National Park Service Southeast Region
Long Range Transportation Plan

Transportation Resource Stewardship Planning Tool Summary Report

vhb

U.S. Department of Transportation
Federal Highway Administration

February 2016

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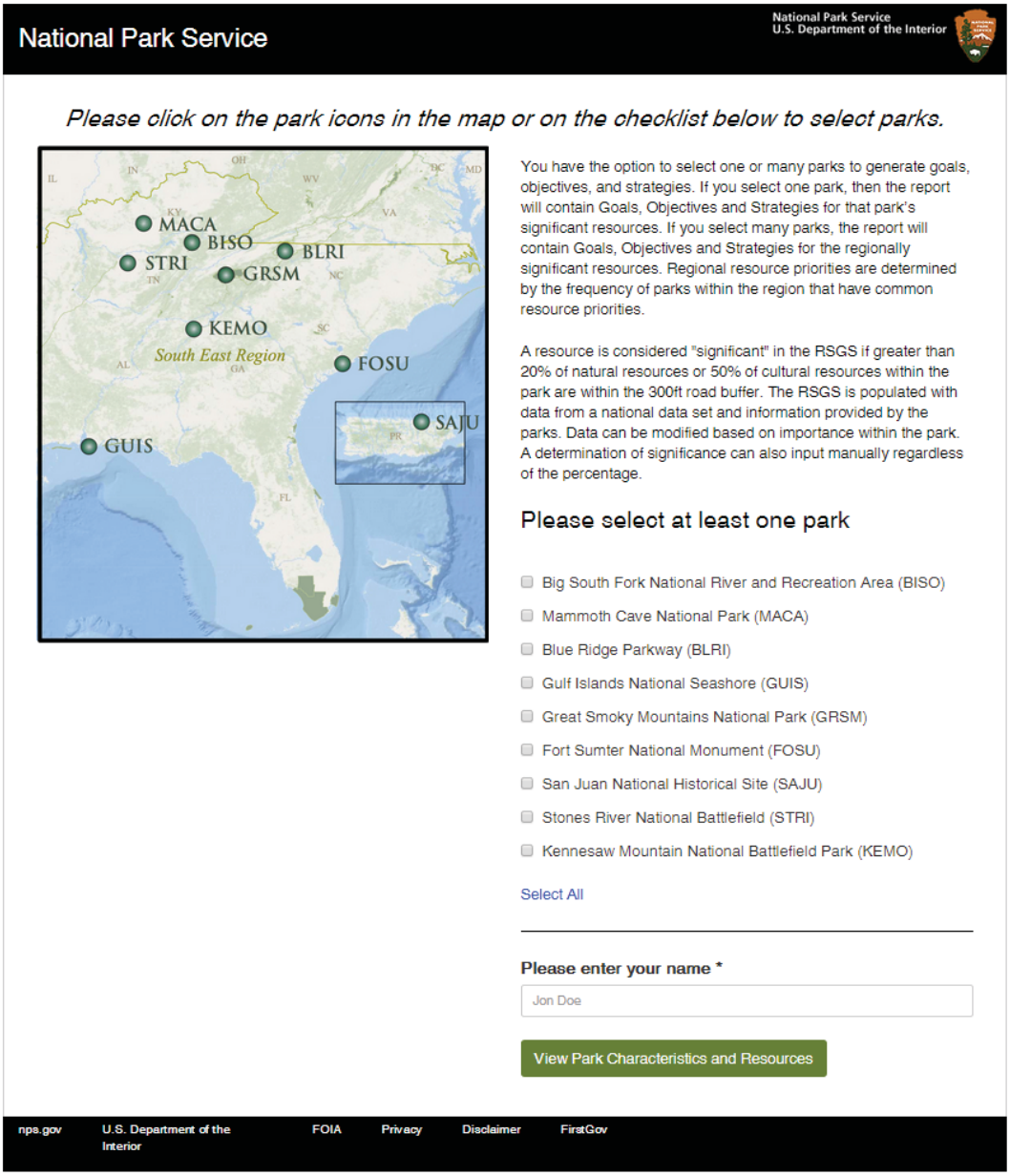
National Park Service

Long Range Transportation Plan

Transportation Resource Stewardship Planning Tool*

Pilot Website Methodology



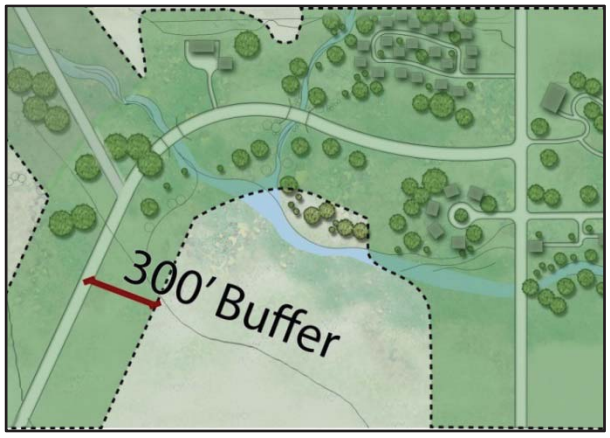
Prepared by Logan Simpson 08/13/15

* Previously called the Resource Stewardship Guidance Tool (RSGT)

Process

Natural and cultural resource stewardship is fundamental to the NPS mission; therefore, transportation planning within the National Park System requires a different approach. A two-phase project was implemented to ensure that resource stewardship is an integral component of NPS's transportation planning process. Phase 1 created a stewardship guidance document that outlines the process for using natural and cultural resource spatial data to determine appropriate goals, objectives, and strategies for inclusion in NPS Long Range Transportation Plans (LRTPs). Phase 2 automated this process by creating a pilot web-based decision support tool—the Resource Stewardship Guidance Tool (RSGT)[1]—for nine parks in the Southeast Region.

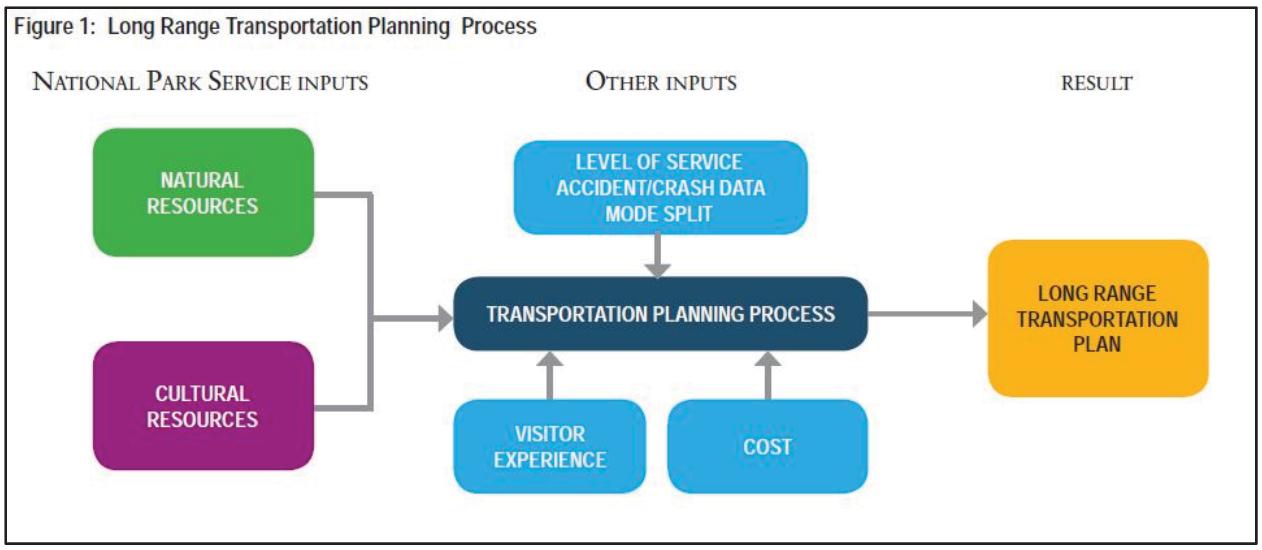
The RSGT ensures that baseline natural and cultural goals, objectives, and strategies are considered in a consistent manner by using contextual and landscape-level data to extract recommendations from nationwide datasets. The RSGT considers single or multiple parks, aggregating results to represent a holistic picture at the park, regional, or national scale. Commonalities in the relationship between resources become apparent as the scale increases. The RSGT's recommendations are not an endpoint for the planning process but instead an objective starting point from which to further consider protection and enhancement measures for the natural and cultural environment in which transportation assets reside.



The RSGT generates objectives and strategies based on the degree of impact the transportation system has on park resources. Specifically, this tool provides data for the area of a resource within a 600-foot transportation buffer (300 feet from the centerline on each side of the roadway) and compares it with the area of that resource within the whole park. Currently, the RSGT is programmed to automatically pull resource strategies if 20% or more of a natural resource or 50% or more of a cultural resource is within the transportation buffer, compared to the total percentage of that resource within the whole park.

Unlike other methodologies that just consider the overall volume of a park's natural and cultural resources, the RSGT's methodology uses nationally available resource datasets, as well as park-specific data, to spatially map each resource type with the transportation system to understand where there is a higher percentage of overlap. Using standardized national datasets as a baseline gives all resources across all parks equal consideration and avoids highlighting one resource over another simply because more isolated studies have been completed for that resource area.

1 Note that, since the publication of this report, the official name of the RSGT has been changed to the Transportation Resource Stewardship Planning Tool (TRSPT).



The purpose of this decision support tool is to allow the resource to guide the strategy. Ensuring that the RSGT generates appropriate resource stewardship guidance strategies required the following criteria:

- Strategies are relevant to the actual resources present in the park.
- The data is editable based on updated data.
- The resources can be prioritized based on the degree of transportation-related resource impacts.
- The input data can be scaled down to one park or scaled up to one or more regions.
- The baseline data is on a national scale to ensure equality of resource analysis between parks and regions.
- The system allows for added strategies to remain a useful tool as best management practices evolve in the future.

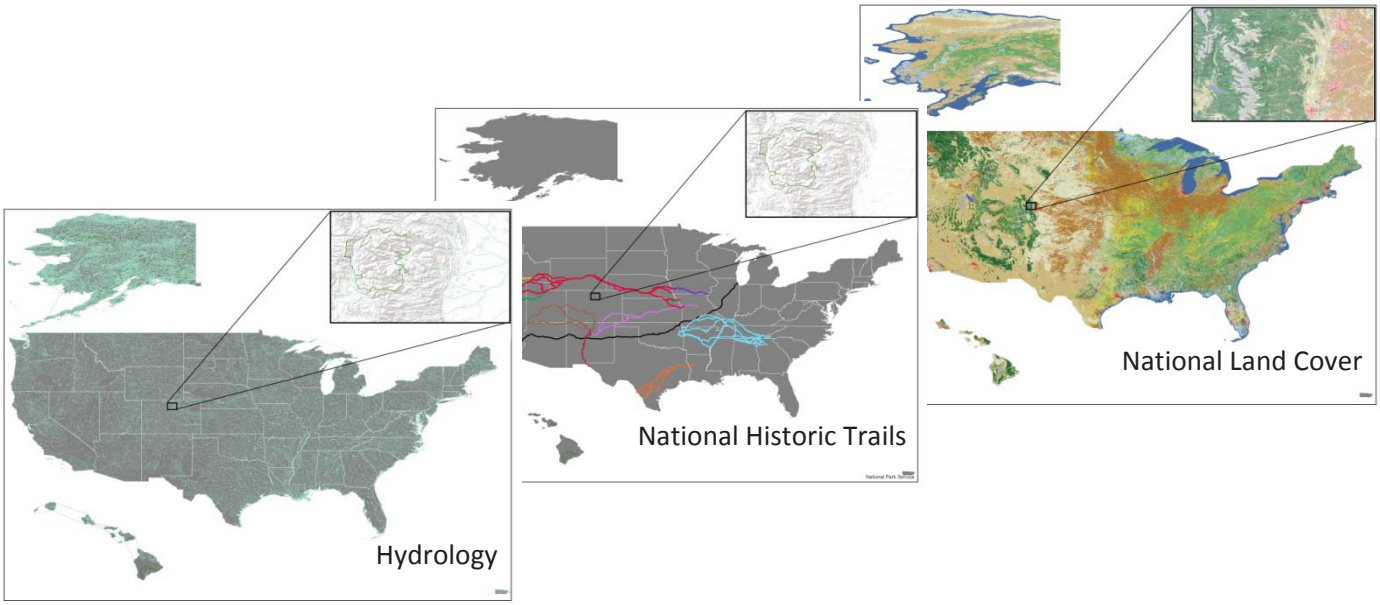
Data Sources

Data for use in the RSGT was collected from the NPS data store and from the IRMA (Integrated Resource Management Applications) portal, which houses NPS data store and the NPS source for threatened and endangered species data for all parks.

