



national park service

**The Road Inventory
of
Petrified Forest National Park
PEFO – 8430
Cycle 4**



**Prepared By:
Federal Highway Administration
Road Inventory Program
Cycle 4**



Petrified Forest National Park in Arizona





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Petrified Forest National Park



Section 1 **Introduction**

INTRODUCTION

Background: In 1976, the National Park Service (NPS) and the Federal Highway Administration (FHWA) entered into a Memorandum of Agreement (MOA), establishing the Road Inventory Program (RIP). In 1980, the NPS and the FHWA terminated the 1976 MOA and entered into a new MOA that provided for the completion of the initial phase of the RIP. The purpose of the RIP, per the 1980 MOA was to maintain and update RIP data in order to develop long-range costs and programs to bring National Park Service (NPS) roads up to, or to maintain, designated standards, and establish a maintenance management program.

The FHWA's Federal Lands Highway (FLH) was assigned the task of identifying condition deficiencies and corrective priorities along with associated corrective costs, inventorying maintenance features (e.g., culverts, signs, guardrail, etc.), summarizing the data and findings in a report and providing a photographic record of the road system.

The FLH completed the initial phase of the RIP in the early 1980's. As a result of this effort, each park received a RIP book, also known as the "Brown Book," that included the information collected during this initial RIP phase.

In an effort to maintain and update the RIP data, a cyclical data collection and reporting process was reestablished in the 1990's. The FLH completed two cycles of RIP data collection between 1994 and 2001. Cycle 1 was collected in 44 large parks from 1994 to 1996. This data was found to be unusable for comparison to future cycles. Cycle 2 data was collected from March 1997 to January 2001 in 79 large parks and 5 small parks containing 4,874 route miles. Each park received a copy of a Cycle 2 RIP Report, also known as the "Blue Book". Cycle 3 was completed from 2001 through 2004, and included data collection in all parks that contain pavement.

Since 1984, the RIP Program has been funded through the Federal Lands Highway Program's Park Roads and Parkways (PRP) Program. Currently, the NPS Washington Headquarters' Park Facility Management Division is responsible for coordinating the RIP program with the FLH. 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) which requires the Federal Highway Administration and the National Park Service, to develop, by rule, a Pavement Management System (PMS) for the park roads and parkways serving the National Park System. As a result of the requirements in TEA-21, the NPS and FHWA are in the process of developing a PMS. The PMS will assist the decision-makers in effectively spending limited PRP Program funds. The PMS

will provide information for planning and programming road maintenance, rehabilitation, and reconstruction activities. RIP data will provide the basic information for this system.

Key information included in the RIP is the mileage inventory and condition assessments accomplished by the RIP Program. The mileage and condition data are used in the current allocation formula of PRP Program funds.

RIP Cycle 4: Cycle 4 data collection was initiated in spring 2006, where 86 large parks, consisting of 5,553 route miles and 6,232 paved parking areas, were selected as a representative sample of the entire NPS paved road network. Cycle 4 is scheduled for completion in spring 2009 and will serve the PMS in further development of its pavement preservation techniques.

In the Cycle 4 Reports, a general condition rating of excellent, good, fair and poor is ascribed to each one-mile section of paved roadway, and to each paved parking area. This condition rating system provides a realistic means of assessing the general funding needs for road improvements. Along with these descriptive condition ratings, a numerical rating between 0 and 100 is ascribed to each mile of road and to each parking area. This numerical rating is called a Pavement Condition Rating (PCR). The PCR rating system is described in Section 10 of this report.

All of the fieldwork required for obtaining inventory, condition, and maintenance feature information is coordinated with each park and the regional offices to ensure that the information in the RIP reports is accurate.

The FLH is responsible for all the data presented in this report. Anyone having questions or comments regarding the contents of this report is encouraged to contact the FHWA RIP Coordinator. It is our aim to provide exceptional customer satisfaction in our delivery of the RIP program.

The FHWA RIP Team

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Petrified Forest National Park



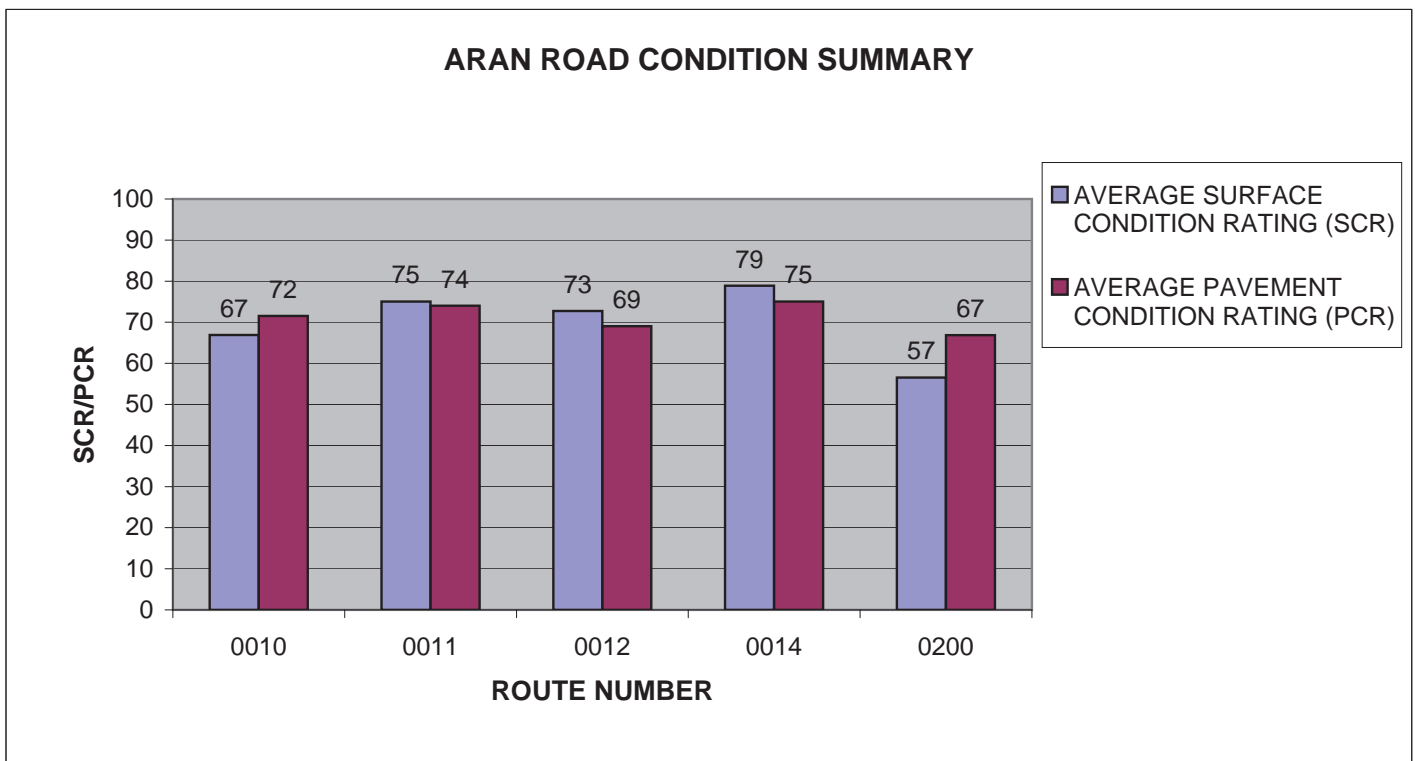
Section 2 **Park Summary Information**

**PEFO: PAVED ROUTE MILES AND PERCENTAGES
BY FUNCTIONAL CLASS AND PCR**

F.C.	Pavement Condition Rating (PCR)								TOTAL MILES
	Poor (<=60)		Fair (61-84)		Good (85-94)		Excellent (95-100)		
	MILES	%	MILES	%	MILES	%	MILES	%	
1	5.41	15.49%	18.84	53.94%	3.63	10.39%	0.60	1.72%	28.48
2	0.66	1.89%	3.11	8.90%	0.74	2.12%	0.04	0.11%	4.55
3									
4									
5									
6	1.88	5.38%	0.02	0.06%					1.90
7									
8									
Totals	7.95	22.76%	21.97	62.90%	4.37	12.51%	0.64	1.83%	34.93

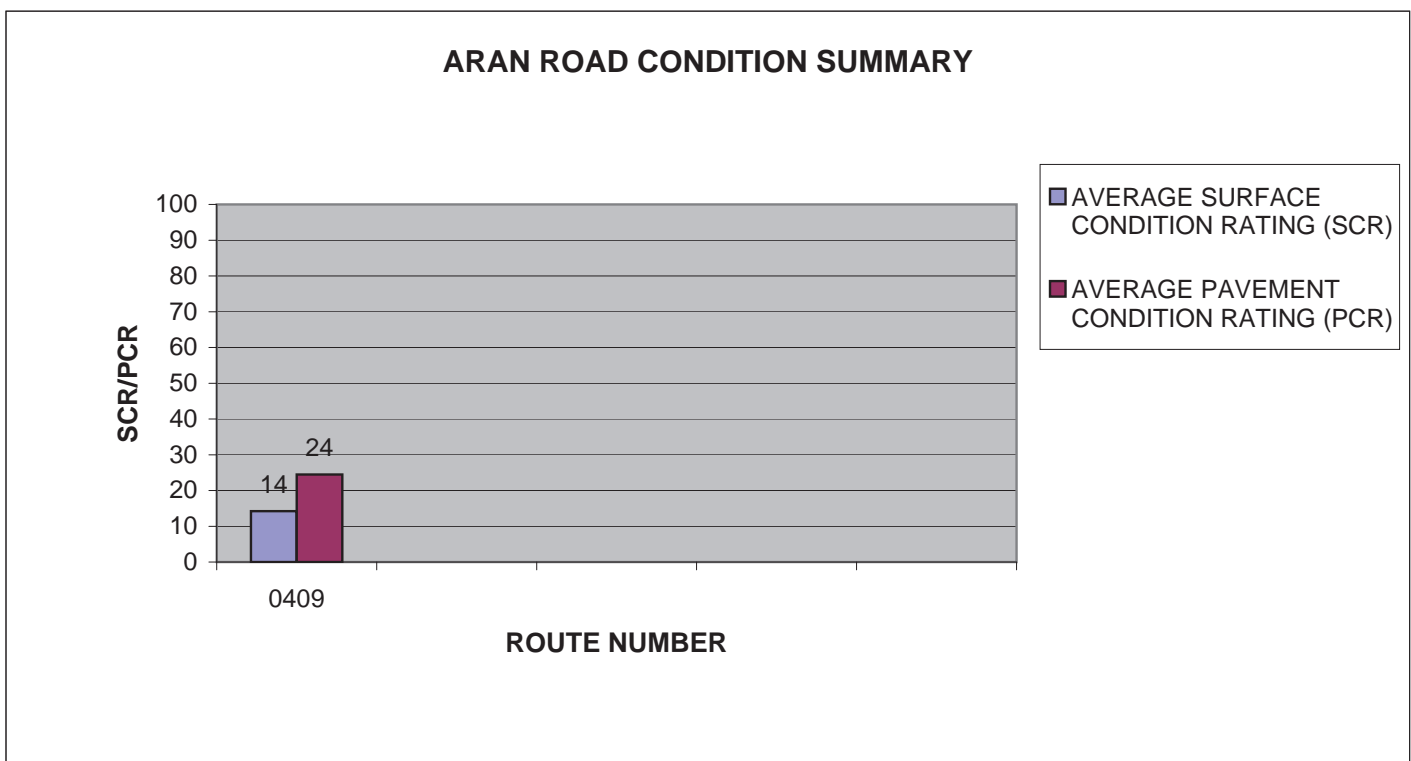
PEFO: ARAN ROAD CONDITION SUMMARY

ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	ROUTE LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0010	NORTH-SOUTH HIGHWAY	1	29.98	ASPHALT	67	72
0011	BLUE MESA ROAD	2	3.45	ASPHALT	75	74
0012	NEWSPAPER ROCK ROAD	2	0.25	ASPHALT	73	69
0014	JASPER FOREST ROAD	2	0.51	ASPHALT	79	75
0200	CHINDE POINT ACCESS ROAD	2	0.34	ASPHALT	57	67



PEFO: ARAN ROAD CONDITION SUMMARY

ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	ROUTE LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0409	OLD ROUTE 180 NORTH	6	1.9	ASPHALT	14	24

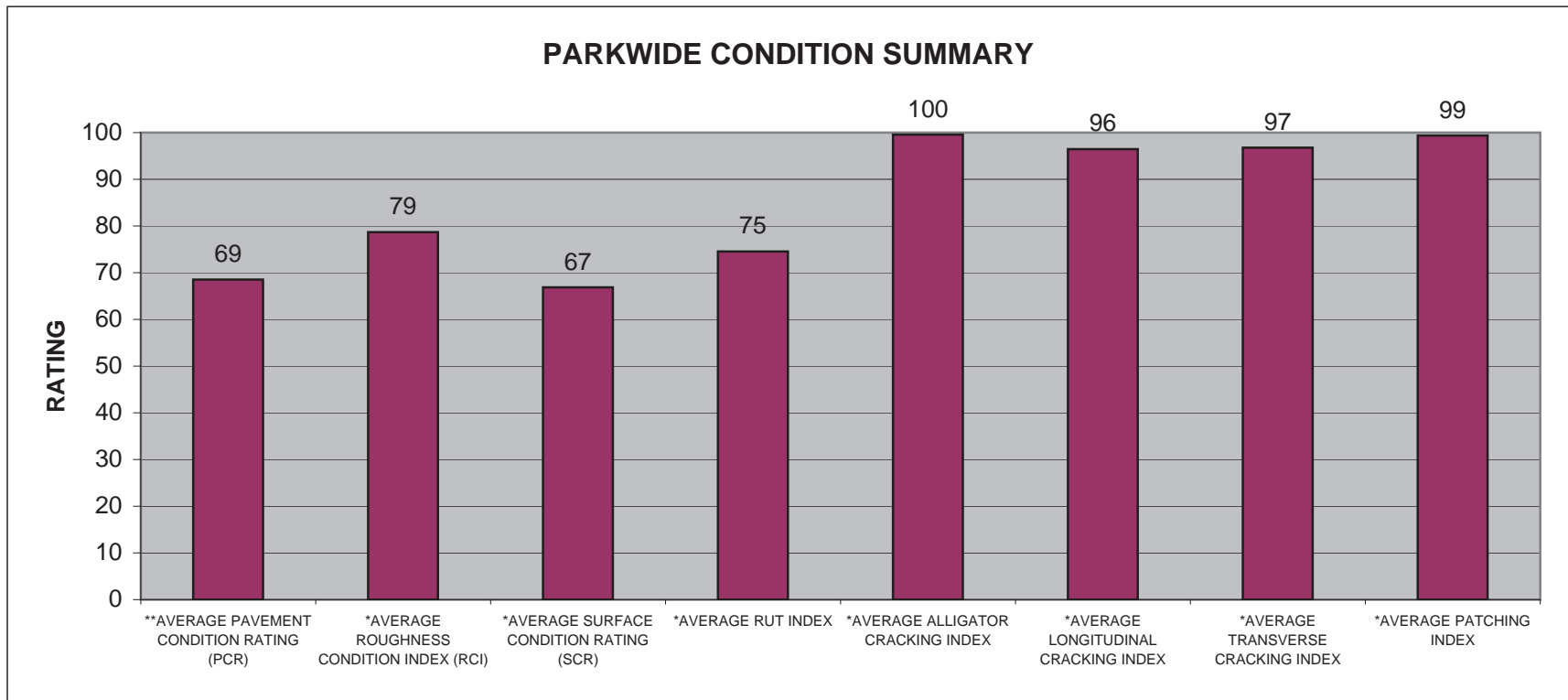


PEFO: PARKWIDE CONDITION SUMMARY

**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
69	79	67	75	100	96	97	99

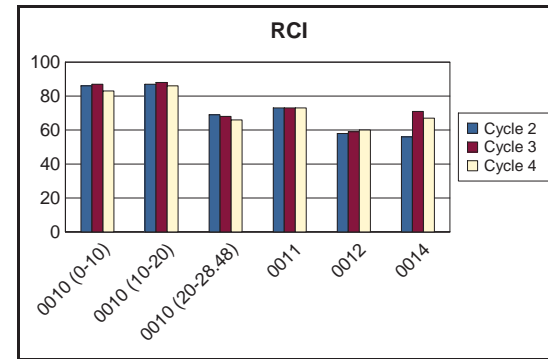
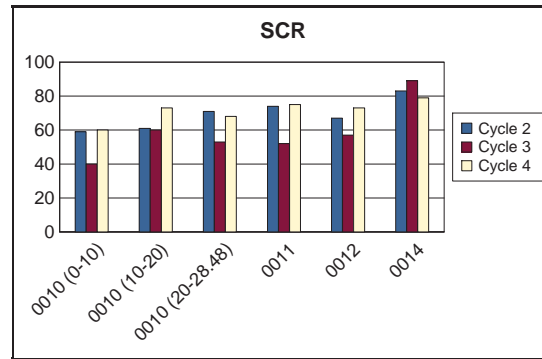
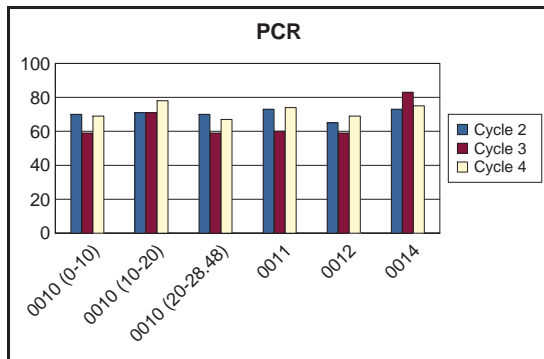
** PCR Index is based on all ARAN-driven roads, parking areas, and manually rated routes.

* Index values are based on ARAN-driven roads only.



PEFO CYCLE 2 vs CYCLE 3 vs CYCLE 4 CONDITION COMPARISONS

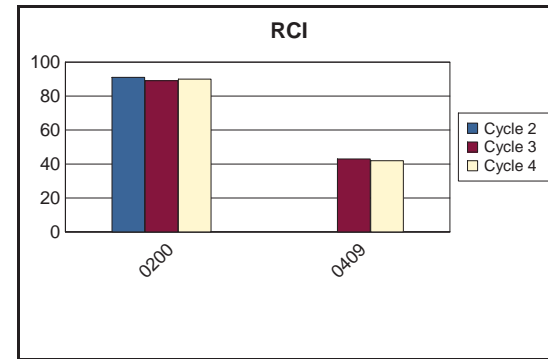
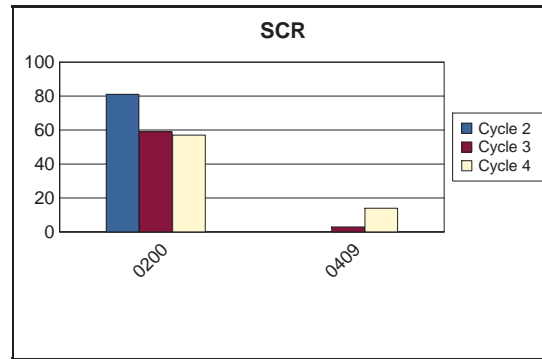
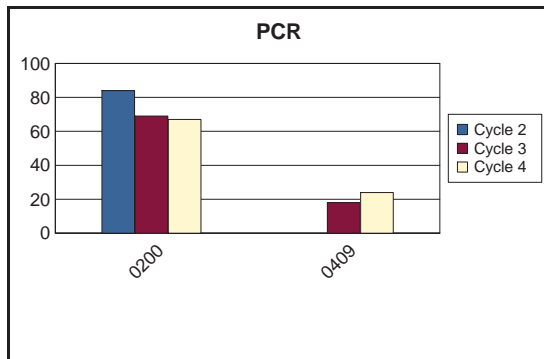
ROUTE NUMBER	PAVED MILES	FROM MILEPOST	TO MILEPOST	PAVEMENT CONDITION RATING (PCR)				SURFACE CONDITION RATING (SCR)				ROUGHNESS CONDITION INDEX (RCI)				COMMENT
				CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	
0010	10.00	0.00	10.00	70	59	69	+17%	59	40	60	+50%	86	87	83	-5%	
0010	10.00	10.00	20.00	71	71	78	+10%	61	60	73	+22%	87	88	86	-2%	
0010	8.48	20.00	28.48	70	59	67	+14%	71	53	68	+28%	69	68	66	-3%	
0011	3.45	0.00	3.45	73	60	74	+23%	74	52	75	+44%	73	73	73	0%	
0012	0.25	0.00	0.25	65	59	69	+17%	67	57	73	+28%	58	59	60	+2%	
0014	0.51	0.00	0.51	73	83	75	-10%	83	89	79	-11%	56	71	67	-6%	



Cycle 4 Data Collected 9/14/2008 - 9/15/2008

PEFO CYCLE 2 vs CYCLE 3 vs CYCLE 4 CONDITION COMPARISONS

ROUTE NUMBER	PAVED MILES	FROM MILEPOST	TO MILEPOST	PAVEMENT CONDITION RATING (PCR)				SURFACE CONDITION RATING (SCR)				ROUGHNESS CONDITION INDEX (RCI)				COMMENT
				CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	
0200	0.34	0.00	0.34	84	69	67	-3%	81	59	57	-3%	91	89	90	+1%	
0409	1.90	0.00	1.90	N/A	18	24	+33%	N/A	3	14	+367%	N/A	43	42	-2%	

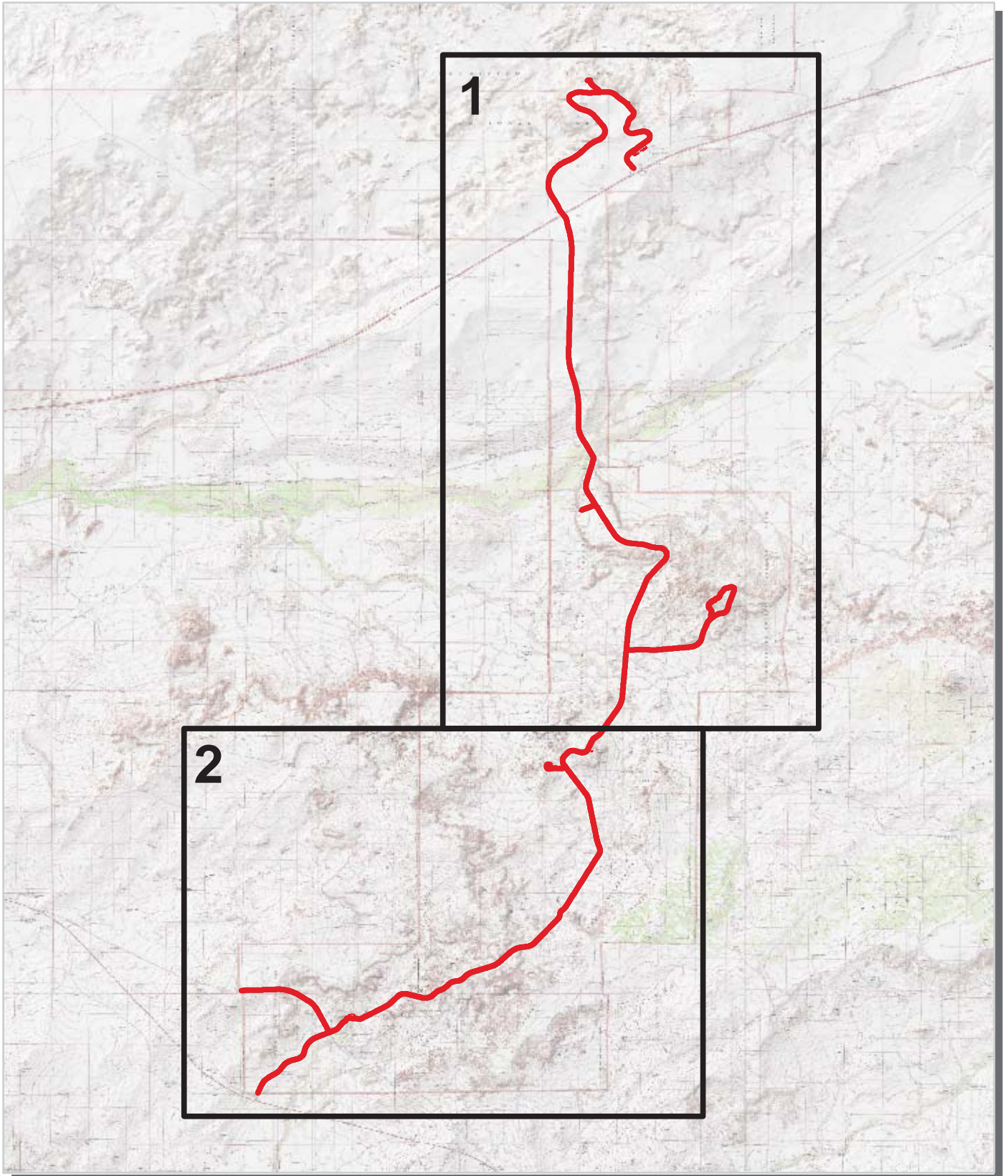


Petrified Forest National Park

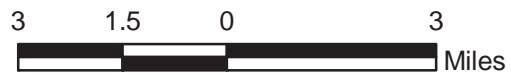


Section 3 **Park Route Location / Condition** **Maps**

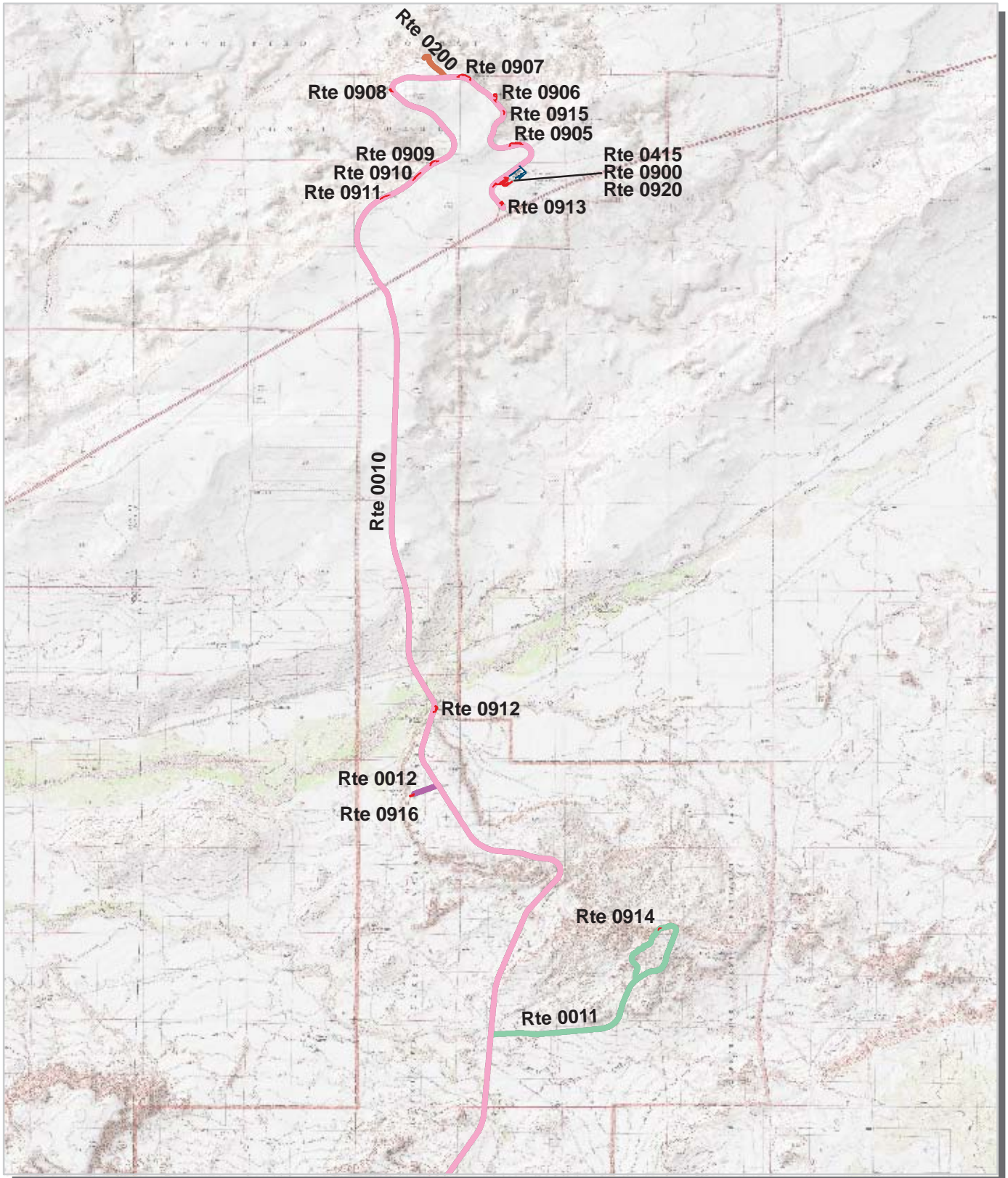
**Petrified Forest National Park
Route Location Map
Key Map**



