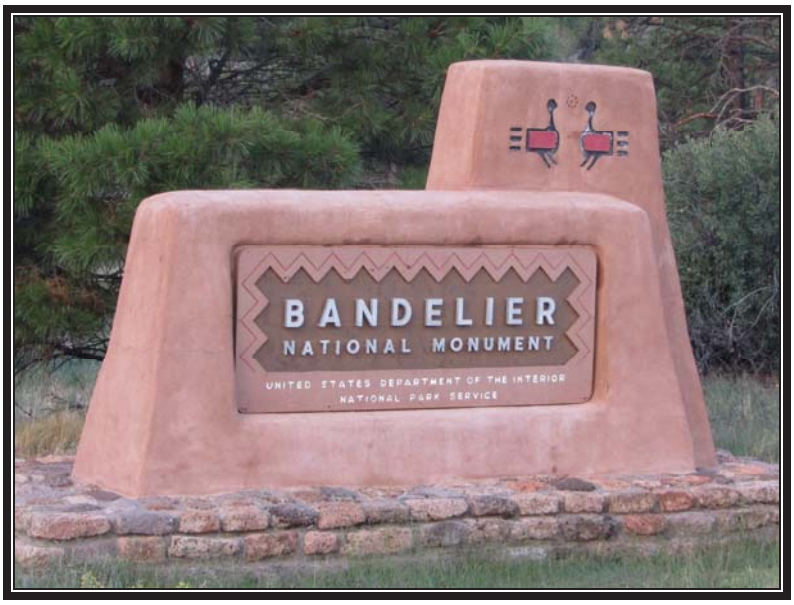
Federal Lands Highway

Road Inventory Program

Road Inventory and Condition Assessment



Bandelier National Monument
BAND

Cycle 5 Report

Prepared By: Federal Highway Administration
Road Inventory Program (RIP)
Data Collected: 08/2012
Report Date: 03/2013

Bandelier National Monument
in
New Mexico

DCV = Data Collection Vehicle

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INTRODUCTION

The Federal Highway Administration, (FHWA), in the mid 1970s, was charged with the task of identifying surface condition deficiencies and corrective priorities on National Park Service (NPS) roads and parkways. Additionally, FHWA was tasked with establishing an integrated maintenance features inventory, locating features such as culverts, guardrails, and signs, among others, along NPS roads and parkways. As a result, in 1976 the NPS and FHWA entered into an MOA (Memorandum Of Agreement) which established the RIP (Road Inventory Program). This MOA was terminated and revised in 1980 to establish a new MOA aiming to update RIP data and develop a long-range program to improve and maintain NPS roads to designated condition standards and establish a maintenance management program.

The FHWA completed this initial phase of the RIP in the early 1980s. As a result of this effort, each NPS site included in the study received a RIP Report known as the "Brown Book" which included the information collected during this first RIP phase.

In the 1990s, the effort was again renewed to update and maintain the RIP data. By this time the computer age was upon us and a process was employed that relied heavily on electronic data collection and computer technology. A cyclical program was developed and the RIP completed two cycles of data collection from 1994 to 2001. Cycle 1, starting in 1994, was conducted in 44 "large parks" (parks containing 10 or more paved route miles). Cycle 2 began in 1997 and comprised 79 large parks and 5 small parks totaling 4,874 paved route miles. Each of these parks received a RIP Report known as the "Blue Book". Cycle 3, from 2001 to 2004, was conducted in all parks, large and small, that contained any paved routes, including parking areas and, again, each park received a RIP Report and associated electronic files.

Cycle 4 was initiated in the spring of 2006 covering 86 large parks and several associated small parks consisting of 5,553 paved route miles and 6,232 paved parking areas. Data collection has been completed for Cycle 4 and all data has been delivered to the NPS.

In 2005, the FHWA began implementing the use of a Pavement Management System (PMS) to assist the NPS in prioritizing Pavement Maintenance and Rehabilitation activities. The PMS used by FHWA is the Highway Pavement Management Application (HPMA) and this software has the ability to store inventory and condition data from RIP and forecast future performance using prediction models. Outputs include performance and condition reports at the National, Regional, Park, or Route level. A regional prioritized list and optimization have been produced for most regions and the Federal Highway Deferred Maintenance is calculated via the HPMA.

In an effort to improve the accuracy of treatment recommendations and pavement condition descriptions, an extensive study was completed throughout 2010 that has resulted in changes to the RIP condition reporting method, specifically the distresses and indexes that comprise the Pavement Condition Rating (PCR). It was determined that a better representation of PCR could

be achieved by modifying the relative impact certain distresses would have on the overall rating. The changes that were implemented were endorsed by management at both the FHWA and NPS in October 2010. These changes will allow greater use of RIP and HPMA data for not simply condition data reporting, but also as a reliable tool for project identification and selection. Because of these changes, the PCR Condition ratings reported in Cycle 5 do not directly relate to the condition ratings reported in previous cycle RIP Reports. For more detailed information about the changes, see Section 3 and Section 10 in this RIP Report.

Cycle 5 has launched in the summer of 2010 and will again comprise all parks, large and small, that are served by paved roads and/or parking areas. For Cycle 5, the decision was made to collect condition data in large parks on Functional Class 1, 2, and 7 paved routes only, as well as any new routes that were previously not collected. In small parks, all paved routes and parking areas will be collected. As a result, this will include 81 large parks with 4,459 paved route miles and 231 small parks with 529 paved route miles and associated paved parking areas.

Since 1984, the Road Inventory Program has been funded through the Federal Lands Highway Park Roads and Parkways (PRP) Program. Currently, coordination of the RIP with FLH is under the NPS Washington Headquarters Park Facility Management Division. The FLH Washington office coordinates policy and prepares national reports and needs assessment studies for Congress.

In 1998, the Transportation Equity Act for the 21st Century (TEA-21) amended Title 23 U.S.C., and inserted Section 204(a)(6) requiring the FHWA and NPS, to develop by rule, a Pavement Management System (PMS) applied to park roads and parkways serving the National Park System.

FLH is responsible for the accuracy of all data presented in this report. Any questions or comments concerning the contents of this report should be directed to the national RIP Coordinator located in Sterling, Virginia.

Respectfully,

FHWA RIP Team

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Section 2
Park Route Inventory

Bandelier National Monument

Federal Lands Highway
Road Inventory Program

Cycle 5 NPS/RIP Route ID Report

Shading Color Key:
Red text denotes approx. mileage

White = Paved Routes, DCV Driven
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BANDELIER NATIONAL MONUMENT

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0010	5	46800		PARK ENTRANCE ROAD	FROM ROUTE 5004 (STATE HIGHWAY 4)	TO ROUTE 0900 (VISITOR CENTER PARKING)	MESA & FRIJOLES CANYON AREAS	3.18	0.00	3.18	1		AS	1,2
0200	5	46801		JUNIPER CAMPGROUND ACCESS ROAD	FROM ROUTE 0010 (PARK ENTRANCE ROAD)	TO BEGINNING OF ROUTE 0200C (JUNIPER CAMPGROUND LOOP C) AT GATE	MESA AREA	0.38	0.00	0.38	3		AS	1
0200A	5	53582		JUNIPER CAMPGROUND LOOP A	FROM ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)	TO END OF LOOP	MESA AREA	0.27	0.00	0.27	3		AS	1
0200B	5	53583		JUNIPER CAMPGROUND LOOP B	FROM ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)	TO ROUTE 0200A (JUNIPER CAMPGROUND LOOP A)	MESA AREA	0.23	0.00	0.23	3		AS	1
0200C	5	53585		JUNIPER CAMPGROUND LOOP C	FROM END OF ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD) AT GATE	TO END OF LOOP	MESA AREA	0.33	0.00	0.33	3		AS	1
0201	5	46804		COTTONWOOD PICNIC AREA ROAD NORTH	FROM ROUTE 0900 (VISITOR CENTER PARKING)	TO END OF LOOP	FRIJOLES CANYON AREA	0.25	0.00	0.25	3	18,495	AS	2
0202	5	53586		COTTONWOOD PICNIC AREA ROAD SOUTH	FROM ROUTE 0201 (COTTONWOOD PICNIC AREA ROAD NORTH)	TO END OF LOOP	FRIJOLES CANYON AREA	0.20	0.00	0.20	3	17,163	AS	2
0400	5	31673		MESA RESIDENCE UPPER LOOP	FROM ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)	TO END OF LOOP	MESA AREA	0.19	0.00	0.19	6		AS	1
0401	5	53587		MESA RESIDENCE LOWER LOOP	FROM ROUTE 0420 (OPERATIONS CENTER ROAD)	TO END OF LOOP	MESA AREA	0.15	0.00	0.15	6		AS	1
0402	5	53588		STONEHOUSE ROAD	FROM ROUTE 0900 (VISITOR CENTER PARKING)	TO ROUTE 0903A (STONEHOUSE ROAD PARKING AREA)	FRIJOLES CANYON AREA	0.08	0.00	0.08	6		AS	2
0404	NC	53589		OLD REPEATER ROAD	FROM ROUTE 5004 (STATE HIGHWAY 4)	TO END	MESA AREA	0.00	1.12	1.12	6		NV	
0409	NC	53597		APACHE SPRING ROAD	FROM ROUTE 5004 (STATE HIGHWAY 4)	TO END	BACKCOUNTRY AREA	0.00	1.30	1.30	6		NV	

Cycle 5 NPS/RIP Route ID Report

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Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0410	NC	46901		CANYON LAGOON ROAD	FROM ROUTE 0010 (PARK ENTRANCE ROAD)	TO LAGOON	MESA AREA	0.00	0.18	0.18	6		GR	
0420	**5**	**53601**		**OPERATIONS CENTER ROAD**	**FROM ROUTE 0400 (MESA RESIDENCE UPPER LOOP)**	**TO DEAD END AT SEWER LAGOON**	**MESA AREA**	**0.32**	**0.00**	**0.32**	**6**		**AS**	**1**
0422	**5**	**53605**		**AGOYO LANE**	**FROM ROUTE 0010 (PARK ENTRANCE ROAD)**	**TO END**	**FRIJOLES CANYON AREA**	**0.30**	**0.00**	**0.30**	**6**	**18,881**	**AS**	**2**
0423	**5**	**237758**		**FIRE TOWER ACCESS ROAD**	**FROM ROUTE 0010 (PARK ENTRANCE ROAD) AT MP 1.25**	**TO ROUTE 0010 (PARK ENTRANCE ROAD) AT MP 1.28**	**MESA AREA**	**0.04**	**0.00**	**0.04**	**5**		**AS**	**2**
0424	NC	237759		HELISPOT ROAD	FROM ROUTE 0010 (PARK ENTRANCE ROAD)	TO END (HELISPOT)	MESA AREA	0.00	0.06	0.06	6		NV	
0425	NC	237760		MESA UTILITY SERVICE ROAD	FROM ROUTE 0010 (PARK ENTRANCE ROAD)	TO END	MESA AREA	0.00	0.06	0.06	6		NV	
0426	NC	237848		LIFT STATION ROAD	FROM ROUTE 0010 (PARK ENTRANCE ROAD)	TO END (LIFT STATION)	FRIJOLES CANYON AREA	0.00	0.07	0.07	6		NV	
0900	**5**	**31666**		**VISITOR CENTER PARKING**	**FROM END OF ROUTE 0010 (PARK ENTRANCE ROAD)**	**TO PARKING**	**FRIJOLES CANYON AREA**	**0.00**	**0.00**	**0.00**		**32,780**	**AS**	**2**
0901	**5**	**31670**		**FRIJOLES CANYON MAINTENANCE AREA PARKING**	**FROM ROUTE 0402 (STONEHOUSE ROAD)**	**TO PARKING**	**FRIJOLES CANYON AREA**	**0.00**	**0.00**	**0.00**		**8,705**	**AS**	**2**
0902ZZ	**5**	**53623**		**MESA RESIDENCE PARKING AREAS**	**ADJACENT TO ROUTE 0400 (MESA RESIDENCE UPPER LOOP) ON LEFT AND RIGHT**		**MESA AREA**	**0.00**	**0.00**	**0.00**		**3,234**	**AS**	**1**
0903A	**5**	**53624**		**STONEHOUSE ROAD PARKING AREA**	**FROM END OF ROUTE 0402 (STONEHOUSE ROAD)**	**TO PARKING**	**FRIJOLES CANYON AREA**	**0.00**	**0.00**	**0.00**		**9,149**	**AS**	**2**
0903B	NC	238287		STONEHOUSE OVERFLOW PARKING	ADJACENT TO ROUTE 0402 (STONEHOUSE ROAD) ON LEFT		FRIJOLES CANYON AREA	0.00	0.00	0.00		1,050	GR	
0904	NC	53626		STABLES PARKING AREAS	ADJACENT TO ROUTE 0422 (AGOYO LANE) ON LEFT AND RIGHT		FRIJOLES CANYON AREA	0.00	0.00	0.00		14,419	GR	
0905	**5**	**46937**		**OVERLOOK PARKING AREA**	**FROM ROUTE 0010 (PARK ENTRANCE ROAD)**	**TO ROUTE 0010 (PARK ENTRANCE ROAD)**	**MESA AREA**	**0.00**	**0.00**	**0.00**		**6,052**	**AS**	**2**

Cycle 5 NPS/RIP Route ID Report

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0906	5	46936		FIRE TOWER ACCESS ROAD PARKING	FROM ROUTE 0423 (FIRE TOWER ACCESS ROAD)	TO PARKING AT TOWER	MESA AREA	0.00	0.00	0.00		6,558	AS	2
0907	5	53628		AMPHITHEATER PARKING	FROM ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)	TO ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)	MESA AREA	0.00	0.00	0.00		29,942	AS	1
0908	5	53630		DUMP STATION AREA	FROM ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)	TO ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)	MESA AREA	0.00	0.00	0.00		1,883	AS	1
0909	NC	53631		APACHE SPRING PARKING	FROM ROUTE 5004 (STATE HIGHWAY 4)	TO PARKING	BACKCOUNTRY AREA	0.00	0.00	0.00		500	NV	
0910	NC	53632		TSANKAWI PARKING	FROM ROUTE 5004 (STATE HIGHWAY 4)	TO PARKING	TSANKAWI AREA	0.00	0.00	0.00		500	OT	
0911	NC	31668		PONDEROSA CAMPGROUND PARKING	FROM ROUTE 5004 (STATE HIGHWAY 4)	TO PARKING	PONDEROSA AREA	0.00	0.00	0.00		700	NV	
0912	NC	53633		BURNT MESA PARKING	FROM ROUTE 5004 (STATE HIGHWAY 4)	TO PARKING	BACKCOUNTRY AREA	0.00	0.00	0.00		5,250	NV	
0913	5	53634		SKI TRAIL PARKING	ADJACENT TO ROUTE 5004 (STATE HIGHWAY 4)		BACKCOUNTRY AREA	0.00	0.00	0.00		17,348	AS	3
0914	5	53635		ADMINISTRATIVE EMPLOYEE PARKING	FROM ROUTE 0402 (STONEHOUSE ROAD)	TO PARKING	FRIJOLES CANYON AREA	0.00	0.00	0.00		4,276	AS	2
0915A	5	53636		COTTONWOOD PICNIC AREA PARKING A	ADJACENT TO ROUTE 0202 (COTTONWOOD PICNIC AREA ROAD SOUTH) ON LEFT		FRIJOLES CANYON AREA	0.00	0.00	0.00		848	AS	2
0915B	5	53637		COTTONWOOD PICNIC AREA PARKING B	ADJACENT TO ROUTE 0202 (COTTONWOOD PICNIC AREA ROAD SOUTH) ON RIGHT		FRIJOLES CANYON AREA	0.00	0.00	0.00		1,266	AS	2
0915C	5	53638		COTTONWOOD PICNIC AREA PARKING C	ADJACENT TO ROUTE 0202 (COTTONWOOD PICNIC AREA ROAD SOUTH) ON LEFT		FRIJOLES CANYON AREA	0.00	0.00	0.00		658	AS	2

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0915D	5	53640		COTTONWOOD PICNIC AREA PARKING D	ADJACENT TO ROUTE 0202 (COTTONWOOD PICNIC AREA ROAD SOUTH) ON RIGHT		FRIJOLES CANYON AREA	0.00	0.00	0.00		1,643	AS	2
0915E	NC	237762		COTTONWOOD PICNIC AREA PARKING E	ADJACENT TO ROUTE 0202 (COTTONWOOD PICNIC AREA ROAD SOUTH) ON LEFT		FRIJOLES CANYON AREA	0.00	0.00	0.00		478	GR	
0916	NC	31667		BACKCOUNTRY ACCESS PARKING	ADJACENT TO ROUTE 0202 (COTTONWOOD PICNIC AREA ROAD SOUTH) ON LEFT AND RIGHT		FRIJOLES CANYON AREA	0.00	0.00	0.00		6,575	NV	
0917	5	111508		OPERATIONS CENTER PARKING	FROM ROUTE 0420 (OPERATIONS CENTER ROAD)	TO ROUTE 0420 (OPERATIONS CENTER ROAD)	MESA AREA	0.00	0.00	0.00		18,627	AS	1
0918	NC	231185		TA-49 PARKING	FROM ROUTE 5000 (FIRE CENTER ACCESS ROAD)	TO PARKING	TA-49 AREA	0.00	0.00	0.00		30,664	GR	
0919	5	237784		LOOP B PARKING NORTH	ADJACENT TO ROUTE 0200B (JUNIPER CAMPGROUND LOOP B)		MESA AREA	0.00	0.00	0.00		1,332	AS	1
0920	5	237785		LOOP B PARKING SOUTH	FROM ROUTE 0200B (JUNIPER CAMPGROUND LOOP B)	TO PARKING	MESA AREA	0.00	0.00	0.00		4,033	AS	1
0921A	5	237786		MESA RESIDENCE LOWER LOOP PARKING A	ADJACENT TO ROUTE 0401 (MESA RESIDENCE LOWER LOOP) ON RIGHT		MESA AREA	0.00	0.00	0.00		641	AS	1
0921B	5	237787		MESA RESIDENCE LOWER LOOP PARKING B	ADJACENT TO ROUTE 0401 (MESA RESIDENCE LOWER LOOP) ON LEFT		MESA AREA	0.00	0.00	0.00		822	AS	1
0921C	5	237788		MESA RESIDENCE LOWER LOOP PARKING C	ADJACENT TO ROUTE 0401 (MESA RESIDENCE LOWER LOOP) ON LEFT		MESA AREA	0.00	0.00	0.00		740	AS	1
0921D	5	237789		MESA RESIDENCE LOWER LOOP PARKING D	ADJACENT TO ROUTE 0401 (MESA RESIDENCE LOWER LOOP) ON RIGHT		MESA AREA	0.00	0.00	0.00		559	AS	1
0921E	5	237790		MESA RESIDENCE LOWER LOOP PARKING E	ADJACENT TO ROUTE 0401 (MESA RESIDENCE LOWER LOOP) ON RIGHT		MESA AREA	0.00	0.00	0.00		996	AS	1

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0922	NC	237791		GRAVEL YARD PARKING AREA	FROM ROUTE 5004 (STATE HIGHWAY 4)	TO PARKING	MESA AREA	0.00	0.00	0.00		30,360	GR	
0923	**5**	**237792**		**CERRO GRANDE TRAIL PARKING AREA**	**ADJACENT TO ROUTE 5004 (STATE HIGHWAY 4)**		**BACKCOUNTRY AREA**	**0.00**	**0.00**	**0.00**		**9,030**	**AS**	**3**
0924	NC	237793		VISITOR CENTER OVERFLOW PARKING	ADJACENT TO ROUTE 0010 (PARK ENTRANCE ROAD) ON LEFT		FRIJOLES CANYON AREA	0.00	0.00	0.00		2,775	NV	
5000	**5**			**FIRE CENTER ACCESS ROAD**	**FROM ROUTE 5004 (STATE HIGHWAY 4)**	**TO GREEN GATE**	**N/A**	**0.12**	**0.00**	**0.12**			**AS**	**4**
5004	**5**			**STATE HIGHWAY 4**	**FROM STATE HIGHWAY 502 OVERPASS**	**TO WESTERN PARK BOUNDARY**	**N/A**	**24.81**	**0.00**	**24.81**			**AS**	**1,3,4**

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CYCLE 5 SUMMARY TOTALS FOR BANDELIER NATIONAL MONUMENT

CYCLE 5 ROUTE TOTALS

DCV Driven Route Miles	5.14
Manually Rated Route Miles	0.75
TOTAL PARK ROUTE MILES COLLECTED IN CYCLE 5	5.89
Manually Rated Routes (SQFT)	0.00
TOTAL UNPAVED PARK ROUTE MILES	2.79

CYCLE 5 CONCESSION TOTALS

Concession Paved Route Miles	0.00
Concession Unpaved Route Miles	0.00
TOTAL CONCESSION ROUTE MILES	0.00
Concession Paved Parking Area SQFT	0
Concession Unpaved Parking Area SQFT	0
TOTAL CONCESSION PARKING AREA SQFT	0
Concession Manually Rated Rotes SQFT	0

* CYCLE 5 PARKING AREA TOTALS

Paved Parking (SQFT)	161,122
Unpaved Parking (SQFT)	93,271
TOTAL PARKING (SQFT)	254,393

CYCLE 5 WEIGHTED AVERAGE PARK VALUES

DCV Driven PCR	94
**Manually Rated Routes PCR	45
**Parking PCR	80
***Total Equivalent Lane Miles	13.80

* - The Parking Area Totals SQFT value represents **all** parking areas collected in Cycle 5, both park and concessionaire.

** - Parking and Manually Rated Routes are assigned the following PCR values based on their observed condition: Construction=-1, Excellent=97, Good=90, Fair=73, and Poor=45.

*** - Equivalent Lane Miles are calculated by route using the following equations : DCV and Manually Rated Lines Routes=(PAVE_WIDTHxPAVED_MI)/11 foot lane. Parking Areas=SQ_FEET/5280/11. Manually Rated Polygons=SQ_FEET/5280/11.

Cycle 5 NPS/RIP Route ID Report

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General Park Road Functional Classification Table

Class 1 Principal Park Road/Rural Parkway (Public Roads) Roads which constitute the main access route, circulatory tour, or thoroughfare for park visitors. Route Numbers 1 - 99. Note: Rural parkways (e.g. Natchez Trace) are numbered 1 - 9. State Routes Inventoried for Park. Route Numbers 5000-5999

Class 2 Connector Park Road (Public Roads) - Roads which provide access within a park to areas of scenic, scientific, recreational or cultural interest, such as overlooks, campgrounds, etc. Route Numbers 100-199.

Class 3 Special Purpose Park Road (Public Roads) - Roads which provide circulation within public areas, such as campgrounds, picnic areas, visitor center complexes, concessionaire facilities, etc. These roads generally serve low-speed traffic and are often designed for one-way circulation. Route Numbers 200-299.

Class 4 Primitive Park Roads (Public Roads) - Roads which provide circulation through remote areas and/or access to primitive campgrounds and undeveloped areas. These roads frequently have no minimum design standards and their use may be limited to specially equipped vehicles. Route Numbers 200-299.
Note: Functional Classes 3 and 4 have the same route numbers because, historically, they were numbered similarly.

Class 5 Administrative Access Road (Administrative Roads) - All public roads intended for access to administrative developments or structures such as park offices, employee quarters, or utility areas. Route Numbers 400-499.

Class 6 Restricted Road (Administrative Roads) - All roads normally closed to the public, including patrol roads, truck trails, and other similar roads. Route Numbers 400-499. Note: Functional Classes 5 and 6 have the same route numbers because historically they were numbered similarly and often there is little distinction between these routes. For example, because utility areas and employee housing are often closed to the public, this restriction would result in classification of FC 6 rather than FC 5.

Class 7 Urban Parkway (Urban Parkways and City Streets) - These facilities serve high volumes of park and non-park related traffic and are restricted, limited-access facilities in an urban area. This category of roads primarily encompasses the major parkways which serve as gateways to our nation's capital. Other major park roads or portions thereof, however, may be included in this category. Route Numbers 1-9.

Class 8 City Streets (Urban Parkways and City Streets) - City streets are usually extensions of the adjoining street system that are owned and maintained by the National Park Service. The construction and/or reconstruction should conform with accepted local engineering practice and local conditions. Route Numbers 600-699.

****

A park road system contains those roads within or giving access to a park or other unit of the NPS which are administered by the NPS, or by the Service in cooperation with other agencies. The assignment of a functional classification (FC) to a park road is not based on traffic volumes or design speed, but on the intended use or function of that road or route.

The historic route numbering system also included a 300 number series for interpretive roads, and a 500 series for one-way roads. There are approximately 250 roads nationwide which are designated by the 300 and 500 series. The numbers for these roads will be maintained for reporting consistency. However, since these interpretive and one-way routes are not as clearly tied to a specific functional class, the 300 and 500 series will be discontinued for future use.

5000 route numbers are assigned to Non-NPS Routes that are State, County or City owned which border, traverse, or provide access to Park Facilities or Locations. 5000 Routes are driven for GPS and Video Log only.

Surface Type Abbreviations:

AS - Asphaltic Concrete Pavement
CO - Portland Cement Concrete Pavement
BR - Brick or Pavers Road Bed
CB - Cobble Stone Road Bed
GR - Gravel Road Bed
SA - Sand Road Bed
NV - Native or Dirt Material Road Bed
OT - Other Materials Road Bed

NPS/RIP Subcomponent Details for BAND

Shading Color Key:
Red text denotes approx. mileage

White = Paved Routes, DCV Driven | Yellow = Unpaved Routes, DCV not Driven | Blue = All Paved Parking Areas | Green = All Unpaved Parking Areas

Grey = Paved Routes, DCV not Driven | Black = State, Local or Private non-NPS Routes | = Concession Route Flag ON

*Unpaved route data was obtained from NPS and was not inventoried by the Road Inventory Program (RIP).

BAND

BANDELIER NATIONAL MONUMENT

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0902ZZ	53623	5	MESA RESIDENCE PARKING AREAS	ADJACENT TO ROUTE 0400 (MESA RESIDENCE UPPER LOOP) ON LEFT AND RIGHT				0.00	0.00	0.00	3,234

BAND-0902ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0902AZ	53623	5	MESA RESIDENCE PARKING A	ADJACENT TO ROUTE 0400 (MESA RESIDENCE UPPER LOOP) ON LEFT				0.00	0.00	0.00	2,640
0902BZ	53623	5	MESA RESIDENCE PARKING B	ADJACENT TO ROUTE 0400 (MESA RESIDENCE UPPER LOOP) ON RIGHT				0.00	0.00	0.00	594

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - BAND

ROUTES ADDED FROM PREVIOUS INVENTORY:			
Route #	**Route Name**	**Reason for Addition**	**Comments**
0917	OPERATIONS CENTER PARKING	RECENTLY CONSTRUCTED ROUTE	NEW PARKING AREA ADDED TO INVENTORY IN CYCLE 5.
0919	LOOP B PARKING NORTH	RECENTLY CONSTRUCTED ROUTE	NEW PARKING AREA ADDED TO INVENTORY IN CYCLE 5.
0920	LOOP B PARKING SOUTH	RECENTLY CONSTRUCTED ROUTE	NEW PARKING AREA ADDED TO INVENTORY IN CYCLE 5.
0921A	MESA RESIDENCE LOWER LOOP PARKING A	RECENTLY CONSTRUCTED ROUTE	NEW PARKING AREA ADDED TO INVENTORY IN CYCLE 5.
0921B	MESA RESIDENCE LOWER LOOP PARKING B	RECENTLY CONSTRUCTED ROUTE	NEW PARKING AREA ADDED TO INVENTORY IN CYCLE 5.
0921C	MESA RESIDENCE LOWER LOOP PARKING C	RECENTLY CONSTRUCTED ROUTE	NEW PARKING AREA ADDED TO INVENTORY IN CYCLE 5.
0921D	MESA RESIDENCE LOWER LOOP PARKING D	RECENTLY CONSTRUCTED ROUTE	NEW PARKING AREA ADDED TO INVENTORY IN CYCLE 5.
0921E	MESA RESIDENCE LOWER LOOP PARKING E	RECENTLY CONSTRUCTED ROUTE	NEW PARKING AREA ADDED TO INVENTORY IN CYCLE 5.
0923	CERRO GRANDE TRAIL PARKING AREA	OTHER	NEW PARKING AREA ADDED TO INVENTORY IN CYCLE 5.
5000	FIRE CENTER ACCESS ROAD	OTHER	NEW ROUTE ADDED TO INVENTORY IN CYCLE 5.
5004	STATE HIGHWAY 4	OTHER	NEW ROUTE ADDED TO INVENTORY IN CYCLE 5.