Three-Tiered Approach to Database Development

The RSGT database was developed through a three-tiered approach—collection, verification, and refinement. First, national datasets were obtained for natural and cultural resources. Next, these datasets were vetted with individual parks to confirm and adjust datasets as appropriate; supplemental data and information from the parks were also added to the RSGT database. Finally, notes from site visits and interviews being conducted by the consulting firm VHB at all nine Focus Parks in the Southeast Region, as part of the region's LRTP process, were reviewed for consistency with the datasets. This review revealed additional concerns and issues for parks, such

as dust, trash, and migratory butterflies, and resulted in additional strategies for the RSGT database.



Data sources for natural and cultural resources are shown in the following table.

Source	*Natural Resources*
USGS (15% or Greater—Area within Road Buffer/Total Road Buffer)	Steep Slopes Greater Than 15% (Acres)
US Fish and Wildlife	Critical Habitat (Acres)
USGS National Land Cover Database	Vegetated Land Cover (Acres)
USGS National Land Cover Database	Forested Land Cover (Acres)
USGS National Hydrography Dataset	Wetlands (Acres)
USGS National Hydrography Dataset	Perennial Streams (Miles)
Park Data	Boat Launch (Number)
NPS	Designated Wilderness (Acres)
FEMA	Floodplains (Acres)
USGS Soils Data (Area within Road Buffer/Total Road Buffer)	Erosion-Prone Soils (Acres)
EPA	Wild and Scenic Rivers (Miles)
Park Data	Scenic Highway (Miles)

Source	*Cultural Resources*
NRHP	Historic Monuments
NRHP	Historic Battlefields
NRHP	Historic Canals
Park Staff Input	Archeological Sites
NRHP	Historic Roads
NRHP	Historic Structures
UNESCO	World Heritage Sites
NPS Species	Threatened and Endangered Animals and Plants
NPS Species	Large-Animal Traffic Accidents (Annual Number)
Visual Confirmation	Marine and Coastal (Y/N)
Park Data	Heavy Snowfall (Y/N)
NPS Species	Migratory Birds (Y/N)
EPA	Air Pollution Issues or Nonattainment Air Quality (Y/N)
Park Data	Scenic Overlooks (Number)
NRHP	Historic Districts (Number)
NRHP	Historic Trails (Miles)

Goals, Objectives, and Strategies

The RSGT was based on the "goals, objectives, and strategies" structure fundamental to all NPS LRTPs. **Goals** are the overarching themes defining the end result that LRTPs strive to achieve. **Objectives** are more specific and strategic recommendations for achieving goals. **Strategies** are specific actions leading to the implementation of objectives and, in turn, goals.

The RSGT allows for consistent consideration of natural and cultural resource guidance for all parks across various scales. This web-based decision support tool allows planners to "pull" appropriate goals, objectives, and strategies from the resource stewardship database when initiating an LRTP process within the National Park System. Goals available in the RSGT database target best management practices, as well as NPS-specific initiatives such as climate change, leadership, and viewsheds. The following steps were used to identify available strategies for the RSGT database:

1. Gather all strategies from multiple NPS documents, as well as other LRTP and specific non-NPS related transportation resource protection documents
2. Modify strategies to relate across country to all or any parks
3. Group strategies under relevant goals and objectives

Website Concept and Design

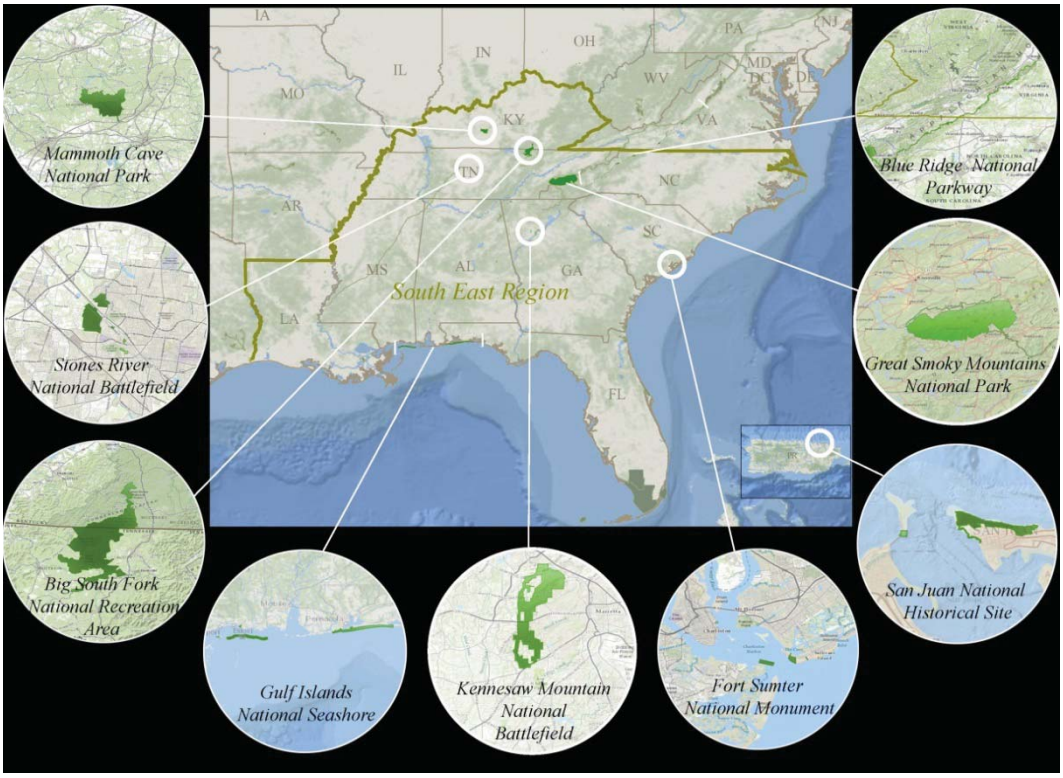
The RSGT website reflects the conceptual approach developed by NPS and Logan Simpson during various meetings and communications between 2013 and 2015. The website provides a user-friendly interface, has an editable format so that strategies can be altered based on user experience, and is responsive to a user's chosen scale (e.g., a park or a region) for goals, objectives, and strategies. The website guides users through four main pages—Parks, Park Characteristics and Resources, Regional Priorities, and Objectives and Strategies—to generate an objective initial determination that can be supplemented with subjective, park-based observations to create appropriately tailored goals, objectives, and strategies for specific NPS LRTPs.

The Parks page displays a map of all the parks within a given NPS region as a visual reference for users. This page also displays those parks in a checkbox list so that users can select one or more parks for their search. Users must enter their name to continue to the next page so that modifications can be tracked.

The Park Characteristics and Resources page displays all of the resource areas, along with their corresponding data, for all the parks selected on the previous page. Resource areas are automatically populated based on the RSGT database; users can modify them and select which ones to include in the report.

The Regional Priorities page displays an overview of the priorities for all selected parks, as well as which resources are regionally significant.

The Objectives and Strategies page displays a prepopulated table of data related to the regional priorities based on user input.



Website URL: http://lrtp.dev-rocket.com/

Appendix: Report for all NPS Southeast Region park units

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National Park Service
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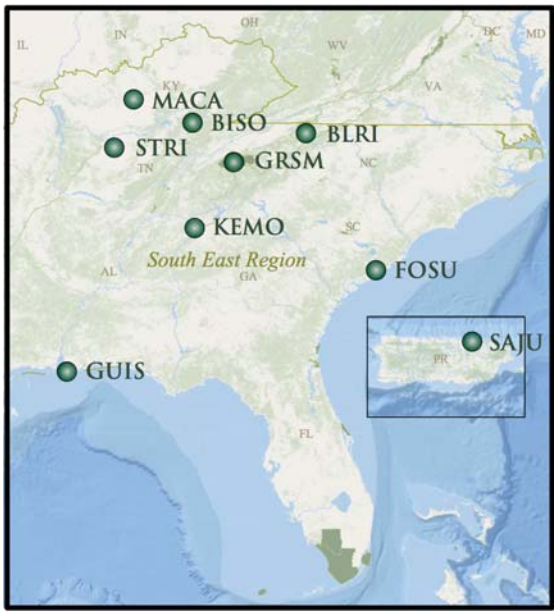
Report data successfully saved



SE - Southeast Region

Print Report

Significant resources

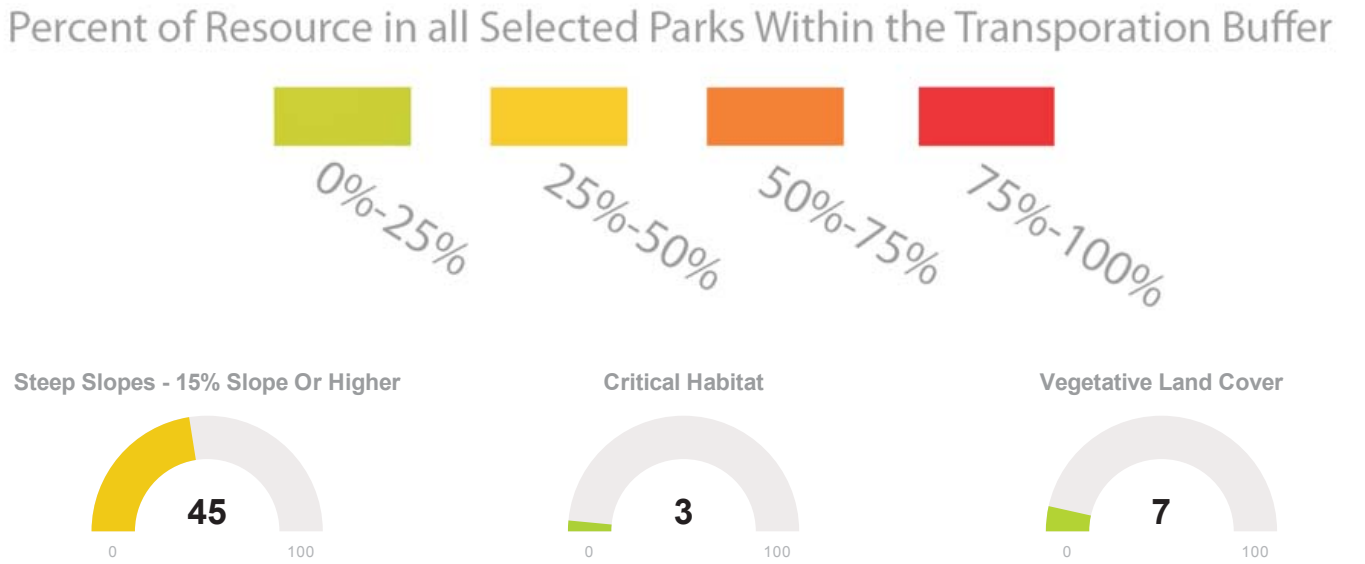
Regional significance – When entering data into the RSGS for more than one park, the report that is generated will show a comparison of significant resources between the parks. This comparison table will also show whether the resource is considered “regionally significant”. A resource is considered regionally significant if it is shown as significant in more than one park within the region.

Resource	BISO	MACA	BLRI	GUIS	GRSM	FOSU	SAJU	STRI	KEMO	Regionally Significant
Steep Slopes - 15% slope or higher			✔		✔					✔
Critical Habitat		✔					✔	✔		✔
Vegetative Land Cover								✔		
Forested Land Cover							✔	✔		✔
Wetlands			✔				✔			✔
Perennial Streams			✔							
Boat Launch	✔	✔	✔	✔	✔	✔				✔
Designated Wilderness										
Floodplain			✔			✔		✔		✔
Erosion Prone Soils										
Wild and Scenic Rivers			✔							
Scenic Highway or Byway			✔							

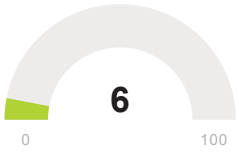
Monuments (Number)		✔					✔			✔
Battlefields (Number)						✔		✔	✔	✔
Canals (Number)										
Archeological Sites (Number)										
Historic Roads (Miles)			✔	✔	✔				✔	✔
Structures (Number)	✔	✔	✔	✔	✔	✔	✔		✔	✔
World Heritage Sites							✔			
Threatened and Endangered Animals and Plants										
Large animal traffic accidents (Number this year)										
Marine and Coastal (Yes/No)				✔		✔	✔			✔
Heavy Snowfall (Yes/No)										
Migratory Birds (Yes/No)										
Non-attainment or Air Quality Issues										
Scenic Overlooks (Number)	✔	✔	✔	✔	✔			✔	✔	✔
Districts (Number)		✔	✔	✔	✔	✔	✔	✔	✔	✔
Historic Trails (Miles)			✔							

The following gauges show the percentage of each resource that is determined to be significant that is located within the 300ft road buffer within the park.

