



Expedited Approval for NPS-Sponsored Public Surveys

1. **Project Title | Submission Date:** Tusayan Pilot Shuttle Transportation System Survey, Grand Canyon National Park 7/28/2008

2. **Abstract:**
The purpose of this research is to assist Grand Canyon National Park in a test of a pilot shuttle route from Tusayan, AZ to Canyon View Information Plaza. The park will operate the shuttle from June 1 to September 1, 2008. The study will investigate the profile and visitor experience of shuttle passengers in order to evaluate the quality and effectiveness of the pilot shuttle. Information gained during the survey will enable the park to plan for effective implementation of the shuttle as needs warrant.
(not to exceed 150 words)

3. Principal Investigator Contact Information

First Name: Bonnie **Last Name:** Nelson
Title: Principal
Affiliation: Nelson\Nygaard Consulting Associates
Street Address: 785 Market Street
City: San Francisco **State:** CA **Zip code:** 94103
Phone: (415) 284-1544 **Fax:** (415) 284-1554
Email: bnelson@nelsonnygaard.com

4. Park or Program Liaison Contact Information

First Name: Victoria **Last Name:** Stinson
Title: Project Manager
Park: Grand Canyon National Park
Park Office/Division: Project Management Team
Street Address: 823 N. San Francisco, Ste A
Flagstaff, AZ 86001-3265
City: Flagstaff **State:** AZ **Zip code:** 86001
Phone: (928) 774-3026 **Fax:** (928) 774-1757
Email: victoria_stinson@nps.gov

Project Information

5. **Park(s) For Which Research is to be Conducted:**
6. **Survey Dates:** (mm/dd/yyyy) to (mm/dd/yyyy)
7. **Type of Information Collection Instrument (Check ALL that Apply)**
- Mail-Back Questionnaire **On-Site Questionnaire** Face-to-Face Interview Telephone Survey Focus Groups
- Other (explain)**
8. **Survey Justification: (Use as much space as needed; if necessary include additional explanation on a separate page.)**
- The National Park Service Act of 1916, 38 Stat 535, 16 USC 1, et seq., requires that the National Park Service (NPS) preserve the national parks for the use and enjoyment of present and future generations. The 2006 NPS Management Policies (Section 8.11, "Social Science Studies") state that the NPS will facilitate social science studies that support the NPS mission by providing an understanding of park visitors and a scientific basis for park planning, development, operations, and management.
- This study gathers information from Tusayan Pilot Shuttle users on their travel behavior, experience riding the shuttle, and attitudes about using transportation alternatives. Understanding the profile and rider experience of Pilot Shuttle riders will serve to inform decisions about future shuttle service.
- While there have been a number of visitor studies at Grand Canyon (Grand Canyon VSP 2003), this is the first study dealing with the pilot shuttle program. This pilot shuttle study is similar to other shuttle studies that have provided valuable information to park managers. Nelson\Nygaard has led similar studies for transportation planning in national parks, including a group of studies of the Muir Woods Shuttle (2005, 2006, 2007); and an on-board survey of the Pt Reyes Headlands Shuttle (2007). This study follows the established protocols and format from those previous studies.
9. **Survey Methodology: (Use as much space as needed; if necessary include additional explanation on a separate page.)**
- (a) Respondent universe:
The respondent universe is all adults, 18 and older, who ride the shuttle in between August 11 and 16.
- (b) Sampling plan/procedures:
The survey will be conducted between August 11 and August 16, 2008. Surveyors will be Park Aids—temporary staff under the supervision of Park Interpreter David Smith.
- The shuttle service consists of three buses operating between 8 AM and 9 PM, 7 days per week. One surveyor will ride each of the service's three buses during the morning (8 a.m. and 2 p.m. trips) on Monday, Wednesday, and Saturday. Similarly, one surveyor will ride each bus during the afternoon/evening (2 p.m. and 9 p.m. trips) on Tuesday, Thursday, and Sunday. The survey will therefore sample the equivalent of two full weekdays and one full weekend day. Surveying during this period will give the park useful information of shuttle riders' opinions and behaviors during the busy summer season when the system is most used.
- While on board the bus, surveyors will approach each party boarding the bus on the return from the park to Tusayan. The surveyor will ask one adult (18 years of age or older) per party to fill out a survey. If there is more than one adult per party, the surveyor will ask the adult with the most recent birthday to respond. Parties will not be asked to respond if they have already filled out a survey. The

survey will be administered in English only.

During analysis, we will weight the data to ensure that weekend and weekday ridership is considered in proportion to their actual shares of shuttle ridership.