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - BAND

ROUTES MODIFIED FROM PREVIOUS INVENTORY:			
Route #	**Route Name**	**Type of Modification**	**Comments**
0200B	JUNIPER CAMPGROUND LOOP B	RECONSTRUCTED	THE CAMPGROUND LOOP WAS RECONFIGURED AND FOLLOWS A NEW ALIGNMENT IN CYCLE 5.
0400	MESA RESIDENCE UPPER LOOP	RECONSTRUCTED	ROUTE WAS RECONSTRUCTED ON A SLIGHTLY DIFFERENT ALIGNMENT AROUND THE LOOP. FUNCTIONAL CLASSIFICATION CHANGED FROM 5 TO 6 BECAUSE THE ROUTE IS NONPUBLIC.
0401	MESA RESIDENCE LOWER LOOP	RECONSTRUCTED	ROUTE WAS RECONSTRUCTED WITH A LOOP AT THE END OF THE ROUTE. FUNCTIONAL CLASSIFICATION CHANGED FROM 5 TO 6 BECAUSE THE ROUTE IS NONPUBLIC.
0908	DUMP STATION AREA	RECONSTRUCTED	THE DUMP STATION PULL THROUGH WAS WIDENED SINCE CYCLE 3.
0913	SKI TRAIL PARKING	SURFACE TYPE CHANGE	THE SKI TRAIL PARKING LOT WAS UNPAVED IN CYCLE 3, BUT IS NOW PAVED.

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - BAND

OTHER CHANGES FROM PREVIOUS INVENTORY:			
Route #	**Route Name**	**Type of Change**	**Comments**
0200C	JUNIPER CAMPGROUND LOOP C	OTHER	THE ONE-WAY DIRECTION AROUND THE CAMPGROUND LOOP WAS REVERSED IN CYCLE 5 AS COMPARED TO CYCLE 3.
0201	COTTONWOOD PICNIC AREA ROAD NORTH	COLLECTION METHOD CHANGE	ROUTE WAS MANUALLY RATED IN CYCLE 5 BECAUSE THE DATA COLLECTION VEHICLE (DCV) COULD NOT ACCESS IT DUE TO THE BRIDGE BEING REMOVED. IN CYCLE 3 IT WAS COLLECTED BY THE DCV.
0202	COTTONWOOD PICNIC AREA ROAD SOUTH	COLLECTION METHOD CHANGE	ROUTE WAS MANUALLY RATED IN CYCLE 5 BECAUSE THE DATA COLLECTION VEHICLE (DCV) COULD NOT ACCESS IT DUE TO THE BRIDGE BEING REMOVED. IN CYCLE 3 IT WAS COLLECTED BY THE DCV.
0402	STONEHOUSE ROAD	LENGTH CHANGE	ROUTE WAS SHORTENED IN CYCLE 5 BECAUSE IN CYCLE 3 ROUTES 0402 AND 0903 OVERLAPPED EACH OTHER (A SECTION OF THE ROAD WAS BEING DOUBLE COUNTED). FUNCTIONAL CLASSIFICATION CHANGED FROM 5 TO 6 BECAUSE THE ROUTE IS NONPUBLIC. ROUTE NAME CHANGED FROM “VISITOR CENTER SERVICE ROAD” TO “STONEHOUSE ROAD”.
0420	OPERATIONS CENTER ROAD	ROUTES COMBINED	CYCLE 3 ROUTE 0403 WAS PAVED AND THEN COMBINED INTO ROUTE 0420 IN CYCLE 5. THEREFORE, THE LENGTH OF ROUTE 0420 INCREASED IN CYCLE 5. ALSO THE FUNCTIONAL CLASSIFICATION CHANGED FROM 5 TO 6 BECAUSE THE ROUTE IS NONPUBLIC, AND THE ROUTE NAME CHANGED FROM "BONEYARD ROAD".
0422	AGOYO LANE	SURFACE TYPE CHANGE	ROUTE WAS CONSIDERED UNPAVED IN CYCLE 3. SOME SECTIONS ARE VERY POOR AND LOOK UNPAVED. ROUTE NAME CHANGED FROM "STABLES SERVICE ROAD".
0423	FIRE TOWER ACCESS ROAD	ROUTE SPLIT	ADDED TO THE INVENTORY IN CYCLE 5 WHEN IT WAS SEPARATED FROM ROUTE 0906. ROUTE 0423 WAS COLLECTED MANUALLY AS PART OF 0906 IN CYCLE 3, AND WAS COLLECTED BY THE DATA COLLECTION VEHICLE IN CYCLE 5.
0901	FRIJOLES CANYON MAINTENANCE AREA PARKING	SQ FEET CHANGE	GPS RECOLLECTED IN CYCLE 5. ROUTE NAME CHANGED FROM "MAINTENANCE AREA".

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - BAND

OTHER CHANGES FROM PREVIOUS INVENTORY:			
Route #	**Route Name**	**Type of Change**	**Comments**
0902ZZ	MESA RESIDENCE PARKING AREAS	SQ FEET CHANGE	SUBCOMPONENT 0902AZ (WAS 0902 IN CYCLE 3) CHANGED AND GPS WAS RECOLLECTED IN CYCLE 5. SUBCOMPONENT 0902BZ WAS ADDED IN CYCLE 5.
0903A	STONEHOUSE ROAD PARKING AREA	SQ FEET CHANGE	ROUTE 0903A WAS ROUTE 0903 IN CYCLE 3. THE SQUARE FOOTAGE WAS REDUCED WHEN ROUTE 0402 WAS SEPARATED FROM THE PARKING LOT SHAPE (A SECTION OF THE ROAD WAS BEING DOUBLE COUNTED). ROUTE NAME CHANGED FROM "VISITOR CENTER SERVICE ROAD PARKING".
0904	STABLES PARKING AREAS	OTHER	CHANGED TO UNPAVED PARKING IN CYCLE 5. THE PAVED 0904 SHAPE FROM CYCLE 3 BECAME PART OF ROUTE 0422 IN CYCLE 5. ROUTE 0422 RUNS BETWEEN THE TWO PARKING AREAS THAT MAKE UP ROUTE 0904.
0906	FIRE TOWER ACCESS ROAD PARKING	ROUTE SPLIT	ROUTE 0906 WAS MODIFIED BY REMOVING ROUTE 0423 FROM THE PARKING LOT SHAPE.
0914	ADMINISTRATIVE EMPLOYEE PARKING	SQ FEET CHANGE	GPS OF THE PARKING LOT SHAPE WAS RECOLLECTED IN CYCLE 5.
0915A	COTTONWOOD PICNIC AREA PARKING A	SQ FEET CHANGE	GPS OF THE PARKING LOT SHAPE WAS RECOLLECTED IN CYCLE 5.
0915C	COTTONWOOD PICNIC AREA PARKING C	SQ FEET CHANGE	GPS OF THE PARKING LOT SHAPE WAS RECOLLECTED IN CYCLE 5.

Section 3
Park Summary Information

Bandelier National Monument

Federal Lands Highway
Road Inventory Program

BAND: PAVED ROUTE MILES AND PERCENTAGES BY FUNCTIONAL CLASS AND PCR

F.C.	Pavement Condition Rating (PCR)								TOTAL MILES
	Poor (0-60)		Fair (61-84)		Good (85-94)		Excellent (95-100)		
	MILES	%	MILES	%	MILES	%	MILES	%	
1	0.02	0.39%	0.68	13.20%	0.70	13.59%	1.78	34.56%	**3.18**
2									
3					0.04	0.78%	1.15	22.33%	**1.19**
4									
5					0.02	0.39%	0.02	0.39%	**0.04**
6	0.06	1.17%	0.02	0.39%			0.66	12.82%	**0.74**
7									
8									
Totals	**0.08**	**1.55%**	**0.70**	**13.59%**	**0.76**	**14.76%**	**3.61**	**70.10%**	**5.15**

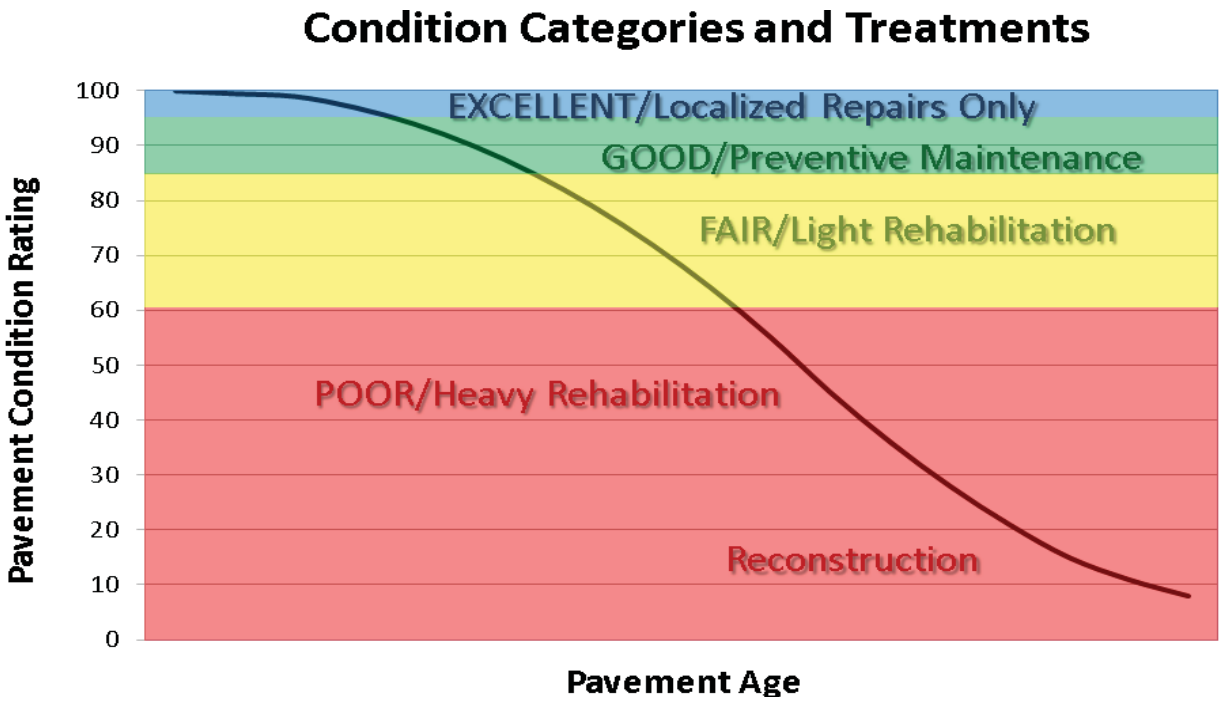
Note: **The information in this table is derived from the PMS_20 table in the Park database, which only contains processed data from routes collected with the Data Collection Vehicle (DCV). Information for Manually Rated Routes (MRR) and Parking Areas is not reported in this table. Only Functional Class 1, 2, & 7 routes, and any new routes not previously collected by RIP, are collected in Large Parks.**

Explanation of the Excellent, Good, Fair and Poor Condition Descriptions

In addition to the RIP Index changes that have been implemented in Cycle 5, we will also aim to provide greater assistance in translating excellent/good/fair/poor categories into pavement needs categories. The PCR can be used to indicate the place in the Pavement Life Cycle and the types of treatments that should be considered now and into the future.

- Excellent/New: PCR of 95-100. Pavements in this range will require only spot repairs
- Good: PCR of 85-94. Pavements in this range will likely be candidates for Preventive Maintenance. Examples include Chip and Slurry Seals, Micro Surfacing and Thin Overlays.
- Fair: PCR of 61-84. Pavements in this range will likely be candidates of Light Rehabilitation (L3R). Examples include single-lift overlays up to 2.5 inches in total thickness, milling and overlays.
- Poor: PCR of 0-60. Pavements in this range will likely be candidates of Heavy Rehabilitation or Reconstruction (H3R or 4R). Examples include Pulverization, Multiple Lift Overlays, and Reconstruction.

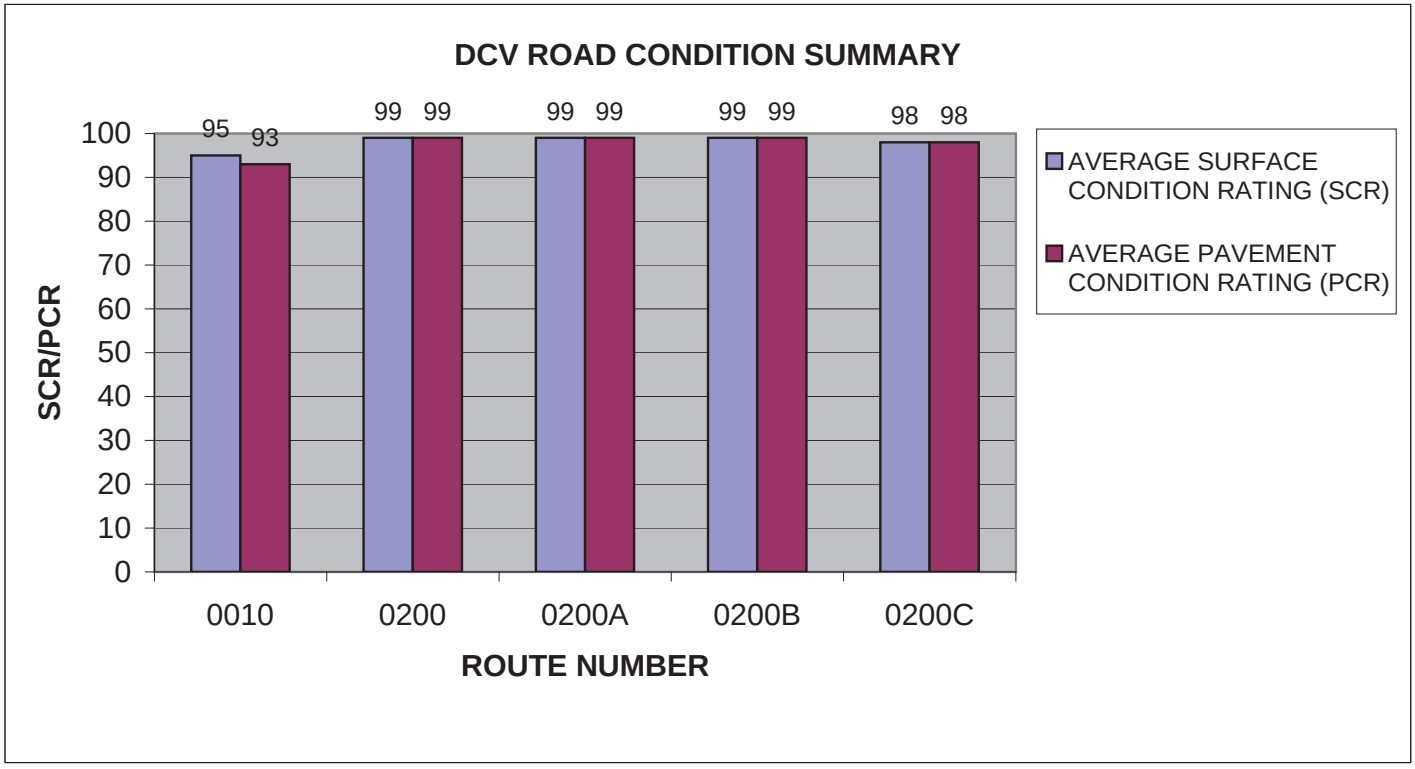
At this time, specific Maintenance and Rehabilitation activities should be evaluated and recommended at the project level. Site-specific conditions that influence treatment type should be determined based on performing a subsurface investigation and/or pavement condition survey, and not be based solely on RIP data. Additionally, RIP produces a snapshot of conditions the year in which the data was collected. For further information or to obtain additional Pavement Management System's data from our Highway Pavement Management Application (HPMA) please contact the Eastern Federal Lands pavement team.



BAND: DCV ROAD CONDITION SUMMARY

DCV - Data Collection Vehicle

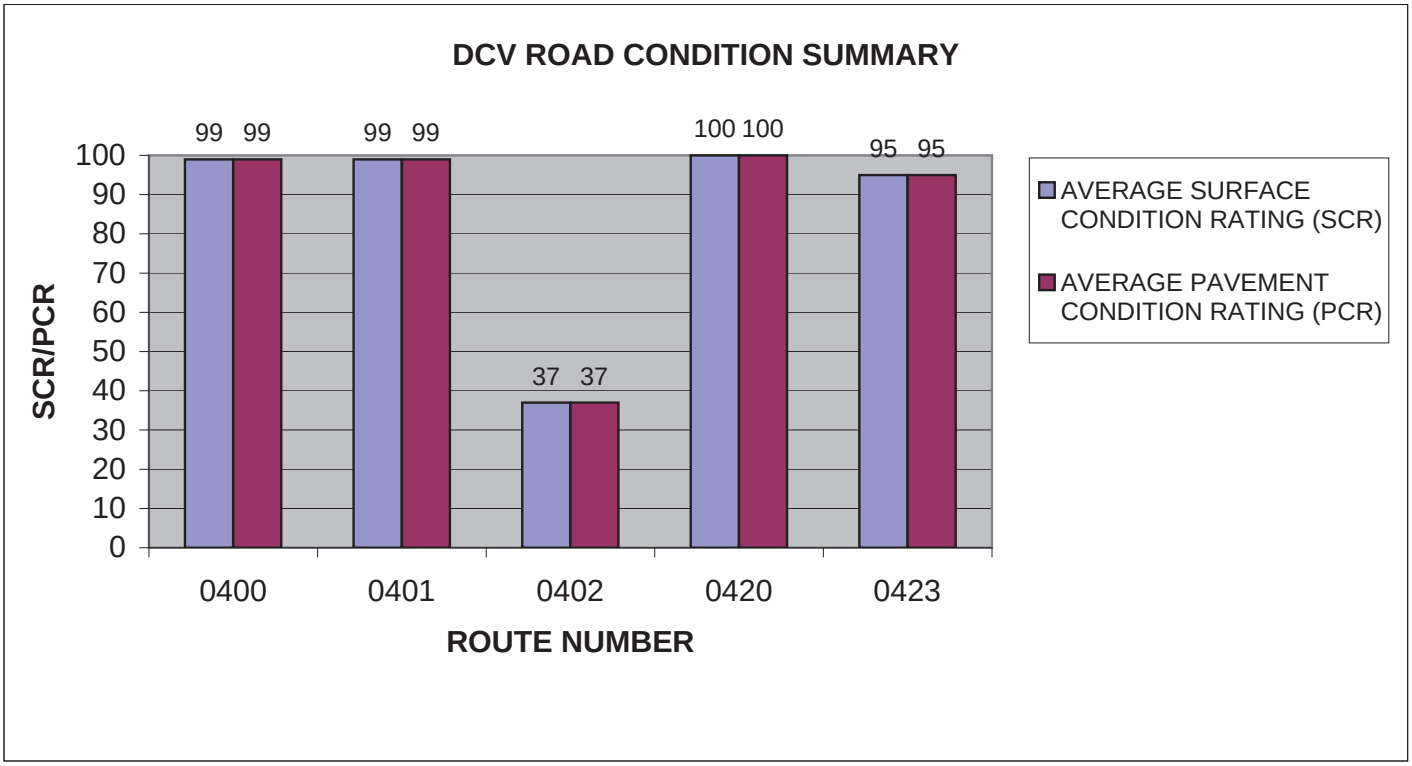
ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	PAVED LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0010	PARK ENTRANCE ROAD	1	3.18	ASPHALT	95	93
0200	JUNIPER CAMPGROUND ACCESS ROAD	3	0.38	ASPHALT	99	99
0200A	JUNIPER CAMPGROUND LOOP A	3	0.27	ASPHALT	99	99
0200B	JUNIPER CAMPGROUND LOOP B	3	0.23	ASPHALT	99	99
0200C	JUNIPER CAMPGROUND LOOP C	3	0.33	ASPHALT	98	98



BAND: DCV ROAD CONDITION SUMMARY

DCV - Data Collection Vehicle

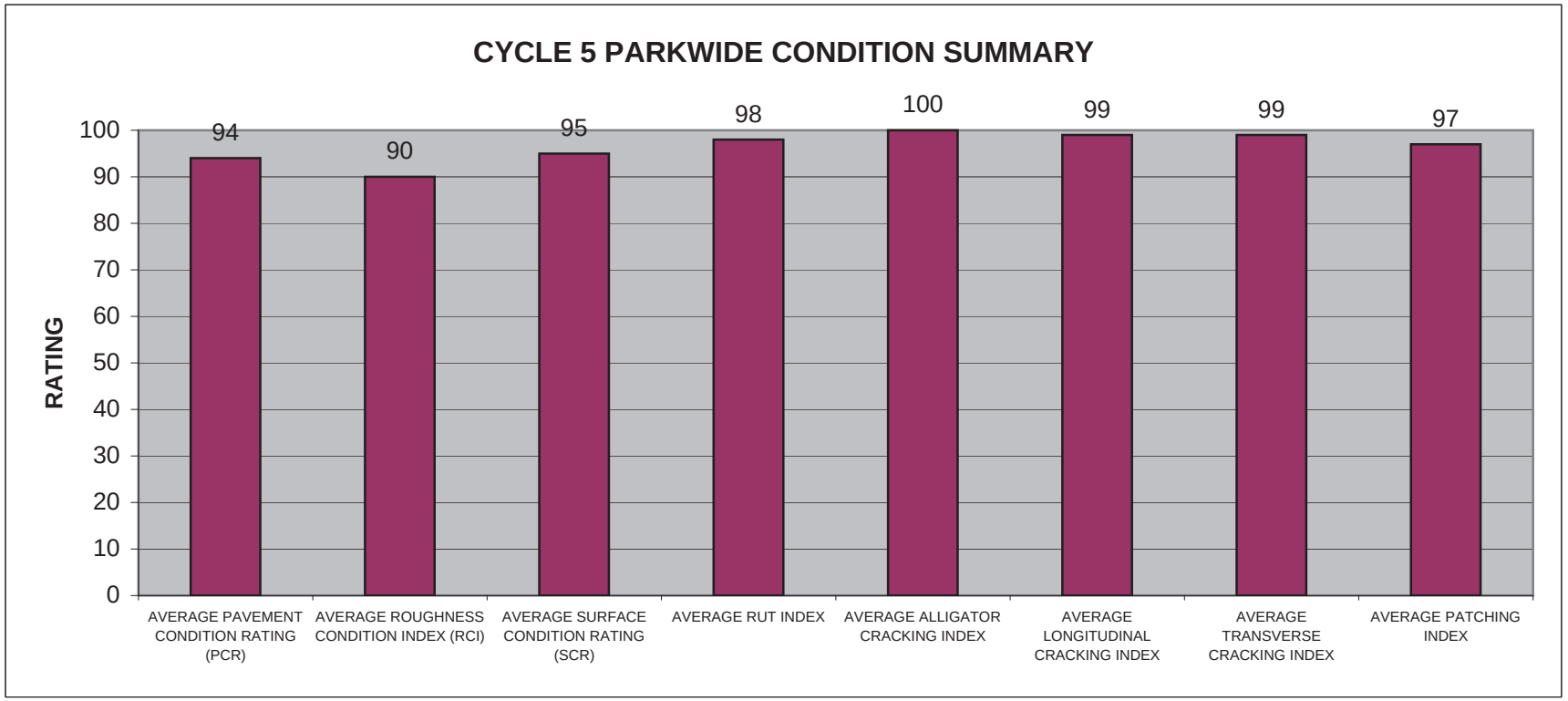
ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	PAVED LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0400	MESA RESIDENCE UPPER LOOP	6	0.19	ASPHALT	99	99
0401	MESA RESIDENCE LOWER LOOP	6	0.15	ASPHALT	99	99
0402	STONEHOUSE ROAD	6	0.08	ASPHALT	37	37
0420	OPERATIONS CENTER ROAD	6	0.32	ASPHALT	100	100
0423	FIRE TOWER ACCESS ROAD	5	0.04	ASPHALT	95	95



BAND: PARKWIDE DCV CONDITION SUMMARY

AVERAGE PAVEMENT CONDITION RATING (PCR)	AVERAGE ROUGHNESS CONDITION INDEX (RCI)	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE RUT INDEX	AVERAGE ALLIGATOR CRACKING INDEX	AVERAGE LONGITUDINAL CRACKING INDEX	AVERAGE TRANSVERSE CRACKING INDEX	AVERAGE PATCHING INDEX
94	90	95	98	100	99	99	97

All Index values are based on Data Collection Vehicle (DCV) driven roads that were collected in Cycle-5.
Roughness data is only collected on routes with lengths greater than 0.5 miles and a posted speed limit of 25 MPH or greater.