Natural Resources Percentage:

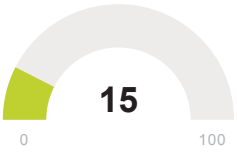


Forested Land Cover

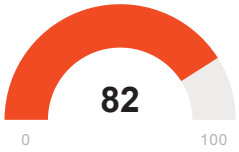


Wetlands

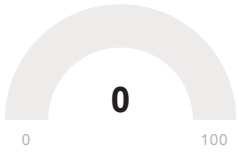
Perennial Streams



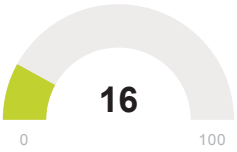
Boat Launch



Designated Wilderness

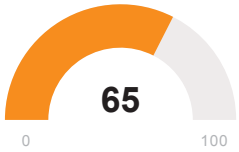


Floodplain

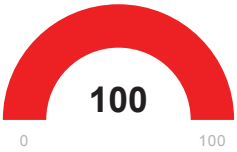


Erosion Prone Soils

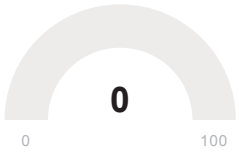
Wild And Scenic Rivers



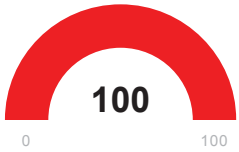
Scenic Highway Or Byway



Non-attainment Or Air Quality Issues

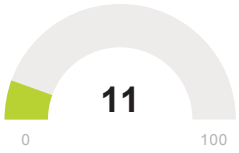


Scenic Overlooks (Number)

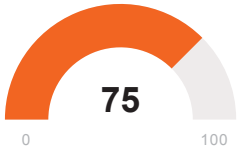


Cultural Resources Percentage:

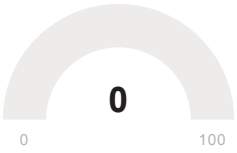
Monuments (Number)



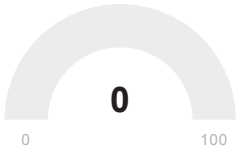
Battlefields (Number)



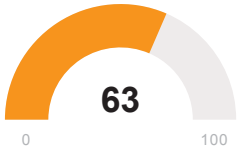
Canals (Number)



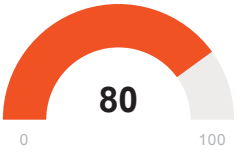
Archeological Sites (Number)



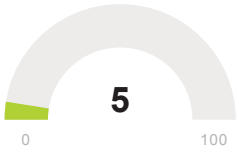
Historic Roads (Miles)



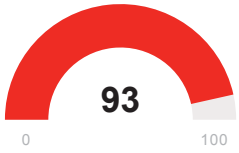
Structures (Number)



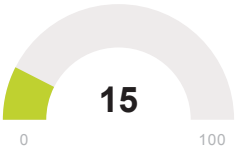
World Heritage Sites



Districts (Number)



Historic Trails (Miles)



Threatened and Endangered Animals and Plants:

Listed below are the Threatened and Endangered Species for the nine pilot parks. Species are color coded by the number of parks where they have been identified.

1 park | 2 parks | 3 parks | 4 or more parks

Federal and State Listings Key:

C - Candidate Species
D - No longer used
E - Endangered
LE - Listed Endangered
LT - Listed Threatened
PE - Proposed Endangered
RT - Resolved Taxon
S - Species
SC - Species of Concern
SE - State Endangered
ST - State Threshold
T - Threatened
UR - Under Review
X - Endangered Extripated

Bird ❯

Crab/Lobster/Shrimp ❯

Fish ❯

Bat ❯

Mouse ❯

Rabbit ❯

Other Non-vertebrates ❯

Reptile ❯

Amphibian ❯

Squirrel ❯

Mountain Lion ❯

Fungi ❯

Whale ❯

Manatee ❯

Bear ❯

Vascular Plants ❯

Goals, Objectives and Strategies

NATIONAL PARK SERVICE LONG RANGE TRANSPORTATION PLAN RESOURCE STEWARDSHIP GUIDANCE SYSTEM

Big South Fork National River and Recreation Area
The Big South Fork Natural River Recreation area provides healthful outdoor recreation while preserving the free flowing condition of the Big South Fork and its tributaries, the scenic, natural, and cultural values of the area, and the essentially primitive condition of the gorge. Final General Management Plan (Big South Fork National River and Recreation Area 2005) http://www.nps.gov/biso/index.htm (http://www.nps.gov/biso/index.htm)

Mammoth Cave National Park
Mammoth Cave National Park preserves the cave system and a part of the Green River valley and hilly country of south central Kentucky. This is the world's longest known cave system, with more than 400 miles explored. Early guide Stephen Bishop called the cave a "grand, gloomy and peculiar place," but its vast chambers and complex labyrinths have earned its name - Mammoth. http://www.nps.gov/maca/index.htm (http://www.nps.gov/maca/index.htm)

Blue Ridge Parkway
The Blue Ridge Parkway, In linking the Shenandoah and Great Smoky Mountains National Parks, is dedicated to enhancing the outstanding scenic and recreational qualities of the corridor that it traverses, conserving unimpaired its significant natural and cultural resources, and promoting in perpetuity the public enjoyment and appreciation of the central and southern Appalachian Mountains. (Blue Ridge Parkway Mission Statement) http://www.nps.gov/blri/index.htm (http://www.nps.gov/blri/index.htm)

Gulf Islands National Seashore
The Gulf Islands National Seashore (also referred to as the national seashore) was established by the U.S. Congress on January 8, 1971. Part of the national park system, the national seashore consists of two mainland and two barrier island portions in the northwest section of Florida's panhandle and another mainland section and four barrier islands in Mississippi. These areas (139,175 acres total) were set aside for the purpose of preserving areas possessing outstanding natural, historic and recreational values for public use and enjoyment. (General Management Plan) http://www.nps.gov/guis/index.htm (http://www.nps.gov/guis/index.htm)

Great Smoky Mountains National Park
Ridge upon ridge of forest straddles the border between North Carolina and Tennessee in Great Smoky Mountains National Park. World renowned for its diversity of plant and animal life, the beauty of its ancient mountains, and the quality of its remnants of Southern Appalachian mountain culture, this is America's most visited national park. http://www.nps.gov/grsm/index.htm (http://www.nps.gov/grsm/index.htm)

Fort Sumter National Monument
Decades of growing strife between North and South erupted in civil war on April 12, 1861, when Confederate artillery opened fire on this Federal fort in Charleston Harbor. Fort Sumter surrendered 34 hours later. Union forces would try for nearly four years to take it back. http://www.nps.gov/fosu/index.htm (http://www.nps.gov/fosu/index.htm)

San Juan National Historical Site
Puerto Rico's geographic position at the western edge of the Caribbean made San Juan one of the key frontier outposts of Spain's West Indies dominions. San Juan National Historic Site includes Castillo San Cristóbal, Castillo San Felipe del Morro, Fortín San Juan de la Cruz known locally as El Cañuelo. http://www.nps.gov/saju/index.htm (http://www.nps.gov/saju/index.htm)

Stones River National Battlefield
The Battle of Stones River began on the last day of 1862 and was one of the bloodiest conflicts of the Civil War. The battle produced important military and political gains for the Union, and it changed forever the people who lived and fought here. http://www.nps.gov/stri/index.htm (http://www.nps.gov/stri/index.htm)

Kennesaw Mountain National Battlefield Park
Kennesaw Mountain National Battlefield Park is a 2,965 acre National Battlefield that preserves a Civil War battleground of the Atlanta Campaign. Opposing forces maneuvered and fought here from June 19, 1864 until July 2, 1864. Although most famous as a Civil War battlefield, Kennesaw Mountain has a much richer story. http://www.nps.gov/kemo/index.htm (http://www.nps.gov/kemo/index.htm)

Prepared by: Report on 08/12/2015 | Authorized by:_____

Report

Context: Protect and enhance natural and cultural resources through the environmentally responsible context sensitive design and integration of transportation systems.	Region
Objective 1 Protect, preserve, and enhance aesthetic and visual qualities from within the park.	SE

			Resource				Percent of

Park	Resource	Resource within park boundary	within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	resource within transportation buffer
BISO	Steep Slopes - 15% slope or higher	9,275	2,398	9,651	1,831		18%
BLRI	Steep Slopes - 15% slope or higher	39,623	22,069	35,848	20,264	✔	56%
GRSM	Steep Slopes - 15% slope or higher	25,384	14,709	25,171	14,549	✔	57%
STRI	Steep Slopes - 15% slope or higher	370	0	374	0		0%
KEMO	Steep Slopes - 15% slope or higher	525	73	525	73		13%
BLRI	Scenic Highway or Byway	469	469	469	469	✔	100%
GRSM	Scenic Highway or Byway	0	0	0	0		0%
BISO	Scenic Overlooks (Number)	0	0	14	14	✔	100%
BLRI	Scenic Overlooks (Number)	0	0	231	231	✔	100%
GRSM	Scenic Overlooks (Number)	0	0	34	34	✔	100%
STRI	Scenic Overlooks (Number)	0	0	6	6	✔	100%
KEMO	Scenic Overlooks (Number)	0	0	2	2	✔	100%
GUIS	Scenic Overlooks (Number)	0	0	2	2	✔	100%

Strategy 1 Edit (/reports/edit_strategy/3) | Delete (/reports/delete_strategy/3)
Preserve scenic vistas and contributing features within and adjacent to park boundaries through cooperation with adjacent landowners to maintain viewsheds from scenic overlooks.

Strategy 2 Edit (/reports/edit_strategy/4) | Delete (/reports/delete_strategy/4)
When building new roads and trails, take into consideration the visual quality with regards to road width, steepness, cut and fill cross slopes, vegetation type, terrain type, and visibility from a distance.

Strategy 3 Edit (/reports/edit_strategy/5) | Delete (/reports/delete_strategy/5)
Carefully site any new transportation facilities or roadway right of ways so as to not compromise views from scenic byways or scenic overlooks.

Strategy 4 Edit (/reports/edit_strategy/6) | Delete (/reports/delete_strategy/6)
Encourage partnerships with state, local, and private interests; adjacent landowners; local organizations; and other stakeholders in the protection of visual resources.

Strategy 5 Edit (/reports/edit_strategy/7) | Delete (/reports/delete_strategy/7)
Maintain development standards and guidelines that are compatible with park aesthetics.

Strategy 6 Edit (/reports/edit_strategy/8) | Delete (/reports/delete_strategy/8)
The use of construction screens and barriers should complement the existing landscape.

Strategy 7 Edit (/reports/edit_strategy/9) | Delete (/reports/delete_strategy/9)
Require completion of visual resource analysis for projects in designated or eligible scenic highways.

+ Add Strategy (/reports/add_strategy/252)

Objective 2
Ensure compatibility with the natural and cultural environment through context sensitive design.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Districts (Number)	0	0	1	1	✔	100%
GRSM	Districts (Number)	3	3	3	3	✔	100%
SAJU	Districts (Number)	1	1	1	1	✔	100%
STRI	Districts (Number)	0	0	1	1	✔	100%
KEMO	Districts (Number)	0	0	1	1	✔	100%
GUIS	Districts (Number)	0	0	2	1	✔	50%
GRSM	Erosion Prone Soils	25,384	0	25,171	0		0%
KEMO	Erosion Prone Soils	525	137	525	137		26%
BISO	Threatened and Endangered Animals and Plants	0	0	0	0		0%
BLRI	Threatened and Endangered Animals and Plants	0	0	0	0		0%
GRSM	Threatened and Endangered Animals and Plants	0	0	0	0		0%
STRI	Threatened and Endangered Animals and Plants	0	0	0	0		0%
MACA	Threatened and Endangered Animals and Plants	0	0	0	0		0%
GUIS	Threatened and Endangered Animals and Plants	0	0	0	0		0%
SAJU	Monuments (Number)	0	0	1	1	✔	100%

STRI	Monuments (Number)	0	0	1	0		0%
MACA	Monuments (Number)	0	0	4	2	✔	50%
BISO	Historic Trails (Miles)	0	0	39	2		5%
BLRI	Historic Trails (Miles)	0	0	11	11	✔	100%
GRSM	Historic Trails (Miles)	0	0	71	5		7%
BLRI	Historic Roads (Miles)	469	469	468	468	✔	100%
GRSM	Historic Roads (Miles)	0	0	46	46	✔	100%
KEMO	Historic Roads (Miles)	0	0	1	1	✔	100%
BISO	Critical Habitat	0	0	0	0		0%
GRSM	Critical Habitat	6,391	447	6,391	447	✔	6%
STRI	Critical Habitat	0	0	185	105	✔	56%
MACA	Critical Habitat	0	0	43	35	✔	81%
BISO	Archeological Sites (Number)	0	0	22,100	0		0%
GRSM	Archeological Sites (Number)	0	0	400	0		0%
STRI	Archeological Sites (Number)	0	0	21	0		0%
FOSU	Archeological Sites (Number)	0	0	0	0		0%
KEMO	Archeological Sites (Number)	0	0	218	34		15%
MACA	Archeological Sites (Number)	0	0	100	0		0%
BISO	Structures (Number)	0	0	2	2	✔	100%
BLRI	Structures (Number)	4	2	2	1	✔	50%
GRSM	Structures (Number)	10	3	40	32	✔	80%
SAJU	Structures (Number)	0	0	7	4	✔	57%
FOSU	Structures (Number)	2	1	2	1	✔	50%
KEMO	Structures (Number)	0	0	5	5	✔	100%
MACA	Structures (Number)	11	10	7	5	✔	71%

GUIS	Structures (Number)	5	3	24	21	✔	87%
STRI	Battlefields (Number)	1	1	2	1	✔	50%
FOSU	Battlefields (Number)	0	0	1	1	✔	100%
KEMO	Battlefields (Number)	1	1	1	1	✔	100%
BISO	Forested Land Cover	115,790	6,572	115,816	7,381		6%
BLRI	Forested Land Cover	64,694	18,199	64,723	15,212		23%
STRI	Forested Land Cover	283	129	64	26	✔	40%
BLRI	World Heritage Sites	0	0	0	0		0%
SAJU	World Heritage Sites	100	64	100	64	✔	64%
MACA	World Heritage Sites	51,918	5,449	51,918	5,152		9%

Strategy 1 Edit (/reports/edit_strategy/11) | Delete (/reports/delete_strategy/11)
Designate pullouts and scenic overlooks in the least sensitive areas to avoid impairing natural or cultural resources.