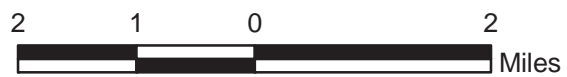
— Park Owned Routes



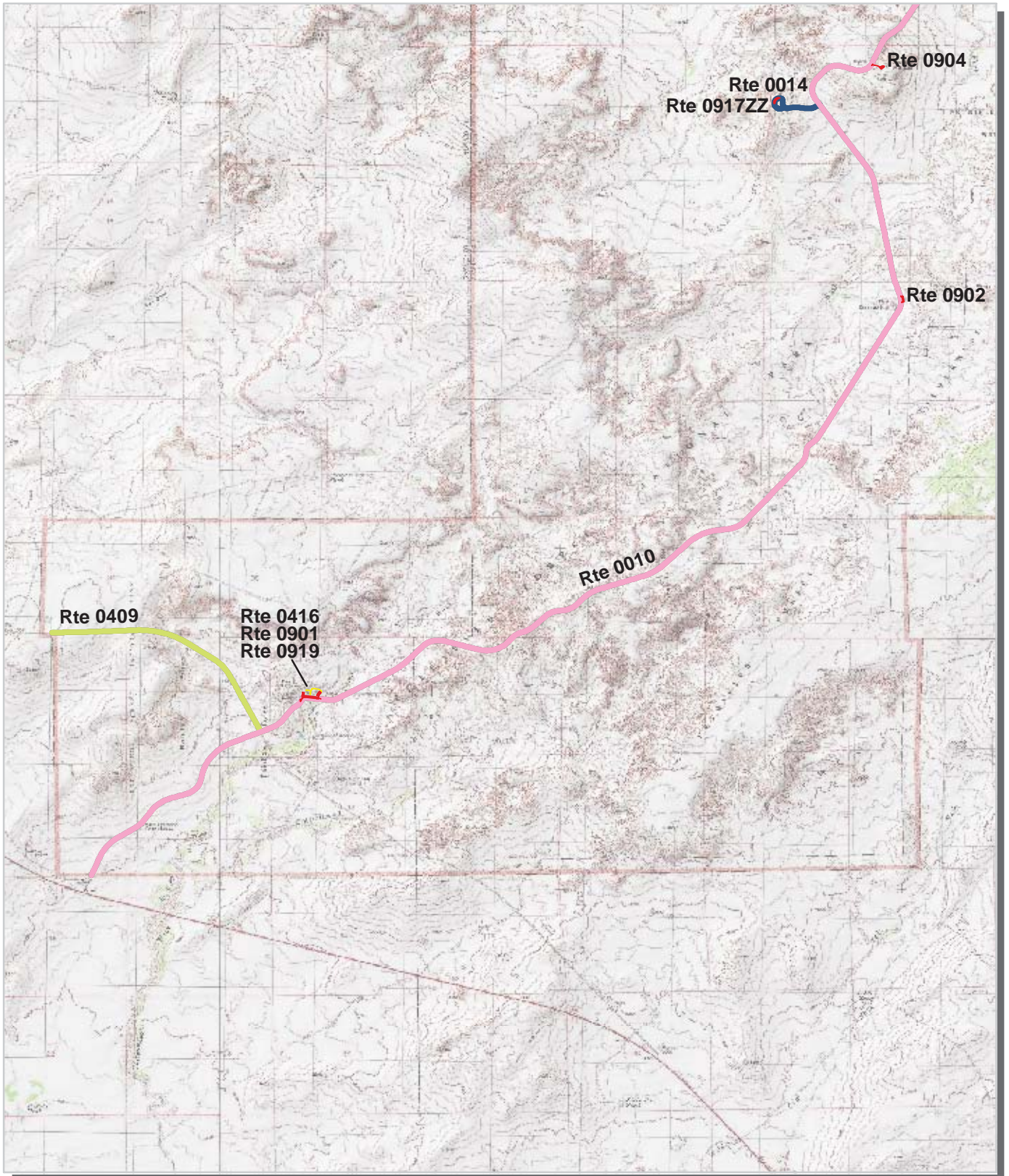
Petrified Forest National Park Route Location Map Area 1



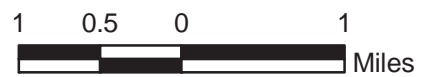
Unique colors used to differentiate routes



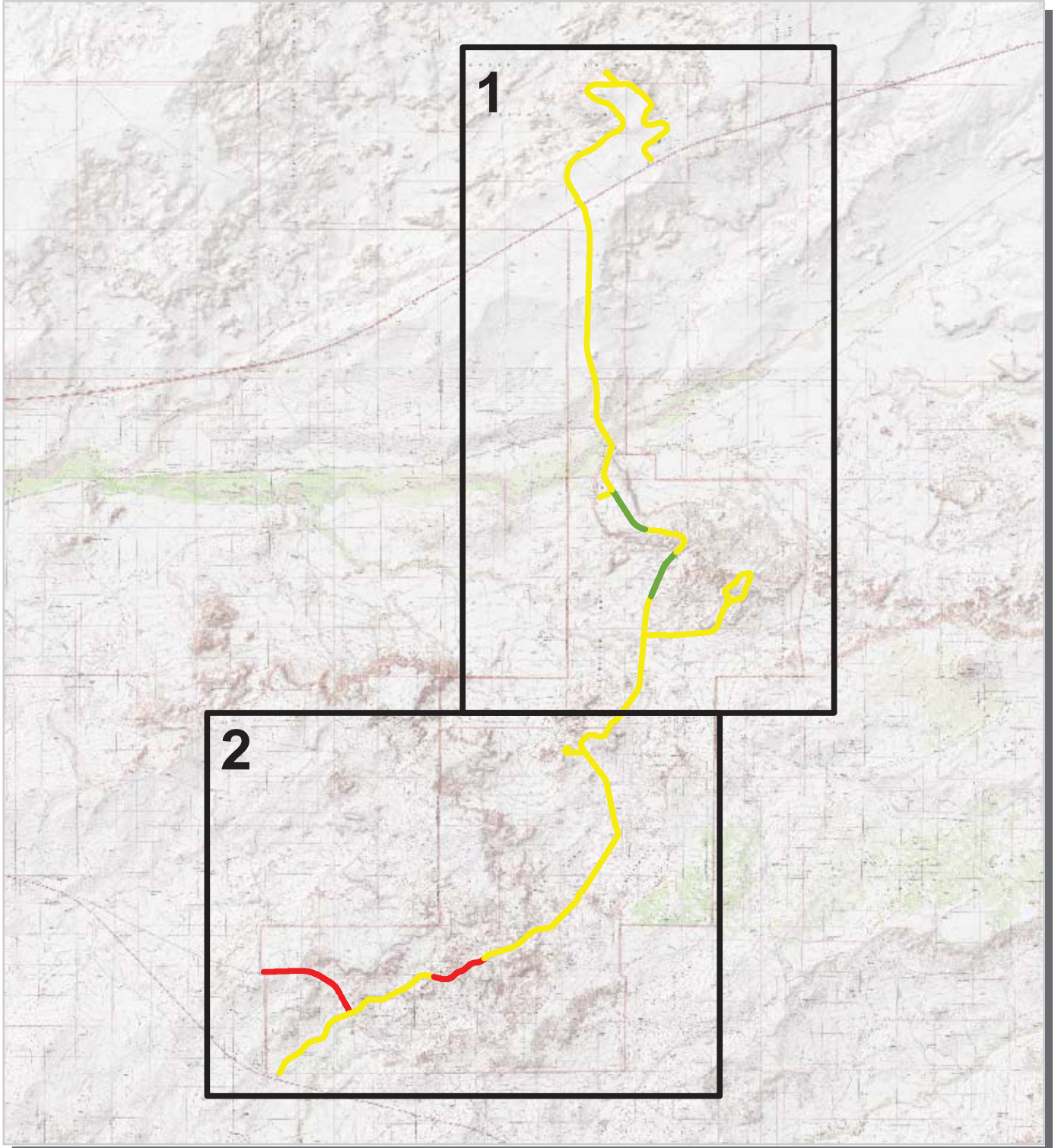
Petrified Forest National Park Route Location Map Area 2



Unique colors used to differentiate routes



**Petrified Forest National Park
Route Condition Map
PCR - Mile by Mile
Key Map**

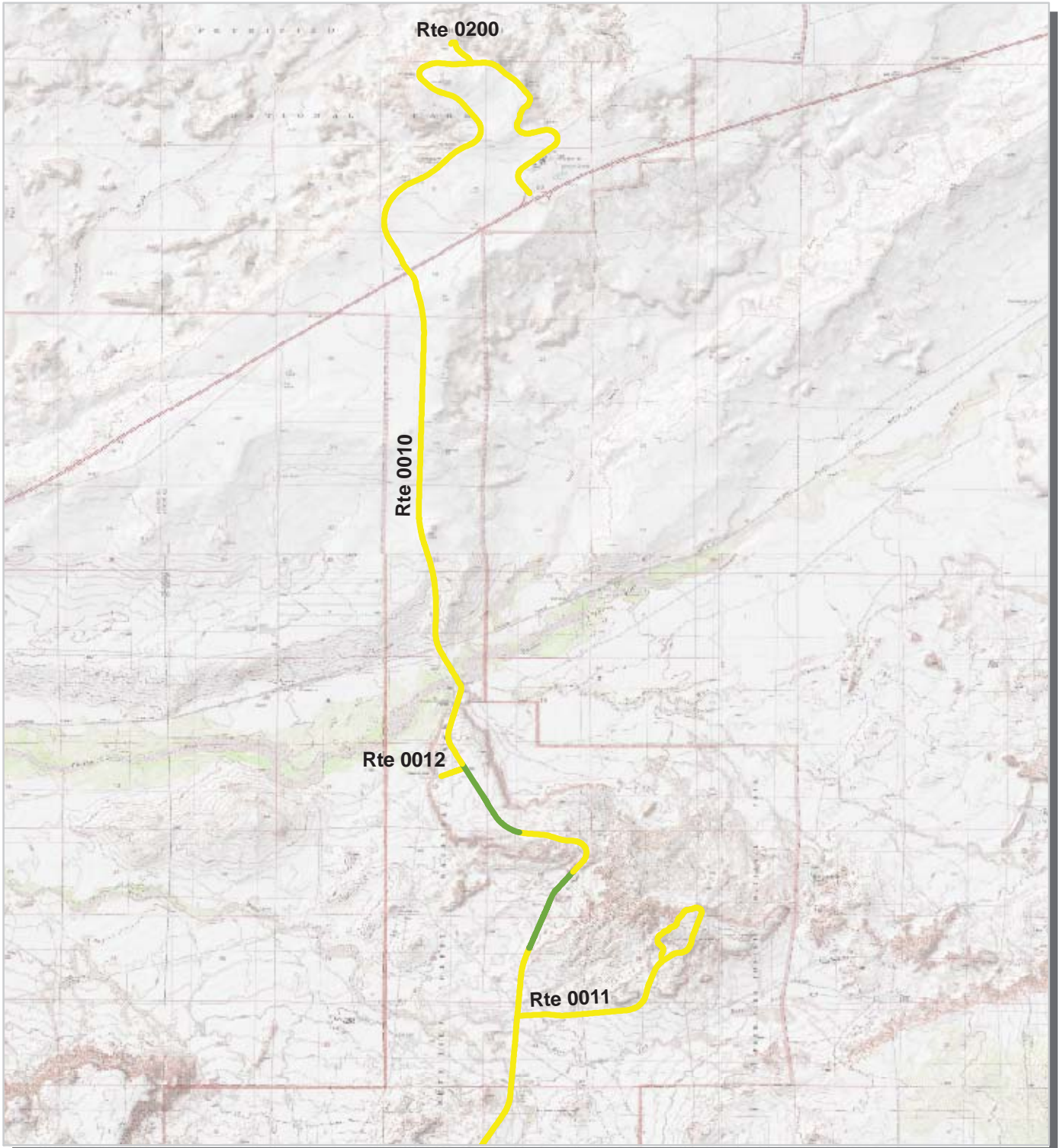


PCR	Poor	Fair	Good	Excellent	No Data
	(≤60)	(61 - 84)	(85 - 94)	(95 - 100)	

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



**Petrified Forest National Park
Route Condition Map
PCR - Mile by Mile
Area 1**

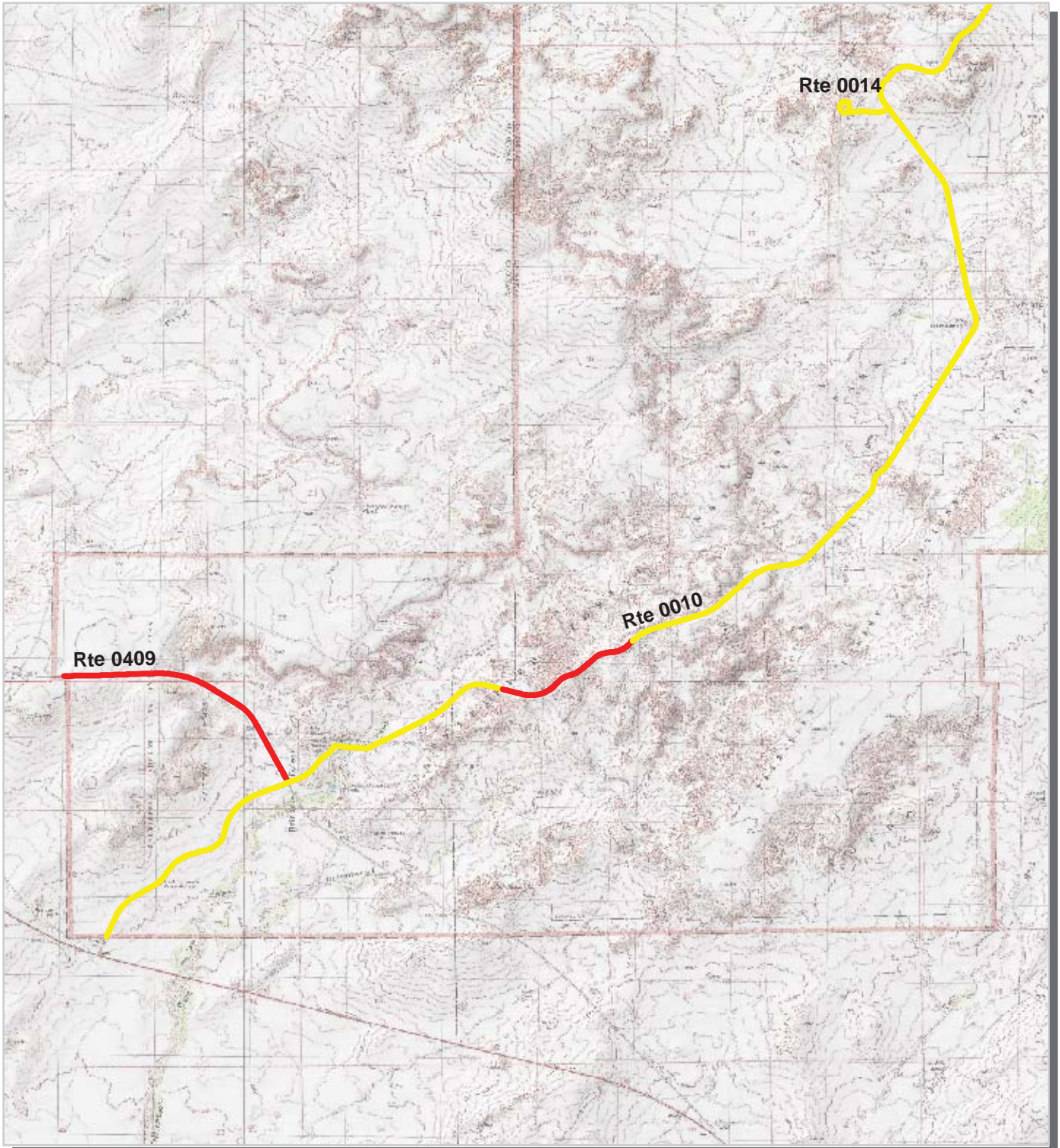


PCR	Poor	Fair	Good	Excellent	No Data
	(≤ 60)	(61 - 84)	(85 - 94)	(95 - 100)	

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



**Petrified Forest National Park
Route Condition Map
PCR - Mile by Mile
Area 2**



PCR	Poor	Fair	Good	Excellent	No Data
	(≤ 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.



Petrified Forest National Park



Section 4 **Park Route Inventory**

NPS/RIP Route ID Report

Road Inventory Program 05/12/2009

(Numerical By Route #)

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Shading Color Key:

Red text denotes approx. mileage

White = Paved Routes, ARAN Driven

Yellow = Unpaved Routes, ARAN not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Grey = Paved Routes, ARAN not Driven

Black = Paved State, Local or Private non-NPS Routes, ARAN Driven

= Concession Route Flag ON

** Unpaved Routes displayed on report were obtained from FMSS database and not inventoried by Road Inventory Program (RIP)

PEFO

PETRIFIED FOREST NATIONAL PARK

Rte. No.	FMSS No.	Concess Route	Route Name	Route Description		Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Rte. Lanes	Manual Rated SQ/FT	Surf. Type	Area Maps
				From	To									
0010	74016		NORTH-SOUTH HIGHWAY	FROM I-40 PAINTED DESERT ENTRANCE	TO SOUTH PARK BOUNDARY	N/A	28.480	1.500	29.980	1		0	AS	1,2
0011	74031		BLUE MESA ROAD	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 15.81 (ON LEFT)	TO END OF LOOP	N/A	3.450	0.000	3.450	2		0	AS	1
0012	74032		NEWSPAPER ROCK ROAD	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 12.05 (ON RIGHT)	TO ROUTE 0916 (NEWSPAPER ROCK PARKING)	N/A	0.250	0.000	0.250	2		0	AS	1
0014	74034		JASPER FOREST ROAD	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 18.67 (ON RIGHT)	TO END OF LOOP	N/A	0.510	0.000	0.510	2		0	AS	2
0200	74036		CHINDE POINT ACCESS ROAD	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 2.46 (ON RIGHT)	TO END OF PAVEMENT AND ROUTE 0903 (CHINDE POINT PARKING)	N/A	0.340	0.000	0.340	2		0	AS	1
0400	74037		OLD ROUTE 66	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 0.89 (ON RIGHT)	TO EAST PARK BOUNDARY	N/A	0.000	2.770	2.770	6		0	GR	
0401	74038		GRAVEL PIT ROAD	FROM ROUTE 0400 (OLD ROUTE 66)	TO GRAVEL PIT	N/A	0.000	0.500	0.500	6		0	GR	
0403	74040		PAINTED DESERT SPUR ROAD #2	FROM ROUTE 0400 (OLD ROUTE 66)	TO END	N/A	0.000	0.360	0.360	6		0	GR	
0404	74041		NORTHEAST FENCE LINE ROAD	FROM ROUTE 0400 (OLD ROUTE 66)	TO END	N/A	0.000	8.520	8.520	6		0	GR	
0406	74044		SOUTH PIPELINE ROAD	FROM ROUTE 0409 (OLD ROUTE 180 NORTH) AT MP 1.31 (ON RIGHT)	TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 19.17 (ON RIGHT)	N/A	0.000	15.010	15.010	6		0	GR	
0407	74045		NORTH PIPELINE ROAD #1	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY)	TO I-40	N/A	0.000	1.230	1.230	6		0	GR	
0408	74046		NORTH PIPELINE ROAD #2	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY)	TO I-40	N/A	0.000	1.750	1.750	6		0	GR	
0409	74042		OLD ROUTE 180 NORTH	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 26.70 (ON RIGHT)	TO END OF PAVEMENT	N/A	1.900	0.000	1.900	6		0	AS	2
0410	74049		LITHODENDRON WASH ROAD	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY)	TO LITHODENDRON WASH	N/A	0.000	4.750	4.750	6		0	GR	
0411	74058		LITHODENDRON WASH ROAD NORTH	FROM ROUTE 0410 (LITHODENDRON WASH ROAD)	TO THE SECOND SPUR OUT TO THE FENCE LINE	N/A	0.000	1.600	1.600	6		0	GR	
0412	74050		LITHODENDRON WASH SPUR	FROM ROUTE 0410 (LITHODENDRON WASH ROAD)	TO THE FIRST SPUR OUT TO THE SHOOTING RANGE	N/A	0.000	0.600	0.600	6		0	GR	

NPS/RIP Route ID Report

Shading Color Key:

Red text denotes approx. mileage

White = Paved Routes, ARAN Driven

Yellow = Unpaved Routes, ARAN not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Grey = Paved Routes, ARAN not Driven

Black = Paved State, Local or Private non-NPS Routes, ARAN Driven

■ = Concession Route Flag ON

** Unpaved Routes displayed on report were obtained from FMSS database and not inventoried by Road Inventory Program (RIP)

PEFO

PETRIFIED FOREST NATIONAL PARK

Rte. No.	FMSS No.	Concess Route	Route Name	Route Description From To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Rte. Lanes	Manual Rated SQ/FT	Surf. Type	Area Maps
0413	74066		HORSE CORRAL ROAD	FROM ROUTE 0415 (PD RESIDENCE AREA) TO THE LAGOONS	N/A	0.000	0.700	0.700	6		0	GR	
0414	74068		HORSE CORRAL SPUR	FROM ROUTE 0413 (HORSE CORRAL ROAD) TO END	N/A	0.000	0.400	0.400	6		0	GR	
0415	74063		PD RESIDENCE AREA	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 0.64 (ON RIGHT) TO END	N/A	1.400	0.000	1.400	6		81,309	AS	1
0416	74070		RF RESIDENCE AREA	FROM ROUTE 0901 (RF MUSEUM AND PICNIC PARKING) TO END	N/A	0.340	0.000	0.340	6		19,771	AS	2
0900	74073		PD VC PARKING	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 0.28 (ON RIGHT) TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 0.44 (ON RIGHT)	N/A	0.000	0.000	0.000			105,133	AS	1
0901	74076		RF MUSEUM AND PICNIC PARKING	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 26.17 (ON RIGHT) TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 26.27 (ON RIGHT)	N/A	0.000	0.000	0.000			83,228	AS	2
0902	74080		CRYSTAL FOREST PARKING	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 20.41 (ON LEFT) TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 20.47 (ON LEFT)	N/A	0.000	0.000	0.000			19,349	AS	2
0903	74081		CHINDE POINT PARKING	FROM ROUTE 0200 (CHINDE POINT ACCESS ROAD) AT END TO PARKING	N/A	0.000	0.000	0.000			0	GR	
0904	74086		AGATE BRIDGE PARKING	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 17.97 (ON LEFT) TO PARKING	N/A	0.000	0.000	0.000			26,375	AS	2
0905	74088		TIPONI POINT PARKING	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 0.98 (ON RIGHT) TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 1.10 (ON RIGHT)	N/A	0.000	0.000	0.000			39,014	AS	1
0906	74092		TAWA POINT PARKING	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 1.86 (ON RIGHT) TO PARKING	N/A	0.000	0.000	0.000			30,335	AS	1
0907	74095		KACHINA POINT PARKING	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 2.20 (ON RIGHT) TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 2.32 (ON RIGHT)	N/A	0.000	0.000	0.000			38,324	AS	1
0908	74101		PINTADO POINT PARKING	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 3.06 (ON RIGHT) TO PARKING	N/A	0.000	0.000	0.000			16,846	AS	1
0909	74103		NIZHONI POINT PARKING	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 4.22 (ON RIGHT) TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 4.30 (ON RIGHT)	N/A	0.000	0.000	0.000			23,123	AS	1

NPS/RIP Route ID Report

Shading Color Key:

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Blue = All Paved Parking Areas

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SUMMARY TOTALS FOR PETRIFIED FOREST NATIONAL PARK

ROUTE TOTALS		LANE MILE TOTALS				CONCESSION TOTALS				
ARAN Driven Route Miles	34.930	ARAN Driven Lane Miles	81.001		Concession Paved Route Miles	0.000				
All Paved Route Miles	36.670	Paved Parking Lane Miles	9.924		Concession Unpaved Route Miles	0.000				
All Unpaved Route Miles	39.690	Paved MRR Lane Miles	1.740		Concession Paved Parking Area SQFT	0				
TOTAL PARK ROUTE MILES	76.360	TOTAL PAVED LANE MILES	92.665		Concession Unpaved Parking Area SQFT	0				
All Manually Rated Roads (SQFT)	101,079					Concession Paved MRR SQFT	0			
PARKING AREA TOTALS		WEIGHTED AVERAGE PARK VALUES								
All Paved Parking (SQFT)	576,444	PCR (Rating)	SCR (Rating)	RCI (Rating)	RUT (Index)	AC (Index)	LC (Index)	TC (Index)	PATCH (Index)	PCR (Concession)
All Unpaved Parking (SQFT)	0	68.53	66.85	78.67	74.55	99.56	96.46	96.78	99.36	N/A
TOTAL ALL PARKING (SQFT)	576,444									

NPS/RIP Route ID Report

Shading Color Key:

Red text denotes approx. mileage

White = Paved Routes, ARAN Driven	Yellow = Unpaved Routes, ARAN not Driven	Blue = All Paved Parking Areas	Green = All Unpaved Parking Areas
Grey = Paved Routes, ARAN not Driven	Black = Paved State, Local or Private non-NPS Routes, ARAN Driven		= Concession Route Flag ON

** Unpaved Routes displayed on report were obtained from FMSS database and not inventoried by Road Inventory Program (RIP)

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 Assets. 5000 Routes are driven for GPS, Video Log and Road Features 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 PEFO

Road Inventory Program 05/12/2009

(Numerical By Subcomponent #)

Page 1 of 1

Shading Color Key:

Red text denotes
approx. mileage

White = Paved Routes, ARAN Driven

Yellow = Unpaved Routes, ARAN not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Grey = Paved Routes, ARAN not Driven

Black = Paved State, Local or Private non-NPS Routes, ARAN Driven

= Concession Route Flag ON

= Subcomponent Flag ON

** Unpaved Routes displayed on report were obtained from FMSS database and not inventoried by Road Inventory Program (RIP)

PEFO

PETRIFIED FOREST NATIONAL PARK

Asset Entered in FMSS System

Rte. No.	FMSS No.	Sub Comp	Route Description		Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
			Route Name	From To						
0917ZZ	74133		JASPER FOREST PARKING AREAS	ADJACENT TO ROUTE 0014 (JASPER FOREST ROAD) AT MP 0.38 (ON RIGHT & LEFT) TO PARKING			0.00	0.00	0.00	17,744

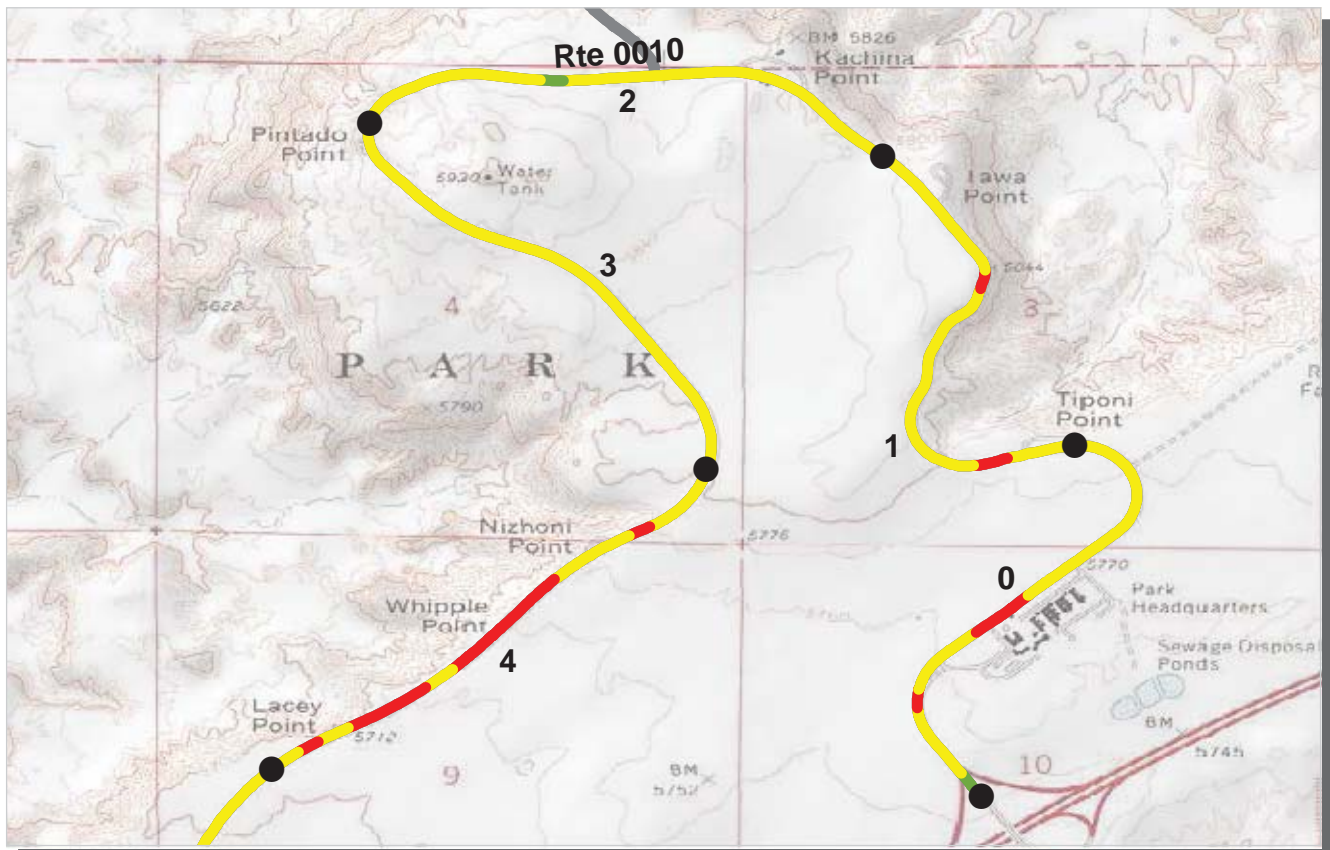
Asset PEFO-0917ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Sub Comp	Route Description		Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
			Route Name	From To						
0917AZ	74133		JASPER FOREST PARKING AREA A	ADJACENT TO ROUTE 0014 (JASPER FOREST ROAD) AT MP 0.39 (ON RIGHT) TO PARKING			0.00	0.00	0.00	11,173
0917BZ	74133		JASPER FOREST PARKING AREA B	ADJACENT TO ROUTE 0014 (JASPER FOREST ROAD) AT MP 0.38 (ON LEFT) TO PARKING			0.00	0.00	0.00	6,571

Petrified Forest National Park



Section 5 **Paved Route Condition Rating Sheets** **(CRS)**



PCR	Poor	Fair	Good	Excellent	No Data
	(≤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.