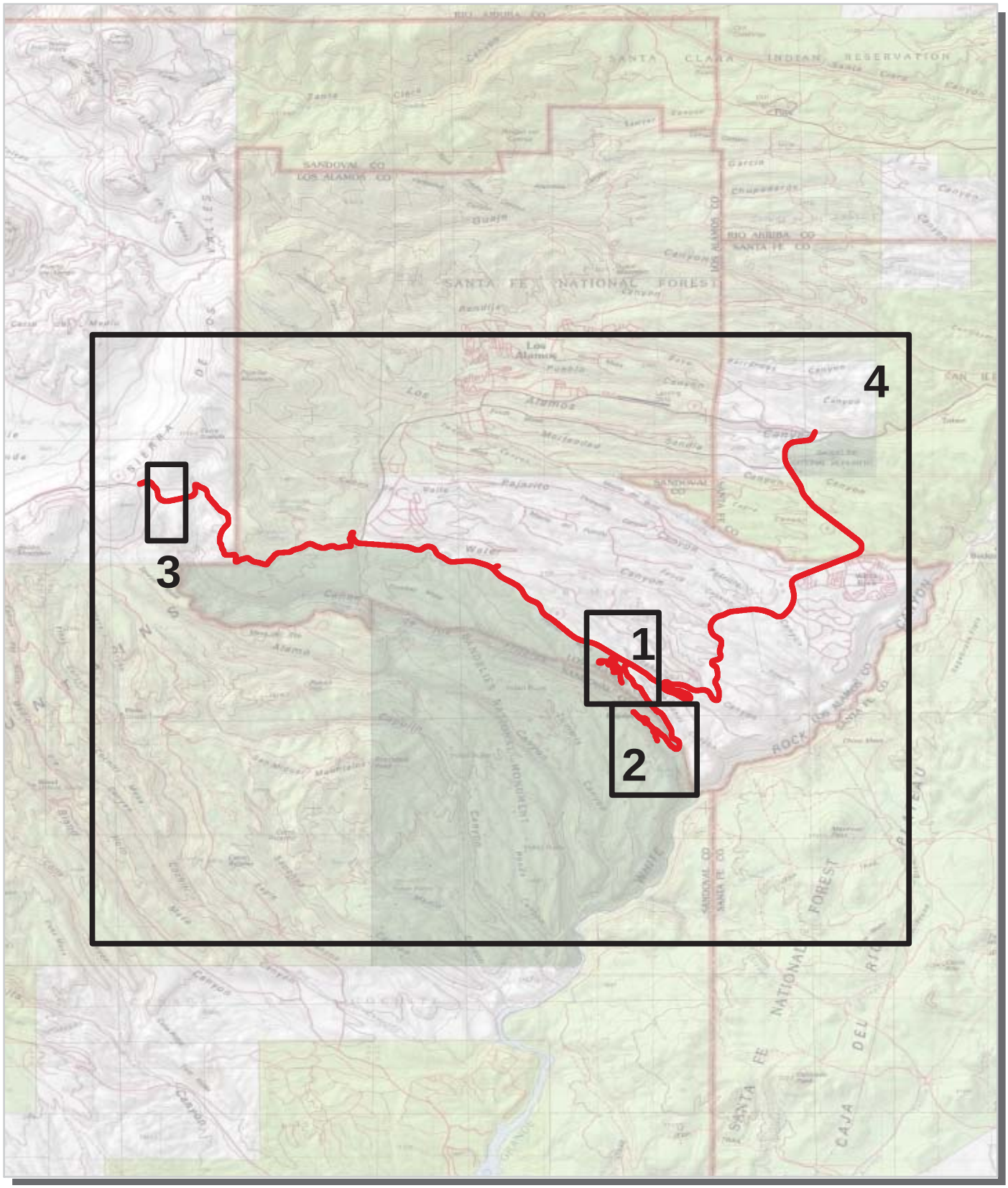


Section 4
Park Route Location Maps

Bandelier National Monument

Federal Lands Highway
Road Inventory Program

Bandelier National Monument
Route Location Map
Key Map

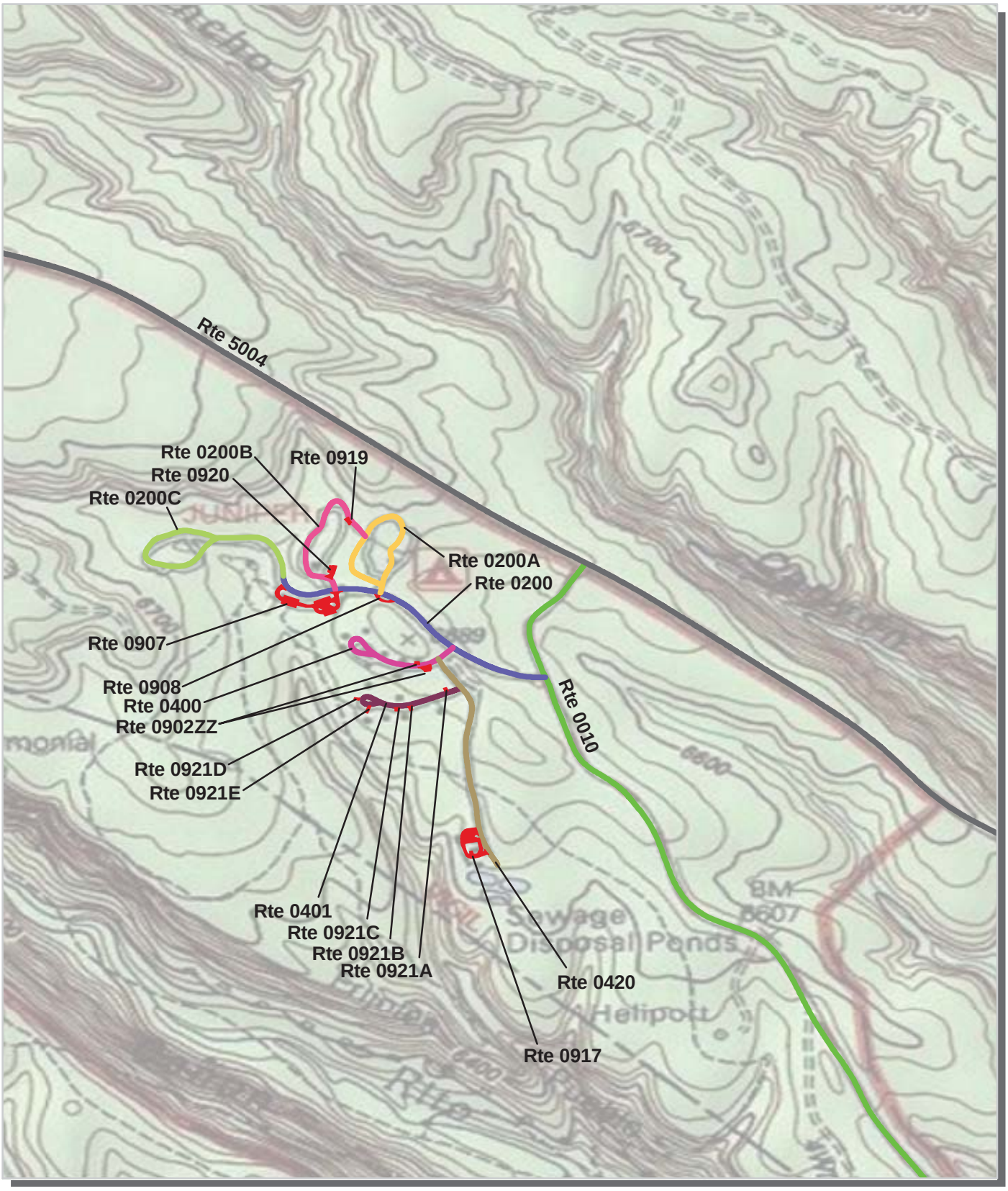


Cycle 5 Collected Routes

4 2 0 4
Miles

N

Bandelier National Monument
Route Location Map
Area 1

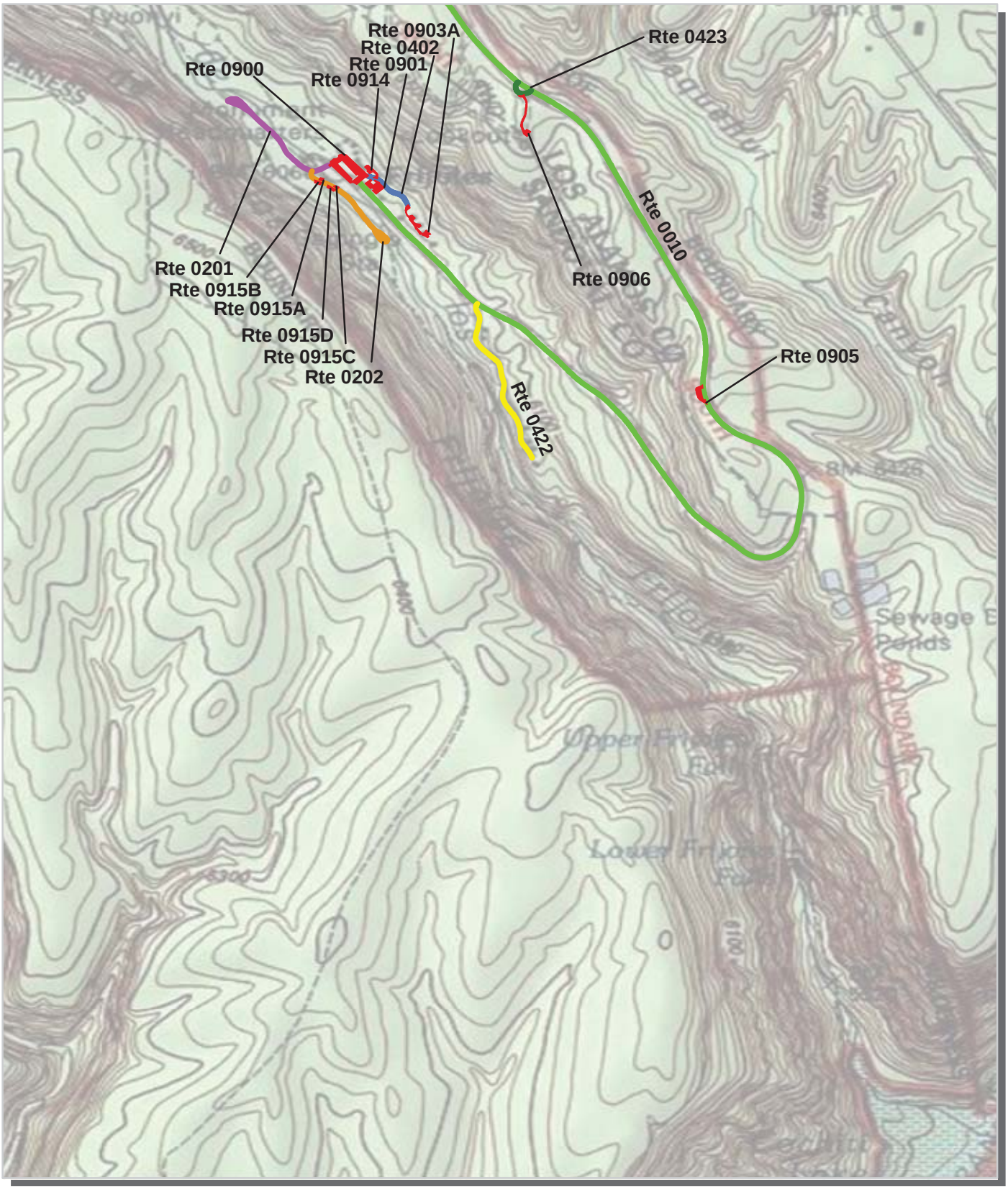


Unique colors used to differentiate routes

0.4 0.2 0 0.4 Miles

N

Bandelier National Monument
Route Location Map
Area 2

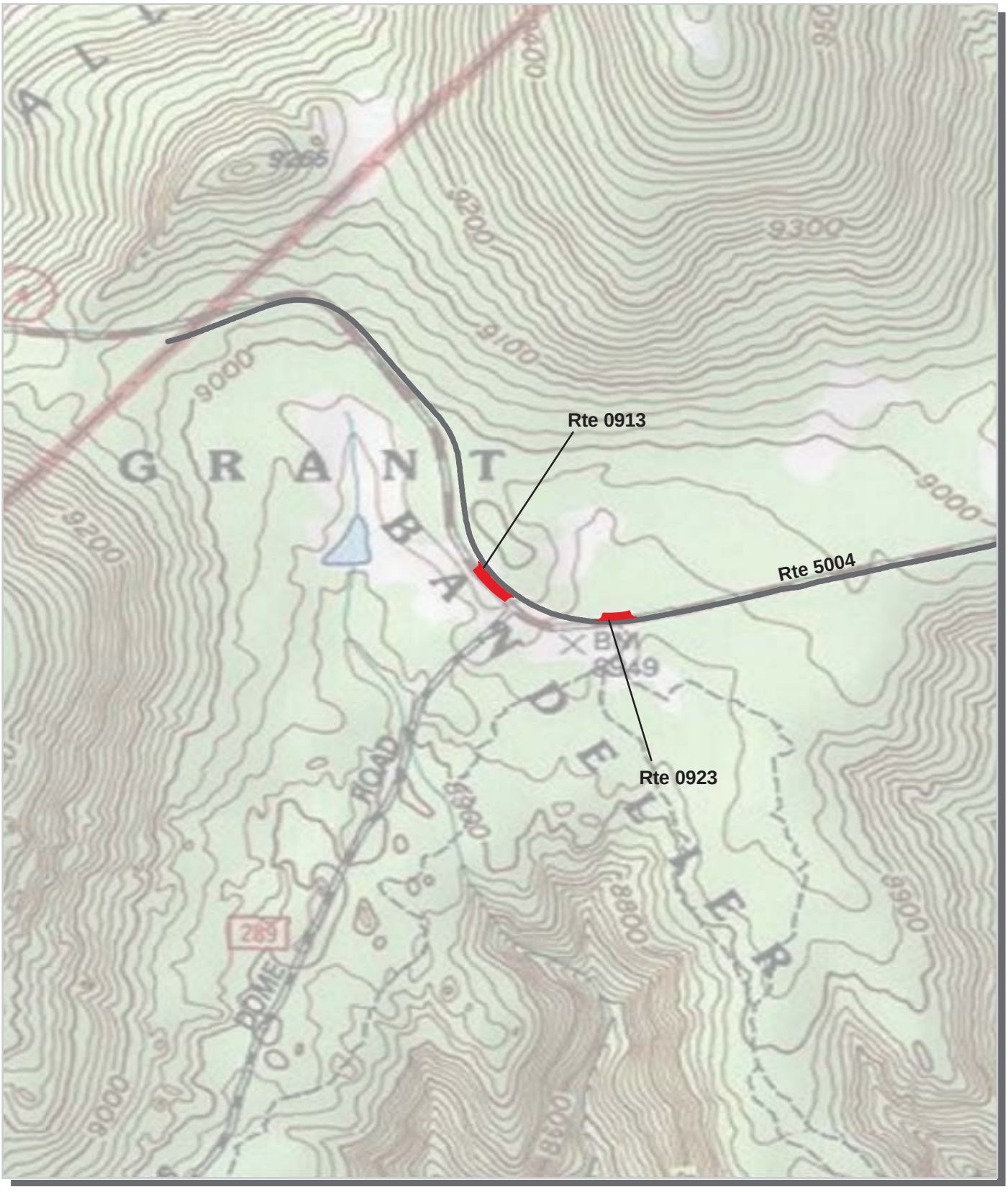


Unique colors used to differentiate routes

0.4 0.2 0 0.4 Miles

N

Bandelier National Monument
Route Location Map
Area 3

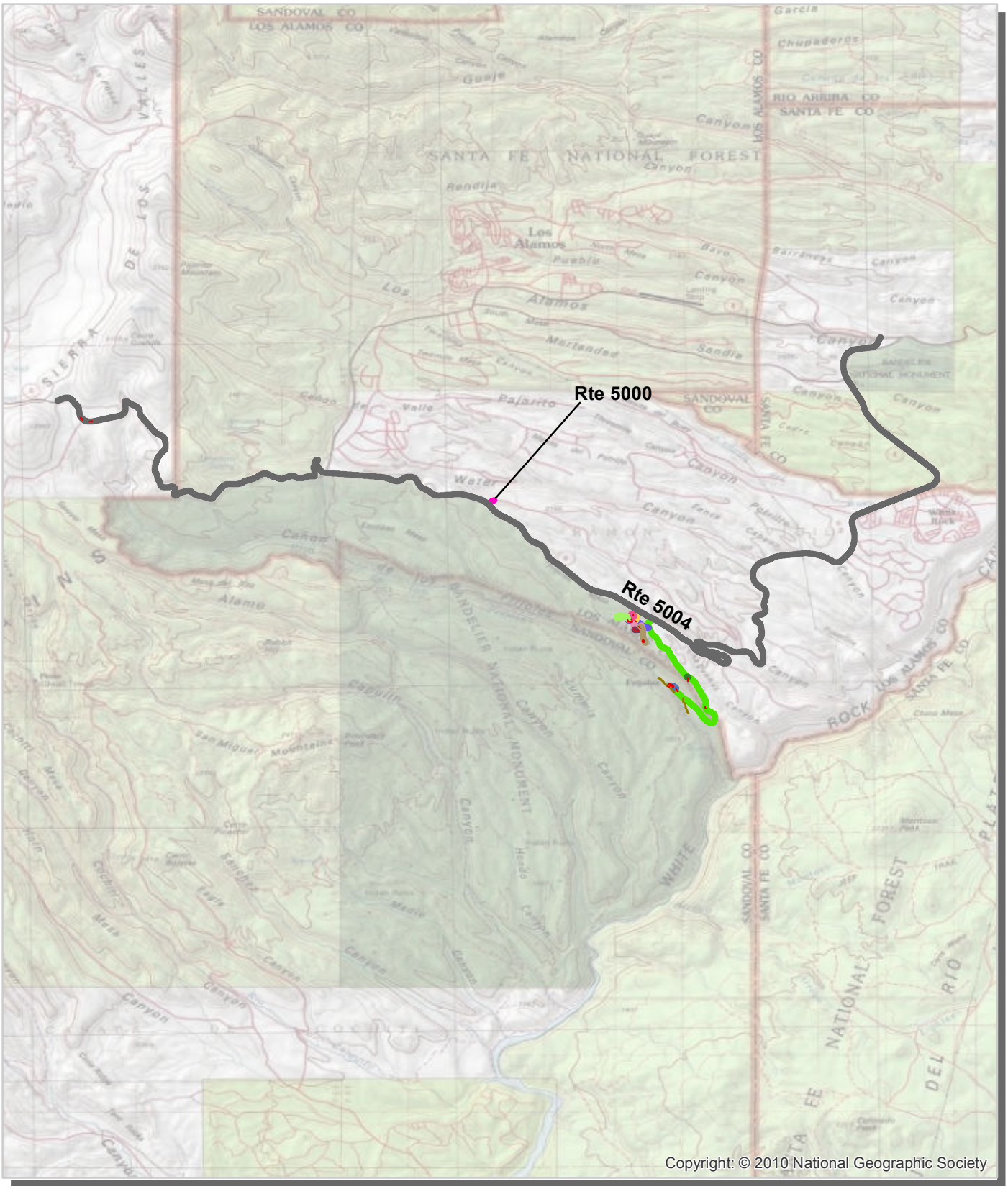


Unique colors used to differentiate routes

0.4 0.2 0 0.4 Miles

N

Bandelier National Monument
Route Location Map
Area 4

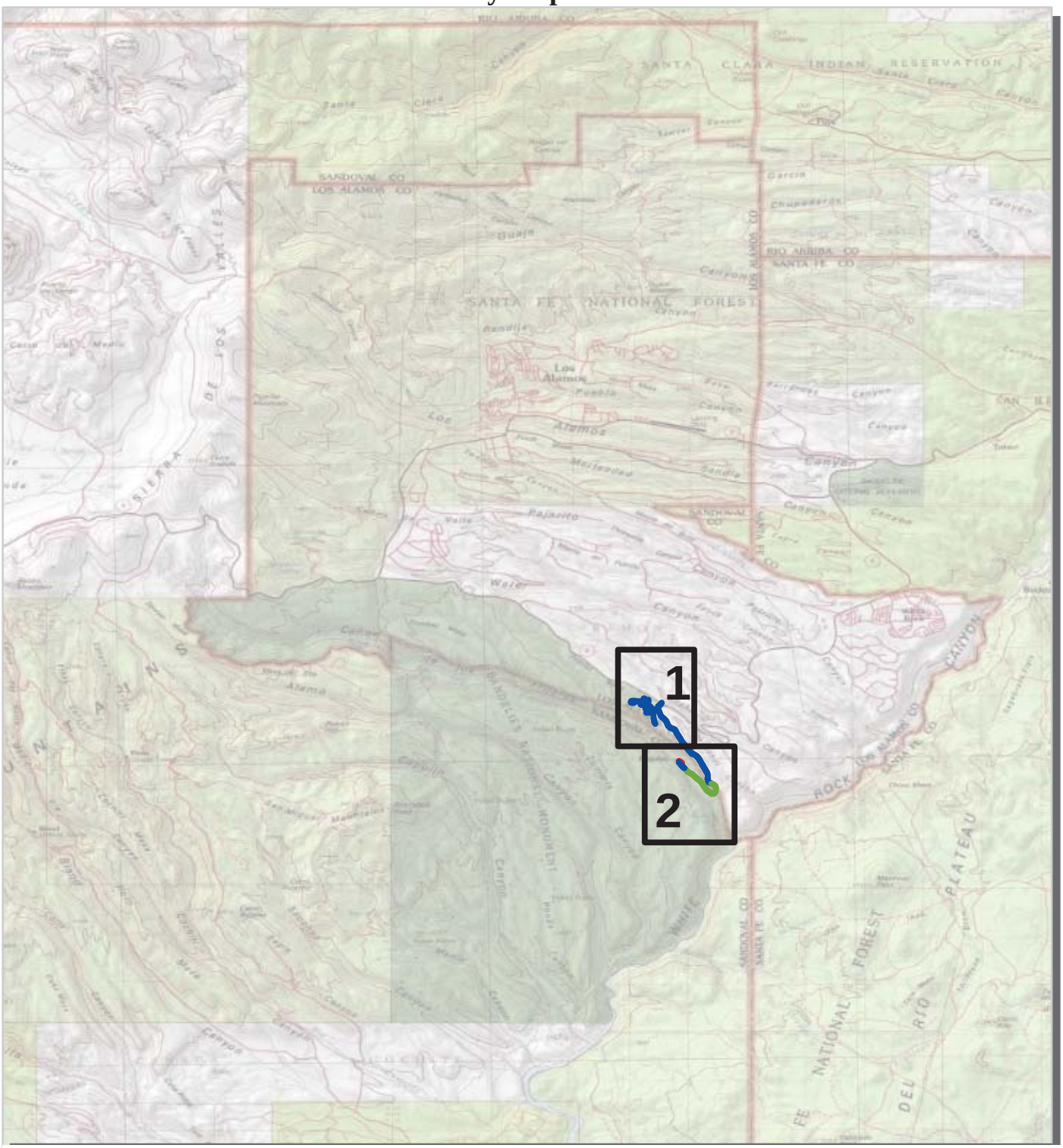


Unique colors used to differentiate routes

4 2 0 4 Miles

N

Bandelier National Monument
Route Condition Map
PCR - Mile by Key Map



PCR	Poor	Fair	Good	Excellent	No Data
	(0 - 60)	(61 - 84)	(85 - 94)	(95 - 100)	

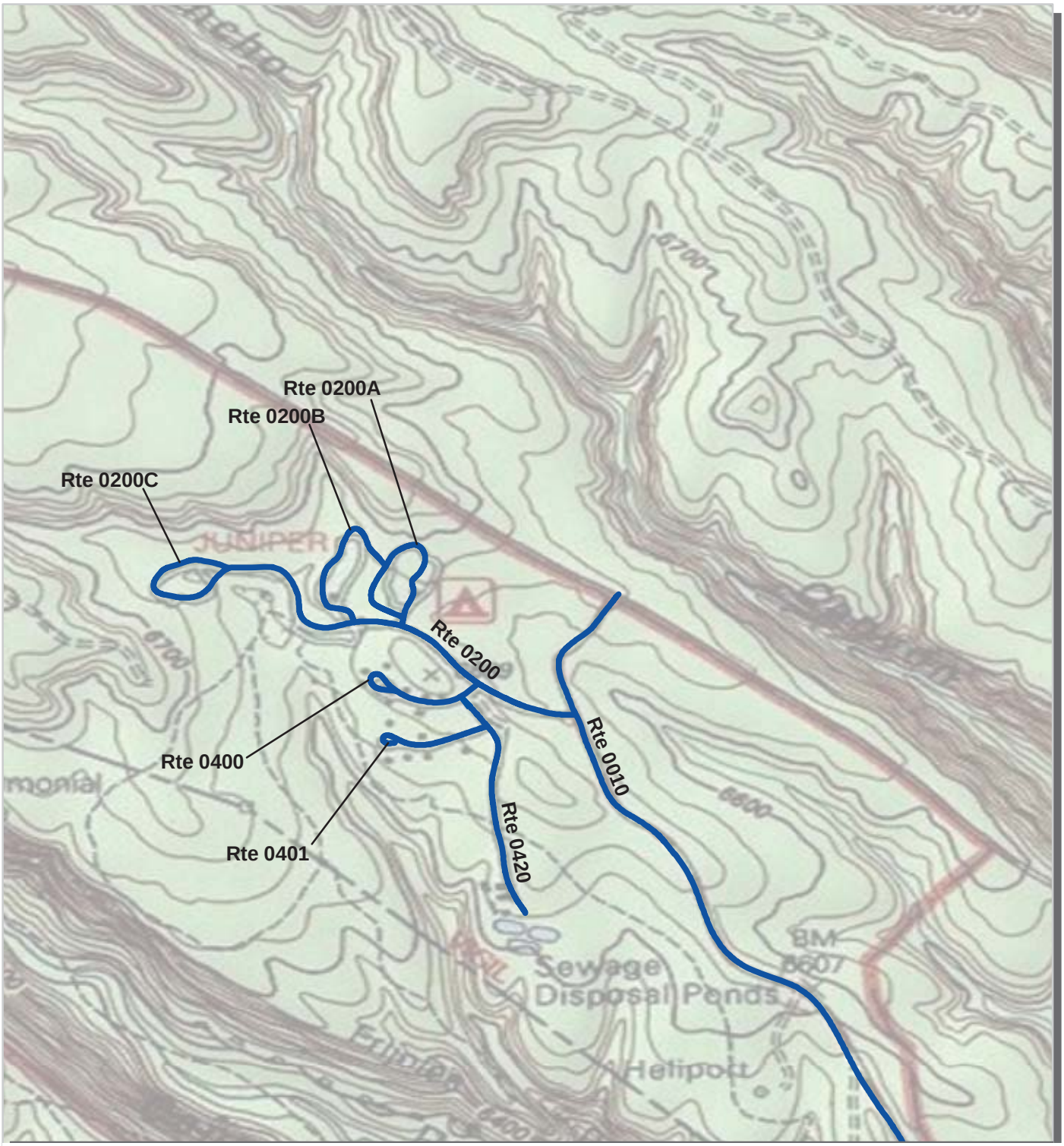
* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

Note: Only routes collected by the DCV in Cycle-5 are displayed.

