

# Paul S. Sarbanes Transit in Parks

## Fiscal Year 2010 Application Example

**Disclaimer:**

This application is an example of a successful Transit in Parks application; however, it is **NOT** necessarily the best response to any given question, since the responses needs to be based on individual site conditions.



**U.S. Department of Transportation  
Federal Transit Administration**

**Paul S. Sarbanes Transit in Parks Program (Transit in the Parks Program)  
Project Proposal for Fiscal Year 2010 Funds – Planning Project**

BASIC PROJECT INFORMATION			
Project Name (Please provide a 1-2 sentence description of the project): <b>Red Rock Canyon National Conservation Area Comprehensive Transportation Planning Study</b> Examine the opportunity for multi-modal transportation alternatives to allow visitors to better access the site, reduce the impact to the natural environment, and alleviate congestion. The study will focus on several alternatives for mode-shift, as well as alternatives selection and an implementation plan.			
Proposed Funding Recipient: <b>Bureau of Land Management</b>			
Public land unit(s) involved: <b>Red Rock Canyon National Conservation Area, Las Vegas, Nevada</b>		<u>Location of Project</u> City: <b>Las Vegas</b> County: <b>Clark</b> State: <b>Nevada</b> Congressional District: <b>14</b>	
Federal Land Management Agency managing the above unit(s): <input checked="" type="checkbox"/> Bureau of Land Management <input type="checkbox"/> Bureau of Reclamation <input type="checkbox"/> Fish and Wildlife Service <input type="checkbox"/> Forest Service <input type="checkbox"/> National Park Service <input type="checkbox"/> Other (e.g. Federal Trust) Describe:		Type of Planning Project: (Implementation projects, please use the alternate form) <input checked="" type="checkbox"/> Planning	
<input checked="" type="checkbox"/> Proposal is to plan for a possible new alternative transportation system where none currently exists. <input type="checkbox"/> Proposal is to plan for a possible expansion or enhancement of an existing alternative transportation system.			
Transit in Parks Program Funding Requested during FY 2010 <b>\$200,000</b>		<b>Total</b> Cost of Planning Project at Completion (All sources) <b>\$475,000</b>	
Were you awarded Transit in Parks Program funds for this project in the past? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If answer "Yes," please provide amount awarded: \$			
Do you plan to request additional Transit in Parks Program funds in future years? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(Note: If you wish to compete for future Transit in Parks Program fiscal year funds you must reapply).</b>			
If answer "Yes," please specify Transit in Parks Program proposed funding levels for out years below: <b>Funding amounts will depend on findings of Transportation Study.</b>			
<b>FY 2010</b> Funding Amounts from sources other than Transit in Parks Program funds? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If answer "Yes," please specify funding levels per source below:			
State \$	Local \$	Federal: <b>\$275,000 funds from Southern Nevada Public Land Management Act</b>	Private sources \$

**CONTACT PERSON**

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**OTHER PROJECT SPONSORS (in addition to funding recipient)****REQUIREMENTS**

- If a State, Tribal, or local government entity is proposing the project, the applicant has contacted the manager of the Federal land unit(s) and has the consent of the Federal land management agency or agencies affected.
- The project is consistent with the metropolitan and statewide planning process.
- The project is consistent with agency plans.
- The planning project will analyze all reasonable alternatives, including a non-construction option.

**BASIC PROJECT DATA-**Number of Visitors (Annual): **901,026**Number of Visitors (Peak): **6,900**Average Number of Vehicles per Day at Peak Visitation: **2,760**

Current Road Level of Service at Peak Visitation:

**In 2001 SR 159 had a LOS of A at the entrance to the Scenic Drive and an LOS of B at the Exit from Visitor Center and the Exit from Scenic Drive.**

What time of the year does your land unit experience Peak Visitation?

 Spring       Summer       Fall       WinterCurrent Carrying Capacity of Existing Roads: **6,000 – 8,000** (vehicles/day)

What percent of that capacity is the site operating at during peak periods?

**35-45%****Road use does not exceed capacity overall but experiences congestion due to “clumping”**Current parking shortages during peak visitation: **11 of 16 parking areas along the Scenic Drive overflow during spring peak and three overflow during fall peak; road has been shut down three times in 2010 due to overcrowding.****See also Table 2 on Page 11 (current and future parking needs)**Current Number of Persons who use the alternative transportation system (if one already exists) at peak visitation: **N/A**Estimated Annual Number of Persons who will use the alternative transportation system at project completion: **Yet to be determined (anticipated number of riders or users/annually)**Average number of auto collisions with wildlife in the area: **Occasional collisions with wildlife (tortoises and burros)**

## Executive Summary

Please provide an executive summary of your proposal that is no more than one page in length.

The Red Rock Canyon National Conservation Area (RRCNCA or Red Rock) is a 198,000-acre natural area adjacent to the City of Las Vegas, one of the fastest-growing urbanized areas in the United States. Red Rock has unique geologic features, including a 3,000 foot escarpment along the west side of Red Rock Canyon and the sandstone Calico Hills. The geologic features and proximity to a major population center has brought Red Rock an annual visitation of approximately 900,000 in 2009. The primary visitation peak is spring with over 6,900 visitors per peak day, with a secondary peak occurring in the fall. RRCNCA is popular with tour buses from Las Vegas, school groups, and rock climbers. The Scenic Drive, a 13-mile one-way loop road, starts at the Visitor Center, with access provided from SR 159 (see Figures 1 and 2). Visitor surveys show that 86 percent of visitors to the site travel on Scenic Drive, making it by far the most popular feature at Red Rock. The Drive provides access to 16 trail heads, each of which has associated parking facilities. In total, there are approximately 290 parking spaces provided along the Scenic Drive.

The influx of visitors on spring and fall weekends has led to significant congestion, particularly on the site's parking lots. BLM site management generally wants to avoid increasing the paved area of the site by constructing new parking along the Scenic Drive, but most of the 16 parking areas exceed capacity during peak spring weekends and have to be closed. During three occasions in 2010, the Drive has been closed due to the lack of parking. Visitors often pull off the road and onto sensitive soils or habitat areas, while other drivers slow down or stop completely in the roadway. Parking congestion has also led to safety issues and conflicts between pedestrians, bicyclists, and vehicles. Parking in undesignated areas impedes emergency vehicle access. Staff closes the Drive when congestion threatens to block emergency vehicle access, which occurs several times per year.