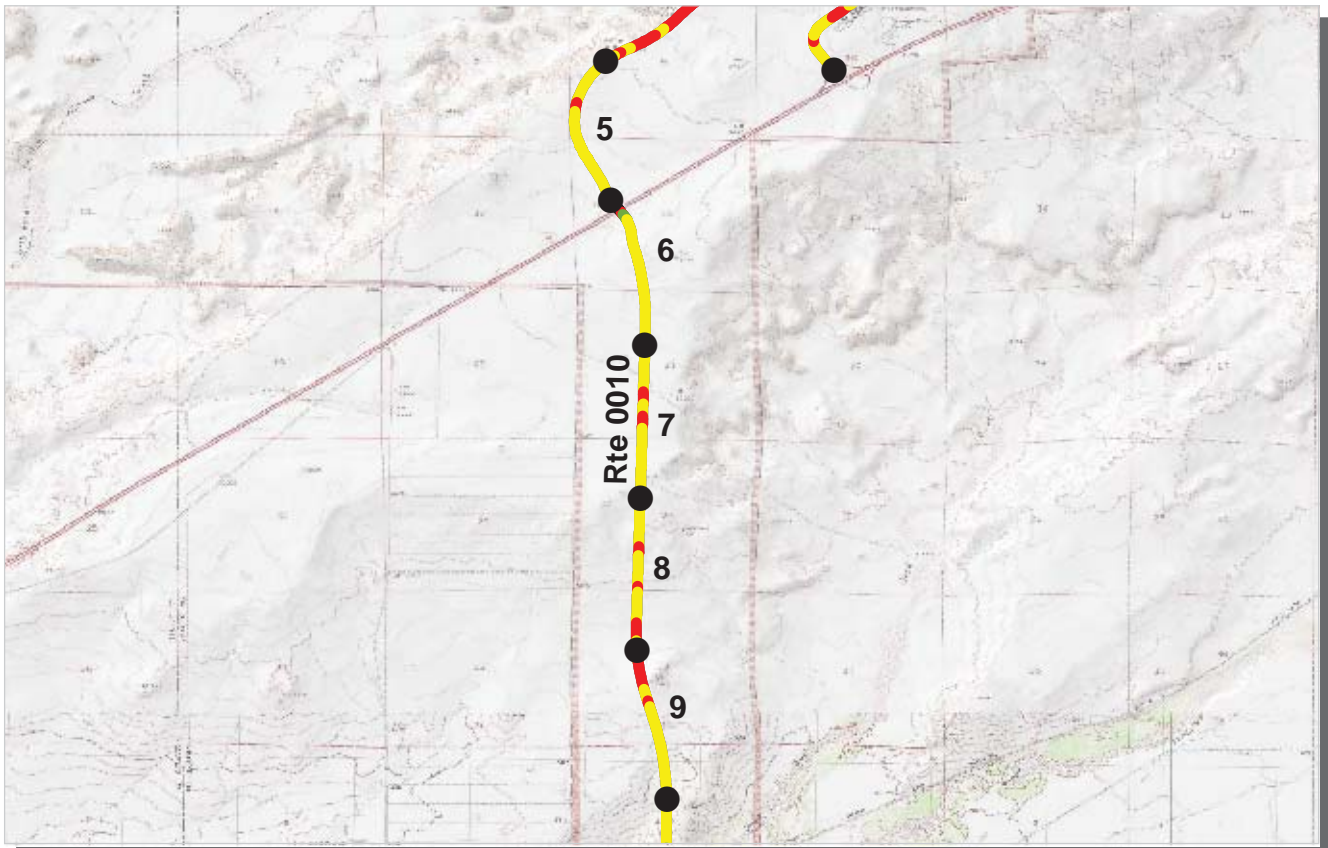
ROUTE: 0010 NORTH-SOUTH HIGHWAY
PEFO : PETRIFIED FOREST NATIONAL PARK

COLLECTED: 9/14/2008
TOTAL LENGTH: 28.48 Miles

INTERMOUNTAIN REGION

Section Number	0	1	2	3	4
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Traffic	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
Cross Section Information					
Number of Lanes	2	2	2	3	2
Paved Width (ft)	31	28	27	28	25
Lane Width (ft)	12	10	10	11	10
Shoulder Width Right (ft)	NC	NC	NC	NC	NC
Shoulder Width Left (ft)	NC	NC	NC	NC	NC
Roadway Condition Information					
SCR (Surface Condition Rating)	60	54	63	60	65
PCR (Pavement Condition Rating)	63	69	75	75	63
Distress Index Values					
Alligator Cracking Index	100	100	100	100	100
Longitudinal Cracking Index	92	93	97	95	98
Transverse Cracking Index	93	94	95	95	97
Patching Index	100	100	100	100	100
Rutting Index	75	68	71	70	70
Roughness Condition Index (RCI)	72	92	94	97	62

ROUTE: 0010 NORTH-SOUTH HIGHWAY



PCR Poor ■ Fair ■ Good ■ Excellent ■ No Data ■
 (<=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.

ROUTE: 0010 NORTH-SOUTH HIGHWAY
PEFO : PETRIFIED FOREST NATIONAL PARK

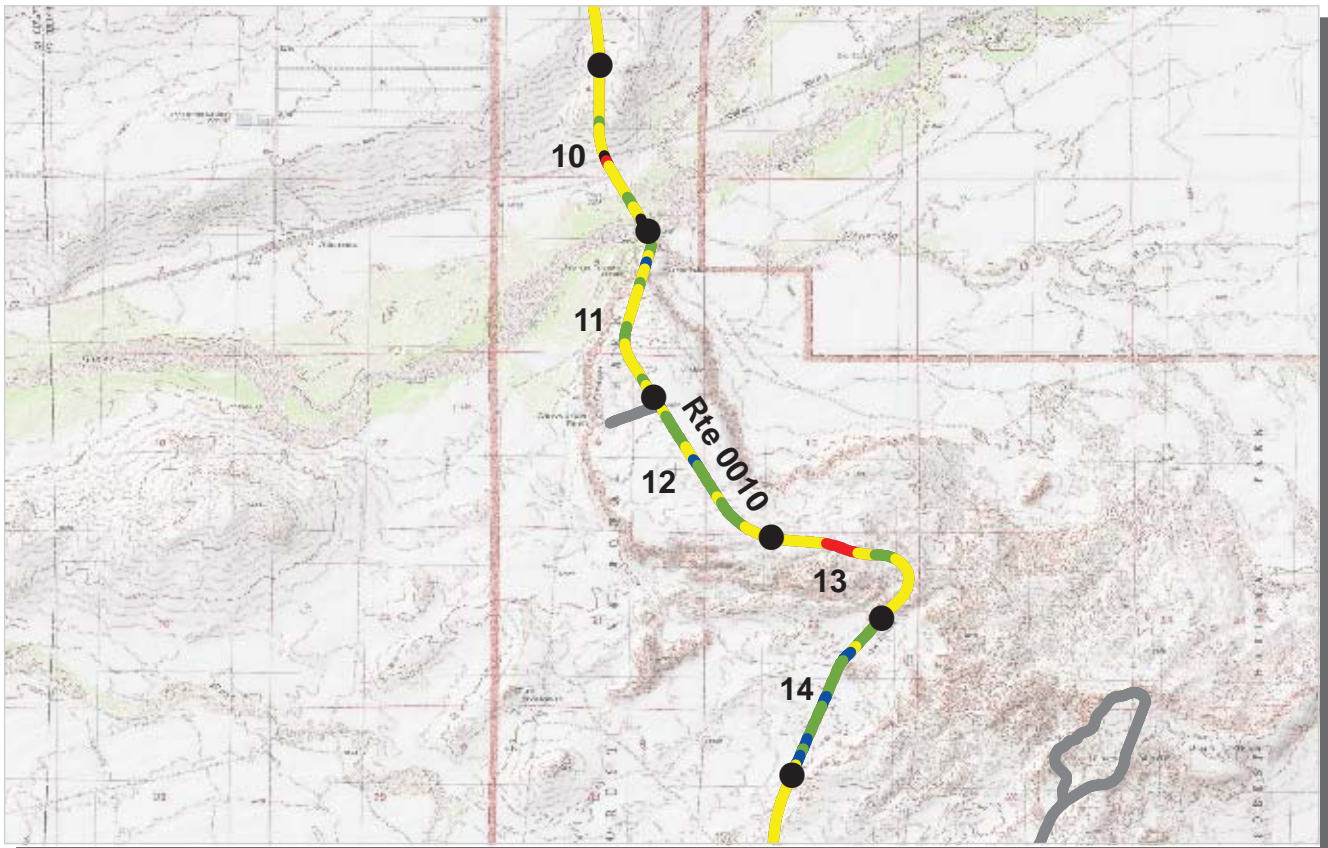
COLLECTED: 9/14/2008
TOTAL LENGTH: 28.48 Miles

INTERMOUNTAIN REGION

Section Number	5	6	7	8	9
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Traffic	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	26	28	25	24	25
Lane Width (ft)	10	9	9	9	9
Shoulder Width Right (ft)	NC	NC	NC	NC	NC
Shoulder Width Left (ft)	NC	NC	NC	NC	NC
Roadway Condition Information					
SCR (Surface Condition Rating)	64	64	59	57	55
PCR (Pavement Condition Rating)	69	70	69	67	69
Distress Index Values					
Alligator Cracking Index	100	100	100	100	100
Longitudinal Cracking Index	98	96	94	97	98
Transverse Cracking Index	97	96	98	98	98
Patching Index	100	100	100	100	100
Rutting Index	70	72	66	62	60
Roughness Condition Index (RCI)	76	78	84	81	88

ROUTE: 0010 NORTH-SOUTH HIGHWAY

NC - Not Collected



PCR Poor (≤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 NORTH-SOUTH HIGHWAY
PEFO : PETRIFIED FOREST NATIONAL PARK

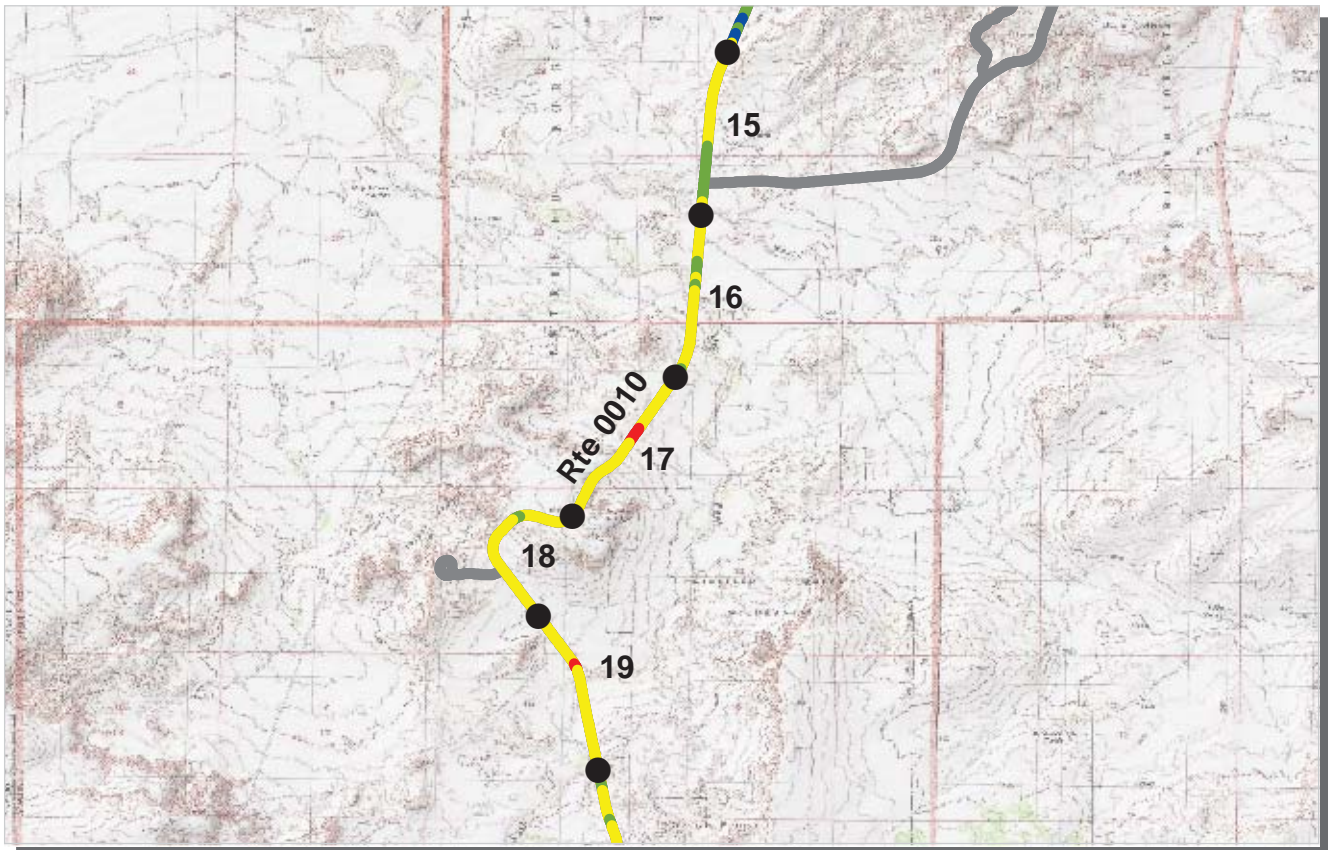
COLLECTED: 9/14/2008
TOTAL LENGTH: 28.48 Miles

INTERMOUNTAIN REGION

Section Number	10	11	12	13	14
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Traffic	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	29	26	26	26	26
Lane Width (ft)	10	9	9	9	10
Shoulder Width Right (ft)	NC	NC	NC	NC	NC
Shoulder Width Left (ft)	NC	NC	NC	NC	NC
Roadway Condition Information					
SCR (Surface Condition Rating)	65	78	81	71	86
PCR (Pavement Condition Rating)	75	82	86	72	88
Distress Index Values					
Alligator Cracking Index	100	100	100	100	100
Longitudinal Cracking Index	98	100	99	99	100
Transverse Cracking Index	96	100	100	100	100
Patching Index	100	100	100	96	100
Rutting Index	71	78	82	76	86
Roughness Condition Index (RCI)	90	90	93	73	90

ROUTE: 0010 NORTH-SOUTH HIGHWAY

NC - Not Collected



PCR Poor ■ Fair ■ Good ■ Excellent ■ No Data ■
 (<=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.

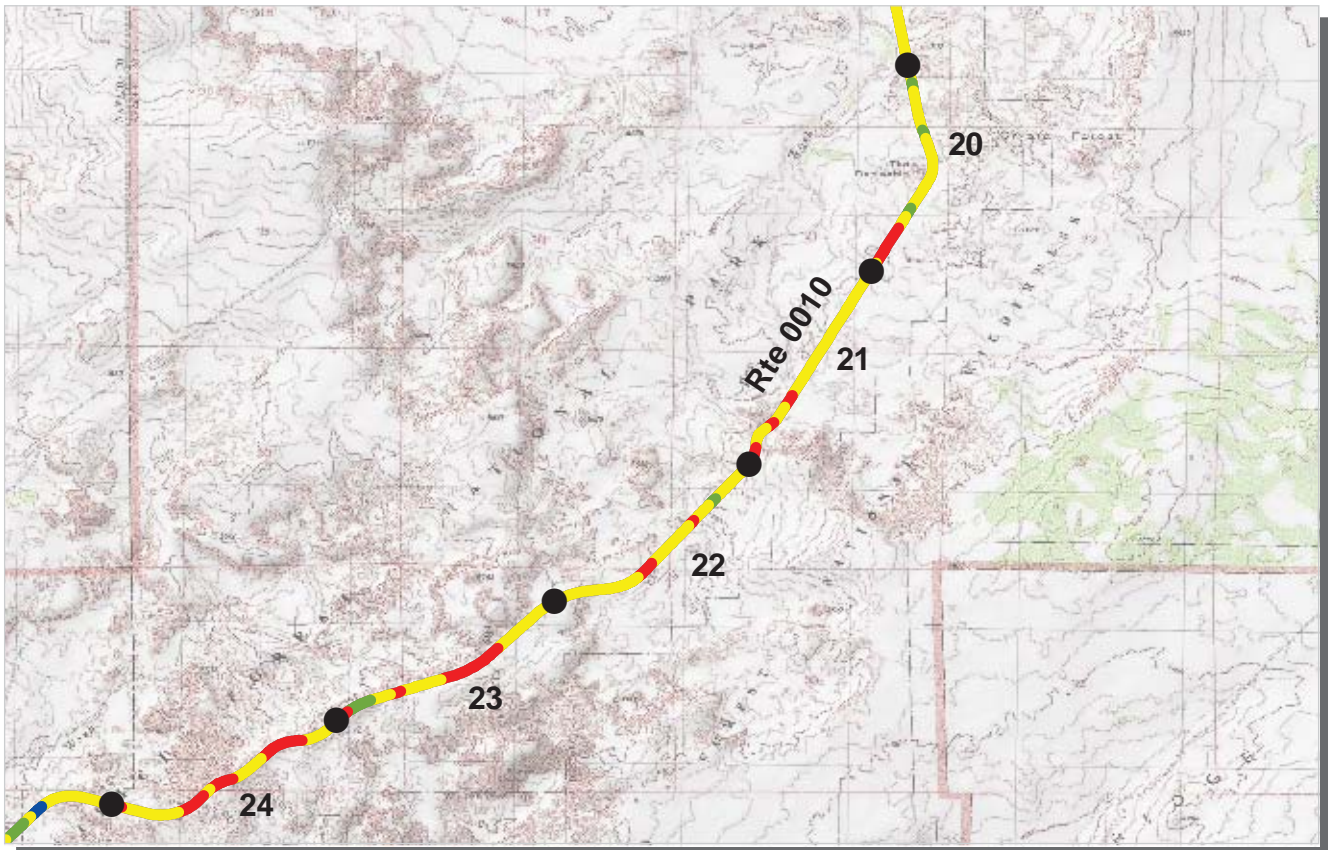
ROUTE: 0010 NORTH-SOUTH HIGHWAY
PEFO : PETRIFIED FOREST NATIONAL PARK

COLLECTED: 9/14/2008
TOTAL LENGTH: 28.48 Miles

INTERMOUNTAIN REGION

Section Number	15	16	17	18	19
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Traffic	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	26	27	30	27	27
Lane Width (ft)	10	10	10	10	10
Shoulder Width Right (ft)	NC	NC	NC	NC	NC
Shoulder Width Left (ft)	NC	NC	NC	NC	NC
Roadway Condition Information					
SCR (Surface Condition Rating)	75	70	67	70	69
PCR (Pavement Condition Rating)	80	80	71	75	73
Distress Index Values					
Alligator Cracking Index	100	100	100	100	100
Longitudinal Cracking Index	99	98	98	97	97
Transverse Cracking Index	99	97	97	97	96
Patching Index	100	100	100	100	100
Rutting Index	77	75	71	77	76
Roughness Condition Index (RCI)	89	95	77	84	80

ROUTE: 0010 NORTH-SOUTH HIGHWAY



PCR Poor ■ Fair ■ Good ■ Excellent ■ No Data ■
 (<=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.

ROUTE: 0010 NORTH-SOUTH HIGHWAY
PEFO : PETRIFIED FOREST NATIONAL PARK

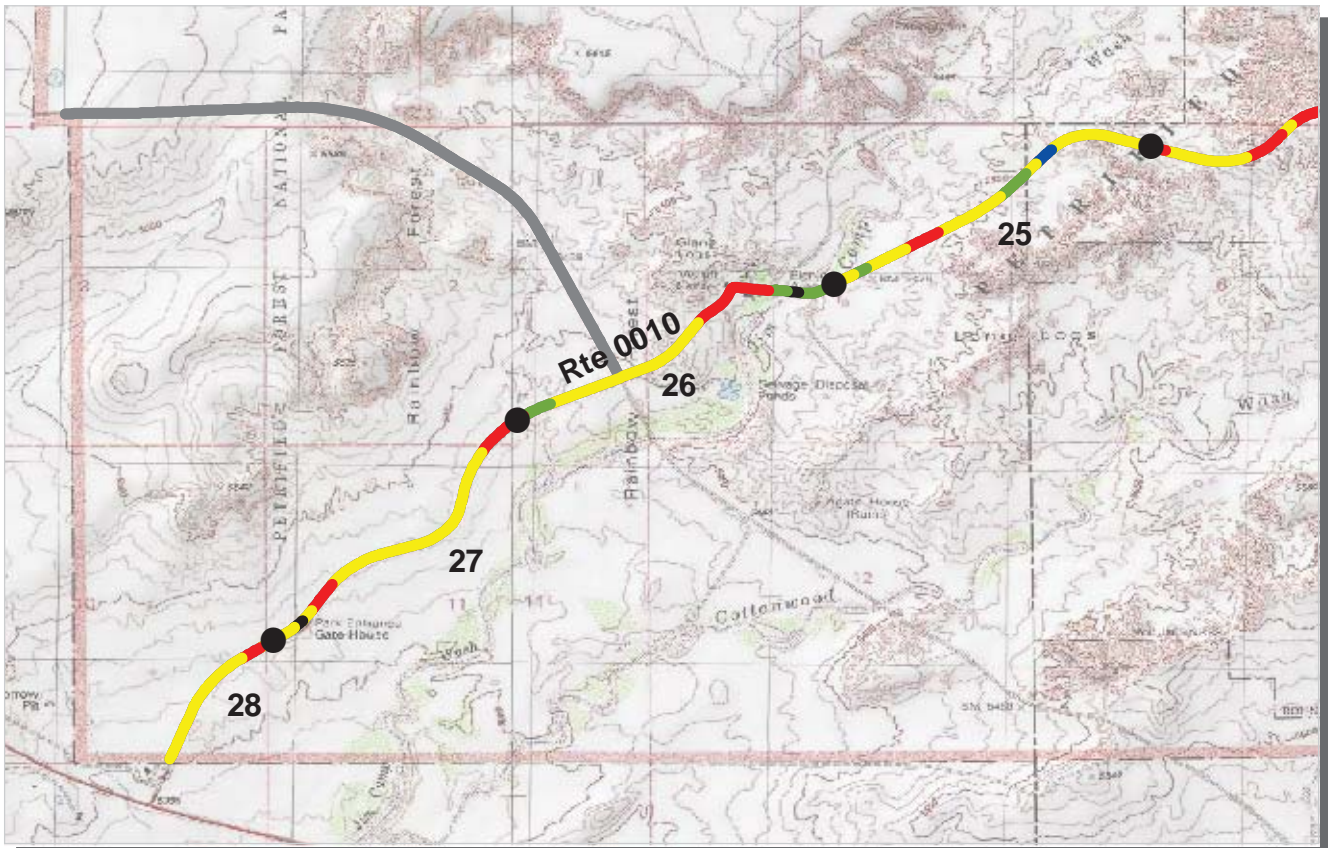
COLLECTED: 9/14/2008
TOTAL LENGTH: 28.48 Miles

INTERMOUNTAIN REGION

Section Number	20	21	22	23	24
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Traffic	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	27	27	26	26	25
Lane Width (ft)	10	9	10	10	10
Shoulder Width Right (ft)	NC	NC	NC	NC	NC
Shoulder Width Left (ft)	NC	NC	NC	NC	NC
Roadway Condition Information					
SCR (Surface Condition Rating)	70	65	72	64	58
PCR (Pavement Condition Rating)	70	68	67	63	59
Distress Index Values					
Alligator Cracking Index	100	100	100	98	98
Longitudinal Cracking Index	97	96	96	94	87
Transverse Cracking Index	97	96	97	92	91
Patching Index	100	95	100	100	93
Rutting Index	76	78	79	80	88
Roughness Condition Index (RCI)	69	73	60	63	62

ROUTE: 0010 NORTH-SOUTH HIGHWAY

NC - Not Collected



PCR Poor (≤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.