4 2 0 4 Miles

N

Bandelier National Monument
Route Condition Map
PCR - Mile by Mile
Area 1



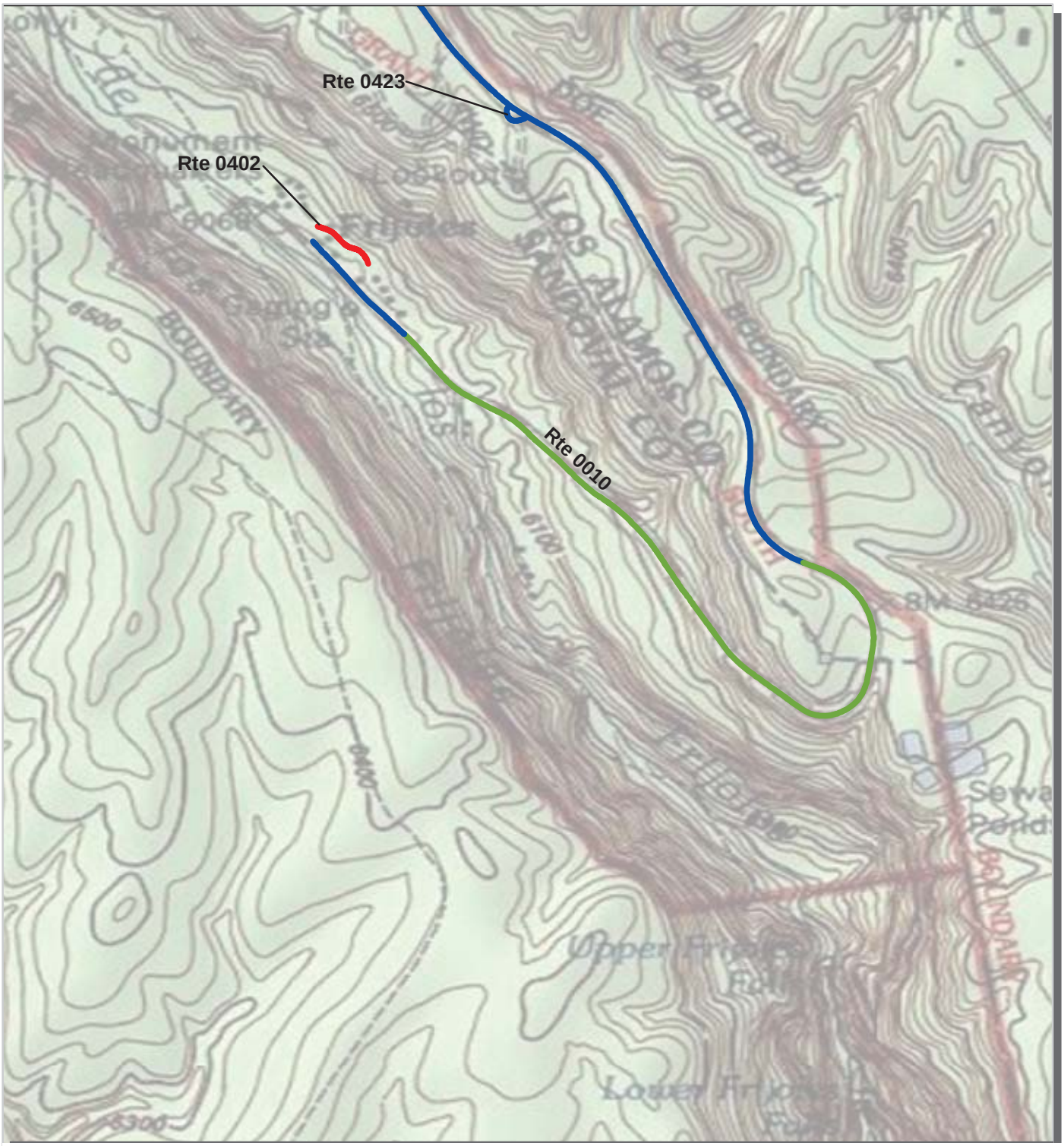
PCR	Poor	Fair	Good	Excellent	No Data
	(0 - 60)	(61 - 84)	(85 - 94)	(95 - 100)	

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

0.4 0.2 0 0.4 Miles

N

Bandelier National Monument
Route Condition Map
PCR - Mile by Mile
Area 2



PCR	Poor	Fair	Good	Excellent	No Data
	(0 - 60)	(61 - 84)	(85 - 94)	(95 - 100)	

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

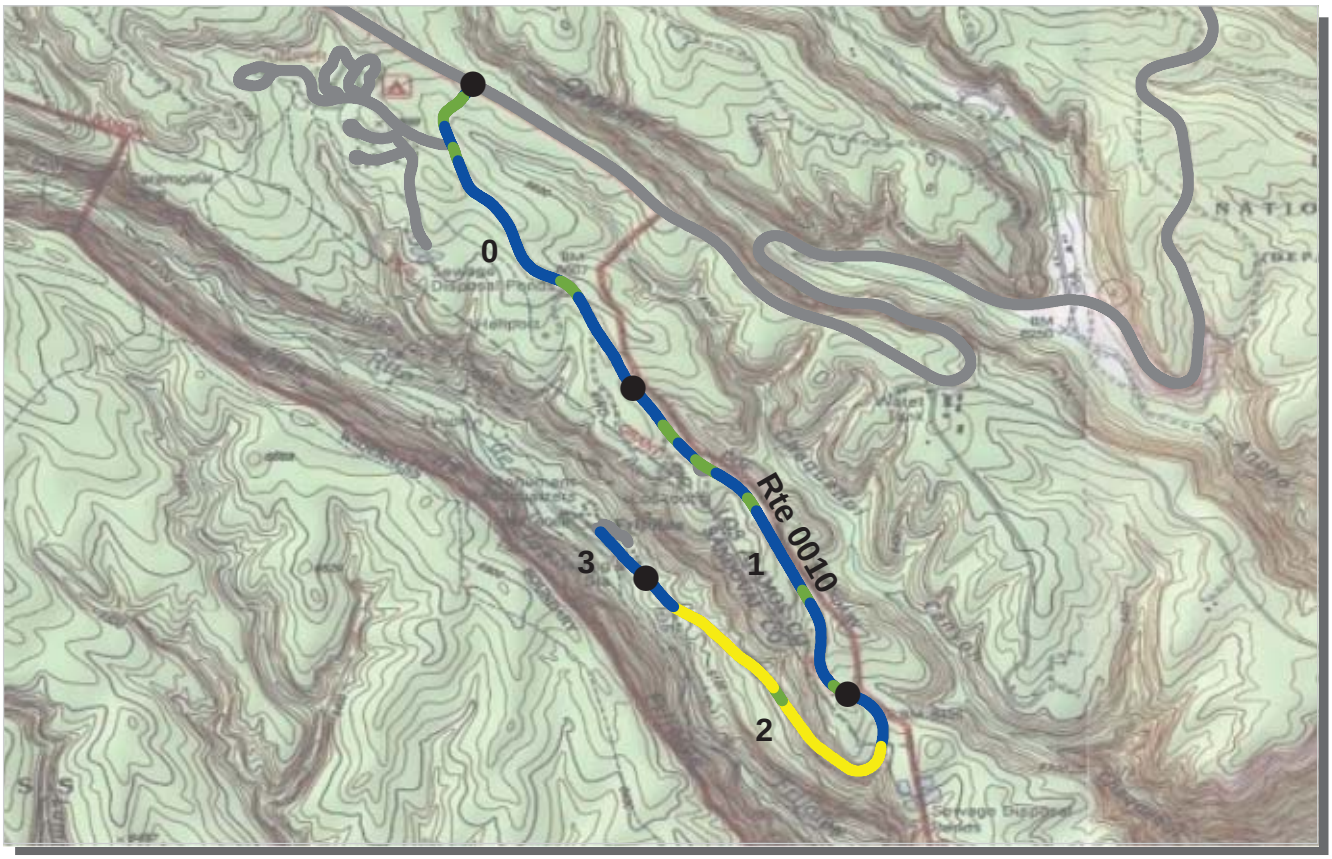
0.4 0.2 0 0.4 Miles

N

Section 5
Paved Route
Condition Rating Sheets

Bandelier National Monument

Federal Lands Highway
Road Inventory Program



PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0010 PARK ENTRANCE ROAD
BAND : BANDELIER NATIONAL MONUMENT

COLLECTED: 8/14/2012
INTERMOUNTAIN REGION **TOTAL LENGTH: 3.18 Miles**

Section Number	0	1	2	3	
Section Length (mi)	1.00	1.00	1.00	0.18	
Cross Section Information					
Number of Lanes	2	2	2	2	
Paved Width (ft)	24	22	21	22	
Lane Width (ft)	12	11	11	11	
Roadway Condition Information					
SCR (Surface Condition Rating)	99	99	85	99	
PCR (Pavement Condition Rating)	95	98	85	98	
Distress Index Values					
Structural Crack Index	99	99	99	100	
Transverse Cracking Index	99	99	100	100	
Patching Index	100	100	85	100	
Rutting Index	99	99	95	99	
Roughness Condition Index (RCI)	90	96	84	97	

NOTES:
Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.
See Section 10 for explanation of SCR, PCR, & all Distress Index Values.
NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0200 JUNIPER CAMPGROUND ACCESS ROAD
BAND : BANDELIER NATIONAL MONUMENT

COLLECTED: 8/14/2012

INTERMOUNTAIN REGION **TOTAL LENGTH: 0.38 Miles**

Section Number	0				
Section Length (mi)	0.38				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	23				
Lane Width (ft)	11				
Roadway Condition Information					
SCR (Surface Condition Rating)	99				
PCR (Pavement Condition Rating)	99				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0200A JUNIPER CAMPGROUND LOOP A
BAND : BANDELIER NATIONAL MONUMENT

COLLECTED: 8/14/2012

INTERMOUNTAIN REGION **TOTAL LENGTH: 0.27 Miles**

Section Number	0				
Section Length (mi)	0.27				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	17				
Lane Width (ft)	17				
Roadway Condition Information					
SCR (Surface Condition Rating)	99				
PCR (Pavement Condition Rating)	99				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0200B JUNIPER CAMPGROUND LOOP B
BAND : BANDELIER NATIONAL MONUMENT

COLLECTED: 8/14/2012

INTERMOUNTAIN REGION **TOTAL LENGTH: 0.23 Miles**

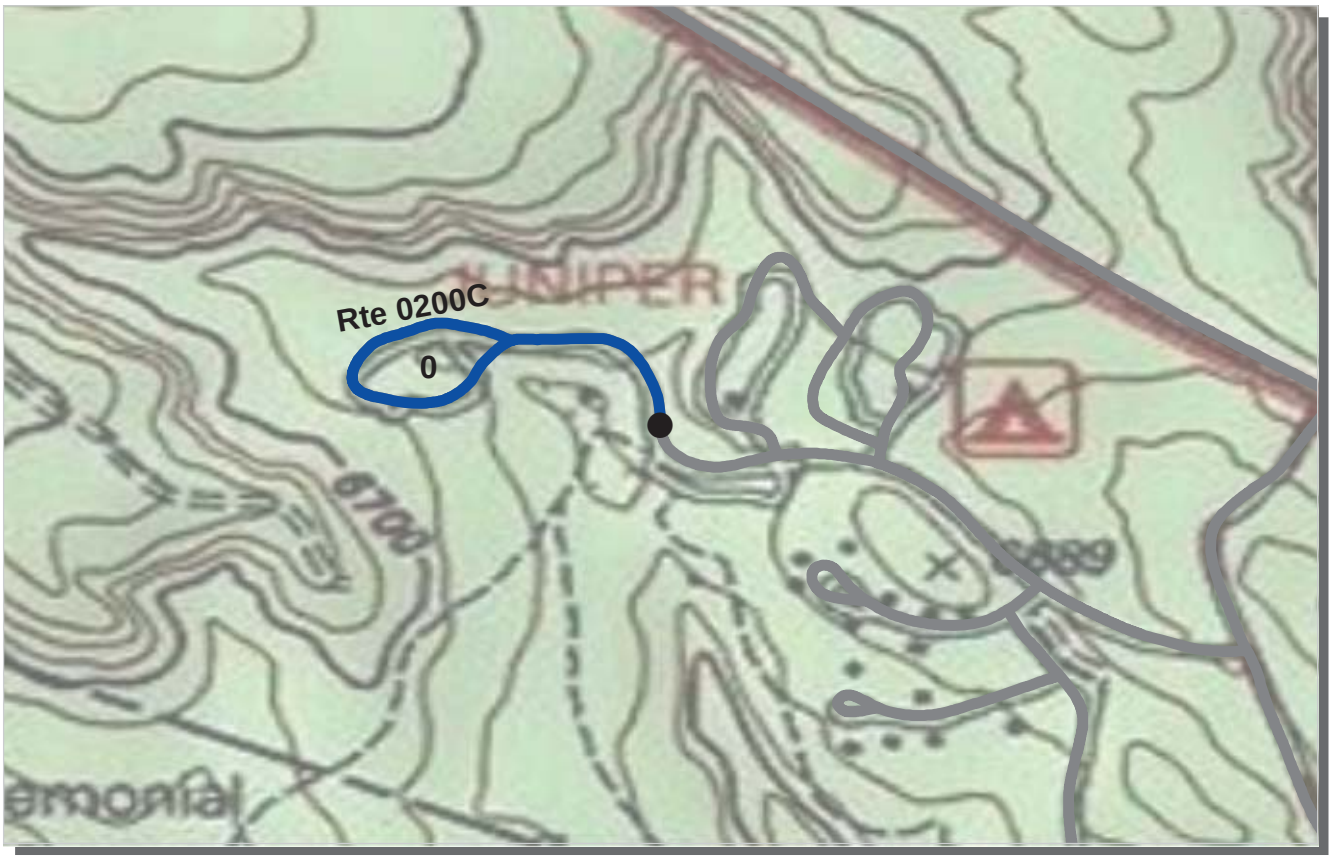
Section Number	0				
Section Length (mi)	0.23				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	18				
Lane Width (ft)	18				
Roadway Condition Information					
SCR (Surface Condition Rating)	99				
PCR (Pavement Condition Rating)	99				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable



PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0200C JUNIPER CAMPGROUND LOOP C
BAND : BANDELIER NATIONAL MONUMENT

COLLECTED: 8/14/2012

INTERMOUNTAIN REGION **TOTAL LENGTH: 0.33 Miles**

Section Number	0				
Section Length (mi)	0.33				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	18				
Lane Width (ft)	13				
Roadway Condition Information					
SCR (Surface Condition Rating)	98				
PCR (Pavement Condition Rating)	98				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	98				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0400 MESA RESIDENCE UPPER LOOP
BAND : BANDELIER NATIONAL MONUMENT

COLLECTED: 8/14/2012

INTERMOUNTAIN REGION **TOTAL LENGTH: 0.19 Miles**

Section Number	0				
Section Length (mi)	0.19				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	24				
Lane Width (ft)	12				
Roadway Condition Information					
SCR (Surface Condition Rating)	99				
PCR (Pavement Condition Rating)	99				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0401 MESA RESIDENCE LOWER LOOP
BAND : BANDELIER NATIONAL MONUMENT

COLLECTED: 8/14/2012

INTERMOUNTAIN REGION **TOTAL LENGTH: 0.15 Miles**

Section Number	0				
Section Length (mi)	0.15				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	24				
Lane Width (ft)	12				
Roadway Condition Information					
SCR (Surface Condition Rating)	99				
PCR (Pavement Condition Rating)	99				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0402 STONEHOUSE ROAD
BAND : BANDELIER NATIONAL MONUMENT

COLLECTED: 8/14/2012
INTERMOUNTAIN REGION **TOTAL LENGTH: 0.08 Miles**

Section Number	0				
Section Length (mi)	0.08				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	14				
Lane Width (ft)	14				
Roadway Condition Information					
SCR (Surface Condition Rating)	37				
PCR (Pavement Condition Rating)	37				
Distress Index Values					
Structural Crack Index	92				
Transverse Cracking Index	37				
Patching Index	93				
Rutting Index	94				
Roughness Condition Index (RCI)	NC				

NOTES:
Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.
See Section 10 for explanation of SCR, PCR, & all Distress Index Values.
NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0420 OPERATIONS CENTER ROAD
BAND : BANDELIER NATIONAL MONUMENT

COLLECTED: 8/14/2012

INTERMOUNTAIN REGION **TOTAL LENGTH: 0.32 Miles**

Section Number	0				
Section Length (mi)	0.32				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	25				
Lane Width (ft)	12				
Roadway Condition Information					
SCR (Surface Condition Rating)	100				
PCR (Pavement Condition Rating)	100				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	100				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

PCR Poor (0 - 60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100) No Data

* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0423 FIRE TOWER ACCESS ROAD
BAND : BANDELIER NATIONAL MONUMENT

COLLECTED: 8/14/2012

INTERMOUNTAIN REGION **TOTAL LENGTH: 0.04 Miles**

Section Number	0				
Section Length (mi)	0.04				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	17				
Lane Width (ft)	8				
Roadway Condition Information					
SCR (Surface Condition Rating)	95				
PCR (Pavement Condition Rating)	95				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	95				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

Section 6
Manually Rated Paved Route Condition Rating Sheets

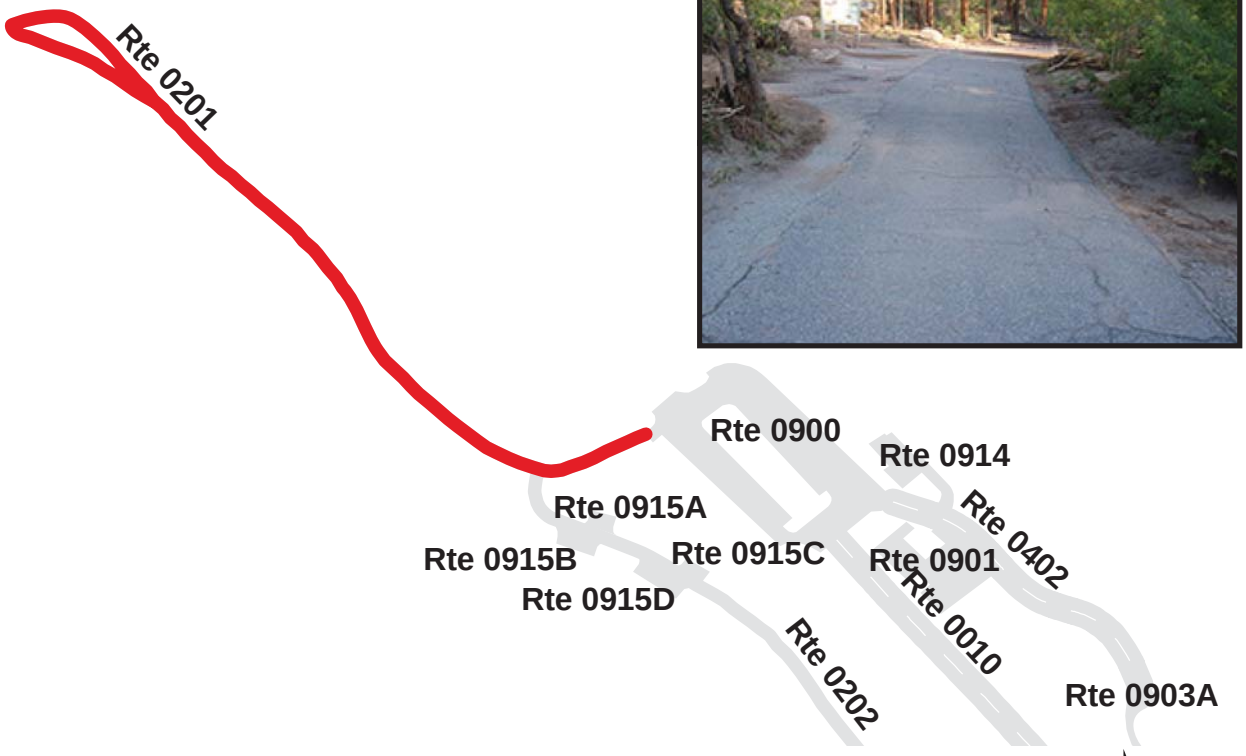
Bandelier National Monument

Federal Lands Highway
Road Inventory Program

BANDELIER NATIONAL MONUMENT
Route 0201
COTTONWOOD PICNIC AREA ROAD NORTH
FROM ROUTE 0900 (VISITOR CENTER PARKING)
TO END OF LOOP

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0201	PUBLIC	9/6/2011	18,495	0.32	0.25	13.9
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**	**Surface Type**
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45	AS

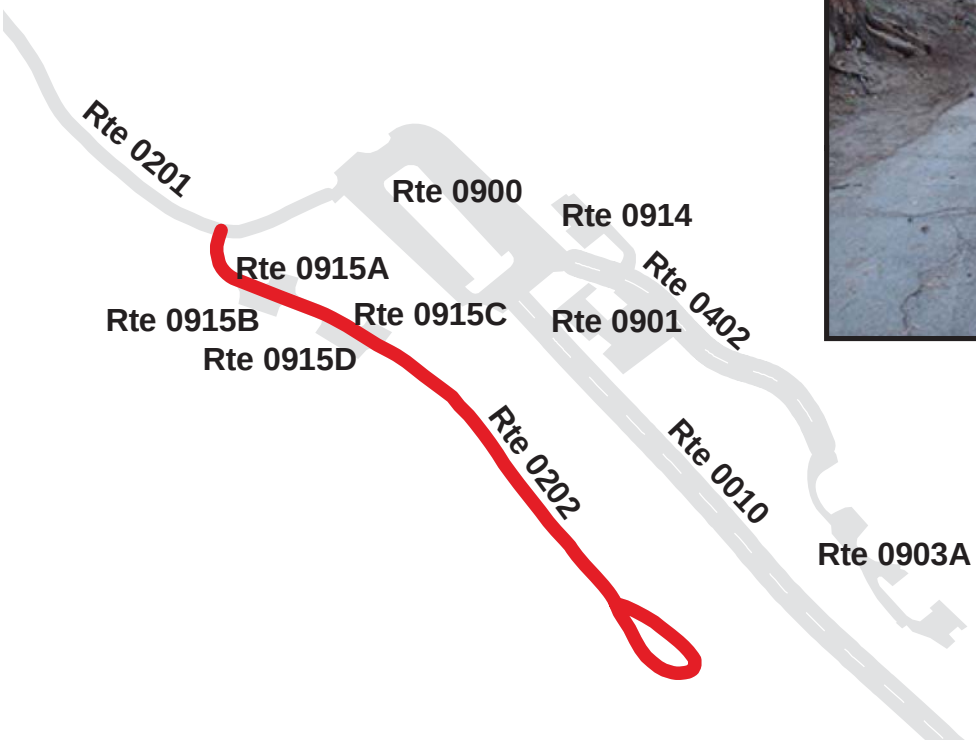
* Lane miles are based on 11' lane widths



BANDELIER NATIONAL MONUMENT
Route 0202
COTTONWOOD PICNIC AREA ROAD SOUTH
FROM ROUTE 0201 (COTTONWOOD PICNIC AREA ROAD NORTH)
TO END OF LOOP

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0202	PUBLIC	9/6/2011	17,163	0.30	0.20	16.5
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**	**Surface Type**
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45	AS

* Lane miles are based on 11' lane widths



BANDELIER NATIONAL MONUMENT
Route 0422
AGOYO LANE
FROM ROUTE 0010 (PARK ENTRANCE ROAD)
TO END

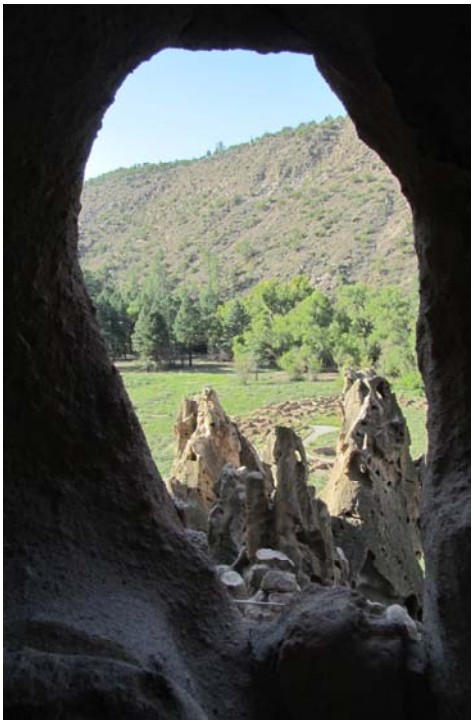
Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0422	NONPUBLIC	9/6/2011	18,881	0.33	0.30	12
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**	**Surface Type**
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45	AS

* Lane miles are based on 11' lane widths

700 350 0 700
Feet

N

Section 7
Parking Area
Condition Rating Sheets



Bandelier National Monument

Federal Lands Highway
Road Inventory Program

BANDELIER NATIONAL MONUMENT

Route 0900

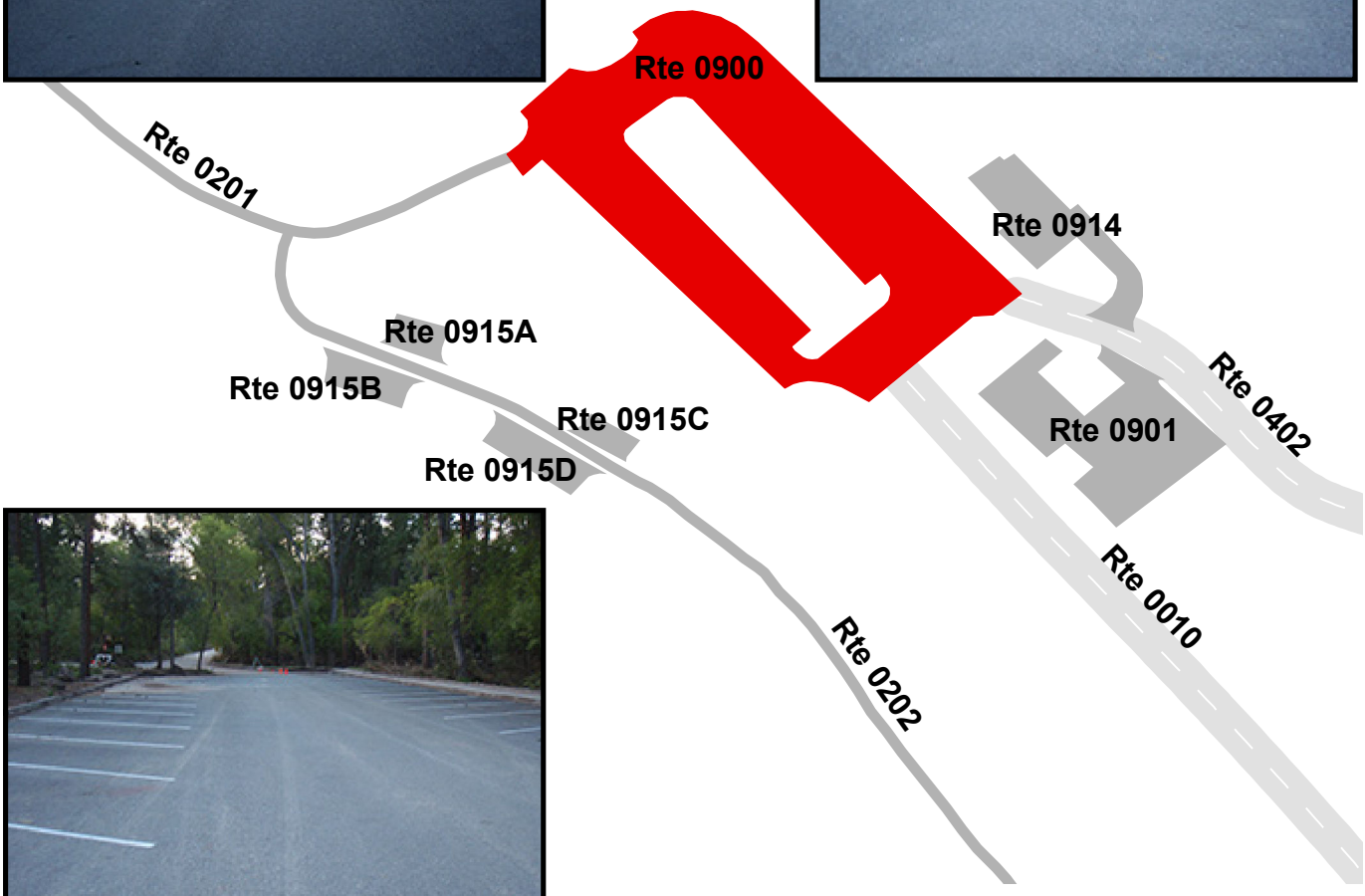
VISITOR CENTER PARKING

FROM END OF ROUTE 0010 (PARK ENTRANCE ROAD)

TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0900	PUBLIC	9/6/2011	32,780	0.56	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	2	0	NO CURB AND GUTTER	STONE CURB	GOOD/90