Strategy 2 Edit (/reports/edit_strategy/12) | Delete (/reports/delete_strategy/12)
Build and locate new facilities, and/or modify historic facilities according to the "Guiding Principles of Sustainable Design" (NPS 1993).

Strategy 3 Edit (/reports/edit_strategy/13) | Delete (/reports/delete_strategy/13)
Create a visual/ audio buffer between commuting arterials and visitor areas.

Strategy 4 Edit (/reports/edit_strategy/14) | Delete (/reports/delete_strategy/14)
Maintain and upgrade existing facilities consistent with park aesthetics and using sustainability principles, where possible, to serve the park mission.

Strategy 5 Edit (/reports/edit_strategy/15) | Delete (/reports/delete_strategy/15)
Design transportation systems to minimize effects of transportation noise on natural sounds.

✚ Add Strategy (/reports/add_strategy/252)

Natural: Maintain a high standard of natural resources by identifying, interpreting, protecting, and mitigating impacts to natural resources.	**Region**
Objective 1 Manage the transportation system to ensure protection of wildlife populations, wildlife habitat, and the processes and components of the park's natural ecosystem.	SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BISO	Threatened and Endangered Animals and Plants	0	0	0	0		0%
BLRI	Threatened and Endangered	0	0	0	0		0%

	Animals and Plants						
GRSM	Threatened and Endangered Animals and Plants	0	0	0	0		0%
STRI	Threatened and Endangered Animals and Plants	0	0	0	0		0%
MACA	Threatened and Endangered Animals and Plants	0	0	0	0		0%
GUIS	Threatened and Endangered Animals and Plants	0	0	0	0		0%
BLRI	Large animal traffic accidents (Number this year)	0	0	0	0		0%
GRSM	Large animal traffic accidents (Number this year)	0	0	0	0		0%
STRI	Large animal traffic accidents (Number this year)	0	0	0	0		0%
KEMO	Large animal traffic accidents (Number this year)	0	0	0	0		0%
MACA	Large animal traffic accidents (Number this year)	0	0	0	0		0%
GUIS	Large animal traffic accidents (Number this year)	0	0	0	0		0%
BISO	Critical Habitat	0	0	0	0		0%
GRSM	Critical Habitat	6,391	447	6,391	447	✔	6%
STRI	Critical Habitat	0	0	185	105	✔	56%
MACA	Critical Habitat	0	0	43	35	✔	81%
BLRI	Vegetative Land Cover	65,295	18,400	69,098	16,577		23%
SAJU	Vegetative Land Cover	19	14	51	14		27%
STRI	Vegetative Land Cover	314	137	445	219	✔	49%

Strategy 1 Edit (/reports/edit_strategy/18) | Delete (/reports/delete_strategy/18)
Consider a landscape level approach to planning the transportation system in regards to natural resources using resources such as "Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects".

Strategy 2 Edit (/reports/edit_strategy/19) | Delete (/reports/delete_strategy/19)

When planning for transportation systems and facilities, avoid critical habitat, essential fish habitat, and habitat for species of concern (terrestrial and aquatic). Also, conduct appropriate surveys to ensure no sensitive species' habitat is destroyed.

Strategy 3 Edit (/reports/edit_strategy/20) | Delete (/reports/delete_strategy/20)
Design transportation systems (including roadways, bridges, culverts, etc.) to minimize habitat loss. Avoid habitat fragmentation and provide wildlife corridors. Avoid critical breeding, nesting, and foraging areas.

Strategy 4 Edit (/reports/edit_strategy/21) | Delete (/reports/delete_strategy/21)
Consider potential impacts to migratory birds and butterflies when designing transportation systems and facilities and implement protective measures.

Strategy 5 Edit (/reports/edit_strategy/22) | Delete (/reports/delete_strategy/22)
Encourage the repair of roads over building new ones; and close or restore old, underutilized, or severely damaged roads to minimize impact to habitat.

Strategy 6 Edit (/reports/edit_strategy/23) | Delete (/reports/delete_strategy/23)
Work with the local community and other land conservation interests in the region to minimize habitat fragmentation and potentially restore habitats beneficial to wildlife and bird species of the region [for undeveloped adjacent lands, contact National Re(source Conservation Service [NRCS].

Strategy 7 Edit (/reports/edit_strategy/24) | Delete (/reports/delete_strategy/24)
Apply seasonal restrictions and distance buffers to construction activities to avoid construction during the breeding season for special status species.

Strategy 8 Edit (/reports/edit_strategy/25) | Delete (/reports/delete_strategy/25)
Where transportation systems and facilities have the potential to fragment habitat and cross key corridors, consider mitigation options such as overpasses, underpasses, fencing, signage, or volunteers.

Strategy 9 Edit (/reports/edit_strategy/26) | Delete (/reports/delete_strategy/26)
Coordinate with neighboring land and transportation managers to ensure that transportation system impacts on wildlife are understood and mitigated across borders.

+ Add Strategy (/reports/add_strategy/252)

Objective 2
Manage the transportation system to ensure protection of big game and its critical habitats and movement corridors.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BISO	Critical Habitat	0	0	0	0		0%
GRSM	Critical Habitat	6,391	447	6,391	447	✔	6%
STRI	Critical Habitat	0	0	185	105	✔	56%
MACA	Critical Habitat	0	0	43	35	✔	81%
BLRI	Large animal traffic accidents (Number this year)	0	0	0	0		0%
GRSM	Large animal traffic accidents (Number this year)	0	0	0	0		0%
STRI	Large animal traffic accidents (Number this year)	0	0	0	0		0%
KEMO	Large animal traffic accidents (Number this year)	0	0	0	0		0%
MACA	Large animal traffic accidents (Number this year)	0	0	0	0		0%

GUIS	Large animal traffic accidents (Number this year)	0	0	0	0		0%

Strategy 1 Edit (/reports/edit_strategy/28) | Delete (/reports/delete_strategy/28)
Use wildlife-vehicle crash data and law enforcement reports to design for the redirection of wildlife or modification of transportation corridors.

Strategy 2 Edit (/reports/edit_strategy/29) | Delete (/reports/delete_strategy/29)
Reduce traffic speeds or volumes to prevent big game/automotive collisions, especially at sunrise/sunset when big game is most active and at night when visibility is poor.

Strategy 3 Edit (/reports/edit_strategy/30) | Delete (/reports/delete_strategy/30)
Utilize the latest big game collision reduction technology (such as break the beam sensors or area coverage sensors).

Strategy 4 Edit (/reports/edit_strategy/31) | Delete (/reports/delete_strategy/31)
Use fencing, overpasses, or underpasses to allow for safe passage of wildlife where migration corridors intersect with transportation assets.

Strategy 5 Edit (/reports/edit_strategy/32) | Delete (/reports/delete_strategy/32)
Reduce road density, speed, and vehicle trips to minimize collisions with big game.

Strategy 6 Edit (/reports/edit_strategy/33) | Delete (/reports/delete_strategy/33)
Maintain a buffer between important habitat features (i.e., mineral licks, guzzlers) and transportation assets to reduce vehicle-wildlife collisions.

Strategy 7 Edit (/reports/edit_strategy/34) | Delete (/reports/delete_strategy/34)
Encourage a porous park environment to reduce the concentration of big game in key locations.

Strategy 8 Edit (/reports/edit_strategy/35) | Delete (/reports/delete_strategy/35)
Avoid winter construction in winter concentration areas and severe winter range for big game.

✚ Add Strategy (/reports/add_strategy/252)

Objective 3
Preserve, restore, and enhance sensitive bird habitat.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BISO	Forested Land Cover	115,790	6,572	115,816	7,381		6%
BLRI	Forested Land Cover	64,694	18,199	64,723	15,212		23%
STRI	Forested Land Cover	283	129	64	26	✔	40%
BLRI	Wetlands	383	151	383	131	✔	34%
GRSM	Wetlands	5,596	355	5,596	354	✔	6%
STRI	Wetlands	16	4	11	2		18%
GUIS	Wetlands	281,334	1,586	269,326	1,382		0%
BLRI	Perennial Streams	71	38	73	29	✔	39%
GRSM	Perennial Streams	1,006	151	1,006	150	✔	14%
SAJU	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%

FOSU	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
GUIS	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%

Strategy 1 Edit (/reports/edit_strategy/37) | Delete (/reports/delete_strategy/37)
Maintain forested acreage toward old growth conditions, and maintain wetland habitat to accommodate Neotropical migrants, breeding, and wintering forest birds.

Strategy 2 Edit (/reports/edit_strategy/38) | Delete (/reports/delete_strategy/38)
Protect existing snag trees in the transportation buffer for cavity nesting birds, where not identified as a safety hazard.

Strategy 3 Edit (/reports/edit_strategy/39) | Delete (/reports/delete_strategy/39)
Enhance water quality to support aquatic biota necessary to support riparian corridor nesting birds and birds that use the riparian corridor for foraging.

Strategy 4 Edit (/reports/edit_strategy/40) | Delete (/reports/delete_strategy/40)
Create signage and/or other strategies for alerting visitors to large migrations of birds interacting with the transportation system.

+ Add Strategy (/reports/add_strategy/252)

Objective 4
Maintain native vegetation in a mosaic of habitats and vegetation types.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BISO	Critical Habitat	0	0	0	0		0%
GRSM	Critical Habitat	6,391	447	6,391	447	✔	6%
STRI	Critical Habitat	0	0	185	105	✔	56%
MACA	Critical Habitat	0	0	43	35	✔	81%
BLRI	Vegetative Land Cover	65,295	18,400	69,098	16,577		23%
SAJU	Vegetative Land Cover	19	14	51	14		27%
STRI	Vegetative Land Cover	314	137	445	219	✔	49%

Strategy 1 Edit (/reports/edit_strategy/42) | Delete (/reports/delete_strategy/42)
Re-vegetate disturbed areas with native species of plants that are as closely related genetically and ecologically as possible to park populations. Consider salvaging plants and soils affected by construction for use in site restoration.

Strategy 2 Edit (/reports/edit_strategy/43) | Delete (/reports/delete_strategy/43)
Develop a roadside vegetation management strategy that includes procedures for salvage of sensitive plants, equipment cleaning to avoid inadvertent spreading of noxious weeds, and a list of appropriate and preferred species to be used in re-vegetation.

Strategy 3 Edit (/reports/edit_strategy/44) | Delete (/reports/delete_strategy/44)
Plan transportation routes to avoid/minimize removal of native vegetation, displacement of wildlife, and impacts to regionally and locally significant habitat types such as riparian areas.

Strategy 4 Edit (/reports/edit_strategy/45) | Delete (/reports/delete_strategy/45)
Avoid and minimize impacts to sensitive habitat during project construction through actions such as fencing, minimizing vehicular accessibility, and salvaging native vegetation and topsoil.

Strategy 5 Edit (/reports/edit_strategy/46) | Delete (/reports/delete_strategy/46)
Create a vegetation management plan along cleared right of ways that maintains visual interest and safety with endemic and/or non-invasive species.

Strategy 6 Edit (/reports/edit_strategy/47) | Delete (/reports/delete_strategy/47)
Create new parking lots in areas that have already been developed or are previously disturbed.

+ Add Strategy (/reports/add_strategy/252)

Objective 5
Control existing non-native plant species and minimize the introduction of invasive species.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Vegetative Land Cover	65,295	18,400	69,098	16,577		23%
SAJU	Vegetative Land Cover	19	14	51	14		27%
STRI	Vegetative Land Cover	314	137	445	219	✔	49%
SAJU	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
FOSU	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
GUIS	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
BISO	Boat Launch	10	10	12	12	✔	100%
BLRI	Boat Launch	1	1	1	1	✔	100%
GRSM	Boat Launch	0	0	1	1	✔	100%
FOSU	Boat Launch	2	1	1	1	✔	100%
MACA	Boat Launch	2	2	3	3	✔	100%

Strategy 1 Edit (/reports/edit_strategy/49) | Delete (/reports/delete_strategy/49)
Close and prevent social trails by concentrating access at designated trailheads.