Although the Scenic Drive is not over capacity according to traffic counts, the high number of vehicles and the nature of recreational driving along the Drive leads to "clumping" of traffic and route congestion. Congestion is particularly bad where cars park in undesignated areas due to full lots, causing other vehicles to slow or stop. Red Rock is also a popular destination for climbers, rated as one of the top climbing destinations in the U.S. Parking areas that access climbing sites have low turnover rates, increasing the amount of undesignated parking and associated impacts at these sites.

Several transportation studies have been completed at RRCNCA, including a Transportation Assistance Group (TAG) Report in 2007, a 2001 Transit Feasibility Study, and a Red Rock Canyon Resource Management Plan (RMP) from May 2005. The RMP states that transit on Scenic Drive "has received strong support through public comment and with the rapidly expanding Las Vegas community, actions will need to be taken to handle the increasing visitor use;" the RMP also calls for "an in-depth mass-transit feasibility analysis." Based on the findings these studies, a transit alternative appears to have initial feasibility as a means to reduce congestion and parking issues on Scenic Drive. However, transit has not been studied in any level of detail since 2001, nor has it been compared comprehensively to alternative transportation solutions.

RRCNCA received funding from the Southern Nevada Public Land Management Act (SNPLMA) to complete a Transit System Feasibility Study, and the proposed Comprehensive Transportation Planning Study will broaden the Transit Feasibility Study to include a detailed analysis of alternatives, the selection of alternatives, and an implementation plan. The Comprehensive Transportation Planning Study will first compare several multi-modal alternatives according to evaluation criteria that align with site and agency goals, including visitor mobility and accessibility, visitor safety and experience, natural resource impacts, and cost. Second, the study will more closely examine details relative to a transit alternative to establish what type of transit, if any, would be appropriate and cost-effective to implement at Red Rock. The more detailed analysis of the transit alternative will also be compared to the other three alternatives in terms of ability to address congestion and parking issues. The analysis will inform alternatives selection and an accompanying implementation plan, which may include environmental compliance and public involvement activities.

Figure 1: Vicinity Map

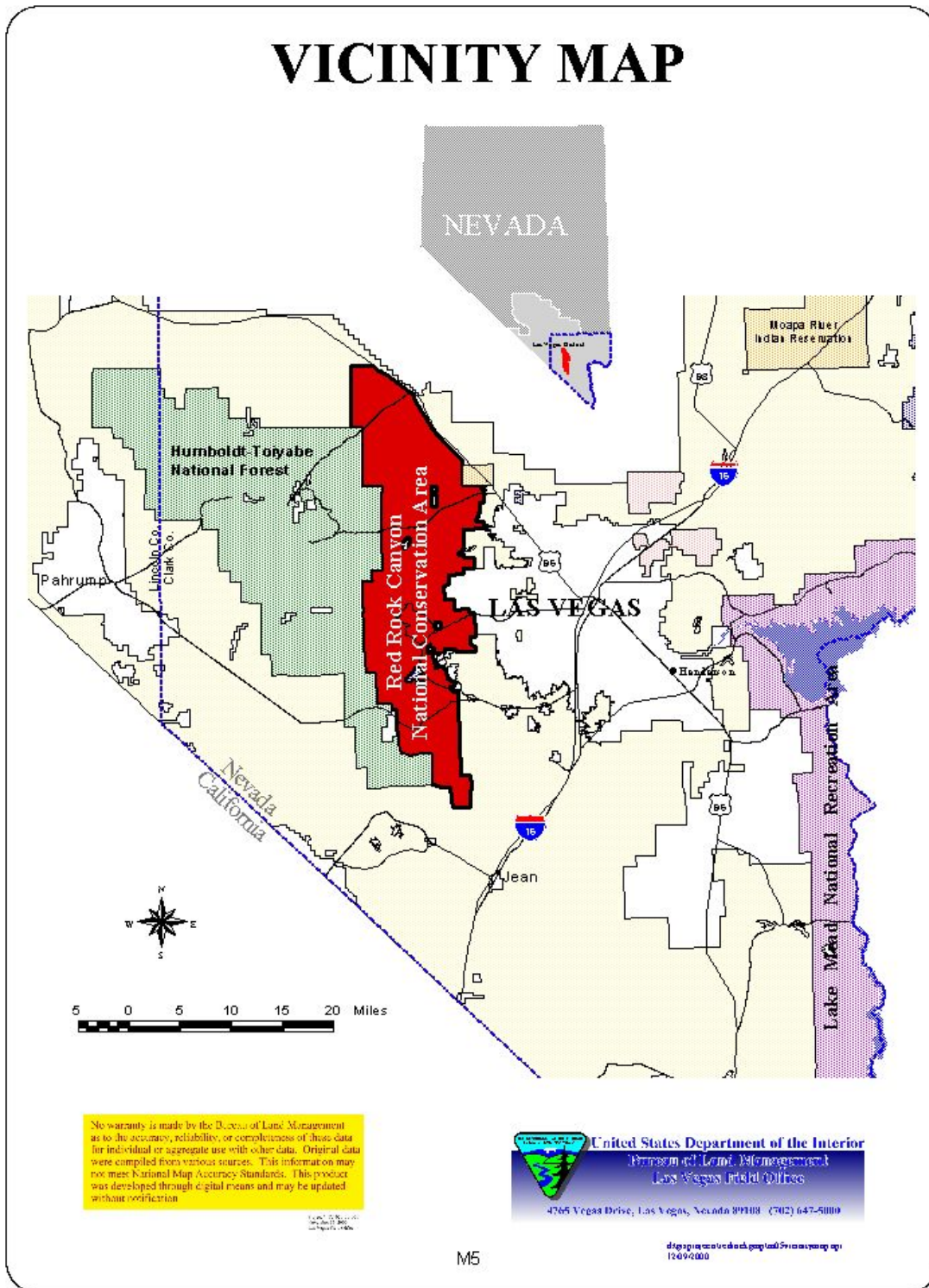
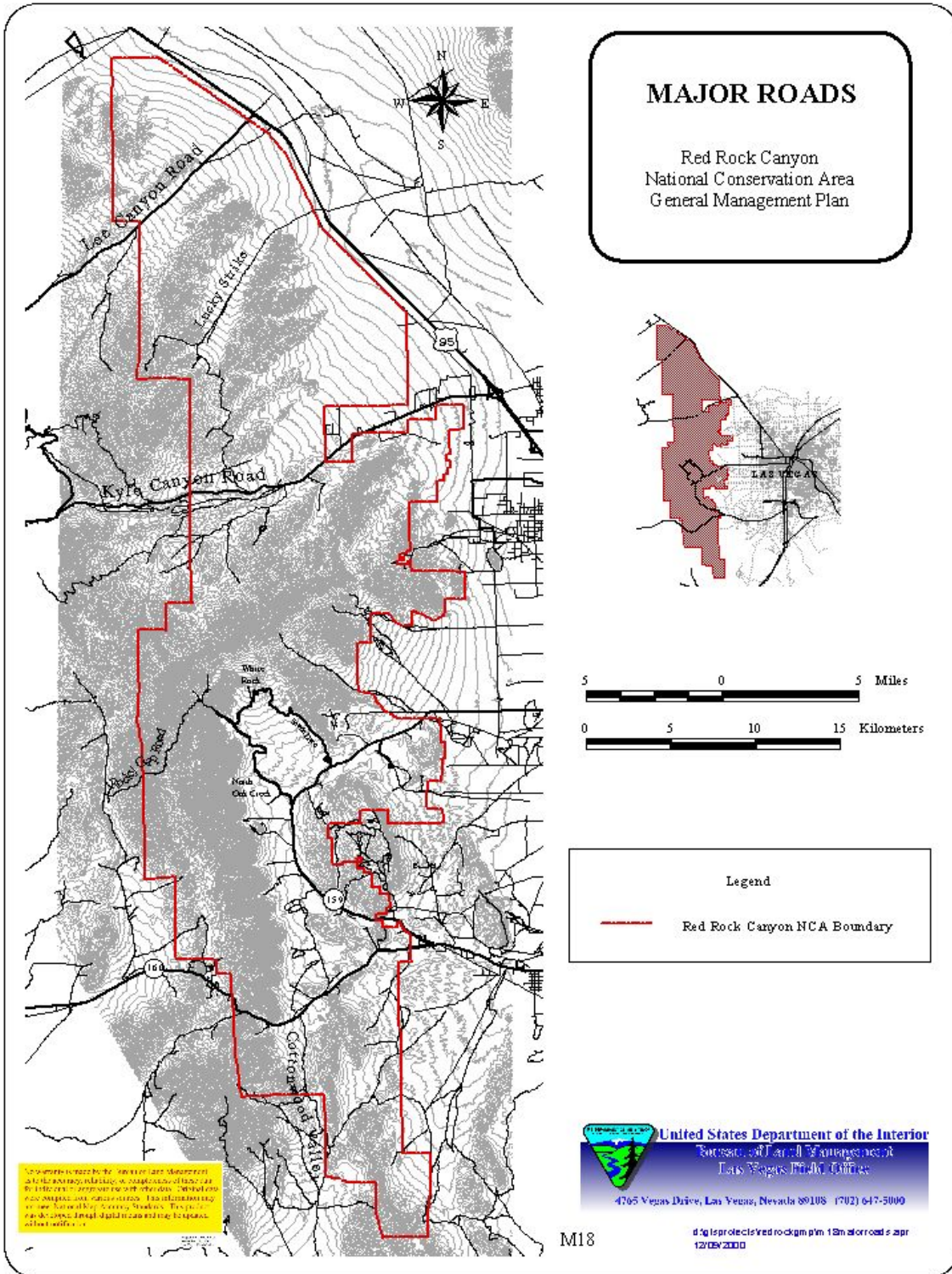