* Lane miles are based on 11' lane widths



BANDELIER NATIONAL MONUMENT

Route 0901

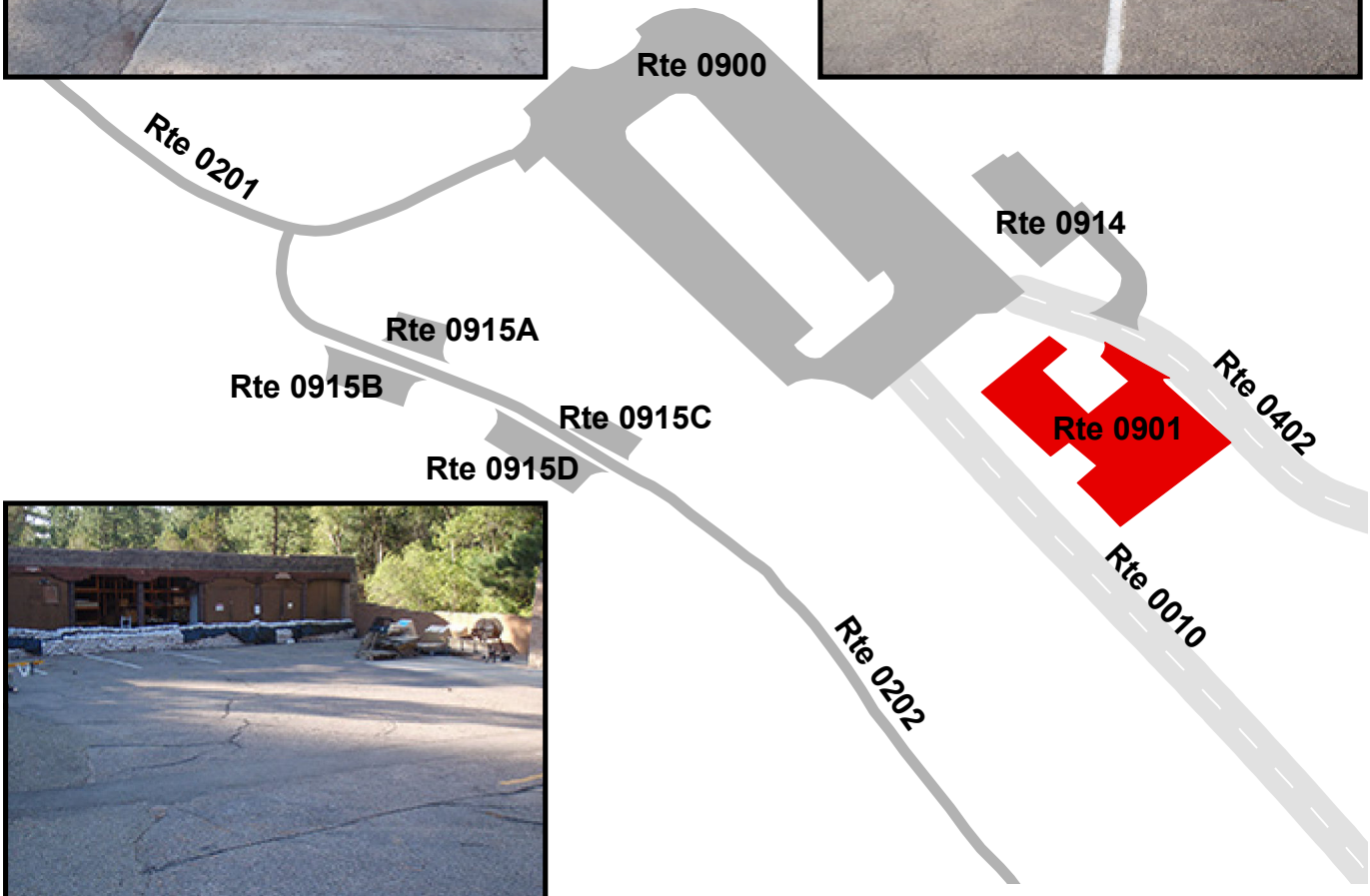
FRIJOLES CANYON MAINTENANCE AREA PARKING

FROM ROUTE 0402 (STONEHOUSE ROAD)

TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0901	NONPUBLIC	9/6/2011	8,705	0.15	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45

* Lane miles are based on 11' lane widths



300 150 0 300

Feet

N

BANDELIER NATIONAL MONUMENT
Route 0902ZZ
MESA RESIDENCE PARKING AREAS
ADJACENT TO ROUTE 0400 (MESA RESIDENCE UPPER LOOP) ON LEFT AND RIGHT

Summary Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0902ZZ	NONPUBLIC	9/6/2011	3,234	0.06	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	SUMMARY/97

* Lane miles are based on 11' lane widths

100 50 0 100 Feet

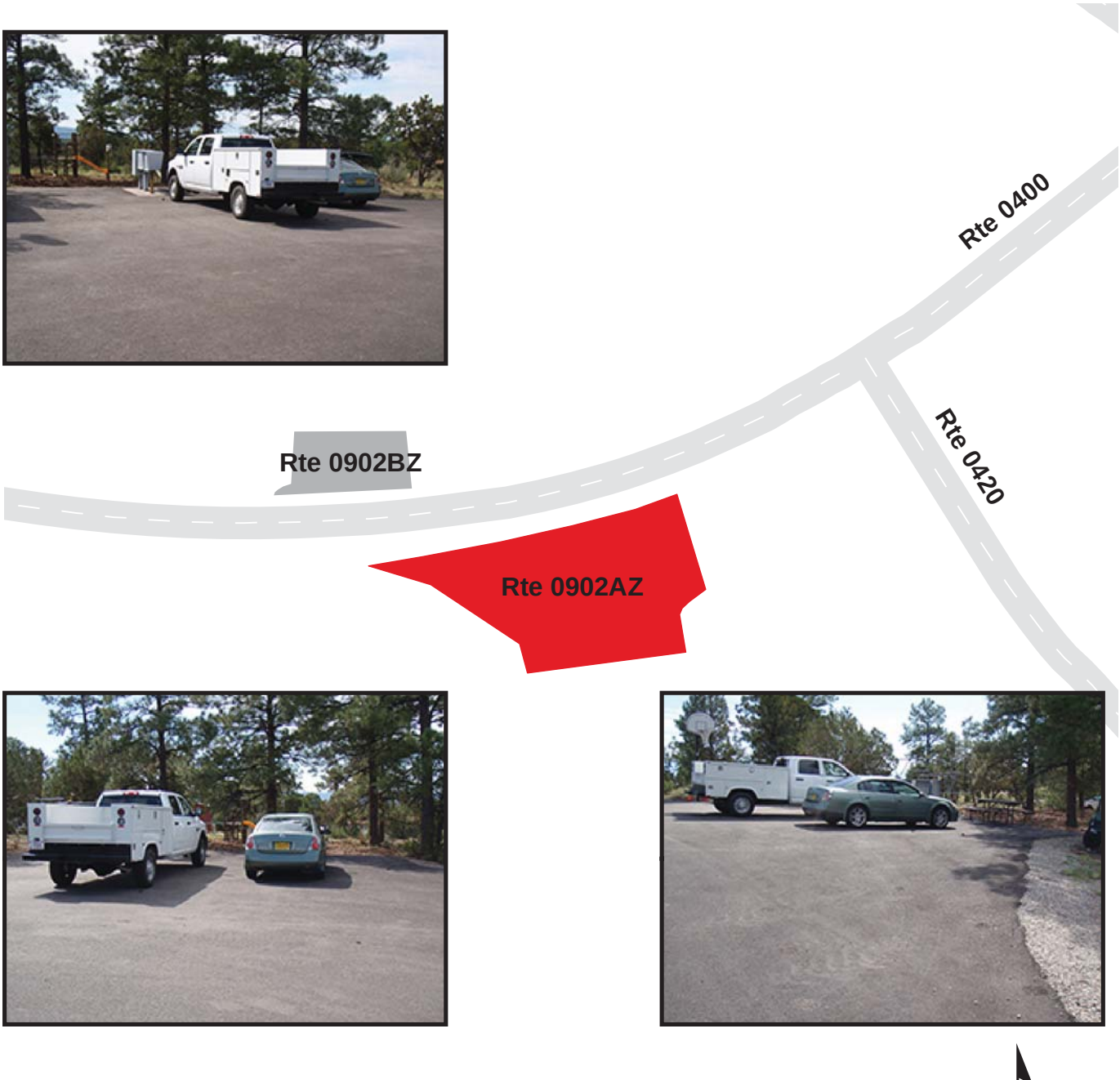
N

BANDELIER NATIONAL MONUMENT
Route 0902AZ
MESA RESIDENCE PARKING A
ADJACENT TO ROUTE 0400 (MESA RESIDENCE UPPER LOOP) ON LEFT

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0902AZ	NONPUBLIC	9/6/2011	2,640	0.05	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

* Lane miles are based on 11' lane widths

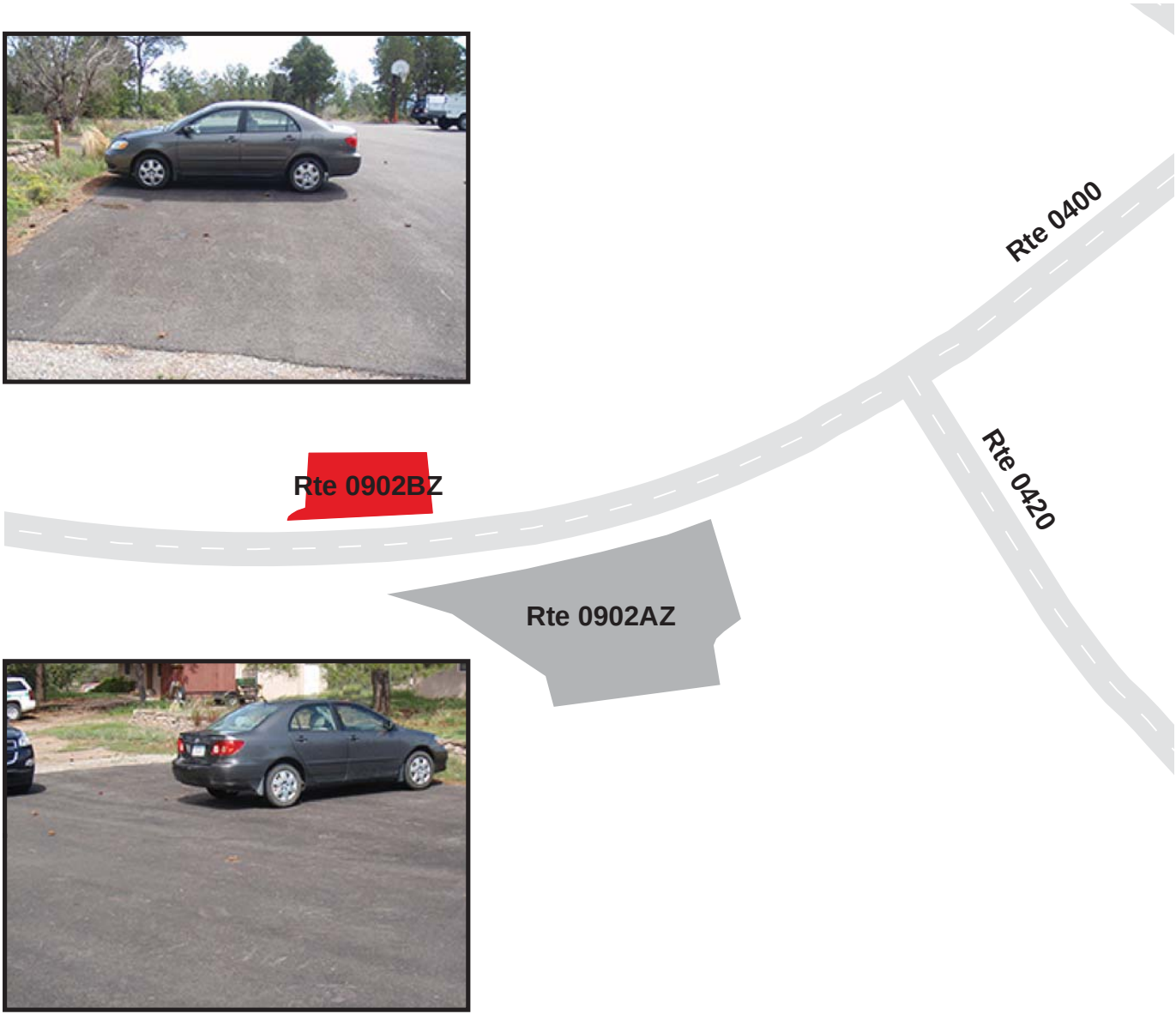


BANDELIER NATIONAL MONUMENT
Route 0902BZ
MESA RESIDENCE PARKING B
ADJACENT TO ROUTE 0400 (MESA RESIDENCE UPPER LOOP) ON RIGHT

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0902BZ	NONPUBLIC	9/6/2011	594	0.01	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

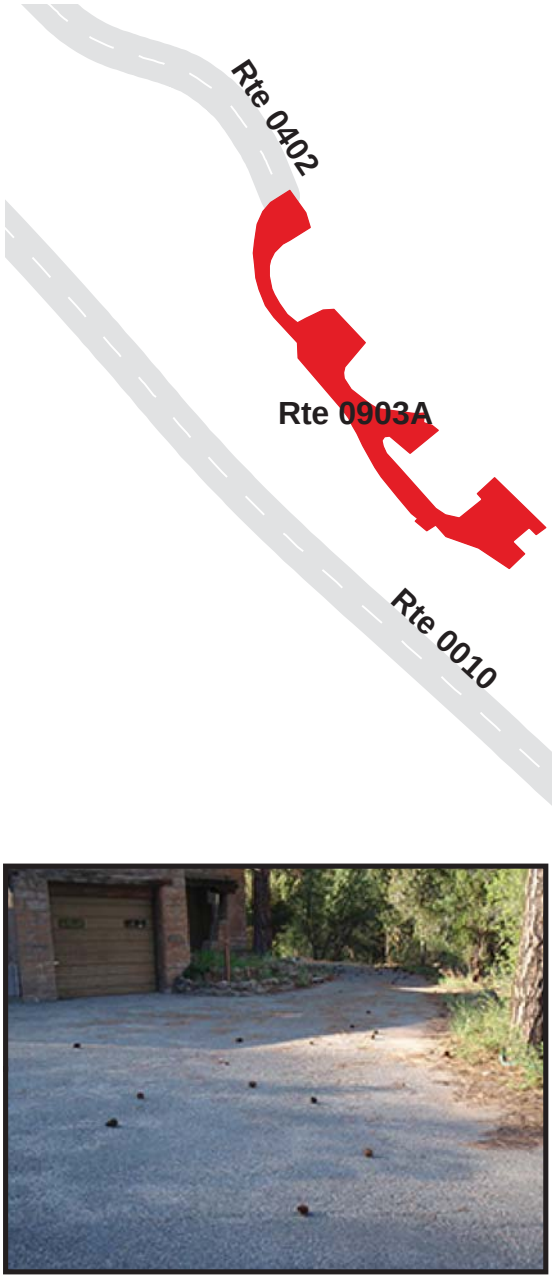
* Lane miles are based on 11' lane widths



BANDELIER NATIONAL MONUMENT
Route 0903A
STONEHOUSE ROAD PARKING AREA
FROM END OF ROUTE 0402 (STONEHOUSE ROAD)
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0903A	NONPUBLIC	9/6/2011	9,149	0.16	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	STONE CURB	POOR/45

* Lane miles are based on 11' lane widths



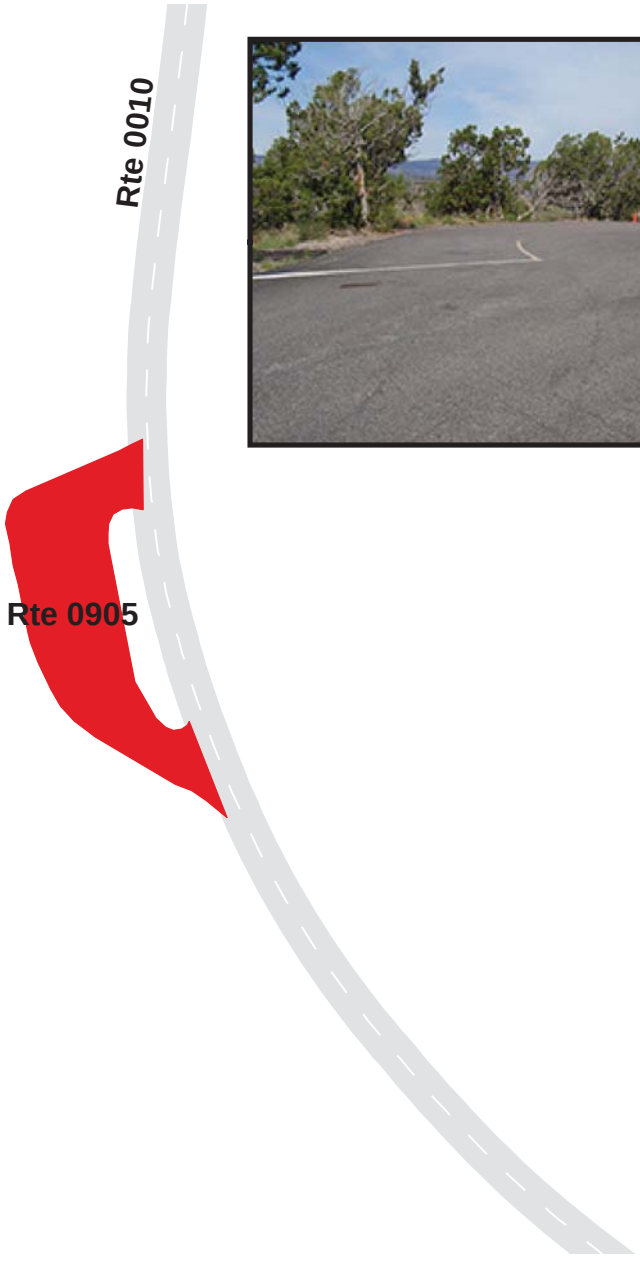
300 150 0 300
Feet

N

BANDELIER NATIONAL MONUMENT
Route 0905
OVERLOOK PARKING AREA
FROM ROUTE 0010 (PARK ENTRANCE ROAD)
TO ROUTE 0010 (PARK ENTRANCE ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0905	PUBLIC	9/6/2011	6,052	0.10	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



BANDELIER NATIONAL MONUMENT
Route 0906
FIRE TOWER ACCESS ROAD PARKING
FROM ROUTE 0423 (FIRE TOWER ACCESS ROAD)
TO PARKING AT TOWER

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0906	NONPUBLIC	9/6/2011	6,558	0.11	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	1	NO CURB AND GUTTER	NO CURB	POOR/45

* Lane miles are based on 11' lane widths

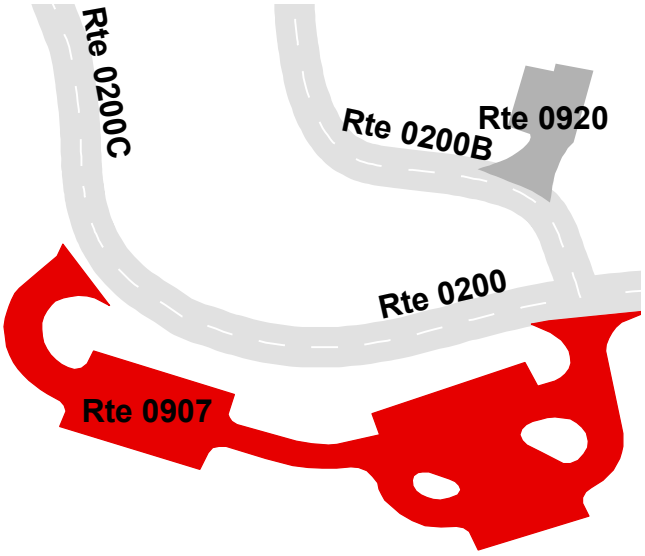
400 200 0 400 Feet

N

BANDELIER NATIONAL MONUMENT
Route 0907
AMPHITHEATER PARKING
FROM ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
TO ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0907	PUBLIC	9/6/2011	29,942	0.52	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	1	0	STONE CURB AND CONCRETE GUTTER	NO CURB	EXCELLENT/97

* Lane miles are based on 11' lane widths



390 195 0 390 Feet

BANDELIER NATIONAL MONUMENT
Route 0908
DUMP STATION AREA
FROM ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
TO ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0908	PUBLIC	9/6/2011	1,883	0.03	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

* Lane miles are based on 11' lane widths

BANDELIER NATIONAL MONUMENT
Route 0913
SKI TRAIL PARKING
ADJACENT TO ROUTE 5004 (STATE HIGHWAY 4)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0913	PUBLIC	9/6/2011	17,348	0.30	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

* Lane miles are based on 11' lane widths

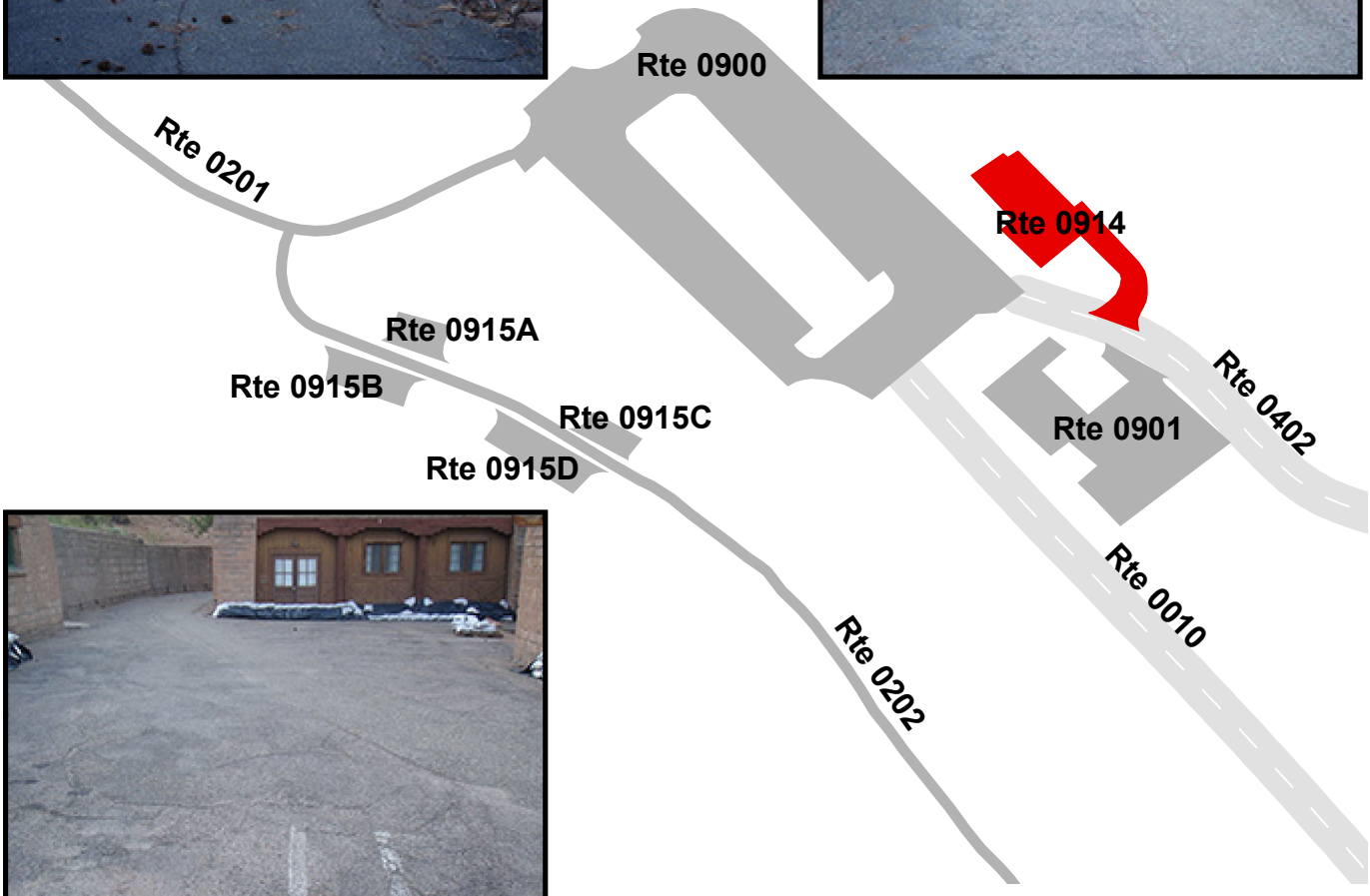
300 150 0 300
Feet

N

BANDELIER NATIONAL MONUMENT
Route 0914
ADMINISTRATIVE EMPLOYEE PARKING
FROM ROUTE 0402 (STONEHOUSE ROAD)
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0914	NONPUBLIC	9/6/2011	4,276	0.07	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	1	0	NO CURB AND GUTTER	NO CURB	POOR/45

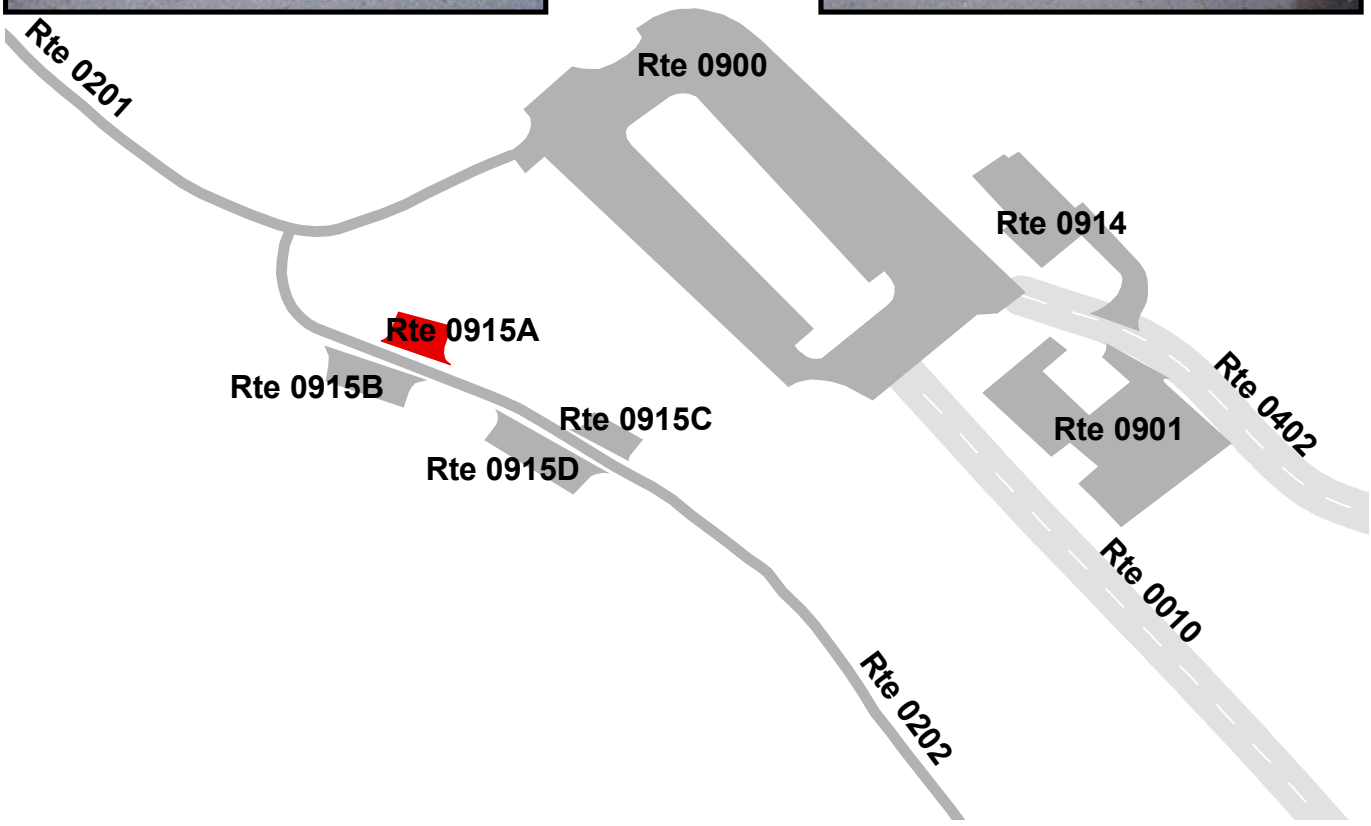
* Lane miles are based on 11' lane widths