Strategy 2 Edit (/reports/edit_strategy/50) | Delete (/reports/delete_strategy/50)
Propagate restoration seeds and seedlings locally.

Strategy 3 Edit (/reports/edit_strategy/51) | Delete (/reports/delete_strategy/51)
Ensure materials used in construction and restoration are certified weed free.

Strategy 4 Edit (/reports/edit_strategy/52) | Delete (/reports/delete_strategy/52)
Use treatment methods such as hand pulling weeds, burning infested areas, mowing, and spraying to control invasive species along highways, with herbicides as a last resort.

Strategy 5 Edit (/reports/edit_strategy/54) | Delete (/reports/delete_strategy/54)
Consider developing a sampling program to establish present conditions and track invasive species in the transportation buffer. Assessment of invasive species should be repeated at least at three-year intervals to enable detection of species that may rapidly invade.

Strategy 6 Edit (/reports/edit_strategy/55) | Delete (/reports/delete_strategy/55)
Coordinate weed management plans and programs with transportation managers from other jurisdictions where there are jointly-managed transportation resources.

Strategy 7 Edit (/reports/edit_strategy/56) | Delete (/reports/delete_strategy/56)
Consider scheduled maintenance and/or checkpoint inspections to remove invasive aquatic species from boats.

+ Add Strategy (/reports/add_strategy/252)

Objective 7
Preserve, restore, and enhance existing or potential habitat for threatened and endangered species. Where possible enhance habitat for targeted species.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BISO	Threatened and Endangered Animals and Plants	0	0	0	0		0%
BLRI	Threatened and Endangered Animals and Plants	0	0	0	0		0%
GRSM	Threatened and Endangered Animals and Plants	0	0	0	0		0%
STRI	Threatened and Endangered Animals and Plants	0	0	0	0		0%
MACA	Threatened and Endangered Animals and Plants	0	0	0	0		0%
GUIS	Threatened and Endangered Animals and Plants	0	0	0	0		0%
BISO	Critical Habitat	0	0	0	0		0%
GRSM	Critical Habitat	6,391	447	6,391	447	✔	6%
STRI	Critical Habitat	0	0	185	105	✔	56%
MACA	Critical Habitat	0	0	43	35	✔	81%
BLRI	Vegetative Land Cover	65,295	18,400	69,098	16,577		23%
SAJU	Vegetative Land Cover	19	14	51	14		27%

STRI	Vegetative Land Cover	314	137	445	219	✔	49%

Strategy 1 Edit (/reports/edit_strategy/60) | Delete (/reports/delete_strategy/60)
Create new trail segments near existing, previously developed, and disturbed sites.

Strategy 2 Edit (/reports/edit_strategy/61) | Delete (/reports/delete_strategy/61)
Allow results of endangered and threatened species studies to drive development of areas for potential trails, prior to NEPA process for specific proposed projects.

Strategy 3 Edit (/reports/edit_strategy/62) | Delete (/reports/delete_strategy/62)
Consult with the US Fish and Wildlife Service on appropriate mitigation strategies.

✚ Add Strategy (/reports/add_strategy/252)

Objective 8
Protect, preserve, and restore existing natural flood control systems.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Wetlands	383	151	383	131	✔	34%
GRSM	Wetlands	5,596	355	5,596	354	✔	6%
STRI	Wetlands	16	4	11	2		18%
GUIS	Wetlands	281,334	1,586	269,326	1,382		0%
BLRI	Perennial Streams	71	38	73	29	✔	39%
GRSM	Perennial Streams	1,006	151	1,006	150	✔	14%
BLRI	Floodplain	1,456	1,035	1,456	965	✔	66%
GRSM	Floodplain	10,983	2,393	10,983	2,393		21%
SAJU	Floodplain	19	11	10	2		20%
STRI	Floodplain	509	219	454	199	✔	43%
GUIS	Floodplain	24,765	5,013	23,465	4,061		17%

Strategy 1 Edit (/reports/edit_strategy/64) | Delete (/reports/delete_strategy/64)
Design transportation systems and facilities to preserve natural drainage, flows, and storage features in order to minimize adverse changes to the hydrologic characteristics.

Strategy 2 Edit (/reports/edit_strategy/65) | Delete (/reports/delete_strategy/65)
Protect natural flood regimes by minimizing transportation infrastructure within floodplains.

Strategy 3 Edit (/reports/edit_strategy/66) | Delete (/reports/delete_strategy/66)
Consider incorporating pervious pavement into facility design where feasible.

Strategy 4 Edit (/reports/edit_strategy/67) | Delete (/reports/delete_strategy/67)
Avoid new construction that provides access to flood-prone areas, such as in alluvial fans and slide zones.

Strategy 5 Edit (/reports/edit_strategy/68) | Delete (/reports/delete_strategy/68)
Design storm water management facilities with multiple-purpose objectives, including groundwater recharge and pollution reduction.

✚ Add Strategy (/reports/add_strategy/252)

Objective 9
Protect water quality in streams and wetlands.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
GRSM	Erosion Prone Soils	25,384	0	25,171	0		0%
KEMO	Erosion Prone Soils	525	137	525	137		26%
BLRI	Wetlands	383	151	383	131	✔	34%
GRSM	Wetlands	5,596	355	5,596	354	✔	6%
STRI	Wetlands	16	4	11	2		18%
GUIS	Wetlands	281,334	1,586	269,326	1,382		0%
BLRI	Perennial Streams	71	38	73	29	✔	39%
GRSM	Perennial Streams	1,006	151	1,006	150	✔	14%
BLRI	Heavy Snowfall (Yes/No)	0	0	0	0		0%
GRSM	Heavy Snowfall (Yes/No)	0	0	0	0		0%
MACA	Heavy Snowfall (Yes/No)	0	0	0	0		0%
BLRI	Floodplain	1,456	1,035	1,456	965	✔	66%
GRSM	Floodplain	10,983	2,393	10,983	2,393		21%
SAJU	Floodplain	19	11	10	2		20%
STRI	Floodplain	509	219	454	199	✔	43%
GUIS	Floodplain	24,765	5,013	23,465	4,061		17%
BISO	Boat Launch	10	10	12	12	✔	100%
BLRI	Boat Launch	1	1	1	1	✔	100%
GRSM	Boat Launch	0	0	1	1	✔	100%
FOSU	Boat Launch	2	1	1	1	✔	100%
MACA	Boat Launch	2	2	3	3	✔	100%

Strategy 1 Edit (/reports/edit_strategy/70) | Delete (/reports/delete_strategy/70)
Incorporate LID methodology into transportation system and facility design to minimize or eliminate pollutants in storm water through natural processes and maintaining pre-development hydrologic characteristics, such as flow patterns, surface retention, and recharge rates.

Strategy 2 Edit (/reports/edit_strategy/71) | Delete (/reports/delete_strategy/71)
Construct projects according to Best Management Practices for water quality protection

Construct projects according to Best Management Practices for water quality protection.

Strategy 3 Edit (/reports/edit_strategy/72) | Delete (/reports/delete_strategy/72)
Locate new non-motorized transportation routes away from wetlands, streams, and areas with erosive soils where practicable.

Strategy 4 Edit (/reports/edit_strategy/73) | Delete (/reports/delete_strategy/73)
Utilize advanced water capture and filtration techniques, showing a preference for naturalized systems and designs, to control storm water at the source.

Strategy 5 Edit (/reports/edit_strategy/75) | Delete (/reports/delete_strategy/75)
Work with local, county and state municipalities to reduce the use of salts and deicers on jointly-managed roads.

Strategy 6 Edit (/reports/edit_strategy/76) | Delete (/reports/delete_strategy/76)
Encourage boat concessionaire operators to utilize "Clean Marina" practices for wastewater management, spill prevention, and vessel maintenance/repair in concessions operations (Clean Marina Guidebook 2012).

+ Add Strategy (/reports/add_strategy/252)

Objective 10
Take into consideration seasonal changes in management.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Heavy Snowfall (Yes/No)	0	0	0	0		0%
GRSM	Heavy Snowfall (Yes/No)	0	0	0	0		0%
MACA	Heavy Snowfall (Yes/No)	0	0	0	0		0%

Strategy 1 Edit (/reports/edit_strategy/78) | Delete (/reports/delete_strategy/78)
Optimize slope of roadway (except where icy conditions occur) and solar exposure to improve sheet drainage and minimize snow removal efforts.

Strategy 2 Edit (/reports/edit_strategy/79) | Delete (/reports/delete_strategy/79)
Consider creating seasonal closures of roadways and facilities to reduce the need for snow removal, sanding, and spreading of deicer.

+ Add Strategy (/reports/add_strategy/252)

Objective 11
Minimize adverse impacts to soils from erosion.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BISO	Steep Slopes - 15% slope or higher	9,275	2,398	9,651	1,831		18%
BLRI	Steep Slopes - 15% slope or higher	39,623	22,069	35,848	20,264	✔	56%
GRSM	Steep Slopes - 15% slope or higher	25,384	14,709	25,171	14,549	✔	57%
STRI	Steep Slopes - 15% slope	370	0	374	0		0%

	or higher						
KEMO	Steep Slopes - 15% slope or higher	525	73	525	73		13%
GRSM	Erosion Prone Soils	25,384	0	25,171	0		0%
KEMO	Erosion Prone Soils	525	137	525	137		26%

Strategy 1 Edit (/reports/edit_strategy/81) | Delete (/reports/delete_strategy/81)
Create new trails along existing linear corridors for utilities or other rights of way to the extent possible to minimize new disturbance.

Strategy 2 Edit (/reports/edit_strategy/82) | Delete (/reports/delete_strategy/82)
Implement best management practices to reduce erosion during construction.

Strategy 3 Edit (/reports/edit_strategy/83) | Delete (/reports/delete_strategy/83)
Salvage suitable top soil for post construction reclamation.

Strategy 4 Edit (/reports/edit_strategy/84) | Delete (/reports/delete_strategy/84)
Maintain shoulders, designated pullouts, and railings along roadways to discourage vehicles leaving surfaced roadways when pulling off the road.

+ Add Strategy (/reports/add_strategy/252)

Cultural: Maintain a high standard of cultural resource stewardship by finding, interpreting, protecting, and mitigating impacts to all cultural resources. | **Region**

Objective 1
Incorporate and complete cultural resource inventories, evaluations, and studies prior to or as part of transportation planning early in the process.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Districts (Number)	0	0	1	1	✔	100%
GRSM	Districts (Number)	3	3	3	3	✔	100%
SAJU	Districts (Number)	1	1	1	1	✔	100%
STRI	Districts (Number)	0	0	1	1	✔	100%
KEMO	Districts (Number)	0	0	1	1	✔	100%
GUIS	Districts (Number)	0	0	2	1	✔	50%
SAJU	Monuments (Number)	0	0	1	1	✔	100%
STRI	Monuments (Number)	0	0	1	0		0%
MACA	Monuments (Number)	0	0	4	2	✔	50%
BISO	Historic Trails (Miles)	0	0	39	2		5%
BLRI	Historic	0	0	11	11	✔	100%

BLRI	Historic Trails (Miles)	0	0	71	71	✔	100%
GRSM	Historic Trails (Miles)	0	0	71	5		7%
BLRI	Historic Roads (Miles)	469	469	468	468	✔	100%
GRSM	Historic Roads (Miles)	0	0	46	46	✔	100%
KEMO	Historic Roads (Miles)	0	0	1	1	✔	100%
BISO	Archeological Sites (Number)	0	0	22,100	0		0%
GRSM	Archeological Sites (Number)	0	0	400	0		0%
STRI	Archeological Sites (Number)	0	0	21	0		0%
FOSU	Archeological Sites (Number)	0	0	0	0		0%
KEMO	Archeological Sites (Number)	0	0	218	34		15%
MACA	Archeological Sites (Number)	0	0	100	0		0%
BISO	Structures (Number)	0	0	2	2	✔	100%
BLRI	Structures (Number)	4	2	2	1	✔	50%
GRSM	Structures (Number)	10	3	40	32	✔	80%
SAJU	Structures (Number)	0	0	7	4	✔	57%
FOSU	Structures (Number)	2	1	2	1	✔	50%
KEMO	Structures (Number)	0	0	5	5	✔	100%
MACA	Structures (Number)	11	10	7	5	✔	71%
GUIS	Structures (Number)	5	3	24	21	✔	87%
STRI	Battlefields (Number)	1	1	2	1	✔	50%
FOSU	Battlefields (Number)	0	0	1	1	✔	100%

KEMO	Battlefields (Number)	1	1	1	1	✔	100%
BLRI	World Heritage Sites	0	0	0	0		0%
SAJU	World Heritage Sites	100	64	100	64	✔	64%
MACA	World Heritage Sites	51,918	5,449	51,918	5,152		9%

Strategy 1 Edit (/reports/edit_strategy/87) | Delete (/reports/delete_strategy/87)
Identify, protect, and interpret historic trails (including those designated as National Historic Trails), historic trail remnants, and associated sites in and adjacent to the park. Consider locations for appropriate visitor access and interpretation of trail resources as part of transportation planning.

