

## **Project Summary**

### **Rocky Mountains Cooperative Ecosystem Studies Unit**

**Project Title:** Social Research in Support of Impact Mitigation on Restoration of the Going to the Sun Road, Phase 1-5.

**Type of Project:** Research  
**Discipline:** Social Science  
**Funding Agency:** National Park Service  
**Other Partners/Cooperators:** University of Montana  
**Effective Dates:** 3/7/05 - 6/1/10  
**Funding Amount:** \$194,287 [\$10,030 added in FY09]

**Investigators and Agency Representative:**

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**Project Abstract:**

The research proposed here is designed to achieve two primary objectives related to the reconstruction of the Going-to-the-Sun Road (GTSR) in Glacier NP: (1) establish an understanding of how construction activity influences visitor behavior levels and patterns of use; (2) provide a baseline of information that will allow park managers to plan improvements associated with reconstruction and mitigate unforeseen impacts to visitor experiences, park values and key biophysical attributes. The proposed research will integrate contemporary technology with traditional social science research methodologies to provide information necessary for the Intelligent Transportation Systems (ITS) envisioned by the supervisory reconstruction team. Such integration will allow GNP managers to model and eventually monitor in real time visitor patterns and levels of use. In addition, the research proposed will identify the key input and output variables useful in developing a monitoring and mitigation framework.

The first task will be to hold a workshop on March 7, 2005 to further define the tasks and objectives of the research during summer 2005. The major activity during summer 2005 will be a roadside "pull out" study to characterize user type and distribution at 12 pull outs along the GTTSR: Red Rock Point, Pullout #8/Road Camp, Logan Creek, Loop, Big Bend, Lunch Creek, Siyeh Bend, Jackson Glacier/Gunsight, Sunrift Gorge, St. Mary Falls, Wild Goose Overlook, Oberlin Bend. This will be done through an observation approach that records type of users, length of stay, behavioral patterns etc. An important component of this study would be to query visitors about their use of particular pull-outs, such as why they are using that place, and for what activities. The results of this survey will inform the design of the hiker shuttle system that will be deployed in summer 2006. This survey will phase 1 of a possible multi-year social science study related to the GTSR reconstruction.

An additional task was added in August 2005 to include collection of traffic data on the GTTSR to improve the Quickzone congestion model.

Phase 2 of the project (summer 2006) will include:

- Complete baseline of existing use on the road through:
  - Completing observations at the high use areas that were omitted in the 2005 sampling procedure (Avalanche Creek, McDonald Lake Lodge, Logan Pass and Sun Point)
- Improve the understanding of the visitor use system through:
  - Collect additional data in concert with traffic monitoring systems.
  - Assessing the relationship between road traffic levels, parking lot use, and trail use patterns at Logan Pass and Sun Point.
- Evaluate the effects of the shuttle on use patterns and visitor experience through interviews with visitors regarding their support for and likelihood of using a shuttle system on the GTSR.

Phase 3 will be carried out in summer and fall 2007 and will include a visitor survey during the period of late July through Labor Day weekend of 2007. Days and times will coincide with the random selection of pull-out observations. The survey will consist of an onsite questionnaire and a follow-up mail back portion. The onsite component will address the factors affecting the choice to ride the shuttle and the mail back will address satisfaction with the services. We will target 1000 onsite questionnaires and 500 mail-back surveys. This will require approximately 35 surveys per day. We anticipate sampling at both the Apgar Transit Center and the St. Mary's Visitor Center. An adapted Dillman technique will be used to organize follow up mailings and we will seek a response rate of 75%. This schedule means that follow-up questionnaires will continue to arrive in Missoula until mid-October. Data entry will occur until mid-November allowing descriptive analysis of the data by mid-December. Supplemental funds were added in August 2007 to allow thorough analysis of the visitor and employee comments and will include a reporting out meeting with the TRMB in January 2008.

Phase 4 will look at the intersection of the experiences sought by park visitors with the experience of riding a shuttle and/or visitors who have taken extended day hikes into Glacier's backcountry. More specifically, the objectives of this study, which will be addressed in the final report are:

1. To identify differences in roadside use as a result of the transit system
2. To understand the relationship between shuttle use and choice to take extended day hikes.
3. To understand how a visitor's desired primary experience influences their decision of whether or not to ride a shuttle in GNP
4. To help managers refine a more effective communication with visitors about the shuttle at GNP
5. Understand the visitors' perceived relationship between shuttle use and the quality of Glacier's environment. Specifically we will look at visitor perceptions of climate change, carbon emissions and the effectiveness of the Do Your Part for Parks program.

Phase 5 will take place during summer 2009, with the following tasks added: Objective five will require the development of new instrumentation. Our approach to developing this aspect of the study will be grounded in understanding the symbolism of Glacier's environment and use relative to the visitor's perception of climate change. We will anchor the study in a behavioral framework that investigates the visitor's previous climate change mitigation behavior and willingness to make other changes in the future. The *Do Your Part for Parks* (DYPPF) program is focusing on encouraging more carbon friendly travel behavior and home energy use. We want to see to what extent visitors are aware of, interested in or inspired to act in the ways that this program is assessing. We will also add additional behavioral dimensions such as tourism travel patterns to those that the DYPPF. We will use attitudes as predictive heuristics in this aspect of the study. We will also use communication appeal format as treatments. Are visitors more responsive to considering behavior change when the appeal is based in fear, stewardship, incentive, obligation, etc. The instruments for this aspect of the study will need to be developed in cooperation with Park staff who are involved with the DYPPF program.

**Outcomes with Completion Dates:**

- 1) workshop with summary and detailed scope of work; 2) summary and analysis of data collected from the project in report form; 3) closeout meeting with summary; 4) resource impact maps. First report received in April 2006; second report to be delivered by February 2007. The report of the visitor transit use survey will be due by December 2007; 5) Final report for phase 4 will be due February 2010.

**Keywords:** Going to the Sun Road, Glacier National Park, University of Montana, construction activity, shuttle system, trail use, visitor behavior, social science, pullout survey