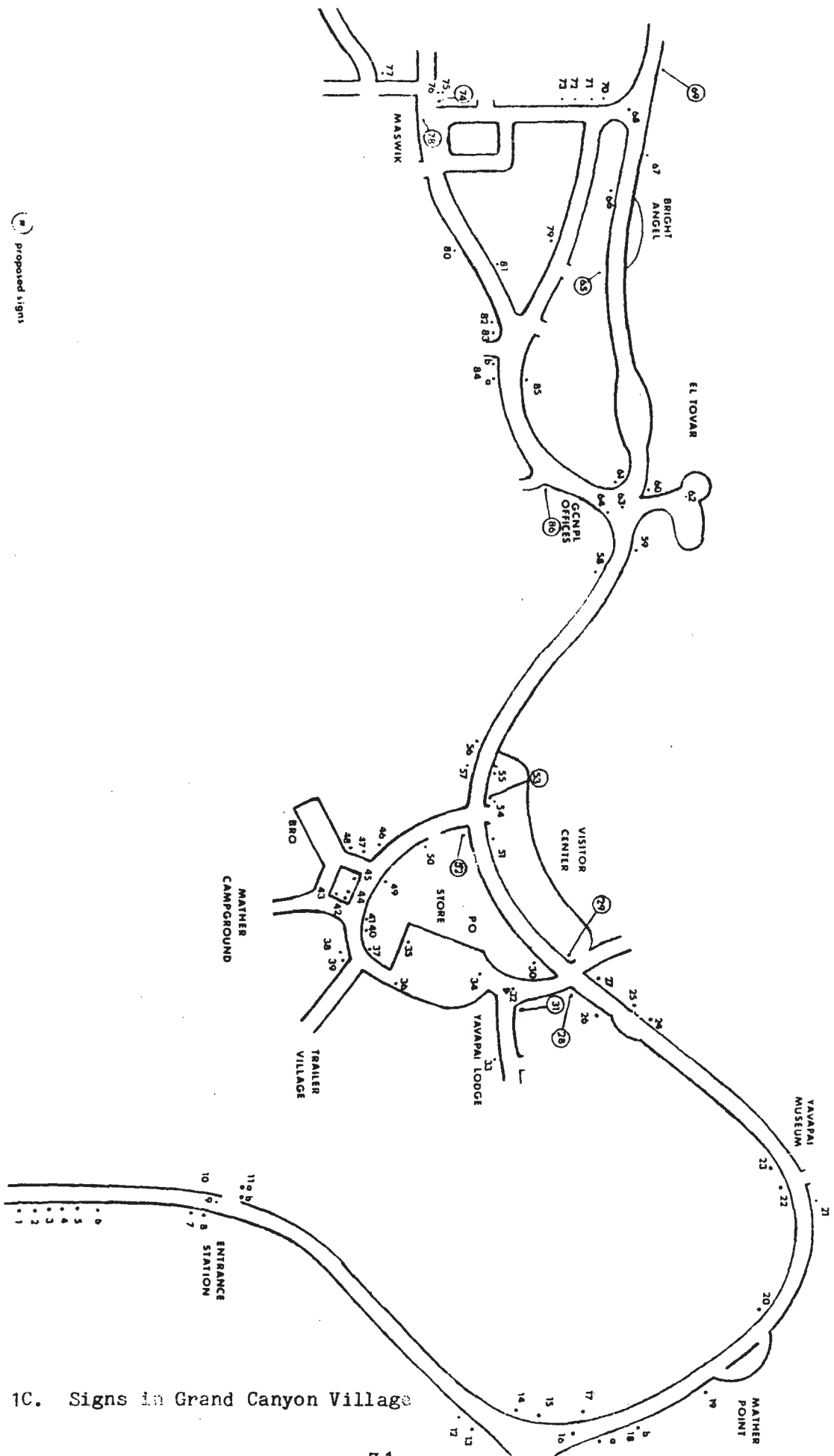


Figure 1C. Signs in Grand Canyon Village