Strategy 2 Edit (/reports/edit_strategy/88) | Delete (/reports/delete_strategy/88)
Identify significant monuments and memorials (such as those on Civil War and other battlefields, etc.); protect, maintain, and consider appropriate ways to provide visitor access and interpretation as part of park transportation planning.

Strategy 3 Edit (/reports/edit_strategy/89) | Delete (/reports/delete_strategy/89)
Identify all historic roads: parkways, scenic roads, byways, bridges, etc. in the park when developing transportation plans in order to respect, retain, and maintain their significant characteristics. Consider ways to interpret historic park roads to visitors.

Strategy 4 Edit (/reports/edit_strategy/91) | Delete (/reports/delete_strategy/91)
Identify ruins in the park and consider appropriate ways to provide visitor access and interpretation as part of park transportation planning.

Strategy 5 Edit (/reports/edit_strategy/92) | Delete (/reports/delete_strategy/92)
Identify historic districts and historic vernacular landscapes in the park and document their significance, integrity, and character. Protect the integrity of historic districts when planning for expansion or upgrades to the transportation system.

Strategy 6 Edit (/reports/edit_strategy/93) | Delete (/reports/delete_strategy/93)
Conduct small scale sampling, as part of the transportation plan, at specific sites where cultural resources are likely. Archeological testing for prehistoric sites, earthworks, and other significant historic elements should be completed before planning.

Strategy 7 Edit (/reports/edit_strategy/94) | Delete (/reports/delete_strategy/94)
Comply with Secretary of Interior Standards for the treatment of historic properties and archeological sites when considering transportation projects.

Strategy 8 Edit (/reports/edit_strategy/95) | Delete (/reports/delete_strategy/95)
Integrate cultural resource information consistently into GIS data and other background data for transportation planning projects in advance.

✚ Add Strategy (/reports/add_strategy/252)

Objective 2
Provide appropriate access to and interpretation of cultural resources.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Districts (Number)	0	0	1	1	✔	100%
GRSM	Districts (Number)	3	3	3	3	✔	100%
SAJU	Districts (Number)	1	1	1	1	✔	100%
STRI	Districts (Number)	0	0	1	1	✔	100%
KEMO	Districts	0	0	1	1	✔	100%

	(Number)						
GUIS	Districts (Number)	0	0	2	1	✔	50%
SAJU	Monuments (Number)	0	0	1	1	✔	100%
STRI	Monuments (Number)	0	0	1	0		0%
MACA	Monuments (Number)	0	0	4	2	✔	50%
BISO	Archeological Sites (Number)	0	0	22,100	0		0%
GRSM	Archeological Sites (Number)	0	0	400	0		0%
STRI	Archeological Sites (Number)	0	0	21	0		0%
FOSU	Archeological Sites (Number)	0	0	0	0		0%
KEMO	Archeological Sites (Number)	0	0	218	34		15%
MACA	Archeological Sites (Number)	0	0	100	0		0%
BISO	Structures (Number)	0	0	2	2	✔	100%
BLRI	Structures (Number)	4	2	2	1	✔	50%
GRSM	Structures (Number)	10	3	40	32	✔	80%
SAJU	Structures (Number)	0	0	7	4	✔	57%
FOSU	Structures (Number)	2	1	2	1	✔	50%
KEMO	Structures (Number)	0	0	5	5	✔	100%
MACA	Structures (Number)	11	10	7	5	✔	71%
GUIS	Structures (Number)	5	3	24	21	✔	87%
STRI	Battlefields (Number)	1	1	2	1	✔	50%
FOSU	Battlefields (Number)	0	0	1	1	✔	100%
KEMO	Battlefields (Number)	1	1	1	1	✔	100%

Strategy 1 Edit (/reports/edit_strategy/97) | Delete (/reports/delete_strategy/97)
Incorporate creative design in transportation infrastructure to reflect the region's cultural, natural, and artistic heritage.

Strategy 2 Edit (/reports/edit_strategy/98) | Delete (/reports/delete_strategy/98)
Interpret cultural resources in the wayside kiosks/ informational panels.

Strategy 3 Edit (/reports/edit_strategy/99) | Delete (/reports/delete_strategy/99)
Upright trailhead waysides should be located at all cultural resource locations where trails lead into the park from a park road or parking area.

Strategy 4 Edit (/reports/edit_strategy/100) | Delete (/reports/delete_strategy/100)
Wayside exhibits should be used judiciously on the cultural site so as to not intrude visually on the historic scene. When wayside exhibits are used, one of their strengths is showing visitors what they cannot see today. Suggested locations for these interpretive waysides should have low profiles on the land.

Strategy 5 Edit (/reports/edit_strategy/101) | Delete (/reports/delete_strategy/101)
Develop interpretive plans, or other cultural resource based plans, together with transportation plans (interpretive routes, waysides, brochures/auto tours).

Strategy 6 Edit (/reports/edit_strategy/102) | Delete (/reports/delete_strategy/102)
Allow for guided history walks or bus tours of cultural resources, if desired.

+ Add Strategy (/reports/add_strategy/252)

Objective 3
Protect the character-defining features that represent the activities that shaped the historic landscape, while simultaneously allowing contemporary uses to continue.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Districts (Number)	0	0	1	1	✔	100%
GRSM	Districts (Number)	3	3	3	3	✔	100%
SAJU	Districts (Number)	1	1	1	1	✔	100%
STRI	Districts (Number)	0	0	1	1	✔	100%
KEMO	Districts (Number)	0	0	1	1	✔	100%
GUIS	Districts (Number)	0	0	2	1	✔	50%
SAJU	Monuments (Number)	0	0	1	1	✔	100%
STRI	Monuments (Number)	0	0	1	0		0%
MACA	Monuments (Number)	0	0	4	2	✔	50%
BLRI	Wild and Scenic Rivers	210	143	211	138	✔	65%
BISO	Archeological Sites (Number)	0	0	22,100	0		0%
GRSM	Archeological Sites (Number)	0	0	400	0		0%

STRI	Archeological Sites (Number)	0	0	21	0		0%
FOSU	Archeological Sites (Number)	0	0	0	0		0%
KEMO	Archeological Sites (Number)	0	0	218	34		15%
MACA	Archeological Sites (Number)	0	0	100	0		0%
BISO	Structures (Number)	0	0	2	2	✔	100%
BLRI	Structures (Number)	4	2	2	1	✔	50%
GRSM	Structures (Number)	10	3	40	32	✔	80%
SAJU	Structures (Number)	0	0	7	4	✔	57%
FOSU	Structures (Number)	2	1	2	1	✔	50%
KEMO	Structures (Number)	0	0	5	5	✔	100%
MACA	Structures (Number)	11	10	7	5	✔	71%
GUIS	Structures (Number)	5	3	24	21	✔	87%
STRI	Battlefields (Number)	1	1	2	1	✔	50%
FOSU	Battlefields (Number)	0	0	1	1	✔	100%
KEMO	Battlefields (Number)	1	1	1	1	✔	100%

Strategy 1 Edit (/reports/edit_strategy/104) | Delete (/reports/delete_strategy/104)
Identify designated National Wild and Scenic Rivers associated with the park and consider ways to incorporate interpretation, access, and protection of their cultural aspects as part of transportation planning.

Strategy 2 Edit (/reports/edit_strategy/105) | Delete (/reports/delete_strategy/105)
Preserve and maintain historic districts, ranger stations, houses, lodges, cabins, and roads.

Strategy 3 Edit (/reports/edit_strategy/106) | Delete (/reports/delete_strategy/106)
Identify significant Historic American Engineering Record (HAER) properties. If affected by potential transportation planning, consider documenting the resource using HAER standards.

Strategy 4 Edit (/reports/edit_strategy/107) | Delete (/reports/delete_strategy/107)
Consult local tribes and the Native American Heritage Commission for project planning areas which may be through or adjacent to sacred lands and burial sites.

Strategy 5 Edit (/reports/edit_strategy/108) | Delete (/reports/delete_strategy/108)
For historic battlefields, ensure the battlefield boundaries and character-defining features of the battlefield landscape are identified and documented according to appropriate National Register and other guidance. Consider military terrain analysis methodology to identify the full extent of the important areas of the landscape. Consider sensitive views and other features of the battlefield in transportation planning.

Strategy 6 Edit (/reports/edit_strategy/109) | Delete (/reports/delete_strategy/109)

Manage visitor-resource interactions so that the resources will remain unimpaired for the enjoyment of future generations while ensuring that opportunities exist for the widest variety of current visitors to forge meaningful connections with those resources.

Strategy 7 Edit (/reports/edit_strategy/110) | Delete (/reports/delete_strategy/110)
Avoid impacts to grave sites.

Strategy 8 Edit (/reports/edit_strategy/111) | Delete (/reports/delete_strategy/111)
Address threats to cultural resources by means other than limiting or restricting access to cultural sites (e.g., through education programs). If necessary, however, implement more restrictive methods.

+ Add Strategy (/reports/add_strategy/252)

Objective 4
Mitigate negative impacts and provide appropriate access to cultural resources.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Districts (Number)	0	0	1	1	✔	100%
GRSM	Districts (Number)	3	3	3	3	✔	100%
SAJU	Districts (Number)	1	1	1	1	✔	100%
STRI	Districts (Number)	0	0	1	1	✔	100%
KEMO	Districts (Number)	0	0	1	1	✔	100%
GUIS	Districts (Number)	0	0	2	1	✔	50%
SAJU	Monuments (Number)	0	0	1	1	✔	100%
STRI	Monuments (Number)	0	0	1	0		0%
MACA	Monuments (Number)	0	0	4	2	✔	50%
BISO	Archeological Sites (Number)	0	0	22,100	0		0%
GRSM	Archeological Sites (Number)	0	0	400	0		0%
STRI	Archeological Sites (Number)	0	0	21	0		0%
FOSU	Archeological Sites (Number)	0	0	0	0		0%
KEMO	Archeological Sites (Number)	0	0	218	34		15%
MACA	Archeological Sites (Number)	0	0	100	0		0%

BISO	Structures (Number)	0	0	2	2	✔	100%
BLRI	Structures (Number)	4	2	2	1	✔	50%
GRSM	Structures (Number)	10	3	40	32	✔	80%
SAJU	Structures (Number)	0	0	7	4	✔	57%
FOSU	Structures (Number)	2	1	2	1	✔	50%
KEMO	Structures (Number)	0	0	5	5	✔	100%
MACA	Structures (Number)	11	10	7	5	✔	71%
GUIS	Structures (Number)	5	3	24	21	✔	87%
STRI	Battlefields (Number)	1	1	2	1	✔	50%
FOSU	Battlefields (Number)	0	0	1	1	✔	100%
KEMO	Battlefields (Number)	1	1	1	1	✔	100%

Strategy 1 Edit (/reports/edit_strategy/113) | Delete (/reports/delete_strategy/113)
Remove human made structures and modifications that do not contribute to the purposes or management of the park or are judged to be unsafe, provided they have been determined not to have cultural significance. Remove access to removed structures.

Strategy 2 Edit (/reports/edit_strategy/114) | Delete (/reports/delete_strategy/114)
Document all affected historic buildings and structures in the transportation corridor early in the planning process.

Strategy 3 Edit (/reports/edit_strategy/115) | Delete (/reports/delete_strategy/115)
Avoid, minimize, and/or mitigate adverse effects of transportation projects on National Register listed resources.

✚ Add Strategy (/reports/add_strategy/252)

Natural Setting: Protect the natural setting of cultural and natural resources. | **Region**

Objective 1
Protect the natural environment by limiting light pollution.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Perennial Streams	71	38	73	29	✔	39%
GRSM	Perennial Streams	1,006	151	1,006	150	✔	14%
BLRI	Large animal traffic accidents (Number this year)	0	0	0	0		0%
GRSM	Large animal traffic accidents (Number this year)	0	0	0	0		0%

	(Number this year)						
STRI	Large animal traffic accidents (Number this year)	0	0	0	0		0%
KEMO	Large animal traffic accidents (Number this year)	0	0	0	0		0%
MACA	Large animal traffic accidents (Number this year)	0	0	0	0		0%
GUIS	Large animal traffic accidents (Number this year)	0	0	0	0		0%
SAJU	Migratory Birds (Yes/No)	0	0	0	0		0%
STRI	Migratory Birds (Yes/No)	0	0	0	0		0%
KEMO	Migratory Birds (Yes/No)	0	0	0	0		0%
SAJU	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
FOSU	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
GUIS	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
BISO	Critical Habitat	0	0	0	0		0%
GRSM	Critical Habitat	6,391	447	6,391	447	✔	6%
STRI	Critical Habitat	0	0	185	105	✔	56%
MACA	Critical Habitat	0	0	43	35	✔	81%

Strategy 1 Edit (/reports/edit_strategy/118) | Delete (/reports/delete_strategy/118)
Implement ways to reduce or minimize artificial and unnecessary light through dark sky standards such as using fully shielded lights and using timers and motion sensors so that areas are lighted only when it is needed.