BANDELIER NATIONAL MONUMENT
Route 0915A
COTTONWOOD PICNIC AREA PARKING A
ADJACENT TO ROUTE 0202 (COTTONWOOD PICNIC AREA ROAD SOUTH) ON LEFT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0915A	PUBLIC	9/6/2011	848	0.02	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

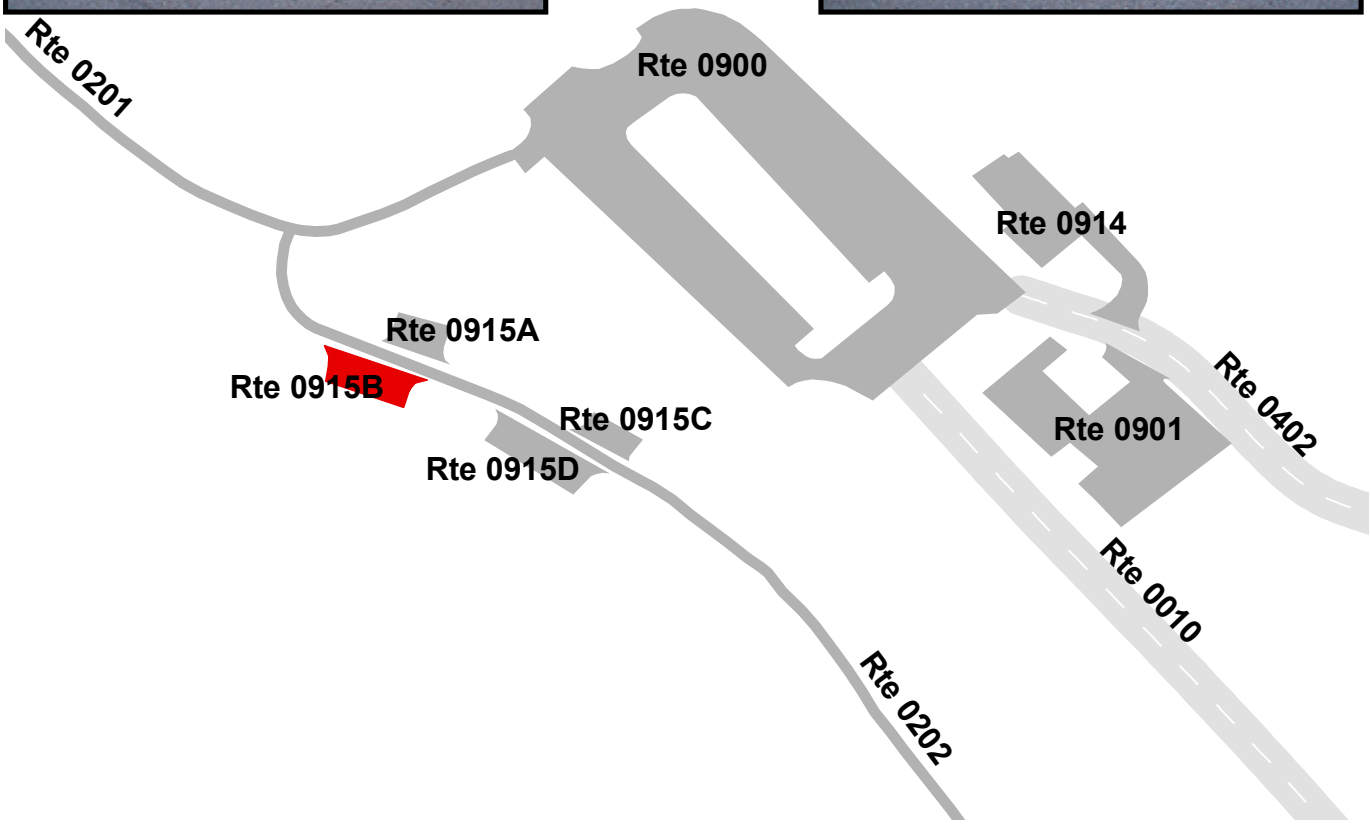
* Lane miles are based on 11' lane widths



BANDELIER NATIONAL MONUMENT
Route 0915B
COTTONWOOD PICNIC AREA PARKING B
ADJACENT TO ROUTE 0202 (COTTONWOOD PICNIC AREA ROAD SOUTH) ON RIGHT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0915B	PUBLIC	9/6/2011	1,266	0.02	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

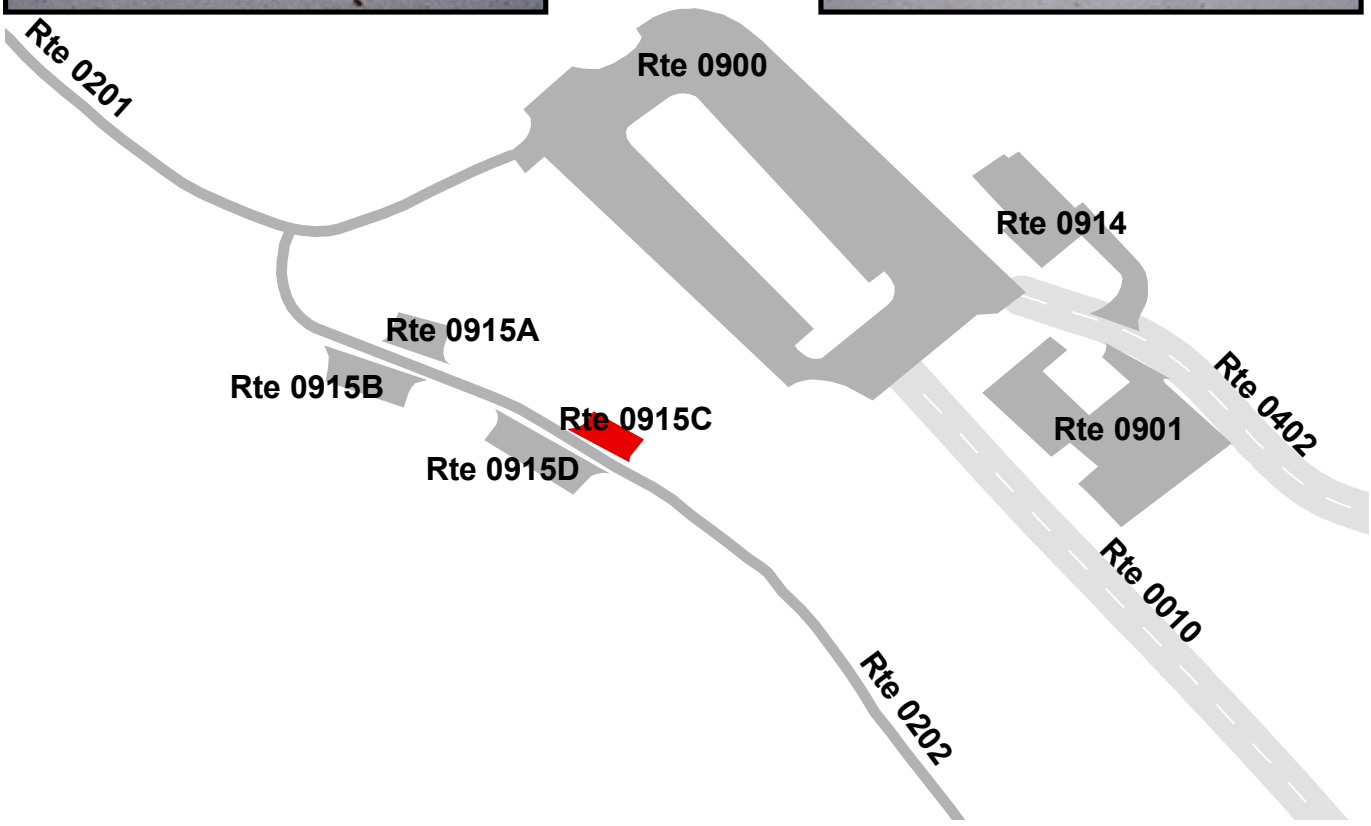
* Lane miles are based on 11' lane widths



BANDELIER NATIONAL MONUMENT
Route 0915C
COTTONWOOD PICNIC AREA PARKING C
ADJACENT TO ROUTE 0202 (COTTONWOOD PICNIC AREA ROAD SOUTH) ON LEFT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0915C	PUBLIC	9/6/2011	658	0.01	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

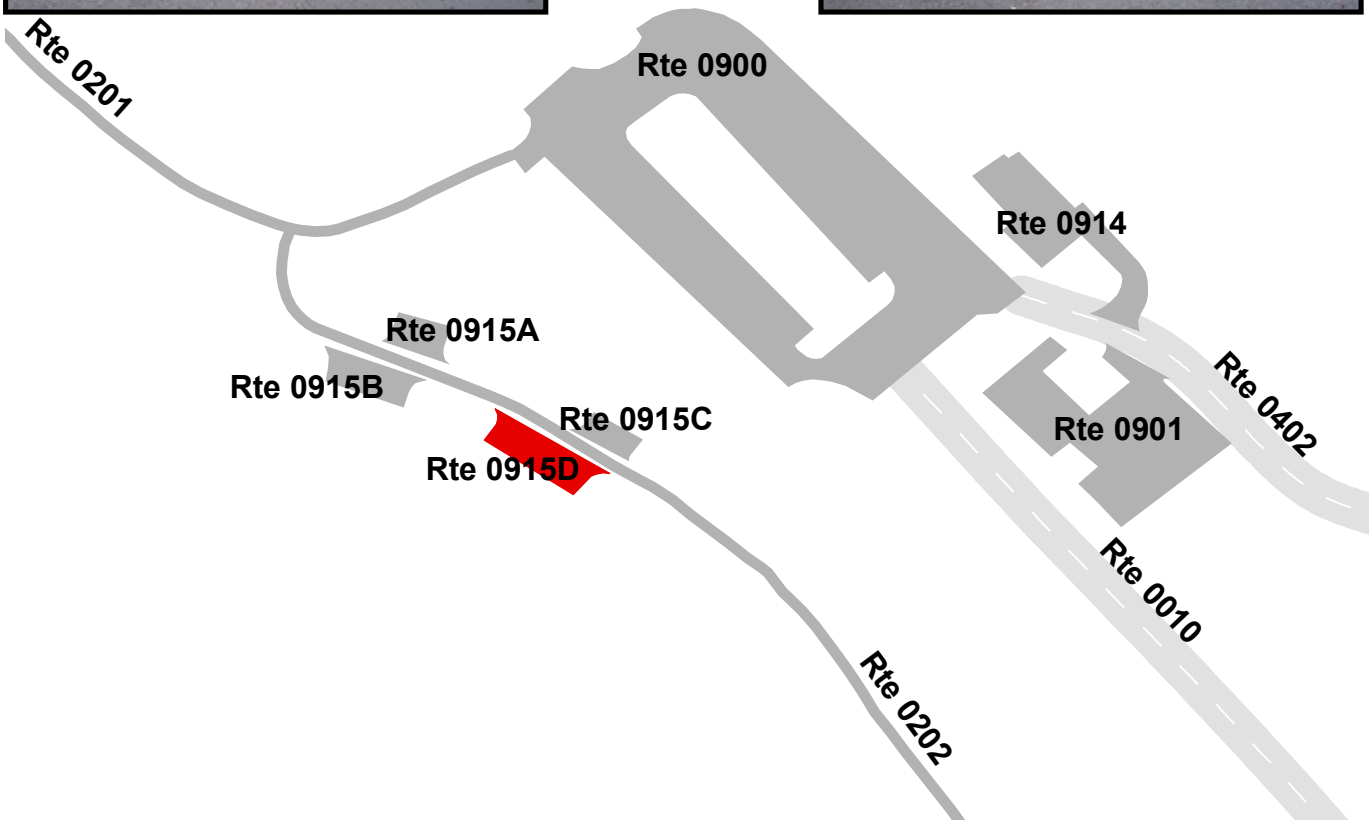
* Lane miles are based on 11' lane widths



BANDELIER NATIONAL MONUMENT
Route 0915D
COTTONWOOD PICNIC AREA PARKING D
ADJACENT TO ROUTE 0202 (COTTONWOOD PICNIC AREA ROAD SOUTH) ON RIGHT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0915D	PUBLIC	9/6/2011	1,643	0.03	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

* Lane miles are based on 11' lane widths



BANDELIER NATIONAL MONUMENT
Route 0917
OPERATIONS CENTER PARKING
FROM ROUTE 0420 (OPERATIONS CENTER ROAD)
TO ROUTE 0420 (OPERATIONS CENTER ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0917	NONPUBLIC	9/6/2011	18,627	0.32	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

* Lane miles are based on 11' lane widths

200 100 0 200
Feet

BANDELIER NATIONAL MONUMENT
Route 0919
LOOP B PARKING NORTH
ADJACENT TO ROUTE 0200B (JUNIPER CAMPGROUND LOOP B)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0919	PUBLIC	9/6/2011	1,332	0.02	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths

50 25 0 50 Feet

N

BANDELIER NATIONAL MONUMENT

Route 0920

LOOP B PARKING SOUTH

FROM ROUTE 0200B (JUNIPER CAMPGROUND LOOP B)

TO PARKING

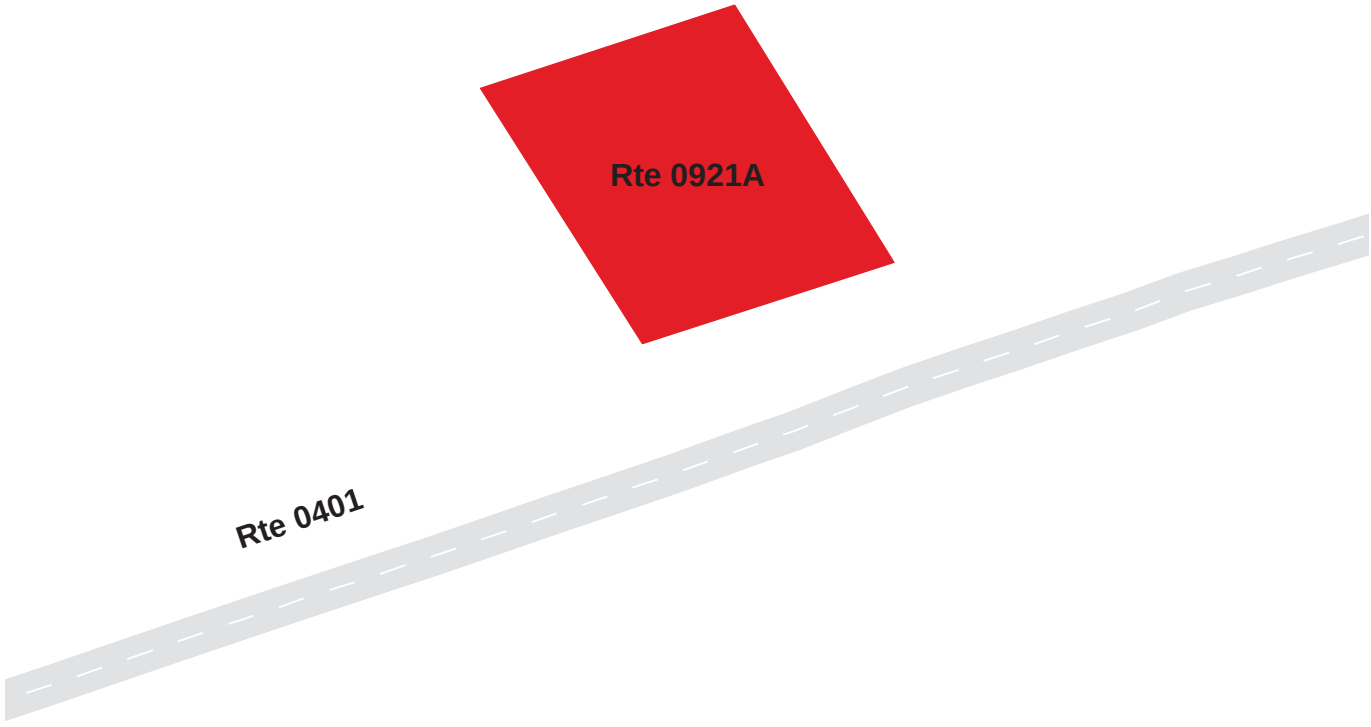
Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0920	PUBLIC	9/6/2011	4,033	0.07	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths

BANDELIER NATIONAL MONUMENT
Route 0921A
MESA RESIDENCE LOWER LOOP PARKING A
ADJACENT TO ROUTE 0401 (MESA RESIDENCE LOWER LOOP) ON RIGHT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0921A	NONPUBLIC	9/6/2011	641	0.01	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	STONE CURB	EXCELLENT/97

* Lane miles are based on 11' lane widths



40 20 0 40 Feet

N

BANDELIER NATIONAL MONUMENT
Route 0921B
MESA RESIDENCE LOWER LOOP PARKING B
ADJACENT TO ROUTE 0401 (MESA RESIDENCE LOWER LOOP) ON LEFT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0921B	NONPUBLIC	9/6/2011	822	0.01	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

* Lane miles are based on 11' lane widths

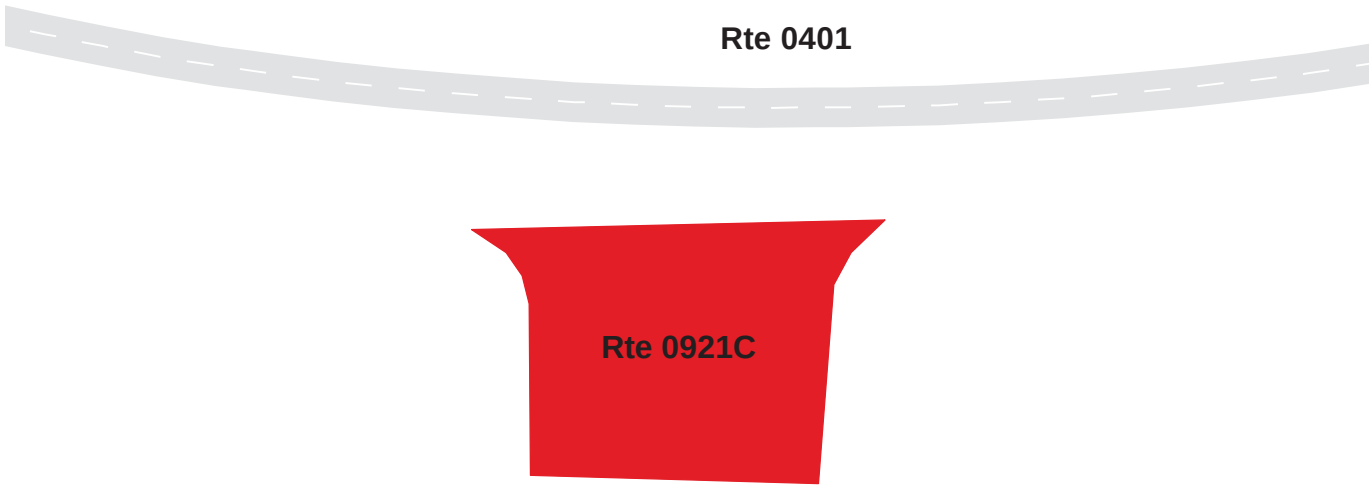
40 20 0 40 Feet

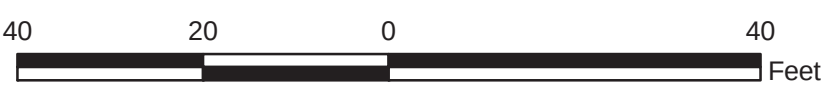
N

BANDELIER NATIONAL MONUMENT
Route 0921C
MESA RESIDENCE LOWER LOOP PARKING C
ADJACENT TO ROUTE 0401 (MESA RESIDENCE LOWER LOOP) ON LEFT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0921C	NONPUBLIC	9/6/2011	740	0.01	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

* Lane miles are based on 11' lane widths





BANDELIER NATIONAL MONUMENT
Route 0921D
MESA RESIDENCE LOWER LOOP PARKING D
ADJACENT TO ROUTE 0401 (MESA RESIDENCE LOWER LOOP) ON RIGHT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0921D	NONPUBLIC	9/6/2011	559	0.01	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
1	0	0	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

* Lane miles are based on 11' lane widths

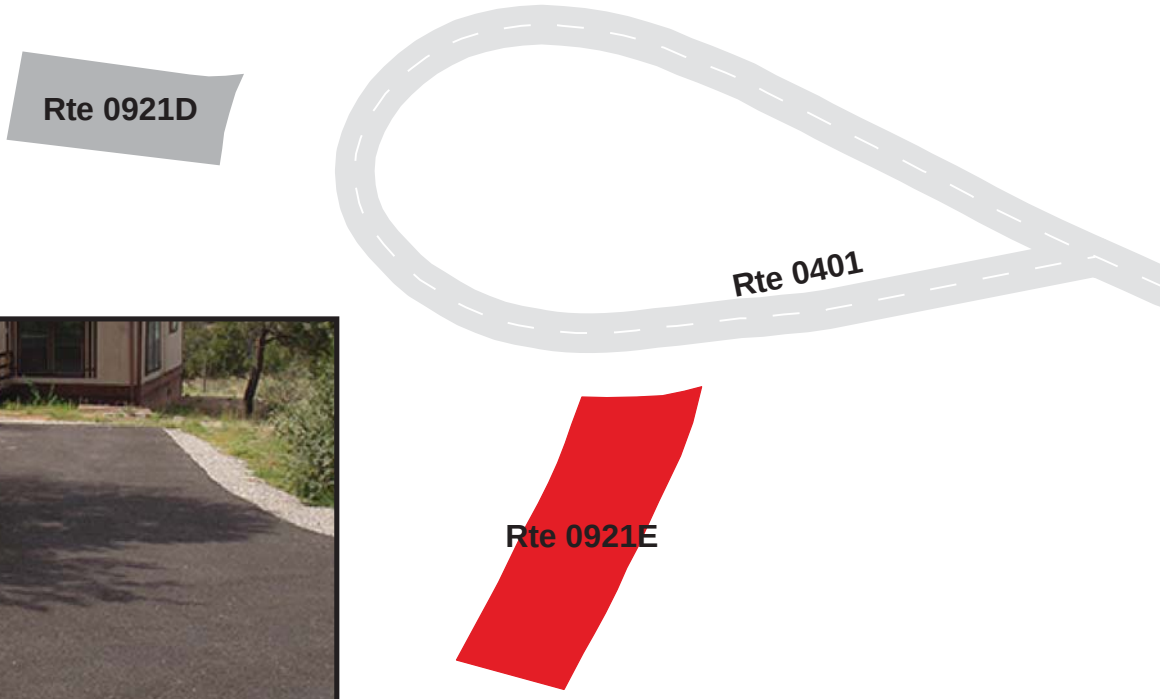
40 20 0 40 Feet

N

BANDELIER NATIONAL MONUMENT
Route 0921E
MESA RESIDENCE LOWER LOOP PARKING E
ADJACENT TO ROUTE 0401 (MESA RESIDENCE LOWER LOOP) ON RIGHT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0921E	NONPUBLIC	9/6/2011	996	0.02	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
1	0	0	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

* Lane miles are based on 11' lane widths



BANDELIER NATIONAL MONUMENT
Route 0923
CERRO GRANDE TRAIL PARKING AREA
ADJACENT TO ROUTE 5004 (STATE HIGHWAY 4)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0923	PUBLIC	9/6/2011	9,030	0.16	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45

* Lane miles are based on 11' lane widths

200 100 0 200
Feet

N

Section 8
Parkwide/Route
Maintenance Features Summaries

Bandelier National Monument

Federal Lands Highway
Road Inventory Program

BAND: PARKWIDE MAINTENANCE FEATURES SUMMARY
Includes DCV, MRL, MRP & PKG routes collected in Cycle-5

Notice: Culverts and drop inlets were NOT marked by NPS in Cycle 5 along DCV driven routes, therefore the culvert, drop inlet, and gate counts below reflect only the Manually Rated Routes and Paved Parking areas collected in Cycle 5.

FEATURE	LINEAR FEET	COUNT
BRIDGE	--	0
CATTLE GUARD	--	0
CULVERT	--	2
CURB	1,764	--
DROP INLET	--	4
GATE	--	7
GUARD/GUIDE RAIL	1,953	--
CABLE	0	--
NON-CABLE	1,953	--
GUARD/GUIDE WALL	1,262	--
BOLLARD	0	--
TEMPORARY BARRIER	0	--
NON TEMP/BOLLARD	1,262	--
INTERSECTION	--	73
LOW WATER CROSSING	0	0
MILE MARKER	--	0
OVERPASS	--	0
PARK BOUNDARY	--	1
PAVED DITCH	6,960	--
PULLOUT	523	5
RAILROAD CROSSING	--	0
RETAINING WALL	0	0
SIGN	--	138
STATE BOUNDARY	--	0
TRAFFIC LIGHT	--	1
TUNNEL	0	0

BAND: DCV ROUTE MAINTENANCE FEATURES SUMMARY

Notice: Culverts and drop inlets were NOT marked by NPS in Cycle 5. However a culvert could appear below if it has a BIP structure number associated with it.

FEATURE	ROUTE 0010 PARK ENTRANCE ROAD	ROUTE 0200 JUNIPER CAMPGROUND ACCESS ROAD	ROUTE 0200A JUNIPER CAMPGROUND LOOP A	ROUTE 0200B JUNIPER CAMPGROUND LOOP B	ROUTE 0200C JUNIPER CAMPGROUND LOOP C	ROUTE 0400 MESA RESIDENCE UPPER LOOP	UNIT
BRIDGE	0	0	0	0	0	0	EACH
CATTLE GUARD	0	0	0	0	0	0	EACH
CULVERT	0	0	0	0	0	0	EACH
CURB	787	153	0	0	116	0	LINEAR FEET
DROP INLET	0	0	0	0	0	0	EACH
GATE	2	1	1	1	0	0	EACH
GUARD/GUIDE RAIL	1,953	0	0	0	0	0	LINEAR FEET
CABLE	0	0	0	0	0	0	LINEAR FEET
NON-CABLE	1,953	0	0	0	0	0	LINEAR FEET
GUARD/GUIDE WALL	1,183	0	0	0	0	0	LINEAR FEET
BOLLARD	0	0	0	0	0	0	LINEAR FEET
TEMPORARY BARRIER	0	0	0	0	0	0	LINEAR FEET
NON TEMP/BOLLARD	1,183	0	0	0	0	0	LINEAR FEET
INTERSECTION	14	10	6	6	4	8	EACH
LOW WATER CROSSING	0	0	0	0	0	0	EACH
LOW WATER CROSSING	0	0	0	0	0	0	LINEAR FEET
MILE MARKER	0	0	0	0	0	0	EACH
OVERPASS	0	0	0	0	0	0	EACH
PARK BOUNDARY	1	0	0	0	0	0	EACH
PAVED DITCH	6,960	0	0	0	0	0	LINEAR FEET
PULLOUT	1	1	1	1	1	0	EACH
PULLOUT	164	137	90	79	53	0	LINEAR FEET
RAILROAD CROSSING	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	0	0	LINEAR FEET
SIGN	79	15	6	7	12	3	EACH
STATE BOUNDARY	0	0	0	0	0	0	EACH
TRAFFIC LIGHT	1	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	LINEAR FEET

BAND: DCV ROUTE MAINTENANCE FEATURES SUMMARY

Notice: Culverts and drop inlets were NOT marked by NPS in Cycle 5. However a culvert could appear below if it has a BIP structure number associated with it.