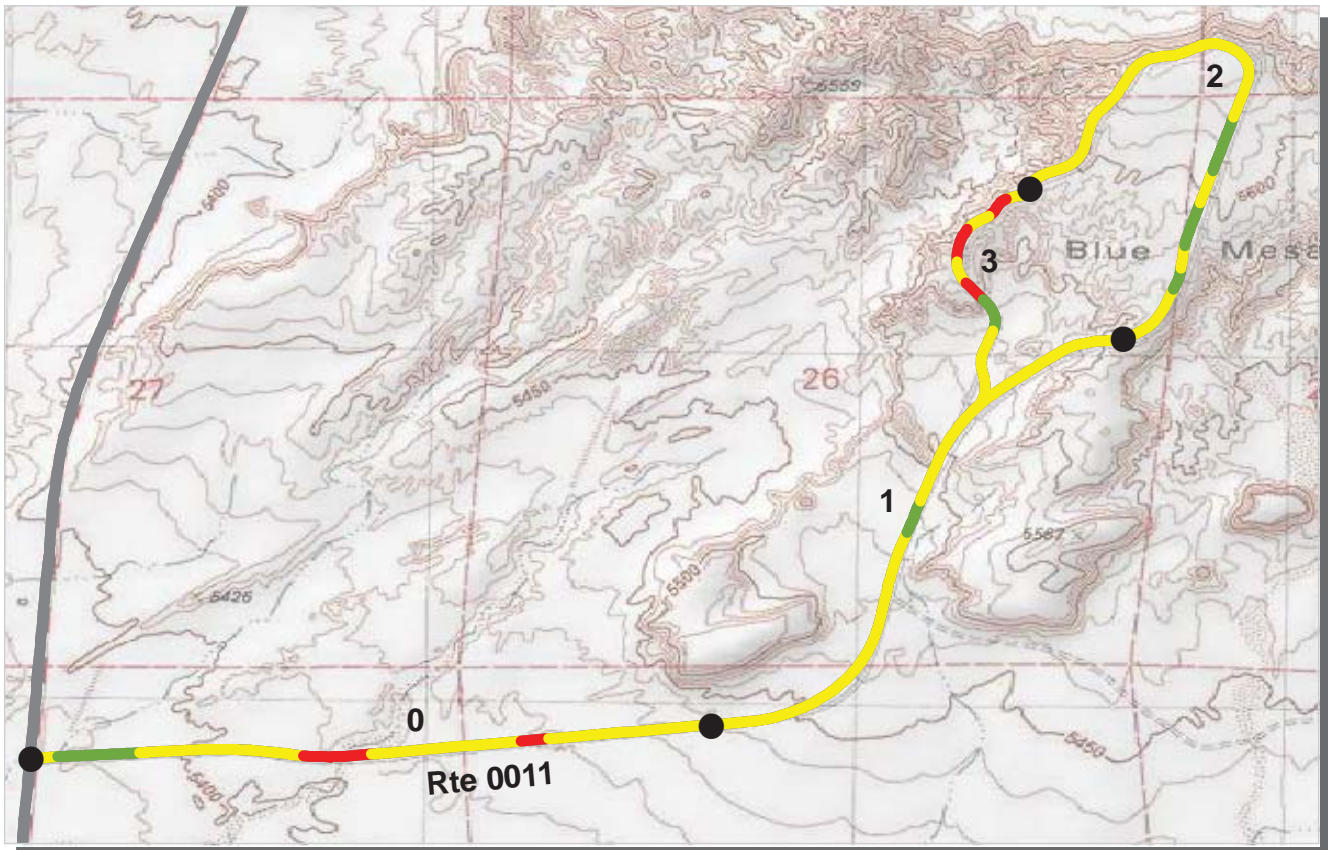
ROUTE: 0010 NORTH-SOUTH HIGHWAY
PEFO : PETRIFIED FOREST NATIONAL PARK

COLLECTED: 9/14/2008
TOTAL LENGTH: 28.48 Miles

INTERMOUNTAIN REGION

Section Number	25	26	27	28	
Section Length (mi)	1.00	1.00	1.00	0.48	
Traffic	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
Cross Section Information					
Number of Lanes	2	2	2	2	
Paved Width (ft)	25	29	29	26	
Lane Width (ft)	10	10	10	10	
Shoulder Width Right (ft)	NC	NC	NC	NC	
Shoulder Width Left (ft)	NC	NC	NC	NC	
Roadway Condition Information					
SCR (Surface Condition Rating)	75	71	66	72	
PCR (Pavement Condition Rating)	73	69	68	64	
Distress Index Values					
Alligator Cracking Index	99	98	100	100	
Longitudinal Cracking Index	98	97	95	96	
Transverse Cracking Index	99	98	98	98	
Patching Index	98	100	100	100	
Rutting Index	82	78	72	78	
Roughness Condition Index (RCI)	71	68	70	51	

ROUTE: 0010 NORTH-SOUTH HIGHWAY



PCR Poor ■ Fair ■ Good ■ Excellent ■ No Data ■
 (<=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.

ROUTE: 0011 BLUE MESA ROAD
PEFO : PETRIFIED FOREST NATIONAL PARK

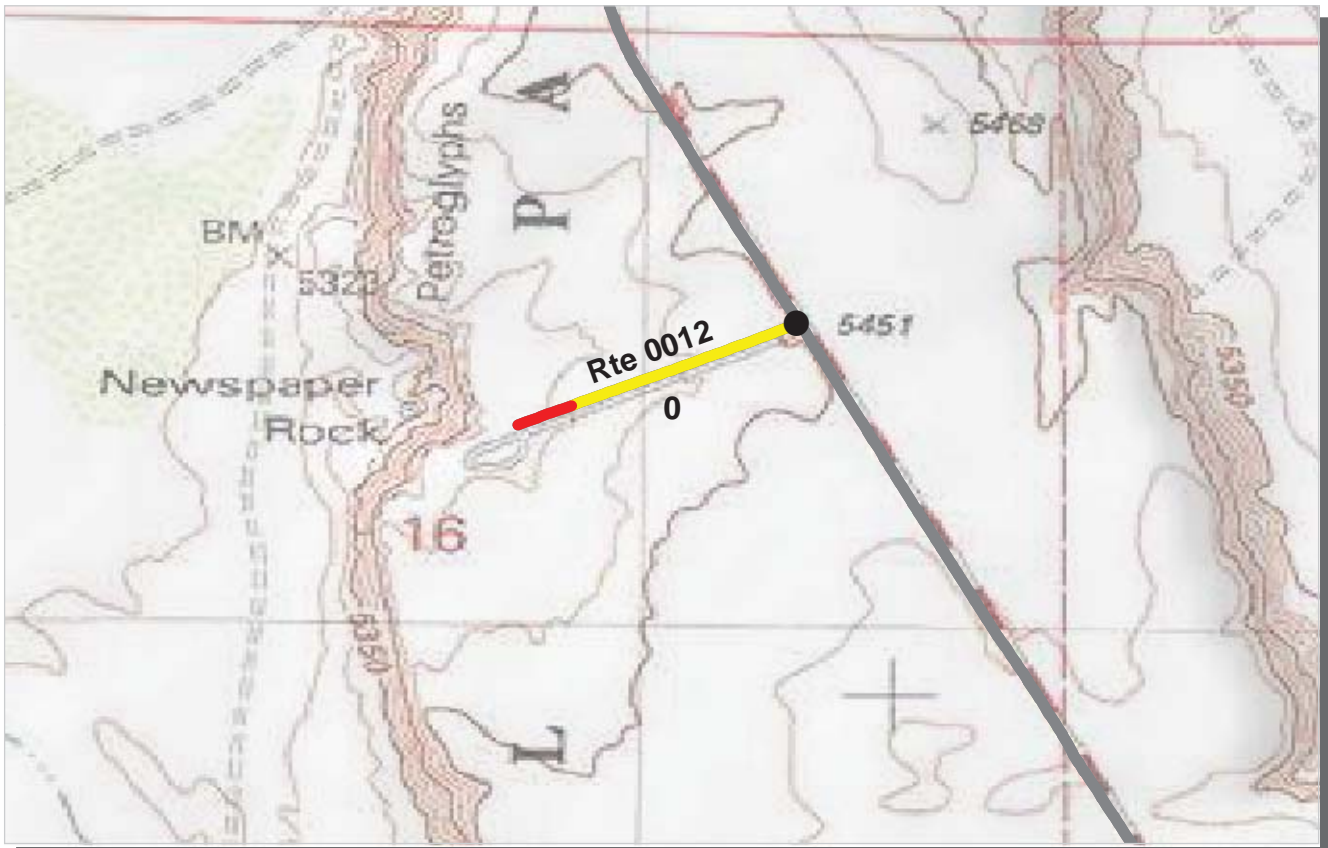
COLLECTED: 9/14/2008
TOTAL LENGTH: 3.45 Miles

INTERMOUNTAIN REGION

Section Number	0	1	2	3	
Section Length (mi)	1.00	1.00	1.00	0.45	
Traffic	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
Cross Section Information					
Number of Lanes	2	2	1	1	
Paved Width (ft)	25	23	15	14	
Lane Width (ft)	10	11	15	14	
Shoulder Width Right (ft)	NC	NC	NC	NC	
Shoulder Width Left (ft)	NC	NC	NC	NC	
Roadway Condition Information					
SCR (Surface Condition Rating)	72	77	77	74	
PCR (Pavement Condition Rating)	73	75	78	66	
Distress Index Values					
Alligator Cracking Index	100	100	100	99	
Longitudinal Cracking Index	98	98	99	98	
Transverse Cracking Index	96	96	97	97	
Patching Index	100	100	100	100	
Rutting Index	79	84	80	81	
Roughness Condition Index (RCI)	74	72	79	56	

ROUTE: 0011 BLUE MESA ROAD

NC - Not Collected



PCR Poor ■ Fair ■ Good ■ Excellent ■ No Data ■
 (<=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.

ROUTE: 0012 NEWSPAPER ROCK ROAD
PEFO : PETRIFIED FOREST NATIONAL PARK

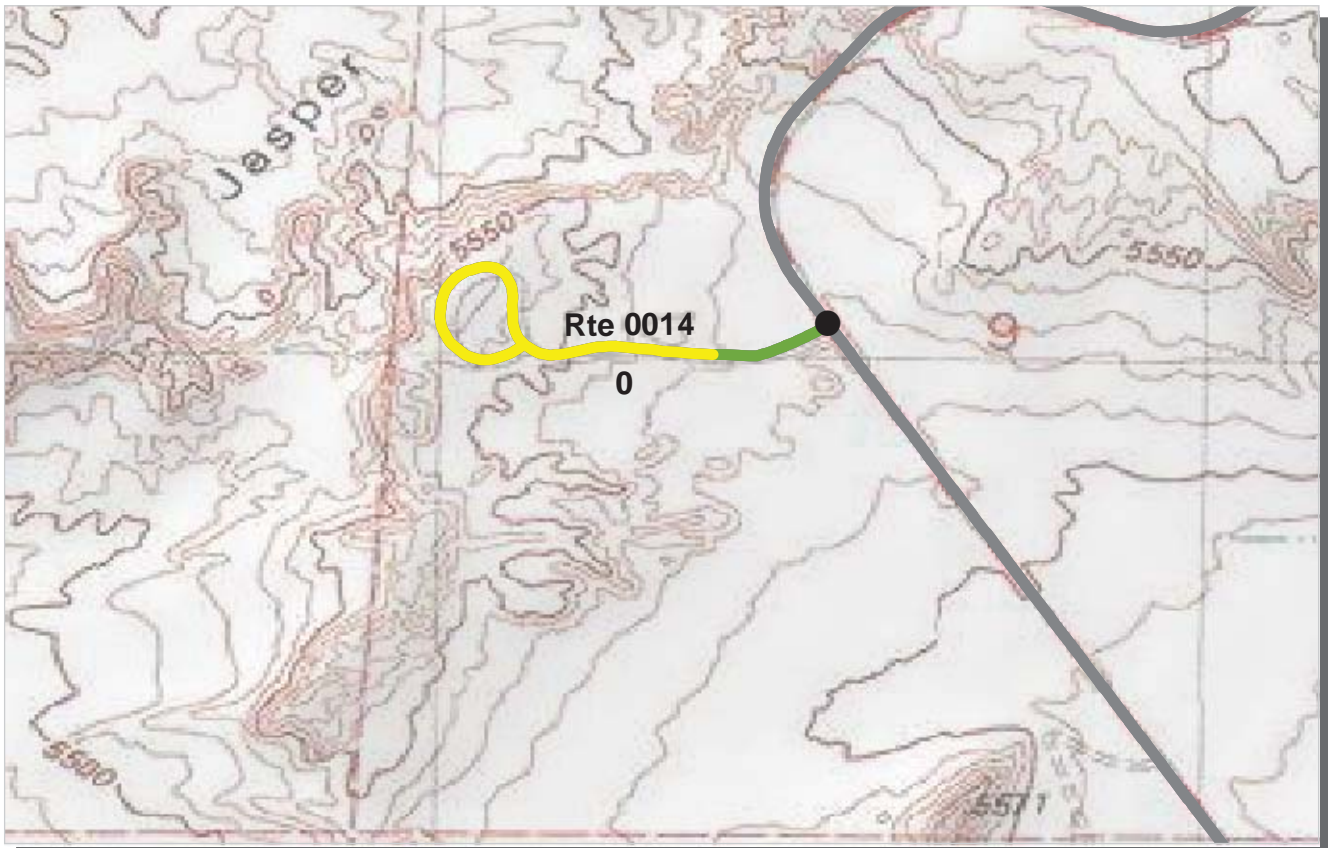
COLLECTED: 9/14/2008
TOTAL LENGTH: 0.25 Miles

INTERMOUNTAIN REGION

Section Number	0				
Section Length (mi)	0.25				
Traffic	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	22				
Lane Width (ft)	9				
Shoulder Width Right (ft)	NC				
Shoulder Width Left (ft)	NC				
Roadway Condition Information					
SCR (Surface Condition Rating)	73				
PCR (Pavement Condition Rating)	69				
Distress Index Values					
Alligator Cracking Index	100				
Longitudinal Cracking Index	97				
Transverse Cracking Index	94				
Patching Index	100				
Rutting Index	82				
Roughness Condition Index (RCI)	60				

ROUTE: 0012 NEWSPAPER ROCK ROAD

NC - Not Collected



PCR Poor ■ Fair ■ Good ■ Excellent ■ No Data ■
 (<=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.

ROUTE: 0014 JASPER FOREST ROAD
PEFO : PETRIFIED FOREST NATIONAL PARK

COLLECTED: 9/14/2008
TOTAL LENGTH: 0.51 Miles

INTERMOUNTAIN REGION

Section Number	0				
Section Length (mi)	0.51				
Traffic	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	19				
Lane Width (ft)	10				
Shoulder Width Right (ft)	NC				
Shoulder Width Left (ft)	NC				
Roadway Condition Information					
SCR (Surface Condition Rating)	79				
PCR (Pavement Condition Rating)	75				
Distress Index Values					
Alligator Cracking Index	100				
Longitudinal Cracking Index	100				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	79				
Roughness Condition Index (RCI)	66				

ROUTE: 0014 JASPER FOREST ROAD



PCR	Poor	Fair	Good	Excellent	No Data
	(≤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.

ROUTE: 0200 CHINDE POINT ACCESS ROAD
PEFO : PETRIFIED FOREST NATIONAL PARK

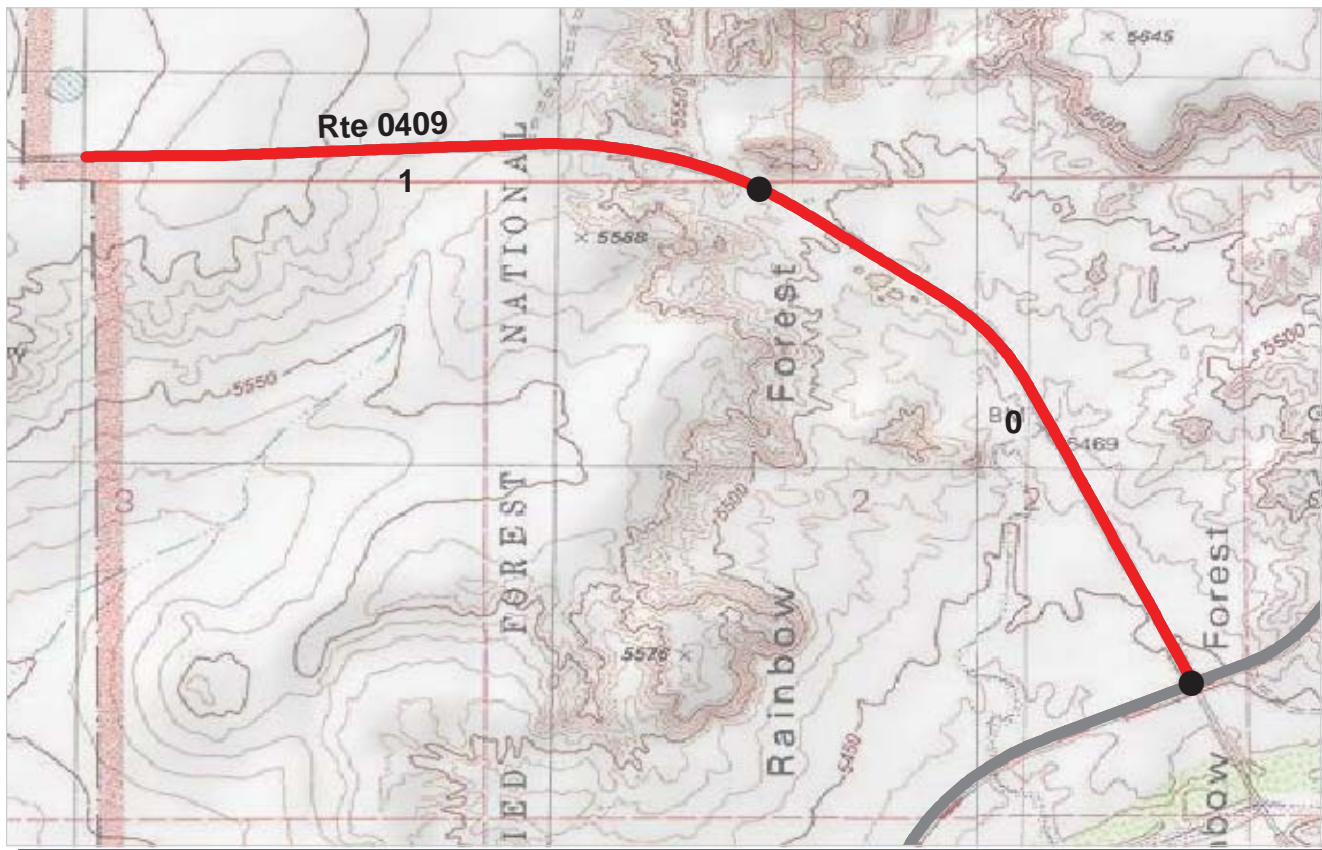
COLLECTED: 9/15/2008
TOTAL LENGTH: 0.34 Miles

INTERMOUNTAIN REGION

Section Number	0				
Section Length (mi)	0.34				
Traffic	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	22				
Lane Width (ft)	11				
Shoulder Width Right (ft)	NC				
Shoulder Width Left (ft)	NC				
Roadway Condition Information					
SCR (Surface Condition Rating)	57				
PCR (Pavement Condition Rating)	67				
Distress Index Values					
Alligator Cracking Index	99				
Longitudinal Cracking Index	96				
Transverse Cracking Index	94				
Patching Index	100				
Rutting Index	67				
Roughness Condition Index (RCI)	90				

ROUTE: 0200 CHINDE POINT ACCESS ROAD

NC - Not Collected



PCR Poor ■ Fair ■ Good ■ Excellent ■ No Data ■
 (<=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.

ROUTE: 0409 OLD ROUTE 180 NORTH
PEFO : PETRIFIED FOREST NATIONAL PARK

COLLECTED: 9/14/2008
TOTAL LENGTH: 1.90 Miles

INTERMOUNTAIN REGION

Section Number	0	1			
Section Length (mi)	1.00	0.90			
Traffic	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
Cross Section Information					
Number of Lanes	2	2			
Paved Width (ft)	20	19			
Lane Width (ft)	10	10			
Shoulder Width Right (ft)	NC	NC			
Shoulder Width Left (ft)	NC	NC			
Roadway Condition Information					
SCR (Surface Condition Rating)	5	25			
PCR (Pavement Condition Rating)	19	31			
Distress Index Values					
Alligator Cracking Index	18	57			
Longitudinal Cracking Index	93	95			
Transverse Cracking Index	96	96			
Patching Index	95	100			
Rutting Index	53	58			
Roughness Condition Index (RCI)	43	40			

ROUTE: 0409 OLD ROUTE 180 NORTH

Petrified Forest National Park



Section 6

Manually Rated Paved Route Condition Rating Sheets (MRR)

PETRIFIED FOREST NATIONAL PARK

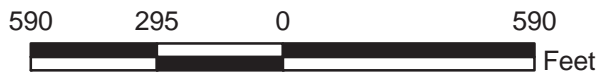
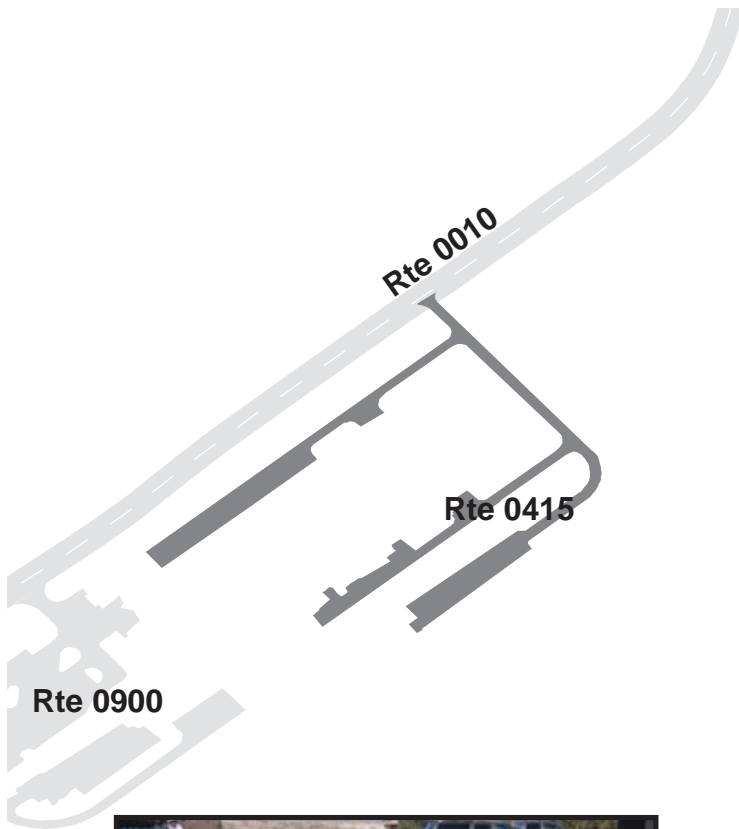
Route 0415

PD RESIDENCE AREA

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 0.64 (ON RIGHT)
TO END

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0415	NONPUBLIC	3/19/2008		81,309	1.40	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	2	0	5	NO CURB AND GUTTER	NO CURB	POOR/45

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

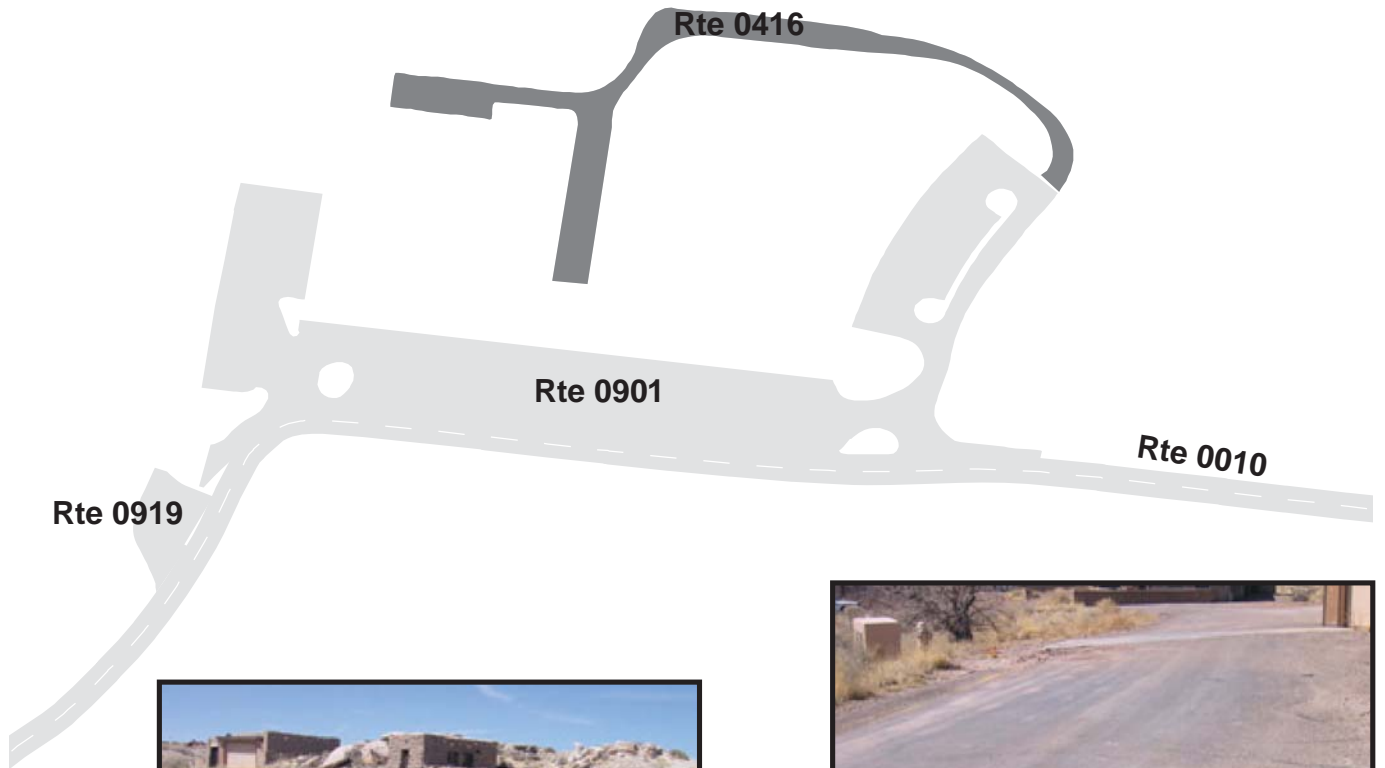
Route 0416

RF RESIDENCE AREA

FROM ROUTE 0901 (RF MUSEUM AND PICNIC PARKING)
TO END

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0416	NONPUBLIC	3/19/2008		19,771	0.34	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	3	NO CURB AND GUTTER	STONE CURB	POOR/45

* Lane miles are based on 11' lane widths



Petrified Forest National Park



Section 7 **Parking Area Condition Rating Sheets**

PETRIFIED FOREST NATIONAL PARK

Route 0900

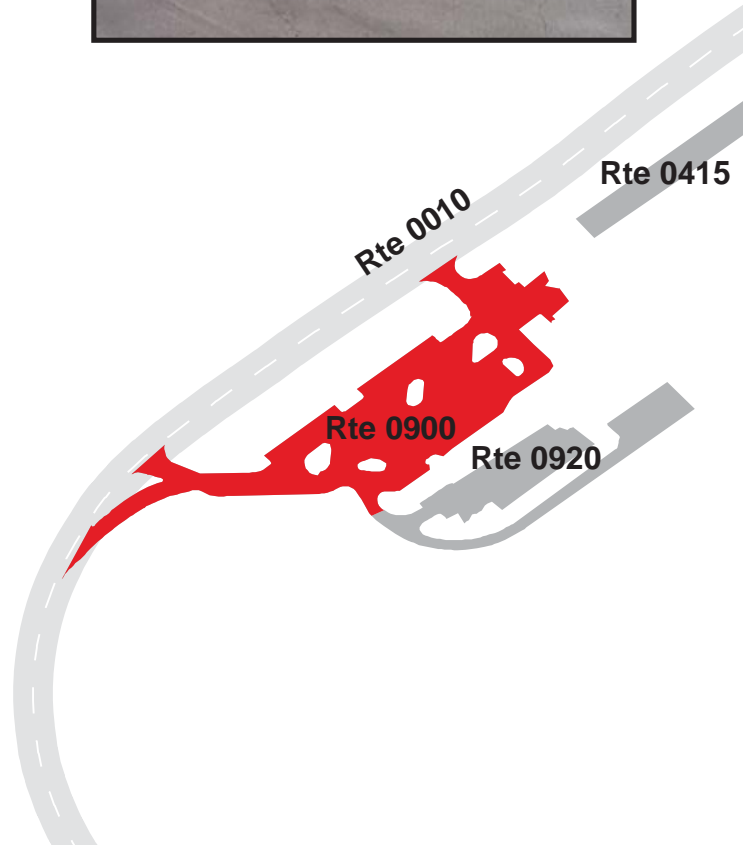
PD VC PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 0.28 (ON RIGHT)

TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 0.44 (ON RIGHT)