Strategy 2 Edit (/reports/edit_strategy/119) | Delete (/reports/delete_strategy/119)
Consider designation of wildlife corridors, buffer areas around streams, shorelines, or other ecologically important edges as areas where lighting is not permitted or is permitted only when fully shielded at very low brightness.

Strategy 3 Edit (/reports/edit_strategy/121) | Delete (/reports/delete_strategy/121)
Use strobe lights (quick flashing lights that dim completely between cycles) for buoys, towers, and markers to minimize bird disorientation.

+ Add Strategy (/reports/add_strategy/252)

Objective 2
Ensure visitors have opportunities in most parts of the park to hear natural sounds.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Non-attainment or Air Quality Issues	0	0	0	0		0%
GRSM	Non-	0	0	0	0		0%

	attainment or Air Quality Issues						
SAJU	Non-attainment or Air Quality Issues	0	0	0	0		0%
STRI	Non-attainment or Air Quality Issues	0	0	0	0		0%
KEMO	Non-attainment or Air Quality Issues	0	0	0	0		0%
GUIS	Non-attainment or Air Quality Issues	0	0	0	0		0%

Strategy 1 Edit (/reports/edit_strategy/123) | Delete (/reports/delete_strategy/123)
Require shuttles, bus tour companies and other large vehicles such as RVs to turn off engines when they are parked to reduce ambient noise levels.

Strategy 2 Edit (/reports/edit_strategy/124) | Delete (/reports/delete_strategy/124)
Limit use of generators.

Strategy 3 Edit (/reports/edit_strategy/125) | Delete (/reports/delete_strategy/125)
Plan for how, when, and where motorized vehicles and equipment will be used for public access and administrative purposes as part of transportation planning to minimize impacts to the natural soundscape in the park.

Strategy 4 Edit (/reports/edit_strategy/126) | Delete (/reports/delete_strategy/126)
Design transportation systems to concentrate visitor traffic in visitor services/park administration zones and direct visitor traffic away from sensitive resource zones.

+ Add Strategy (/reports/add_strategy/252)

Regional Stewardship: Support local and regional efforts to preserve natural and cultural resources.	Region
Objective 1 Maintain and improve air quality and the natural environment by limiting automobile trips and reducing air emissions.	SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Non-attainment or Air Quality Issues	0	0	0	0		0%
GRSM	Non-attainment or Air Quality Issues	0	0	0	0		0%
SAJU	Non-attainment or Air Quality Issues	0	0	0	0		0%
STRI	Non-attainment or Air Quality	0	0	0	0		0%

	Issues						
KEMO	Non-attainment or Air Quality Issues	0	0	0	0		0%
GUIS	Non-attainment or Air Quality Issues	0	0	0	0		0%

Strategy 1 Edit (/reports/edit_strategy/129) | Delete (/reports/delete_strategy/129)
Coordinate with local government and NPS transportation providers to reduce air emissions through the use of multi-modal transportation alternatives and low emission vehicles within the park.

Strategy 2 Edit (/reports/edit_strategy/130) | Delete (/reports/delete_strategy/130)
Design transportation systems and facilities to reduce the number of short trips in personal vehicles necessary by visitors/residents/NPS staff to access key destinations.

Strategy 3 Edit (/reports/edit_strategy/131) | Delete (/reports/delete_strategy/131)
Consider using parking limits within parks, and staging areas on the exterior of the park, to encourage alternative mass transit options.

Strategy 4 Edit (/reports/edit_strategy/132) | Delete (/reports/delete_strategy/132)
Consider adding bike paths, equipping shuttles with bike racks, and extending bicycle trails to link to attractions where appropriate.

Strategy 5 Edit (/reports/edit_strategy/133) | Delete (/reports/delete_strategy/133)
Hike or bike-in campsites could be designated to encourage non-motorized access into the Park.

Strategy 6 Edit (/reports/edit_strategy/134) | Delete (/reports/delete_strategy/134)
Reduce air pollution due to traffic congestion by dispersing visitation with Intelligent Transportation Systems (ITS) technology. ITS measures include electronic traffic information boards, vehicle tracking, and integrated traffic control.

Strategy 7 Edit (/reports/edit_strategy/135) | Delete (/reports/delete_strategy/135)
Reduce vehicle trips by prohibiting cars in the park (allow public access by shuttle only).

+ Add Strategy (/reports/add_strategy/252)

Objective 2
Protect regional watersheds.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Wetlands	383	151	383	131	✔	34%
GRSM	Wetlands	5,596	355	5,596	354	✔	6%
STRI	Wetlands	16	4	11	2		18%
GUIS	Wetlands	281,334	1,586	269,326	1,382		0%
BLRI	Perennial Streams	71	38	73	29	✔	39%
GRSM	Perennial Streams	1,006	151	1,006	150	✔	14%

Strategy 1 Edit (/reports/edit_strategy/137) | Delete (/reports/delete_strategy/137)
Limit stream and wetland crossings in the design of transportation systems to minimize the cumulative effect on watersheds.

+ Add Strategy (/reports/add_strategy/252)

Objective 3
Coordinate among parks, regions, and agencies to set priorities, exchange data, and encourage cooperation in the planning and execution of transportation projects.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Non-attainment or Air Quality Issues	0	0	0	0		0%
GRSM	Non-attainment or Air Quality Issues	0	0	0	0		0%
SAJU	Non-attainment or Air Quality Issues	0	0	0	0		0%
STRI	Non-attainment or Air Quality Issues	0	0	0	0		0%
KEMO	Non-attainment or Air Quality Issues	0	0	0	0		0%
GUIS	Non-attainment or Air Quality Issues	0	0	0	0		0%

Strategy 1 Edit (/reports/edit_strategy/139) | Delete (/reports/delete_strategy/139)
Consider ways to enhance the park's relationship to associated National Heritage Areas through integration of park transportation planning with the regional transportation network.

Strategy 2 Edit (/reports/edit_strategy/140) | Delete (/reports/delete_strategy/140)
Coordinate the design of highways, arterial roads, and thoroughfares that cross through national parks with regional transportation managers to minimize impacts to park resources.

Strategy 3 Edit (/reports/edit_strategy/141) | Delete (/reports/delete_strategy/141)
Coordinate with managers of public transportation systems to establish stops on public transportation routes at park entrances or visitor centers.

✚ Add Strategy (/reports/add_strategy/252)

Community: Connect people to parks and help communities protect what is special to them, highlight their history, and retain or rebuild their economic and environmental sustainability.	**Region**
Objective 1 Coordinate with gateway communities to recognize and interpret important natural and historic resources in the setting of the park.	SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Districts (Number)	0	0	1	1	✔	100%
GRSM	Districts (Number)	3	3	3	3	✔	100%
SAJU	Districts (Number)	1	1	1	1	✔	100%
STRI	Districts	0	0	1	1	✔	100%

	(Number)						
KEMO	Districts (Number)	0	0	1	1	✔	100%
GUIS	Districts (Number)	0	0	2	1	✔	50%
SAJU	Monuments (Number)	0	0	1	1	✔	100%
STRI	Monuments (Number)	0	0	1	0		0%
MACA	Monuments (Number)	0	0	4	2	✔	50%
BISO	Historic Trails (Miles)	0	0	39	2		5%
BLRI	Historic Trails (Miles)	0	0	11	11	✔	100%
GRSM	Historic Trails (Miles)	0	0	71	5		7%
BLRI	Historic Roads (Miles)	469	469	468	468	✔	100%
GRSM	Historic Roads (Miles)	0	0	46	46	✔	100%
KEMO	Historic Roads (Miles)	0	0	1	1	✔	100%
BISO	Archeological Sites (Number)	0	0	22,100	0		0%
GRSM	Archeological Sites (Number)	0	0	400	0		0%
STRI	Archeological Sites (Number)	0	0	21	0		0%
FOSU	Archeological Sites (Number)	0	0	0	0		0%
KEMO	Archeological Sites (Number)	0	0	218	34		15%
MACA	Archeological Sites (Number)	0	0	100	0		0%
BISO	Structures (Number)	0	0	2	2	✔	100%
BLRI	Structures (Number)	4	2	2	1	✔	50%
GRSM	Structures (Number)	10	3	40	32	✔	80%

SAJU	Structures (Number)	0	0	7	4	✔	57%
FOSU	Structures (Number)	2	1	2	1	✔	50%
KEMO	Structures (Number)	0	0	5	5	✔	100%
MACA	Structures (Number)	11	10	7	5	✔	71%
GUIS	Structures (Number)	5	3	24	21	✔	87%
STRI	Battlefields (Number)	1	1	2	1	✔	50%
FOSU	Battlefields (Number)	0	0	1	1	✔	100%
KEMO	Battlefields (Number)	1	1	1	1	✔	100%
BLRI	World Heritage Sites	0	0	0	0		0%
SAJU	World Heritage Sites	100	64	100	64	✔	64%
MACA	World Heritage Sites	51,918	5,449	51,918	5,152		9%

Strategy 1 Edit (/reports/edit_strategy/144) | Delete (/reports/delete_strategy/144)
Develop long-range interpretive plans in cooperation with local agencies, organizations, and private interests to ensure consistent interpretation of resources within the transportation corridor between the park and gateway communities.

Strategy 2 Edit (/reports/edit_strategy/145) | Delete (/reports/delete_strategy/145)
Support local efforts to develop signage and wayside kiosks in gateway communities that interpret natural and cultural resources shared with the park.

✚ Add Strategy (/reports/add_strategy/252)

Objective 2
Connect gateway communities to parks by planning for public access points.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Districts (Number)	0	0	1	1	✔	100%
GRSM	Districts (Number)	3	3	3	3	✔	100%
SAJU	Districts (Number)	1	1	1	1	✔	100%
STRI	Districts (Number)	0	0	1	1	✔	100%
KEMO	Districts (Number)	0	0	1	1	✔	100%
GUIS	Districts	0	0	2	1	✔	50%

	(Number)						
SAJU	Monuments (Number)	0	0	1	1	✔	100%
STRI	Monuments (Number)	0	0	1	0		0%
MACA	Monuments (Number)	0	0	4	2	✔	50%
BISO	Historic Trails (Miles)	0	0	39	2		5%
BLRI	Historic Trails (Miles)	0	0	11	11	✔	100%
GRSM	Historic Trails (Miles)	0	0	71	5		7%
BLRI	Historic Roads (Miles)	469	469	468	468	✔	100%
GRSM	Historic Roads (Miles)	0	0	46	46	✔	100%
KEMO	Historic Roads (Miles)	0	0	1	1	✔	100%
BISO	Archeological Sites (Number)	0	0	22,100	0		0%
GRSM	Archeological Sites (Number)	0	0	400	0		0%
STRI	Archeological Sites (Number)	0	0	21	0		0%
FOSU	Archeological Sites (Number)	0	0	0	0		0%
KEMO	Archeological Sites (Number)	0	0	218	34		15%
MACA	Archeological Sites (Number)	0	0	100	0		0%
BISO	Structures (Number)	0	0	2	2	✔	100%
BLRI	Structures (Number)	4	2	2	1	✔	50%
GRSM	Structures (Number)	10	3	40	32	✔	80%
SAJU	Structures (Number)	0	0	7	4	✔	57%
FOSU	Structures (Number)	2	1	2	1	✔	50%
KEMO	Structures	0	0	5	5	✔	100%

KEMO	Structures (Number)	0	0	5	5	✔	100%
MACA	Structures (Number)	11	10	7	5	✔	71%
GUIS	Structures (Number)	5	3	24	21	✔	87%
STRI	Battlefields (Number)	1	1	2	1	✔	50%
FOSU	Battlefields (Number)	0	0	1	1	✔	100%
KEMO	Battlefields (Number)	1	1	1	1	✔	100%
BLRI	World Heritage Sites	0	0	0	0		0%
SAJU	World Heritage Sites	100	64	100	64	✔	64%
MACA	World Heritage Sites	51,918	5,449	51,918	5,152		9%

Strategy 1 Edit (/reports/edit_strategy/148) | Delete (/reports/delete_strategy/148)
Coordinate with other jurisdictions to create regional trails that provide access to parks from gateway communities.