Figure 2: Major Roads



## Project Description

**What activities would be funded by the requested Transit in Parks Program financial assistance? Please provide a project description that is no more than one page in length. You may attach up to two pages of maps or other illustrations that do not count towards the page limit.**

As established in the Executive Summary, RRCNCA transportation facilities are over capacity during many peak visitation periods, causing negative impacts to visitor experience, visitor safety, and the natural environment. RRCNCA proposes the completion of a Comprehensive Transportation Study to evaluate the feasibility of multi-modal transportation alternatives that would alleviate congestion, enhance the visitor experience, and reduce impacts on natural resources. The study goals are to:

1. Enhance visitor mobility by reducing congestion on Scenic Drive and elsewhere on the site.
2. Limit expansion of the developed footprint, with the possible exception of development to temporarily relieve congestion in built-up areas, such as around Scenic Drive.
3. Improve visitor safety, especially for non-motorized visitors.
4. Improve visitor experience while preserving the site's unique natural and aesthetic resources.
5. Explore the feasibility of a transit alternative.

The Comprehensive Transportation Study will focus on an alternatives evaluation to compare multi-modal transportation solutions to address the site's transportation needs, recognizing in particular the seasonal nature of congestion on the site. Alternatives to be evaluated will include transit, in the form of a seasonal shuttle serving Scenic Drive, improvements to facilitate non-motorized access; parking and management programmatic solutions; and a no-action alternative. For each alternative, the following factors will be compared:

- Visitor mobility and accessibility, including congestion reduction, impact on parking, number of visitors served, ability to induce mode shift, and barriers to use
- Natural resource impacts, including impacts to soil, vegetation, habitat, aesthetic resources, air pollution, and noise pollution
- Visitor safety and experience, including educational and interpretive services, impact on safety or traffic violations, and compatibility with site management goals
- Cost, including capital and implementation costs, management and operations costs, and potential funding sources