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0900	PUBLIC	3/19/2008		105,133	1.81	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	1	CONCRETE CURB AND GUTTER	CONCRETE CURB	FAIR/73

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0901

RF MUSEUM AND PICNIC PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 26.17 (ON RIGHT)

TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 26.27 (ON RIGHT)

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0901	PUBLIC	3/19/2008		83,228	1.43	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	1	NO CURB AND GUTTER	STONE CURB	FAIR/73

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0902

CRYSTAL FOREST PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 20.41 (ON LEFT)

TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 20.47 (ON LEFT)

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0902	PUBLIC	3/19/2008		19,349	0.33	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	0	NO CURB AND GUTTER	STONE CURB	FAIR/73

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0904

AGATE BRIDGE PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 17.97 (ON LEFT)
TO PARKING

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0904	PUBLIC	3/19/2008		26,375	0.45	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	0	CONCRETE CURB AND GUTTER	STONE CURB	FAIR/73

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0905

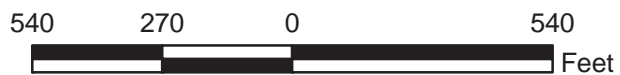
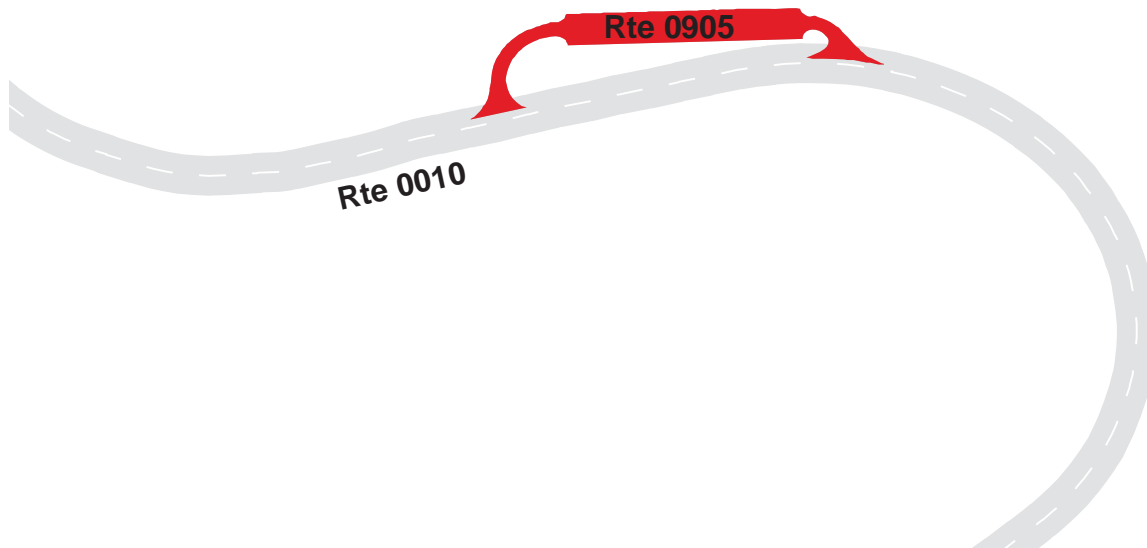
TIPONI POINT PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 0.98 (ON RIGHT)

TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 1.10 (ON RIGHT)

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0905	PUBLIC	3/19/2008		39,014	0.67	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	1	0	0	ASPHALT CURB AND GUTTER	ASPHALT CURB	POOR/45

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0906

TAWA POINT PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 1.86 (ON RIGHT)
TO PARKING

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0906	PUBLIC	3/19/2008		30,335	0.52	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	1	0	0	ASPHALT CURB AND GUTTER	ASPHALT CURB	POOR/45

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0907

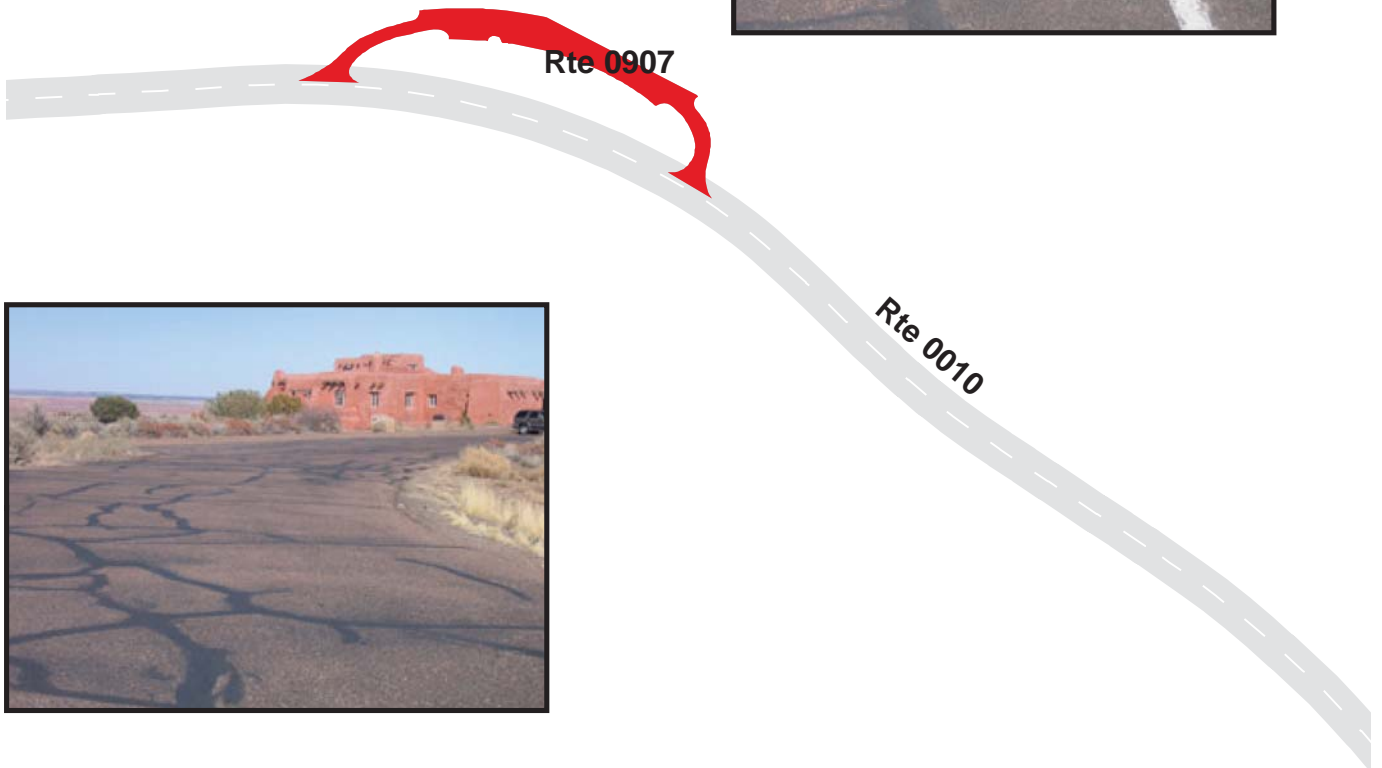
KACHINA POINT PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 2.20 (ON RIGHT)

TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 2.32 (ON RIGHT)

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0907	PUBLIC	3/19/2008		38,324	0.66	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	1	ASPHALT CURB AND GUTTER	ASPHALT CURB	POOR/45

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

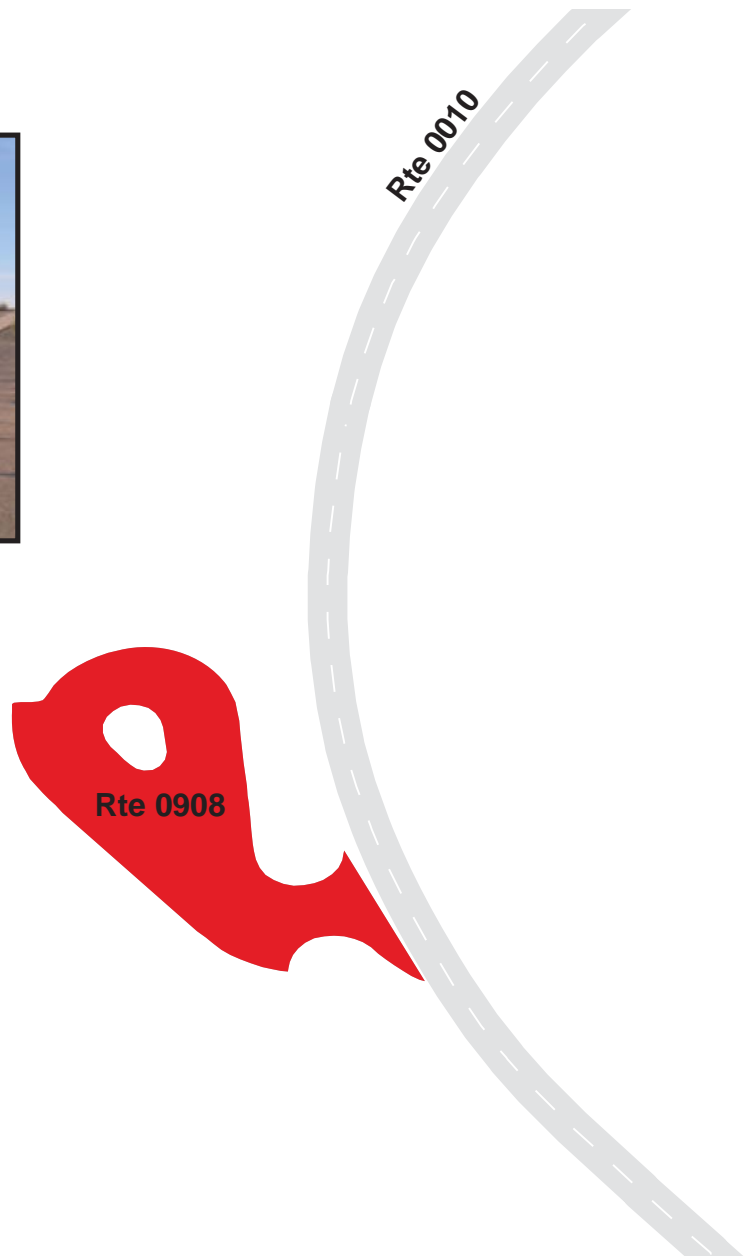
Route 0908

PINTADO POINT PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 3.06 (ON RIGHT)
TO PARKING

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0908	PUBLIC	3/19/2008		16,846	0.29	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	0	ASPHALT CURB AND GUTTER	ASPHALT CURB	POOR/45

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0909

NIZHONI POINT PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 4.22 (ON RIGHT)

TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 4.30 (ON RIGHT)

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0909	PUBLIC	3/19/2008		23,123	0.40	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	1	0	0	ASPHALT CURB AND GUTTER	ASPHALT CURB	POOR/45

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0910

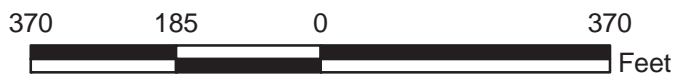
WHIPPLE POINT PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 4.43 (ON RIGHT)

TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 4.52 (ON RIGHT)

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0910	PUBLIC	3/19/2008		20,464	0.35	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	0	ASPHALT CURB AND GUTTER	ASPHALT CURB	POOR/45

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0911

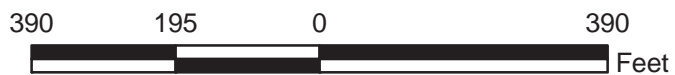
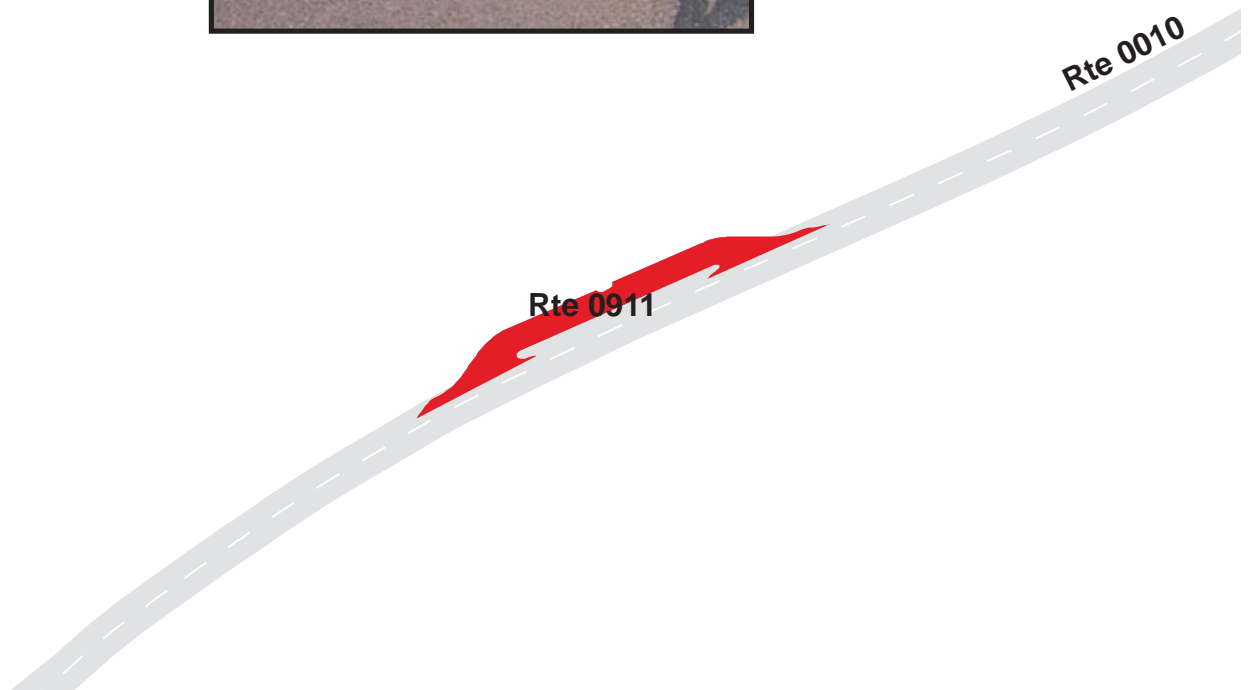
LACEY POINT PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 4.84 (ON RIGHT)

TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 4.91 (ON RIGHT)

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0911	PUBLIC	3/19/2008		14,638	0.25	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	0	ASPHALT CURB AND GUTTER	ASPHALT CURB	FAIR/73

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0912

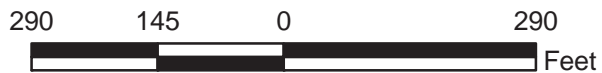
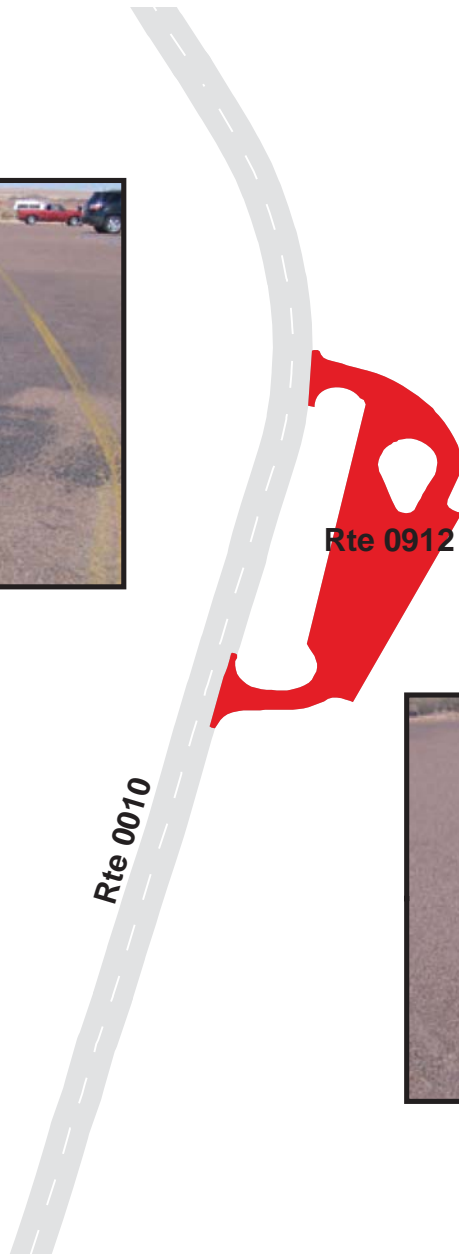
PUERCO PUEBLO PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 11.07 (ON LEFT)

TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 11.14 (ON LEFT)

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0912	PUBLIC	3/19/2008		32,434	0.56	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	2	0	0	NO CURB AND GUTTER	STONE CURB	FAIR/73

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0913

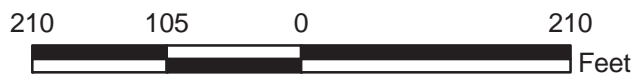
NORTH ENTRANCE PARKING

FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 0.04 (ON RIGHT)

TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 0.06 (ON RIGHT)

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0913	PUBLIC	9/14/2008		26,277	0.45	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
1	0	0	0	CONCRETE CURB AND GUTTER	CONCRETE CURB	FAIR/73

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

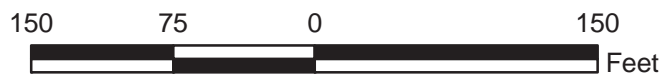
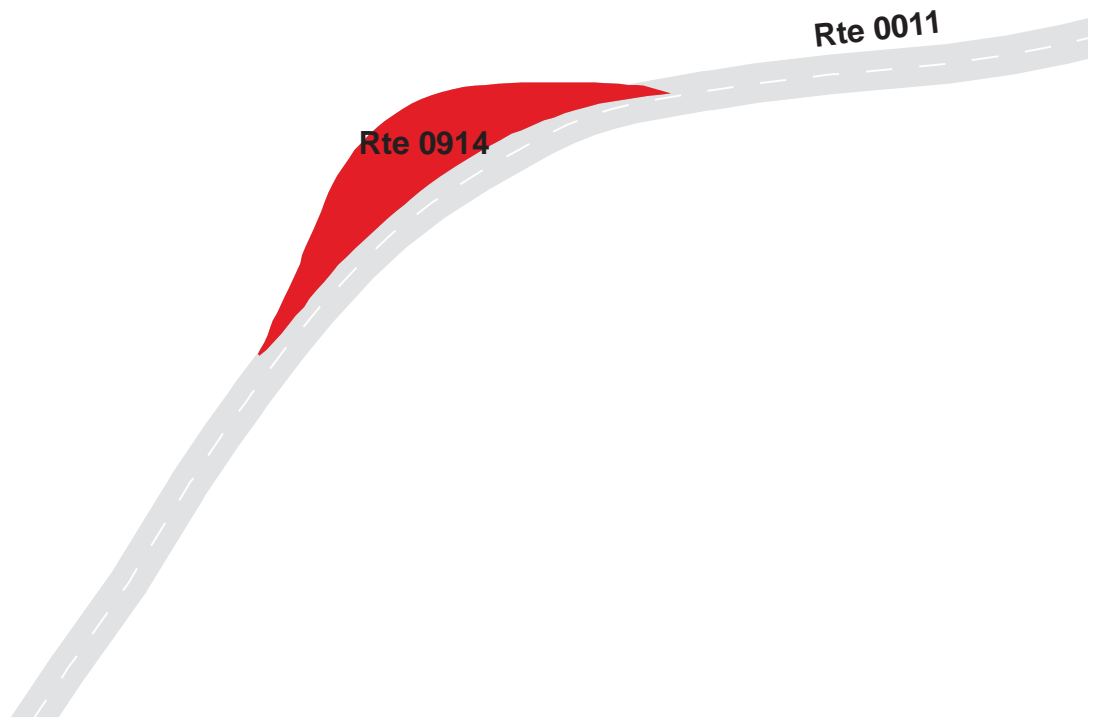
Route 0914

BLUE MESA LOOP TRAIL PARKING

ADJACENT TO ROUTE 0011 (BLUE MESA ROAD) AT MP 2.71 (ON RIGHT)
TO PARKING

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0914	PUBLIC	3/19/2008		5,126	0.09	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	0	NO CURB AND GUTTER	ASPHALT CURB	FAIR/73

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

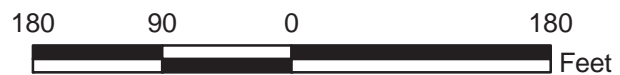
Route 0915

OVERLOOK PARKING

ADJACENT TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 1.70 (ON RIGHT)
TO PARKING

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0915	PUBLIC	3/19/2008		7,315	0.13	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	0	ASPHALT CURB AND GUTTER	ASPHALT CURB	POOR/45

* Lane miles are based on 11' lane widths



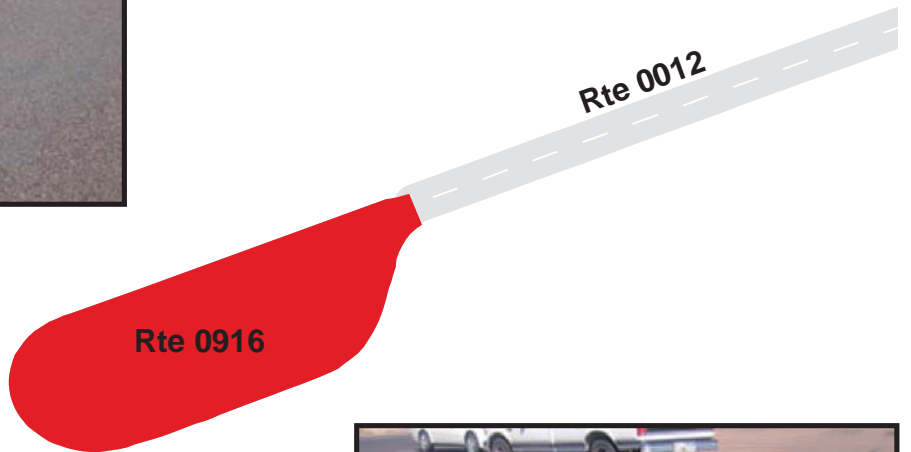
PETRIFIED FOREST NATIONAL PARK

Route 0916

NEWSPAPER ROCK PARKING
 FROM ROUTE 0012 (NEWSPAPER ROCK ROAD) AT END
 TO PARKING

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0916	PUBLIC	3/19/2008		24,368	0.42	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	0	NO CURB AND GUTTER	STONE CURB	FAIR/73

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0917ZZ

JASPER FOREST PARKING AREAS

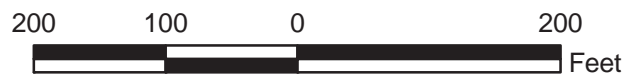
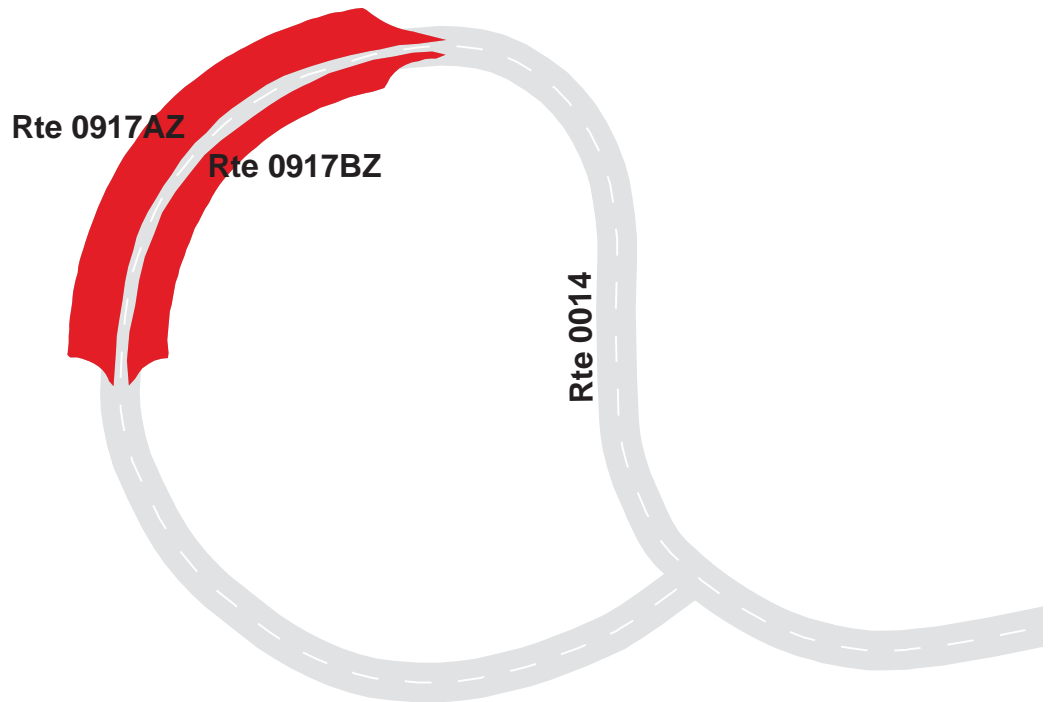
ADJACENT TO ROUTE 0014 (JASPER FOREST ROAD) AT MP 0.38 (ON RIGHT & LEFT)

TO PARKING

Summary Record

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0917ZZ	PUBLIC	3/19/2008		17,744	0.31	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	1	0	0	CONCRETE CURB AND GUTTER	CONCRETE CURB	SUMMARY/79.3

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0917AZ

JASPER FOREST PARKING AREA A

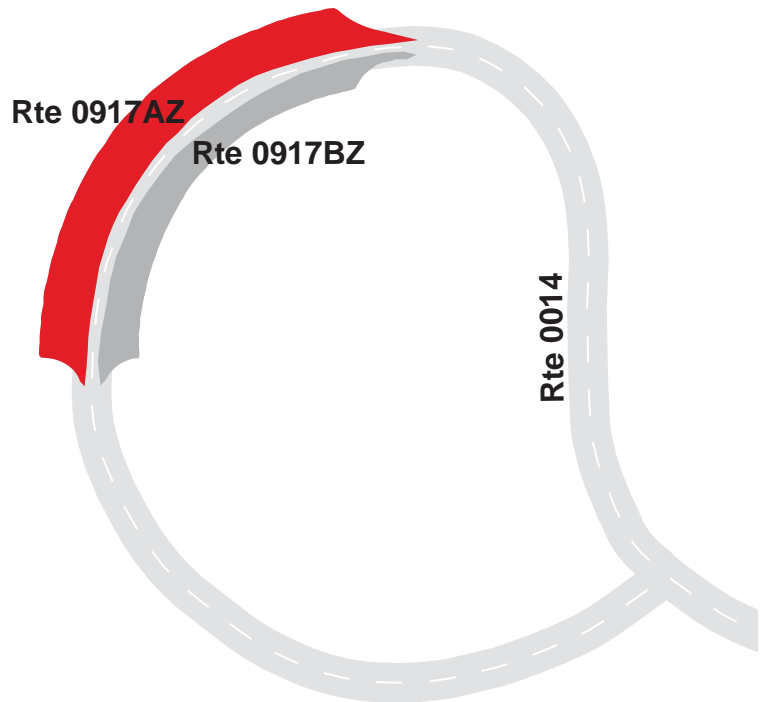
ADJACENT TO ROUTE 0014 (JASPER FOREST ROAD) AT MP 0.39 (ON RIGHT)

TO PARKING

Subcomponent Record

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0917AZ	PUBLIC	3/19/2008		11,173	0.19	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	0	CONCRETE CURB AND GUTTER	CONCRETE CURB	FAIR/73