✚ Add Strategy (/reports/add_strategy/252)

Objective 3
Consider impacts and access to subsistence or ethnographic resources in transportation planning and policy development.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Districts (Number)	0	0	1	1	✔	100%
GRSM	Districts (Number)	3	3	3	3	✔	100%
SAJU	Districts (Number)	1	1	1	1	✔	100%
STRI	Districts (Number)	0	0	1	1	✔	100%
KEMO	Districts (Number)	0	0	1	1	✔	100%
GUIS	Districts (Number)	0	0	2	1	✔	50%
SAJU	Monuments (Number)	0	0	1	1	✔	100%
STRI	Monuments (Number)	0	0	1	0		0%
MACA	Monuments (Number)	0	0	4	2	✔	50%
BISO	Historic	0	0	39	2		5%

BISO	Historic Trails (Miles)	0	0	39	2		5%
BLRI	Historic Trails (Miles)	0	0	11	11	✔	100%
GRSM	Historic Trails (Miles)	0	0	71	5		7%
BLRI	Historic Roads (Miles)	469	469	468	468	✔	100%
GRSM	Historic Roads (Miles)	0	0	46	46	✔	100%
KEMO	Historic Roads (Miles)	0	0	1	1	✔	100%
BISO	Archeological Sites (Number)	0	0	22,100	0		0%
GRSM	Archeological Sites (Number)	0	0	400	0		0%
STRI	Archeological Sites (Number)	0	0	21	0		0%
FOSU	Archeological Sites (Number)	0	0	0	0		0%
KEMO	Archeological Sites (Number)	0	0	218	34		15%
MACA	Archeological Sites (Number)	0	0	100	0		0%
BISO	Structures (Number)	0	0	2	2	✔	100%
BLRI	Structures (Number)	4	2	2	1	✔	50%
GRSM	Structures (Number)	10	3	40	32	✔	80%
SAJU	Structures (Number)	0	0	7	4	✔	57%
FOSU	Structures (Number)	2	1	2	1	✔	50%
KEMO	Structures (Number)	0	0	5	5	✔	100%
MACA	Structures (Number)	11	10	7	5	✔	71%
GUIS	Structures (Number)	5	3	24	21	✔	87%
STRI	Battlefields (Number)	1	1	2	1	✔	50%

FOSU	Battlefields (Number)	0	0	1	1	✔	100%
KEMO	Battlefields (Number)	1	1	1	1	✔	100%

Strategy 1 Edit (/reports/edit_strategy/150) | Delete (/reports/delete_strategy/150)
Provide legally required access to Native American inholdings and subsistence users.

Strategy 2 Edit (/reports/edit_strategy/151) | Delete (/reports/delete_strategy/151)
Consult with cultural landscape specialists to identify the boundaries and features of significant cultural landscapes prior to transportation planning efforts.

Strategy 3 Edit (/reports/edit_strategy/152) | Delete (/reports/delete_strategy/152)
Identify ethnographic plantings and plant communities in the Park; avoid impacts to these resources, and consider ways to provide interpretation and appropriate access for visitors in transportation planning.

Strategy 4 Edit (/reports/edit_strategy/153) | Delete (/reports/delete_strategy/153)
Support and assist communities and tribes in maintaining access to historic properties that are important to their heritage.

✚ Add Strategy (/reports/add_strategy/252)

Climate Change and Sustainability: Plan for the impacts of climate change and transportation actions to cultural and natural resources through science, adaptation, mitigation, and communication.	Region
Objective 1 Manage the natural and cultural resources to increase resilience in the face of climate change and other stressors.	SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Wetlands	383	151	383	131	✔	34%
GRSM	Wetlands	5,596	355	5,596	354	✔	6%
STRI	Wetlands	16	4	11	2		18%
GUIS	Wetlands	281,334	1,586	269,326	1,382		0%
BLRI	Perennial Streams	71	38	73	29	✔	39%
GRSM	Perennial Streams	1,006	151	1,006	150	✔	14%
BLRI	Floodplain	1,456	1,035	1,456	965	✔	66%
GRSM	Floodplain	10,983	2,393	10,983	2,393		21%
SAJU	Floodplain	19	11	10	2		20%
STRI	Floodplain	509	219	454	199	✔	43%
GUIS	Floodplain	24,765	5,013	23,465	4,061		17%
SAJU	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
FOSU	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
GUIS	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
BISO	Archeological	0	0	22,100	0		0%

BISO	Archeological Sites (Number)	0	0	22,100	0		0%
GRSM	Archeological Sites (Number)	0	0	400	0		0%
STRI	Archeological Sites (Number)	0	0	21	0		0%
FOSU	Archeological Sites (Number)	0	0	0	0		0%
KEMO	Archeological Sites (Number)	0	0	218	34		15%
MACA	Archeological Sites (Number)	0	0	100	0		0%
BLRI	Vegetative Land Cover	65,295	18,400	69,098	16,577		23%
SAJU	Vegetative Land Cover	19	14	51	14		27%
STRI	Vegetative Land Cover	314	137	445	219	✔	49%
BISO	Boat Launch	10	10	12	12	✔	100%
BLRI	Boat Launch	1	1	1	1	✔	100%
GRSM	Boat Launch	0	0	1	1	✔	100%
FOSU	Boat Launch	2	1	1	1	✔	100%
MACA	Boat Launch	2	2	3	3	✔	100%
BISO	Structures (Number)	0	0	2	2	✔	100%
BLRI	Structures (Number)	4	2	2	1	✔	50%
GRSM	Structures (Number)	10	3	40	32	✔	80%
SAJU	Structures (Number)	0	0	7	4	✔	57%
FOSU	Structures (Number)	2	1	2	1	✔	50%
KEMO	Structures (Number)	0	0	5	5	✔	100%
MACA	Structures (Number)	11	10	7	5	✔	71%
GUIS	Structures (Number)	5	3	24	21	✔	87%

Strategy 1 Edit (/reports/edit_strategy/156) | Delete (/reports/delete_strategy/156)
Allow for fluctuations in water levels due to climate change when designing transportation systems.

Strategy 2 Edit (/reports/edit_strategy/157) | Delete (/reports/delete_strategy/157)

Create wide, non-construction buffers around dynamically changing resources such as dunes or waterways.

Strategy 3 Edit (/reports/edit_strategy/158) | Delete (/reports/delete_strategy/158)
Consider the use of roads as fire breaks to protect cultural and natural resources from wildfire.

Strategy 4 Edit (/reports/edit_strategy/159) | Delete (/reports/delete_strategy/159)
Avoid siting new transportation resources in proximity to natural features (such as glaciers) that may change dynamically in response to climate change.

+ Add Strategy (/reports/add_strategy/252)

Objective 2
Enhance environmental stewardship and energy efficiency in transportation planning to reduce greenhouse gas emissions.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Non-attainment or Air Quality Issues	0	0	0	0		0%
GRSM	Non-attainment or Air Quality Issues	0	0	0	0		0%
SAJU	Non-attainment or Air Quality Issues	0	0	0	0		0%
STRI	Non-attainment or Air Quality Issues	0	0	0	0		0%
KEMO	Non-attainment or Air Quality Issues	0	0	0	0		0%
GUIS	Non-attainment or Air Quality Issues	0	0	0	0		0%

Strategy 1 Edit (/reports/edit_strategy/162) | Delete (/reports/delete_strategy/162)
Encourage the use of public transportation and multi-modal transportation options in parks to reduce greenhouse gas emissions.

Strategy 2 Edit (/reports/edit_strategy/163) | Delete (/reports/delete_strategy/163)
Consider the use of solar power to meet energy requirements.

Strategy 3 Edit (/reports/edit_strategy/164) | Delete (/reports/delete_strategy/164)
Consider replacing current shuttles with an alternative fuel vehicle.

+ Add Strategy (/reports/add_strategy/252)

Objective 3
Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer

BLRI	Non-attainment or Air Quality Issues	0	0	0	0		0%
GRSM	Non-attainment or Air Quality Issues	0	0	0	0		0%
SAJU	Non-attainment or Air Quality Issues	0	0	0	0		0%
STRI	Non-attainment or Air Quality Issues	0	0	0	0		0%
KEMO	Non-attainment or Air Quality Issues	0	0	0	0		0%
GUIS	Non-attainment or Air Quality Issues	0	0	0	0		0%

Strategy 1 Edit (/reports/edit_strategy/166) | Delete (/reports/delete_strategy/166)
Utilize NPS guiding documents such as *Environmental Purchasing in the National Park Service: A How-To Guide* as well as Green Parks Plan for new products relating to transportation infrastructure.

✚ Add Strategy (/reports/add_strategy/252)

Leadership: Provide leadership in protecting and enhancing natural and cultural resources in transportation planning for other agencies.	**Region**
Objective 1 Protect the exceptional condition of the park's resources and values through informed, proactive, and transparent transportation planning.	SE

Park	Resource	Resource within park boundary	Resource within transportation buffer	Manual edit - resource within boundary	Manual edit - resource within transportation buffer	Calculated Significant	Percent of resource within transportation buffer
BLRI	Districts (Number)	0	0	1	1	✔	100%
GRSM	Districts (Number)	3	3	3	3	✔	100%
SAJU	Districts (Number)	1	1	1	1	✔	100%
STRI	Districts (Number)	0	0	1	1	✔	100%
KEMO	Districts (Number)	0	0	1	1	✔	100%
GUIS	Districts (Number)	0	0	2	1	✔	50%
BISO	Steep Slopes - 15% slope or higher	9,275	2,398	9,651	1,831		18%

BLRI	Steep Slopes - 15% slope or higher	39,623	22,069	35,848	20,264	✔	56%
GRSM	Steep Slopes - 15% slope or higher	25,384	14,709	25,171	14,549	✔	57%
STRI	Steep Slopes - 15% slope or higher	370	0	374	0		0%
KEMO	Steep Slopes - 15% slope or higher	525	73	525	73		13%
BLRI	Wetlands	383	151	383	131	✔	34%
GRSM	Wetlands	5,596	355	5,596	354	✔	6%
STRI	Wetlands	16	4	11	2		18%
GUIS	Wetlands	281,334	1,586	269,326	1,382		0%
BLRI	Perennial Streams	71	38	73	29	✔	39%
GRSM	Perennial Streams	1,006	151	1,006	150	✔	14%
SAJU	Monuments (Number)	0	0	1	1	✔	100%
STRI	Monuments (Number)	0	0	1	0		0%
MACA	Monuments (Number)	0	0	4	2	✔	50%
BISO	Historic Trails (Miles)	0	0	39	2		5%
BLRI	Historic Trails (Miles)	0	0	11	11	✔	100%
GRSM	Historic Trails (Miles)	0	0	71	5		7%
SAJU	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
FOSU	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
GUIS	Marine and Coastal (Yes/No)	0	0	0	0	✔	0%
BLRI	Historic Roads (Miles)	469	469	468	468	✔	100%
GRSM	Historic Roads (Miles)	0	0	46	46	✔	100%
KEMO	Historic Roads (Miles)	0	0	1	1	✔	100%
BISO	Archeological Sites (Number)	0	0	22,100	0		0%

GRSM	Archeological Sites (Number)	0	0	400	0		0%
STRI	Archeological Sites (Number)	0	0	21	0		0%
FOSU	Archeological Sites (Number)	0	0	0	0		0%
KEMO	Archeological Sites (Number)	0	0	218	34		15%
MACA	Archeological Sites (Number)	0	0	100	0		0%
BLRI	Vegetative Land Cover	65,295	18,400	69,098	16,577		23%
SAJU	Vegetative Land Cover	19	14	51	14		27%
STRI	Vegetative Land Cover	314	137	445	219	✔	49%
BISO	Structures (Number)	0	0	2	2	✔	100%
BLRI	Structures (Number)	4	2	2	1	✔	50%
GRSM	Structures (Number)	10	3	40	32	✔	80%
SAJU	Structures (Number)	0	0	7	4	✔	57%
FOSU	Structures (Number)	2	1	2	1	✔	50%
KEMO	Structures (Number)	0	0	5	5	✔	100%
MACA	Structures (Number)	11	10	7	5	✔	71%
GUIS	Structures (Number)	5	3	24	21	✔	87%
STRI	Battlefields (Number)	1	1	2	1	✔	50%
FOSU	Battlefields (Number)	0	0	1	1	✔	100%
KEMO	Battlefields (Number)	1	1	1	1	✔	100%

Strategy 1 Edit (/reports/edit_strategy/169) | Delete (/reports/delete_strategy/169)
In conjunction with other NPS offices and regional land managers, continue to expand the park's data management systems for analyzing, modeling, predicting, and testing trends in resource conditions.

Strategy 2 Edit (/reports/edit_strategy/170) | Delete (/reports/delete_strategy/170)
Demonstrate leadership among land management agencies in anticipating the effects of climate change on natural and cultural resources.

Strategy 3 Edit (/reports/edit_strategy/171) | Delete (/reports/delete_strategy/171)

Leverage cutting-edge technology and creative approaches to protection and interpretation of significant cultural resources in the park.

Strategy 4 Edit (/reports/edit_strategy/172) | Delete (/reports/delete_strategy/172)
Initiate communication with adjacent communities, including gateway communities, to ensure important natural and cultural resources are recognized and protected.

Strategy 5 Edit (/reports/edit_strategy/173) | Delete (/reports/delete_strategy/173)
Continue to demonstrate leadership in ensuring contextually appropriate NPS site facilities in the Park's setting.

Strategy 6 Edit (/reports/edit_strategy/174) | Delete (/reports/delete_strategy/174)
Provide leadership in strategies that maintain the Park's natural setting, preserving those qualities that enhance on-site natural and cultural resources.

Strategy 7 Edit (/reports/edit_strategy/175) | Delete (/reports/delete_strategy/175)
Continue to provide leadership in maintaining a high standard for natural resource management in transportation planning.

+ Add Strategy (/reports/add_strategy/252)

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