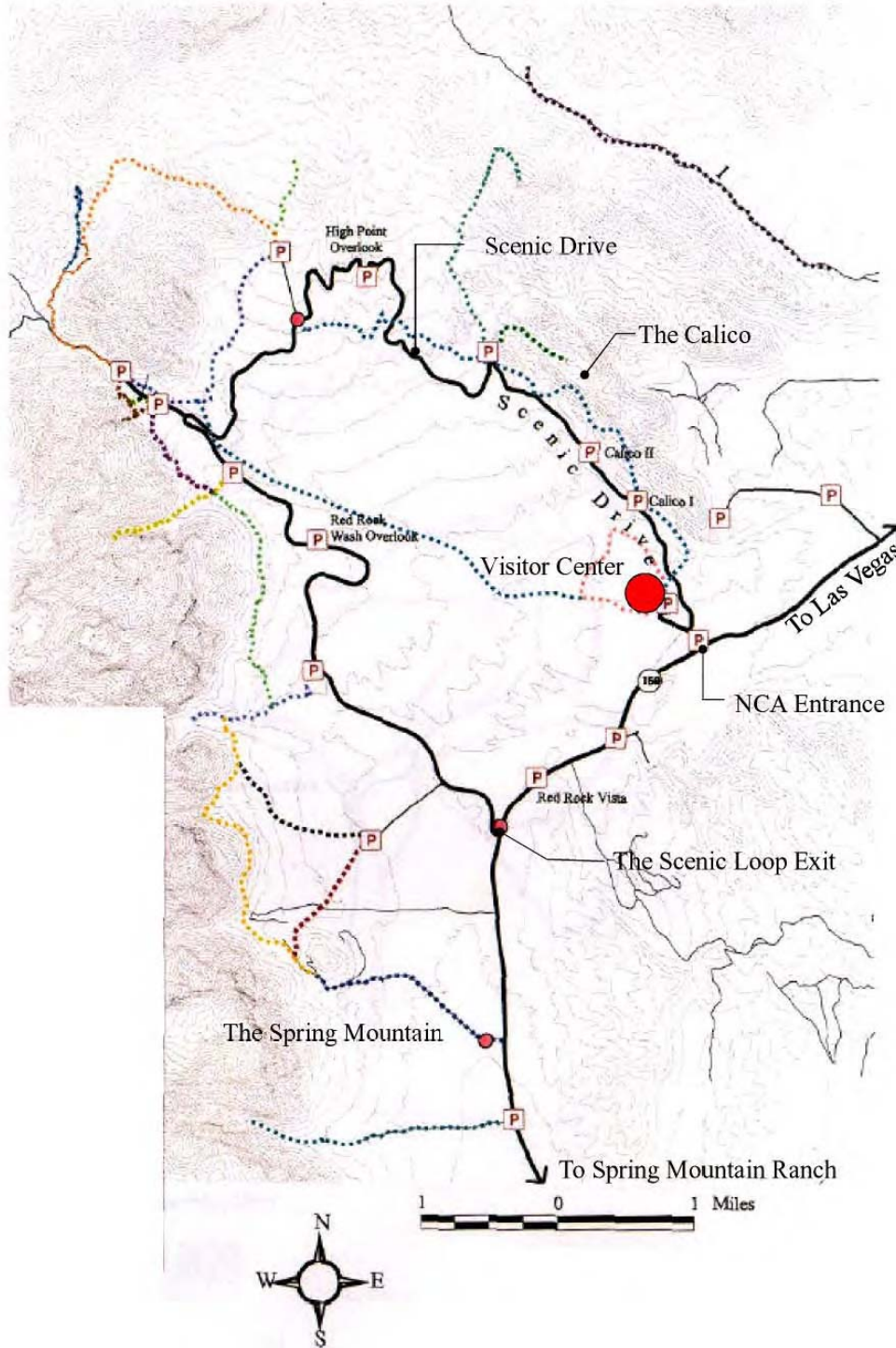
In addition to the general evaluation of multi-modal alternatives, the study will also provide more in-depth research into transit feasibility, as directed by the 2001 Transit Feasibility Study, the 2005 RMP, and the 2007 TAG Report. These studies suggested that a seasonal shuttle serving Scenic Drive showed initial signs of feasibility but needed further research in the following areas:

- |   |  |
|---|--|
| 1. Mandatory or optional service                          | 7. Operations and management plan (including budget, fares, subsidies, and cost-sharing) |
| 2. Cost efficiency  | 8. Vehicle size/type   |
| 3. Public input to determine demand and price sensitivity | 9. System capacity   |
| 4. Seasons/dates/times for service                        | 10. Parking at neighboring off-site locations  |
| 5. Accessibility/ADA                                      | 11. Shelter or bus accommodations along Drive  |
| 6. Ownership or leasing of vehicles                       | 12. Staff capacity to implement/manage service   |

Each of the evaluated alternatives, including the more detailed evaluation of the transit alternative, would be measured for cost-efficiency to determine its ability to meet the project goals while minimizing project costs. Recognizing the importance of funding in eventual implementation of any alternative, the study will also examine potential funding sources, such as use of increased visitor fees and partnership with other agencies and organizations, as a means to finance implementation. The project will commence using funds from SNPLMA awarded to RRCNCA for a Transit System Feasibility Study. Funding from the Sarbanes program will supplement SNPLMA funding and provide

for an alternatives analysis and an implementation plan. The implementation component will detail actions and analysis for implementation, which may include management and operations strategies, environmental compliance, public involvement activities, design and locational guidelines, and legal issues, as appropriate.

**Figure 3: Scenic Drive with Parking and Major Site Features**





## Alternative Transportation in the Parks and Public Lands Planning Evaluation Criteria

(There are separate evaluation factors for implementation projects. Use the implementation project proposal template for implementation projects.)

Criteria	Points	Weight
1. Demonstration of Need		50%
a. Visitor mobility & experience	(1-5)	
b. Environmental condition as result of existing transportation system	(1-5)	
2. Methodology for Assessing: Visitor Mobility & Experience Benefits of Project		15%
a. Reduced traffic congestion	(1-5)	
b. Enhanced visitor mobility, accessibility, and safety	(1-5)	
c. Improved visitor education, recreation, and health benefits	(1-5)	
3. Methodology for Assessing: Environmental Benefits of Project		15%
a. Protection of sensitive natural, cultural, and historical resources	(1-5)	
b. Reduced pollution	(1-5)	
4. Methodology for Assessing: Operational Efficiency and Financial Sustainability of Alternatives		20%
a. Effectiveness in meeting management goals	(1-5)	
b. Financial plan and cost effectiveness	(1-5)	
c. Cost effectiveness	(1-5)	
d. Partnerships and funding from other sources	(1-5)	

### Planning Justification

**Your responses to these questions must total no more than eight pages.**

#### 1. Demonstration of Need

- a. Visitor mobility and experience:** Describe the site's current and/or anticipated transportation problem or opportunity for improvement. You should include information on issues such as traffic congestion, traffic delays, parking shortages, difficulty in accessing destinations, safety issues, lack of access for persons with disabilities, lack of access for individuals with lower incomes or without cars, and visitor frustration. Please cite reports, plans, studies, and other documentation to support your description.