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0917BZ

JASPER FOREST PARKING AREA B

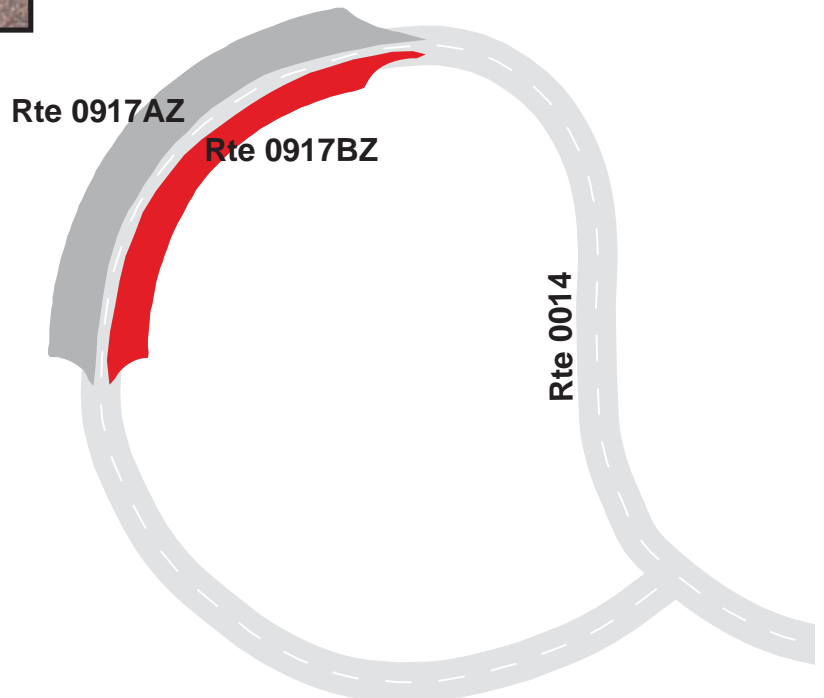
ADJACENT TO ROUTE 0014 (JASPER FOREST ROAD) AT MP 0.38 (ON LEFT)

TO PARKING

Subcomponent Record

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0917BZ	PUBLIC	3/19/2008		6,571	0.11	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	1	0	0	CONCRETE CURB AND GUTTER	CONCRETE CURB	GOOD/90

* Lane miles are based on 11' lane widths



PETRIFIED FOREST NATIONAL PARK

Route 0919

SOUTH AREA RANGER PARKING

ADJACENT TO ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 26.30 (ON RIGHT)
TO PARKING

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0919	PUBLIC	3/19/2008		4,522	0.08	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	0	0	1	NO CURB AND GUTTER	NO CURB	FAIR/73

* Lane miles are based on 11' lane widths



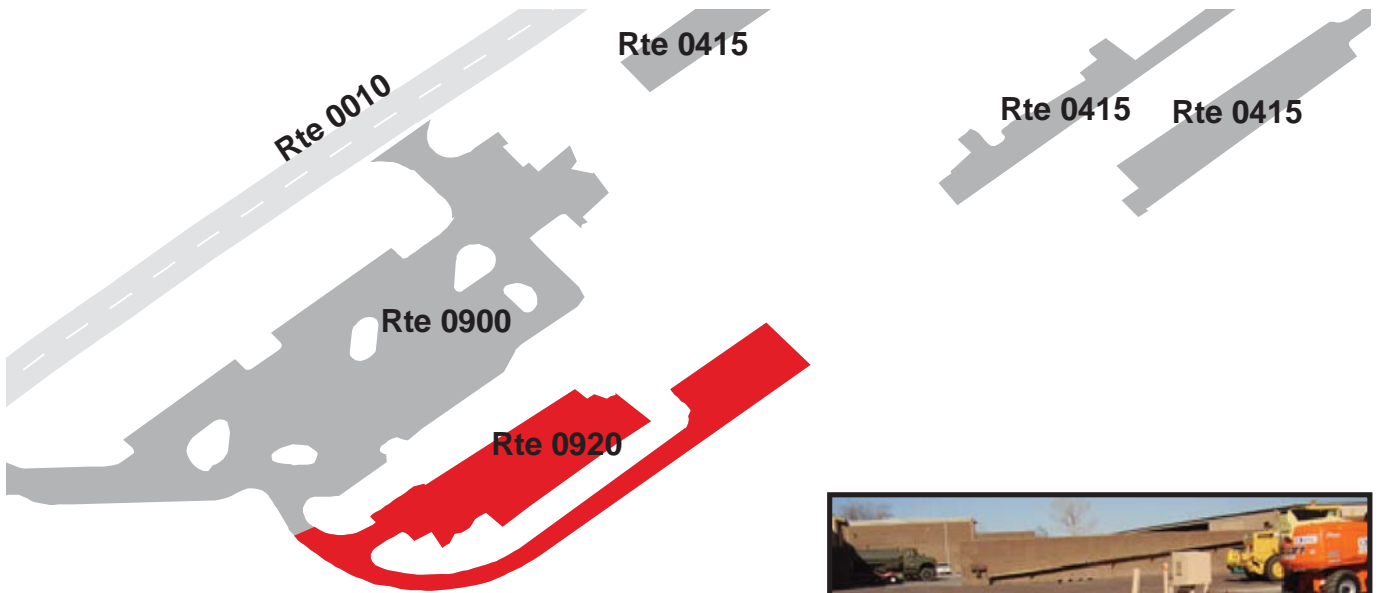
PETRIFIED FOREST NATIONAL PARK

Route 0920

PD MAINTENANCE AND ADMINISTRATION AREA PARKING
 FROM ROUTE 0900 (PD VC PARKING)
 TO PARKING

Route Number	Public / NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0920	PUBLIC	3/19/2008		41,829	0.72	AS
Culverts	Drop Inlets	Gates	Fire Hydrants	Curb & Gutter	Curb	PCR
0	2	0	2	NO CURB AND GUTTER	CONCRETE CURB	POOR/45

* Lane miles are based on 11' lane widths



Petrified Forest National Park



Section 8 **Parkwide / Route Maintenance** **Features Summaries**

PEFO: PARKWIDE MAINTENANCE FEATURES SUMMARY

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 4, therefore the culvert and drop inlet count below includes those on ARAN-driven routes, Manually Rated Routes and in Paved Parking Areas.

FEATURE	LINEAR FEET	COUNT
BARRIER	10,982	--
BOLLARD	0	--
BRIDGE	--	9
CABLE	0	--
CATTLE GUARD	--	0
CULVERT	--	117
CURB	26,242	--
DROP INLET	--	44
FIRE HYDRANT	--	15
GATE	--	8
GUARD/GUIDE RAIL	9,879	--
GUARD/GUIDE WALL	1,104	--
INTERSECTION	--	78
LOW WATER CROSSING	0	0
MILE MARKER	--	57
OVERPASS	--	0
OVERHEAD SIGN	--	0
PARK BOUNDARY	--	1
PAVED DITCH	0	--
PULLOUT	--	8
RAILROAD CROSSING	--	0
RETAINING WALL	--	0
SIGN	--	214
STATE BOUNDARY	--	0
TEMPORARY BARRIER	0	--
TRAFFIC LIGHT	--	0
TUNNEL	--	0
TURNOUT	0	--

PEFO: ROUTE MAINTENANCE FEATURES SUMMARY

FEATURE	ROUTE 0010 NORTH-SOUTH HIGHWAY	ROUTE 0011 BLUE MESA ROAD	ROUTE 0012 NEWSPAPER ROCK ROAD	ROUTE 0014 JASPER FOREST ROAD	ROUTE 0200 CHINDE POINT ACCESS ROAD	ROUTE 0409 OLD ROUTE 180 NORTH	UNIT
BARRIER	10,740	243	0	0	0	0	LINEAR FEET
BOLLARD	0	0	0	0	0	0	LINEAR FEET
BRIDGE	9	0	0	0	0	0	EACH
CABLE	0	0	0	0	0	0	LINEAR FEET
CATTLE GUARD	0	0	0	0	0	0	EACH
CULVERT	103	7	1	1	1	3	EACH
CURB	24,299	1,932	11	0	0	0	LINEAR FEET
DROP INLET	29	1	0	0	4	0	EACH
FIRE HYDRANT	1	0	0	0	0	0	EACH
GATE	5	1	0	0	0	2	EACH
GUARD/GUIDE RAIL	9,879	0	0	0	0	0	LINEAR FEET
GUARD/GUIDE WALL	861	243	0	0	0	0	LINEAR FEET
INTERSECTION	51	7	3	7	4	6	EACH
LOW WATER CROSSING	0	0	0	0	0	0	EACH
LOW WATER CROSSING	0	0	0	0	0	0	LINEAR FEET
MILE MARKER	57	0	0	0	0	0	EACH
OVERHEAD SIGN	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	0	0	0	0	0	0	LINEAR FEET
PULLOUT	4	4	0	0	0	0	EACH
RAILROAD CROSSING	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	0	0	EACH
SIGN	187	16	1	7	2	1	EACH
STATE BOUNDARY	0	0	0	0	0	0	EACH
TEMPORARY BARRIER	0	0	0	0	0	0	LINEAR FEET
TRAFFIC LIGHT	0	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	EACH
TURNOUT	0	0	0	0	0	0	LINEAR FEET

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 4, therefore the culvert and drop inlet count above includes those on ARAN-driven routes, Manually Rated Routes and in Paved Parking Areas.

PEFO: STRUCTURE LIST

ROUTE NUMBER	FUNCTIONAL CLASS	MILEPOST START	MILEPOST END	FEATURE	STRUCTURE NUMBER
0010	1	10.518	10.551	BRIDGE	8430-003
0010	1	10.915	11.013	BRIDGE	8430-002
0010	1	15.964	15.975	BRIDGE	8430-009
0010	1	16.539	16.558	BRIDGE	8430-008
0010	1	19.439	19.452	BRIDGE	8430-007
0010	1	22.33	22.339	BRIDGE	8430-006
0010	1	26.095	26.13	BRIDGE	8430-005
0010	1	26.982	26.999	BRIDGE	8430-001

Petrified Forest National Park



Section 9

Park Route Maintenance Features

Road Logs

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM I-40 PAINTED DESERT ENTRANCE
0.000	0.000	INTERSECTION	N/A	PAVED ROUTE (I-40 BRIDGE)
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (I-40 WESTBOUND OFF RAMP)
0.000	0.000	SIGN	LEFT	REGULATORY, GRAPHIC SIGN, NO TEXT
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (I-40 WESTBOUND ENTRANCE RAMP)
0.001	0.001	SIGN	LEFT	REGULATORY, GRAPHIC SIGN, NO TEXT
0.001	0.001	SIGN	LEFT	REGULATORY, ONE WAY
0.019	0.019	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
0.036	0.036	INTERSECTION	RIGHT	ROUTE 0913 (NORTH ENTRANCE PARKING)
0.041	0.041	SIGN	RIGHT	GUIDE, ALBUQUERQUE FLAGSTAFF
0.052	0.052	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.064	0.064	INTERSECTION	RIGHT	ROUTE 0913 (NORTH ENTRANCE PARKING)
0.072	0.072	SIGN	RIGHT	GUIDE, PETRIFIED FOREST NATIONAL PARK
0.079	0.079	SIGN	RIGHT	GUIDE, PARK OPENS 7:00AM PARK CLOSES 6:00PM
0.080	0.080	GATE	N/A	
0.080	0.080	SIGN	N/A	GUIDE, UNABLE TO READ FROM VIDEO
0.080	0.080	SIGN	N/A	REGULATORY, UNABLE TO READ FROM VIDEO
0.081	0.081	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT
0.081	0.081	SIGN	N/A	REGULATORY, APPROACH GATE SLOWLY TO OPEN
0.081	0.081	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT
0.116	0.116	SIGN	RIGHT	GUIDE, GALLUP HOLBROOK
0.124	0.124	MILE MARKER	LEFT	
0.124	0.124	MILE MARKER	RIGHT	
0.124	0.141	CURB	RIGHT	
0.135	0.135	SIGN	RIGHT	GUIDE, GRAPHIC SIGN, NO TEXT
0.152	0.154	CURB	RIGHT	
0.239	0.239	SIGN	RIGHT	GUIDE, ENTRANCE STATION VISITOR CENTER HEADQUARTERS
0.259	0.259	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
0.259	0.259	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
0.284	0.284	INTERSECTION	RIGHT	ROUTE 0900 (PD VC PARKING)
0.297	0.323	CURB	RIGHT	
0.327	0.327	INTERSECTION	RIGHT	ROUTE 0900 (PD VC PARKING)
0.407	0.407	SIGN	RIGHT	GUIDE, VISITOR CENTER

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.439	0.439	INTERSECTION	RIGHT	ROUTE 0900 (PD VC PARKING)
0.444	0.444	SIGN	RIGHT	GUIDE, VISITOR CENTER
0.477	0.493	CURB	LEFT	
0.478	0.489	CURB	N/A	
0.479	0.479	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT
0.479	0.479	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT
0.479	0.479	SIGN	RIGHT	GUIDE, RIGHT LANE EMPLOYEES ONLY
0.479	0.490	CURB	RIGHT	
0.479	0.479	SIGN	N/A	GUIDE, PARK CLOSED DO NOT ENTER
0.479	0.479	GATE	N/A	
0.479	0.479	SIGN	N/A	GUIDE, U.S. FEE AREA
0.480	0.492	CURB	LEFT	
0.481	0.481	SIGN	LEFT	GUIDE, PETRIFIED FOREST NATIONAL PARK ENTRANCE FEES
0.481	0.481	SIGN	LEFT	GUIDE, WAIT FOR RANGER
0.481	0.481	SIGN	RIGHT	REGULATORY, STOP
0.489	0.489	SIGN	N/A	REGULATORY, STOP
0.489	0.489	SIGN	N/A	WARNING, PED XING
0.490	0.494	CURB	N/A	
0.492	0.492	SIGN	LEFT	GUIDE, COMMERCIAL TOUR BUS FEES VEHICLE CAPACITY FEE 1-6 PERSONS/SEDAN \$25+ 7-16 PERSONS/VAN \$50 16-25 PERS
0.556	0.556	SIGN	RIGHT	GUIDE, BUCKLE UP FASTEN SEAT BELT ITS THE LAW
0.613	0.613	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
0.635	0.635	INTERSECTION	RIGHT	ROUTE 0415 (PD RESIDENCE AREA)
0.721	0.721	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
0.721	0.721	SIGN	RIGHT	REGULATORY, SPEED RADAR CONTROLLED
0.780	0.780	SIGN	RIGHT	GUIDE, REMOVAL OF PETRIFIED WOOD IS PROHIBITED
0.809	0.809	SIGN	RIGHT	GUIDE, VEHICLE INSPECTION AHEAD
0.893	0.893	INTERSECTION	RIGHT	ROUTE 0400 (OLD ROUTE 66)
0.947	0.947	SIGN	RIGHT	GUIDE, TIPONI POINT
0.982	0.982	INTERSECTION	RIGHT	ROUTE 0905 (TIPONI POINT PARKING)
1.097	1.097	INTERSECTION	RIGHT	ROUTE 0905 (TIPONI POINT PARKING)
1.111	1.111	GATE	N/A	
1.111	1.111	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
1.111	1.111	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT
1.111	1.111	SIGN	N/A	REGULATORY, ROAD CLOSED
1.126	1.126	MILE MARKER	LEFT	
1.126	1.126	MILE MARKER	RIGHT	
1.139	1.139	SIGN	RIGHT	GUIDE, TIPONI POINT
1.140	1.140	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
1.211	1.317	CURB	RIGHT	
1.584	1.584	CULVERT	N/A	
1.595	1.595	SIGN	RIGHT	WARNING, 30 M.P.H.
1.595	1.595	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
1.695	1.695	INTERSECTION	RIGHT	ROUTE 0915 (OVERLOOK PARKING)
1.766	1.766	SIGN	RIGHT	WARNING, 30 M.P.H.
1.766	1.766	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
1.827	1.827	SIGN	RIGHT	GUIDE, TAWA POINT
1.864	1.864	INTERSECTION	RIGHT	ROUTE 0906 (TAWA POINT PARKING)
1.908	1.908	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
1.909	1.909	SIGN	RIGHT	GUIDE, TAWA POINT
2.000	2.000	CULVERT	N/A	
2.124	2.124	MILE MARKER	LEFT	
2.124	2.124	MILE MARKER	RIGHT	
2.166	2.166	SIGN	RIGHT	GUIDE, KACHINA POINT PAINTED DESERT INN NATIONAL HISTORIC LANDMARK
2.202	2.202	INTERSECTION	RIGHT	ROUTE 0907 (KACHINA POINT PARKING)
2.216	2.216	INTERSECTION	LEFT	UNPAVED ROUTE
2.324	2.324	INTERSECTION	RIGHT	ROUTE 0907 (KACHINA POINT PARKING)
2.363	2.363	SIGN	RIGHT	GUIDE, KACHINA POINT PAINTED DESERT INN NATIONAL HISTORIC LANDMARK
2.414	2.414	SIGN	RIGHT	GUIDE, CHINDE POINT
2.458	2.458	INTERSECTION	RIGHT	ROUTE 0200 (CHINDE POINT ACCESS ROAD)
2.470	2.470	SIGN	N/A	REGULATORY, ROAD CLOSED
2.470	2.470	SIGN	N/A	WARNING, GRAPHIC SIGN, NO TEXT
2.470	2.470	SIGN	N/A	WARNING, GRAPHIC SIGN, NO TEXT
2.470	2.470	SIGN	N/A	REGULATORY, STOP
2.470	2.470	GATE	N/A	

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
2.470	2.470	SIGN	N/A	WARNING, GRAPHIC SIGN, NO TEXT
2.510	2.510	SIGN	RIGHT	GUIDE, CHINDE POINT
2.510	2.510	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
2.687	2.687	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
2.687	2.687	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
2.825	2.866	CURB	LEFT	
2.903	3.197	CURB	LEFT	
2.934	2.934	DROP INLET	LEFT	
2.969	2.969	SIGN	RIGHT	GUIDE, PINTADO POINT
2.991	2.991	SIGN	RIGHT	WARNING, SLOW
3.042	3.042	DROP INLET	LEFT	
3.048	3.052	CURB	RIGHT	
3.057	3.057	INTERSECTION	RIGHT	ROUTE 0908 (PINTADO POINT PARKING)
3.099	3.099	DROP INLET	LEFT	
3.126	3.126	MILE MARKER	LEFT	
3.126	3.126	MILE MARKER	RIGHT	
3.148	3.148	SIGN	RIGHT	GUIDE, PINTADO POINT
3.160	3.160	DROP INLET	LEFT	
3.174	3.174	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
3.195	3.195	SIGN	RIGHT	WARNING, SLOW
3.203	3.203	INTERSECTION	LEFT	UNPAVED ROUTE
3.211	3.301	CURB	LEFT	
3.302	3.302	CULVERT	N/A	
3.322	3.385	CURB	LEFT	
3.860	3.860	CULVERT	N/A	
3.979	3.979	INTERSECTION	LEFT	UNPAVED ROUTE
4.115	4.115	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
4.117	4.117	SIGN	RIGHT	WARNING, SLOW
4.130	4.130	MILE MARKER	RIGHT	
4.131	4.131	MILE MARKER	LEFT	
4.143	4.157	CURB	RIGHT	
4.199	4.199	SIGN	RIGHT	GUIDE, NIZHONI POINT
4.205	4.215	CURB-AND-GUTTER	RIGHT	
4.215	4.215	INTERSECTION	RIGHT	ROUTE 0909 (NIZHONI POINT PARKING)

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
4.230	4.232	CURB-AND-GUTTER	RIGHT	
4.296	4.296	INTERSECTION	RIGHT	ROUTE 0909 (NIZHONI POINT PARKING)
4.337	4.337	SIGN	RIGHT	GUIDE, NIZHONI POINT
4.393	4.393	SIGN	RIGHT	GUIDE, WHIPPLE POINT
4.430	4.430	INTERSECTION	RIGHT	ROUTE 0910 (WHIPPLE POINT PARKING)
4.444	4.446	CURB	RIGHT	
4.511	4.513	CURB	RIGHT	
4.524	4.524	INTERSECTION	RIGHT	ROUTE 0910 (WHIPPLE POINT PARKING)
4.546	4.546	DROP INLET	RIGHT	
4.575	4.575	SIGN	RIGHT	GUIDE, WHIPPLE POINT
4.710	4.710	SIGN	RIGHT	WARNING, SLOW
4.805	4.805	SIGN	RIGHT	GUIDE, LACEY POINT
4.837	4.843	CURB	RIGHT	
4.843	4.843	INTERSECTION	RIGHT	ROUTE 0911 (LACEY POINT PARKING)
4.858	4.859	CURB-AND-GUTTER	RIGHT	
4.913	4.913	INTERSECTION	RIGHT	ROUTE 0911 (LACEY POINT PARKING)
4.959	4.959	SIGN	RIGHT	GUIDE, LACEY POINT
5.019	5.019	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
5.021	5.021	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
5.106	5.106	SIGN	RIGHT	REGULATORY, REDUCED SPEED AHEAD
5.130	5.130	MILE MARKER	RIGHT	
5.131	5.131	MILE MARKER	LEFT	
5.599	5.599	INTERSECTION	RIGHT	UNPAVED ROUTE
5.711	5.711	SIGN	RIGHT	GUIDE, RAINBOW FOREST EXIT 22 MILES
5.735	5.735	SIGN	RIGHT	REGULATORY, HISTORIC ARIZONA US 66 ROUTE
5.776	5.784	GUARD/GUIDE WALL	RIGHT	
5.802	5.802	INTERSECTION	RIGHT	PAVED PARKING (HISTORIC ROUTE 66 INFORMATION/ NON NPS PARKING)
5.882	5.882	SIGN	RIGHT	REGULATORY, HISTORIC ARIZONA US 66 ROUTE
5.907	6.050	GUARD/GUIDE RAIL	RIGHT	
5.917	6.051	GUARD/GUIDE RAIL	LEFT	
5.924	5.940	CURB	RIGHT	
5.926	6.050	CURB	LEFT	
6.050	6.099	GUARD/GUIDE RAIL	RIGHT	

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
6.051	6.099	BRIDGE	N/A	
6.051	6.101	GUARD/GUIDE RAIL	LEFT	
6.099	6.195	GUARD/GUIDE RAIL	RIGHT	
6.101	6.211	CURB	RIGHT	
6.101	6.199	GUARD/GUIDE RAIL	LEFT	
6.129	6.129	MILE MARKER	RIGHT	
6.129	6.129	MILE MARKER	LEFT	
6.464	6.464	SIGN	RIGHT	GUIDE, I-40 ACCESS 6 MILES AHEAD
6.853	6.853	SIGN	RIGHT	REGULATORY, SPEED ENFORCED BY RADAR
6.853	6.853	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
7.131	7.131	MILE MARKER	LEFT	
7.131	7.131	MILE MARKER	RIGHT	
7.696	7.696	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
7.696	7.696	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
8.132	8.132	MILE MARKER	LEFT	
8.132	8.132	MILE MARKER	RIGHT	
8.170	8.170	INTERSECTION	LEFT	UNPAVED ROUTE
9.135	9.135	MILE MARKER	LEFT	
9.135	9.135	MILE MARKER	RIGHT	
9.943	9.943	SIGN	RIGHT	REGULATORY, SPEED ENFORCED BY RADAR
9.943	9.943	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
10.053	10.053	CULVERT	N/A	
10.137	10.137	MILE MARKER	LEFT	
10.137	10.137	MILE MARKER	RIGHT	
10.421	10.517	GUARD/GUIDE RAIL	RIGHT	
10.427	10.517	GUARD/GUIDE RAIL	LEFT	
10.430	10.516	CURB	LEFT	
10.452	10.452	DROP INLET	LEFT	
10.513	10.513	SIGN	RIGHT	GUIDE, SANTA FE RAILROAD
10.517	10.552	GUARD/GUIDE RAIL	RIGHT	
10.517	10.553	GUARD/GUIDE RAIL	LEFT	
10.518	10.551	BRIDGE	N/A	8430-003 (SANTA FE RAILROAD OVERPASS)
10.552	10.711	GUARD/GUIDE RAIL	RIGHT	
10.553	10.714	CURB	LEFT	

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
10.553	10.718	GUARD/GUIDE RAIL	LEFT	
10.557	10.557	SIGN	RIGHT	GUIDE, SANTA FE RAILROAD
10.623	10.623	DROP INLET	LEFT	
10.714	10.714	DROP INLET	LEFT	
10.758	10.758	INTERSECTION	RIGHT	UNPAVED ROUTE (RAILROAD ACCESS)
10.852	10.852	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
10.853	10.853	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
10.893	10.913	GUARD/GUIDE RAIL	RIGHT	
10.899	10.914	GUARD/GUIDE RAIL	LEFT	
10.910	10.910	SIGN	RIGHT	GUIDE, PUERCO RIVER
10.912	10.912	DROP INLET	RIGHT	
10.913	11.015	GUARD/GUIDE RAIL	RIGHT	
10.913	10.913	DROP INLET	LEFT	
10.914	11.016	GUARD/GUIDE RAIL	LEFT	
10.915	11.013	BRIDGE	N/A	8430-002 (PUERCO RIVER BRIDGE)
11.015	11.029	GUARD/GUIDE RAIL	RIGHT	
11.016	11.034	GUARD/GUIDE RAIL	LEFT	
11.019	11.019	SIGN	RIGHT	GUIDE, PUERCO RIVER
11.034	11.034	SIGN	RIGHT	GUIDE, EMERGENCY PHONE AHEAD
11.034	11.034	SIGN	RIGHT	GUIDE, PUERCO PUEBLO
11.039	11.039	SIGN	RIGHT	GUIDE, AUTHORIZED VEHICLES ONLY
11.042	11.042	INTERSECTION	RIGHT	UNPAVED ROUTE
11.052	11.052	DROP INLET	RIGHT	
11.052	11.081	CURB	RIGHT	
11.066	11.067	CURB	LEFT	
11.068	11.068	INTERSECTION	LEFT	ROUTE 0912 (PUERCO PUEBLO PARKING)
11.074	11.074	DROP INLET	RIGHT	
11.074	11.077	CURB	LEFT	
11.133	11.138	CURB	LEFT	
11.142	11.142	MILE MARKER	LEFT	
11.142	11.142	MILE MARKER	RIGHT	
11.143	11.143	INTERSECTION	LEFT	ROUTE 0912 (PUERCO PUEBLO PARKING)
11.146	11.150	CURB	LEFT	
11.262	11.262	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
11.263	11.263	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
11.834	11.834	CULVERT	N/A	
11.992	11.992	SIGN	RIGHT	GUIDE, NEWSPAPER ROCK
11.994	11.994	CULVERT	N/A	
12.033	12.033	CULVERT	N/A	
12.046	12.046	INTERSECTION	RIGHT	ROUTE 0012 (NEWSPAPER ROCK ROAD)
12.060	12.060	CULVERT	N/A	
12.111	12.111	SIGN	RIGHT	GUIDE, NEWSPAPER ROCK
12.113	12.113	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
12.145	12.145	MILE MARKER	RIGHT	
12.146	12.146	MILE MARKER	LEFT	
12.319	12.319	CULVERT	N/A	
12.394	12.394	CULVERT	N/A	
12.612	12.612	CULVERT	N/A	
12.724	12.724	CULVERT	N/A	
12.814	13.071	CURB	LEFT	
12.846	12.846	CULVERT	N/A	
12.974	12.974	CULVERT	N/A	
13.060	13.060	CULVERT	N/A	
13.122	13.122	CULVERT	N/A	
13.149	13.149	MILE MARKER	RIGHT	
13.149	13.149	MILE MARKER	LEFT	
13.210	13.210	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
13.210	13.210	SIGN	RIGHT	WARNING, 30 M.P.H.
13.211	13.211	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
13.230	13.230	CULVERT	N/A	
13.438	13.497	CURB	LEFT	
13.443	13.443	CULVERT	N/A	
13.496	13.496	DROP INLET	LEFT	
13.502	13.573	CURB	RIGHT	
13.553	13.553	CULVERT	N/A	
13.571	13.571	DROP INLET	RIGHT	
13.663	13.695	CURB	RIGHT	
13.696	13.730	CURB	RIGHT	