FEATURE	ROUTE 0401 MESA RESIDENCE LOWER LOOP	ROUTE 0402 STONEHOUSE ROAD	ROUTE 0420 OPERATIONS CENTER ROAD	ROUTE 0423 FIRE TOWER ACCESS ROAD		UNIT
BRIDGE	0	0	0	0		EACH
CATTLE GUARD	0	0	0	0		EACH
CULVERT	0	0	0	0		EACH
CURB	0	412	296	0		LINEAR FEET
DROP INLET	0	0	0	0		EACH
GATE	0	0	1	0		EACH
GUARD/GUIDE RAIL	0	0	0	0		LINEAR FEET
CABLE	0	0	0	0		LINEAR FEET
NON-CABLE	0	0	0	0		LINEAR FEET
GUARD/GUIDE WALL	0	79	0	0		LINEAR FEET
BOLLARD	0	0	0	0		LINEAR FEET
TEMPORARY BARRIER	0	0	0	0		LINEAR FEET
NON TEMP/BOLLARD	0	79	0	0		LINEAR FEET
INTERSECTION	10	4	6	5		EACH
LOW WATER CROSSING	0	0	0	0		EACH
LOW WATER CROSSING	0	0	0	0		LINEAR FEET
MILE MARKER	0	0	0	0		EACH
OVERPASS	0	0	0	0		EACH
PARK BOUNDARY	0	0	0	0		EACH
PAVED DITCH	0	0	0	0		LINEAR FEET
PULLOUT	0	0	0	0		EACH
PULLOUT	0	0	0	0		LINEAR FEET
RAILROAD CROSSING	0	0	0	0		EACH
RETAINING WALL	0	0	0	0		EACH
RETAINING WALL	0	0	0	0		LINEAR FEET
SIGN	0	5	9	2		EACH
STATE BOUNDARY	0	0	0	0		EACH
TRAFFIC LIGHT	0	0	0	0		EACH
TUNNEL	0	0	0	0		EACH
TUNNEL	0	0	0	0		LINEAR FEET

STRUCTURE LIST

No data available for this section.

Section 9
Route Maintenance Features
Road Logs

Bandelier National Monument

Federal Lands Highway
Road Inventory Program

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: PARK ENTRANCE ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 5004 (STATE HIGHWAY 4)
0.000	0.000	SIGN	N/A	GUIDE, LOS ALAMOS JEMEZ MTS WHITE ROCK SANTA FE
0.000	0.000	INTERSECTION	RIGHT	ROUTE 5004 (STATE HIGHWAY 4)
0.000	0.000	PARK BOUNDARY	N/A	N/A
0.000	0.000	SIGN	LEFT	REGULATORY, STOP
0.000	0.000	SIGN	N/A	GUIDE, MUSEUMS
0.000	0.000	SIGN	N/A	GUIDE, BANDELIER ENTRANCE
0.000	0.000	SIGN	N/A	GUIDE, VALLES CALDERA NATIONAL PRESERVE JEMEZ STATE MONUMENT
0.000	0.000	INTERSECTION	LEFT	ROUTE 5004 (STATE HIGHWAY 4)
0.018	0.018	SIGN	LEFT	GUIDE, NATIONAL PARK SERVICE
0.023	0.023	SIGN	RIGHT	GUIDE, BANDELIER NATIONAL MONUMENT UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK MONUMENT
0.042	0.042	SIGN	N/A	REGULATORY, ALL VISITORS USE LEFT LANE
0.059	0.082	CURB	RIGHT	N/A
0.065	0.065	SIGN	N/A	GUIDE, ENTRANCE FEES
0.065	0.076	CURB	N/A	N/A
0.068	0.068	TRAFFIC LIGHT	N/A	N/A
0.070	0.070	SIGN	RIGHT	REGULATORY, STOP
0.078	0.078	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.078	0.078	SIGN	RIGHT	GUIDE, U.S. FEE AREA
0.078	0.078	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.138	0.138	SIGN	RIGHT	GUIDE, VISITOR CENTER JUNIPER CAMPGROUND ALL TOWED- VEHICLES AND TRAILERS MUST TURN HERE
0.144	0.144	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.144	0.144	SIGN	LEFT	WARNING, 15 M.P.H.
0.173	0.173	SIGN	LEFT	REGULATORY, NO PARKING BUS STOP
0.175	0.175	SIGN	RIGHT	REGULATORY, NO PARKING BUS STOP
0.175	0.175	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.176	0.176	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: PARK ENTRANCE ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.191	0.191	INTERSECTION	RIGHT	ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
0.207	0.207	SIGN	N/A	REGULATORY, UNABLE TO READ FROM VIDEO
0.207	0.207	SIGN	N/A	REGULATORY, ROAD CLOSED
0.207	0.207	SIGN	N/A	REGULATORY, DO NOT BLOCK GATE
0.207	0.207	SIGN	RIGHT	REGULATORY, GRAPHIC SIGN NO TEXT
0.208	0.208	GATE	N/A	N/A
0.222	0.222	SIGN	RIGHT	GUIDE, PARK CLOSED BEYOND THIS POINT 8:00PM TO 7:00AM
0.227	0.227	SIGN	LEFT	GUIDE, JUNIPER CAMPGROUND
0.292	0.292	SIGN	LEFT	REGULATORY, SPEED LIMIT 15
0.319	0.319	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
0.349	0.349	SIGN	RIGHT	WARNING, DEER XING
0.349	0.349	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.378	0.378	SIGN	LEFT	REGULATORY, REDUCE SPEED AHEAD
0.563	0.563	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.664	0.664	SIGN	RIGHT	GUIDE, SERVICE ROAD
0.664	0.664	SIGN	RIGHT	WARNING, CAUTION HELIBASE
0.665	0.665	INTERSECTION	RIGHT	ROUTE 0424 (HELISPOT ROAD)
1.144	1.144	INTERSECTION	RIGHT	ROUTE 0425 (MESA UTILITY SERVICE ROAD)
1.176	1.176	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
1.251	1.251	INTERSECTION	RIGHT	ROUTE 0423 (FIRE TOWER ACCESS ROAD)
1.276	1.276	INTERSECTION	RIGHT	ROUTE 0423 (FIRE TOWER ACCESS ROAD)
1.412	1.473	PAVED DITCH	RIGHT	N/A
1.522	1.706	PAVED DITCH	RIGHT	N/A
1.526	1.526	SIGN	RIGHT	REGULATORY, REDUCED SPEED AHEAD
1.532	1.532	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
1.532	1.675	GUARD/GUIDE RAIL	LEFT	N/A
1.675	1.675	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
1.692	1.692	SIGN	LEFT	REGULATORY, SPEED LIMIT 35
1.692	1.692	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
1.782	1.782	SIGN	RIGHT	GUIDE, SCENIC OVERLOOK 506 FT.

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: PARK ENTRANCE ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
1.880	1.880	INTERSECTION	RIGHT	ROUTE 0905 (OVERLOOK PARKING AREA)
1.906	1.906	INTERSECTION	RIGHT	ROUTE 0905 (OVERLOOK PARKING AREA)
1.938	1.938	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
1.938	1.938	SIGN	RIGHT	WARNING, HILL
1.970	2.080	PAVED DITCH	RIGHT	N/A
1.992	1.992	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
1.992	1.992	SIGN	RIGHT	WARNING, TRUCKS USE LOWER GEAR
2.015	2.015	SIGN	LEFT	GUIDE, SCENIC OVERLOOK 506 FT.
2.078	2.078	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
2.078	2.078	SIGN	LEFT	WARNING, DEER XING
2.091	2.190	PAVED DITCH	RIGHT	N/A
2.095	2.095	INTERSECTION	LEFT	ROUTE 0410 (CANYON LAGOON ROAD)
2.101	2.189	PAVED DITCH	LEFT	N/A
2.185	2.185	SIGN	RIGHT	GUIDE, NO STOPPING ON PAVEMENT
2.190	2.414	GUARD/GUIDE WALL	LEFT	N/A
2.194	2.619	PAVED DITCH	RIGHT	N/A
2.417	2.417	SIGN	LEFT	GUIDE, NO STOPPING ON PAVEMENT
2.424	2.424	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
2.499	2.499	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
2.499	2.547	GUARD/GUIDE RAIL	LEFT	N/A
2.546	2.546	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
2.588	2.588	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
2.616	2.664	GUARD/GUIDE RAIL	LEFT	N/A
2.616	2.616	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
2.618	2.660	GUARD/GUIDE RAIL	RIGHT	N/A
2.618	2.663	CURB	LEFT	N/A
2.619	2.619	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
2.659	2.724	PAVED DITCH	RIGHT	N/A
2.660	2.660	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
2.664	2.664	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: PARK ENTRANCE ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
2.743	2.773	PAVED DITCH	RIGHT	N/A
2.775	2.775	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
2.775	2.817	GUARD/GUIDE RAIL	RIGHT	N/A
2.776	2.776	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
2.776	2.776	SIGN	RIGHT	WARNING, CAUTION SLOW DOWN PEDESTRIAN TRAFFIC
2.776	2.823	GUARD/GUIDE RAIL	LEFT	N/A
2.778	2.821	CURB	LEFT	N/A
2.817	2.855	PAVED DITCH	RIGHT	N/A
2.817	2.817	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
2.823	2.823	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
2.884	2.910	PAVED DITCH	RIGHT	N/A
2.890	2.890	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
2.902	2.902	INTERSECTION	LEFT	ROUTE 0422 (AGOYO LANE)
2.904	2.904	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
2.904	2.904	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
2.908	2.908	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
2.908	2.908	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
2.914	2.914	GATE	N/A	N/A
2.916	2.916	SIGN	RIGHT	REGULATORY, STOP
2.923	2.984	PAVED DITCH	RIGHT	N/A
2.947	2.947	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
2.947	2.978	PULLOUT	LEFT	N/A
2.950	2.977	CURB	LEFT	N/A
3.012	3.040	PAVED DITCH	RIGHT	N/A
3.015	3.015	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
3.015	3.015	SIGN	LEFT	WARNING, DEER XING
3.026	3.026	INTERSECTION	LEFT	ROUTE 0426 (LIFT STATION ROAD)
3.044	3.114	PAVED DITCH	RIGHT	N/A
3.072	3.072	SIGN	RIGHT	GUIDE, ELEVATION 6066
3.081	3.081	INTERSECTION	LEFT	ROUTE 0924 (VISITOR CENTER OVERFLOW PARKING)

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: PARK ENTRANCE ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
3.101	3.101	SIGN	LEFT	REGULATORY, SPEED LIMIT 25
3.103	3.103	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
3.120	3.153	PAVED DITCH	RIGHT	N/A
3.156	3.156	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
3.156	3.156	SIGN	LEFT	WARNING, PED XING
3.172	3.172	SIGN	RIGHT	REGULATORY, STOP
3.179	3.179	INTERSECTION	N/A	ROUTE 0900 (VISITOR CENTER PARKING)
3.179	3.179	SIGN	N/A	REGULATORY, KEEP RIGHT
3.179	3.179	ROUTE END	N/A	TO ROUTE 0900 (VISITOR CENTER PARKING)

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0200: JUNIPER CAMPGROUND ACCESS ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0010 (PARK ENTRANCE ROAD)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0010 (PARK ENTRANCE ROAD)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0010 (PARK ENTRANCE ROAD)
0.007	0.007	SIGN	LEFT	REGULATORY, STOP
0.043	0.043	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.100	0.100	SIGN	RIGHT	GUIDE, JUNIPER CAMPGROUND FREY TRAIL BUS, TOWED-VEHICLE AND TRAILER PARKING
0.100	0.100	SIGN	RIGHT	GUIDE, U.S. FEE AREA
0.117	0.117	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.117	0.117	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
0.118	0.118	INTERSECTION	LEFT	ROUTE 0400 (MESA RESIDENCE UPPER LOOP)
0.122	0.122	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.190	0.216	CURB	RIGHT	N/A
0.190	0.216	PULLOUT	RIGHT	N/A
0.218	0.218	INTERSECTION	LEFT	ROUTE 0908 (DUMP STATION AREA)
0.228	0.228	SIGN	LEFT	GUIDE, GRAPHIC SIGN NO TEXT
0.235	0.235	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.237	0.237	INTERSECTION	RIGHT	ROUTE 0200A (JUNIPER CAMPGROUND LOOP A)
0.239	0.239	INTERSECTION	LEFT	ROUTE 0908 (DUMP STATION AREA)
0.250	0.250	SIGN	RIGHT	GUIDE, AMPHITHEATER
0.291	0.291	INTERSECTION	LEFT	ROUTE 0907 (AMPHITHEATER PARKING)
0.291	0.291	INTERSECTION	RIGHT	ROUTE 0200B (JUNIPER CAMPGROUND LOOP B)
0.344	0.344	SIGN	RIGHT	GUIDE, AMPHITHEATER PARKING
0.357	0.357	INTERSECTION	LEFT	ROUTE 0907 (AMPHITHEATER PARKING)
0.361	0.364	CURB	LEFT	N/A
0.369	0.369	SIGN	RIGHT	GUIDE, LOOP C
0.373	0.373	GATE	N/A	N/A
0.374	0.374	SIGN	RIGHT	GUIDE, LOOP CLOSED
0.375	0.375	INTERSECTION	N/A	ROUTE 0200C (JUNIPER CAMPGROUND LOOP C)
0.375	0.375	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0200: JUNIPER CAMPGROUND ACCESS ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.375	0.375	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.375	0.375	ROUTE END	N/A	TO BEGINNING OF ROUTE 0200C (JUNIPER CAMPGROUND LOOP C) AT GATE

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0200A: JUNIPER CAMPGROUND LOOP A

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
0.004	0.004	SIGN	LEFT	REGULATORY, STOP
0.004	0.004	SIGN	RIGHT	GUIDE, LOOP A
0.005	0.005	SIGN	RIGHT	REGULATORY, SPEED LIMIT 5
0.006	0.006	GATE	N/A	N/A
0.013	0.013	INTERSECTION	LEFT	ROUTE 0200A (JUNIPER CAMPGROUND LOOP A)
0.013	0.265	ONE-WAY	N/A	N/A
0.046	0.046	SIGN	RIGHT	GUIDE, GROUP SITE
0.072	0.072	SIGN	RIGHT	GUIDE, GROUP SITE
0.170	0.170	INTERSECTION	RIGHT	ROUTE 0200B (JUNIPER CAMPGROUND LOOP B)
0.180	0.197	PULLOUT	RIGHT	N/A
0.215	0.215	SIGN	RIGHT	GUIDE, CAMP HOST
0.265	0.265	INTERSECTION	LEFT	ROUTE 0200A (JUNIPER CAMPGROUND LOOP A)
0.265	0.265	INTERSECTION	RIGHT	ROUTE 0200A (JUNIPER CAMPGROUND LOOP A)
0.265	0.265	ROUTE END	N/A	TO END OF LOOP

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0200B: JUNIPER CAMPGROUND LOOP B

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
0.000	0.227	ONE-WAY	N/A	N/A
0.000	0.000	SIGN	N/A	GUIDE, BUS STOP
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
0.003	0.003	GATE	N/A	N/A
0.003	0.003	SIGN	RIGHT	GUIDE, LOOP B
0.004	0.004	SIGN	LEFT	REGULATORY, STOP
0.004	0.004	SIGN	RIGHT	GUIDE, LOOP CLOSED
0.008	0.008	SIGN	RIGHT	REGULATORY, SPEED LIMIT 5
0.019	0.019	INTERSECTION	RIGHT	ROUTE 0920 (LOOP B PARKING SOUTH)
0.056	0.071	PULLOUT	RIGHT	N/A
0.196	0.196	INTERSECTION	RIGHT	ROUTE 0919 (LOOP B PARKING NORTH)
0.223	0.223	SIGN	RIGHT	REGULATORY, STOP
0.227	0.227	INTERSECTION	LEFT	ROUTE 0200A (JUNIPER CAMPGROUND LOOP A)
0.227	0.227	INTERSECTION	RIGHT	ROUTE 0200A (JUNIPER CAMPGROUND LOOP A)
0.227	0.227	SIGN	LEFT	REGULATORY, ONE WAY
0.227	0.227	ROUTE END	N/A	TO ROUTE 0200A (JUNIPER CAMPGROUND LOOP A)

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0200C: JUNIPER CAMPGROUND LOOP C

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM END OF ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD) AT GATE
0.000	0.000	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
0.000	0.000	INTERSECTION	N/A	ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
0.007	0.007	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
0.010	0.010	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.010	0.010	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.092	0.092	SIGN	LEFT	REGULATORY, SPEED LIMIT 5
0.094	0.094	SIGN	RIGHT	REGULATORY, SPEED LIMIT 5
0.112	0.112	SIGN	RIGHT	REGULATORY, ONE WAY
0.113	0.113	SIGN	LEFT	GUIDE, BUS STOP
0.120	0.329	ONE-WAY	N/A	N/A
0.120	0.120	INTERSECTION	RIGHT	ROUTE 0200C (JUNIPER CAMPGROUND LOOP C)
0.123	0.123	SIGN	N/A	GUIDE, NO WOOD GATHERING
0.123	0.123	SIGN	RIGHT	REGULATORY, DO NOT ENTER
0.144	0.144	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
0.170	0.181	CURB	RIGHT	N/A
0.204	0.214	PULLOUT	RIGHT	N/A
0.293	0.304	CURB	LEFT	N/A
0.322	0.322	SIGN	RIGHT	REGULATORY, STOP
0.329	0.329	INTERSECTION	RIGHT	ROUTE 0200C (JUNIPER CAMPGROUND LOOP C)
0.329	0.329	INTERSECTION	N/A	ROUTE 0200C (JUNIPER CAMPGROUND LOOP C)
0.329	0.329	ROUTE END	N/A	TO END OF LOOP

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0400: MESA RESIDENCE UPPER LOOP

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0200 (JUNIPER CAMPGROUND ACCESS ROAD)
0.004	0.004	SIGN	LEFT	REGULATORY, STOP
0.013	0.013	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.021	0.021	INTERSECTION	LEFT	ROUTE 0420 (OPERATIONS CENTER ROAD)
0.023	0.023	SIGN	RIGHT	REGULATORY, SPEED LIMIT 5
0.037	0.037	INTERSECTION	LEFT	ROUTE 0902AZ (MESA RESIDENCE PARKING A)
0.046	0.046	INTERSECTION	RIGHT	ROUTE 0902BZ (MESA RESIDENCE PARKING B)
0.104	0.104	INTERSECTION	LEFT	ROUTE 0400 (MESA RESIDENCE UPPER LOOP)
0.188	0.188	INTERSECTION	LEFT	ROUTE 0400 (MESA RESIDENCE UPPER LOOP)
0.188	0.188	INTERSECTION	RIGHT	ROUTE 0400 (MESA RESIDENCE UPPER LOOP)
0.188	0.188	ROUTE END	N/A	TO END OF LOOP

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0401: MESA RESIDENCE LOWER LOOP

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0420 (OPERATIONS CENTER ROAD)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0420 (OPERATIONS CENTER ROAD)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0420 (OPERATIONS CENTER ROAD)
0.015	0.015	INTERSECTION	RIGHT	ROUTE 0921A (MESA RESIDENCE LOWER LOOP PARKING A)
0.064	0.064	INTERSECTION	LEFT	ROUTE 0921B (MESA RESIDENCE LOWER LOOP PARKING B)
0.080	0.080	INTERSECTION	LEFT	ROUTE 0921C (MESA RESIDENCE LOWER LOOP PARKING C)
0.103	0.103	INTERSECTION	LEFT	ROUTE 0401 (MESA RESIDENCE LOWER LOOP)
0.127	0.127	INTERSECTION	RIGHT	ROUTE 0921D (MESA RESIDENCE LOWER LOOP PARKING D)
0.138	0.138	INTERSECTION	RIGHT	ROUTE 0921E (MESA RESIDENCE LOWER LOOP PARKING E)
0.145	0.145	INTERSECTION	LEFT	ROUTE 0401 (MESA RESIDENCE LOWER LOOP)
0.145	0.145	INTERSECTION	RIGHT	ROUTE 0401 (MESA RESIDENCE LOWER LOOP)
0.145	0.145	ROUTE END	N/A	TO END OF LOOP

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0402: STONEHOUSE ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0900 (VISITOR CENTER PARKING)
0.000	0.000	INTERSECTION	N/A	ROUTE 0900 (VISITOR CENTER PARKING)
0.006	0.006	SIGN	LEFT	REGULATORY, YIELD
0.006	0.006	SIGN	LEFT	GUIDE, BUCKLE UP
0.012	0.012	INTERSECTION	LEFT	ROUTE 0914 (ADMINISTRATIVE EMPLOYEE PARKING)
0.014	0.014	INTERSECTION	RIGHT	ROUTE 0901 (FRIJOLES CANYON MAINTENANCE AREA PARKING)
0.019	0.058	CURB	RIGHT	N/A
0.019	0.034	GUARD/GUIDE WALL	RIGHT	N/A
0.019	0.019	SIGN	RIGHT	GUIDE, FACILITY MANAGEMENT
0.020	0.059	CURB	LEFT	N/A
0.023	0.023	SIGN	RIGHT	WARNING, SLOW CHILDREN
0.039	0.039	SIGN	RIGHT	GUIDE, STAFF HOUSING EMPLOYEES ONLY
0.076	0.076	INTERSECTION	N/A	ROUTE 0903A (STONEHOUSE ROAD PARKING AREA)
0.076	0.076	ROUTE END	N/A	TO ROUTE 0903A (STONEHOUSE ROAD PARKING AREA)

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0420: OPERATIONS CENTER ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0400 (MESA RESIDENCE UPPER LOOP)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0400 (MESA RESIDENCE UPPER LOOP)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0400 (MESA RESIDENCE UPPER LOOP)
0.009	0.009	SIGN	N/A	GUIDE, PLAYGROUND USE IN PARK RESIDENTS ONLY
0.010	0.010	SIGN	LEFT	REGULATORY, YIELD
0.026	0.026	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.052	0.052	INTERSECTION	RIGHT	ROUTE 0401 (MESA RESIDENCE LOWER LOOP)
0.072	0.072	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.073	0.073	GATE	N/A	N/A
0.183	0.183	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.183	0.183	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.200	0.200	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.200	0.200	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.249	0.305	CURB	LEFT	N/A
0.265	0.265	INTERSECTION	RIGHT	ROUTE 0917 (OPERATIONS CENTER PARKING)
0.298	0.298	INTERSECTION	RIGHT	ROUTE 0917 (OPERATIONS CENTER PARKING)
0.322	0.322	SIGN	N/A	GUIDE, SEWAGE TREATMENT KEEP OUT CONTAMINATED WATER
0.322	0.322	INTERSECTION	N/A	DEAD END
0.322	0.322	ROUTE END	N/A	TO DEAD END AT SEWER LAGOON

BAND: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0423: FIRE TOWER ACCESS ROAD

Notice: Culverts and drop inlets were NOT marked by NPS nor inventoried by RIP in Cycle 5 on the DCV driven routes. Therefore no culverts or drop inlets are reported in Section 9, unless a culvert has a BIP structure number attached to it.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0010 (PARK ENTRANCE ROAD) AT MP 1.25
0.000	0.000	INTERSECTION	LEFT	ROUTE 0010 (PARK ENTRANCE ROAD)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0010 (PARK ENTRANCE ROAD)
0.027	0.027	INTERSECTION	RIGHT	ROUTE 0906 (FIRE TOWER ACCESS ROAD PARKING)
0.030	0.030	SIGN	RIGHT	GUIDE, OFFICIAL VEHICLES ONLY
0.036	0.036	SIGN	RIGHT	REGULATORY, STOP
0.038	0.038	INTERSECTION	LEFT	ROUTE 0010 (PARK ENTRANCE ROAD)
0.038	0.038	INTERSECTION	RIGHT	ROUTE 0010 (PARK ENTRANCE ROAD)
0.038	0.038	ROUTE END	N/A	TO ROUTE 0010 (PARK ENTRANCE ROAD) AT MP 1.28

Section 10
Appendix

Bandelier National Monument

Federal Lands Highway
Road Inventory Program

Explanation of Changes to the RIP Index Equations and Determination of PCR

In 2005, the FHWA began implementing the use of a Pavement Management System to assist the National Park Service in prioritizing Pavement Maintenance and Rehabilitation activities. The PMS used by FHWA is the Highway Pavement Management Application (HPMA) and this software has the ability to store inventory and condition data from RIP and forecast future performance using prediction models. Outputs include performance and condition reports at the National, Region, Park, or Route level. A regional prioritized list and optimization have been produced for most regions and the Federal Highway Deferred Maintenance is calculated via the HPMA as well.

In an effort to improve the accuracy of treatment recommendations and pavement condition descriptions vis a vis the distresses and indexes that comprise the Pavement Condition Rating (PCR), an extensive study was completed throughout 2010 that has resulted in changes to the Road Inventory Program condition reporting method and specifically, the calculation of PCR. It was determined that a better representation of PCR could be achieved by modifying the relative impact certain distresses would have on the overall rating.

Through the use of HPMA data, it was noted that false failure indicators existed with the existing PCR model, and that it would be necessary to reduce their impact. The distresses affected in this way were Rutting and Roughness. Conversely, experience showed that roadways with extensive cracking present were often shown to have a high PCR. Therefore, the crack index models were adjusted to be more sensitive to changes in crack severity or quantity. It was also determined that these issues were not due to a problem with data acquisition (i.e. the RIP "van"), but with the way the collected data was processed. The final change was to provide guidance on when to use the Roughness Condition Index (RCI) in the PCR calculation. Roughness data is of little value to determining overall condition on routes that, due to their length or geometrics, have lower vehicle operating speeds. Therefore, in Cycle 5, only routes that have lengths of one half mile or greater and posted speed limits of 25 mph or greater will have RCI reported and included in the PCR calculations.