Several studies cite a need for transportation solutions to address congestion at RRNCA. The most recent is a TAG that came to study Red Rock in 2006. The TAG Report, published in 2007, recommended a comprehensive, multi-modal planning study that would include an alternatives evaluation (including no-action, management and parking solutions, shuttle service for Scenic Drive, and non-motorized options); a pricing and fee evaluation for visitor entrance fees and parking fees; and a parking evaluation for potential impacts of parking along Scenic Drive. The TAG report also recommended forming partnerships with transportation agencies, U.S. Forest Service, and local non-profit organizations to formalize planning and share transit resources.

In 2001, a Transit Feasibility Study concluded that several transit alternatives showed initial viability for Red Rock. These included shuttle service on full and partial loops of Scenic Drive. The Transit Feasibility Study recommended a detailed financial analysis to more clearly identify the capital and operating costs associated with shuttle service.

Finally, the Red Rock Canyon RMP from May 2005 notes the consideration of a shuttle transit system for Scenic Drive and the need to accommodate increasing vehicle use. The RMP states that a Scenic Drive transit system “has received strong support through public comment and with the rapidly expanding Las Vegas community, actions will need to be taken to handle the increasing visitor use. The BLM will have an in-depth mass-transit feasibility analysis conducted by a qualified contractor to determine the most suitable option to pursue.”

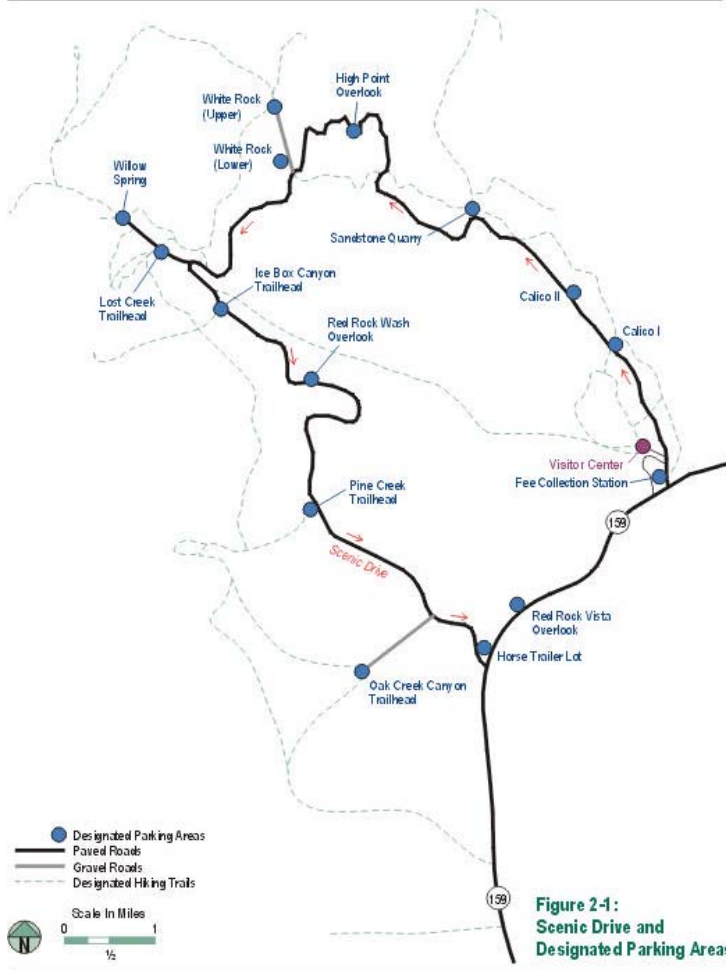
As documented in the studies and anecdotally from site staff, the majority of congestion issues and impacts at Red Rock NCA are related to parking shortages. Parking shortages are largely responsible for traffic congestion, environmental resource damage, and visitor safety issues. Table 1 shows the current number of parking spaces and Figure 4 shows their distribution throughout the site. On peak spring days, when visitation reaches 6,900, parking overflow occurs at the majority of designated parking areas along Scenic Drive. Parking overflow has also been recorded at several lots during peak fall days. Site staff report increasing incidents of parking lot overflow and closure during spring 2010 as visitation numbers soared on nice weekends. During holidays when law enforcement personnel is limited, volunteers are required to help manage parking along the Scenic Drive.

Parking in undesignated areas is more likely to occur in certain lots that have more popular overlooks, trails, or attractions. For example, Calico Vista I and II and Sandstone Quarry are very popular with climbers, who may park for longer durations than recreational drivers.

**Table 1: Parking Areas (From 2001 Transit Feasibility Study, revised based on staff input)**

Visitor-use Area	Parking Area Type	Regular Vehicle Spaces	Handicap Spaces	Bus/RV Spaces	Employee Spaces
Fee Collection Station	Paved	51	3	0	0
Visitor Center	Paved	193	8	4	13
Calico Vista I	Paved	42 (14 are long-term)	3	3	0
Calico Vista II	Paved	13	1	0	0
Sandstone Quarry	Paved	70	2	0	0
High Point Overlook	Paved	16	0	2	0
White Rock (lower lot)	Gravel	12	0	0	0
White Rock (upper lot)	Gravel	17	0	0	0
Lost Creek Canyon	Paved	21	2	2	0
Willow Spring	Gravel	60	0	0	0
Ice Box Canyon	Paved	23	2	0	0
Red Rock Wash Overlook	Paved	5	0	0	0
Pine Creek Canyon	Paved	11	1	5	0
Oak Creek Trailhead	Gravel	20	0	0	0
Horse Trailer Lot	Gravel	30	0	0	0
Red Rock Vista Overlook	Paved	25	4	2	0
<b>Total</b>		<b>570</b>	<b>22</b>	<b>20</b>	<b>17</b>

**Figure 4: Locations of Parking Areas**



**Figure 2-1:  
Scenic Drive and  
Designated Parking Areas**

Law enforcement recorded between 55 and 60 parking violations in 2008 and 2009 for parking in undesignated areas along Scenic Drive. However, recorded parking violations for parking in undesignated areas are far fewer than actual violations for several reasons. First, the extreme congestion during peak visitation days and the one-way nature of the road inhibits law enforcement officers from patrolling the Drive during the highest-visitation days. Second, each parking violation issued is associated with significant paperwork and processing, and staff note that officers simply do not have time and resources to cite all violations.