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
13.704	13.704	CULVERT	N/A	
13.730	13.801	CURB	RIGHT	
13.750	13.750	CULVERT	N/A	
13.780	13.780	CULVERT	N/A	
13.880	13.880	CULVERT	N/A	
13.940	13.940	SIGN	RIGHT	WARNING, 30 M.P.H.
13.940	13.940	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
14.012	14.012	CULVERT	N/A	
14.084	14.084	CULVERT	N/A	
14.085	14.126	GUARD/GUIDE WALL	RIGHT	
14.087	14.154	PULLOUT	RIGHT	
14.152	14.156	GUARD/GUIDE WALL	RIGHT	
14.153	14.153	CULVERT	N/A	
14.163	14.163	SIGN	RIGHT	GUIDE, TEPEES
14.172	14.172	MILE MARKER	RIGHT	
14.173	14.173	MILE MARKER	LEFT	
14.204	14.217	GUARD/GUIDE WALL	LEFT	
14.211	14.269	PULLOUT	LEFT	
14.269	14.269	CULVERT	N/A	
14.304	14.304	CULVERT	N/A	
14.353	14.353	SIGN	RIGHT	GUIDE, TEPEES
14.365	14.365	CULVERT	N/A	
14.400	14.400	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
14.543	14.543	CULVERT	N/A	
14.593	14.593	CULVERT	N/A	
14.702	14.702	CULVERT	N/A	
14.704	14.704	CULVERT	N/A	
14.892	14.892	CULVERT	N/A	
14.894	14.894	CULVERT	N/A	
14.987	14.987	CULVERT	N/A	
15.091	15.091	CULVERT	N/A	
15.157	15.157	MILE MARKER	LEFT	
15.157	15.157	MILE MARKER	RIGHT	
15.176	15.176	CULVERT	N/A	

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
15.224	15.224	CULVERT	N/A	
15.291	15.291	CULVERT	N/A	
15.484	15.484	CULVERT	N/A	
15.659	15.659	INTERSECTION	RIGHT	UNPAVED ROUTE
15.698	15.698	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
15.708	15.708	CULVERT	N/A	
15.751	15.751	SIGN	RIGHT	GUIDE, BLUE MESA 3 1/2 MILES
15.751	15.751	SIGN	RIGHT	GUIDE, EMERGENCY PHONE AHEAD
15.778	15.800	GUARD/GUIDE WALL	LEFT	
15.800	15.800	CULVERT	N/A	
15.802	15.802	CULVERT	N/A	
15.804	15.804	CULVERT	N/A	
15.810	15.810	INTERSECTION	LEFT	ROUTE 0011 (BLUE MESA ROAD)
15.870	15.870	SIGN	RIGHT	GUIDE, BLUE MESA 3 1/2 MILES
15.870	15.870	SIGN	RIGHT	GUIDE, EMERGENCY PHONE AHEAD
15.920	15.920	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
15.950	15.985	GUARD/GUIDE RAIL	RIGHT	
15.955	15.989	GUARD/GUIDE RAIL	LEFT	
15.961	15.961	SIGN	RIGHT	GUIDE, EAST FORK DRY WASH
15.964	15.975	BRIDGE	N/A	8430-009 (EAST FORK DRY WASH BRIDGE)
15.980	15.980	SIGN	RIGHT	GUIDE, EAST FORK, DRY WASH
16.161	16.161	MILE MARKER	RIGHT	
16.458	16.458	CULVERT	N/A	
16.525	16.568	GUARD/GUIDE RAIL	RIGHT	
16.529	16.572	GUARD/GUIDE RAIL	LEFT	
16.534	16.534	SIGN	RIGHT	GUIDE, DRY WASH
16.539	16.558	BRIDGE	N/A	8430-008 (DRY WASH BRIDGE)
16.563	16.563	SIGN	RIGHT	GUIDE, DRY WASH
16.703	16.703	INTERSECTION	RIGHT	UNPAVED ROUTE
16.707	16.707	CULVERT	N/A	
16.841	16.841	CULVERT	N/A	
16.842	16.842	CULVERT	N/A	
17.017	17.017	CULVERT	N/A	
17.159	17.159	CULVERT	N/A	

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
17.165	17.165	MILE MARKER	LEFT	
17.165	17.165	MILE MARKER	RIGHT	
17.434	17.434	CULVERT	N/A	
17.456	17.456	SIGN	RIGHT	WARNING, 35 M.P.H.
17.456	17.456	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
17.546	17.669	CURB	RIGHT	
17.681	17.729	CURB	RIGHT	
17.729	17.729	DROP INLET	LEFT	
17.750	17.750	CULVERT	N/A	
17.750	17.783	CURB	LEFT	
17.784	17.861	CURB	RIGHT	
17.864	17.864	CULVERT	N/A	
17.923	17.923	CULVERT	N/A	
17.936	17.936	SIGN	RIGHT	GUIDE, AGATE BRIDGE
17.973	17.973	INTERSECTION	LEFT	ROUTE 0904 (AGATE BRIDGE PARKING)
17.979	17.979	INTERSECTION	RIGHT	UNPAVED ROUTE
18.012	18.012	SIGN	RIGHT	GUIDE, AGATE BRIDGE
18.170	18.170	MILE MARKER	LEFT	
18.170	18.170	MILE MARKER	RIGHT	
18.185	18.185	SIGN	RIGHT	WARNING, 35 M.P.H.
18.185	18.185	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
18.192	18.319	CURB	LEFT	
18.248	18.248	CULVERT	N/A	
18.372	18.372	CULVERT	N/A	
18.544	18.544	CULVERT	N/A	
18.608	18.608	DROP INLET	LEFT	
18.618	18.618	SIGN	RIGHT	GUIDE, JASPER FOREST 1/2 MILE
18.664	18.664	CULVERT	N/A	
18.669	18.669	INTERSECTION	RIGHT	ROUTE 0014 (JASPER FOREST ROAD)
18.714	18.714	SIGN	RIGHT	GUIDE, JASPER FOREST 1/2 MILE
18.723	18.723	CULVERT	N/A	
18.769	18.769	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
18.827	18.827	CULVERT	N/A	
18.980	18.980	CULVERT	N/A	

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
19.158	19.158	CULVERT	N/A	
19.160	19.160	CULVERT	N/A	
19.165	19.165	INTERSECTION	RIGHT	ROUTE 0406 (SOUTH PIPELINE ROAD)
19.170	19.170	MILE MARKER	RIGHT	
19.170	19.170	MILE MARKER	LEFT	
19.264	19.343	CURB	RIGHT	
19.322	19.322	CULVERT	N/A	
19.340	19.340	DROP INLET	RIGHT	
19.425	19.460	GUARD/GUIDE RAIL	RIGHT	
19.431	19.466	GUARD/GUIDE RAIL	LEFT	
19.439	19.452	BRIDGE	N/A	8430-007 (CRYSTAL FOREST BRIDGE)
19.456	19.456	SIGN	RIGHT	GUIDE, DRY WASH
19.840	19.840	CULVERT	N/A	
19.843	19.843	CULVERT	N/A	
19.844	19.844	CULVERT	N/A	
19.966	19.966	CULVERT	N/A	
20.137	20.137	CULVERT	N/A	
20.176	20.176	MILE MARKER	RIGHT	
20.177	20.177	MILE MARKER	LEFT	
20.230	20.230	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
20.231	20.231	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
20.240	20.240	CULVERT	N/A	
20.242	20.242	CULVERT	N/A	
20.379	20.379	SIGN	RIGHT	GUIDE, CRYSTAL FOREST
20.379	20.379	SIGN	RIGHT	GUIDE, EMERGENCY PHONE AHEAD
20.390	20.415	CURB	LEFT	
20.413	20.413	INTERSECTION	LEFT	ROUTE 0902 (CRYSTAL FOREST PARKING)
20.419	20.462	CURB	LEFT	
20.467	20.467	INTERSECTION	LEFT	ROUTE 0902 (CRYSTAL FOREST PARKING)
20.473	20.475	CURB	LEFT	
20.475	20.475	CULVERT	N/A	
20.484	20.484	DROP INLET	RIGHT	
20.484	20.550	CURB	RIGHT	
20.504	20.504	SIGN	RIGHT	GUIDE, CRYSTAL FOREST

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
20.504	20.504	SIGN	RIGHT	GUIDE, EMERGENCY PHONE AHEAD
20.565	20.565	CULVERT	N/A	
20.612	20.612	CULVERT	N/A	
20.648	20.648	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
20.649	20.649	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
20.664	20.664	CULVERT	N/A	
20.666	20.666	CULVERT	N/A	
20.748	20.748	CULVERT	N/A	
20.750	20.750	CULVERT	N/A	
20.752	20.752	CULVERT	N/A	
20.849	20.849	CULVERT	N/A	
20.959	20.959	CULVERT	N/A	
20.987	20.987	CULVERT	N/A	
20.989	20.989	CULVERT	N/A	
21.183	21.183	MILE MARKER	LEFT	
21.183	21.183	MILE MARKER	RIGHT	
21.277	21.277	CULVERT	N/A	
21.322	21.322	CULVERT	N/A	
21.464	21.464	CULVERT	N/A	
21.496	21.496	CULVERT	N/A	
21.630	21.630	CULVERT	N/A	
21.632	21.632	CULVERT	N/A	
21.634	21.634	CULVERT	N/A	
21.693	21.693	SIGN	RIGHT	WARNING, 35 M.P.H.
21.693	21.693	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
21.729	21.752	CURB	RIGHT	
21.899	21.899	CULVERT	N/A	
21.984	22.032	CURB	RIGHT	
22.021	22.081	CURB	LEFT	
22.075	22.075	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
22.075	22.075	SIGN	RIGHT	WARNING, 35 M.P.H.
22.123	22.123	CULVERT	N/A	
22.187	22.187	MILE MARKER	RIGHT	
22.187	22.187	MILE MARKER	LEFT	

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
22.315	22.356	GUARD/GUIDE RAIL	LEFT	
22.318	22.358	GUARD/GUIDE RAIL	RIGHT	
22.327	22.327	SIGN	RIGHT	GUIDE, DRY WASH
22.330	22.339	BRIDGE	N/A	8430-006 (FLATTOPS BRIDGE)
22.330	22.343	CURB	LEFT	
22.330	22.343	CURB	RIGHT	
22.347	22.347	SIGN	RIGHT	GUIDE, DRY WASH
22.356	22.390	CURB	RIGHT	
22.397	22.397	CULVERT	N/A	
22.594	22.670	CURB	RIGHT	
22.612	22.657	CURB	LEFT	
22.860	22.936	CURB	LEFT	
22.943	22.943	CULVERT	N/A	
22.953	23.012	CURB	LEFT	
23.193	23.193	MILE MARKER	RIGHT	
23.194	23.194	MILE MARKER	LEFT	
23.204	23.204	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
23.205	23.205	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
23.335	23.335	CULVERT	N/A	
23.336	23.441	CURB	RIGHT	
23.760	23.760	CULVERT	N/A	
23.837	23.966	CURB	LEFT	
23.967	24.011	CURB	LEFT	
24.011	24.011	DROP INLET	LEFT	
24.058	24.099	CURB	RIGHT	
24.136	24.163	CURB	RIGHT	
24.162	24.162	DROP INLET	RIGHT	
24.196	24.196	MILE MARKER	RIGHT	
24.196	24.196	MILE MARKER	LEFT	
24.209	24.272	CURB	LEFT	
24.215	24.215	DROP INLET	LEFT	
24.218	24.287	CURB	RIGHT	
24.218	24.289	PULLOUT	RIGHT	
24.237	24.237	DROP INLET	LEFT	

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
24.250	24.250	DROP INLET	LEFT	
24.285	24.298	CURB	LEFT	
24.339	24.401	CURB	RIGHT	
24.407	24.453	CURB	RIGHT	
24.466	24.495	CURB	RIGHT	
24.504	24.615	CURB	LEFT	
24.637	24.885	CURB	RIGHT	
24.785	24.785	DROP INLET	RIGHT	
24.882	24.882	DROP INLET	RIGHT	
24.912	25.012	CURB	LEFT	
25.040	25.107	CURB	LEFT	
25.115	25.207	CURB	LEFT	
25.200	25.200	MILE MARKER	LEFT	
25.200	25.200	MILE MARKER	RIGHT	
25.490	25.528	CURB	RIGHT	
25.526	25.526	DROP INLET	RIGHT	
25.535	25.549	CURB	RIGHT	
25.556	25.603	CURB	RIGHT	
25.602	25.602	DROP INLET	RIGHT	
25.918	25.918	SIGN	RIGHT	REGULATORY, SPEED LIMIT 45
25.920	25.920	SIGN	RIGHT	REGULATORY, REDUCED SPEED AHEAD
25.920	25.954	CURB	RIGHT	
25.970	25.970	CULVERT	N/A	
26.038	26.038	SIGN	RIGHT	REGULATORY, NO PARKING
26.043	26.215	CURB-AND-GUTTER	LEFT	
26.046	26.046	SIGN	RIGHT	REGULATORY, NO PARKING
26.068	26.068	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
26.084	26.090	GUARD/GUIDE WALL	RIGHT	
26.089	26.089	SIGN	RIGHT	GUIDE, JIM CAMP WASH
26.090	26.146	GUARD/GUIDE RAIL	RIGHT	
26.092	26.099	GUARD/GUIDE WALL	LEFT	
26.095	26.130	BRIDGE	N/A	8430-005 (JIM CAMP WASH BRIDGE)
26.099	26.146	GUARD/GUIDE RAIL	LEFT	
26.139	26.139	SIGN	RIGHT	GUIDE, JIM CAMP WASH

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
26.146	26.159	GUARD/GUIDE WALL	RIGHT	
26.146	26.176	GUARD/GUIDE WALL	LEFT	
26.152	26.152	SIGN	RIGHT	GUIDE, LONG LOGS TRAIL
26.156	26.156	SIGN	RIGHT	GUIDE, GRAPHIC SIGN, NO TEXT
26.156	26.156	SIGN	RIGHT	GUIDE, GRAPHIC SIGN, NO TEXT
26.168	26.168	INTERSECTION	RIGHT	ROUTE 0901 (RF MUSEUM AND PICNIC PARKING)
26.174	26.183	CURB	RIGHT	
26.180	26.180	MILE MARKER	LEFT	
26.180	26.180	MILE MARKER	RIGHT	
26.215	26.215	SIGN	RIGHT	GUIDE, LONG LOGS TRAIL
26.223	26.223	INTERSECTION	RIGHT	ROUTE 0901 (RF MUSEUM AND PICNIC PARKING)
26.261	26.263	CURB	RIGHT	
26.262	26.282	CURB	LEFT	
26.268	26.268	SIGN	RIGHT	REGULATORY, STOP
26.270	26.270	INTERSECTION	RIGHT	ROUTE 0901 (RF MUSEUM AND PICNIC PARKING)
26.277	26.285	CURB	RIGHT	
26.277	26.277	SIGN	RIGHT	GUIDE, EXIT
26.282	26.292	GUARD/GUIDE WALL	LEFT	
26.284	26.293	GUARD/GUIDE WALL	RIGHT	
26.288	26.288	FIRE HYDRANT	RIGHT	
26.293	26.293	SIGN	LEFT	GUIDE, AUTHORIZED VEHICLES ONLY
26.296	26.296	INTERSECTION	RIGHT	ROUTE 0919 (SOUTH AREA RANGER PARKING)
26.299	26.299	SIGN	RIGHT	GUIDE, VISITOR CENTER PAINTED DESERT
26.310	26.310	DROP INLET	RIGHT	
26.312	26.373	CURB	RIGHT	
26.359	26.359	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
26.359	26.359	SIGN	RIGHT	WARNING, CONGESTED AREA
26.406	26.429	CURB	LEFT	
26.505	26.533	CURB	RIGHT	
26.532	26.532	DROP INLET	RIGHT	
26.650	26.650	SIGN	RIGHT	REGULATORY, REDUCED SPEED AHEAD
26.696	26.696	INTERSECTION	RIGHT	ROUTE 0409 (OLD ROUTE 180 NORTH)
26.698	26.698	INTERSECTION	LEFT	UNPAVED ROUTE
26.738	26.738	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
26.977	26.977	SIGN	RIGHT	GUIDE, COTTONWOOD WASH
26.980	27.000	GUARD/GUIDE RAIL	RIGHT	
26.981	27.001	GUARD/GUIDE RAIL	LEFT	
26.982	26.999	BRIDGE	N/A	8430-001 (COTTONWOOD WASH BRIDGE)
27.005	27.005	SIGN	RIGHT	GUIDE, COTTONWOOD WASH
27.182	27.182	MILE MARKER	LEFT	
27.182	27.182	MILE MARKER	RIGHT	
27.297	27.297	SIGN	RIGHT	GUIDE, VEHICLE INSPECTION AHEAD
27.696	27.696	CULVERT	N/A	
27.840	27.840	SIGN	RIGHT	WARNING, STOP AHEAD
27.840	27.840	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
27.840	27.840	SIGN	RIGHT	REGULATORY, SPEED ENFORCED BY RADAR
27.840	27.840	CULVERT	N/A	
27.871	27.871	SIGN	RIGHT	GUIDE, BUCKLE UP FASTEN SEAT BELT ITS THE LAW
27.902	27.920	CURB	LEFT	
27.905	27.905	SIGN	LEFT	GUIDE, COMMERCIAL TOUR BUS FEES VEHICLE CAPACITY FEE 1-6 PERSONS/SEDAN \$25+ 7-16 PERSONS/ VAN \$50 16-25 PER
27.910	27.910	SIGN	RIGHT	REGULATORY, STOP
27.911	27.911	SIGN	LEFT	GUIDE, PLEASE WAIT FOR RANGER
27.912	27.912	SIGN	LEFT	GUIDE, PARK ELEVATION 5100'-6235'
27.912	27.912	SIGN	LEFT	GUIDE, U.S. FEE AREA
27.913	27.913	SIGN	RIGHT	REGULATORY, STOP
27.916	27.916	SIGN	LEFT	GUIDE, PETRIFIED FOREST NATIONAL PARK ENTRANCE FEES VEHICLE PERMIT \$10.00 BICYCLE,BUS PASSENGER,WALK-IN \$5.
28.060	28.060	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
28.174	28.174	MILE MARKER	LEFT	
28.174	28.174	MILE MARKER	RIGHT	
28.216	28.216	CULVERT	N/A	
28.329	28.329	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
28.364	28.364	SIGN	RIGHT	GUIDE, COLLECTING PETRIFIED WOOD PROHIBITED
28.368	28.368	CULVERT	N/A	
28.380	28.385	CURB	LEFT	
28.380	28.401	PULLOUT	LEFT	

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: NORTH-SOUTH HIGHWAY

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
28.383	28.383	SIGN	RIGHT	GUIDE, PETRIFIED FOREST NATIONAL PARK
28.390	28.400	CURB	LEFT	
28.480	28.480	SIGN	N/A	REGULATORY, APPROACH GATE SLOWLY TO OPEN
28.480	28.480	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT
28.480	28.480	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT
28.480	28.480	PARK BOUNDARY	N/A	SOUTH PARK BOUNDARY
28.480	28.480	GATE	N/A	
28.480	28.480	INTERSECTION	N/A	PAVED ROUTE (PETRIFIED FOREST ROAD)
28.480	28.480	ROUTE END	N/A	TO SOUTH PARK BOUNDARY

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0011: BLUE MESA ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 15.81 (ON LEFT)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0010 (NORTH-SOUTH HIGHWAY)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0010 (NORTH-SOUTH HIGHWAY)
0.000	0.000	SIGN	N/A	GUIDE, RAINBOW FOREST 10MI PAINTED DESERT 10MI
0.006	0.006	DROP INLET	LEFT	
0.008	0.033	GUARD/GUIDE WALL	LEFT	
0.011	0.011	SIGN	RIGHT	REGULATORY, STOP
0.012	0.033	GUARD/GUIDE WALL	RIGHT	
0.022	0.022	CULVERT	N/A	
0.028	0.028	GATE	N/A	
0.028	0.028	SIGN	N/A	GUIDE, BLUE MESA LOOP ROAD CLOSED
0.028	0.028	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT
0.028	0.028	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT
0.136	0.136	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
0.136	0.136	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
0.391	0.391	INTERSECTION	LEFT	UNPAVED ROUTE
0.404	0.489	CURB	LEFT	
0.442	0.442	CULVERT	N/A	
0.445	0.445	CULVERT	N/A	
0.688	0.688	CULVERT	N/A	
0.792	0.792	CULVERT	N/A	
0.986	0.986	CULVERT	N/A	
1.073	1.073	CULVERT	N/A	
1.638	1.638	SIGN	RIGHT	REGULATORY, REDUCED SPEED AHEAD
1.715	1.715	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
1.715	1.715	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
1.749	1.749	INTERSECTION	LEFT	ROUTE 0011 (BLUE MESA ROAD)
1.766	1.766	SIGN	LEFT	REGULATORY, DO NOT ENTER
2.036	2.095	CURB	RIGHT	
2.036	2.095	PULLOUT	RIGHT	
2.058	2.058	SIGN	RIGHT	GUIDE, AREA BEYOND SIGN CLOSED DO NOT ENTER
2.083	2.112	CURB	LEFT	
2.088	2.088	SIGN	RIGHT	GUIDE, AREA BEYOND SIGN CLOSED DO NOT ENTER

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0011: BLUE MESA ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
2.140	2.171	CURB	RIGHT	
2.140	2.171	PULLOUT	RIGHT	
2.463	2.463	SIGN	RIGHT	WARNING, 20 M.P.H.
2.463	2.463	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
2.517	2.622	CURB	RIGHT	
2.517	2.622	PULLOUT	RIGHT	
2.712	2.712	INTERSECTION	RIGHT	ROUTE 0914 (BLUE MESA LOOP TRAIL PARKING)
2.954	2.954	SIGN	RIGHT	GUIDE, AREA BEHIND SIGN CLOSED
2.971	2.999	PULLOUT	RIGHT	
3.098	3.117	CURB	LEFT	
3.364	3.383	CURB	LEFT	
3.405	3.424	CURB	RIGHT	
3.450	3.450	INTERSECTION	LEFT	ROUTE 0011 (BLUE MESA ROAD)
3.450	3.450	INTERSECTION	N/A	ROUTE 0011 (BLUE MESA ROAD)
3.450	3.450	ROUTE END	N/A	TO END OF LOOP

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0012: NEWSPAPER ROCK ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 12.05 (ON RIGHT)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0010 (NORTH-SOUTH HIGHWAY)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0010 (NORTH-SOUTH HIGHWAY)
0.009	0.009	SIGN	RIGHT	REGULATORY, STOP
0.112	0.112	CULVERT	N/A	
0.248	0.250	CURB	RIGHT	
0.250	0.250	INTERSECTION	N/A	ROUTE 0916 (NEWSPAPER ROCK PARKING)
0.250	0.250	ROUTE END	N/A	TO ROUTE 0916 (NEWSPAPER ROCK PARKING)

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0014: JASPER FOREST ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 18.67 (ON RIGHT)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0010 (NORTH-SOUTH HIGHWAY)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0010 (NORTH-SOUTH HIGHWAY)
0.010	0.010	SIGN	RIGHT	REGULATORY, STOP
0.203	0.203	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.253	0.253	INTERSECTION	LEFT	ROUTE 0014 (JASPER FOREST ROAD)
0.264	0.264	SIGN	LEFT	REGULATORY, DO NOT ENTER
0.265	0.265	SIGN	LEFT	REGULATORY, KEEP RIGHT
0.265	0.265	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.345	0.345	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.380	0.380	INTERSECTION	LEFT	ROUTE 0917BZ (JASPER FOREST PARKING AREA B)
0.385	0.385	INTERSECTION	RIGHT	ROUTE 0917AZ (JASPER FOREST PARKING AREA A)
0.420	0.420	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.496	0.496	CULVERT	N/A	
0.510	0.510	INTERSECTION	LEFT	ROUTE 0014 (JASPER FOREST ROAD)
0.510	0.510	INTERSECTION	N/A	ROUTE 0014 (JASPER FOREST ROAD)
0.510	0.510	ROUTE END	N/A	TO END OF LOOP

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0200: CHINDE POINT ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 2.46 (ON RIGHT)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0010 (NORTH-SOUTH HIGHWAY)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0010 (NORTH-SOUTH HIGHWAY)
0.007	0.007	SIGN	RIGHT	REGULATORY, STOP
0.024	0.024	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
0.187	0.187	DROP INLET	RIGHT	
0.225	0.225	DROP INLET	RIGHT	
0.282	0.282	DROP INLET	RIGHT	
0.304	0.304	DROP INLET	RIGHT	
0.330	0.330	INTERSECTION	LEFT	ROUTE 0903 (CHINDE POINT PARKING)
0.338	0.338	CULVERT	N/A	
0.340	0.340	INTERSECTION	N/A	ROUTE 0903 (CHINDE POINT PARKING)
0.340	0.340	ROUTE END	N/A	TO END OF PAVEMENT AND ROUTE 0903 (CHINDE POINT PARKING)

PEFO: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0409: OLD ROUTE 180 NORTH

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0010 (NORTH-SOUTH HIGHWAY) AT MP 26.70 (ON RIGHT)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0010 (NORTH-SOUTH HIGHWAY)
0.000	0.000	INTERSECTION	N/A	UNPAVED ROUTE
0.000	0.000	INTERSECTION	LEFT	ROUTE 0010 (NORTH-SOUTH HIGHWAY)
0.007	0.007	SIGN	N/A	REGULATORY, ROAD CLOSED
0.007	0.007	GATE	N/A	
0.452	0.452	CULVERT	N/A	
0.710	0.710	CULVERT	N/A	
1.080	1.080	CULVERT	N/A	
1.312	1.312	INTERSECTION	RIGHT	ROUTE 0406 (SOUTH PIPELINE ROAD)
1.741	1.741	GATE	N/A	
1.778	1.778	INTERSECTION	LEFT	PAVED PARKING (MAINTENANCE AREA / NON NPS)
1.900	1.900	INTERSECTION	N/A	ROUTE 0409 (OLD ROUTE 180 NORTH)
1.900	1.900	ROUTE END	N/A	TO END OF PAVEMENT

Petrified Forest National Park



Section 10 Appendix

APPENDIX A: GLOSSARY OF TERMS AND ABBREVIATIONS

TERM OR ABBREVIATION	DESCRIPTION OR DEFINITION
AADT	(Annual Average Daily Traffic) The estimate of typical daily traffic on a road segment for all days of the week over the period of one year.
CRS	Condition Rating Sheets. (Section 5)
Excellent	Excellent rating with an index value of 95 or greater
Fair	Fair rating with an index value from 61 to 84
Func. Class	Functional Classification (see Route ID, Section 4)
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
MRR	Manually Rated Route
N/A	Not Applicable
NC	Not Collected
Paved Width	Width from edge-of-pavement to edge-of-pavement
PCR	Pavement Condition Rating (Appendix B, Section 10)
Poor	Poor Rating with an index value of 60 or less
RCI	Roughness Condition Index
SADT	(Seasonal Annual Daily Traffic) The AADT adjusted to represent just the period of the year containing 80 percent of the total annual traffic.
SCR	Surface Condition Rating (Appendix B, Section 10)
Shoulder Width	Distance from fogline to hinge point, or if no fogline, from edge-of-pavement to hinge point.

APPENDIX B: DESCRIPTION OF RATING SYSTEM

A numerical roadway rating system is used to describe the overall condition of the paved roadways and paved parking areas. In this system, a numerical rating between 0 and 100 is ascribed to each 0.02 miles of road. This numerical rating is called a Pavement Condition Rating (PCR). A “perfect” road, newly constructed with no surface distresses and a smooth surface, would be assigned a PCR rating of 100. Based on the type, severity, and extent of surface distresses points are deducted from 100 to arrive at the final PCR.

Data is collected on the following distresses and conditions:

- **Alligator Cracking** - a series of interconnecting cracks resembling alligator skin or chicken wire, which can occur anywhere in the lane.
- **Longitudinal Cracking** - cracks which are parallel to the pavement centerline or asphalt lay-down direction.
- **Transverse Cracking** - cracks perpendicular to the pavement centerline.
- **Pothole (patch)** - a bowl-shaped hole in the pavement surface. May be patched or not.
- **Rutting** - surface depressions in the wheel paths.
- **Roughness** is collected as International Roughness Index (IRI) and is used in the PCR formula. Roughness is measured in inches of vertical displacement of the vehicle per mile traveled.

A Distress Rating Index value is calculated for each of the individual distresses at the 0.02 mile, or every 105.6 feet.

Calculation of Index Values

Note: Index values < 0 default 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.

All severity protocols are taken from the SHRP Distress Identification Manual.

Condition Ranges for all Indices

Excellent	>=95
Good	>=85 and <95
Fair	>60 and <85
Poor	<=60

Alligator Crack Index

$$AC_INDEX = 100 - 40 * [(\%LOW / 70) + (\%MED / 30) + (\%HI / 10)]$$

Where :

The values %LOW, %MED and %HI describe the percent of the total WX measured area that is affected by alligator cracking of each severity level. These values range from ≥ 0 to ≤ 100 .

