

**National Park Service
U.S. Department of the Interior**



***Cost-Benefit and Regulatory Flexibility Analyses:
Proposed Regulations for Designating Bicycle Trails in
Saguaro National Park***

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November 9, 2011

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Introduction

This report presents the cost-benefit and regulatory flexibility analyses of the proposed regulatory action designating trails for multi-use, including bicycle use, pursuant to the Saguaro National Park Comprehensive Trails Management Plan & Environmental Assessment (NPS 2009). Quantitative analyses were not conducted due to lack of available data, and because the additional cost of conducting quantitative analyses was not considered to be reasonably related to the expected increase in the quantity and/or quality of relevant information. Nevertheless, the National Park Service (NPS) believes that these analyses provide an adequate assessment of all relevant costs and benefits associated with the regulatory action.

The results of the cost-benefit analysis indicate that the costs of the proposed regulatory action are justified by the associated benefits. Additionally, this proposed regulatory action will not have an annual economic effect of \$100 million, and will not adversely affect an economic sector, productivity, jobs, the environment, or other units of government.

The results of the regulatory flexibility analysis indicate no adverse impacts for any sector of the economy or unit of government, including small entities. Given those findings, the proposed regulatory action will not impose a significant economic impact on a substantial number of small entities.

Cost-Benefit Analysis

Statement of Need for the Proposed Plan

Executive Order 12866 (58 FR 51735) directs Federal agencies to demonstrate the need for the regulations they promulgate. In general, regulations should be promulgated only when a “market failure” exists that cannot be resolved effectively through other means. A market failure exists when private markets fail to allocate resources in an economically efficient manner. A significant cause of market failure is an “externality,” which occurs when the actions of one individual impose uncompensated impacts on others. For example, motorized vehicle users within the park can impose costs on bicyclists associated with congestion and health and safety risks if bicyclists are required to use the same roads. Because these costs are not compensated through private markets, users have little incentive to change their behavior accordingly. The result is an inefficient allocation of park resources.

The park issued an Environmental Assessment (NPS 2009) that was prepared in accordance with the requirements of the National Environmental Protection Act. The Environmental Assessment identified multiple-use trails suitable for bicycle use. Demand for particular types of activities, such as mountain biking has added increased pressure on the park’s trail system. Some unlawful use of the trails has also occurred, such as the use of mountain bikes in unauthorized areas. This regulation will allow the park to designate certain trails for bicycle use, which allows for additional recreation

opportunities while allowing the park to prevent impairment and unacceptable impacts on natural and cultural resources. This action will improve economic efficiency by minimizing the uncompensated impacts associated with congestion and health and safety risks within the park.

Baseline Conditions

The costs and benefits of a regulatory action are measured with respect to its baseline conditions. Baseline describes conditions that would exist without the regulatory action. Therefore, all costs and benefits included in this analysis are incremental to the baseline conditions. That is, any future impacts that would occur without the proposed action, as well as any past impacts that have already occurred, are not included in this analysis. For this regulatory action, the baseline conditions are described in the No Action Alternative in the Environmental Assessment (NPS 2009).

Costs and Benefits

The purpose of this proposed regulatory action is to designate the existing Hope Camp Trial a route where bicycles may be used off road. This action does not involve fees, or other measures that would increase costs to visitors, businesses, communities, or the park. Therefore, this action is not anticipated to impose any costs to visitors.

However, this action will generate benefits in the form of enhanced visitor experience and safety for bicyclists. Economists term such benefits as *consumer surplus*¹, which can be measured through *benefits transfer meta analysis*. A benefits transfer meta analysis combines information from existing valuation studies in the economics literature and statistically estimates the relationships between the consumer surplus estimated in those studies and important characteristics of the studies such as type of activity, type of resource, and type of valuation methodology used (Rosenberger and Loomis 2001). These estimated relationships then allow the analyst to calculate a consumer surplus value that is specific to the activity and resource under consideration. The results of that meta analysis for bicycling is presented in Table 1.

Table 1		
Benefits Transfer Meta Analysis of Consumer Surplus per Visitor-Day for Bicycling		
Activity	---Consumer Surplus per Visitor-Day---	
	(1996 dollars)^a	(September 2011 dollars)^b
Bicycling	\$31.74	\$45.90

^a Source: Rosenberger and Loomis (2001)
^b Indexed using the Consumer Price Index for all urban consumers (BLS 2011)

¹ Consumer surplus equals the maximum willingness to pay for an activity minus the costs involved to participate in that activity.

This meta analysis indicates that one visitor-day of bicycling will generate \$45.90 in consumer surplus. That value applies to new visitors that are drawn to the park by the proposed regulatory action. Current visitors, on the other hand, would experience a marginal increase in the consumer surplus they derive from their specific type of use. For example, current bicyclists might experience an increase in consumer surplus equal to half the visitor-day value calculated above (\$22.95). To estimate the total consumer surplus generated by the proposed regulatory action, the resulting number of new visitors and the marginal increase in value experience by current visitors would have to be estimated. However, the information required to estimate those factors is not available and NPS was not able to estimate the total consumer surplus generated by this action. Nevertheless, positive benefits would likely be generated.

Since this action will generate positive benefits and no costs, NPS concludes that positive net benefits will be generated. These benefits can be expected to continue through time as long as the designations remain in place.

Uncertainty

The number of new visitors and the marginal increase in value experienced by current visitors resulting from the proposed regulatory action is unknown. Therefore, the total benefits generated by this action cannot be estimated. Nevertheless, positive benefits will likely be generated. Any uncertainty involved in this analysis is associated only with the magnitude of those benefits. NPS is not aware of any other sources of uncertainty.

Conclusion

The results of this cost-benefit analysis indicate that positive net benefits will be generated by the proposed regulatory action. Given that, NPS concludes that the benefits associated with the proposed regulatory action justify the associated costs. Further, this proposed regulatory action is not expected to have an annual economic effect of \$100 million, or to adversely affect an economic sector, productivity, jobs, the environment, or other units of government. This proposed regulatory action will improve economic efficiency.

Regulatory Flexibility Analysis

The Regulatory Flexibility Act of 1980, as amended in 1996 requires agencies to analyze impacts of regulatory actions on small entities (businesses, non-profit organizations, and governments), and to consider alternatives that minimize such impacts while achieving regulatory objectives. Agencies must first conduct a threshold analysis to determine whether regulatory actions are expected to have significant economic impact on a substantial number of small entities. If the threshold analysis indicates a significant economic impact on a substantial number of small entities, an initial regulatory flexibility analysis must be produced and made available for public review and comment along with the proposed regulatory action. A final regulatory flexibility analysis that considers

public comments must then be produced and made publicly available with the final regulatory action. Agencies must publish a certification of no significant impact on a substantial number of small entities if the threshold analysis does not indicate such impacts.

This threshold analysis relies on the cost-benefit analysis, which concludes that this proposed regulatory action will likely generate positive benefits and no costs to visitors, businesses, or local communities. In addition, this action will not impose restrictions on local businesses in the form of fees, training, record keeping, or other measures that would increase costs. Rather, this action could reasonably increase park visitation and thereby generate benefits for businesses, including small entities, through increased visitor spending. Given those findings, this proposed regulatory action will not impose a significant economic impact on a substantial number of small entities.

References

Bureau of Labor Statistics (BLS). Website <http://www.bls.gov/> accessed October 19, 2011.

Rosenberger, R.S., and J.B. Loomis. "Benefit Transfer of Outdoor Recreation Use Values." General Technical Report RMRS-GTR-72. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, April 2001.

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