Scenic Drive is a highly-visited site amenity whose popularity has led to negative impacts to visitor mobility and experience. Scenic Drive receives 2,700 vehicles or more per day during peak periods (site staff recorded 2,761 vehicles during one day in March 2010), which is below the capacity of the road (estimated as 6,000 to 8,000 average daily vehicles by NDOT). In general, traffic figures indicate that Scenic Drive is not currently operating above capacity, but these numbers do not consider traffic patterns on the Drive during peak periods. As the Drive is only one lane wide and one direction, vehicles that stop or slow down at scenic areas cause “clumping” of traffic; this is particularly an issue at locations where parking is limited. Clumping and undesignated parking not only impede normal traffic flow but also impede emergency vehicle access, causing major safety issues for all site visitors.

Additionally, Red Rock Canyon NCA, and Scenic Drive in particular, have been experiencing steady increases in visitation over the past decade. The site received over 900,000 visitors in 2009, up from approximately 667,000 visitors in 2001. Scenic Drive has seen an increase of 60,000 visitors annually since 2007. These trends suggest a continued increase in visitation into the future, with a prediction

of at least one million visitors by 2021. The Red Rock Canyon NCA Final Business Plan of 2010 estimates future visitation based on observed parallels between visitation at Red Rock and increases in Clark County population, which has grown by 150 percent between 1990 and 2007. The County population is expected to grow by an additional 200 percent between 2007 and 2020, and visitation at Red Rock is predicted to grow accordingly. Other sources of visitation increase include the growing popularity of Red Rock as a premier rock climbing destination and the opening of the new Visitor Center. Increased visitation will worsen the existing congestion and parking situation if left in its current condition. Table 2, from the 2001 Transit Feasibility Study, shows the number of new parking spaces needed to accommodate anticipated increased visitation in 2021. The number of new spaces is more than two times the current number of spaces at the site, and the investigation of alternative means of site access is needed to relieve the high costs and environmental impacts associated with creating new parking.

The need for a transportation solution to address congestion and parking has attracted management attention over the past decade, as evidenced in the studies and management plans that document the need for a transportation solution (the Visitor, the 2001 Transit Feasibility Study, and the 2007 TAG Report). Additionally, the new Visitor Center Master Plan states as a goal the need to plan for and incorporate a future shuttle system into the Visitor Center design. This proposed study would provide a key tool to provide sufficiently comprehensive analysis to determine an appropriate transportation solution for the site.

**Table 2: Parking Lot Expansion Requirements**

<b>Parking Area</b>	<b>Current Parking Supply (regular spaces only)</b>	<b>Estimated Design Day Parking Demand in 2021</b>	<b>Number of Additional Spaces Required to Meet 2021 Design Day Demand</b>
Fee Collection Station	56	93	37
Visitor Center	149	243	94
Calico Vista I	42	132	90
Calico Vista II	13	148	135
Sandstone Quarry	70	148	78
High Point Overlook	16	70	54
White Rock (lower lot)	12	20	8
White Rock (upper lot)	17	42	25
Lost Creek Canyon	21	65	44
Willow Spring	60	95	35
Ice Box Canyon	23	65	42
Red Rock Wash Overlook	5	9	4
Pine Creek Canyon	11	118	107
Oak Creek Trailhead	20	20	0
Horse Trailer Lot	30	26	0
Red Rock Vista Overlook	25	79	54
<b>Total</b>	<b>570</b>	<b>1373</b>	<b>807</b>

- b. Environmental condition as a result of the existing transportation system:** Describe the site's current or anticipated problem or opportunity for improvement of the environment in this area. You should include information on current or anticipated problems such as air pollution, noise pollution, run-off, water quality, harm to vegetation and wildlife, and other impacts or stressors on natural, scenic, cultural and/or historic resources caused by the existing transportation system. Please cite documentation in agency plans, studies, reports and other documentation that will help to support your description.

Red Rock's RMP from May 2005 explicitly states goals for biodiversity, vegetation, and air quality, which support the need to address congestion issues. These goals include establishing limits for and monitoring ecosystem impacts in high visitation areas, such as Scenic Drive and adjoining trails, closing trail spurs and braids caused by human impacts in undesignated areas, and restoring plant productivity in disturbed areas. Each of these goals represents an underlying problematic condition resulting from heavy road use and shows a management commitment to address these issues.

The key environmental threat of the existing condition at Red Rock occurs from congestion and undesignated parking on Scenic Drive. There are 290 parking spaces on Scenic Drive, which regularly fill during peak periods, leaving drivers to park on the road shoulder in undesignated area. These vehicles increase the footprint of impacted areas, leading to soil erosion, vegetation destruction, and habitat degradation. The 60 citations in 2009 for parking in undesignated areas represents only a small fraction of the number of vehicles illegally parking on a regular basis, especially since law enforcement officers tend to regulate less frequently on peak days due to crowds and congestion.

Parking in undesignated areas has secondary harmful environmental impacts. First, visitors walking from unauthorized parking areas into sensitive habitat can create "braids" (informal and undesirable footpaths), similarly harming soil, vegetation, and habitat. Second, illegal parking also has aesthetic impacts of degrading the landscape and interrupting the viewshed with additional vehicles. Third, parking in undesignated areas interrupts traffic flow along Scenic Drive, adding to congestion and increasing fuel use and carbon emissions. Parking shortages in general can cause additional circling and idling, resulting in increased air pollution. The management of these parking issues, and a decreased volume of vehicles on Scenic Drive, can alleviate the negative environmental impacts of vehicles at the site.