Surveyors will be given detailed training and supervision on survey goals and objectives, handling of questions, and qualifiers for participation to ensure high quality results.

(c) Instrument administration:

Surveyors will approach each party boarding the bus on the return from the Grand Canyon to Tusayan. Trained surveyors will use the following script when approaching passengers:

"Hello! The National Park Service is conducting a survey at Grand Canyon National Park to gather your opinions about the park's newest shuttle service. Participation is voluntary, and the survey takes approximately 10 minutes to complete. [If more than one adult: Who in the group has the next birthday?] Would you be willing to participate? You may turn in the survey when you leave the bus."

Eligible respondents who agree to participate will be given the questionnaire printed on card stock. Questionnaires will be returned to the surveyor upon arrival at the shuttle's destination in Tusayan.

(d) Expected response rate/confidence levels:

Previous on-board transit surveys in national parks have received very high response rates. For example, in a recent on-board survey conducted by Nelson/Nygaard on the Muir Woods Shuttle, which provides service to Muir Woods National Monument, over 90% of parties responded. The fact that respondents may complete the survey while they are on board the bus (taking no additional time away from recreation at the park) will promote a high response rate.

Based on recorded ridership data, we estimate that approximately 215 parties per day will make return trips on the shuttle and that—conservatively—about 70% of these parties will complete the survey. Approximately 150 completed surveys per full day of surveying would yield a total of 450 completed surveys during the sampling period.

The target sample of 450 completed surveys will provide a sampling error of plus or minus 5 percent with a 95% confidence level.

(e) Strategies for dealing with potential non-response bias:

Non-response bias will be tested by comparing characteristics of the sample population with selected observable characteristics of non-respondents. The contact time, group size, number of children, whether the group had previously been surveyed and the reason for refusal (if given) will be recorded and reported on a survey log. The results of the check for non-response bias will be reported, and the implications of non-response bias (if any) for park planning will be discussed.

(f) Description of any pre-testing and peer review of the methods and/or instrument (recommended):

Nelson/Nygaard has worked with the project team, including park staff and other National Park Service staff, to refine the survey instrument and approach. Many of the questions have been used in previous visitor surveys to get general information about NPS visitors. In addition, questions specific to transportation

are similar to those used in other transportation planning instruments, including Nelson\Nygaard studies in Muir Woods National Monument and Point Reyes National Seashore. Patricia Sacks of the National Park Service and Victoria Stinson and Robin Martin of Grand Canyon National Park have reviewed the survey.

10.	Total Number of Initial Contacts Expected Respondents:	645	451	11.	Estimated Time to Complete Initial Contact Instrument (mins.):	1	10	12.	Total Burden Hours:	86
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13.	Reporting Plan:	<p>Once the surveys have been completed, the data will be compiled, analyzed, and summarized in the form of a report to the project team and project managers, including Victoria Stinson of Grand Canyon National Park. Analysis will include summary tables of key variables including trip characteristics, satisfaction with shuttle services, and openness to future travel-options in the park. Key variables will be cross-tabulated with visitor characteristics and compared to the overall population of park visitors. The findings will be compared to previous studies of transit in national parks, and used to inform and guide the project team as they adjust and improve the pilot service during the summer of 2008, as well as to plan for effective implementation of a permanent shuttle as needs warrant. A copy of the report will be archived with the NPS Social Science Studies Program.</p>
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References

Littlejohn, Margaret. 2003. "Grand Canyon National Park South Rim Visitor Survey" University of Idaho, Visitor Services Report #144, located at < http://psu.uidaho.edu/files/vsp/reports/144_GRCA_S_rept.pdf>.

Littlejohn, Margaret. 2003. "Grand Canyon National Park North Rim Visitor Survey" University of Idaho, Visitor Services Report #143, located at < [http://psu.uidaho.edu/files/vsp/reports/143 GRCA N_rept.pdf](http://psu.uidaho.edu/files/vsp/reports/143_GRCA_N_rept.pdf)>.

Muir Woods Shuttle Evaluation, Nelson Nygaard Consulting Associates for the Marin County Department of Public Works, December 2005.

Muir Woods Shuttle Evaluation, Nelson Nygaard Consulting Associates for the Marin County Department of Public Works, November 2006.

Muir Woods Shuttle Evaluation, Nelson Nygaard Consulting Associates for the Marin County Department of Public Works, November 2007.

Point Reyes Headlands Shuttle 2008 Passenger Survey Findings (Draft), Nelson Nygaard Consulting Associates for the National Park Service, April 2008.