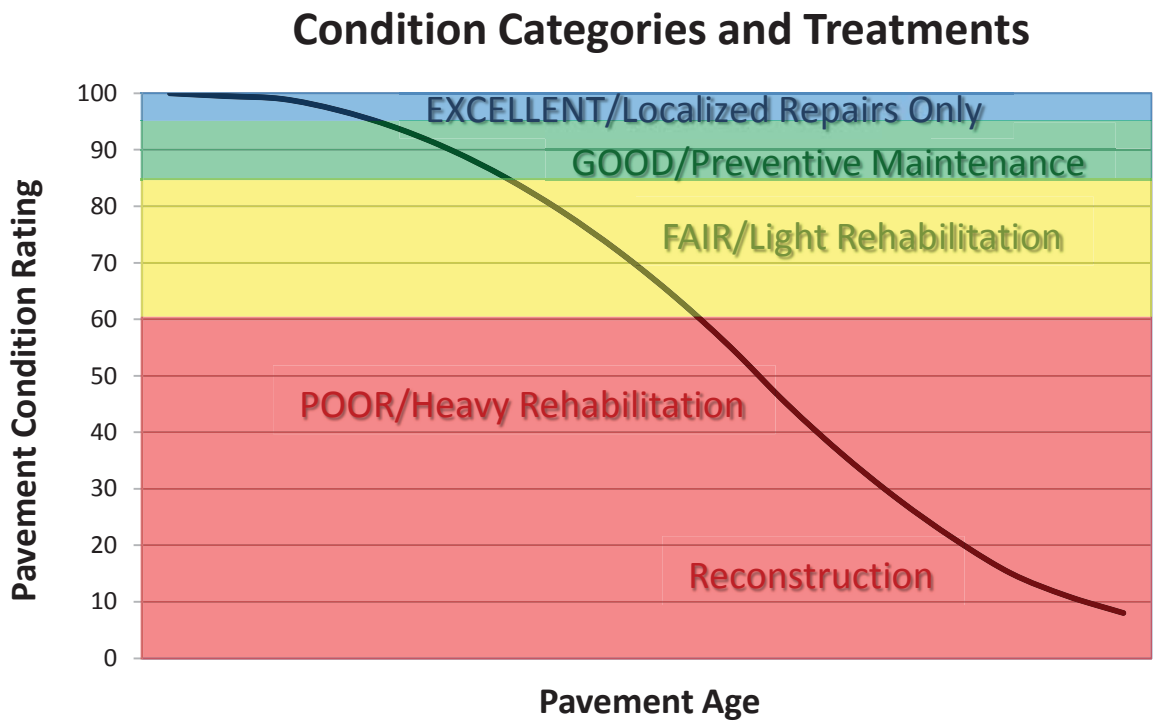
The changes that were implemented were endorsed by management at both the FHWA and NPS. In order to show the effectiveness of these changes, several sites were ground truth tested to ensure that an improvement was achieved between the relationship of PCR and the actual Maintenance and Rehabilitation needs that were represented. The changes will allow greater use of RIP and HPMA data for not simply condition data reporting, but also as a reliable tool for project identification and selection.

Explanation of the Excellent, Good, Fair and Poor Condition Descriptions

In addition to the RIP Index changes that will be implemented in Cycle 5, we will also aim to provide greater assistance in translating good/fair/poor categories into pavement needs categories. The PCR can be used to indicate the place in the Pavement Life Cycle and the types of treatments that should be considered now and into the future.

- Excellent/New: PCR of 95-100. Pavements in this range will require only spot repairs
- Good: PCR of 85-94. Pavements in this range will likely be candidates for Preventive Maintenance. Examples include Chip and Slurry Seals, Micro Surfacing and Thin Overlays.
- Fair: PCR of 61-84. Pavements in this range will likely be candidates of Light Rehabilitation (L3R). Examples include single-lift overlays up to 2.5 inches in total thickness, milling and overlays.
- Poor: PCR of 60 or below. Pavements in this range will likely be candidates of Heavy Rehabilitation or Reconstruction (H3R or 4R). Examples include Pulverization, Multiple Lift Overlays, and Reconstruction.

At this time, specific Maintenance and Rehabilitation activities should be evaluated and recommended at the project level. Site-specific conditions that influence treatment type should be determined based on performing a subsurface investigation and/or pavement condition survey, and not be based solely on RIP data. Additionally, RIP produces a snapshot of conditions the year in which the data was collected. For further information or to obtain additional Pavement Management System's data from our Highway Pavement Management Application (HPMA) please contact the Eastern Federal Lands pavement team.



DESCRIPTION OF RATING SYSTEM

The Federal Highway Administration (FHWA), Road Inventory Program (RIP) for the National Park Service (NPS), collects roadway condition data on paved surfaces (asphalt, concrete, brick, and cobblestone) on roads, parkways, and parking areas in national parks nationwide. The road surface condition data is collected using an automated Data Collection Vehicle (DCV). Roads having brick or cobblestone surfacing are not normally surveyed with the DCV, but are manually rated for condition rating.

The FHWA RIP is implemented based on the premise that an accurate pavement surface condition assessment can be accomplished using automated crack detection technology as applied to digital images. Various methods of pavement condition assessment have been developed over the years with varying degrees of accuracy and acceptance. The use of digital photography to record pavement images and subsequent crack detection and classification has undergone continuous improvements over the past decade. Digital cameras with increasingly superior resolution and high definition have become more affordable, and the proprietary programming code and algorithms have been improved in crack detection software.

With the use of quality digital photography and automated crack detection software, FHWA RIP is tasked with executing a pavement condition assessment on about 5000 miles of National Park Service roads and parkways. Foremost in setting up the basis of pavement distress identification is employing the distress identification protocols used by FHWA. There is no single distress identification system that is universal among entities conducting a program of distress identification. For the purpose of the NPS RIP, FHWA employs distress identification protocols that are specific to this program.

FHWA has referenced the *"Distress Identification Manual for the Long-Term Pavement Performance Program", Publication No. FHWA-RD 03-031, June 2003,* as the point-of-reference for distress types on NPS pavement. In truth, the FHWA RIP distress types are similar to those described in the LTPP manual with some modifications. This document, *"Distress Identification Manual for the NPS Road Inventory Program, Cycle 5, 2010-2013"* was developed using the *"Distress Identification Manual for the Long-Term Pavement Performance Program"* as a guideline. Definitions of severity levels based on crack width contained in this document adhere to the LTPP Distress ID Manual. Modifications have been made to the definition of Alligator and Longitudinal Cracking and determination of Alligator Cracking severity. This manual also addresses Rutting and Roughness and its application to RIP.

In 2010, FHWA RIP began the fifth cycle of data collection in national parks. For Cycle 5, data will be collected in approximately 81 large parks (10 or more paved route miles) on Functional Class 1, 2, and 7 routes plus any new routes or parking areas previously not collected, totaling an estimated 4,459 paved route miles. Additionally, 168 small parks will be collected comprising approximately 529 paved route miles and associated paved parking areas. The data is used to support the National Park Service road maintenance program and Pavement Management System (PMS) developed and maintained by FHWA.

This ***"Distress Identification Manual for the NPS Road Inventory Program, Cycle 5, 2010-2013"*** will be used as a reference resource in crack detection and classification, determination of distress severity and extent, and in the calculation of distress index values for the FHWA RIP Cycle 5.

SURFACE DISTRESSES

Surface Condition Rating - SCR

Surface distresses are measured in the primary lane only. In the classification and measurement of all paved surface condition data, results will be reported in the database in record intervals of 0.02 miles (105.6 feet) (smallest granularity) along the route.

Surface distresses determined from digital images

- Transverse Cracks
- Longitudinal Cracks
- Alligator Cracks
- Patching/Potholes

Surface distress measured by DCV (Data Collection Vehicle) LRMS (Laser Rut Measuring System)

- Rutting

Each of the five surface distresses is assigned a computed surface distress index

- Transverse Crack Index
- Longitudinal Crack Index
- Alligator Crack Index
- Patching/Pothole Index
- Rutting Index

Surface distress data are classified as listed above, measured for severity, and quantified for extent. Classification, severity, and extent of these five surface distresses comprise the three main elements for calculation of SCR (Surface Condition Rating).

In addition to the five surface distresses, a **Structural Crack Index** is computed, which is a combination of the Longitudinal Crack Index and the Alligator Crack Index. The Structural Crack Index is then used in lieu of the LC and AC indices to compute SCR.

Roughness Condition Index - RCI

Additional condition data measured by DCV (lasers and accelerometers)

- Roughness (IRI)

Roughness is measured by FHWA's DCV and reported as International Roughness Index (IRI) in inches/mile. Using IRI, the Roughness Condition Index (RCI) is computed.

Pavement Condition Rating - PCR

Using the SCR (computed from the five surface distresses) and the RCI, an overall Pavement Condition Rating (PCR) is computed. The formula for PCR is:

Asphalt PCR = (0.60 * SCR) + (0.40 * RCI)
Concrete PCR = RCI

A detailed description of each distress index formula, roughness index formula, SCR and PCR is provided in this document beginning on page 23.

Each classified surface distress will fall into one or more s*everity*…LOW, MEDIUM, or HIGH based on criteria listed. For each severity, an e*xtent* is established based on the measured quantity of the distress within that severity. Within each *severity* individual distresses are assigned a *Maximum Allowable Extent* (MAE). For example, LOW severity transverse cracking may be allowed up to 21.1 cracks within a 0.02 interval before it reaches MAE and fails.

The index formulas are based on a scale of 0-100. A PCR index value of 100 would indicate a "new" road with no measurable distresses or rough ride. A PCR value of 60 is determined to be *terminable serviceability* and the road is considered failed. The range of index values with condition descriptors is:

POOR (<=60), FAIR (61 - 84), GOOD (85 - 94), EXCELLENT (95 - 100)

Index values are generally computed based on cumulative deducts of the measured severities. As shown in the index formulas below, as any single severity reaches or exceeds MAE, the index computes to a value of 60 or less, and the road fails for that 0.02 interval.

> **Note:** As a result of a unique combination of measured surface distresses and IRI, index values occasionally compute to less than 0 or greater than 100. In this instance, an index value < 0 defaults to 0. Index values > 100 default to 100. For all indices, a higher value indicates a better road condition, and a lower value indicates a poorer road condition.

On the following page, Table 1 summarizes the different types of distresses measured.

TABLE 1: Distress Summary

ASPHALT-SURFACED PAVEMENT DISTRESS TYPES with RUTTING and ROUGHNESS				
DISTRESS TYPE	**UNIT OF MEASURE…**	**…CONVERTED TO**	**DEFINED SEVERITY LEVELS?**	**MEASURED BY**
Alligator Cracking	**Square Feet**	**Percent of Lane Per 0.02 Mile**	**Yes**	**Digital Image Crack Detection Software**
Transverse Cracking	**Linear Feet**	**Number of Cracks Per 0.02 Mile**	**Yes**	**Digital Image Crack Detection Software**
Longitudinal Cracking	**Linear feet**	**Percent of Lane Length Per 0.02 Mile**	**Yes**	**Digital Image Crack Detection Software**
Patching/Potholes	**Square Feet**	**Percent of Lane Per 0.02 Mile**	**No**	**Digital Image Crack Detection Software**
Rutting	**Inches**	**Rut Depth Per 0.02 Mile**	**Yes**	**DCV – Laser Rut Measuring System (LRMS)**
Roughness	**IRI**	***RCI Per 0.02 Mile**	**No**	**DCV – Lasers /Accelerometers**

***Note: Roughness is measured on concrete roadways, but surface distresses and rutting are not measured. For concrete, PCR = RCI**

ALLIGATOR CRACKING

Description

Alligator cracking is considered a combination of fatigue and block cracking. It is a series of interconnected cracks in various stages of development. Alligator cracking develops into a many-sided pattern that resembles chicken wire or alligator skin. It can occur anywhere in the road lane. Alligator cracking must have a quantifiable area.

Severity Levels

LOW
An area of cracks with no or very few interconnecting cracks and the cracks are not spalled. Cracks are <= 0.25 in (6mm) in mean width. Cracks in the pattern are no further apart than 1 foot (0.328 m). May be sealed cracks with sealant in good condition and a crack width that cannot be determined.

MEDIUM
An area of interconnected cracks that form a complete pattern. Cracks may be slightly spalled. Cracks are >0.25 in. (6 mm) and <= 0.75 in. (19 mm) or any crack with a mean width <= 19 mm and adjacent low severity cracking. Cracks in the pattern are no further apart than 6 in. (150 mm).

HIGH
An area of interconnected cracks forming a complete pattern. Cracks are moderately or severely spalled. Cracks are >0.75 in (19mm) or any crack with a mean width <= 0.75 in (19mm) and adjacent medium to high severity random cracking.

A combination of observed crack width and crack pattern is used to determine overall severity of alligator cracking. Based on above description of each severity, the highest level of crack width and crack pattern determines overall severity. Table 2 illustrates this.

TABLE 2: Alligator Crack Severity Levels

ALLIGATOR CRACKING SEVERITY LEVELS		Crack Pattern		
		LOW	**MED**	**HIGH**
Crack Width	**LOW**	L	M	H
	MED	M	M	H
	HI	H	H	H

LONGITUDINAL CRACKING

Description

Longitudinal cracking occurs predominantly parallel to the pavement centerline. It can occur anywhere within the lane. Longitudinal cracks occurring in the wheelpath may be noteworthy.

Severity Levels

LOW
Cracks with a mean width of < 0.25 in. (6 mm). Sealed cracks with sealant in good condition and a width that cannot be determined.

MED
Cracks with a mean width > 0.25 in. (6 mm) and <= 0.75 in. (19 mm). Also, any crack with a mean width < 0.75 in. (19 mm) and adjacent random low severity cracking.

HIGH
Cracks with a mean width > 0.75 in. (19 mm). Also, any crack with a mean width < 0.75 in. (19 mm) and adjacent random medium to high severity cracking.

TRANSVERSE CRACKING

Description

Transverse cracking occurs predominantly perpendicular to the pavement centerline. It can occur anywhere within the lane.

Severity Levels

LOW
Cracks with a mean width of < 0.25 in. (6 mm). Sealed cracks with sealant in good condition and a width that cannot be determined.

MED
Cracks with a mean width > 0.25 in. (6 mm) and <= 0.75 in. (19 mm). Also, any crack with a mean width < 0.75 in. (19 mm) and adjacent random low severity cracking.

HIGH
Cracks with a mean width > 0.75 in. (19 mm). Also, any crack with a mean width < 0.75 in. (19 mm) and adjacent random medium to high severity cracking.

PATCHING AND POTHOLES

Description

Patching is an area of pavement surface that has been removed and replaced with patching material or an area of pavement surface that has had additional patching material applied. Patching may encompass partial lane or full lane width On full lane width patching; the total, contiguous length of patch may not exceed 0.30 mi. (0.48 km). (Any full-lane patch exceeding 0.30 mi. in length is considered a pavement change). Patching must have a quantifiable area.

Potholes are bowl-shaped holes of various sizes occurring in the pavement surface.

Severity Levels

There are no stratified severities for Patching/Potholes. They either are present or they are not.

RUTTING

Description

Rutting is a longitudinal surface depression in the wheelpath.

Severity Levels

LOW
Ruts with a measured depth ≥ 0.20" and ≤ 0.49"

MED
Ruts with a measured depth ≥ 0.50" and ≤ 0.99"

HIGH
Ruts with a measured depth ≥ 1.00"

Ruts < 0.20" are not included in the distress calculations.

ROUGHNESS

Description

Roughness is the measurement of the unevenness of the pavement in the direction of travel. It is measured in units of IRI (International Roughness Index), inches per mile, and is indicative of ride comfort.

Severity Levels

There are no stratified severity levels for roughness. The roughness (or smoothness) of a road surface can be defined by IRI in the following table.

TABLE 3: IRI

IRI Descriptions	
Type of Road	**Typical IRI (in/mile)**
New Road, no noticeable roughness	<90
Small level of roughness	90 – 126
Road of average roughness	126 – 190
Road with above average roughness	190 – 253
Road with severe roughness	253 – 380
Nearly impassable	>380

INDEX FORMULAS

Note**:** All index formulas listed below contain MAE applicable to 0.02 mile (105.6 feet) interval.

Alligator Crack Index

AC_INDEX = 100 – 40 * [(%LOW / 35) + (%MED / 15) + (%HI / 5)]

Where:

The values *%LOW*, *%MED* and *%HI* report the percentage of the observed pavement (0.02 mile, primary lane) that contains alligator cracking within the respective severities. These values range from 0 to 100.

%LOW = Percent of total area (primary lane, 0.02 in length), low severity
%MED = Percent of total area (primary lane, 0.02 in length), medium severity
%HI = Percent of total area (primary lane, 0.02 in length), high severity

Percent of total area is computed as:

$$\frac{\text{square foot area of alligator crack severity}}{\text{0.02 mile * lane width}}$$

In AC_INDEX, the denominators 35, 15, and 5 are the Maximum Allowable Extents (MAE) for each severity. In other words, we will allow up to 35% of low severity alligator cracking for a 0.02 interval before failure, 15% for medium severity, and so on. As you can see, if any single severity reaches MAE the resulting index value is 60, or failure.

Longitudinal Crack Index

LC_INDEX = 100 – 40 * [(%LOW / 175) + (%MED / 75) + (%HI / 25)]

Where:

The values *%LOW*, *%MED*, and *%HI* report the length of longitudinal cracking within each severity as a percent of the section length (0.02 mile, primary lane).
These values are ≥ 0 and can exceed 100.

%LOW = Percent of interval length (primary lane, 0.02 in length), low severity
%MED = Percent of interval length (primary lane, 0.02 in length), medium severity
%HI = Percent of interval length (primary lane, 0.02 in length), high severity

Percent of interval length is computed as:

$$\frac{\text{length of respective longitudinal cracking}}{\text{0.02 mile (105.6 feet)}}$$

In LC_INDEX, the denominators 175, 75, and 25 are the Maximum Allowable Extents (MAE) for each severity. In other words, we will allow up to 175% of low severity alligator cracking for a 0.02 interval before failure, 75% for medium severity, and so on. As you can see, if any single severity reaches MAE the resulting index value is 60, or failure.

Structural Crack Index

SC_INDEX = [100 - ((100 - AC_INDEX) + (100 - LC_INDEX))]

Structural Crack Index is a combination of Alligator Cracking and Longitudinal Cracking, and is used in the SCR formula in lieu of AC and LC separately.

Transverse Crack Index

TC_INDEX = 100 – 40 * [(LOW / 21.1) + (MED / 4.4) + (HI / 2.6)]

Where:

The values *LOW*, *MED* and *HI* report a count of the total number of transverse cracks (reported to three decimals) within each severity level, where one transverse crack is equal to the lane width. These values are ≥ 0.

LOW = Number of cracks in interval (primary lane, 0.02 in length), low severity
MED = Number of cracks in interval (primary lane, 0.02 in length), medium severity
HI = Number of cracks in interval (primary lane, 0.02 in length), high severity

Number of cracks is computed as:

$$\frac{\text{Total length of transverse cracks}}{\text{Lane width}}$$

In TC_INDEX, the denominators 21.1, 4.4, and 2.6 are the Maximum Allowable Extents (MAE) for each severity. In other words, we will allow up to 21.1 low severity transverse cracks for a 0.02 interval before failure, 4.4 cracks for medium severity, and so on. As you can see, if any single severity reaches MAE the resulting index value is 60, or failure.

Patching Index

PATCH_INDEX = 100 – 40 * (%PATCHING / 80)

Where:

The value *%PATCHING* reports the percentage of the observed pavement (0.02 mile, primary lane) that contains patching/potholes. This value ranges from 0 to 100.

%PATCHING = Percent of total area (primary lane, 0.02 in length)

Percent of total area is computed as:

$$\frac{\text{square foot area of patching/potholes}}{\text{0.02 mile * lane width}}$$

There are no severity levels for patching. It either exists or does not.

In PATCH_INDEX, the denominator 80 is the Maximum Allowable Extent (MAE) for each severity. In other words, we will allow up to 80% patching for a 0.02 interval before failure. As you can see, if patching/potholes reaches MAE the resulting index value is 60, or failure.

Rutting Index

RUT_INDEX = 100 – 40 * [(%LOW / 535) + (%MED / 205) + (%HI / 40)]

Where:

20 rut depth measurements are taken per 0.02 interval for each of 2 wheel paths (left and right), resulting in a total of 40 measurements taken for both wheel paths. *Each wheelpath is analyzed independently for rut severities.* The values *%LOW*, *%MED* and *%HI* are a *total percentage* of left wheelpath percentage and right wheelpath percentage added together for the respective severity. These values range from 0 to 200.

%LOW = Percent of LOW ruts in left wheelpath based on 20 ruts, plus percent of LOW ruts in right wheelpath based on 20 ruts.
%MED = Percent of MED ruts in left wheelpath based on 20 ruts, plus percent of MED ruts in right wheelpath based on 20 ruts.
%HI = Percent of HI ruts in left wheelpath based on 20 ruts, plus percent of HI ruts in right wheelpath based on 20 ruts.

Percent of rut measurements within each severity can also be computed as:

$$\frac{\text{total number of ruts within each severity in both wheelpaths}}{20} * 100$$

In RUT_INDEX, the denominators 535, 205, and 40 are the Maximum Allowable Extents for each severity. In other words, the formula allows up to 535% low severity

ruts for a 0.02 interval before. However, since 200 is the highest measurable percentage allowed, 535% is unattainable and therefore, no amount of LOW severity rutting will cause the RUT_INDEX to fail a road. Similarly, since the MAE for MED severity rutting is 205, no amount of MED severity rutting will cause the RUT_INDEX to reach 60 and fail the road. As you can see, LOW severity rutting reaches MAE the resulting index value is 60, or failure. This formula was intentionally designed to minimize the impact of LOW and MED severity rutting on RUT_INDEX.

Roughness Condition Index (Asphalt)

RCI = 32 * [5 * (2.718282 ^ (-0.0041 * AVG IRI))]

Where:

The value *AVG IRI* reports the average value of the Left IRI and Right IRI measurements for the interval (0.02 mile, primary lane). This value can range from approximately 40 to 999.0.

Average IRI is computed as:

$$\frac{\text{Left wheelpath IRI + Right wheelpath IRI}}{2}$$

There is no applicable threshold for failure for this index.

Roughness Condition Index (Concrete)

RCI = $-0.0012(IRI^2) + 0.0499(IRI) + 99.542$

For concrete, PCR = RCI

Surface Condition Rating Index

SCR = *Lowest* Index Value Of: [SC_INDEX, TC_INDEX, PATCH_INDEX, RUT_INDEX]

Note: *The modified SCR equation above combines AC_INDEX and LC_INDEX, and considers that a single AC/LC index value of the Structural Crack Index (SC_INDEX). The lowest of the four computed index values (SC_INDEX, TC_INDEX, PATCH_INDEX, or RUT_INDEX) becomes the SCR.*

Where:

See above for determinations of SC_INDEX, TC_INDEX, PATCH_INDEX and RUT_INDEX.

The threshold for failure for this index is SCR = 60.

Data Collection Vehicle Subsystems

Data on paved roads in Cycle 5 is collected by FHWA using a Pathway Services Inc. Data Collection Vehicle (DCV), called PathRunner. The DCV is driven in the primary-direction lane at posted speed limits and less.

CAMERAS

Forward-facing and rear-facing video is collected as .jpg digital imagery at a frequency of 26.4 feet.

Two forward-facing cameras are mounted above the vehicle cab, one pointed straight ahead and the other to the right shoulder providing seamless 120 degree viewing.

CAMERA SPECIFICATIONS **Two Forward/ One Rear Facing**	
Camera lens/type	FUJINON CCTV LENS H16x10B-Y41
Focal length	10 mm – 160 mm
Image size	8.8 mm x 6.6mm
Image format	*.jpg
Image resolution	HD 2000 X 1200
Image pixel size	depends on distance
Zoom ratio	16x
Max Relative Aperture	1:2.5
Iris range	F25-T800 (Equivalent to F800)

Pavement images are created using a Laser Scan Imaging System. This system is composed of a single high resolution line-scan camera and two lasers configured to image an approximate 11-foot wide lane with 1 mm resolution.

CAMERA SPECIFICATIONS **Pavement Line Scan**	
Image size	4280 pixels/line
Image width	4 meters (3950 mm nominal)
Laser class	3B
Power	250W
Vehicle speed limitations	62 mph
Environment	Dry pavement, day or night
Sensor size (approx)	300 mm(H) x 375 mm(L) x 200 mm(D)
Image frame length	26.4 feet

DMI (Distance Measuring Instrument)

The DMI (Distance Measuring Instrument) obtains road length measurements that are accurate to 0.1% for speeds up to 60 mph. The DMI is connected to the hub of the rear wheel on the driver's side, and is calibrated to the revolutions of the rear vehicle axle on a regular basis.

ROUGHNESS (IRI)

The collection system includes a South Dakota type laser profiler manufactured based on active Class 1 ASTM E950 standards. The dynamic profile of the pavement surface is collected from which the IRI roughness data is computed. The sensors include one accelerometer on each wheelpath, one height sensor (laser) on each wheelpath, and a distance transducer.

IRI SPECIFICATIONS	
Reported IRI units	Inches/mile
Vehicle speed limitations	12-62 mph
IRI equipment certification	Texas Transportation Institute (TTI)
Wavelengths accommodated	6 in. – 300 feet
IRI computed & reported	World Bank Technical Paper Number 46
Environment	Dry pavement, day or night, above 32 degrees F
Adherence to specifications	ASTM E950-98 (2004), ASTM E 1926-08, AASHTO MP 11-08, AASHTO PP 49-08

RUTTING

Rutting depths are measured using an INO Laser Rut Measurement System (LRMS). This system is a transverse profiling device that detects and characterizes pavement rutting. The LRMS can acquire full 4 meter width profiles of a pavement lane at normal traffic speeds and uses two laser profilers that digitize transverse sections of the pavement.

RUTTING SPECIFICATIONS	
Reported rut depth units	Inches
Vehicle speed limitations	Up to 62 mph
Sampling rate	30-150 profiles/second
Transverse resolution	1280 points/profile
Transverse field-of-view	4 m
Depth accuracy (nominal)	+/- 1 mm
Environment	Dry pavement, day or night, above 32 degrees F
Adherence to specifications	ASTM E1703M-95 (reapproved 2005)

GPS & INERTIAL SYSTEMS

GPS is collected by an onboard system employing Omnistar real time correction and a gyroscope Inertial Measuring Unit (IMU) to provide accurate positioning data in instances of satellite obstruction. All GPS coordinates are tied to image and linear distance measurements.

GPS SPECIFICATIONS	
Static accuracy	Sub-meter
Dynamic accuracy	2-3 meters
Receiver	12 satellite tracking
Coordinate system	Lat Lon WGS 84
Environment	Day or night
Cross-slope	+- 0.1 degrees
Grade	+- 0.1 degrees

GPS on Manually Rated Roads (MRR)

Parking areas, some roads, and other paved areas that are not fully drivable with the DCV are collected manually by field technicians. GPS is collected for these routes using portable Trimble GPS backpack units.

Geodatabase – Background and Metadata

In addition to this park report, a ***geodatabase*** containing both tabular and spatial data specific to this park has been provided. All data disseminated in the preceding report has been obtained from the tables and fields within said geodatabase. The geodatabase can be referenced for tabular data via Microsoft Access or for both tabular and spatial data via ESRI's ArcGIS Suite of software which consists of; ArcMap, ArcCatalog and ArcExplorer. Consolidating the RIP data into one database creates a seamless relationship of tables and geographic data. It will allow RIP to facilitate easier updates and enhancements in the future.

A geodatabase can be thought of as simply a database containing spatial data. Many different tables are contained with the park's geodatabase. A complete and thorough description of the tables and fields contained within this geodatabase can be found in the ***metadata***. The metadata is attached directly within the geodatabase and can be accessed via ESRI's ArcCatalog.

GLOSSARY OF TERMS AND ABBREVIATIONS

TERM OR ABBREVIATION	DESCRIPTION OR DEFINITION
AC	Alligator Cracking
CRS	Condition Rating Sheets (Section 5)
DCV	Data Collection Vehicle
Excellent	Excellent rating with an index value of 95 to 100
Fair	Fair rating with an index value from 61 to 84
FUNCT_CLASS	Functional Classification (see Route ID, Section 2)
Good	Good rating with an index value from 85 to 94
IRI	International Roughness Index
Lane Width	Width from road centerline to fogline, or from centerline to edge-of-pavement when no fogline exists
LC	Longitudinal Cracking
MRR	Manually Rated Route
MRL	Manually Rated Line
MRP	Manually Rated Polygon
N/A	Not Applicable
NC	Not Collected
PATCH	Patching and Potholes
Paved Width	Width from edge-of-pavement to edge-of-pavement
PCR	Pavement Condition Rating
PKG	Parking Area
Poor	Poor rating with an index value of 0 to 60
RCI	Roughness Condition Index
SC	Structural Cracking
SCR	Surface Condition Rating
TC	Transverse Cracking