Finally, Las Vegas Valley was designated as a serious non-attainment area for PM-10 particular matter in January 1993. Clark County achieved attainment of the PM-10 dust standard in December 2006 and has submitted a request to the Environmental Protection Agency for a finding of attainment. Given the area's history with dust particulates, RRNCA must pay careful attention to dust-related impacts. Additional traffic on the Scenic Drive, and especially on unpaved shoulders or adjacent soils, aggravates suspended particulates.

### **Scope of Work and Methodology**

*The planning project's scope of work and methodology should include tasks that will assess the areas below in a thorough and professional manner. The planning project should have a scope of work and methodology at this proposal phase, although it may be refined later.*

### **2. Methodology for Assessing - Visitor Mobility & Experience Benefits of Project**

Please address how the planning project's scope and methodology will assess the visitor mobility & experience benefits of a potential alternative transportation system improvement in the following areas:

- a. Reduced traffic congestion:** This criterion includes: reduced average number of daily motorized vehicle trips during peak visitation, time lost to traffic delays, visitor frustration, and the area's current capacity of the existing transportation system.

The existing conditions of limited visitor mobility stem not from capacity on Scenic Drive but rather from heavy congestion caused by limited parking and high vehicle volume during peak periods. This study can examine a range of multi-modal alternatives for their ability to reduce congestion and reduce the number of vehicles on Scenic Drive (during peak periods).

The study will address traffic congestion by considering the following evaluation criteria for each alternative:

- Ability to reduce parking in undesignated areas (measured by percentage of undesignated parking reduced)
  - Number of vehicles anticipated per hour (during peak days) on Scenic Drive (or estimate of reductions in vehicles per hour on Scenic Drive)
  - Ability to reducing idling and congestion-related delay (based on baseline data of existing delay, estimated reductions in vehicles per hour on Scenic Drive, and estimated reductions in undesignated parking)
- b. Enhanced visitor mobility, accessibility, and safety:** This criterion includes enhanced intermodal interconnectivity, improved public access to resources, improved access for those with disabilities and low incomes, traffic safety, pedestrian/cycling safety, and safety in the case of catastrophic events (i.e., forest fires or security threats).

Visitor mobility and accessibility are significantly limited by heavy congestion on Scenic Drive, as well as the challenges in locating parking spaces in desired locations to visit and view site amenities. The planning study will address these limitations by examining alternatives that not only reduce congestion but also that give visitors alternative means of accessing the site (such as non-motorized or transit modes). The study will consider non-motorized options that enhance the safety and accessibility of non-motorized users, a visitor group that has been increasing in recent years, according to reports from site staff. The study would also consider parking management options that would enhance access for people with disabilities.

Visitor safety is a major concern, particularly as non-motorized recreation and visitor access has increased in recent years. There are no designated bicycle lanes or facilities, no shoulder for bicyclists to ride alongside the main driving lanes, and bicyclists often ride two or three abreast, causing conflicts with cars. The General Management Plan (GMP) identifies motor vehicle accidents caused by speeding, reckless driving, and driving under the influence of drugs or alcohol as the greatest single threat to public safety at Red Rock. Several alternatives to be examined in the study would bring about fewer cars on Scenic Drive or better manage dangerous behaviors by drivers on the Drive, which could reduce accidents and increase visitor safety. Also, alternatives that reduce congestion will allow better access for emergency vehicles, thereby increasing safety.

The study will address visitor mobility, accessibility, and safety by considering the following evaluation criteria for each alternative:

- Number of visitors anticipated to use new transportation services or alternatives (as measured through a visitor use survey), including anticipated use by non-motorized visitors and handicapped visitors
- Number and location of parking spaces for visitor use
- Number and location of parking spaces for handicapped visitors and buses/vans
- Intermodal connectivity (ease of integration with existing transportation systems)
- Barriers to visitor use
- Reduction in pedestrian and bicycle accidents
- Reduction in motor vehicle accidents

- c. Improved visitor education, recreation, and health benefits:** Describe how the project's scope and methodology will assess improved visitor education, recreation and health benefits?

Scenic Drive is a key component of the visitor recreational experience, as measured by the large majority of visitors who complete this loop. The reduction of congestion and improvement of safety and flow on the Drive will greatly improve visitor recreation and experience. Congestion relief may also result in positive environmental impacts that affect visitor health, such as reduction in particulate matter from fewer vehicles driving along dirt shoulders or reduced carbon emissions from fewer

vehicles driving or idling on the Drive. The study's consideration of non-motorized options, such as safer facilities for cyclists, can bring about recreation and health benefits to non-motorized users.

The Red Rock RMP has a goal of increasing visitor outreach and education about the site's unique natural resources. Shuttle service, which is one alternative to be considered, may also come with additional educational benefits, such as the ability of drivers to serve as guides and answer visitor questions about the site's geologic features.

The study will address visitor education, recreation, and health by considering the following evaluation criteria for each alternative:

- Improvement in visitor recreational amenities
- Improvement in visitor interpretive services
- Number of vehicles anticipated per hour (during peak days) on Scenic Drive (or estimate of reductions in vehicles per hour on Scenic Drive)
- Estimate of emissions and particulates reductions from reduced vehicles on Scenic Drive or reduced idling times
- Improvement in facilities for non-motorized visitors

### **3. Methodology for Assessing - Environmental Benefits of Project**

Please address how the planning project's scope and methodology will assess the environmental benefits of a potential alternative transportation system improvement in the following areas:

- a. Protection of sensitive natural, cultural, and historical resources:** This criterion includes energy conservation, energy efficiency, ecosystem sustainability, preservation of archeological and/or historical resources, viewshed and watershed preservation, reduction in auto-wildlife collision rates, improved habitat connectivity, ensuring that visitation does not exceed an area's ability to handle increased levels of visitation or the "carrying capacity" of the land unit, and other protection benefits where applicable.

The existing parking shortages already result in a number of environmental impacts caused by parking in undesignated areas, including impacts to vegetation, soil, ecosystems, and aesthetic resources. Vegetation and soil disturbance are a general consequence of high levels of visitor use, and managers generally accept some level of disturbance, but excessive impact can have ecological and managerial consequences. Visitation at RRCNCA, and along the Scenic Drive, has been increasing in recent years (gaining about 60,000 new visitors between 2007 and 2009), which suggests these impacts can be expected to increase in future years. The BLM's goal to not increase the developed footprint for additional parking will be an important consideration in the study as the impacts to resources from congestion and illegal parking are weighed against increased visitation.

Benefits associated with a new transportation alternative include erosion prevention, habitat preservation, viewshed preservation and aesthetic enhancements of natural resources from reduced traffic or reduced illegal parking on Scenic Drive. The study's consideration of management techniques, including demand management, parking management, and encouragement of non-motorized modes, will address the carrying capacity of the site.

The study will address protection of natural resources in two ways. First, the study will measure the "creep" of existing parking areas as formed by undesignated parking in a few high-use areas and also record trail braiding related to undesignated parking and visitor use. This will provide a quantitative baseline for monitoring future conditions. Second, for each alternative the study will consider the ability to reduce parking in undesignated areas (measured by percentage of undesignated parking reduced) and the ability to reducing idling and congestion-related delay.

- b. Reduced pollution:** This criterion includes air pollution, water pollution, noise pollution, and visual pollution.

Congestion on Scenic Drive causes increased particulate matter, fuel use, carbon emissions, and noise pollution. Heavy traffic volumes and undesignated parking also cause visual pollution. The primary means that the study can reduce pollution is through reducing the number of vehicles of Scenic Drive or by reducing the idling and congested traffic patterns of vehicles using the Drive.

The study will address pollution by considering the following evaluation criteria for each alternative:

- Number of vehicles anticipated per hour (during peak days) on Scenic Drive (or estimate of reductions in vehicles per hour on Scenic Drive)
- Estimate of emissions and particulates reductions from reduced vehicles on Scenic Drive or reduced idling times
- Anticipated impacts on viewshed (visual pollution)

#### **4. Methodology for Assessing - Operational Efficiency and Financial Sustainability**

Please address how the planning project's scope and methodology will assess the operational efficiency and the financial sustainability of a potential alternative transportation system improvement in the following areas:

- a. Operational efficiency:** This criterion includes considerations of how a potential alternative system may/may not meet identified management goals and objectives for this site, including consideration of multiple alternatives.

The primary management direction for RRCNCA, as stated in the RMP, is to conserve and protect the site's natural resources. The RMP also calls for the provision of recreation opportunities to allow the public to enjoy and appreciate the unique natural setting of Red Rock. The RMP includes management objectives for preserving biodiversity, improving air quality, restoring vegetation, and providing for a range of visitor recreational experiences. Finally, the RMP recognizes the need to address increasing visitation through a transportation solution.

The criteria of the proposed Comprehensive Transportation Planning Study address the site goals of conserving the site's unique resources and managing recreation to allow visitors to best enjoy these resources with minimal impact upon the natural environment. As established previously, the congestion and parking issues along Scenic Drive lead to negative resource impacts and reduced mobility, accessibility, and safety for visitors. Alternative transportation systems, such as the alternatives considered in the Planning Study, will be evaluated based on their ability to alleviate congestion and parking issues and thereby meet site management goals.

The evaluation criteria selected are based on site and Planning Study goals and will include qualitative and quantitative measures for each alternative. Additionally the analysis will specifically consider the operational feasibility of an alternative to meet Planning Study goals by including practical indicators related to implementation and usability of an alternative. These indicators include cost, barriers to visitor use, visitor demand (based on a visitor survey to be administered as part of the Planning Study), and staff capacity for management and operation. The use of operational feasibility indicators will also inform the alternatives selection and implementation plan phases of the study.

- b. Financial feasibility:** This criterion includes the development of a financial plan that will incorporate a potential alternative transportation system, including the evaluation of multiple alternatives.

Financial feasibility will be a critical factor in the consideration of transportation alternatives, given that the agency's limited funds and potential need to work with partners and visitors to identify long-term funding sources. Site staff capacity is extremely limited, and transportation alternatives that call upon



additional staff capacity for management and operations will need additional funding to increase staff capacity.

Another important factor in this element of the study will be the use of visitor fees to fund implementation and operation of the alternatives, including a potential increase in visitor fees. The Red Rock Business Plan, published in May 2010, finds that not only that visitors are satisfied with current levels of fees, but also that a majority of visitors support raising the entrance fee from \$5 to \$7. This signals a potential new funding source to finance alternatives.

The financial plan element would consider the following for each alternative:

- Additional staff capacity needed for implementation, management and operations
- Costs of operations for each alternative (including seasonal operation)
- Capital costs
- Division of costs among BLM, visitors, and partners
- Available and potential revenue sources, as well as feasibility of obtaining funds from such source
- Viability of visitor fees to cover costs

More detailed financial elements of the selected alternative and targeted funding sources will be studied and included in the implementation component of the study.

- c. Cost effectiveness:** This criterion includes the development of an analysis of cost effectiveness considerations that includes multiple alternatives.

For each of the four evaluated alternatives, the study will combine metrics of operational efficiency and financial feasibility to arrive at cost effectiveness. This will allow the ability of each alternative to meet overall study objectives (such as reduced congestion and reduced undesignated parking) with the total costs of implementing and operating each alternative. One means to measure cost effectiveness may be the calculation cost per passenger served for each alternative (as measured by the total number of visitors served during peak days and the total capital and operations cost).

Cost effectiveness must also consider the study and site goals to ensure that the selected alternative address the existing site problems and long-term needs. For example, a low operating cost per visitor that does not actually result in congestion improvements does not meet project goals). The cost effectiveness measures will also help determine the alternatives selection.

- d. Partnerships and funding from other sources:** This criterion includes planning projects that would be carried out or funded in partnership with other entities in addition to the sponsor and will receive points depending on the level of partnership. Documentation (e.g., partnership agreements, letters of partnership support, letters of confirmation of financial contribution, letters of in-kind contributions, etc.) that supports and verifies involvement of partners and level of partnership *must* accompany this proposal.

See attached letters of support from the following groups:

- Friends of Red Rock (note that letter of support contains some parking data that is inconsistent with data collected formally by BLM staff)
- Red Rock Canyon Interpretive Association