$\%LOW$ = (Total square area WX measured low severity alligator cracking) / (Section length * WX measured lane width)

$\%MED = (\text{Total square area WX measured medium severity alligator cracking}) / (\text{Section length} * \text{WX measured lane width})$

$\%HI = (\text{Total square area WX measured high severity alligator cracking}) / (\text{Section length} * \text{WX measured lane width})$

The denominators 70, 30, and 10 are the maximum allowable extents for the numerator value in the same units. For example, low severity alligator cracking totaling 70% of the measured section area would alone fail that section of road for this index.

The threshold for failure for this index is $AC_INDEX = 60$.

Severity Levels:

Low severity alligator cracking describes an area of cracks with no or only a few connecting cracks; cracks are not spalled (cracked, broken, chipped, frayed along the cracks); pumping (water seepage from beneath the pavement through the cracks) is not evident. Any sealed alligator cracks are low severity alligator cracks, as long as the sealant is still in good condition. If the sealant has reopened, and the crack is visible and can be measured, the crack severity is assigned according to that measurement.

Medium severity alligator cracking describes an area of interconnected cracks forming a complete pattern; cracks may be slightly spalled; pumping is not evident.

High severity alligator cracking describes an area of moderately or severely spalled interconnected cracks forming a complete pattern; pieces may move when subjected to traffic; pumping may be evident.

Longitudinal Crack Index

$LC_INDEX = 100 - 40 * [(\%LOW / 350) + (\%MED / 200) + (\%HI / 75)]$

Where:

The values %LOW, %MED and %HI describe the length of longitudinal cracking of each severity as a percent of the section length. These values are ≥ 0 and can exceed 100.

$\%LOW = (\text{Total linear feet WX measured low severity longitudinal cracking}) / (\text{Section length in linear feet})$

$\%MED = (\text{Total linear feet WX measured medium severity longitudinal cracking}) / (\text{Section length in linear feet})$

$\%HI = (\text{Total linear feet WX measured high severity longitudinal cracking}) / (\text{Section length in linear feet})$

The denominators 350, 200, and 75 are the maximum allowable extents for the numerator value in the same units. For example, medium severity longitudinal cracking with a total length that is 200% of the length of the section would alone fail that section of road for this index.

The threshold for failure for this index is $LC_INDEX = 60$.

Severity Levels:

Low severity longitudinal cracks have a mean width $\leq 1/4''$, or are sealed cracks of indeterminate width whose sealant material is in good condition.

Medium severity longitudinal cracks have a mean width $> 1/4''$ and $\leq 3/4''$.

High severity longitudinal cracks have a mean width $> 3/4''$.

Transverse Crack Index

$$TC_INDEX = 100 - \{[20 * ((LOW / 15.1) + (MED / 7.5))] + [40 * (HI / 1.9)]\}$$

Where:

The values **LOW**, **MED** and **HI** describe a count of the total number of transverse cracks of each severity level, where one transverse crack unit is equal to the WX measured lane width. These values are ≥ 0 .

LOW = (Total linear feet WX measured low severity transverse cracking) / (WX measured lane width)

MED = (Total linear feet WX measured medium severity transverse cracking) / (WX measured lane width)

HI = (Total linear feet WX measured high severity transverse cracking) / (WX measured lane width)

The denominators **15.1**, **7.5**, and **1.9** are the maximum allowable extents for the numerator value in the same units. For example, high severity transverse cracking with a total length that amounts to 1.9 times the WX measured lane width would alone fail that section of road for this index.

The threshold for failure for this index is $TC_INDEX = 60$.

Severity Levels:

Low severity transverse cracks have a mean width $\leq 1/4$ " , or are sealed cracks of indeterminate width whose sealant material is in good condition.

Medium severity transverse cracks have a mean width $> 1/4$ " and $\leq 3/4$ " .

High severity transverse cracks have a mean width $> 3/4$ " .

Patching Index

$$PATCH_INDEX = 100 - 40 * (%PATCHING / 80)$$

Where:

The value **%PATCHING** describes the percent of the total WX measured area that is affected by patching. This value ranges from ≥ 0 to ≤ 100 .

%PATCHING = (Total area WX measured patching) / (Section length * WX measured lane width)

The denominator **80** is the maximum allowable extent for the numerator value in the same units. Patching totaling 80% or more of the measured section area fails a section of road for this index.

The threshold for failure for this index is $PATCH_INDEX = 60$.

There are no severity levels for patching.

Rutting Index

$$RUT_INDEX = 100 - 40 * [(%LOW / 160) + (%MED / 80) + (%HI / 40)]$$

Where:

10 ARAN rut depth measurements are taken per full .02 section for each of 2 wheel paths (left and right), resulting in a total of 20 measurements taken for both wheel paths. The values %LOW, %MED and %HI describe the number of ARAN rut depth measurements of both wheel paths in the section whose values are of each severity level, calculated as a percentage of the total number of ARAN rut depth measurements taken for a single wheel path in the section. These values range from ≥ 0 to ≤ 200 .

%LOW = (Total number of ARAN measured low severity ruts in section for both wheel paths) / (Total number of ARAN rut measurements in section for a single wheel path)

%MED = (Total number of ARAN measured medium severity ruts in section for both wheel paths) / (Total number of ARAN rut measurements in section for a single wheel path)

%HI = (Total number of ARAN measured high severity ruts in section for both wheel paths) / (Total number of ARAN rut measurements in section for a single wheel path)

The denominators 160, 80, and 40 are the maximum allowable extents for the numerator value in the same units. For example, low severity ruts recorded in 16 of the 20 total readings (or 160% of a full wheel path's worth of readings) for a full .02 section would fail that section for this index.

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

Severity Levels:

Ruts with an ARAN measured depth $< 0.20''$ are not included in the distress calculations.

Low severity ruts have an ARAN measured depth $\geq 0.20''$ and $\leq 0.49''$.

Medium severity ruts have an ARAN measured depth $\geq 0.50''$ and $\leq 0.99''$.

High severity ruts have an ARAN measured depth $\geq 1.00''$.

Roughness Condition Index

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

Where:

The value AVG IRI describes the average value of the Left IRI and Right IRI measurements for the section. This value can range from approximately 40 to over 1000.

$$AVG IRI = (ARAN \text{ measured Left IRI} + ARAN \text{ measured Right IRI}) / 2$$

There is no applicable threshold for failure for this index.

NOTE: Collection of roughness data is dependent on the data collection vehicle traveling at a minimum speed of 12 mph. In the event that a route cannot be safely traveled at this minimum speed, and results in no roughness data, the SCR only will be calculated.

Surface Condition Rating Index

$$SCR = 100 - [(100 - AC_INDEX) + (100 - LC_INDEX) + (100 - TC_INDEX) + (100 - PATCH_INDEX) + (100 - RUT_INDEX)]$$

Where:

See above for determinations of [AC_INDEX](#), [LC_INDEX](#), [TC_INDEX](#), [PATCH_INDEX](#) and [RUT_INDEX](#).

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

Pavement Condition Rating Index Asphaltic Concrete Pavement (AS)

$$PCR = (0.60 * SCR) + (0.40 * RCI)$$

Where:

See above for determinations of [SCR](#) and [RCI](#).

The values [0.60](#) and [0.40](#) function as weights within the formula.

If [SCR](#) equals zero (which means that the road surface condition is very poor), then the formula simply reduces to: $PCR = 0.40 * RCI$.

If [RCI](#) equals zero (which means that this value was not available for some reason), then the formula becomes: $PCR = SCR$.

The threshold for failure for this index is $PCR = 60$.

Pavement Condition Rating Index Portland Cement Concrete Pavement (CO)

$$\text{Concrete PCR} = -0.0012(IRI^2) + 0.0499(IRI) + 99.542$$

Where:

The threshold for failure for this index is $PCR = 60$.

Parking Lot and Manually Rated Road Condition Rating

Surface Condition Distresses- Chip Seal:

- Raveling – loss of surface rock chips revealing previous surface
- Bleeding – asphalt or tar is bleeding through to the surface where surface looks slick with asphalt
- Rutting
- Potholes/Patching

Ratings - Chip Seal:

- Excellent – None of the surface affected by the above (recently constructed)
- Good – Less than 10% of surface affected by the above
- Fair – Between 10% and 40% of surface affected by the above
- Poor – More than 40% of surface affected by the above

Surface Condition - Asphalt:

- Cracking of any type
- Rutting
- Potholes/Patching

Ratings - Asphalt:

Excellent – None of the surface affected by the above (recently constructed)

Good – Less than 10% of surface affected by the above

Fair – Between 10% and 40% of surface affected by the above

Poor – More than 40% of surface affected by the above

Index Values of Visual Ratings on Parking Lots and Manually Rated Roads

Under Construction 100

Excellent 97

Good 90

Fair 73

Poor 45

APPENDIX C: GENERAL INFORMATION ON RIP SYSTEMS

DMI (Distance Measuring Instrument)

The DMI (Distance Measuring Instrument) obtains road length measurements that are highly accurate (to 0.001 miles). The DMI is connected to the outside of the rear wheel on the driver's side, and is wired into the antilock braking system (ABS). The number of pulses recorded for each wheel rotation by the ABS is registered by the DMI, which transmits a measurement of distance traveled to the processing computers in the ARAN. The DMI distance measurements are the foundation to which all the other subsystems are tied.

Digital Image Information

All images collected in Cycle 4 are digital images in .jpg format. These images provide adequate resolution for identifying sign and feature inventories and pavement evaluations. The images can be viewed with an interactive software program called VisiData. Each park will receive a copy of the VisiData program. Cycle 4 data, as well as Cycle 3 data, can be viewed using the Visi-Data software program. This program is a data presentation and analysis tool that can be accessed either at the individual park, park region or at NPS headquarters. The data is organized in a hierarchical manner and presented in tabular and graphical formats. The user is able to perform queries and drill down through the data to find the particular information they are looking for. Associated digital right-of-way images from either the LAN, USB port, individual DVD can be presented along with GPS locations.

Right-of-way (ROW) Video

Three digital cameras are mounted above the vehicle's windshield that point directly forward and slightly to the left and right. These cameras each collect one image every 0.002 miles (10.56 feet) in the primary-direction lane, to give a panoramic field-of-view of about 160 degrees. (Forward-facing video from the center camera only is collected in the opposite-direction lane of travel.)

If data collection speed exceeds 35-40 mph, the network and storage computers may become overwhelmed and may begin to drop individual video frames. Occasional common video quality issues include sun glare and rapid changes between sunlight and shadow. The camera system is equipped with auto risers that sometimes cannot adjust quickly enough to collect optimal video images.

FHWA ARAN CAMERA SPECIFICATIONS	
Forward-Facing Cameras (ROW)	
Focal length	10 mm
Chip size	8.71mm X 6.90mm
Naming convention of each image	chainage.jpg
Image resolution	1300 X 1030
Image pixel size	depends on distance
Relative position of the GPS unit to each camera	2.104 meters from front-center rutbar to camera
<i>The ARAN has a lever arm setting which tells the POS system where the center of the rutbar is with respect to the GPS antennas.</i>	

Pavement Video

Pavement video images are collected by the data collection vehicle to use in later analysis to determine extents and severities of different types of pavement distress. The pavement in the primary-direction road lane is filmed continuously by two analog cameras attached to booms extended from the rear of the ARAN on the left and right sides. Strobe lights fire synchronously with the opening of the camera shutters to eliminate shadows and motion blur. The images from the two cameras overlap, and are stitched together in real time to create a continuous strip image of the pavement in the primary direction lane. This strip has a maximum width of 3.0 meters (actual width depends on pavement camera calibration) and is sectioned for ease of file management every 0.010 miles (52.8 feet).

The cameras both have a resolution of 640 x 480, making the threshold of visible pavement cracks about 3 mm. Because the cameras are triggered by time and not distance traveled, this subsystem requires a minimum operating speed of 6 mph, otherwise images are taken on top of one another and result in checkered or black pavement video.

FHWA ARAN CAMERA SPECIFICATIONS	
Pavement Cameras	
Image Pixel size	3.135 mm /side
Image Resolution	640 X 480
Area that images cover	1.5 m X 1.2 m
Full color or grayscale	grayscale
Vehicle speed limitations	80km/h
Aperture setting	Auto-iris
Exposure setting	1/50000

FHWA ARAN GPS & Inertial System

GPS is collected by a NovAtel MiLlennium, 12 channel, dual frequency L1/L2, DGPS ready receiver with a MiLlennium 502 GPS antenna. An OmniStar 3000 LR provides real-time differential correction. An Applanix POS/LV is the inertial system that fills in when GPS is unavailable. The antenna is mounted in the center of the roof, slightly toward the rear of the vehicle, but a lever arm is applied to place the operational location of GPS recording at the center of the rutbar on the front bumper of the vehicle. Expected accuracy under ideal conditions is sub meter.

GPS Collected on Manually Rated Routes

Parking areas and roads that are not fully drivable with the ARAN data collection vehicle are collected manually by field technicians. GPS is collected for these routes using GPS field data collection utilizes Trimble ProXRS or ProXH Receivers matched with Trimble TSC1 or Ranger handheld Data Loggers, connected to Trimble Hurricane Antennas giving sub meter accuracy in ideal conditions. This collection equipment has varied as technology has improved over the years of RIP data collection. Some GPS files collected as early as 1998 have been verified for accuracy and perpetuated through the current cycle of data collection.

GPS SHAPEFILES

Type of Route and Collection Shape Filename		
Roads driven by ARAN	Line	park_road_04.dbf/.shp/.shx
Parking Areas	Polygon	park_pkg_04.dbf/.shp/.shx
Roads Manually Rated as Lines (not in every park)	Line	park_mrl_04.dbf/.shp/.shx
Roads Manually Rated as Polygons (not in every park)	Polygon	park_mrp_04.dbf/.shp/.shx

- Datum for all GPS shapefiles is LL_WGS84_DD (Latitude Longitude _World Geodetic Survey 1984_Decimal Degrees)
- In filename, “park” is NPS four-letter alphabetic code.
- The source for route data required for data processing and report production is the PARK_RouteInfo.mdb.

Condition Photos Taken of Manually Rated Roads

One or more digital photos are taken by Canon Power Shot G2 4.0 Mega Pixel digital camera for each manually rated route in a National Park. They are stored in .jpg format named with the four-letter NPS park alphabetic code, route number, and the photo number assigned by the camera. For example, YOSE_0900_4434.jpg is the filename of the photo named 4434 by the camera that was taken of Yosemite National Park route 0900.

Scenic Photos

Scenic photos are taken by Canon Power Shot G2 4.0 Mega Pixel digital camera throughout each park and are named with the four-letter NPS park alphabetic code and the count of the photo taken in that park. For example, GRCA003.jpg is the filename of the third scenic photo taken in Grand Canyon National Park. The number of scenic photos provided will vary between parks.

APPENDIX D: METADATA

FHWA – NPS Road Inventory Program Cycle 4 Metadata

The purpose of these sheets is to provide users of the Road Inventory Program’s data with data accuracies and tolerances to help users define ways in which the RIP data can and cannot be used. For further information on specifics of data collection equipment, data collection procedures, equipment calibrations, or quality control/quality assurance procedures, please contact Jim Kennedy, Project Manager, Data Quality Assurance, at 720-963-3560 or jim.kennedy@fhwa.dot.gov.

All Road Inventory Program data undergoes quality control and quality assurance testing. This document represents the known data accuracies and tolerances for the data collection equipment, data collection procedures, and data processing procedures currently in use. Many additional tests conducted on the park databases during the quality assurance phase to ensure data integrity are not listed as a part of this document. Before it is delivered, a park database undergoes a large set of table design consistency, field data format consistency, data completeness, uniqueness of key fields, data reasonableness, acceptable data range, within-field data consistency, between-field data consistency, and between-table data consistency tests. Additional data sampling checks are conducted to ensure proper data upload from raw files into the park database and to quality check the pavement crack analysis. Further information is detailed in the FHWA – NPS RIP Quality Assurance Manual, available upon request.

This description of metadata includes only the known accuracies with which a data field matches its expected value. The tables that follow this page show each database field’s:

- Field – field name
- Format – data type and number of characters of field
- Expected Value – meaning of value assigned to field
- Source – when in process field value obtained
- Validation – how field value obtained
- Expected Accuracy – accuracy with which contents of field match Expected Value

Verifying and continually improving the accuracy of Road Inventory Program data is an ongoing goal of the Federal Highway Administration and the National Park Service. Field testing and post-collection analysis of ARAN (Automatic Road ANalyzer) -collected data will continue in Cycle 4. Data quality is expected to improve as the FHWA – NPS Road Inventory Program continues to operate, due to the fact that future data collection cycles will consist in large part of data updates. Also, technological improvements are expected to render the data increasingly consistent with actual roadway conditions as data collection cycles progress.

Specific Caveats

- MUTCD based on contents & colors of sign, not on size
- Database records that show a Portland Cement Concrete (CO) surface type sometimes include distress index values that seem to show a perfect roadway. Condition assessments on concrete pavements are not conducted for Alligator Cracking, Transverse or Longitudinal Cracking, Patching, or Rutting. Perfect values for concrete road sections for these indexes are default values and do not represent a condition assessment of the concrete surfaces.
- On the USB drive, in the Database folder, parks are provided with intersection lists and exceptions lists. These documents should be treated as raw files and are not accurate. Refer to the final database for accurately post-processed intersection data.
- Most roadway data is collected in the primary direction lane of a roadway. To save data storage space and to reduce data analysis efforts, the assumption was made that the paved surface condition of a route’s primary lane adequately represents the surface condition of the full roadway. Therefore, in the database, opposite-direction records in the PMS_Tenth table do not include assessed values for roadway surface distresses. Values such as 0, N/A, -1, or a repeat of the primary-direction assessed value indicate that no assessment was performed. The PMS_20 and PMS_Mile tables simply exclude all opposite routes.

- Roadway Data is collected in intervals of 0.010 miles (52.8feet) constituting a “station”.
- Most roadway features are collected relative to the primary direction lane of a roadway, using the primary-direction video and mileage. Signs and Mile Markers are the only features collected using the opposite-direction video with mileage location referenced to the primary direction lane of the roadway.
- Route_GPS table contains GPS positional information collected by the ARAN and post processed with Applanix POSPac Land 5.0 post-processing software. No manual adjustments have occurred on this table.
- Modifications to the Park_ROAD_04.dbf/.shp/.shx files may have been necessary for report esthetics.
- Modifications to the Park_PKG_04.dbf/.shp/.shx files may have been necessary for report esthetics.
- Cycle 4 utilizes the Microsoft Office 2003 suite of products and Crystal Reports XI for document and data file generation and reporting.
- All PDF files are in Adobe Acrobat 7.0 Professional format.
- All ArcGIS files are created using ESRI Version 9.x software.
- Thumbnail images are created at 1/10 original image size for Right-of-Way and Pavement Images.
- FHWA is investigating the rutting methodology and calculated values it currently reports. Equipment limitations and analysis methods may be over reporting, low severity rutting.

Key to Notes in Tables

(1): Note that only one value fits in field, so even if this value varies throughout the route, only predominant value is recorded here.

(2): Shoulder width is measured at route start and every half-mile along the route in the primary direction. Width is the entire width of the drivable shoulder, regardless of the presence or absence of pavement, from the fog line to the shoulder hinge point, or if no fog line exists, from the edge of pavement to the hinge point. Identification of shoulder hinge point can be problematic using video analysis. Some paved ditches may be mistakenly recorded as shoulders where the shoulder hinge point and change in slope are not easily distinguished from the video.

(3): Mileage is measured by the ARAN (Automatic Road ANalyzer) data collection vehicle out to the 0.001 decimal place. The DMI (distance measuring instrument) is very accurate, with extremely slight variations in measurement due to air temperature, tire inflation, curves, hills, and equipment calibration.

(4): Features are measured differently depending on whether they are visible in the forward-facing video of the roadway, but every feature milepost measurement depends on the baseline measurement of the data collection vehicle’s mileage. The ARAN (Automatic Road ANalyzer) data collection vehicle’s mileage is measured by the DMI (distance measuring instrument) out to the 0.001 decimal place. The DMI is very accurate, with extremely slight variations in measurement due to air temperature, tire inflation, curves, hills, and equipment calibration. If a feature will not be visible in the forward-facing video, its milepost is determined by the data collectors’ key press tagging the milepost when the ARAN passes the feature. Key presses are entered into the ARAN software when the vehicle travels typically between 15 and 45 miles/hour, so a delay of a single second as the vehicle passes a feature would result in an inaccuracy of 0.004 miles (22 feet) to 0.012 miles (66 feet). If a feature is visible in the video, its milepost is determined during post-processing using a video measurement software called Surveyor.

(5): Condition assessments on concrete (PCC) pavements are not conducted for Alligator Cracking, Transverse or Longitudinal Cracking, Patching, or Rutting. Perfect values for concrete road sections for these indexes are default values and do not represent a condition assessment of the concrete surfaces.

(6): Roadway cracking presence, type, severity, and extent are determined by filming the roadway in the primary lane continuously with two overlapping analog cameras of 640 x 480 resolutions. The images from both cameras are stitched together in real time to create a continuous strip image of the roadway pavement in the primary lane. Cracks 3 mm or greater in width are visible in this video. A semi-automatic process running the WiseCrax software with additional input by human operators provides the cracking quantities recorded in these database fields. Quality checks have determined that a consistent 80% or better of the visible cracks are recorded.

Access Database Metadata

MASTER Table Metadata:

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
1	RIP_CYCLE	XX	4, for data collection cycle 4	Route ID Meeting	FHWA Determination	100% Referenced to other tables
2	STATE	XX	State where route is located	Route ID Meeting	Park Input / FHWA Determination	100%, Referenced to other tables (1)
3	PARK_ALPHA	XXXX	Park alpha code	Route ID Meeting	NPS References	100%, Referenced to other tables
4	PARK_NO	XXXX	Park numeric code	Route ID Meeting	NPS References	100%, Referenced to other tables
5	RTE_NO	9999XXX	Route number	Route ID Meeting	Park Input / FHWA Classification	100%, Referenced to other tables
6	RTE_NAME	(Text)	Route name	Route ID Meeting	Park Input	100%, Referenced to other tables. 100 characters fit in field
7	FUNCT_CLASS	X	Route functional classification	Route ID Meeting	Park Input / FHWA Classification	100%, Referenced to other tables
8	DIRECTION	XXX	Survey lane: PRI (primary) or OPP (opposite)	Route ID Meeting	Park Input / FHWA Determination	100%,
9	BEG_MP_EST	999.999 (miles)	Estimated starting MP	Route ID Meeting	Park Input / FHWA Determination	Estimated before data collected
10	END_MP_EST	999.999 (miles)	Estimated ending MP	Route ID Meeting	Park Input / FHWA Determination	Estimated before data collected
11	RTE_LENGTH	999.999 (miles)	Collected route length	ARAN Data Collection	Automatic Output	100%
12	FROM_DESC	(Text)	Beginning terminus of route	Route ID Meeting	Park Input / FHWA Determination	100% Referenced to other tables
13	TO_DESC	(Text)	Ending terminus of route	Route ID Meeting	Park Input / FHWA Determination	100% Referenced to other tables
14	NO_LANES	X	Number of lanes in route	ARAN Data Collection	Survey Crew Input	Untested. (1)
15	SURF_TYPE	XX	Surface type of route	ARAN Data Collection	Survey Crew Input	100%, Referenced to other tables (1)
16	COMP_DIR	XX	Compass direction of route's primary lane (nearest cardinal direction)	Route ID Meeting	Park Input / FHWA Determination	Untested
17	COMMENTS	(Text)	Special information, if any	Contractor Post-processing	Contractor Input	Untested
18	FILENAME	(Text)	Filename of raw data files	ARAN Data Collection	Automatic Output	100%
19	SECTION	(Text)	Route section ID	Route ID Meeting/ARAN Data Collection	Survey Crew Input/Automatic Output	100%

20	FKEY	9999999	Unique record ID	Contractor Post-processing	Database Processing	100%
21	DATE	MM/DD/YY	Data collection date	ARAN Data Collection	Automatic Output	100%
22	BEG_MP	999.999 (miles)	Beginning MP collected	ARAN Data Collection	Automatic Output	100% (3)
23	END_MP	999.999 (miles)	Ending MP collected	ARAN Data Collection	Automatic Output	100% (3)

PMS_FEATURE Table Metadata:

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
1	RIP_CYCLE	XX	4, for data collection cycle 4	Route ID Meeting	FHWA Determination	100% Referenced to other tables
2	STATE	XX	State where route is located	Route ID Meeting	Park Input / FHWA Determination	Untested (1)
3	PARK_ALPHA	XXXX	Park alpha code	Route ID Meeting	NPS References	100% Referenced to other tables
4	PARK_NO	XXXX	Park numeric code	Route ID Meeting	NPS References	100% Referenced to other tables
5	RTE_NO	9999XXX	Route number	Route ID Meeting	Park Input / FHWA Classification	100% Referenced to other tables
6	FMSS_EQUIP	XXXXXXXX	Facility Management Software System Equipment number	NPS FMSS application	NPS References	Untested
7	FUNCT_CLASS	X	Route functional class	Route ID Meeting	Park Input / FHWA Classification	100% Referenced to other tables
8	DIRECTION	XXX	Survey lane: PRI (primary) or OPP (opposite)	Route ID Meeting	Park Input / FHWA Determination	100%
9	MP	999.999 (miles)	Feature location along route	ARAN Data Collection/Contractor Post-processing	Video Analysis	<=0.001 mile
10	BEG_MP	999.999 (miles)	Feature Beginning location along route	Contractor Post-processing	Video Analysis	<=0.001 mile
11	END_MP	999.999 (miles)	Feature Ending location along route	Contractor Post-processing	Video Analysis	<=0.001 mile
12	FEATURE_LENGTH	999.99 (Feet)	Linear Feature Length	Contractor Post-processing	Database Processing	100%
13	EVENT	XXXX	Event category of feature	Contractor Post-processing	Video Analysis	Untested
14	EVENT_CODE	XXXX	Event sub-category of feature	Contractor Post-processing	Video Analysis	Untested
15	FEATURE_TYPE	(Text)	Feature designation: LINEAR or POINT	Contractor Post-processing	Video Analysis	Untested
16	EVENT_DESC	(Text)	Description of feature/contents of sign	Contractor Post-processing	Video Analysis	Untested
17	MUTCD	(Text)	MUTCD Code of Sign	Contractor Post-processing	Database Processing	95%
18	CONDITION	“N/A”	Sign condition. N/A. Not to be populated	Contractor Post-processing	Video Analysis	Values inaccurate, defaulted to “N/A”
19	COMMENT	(Text)	Sign label, intersecting route, etc.	Contractor Post-processing	Database Processing	Untested
20	OFFSET	“N/A”	Offset from Road Edge. N/A. Not to be populated	Contractor Post-processing	Database Processing	Values inaccurate, defaulted to “N/A”

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
21	SIDE	(Text)	Side of route relative to lane driven	Contractor Post-processing	Video Analysis	95%
22	STR_NUMBER	(Text)	FHWA bridge structure number	FHWA Post-processing	Database Processing	Untested
23	BARR_MAT	(Text)	Barrier Material Type	Contractor Post-processing	Video Analysis	Untested
24	BARR_TYPE	(Text)	Barrier Type	Contractor Post-processing	Video Analysis	Untested
25	BARR_POST_MAT	(Text)	Barrier Post Materials	Contractor Post-processing	Video Analysis	Untested
26	BARR_BEG_TERM	(Text)	Barrier Approach Treatment	Contractor Post-processing	Video Analysis	Untested
27	BARR_END_TERM	(Text)	Barrier End Treatment	Contractor Post-processing	Video Analysis	Untested
28	CURB_MAT	(Text)	Curb Material Type	Contractor Post-processing	Video Analysis	Untested
29	PAVED_DITCH_MAT	(Text)	Paved Ditch Material Type	Contractor Post-processing	Video Analysis	Untested (2)
30	GATE_MAT	(Text)	Gate Material Type	Contractor Post-processing	Video Analysis	Untested
31	GATE_STYLE	(Text)	Gate Style	Contractor Post-processing	Video Analysis	Untested
32	BEG_GPS_LAT	999.999999	GPS Latitude Co-ordinate (decimal degrees)	Contractor Post-processing	Video Analysis	<= 3.00 feet
33	BEG_GPS_LON	-999.999999	GPS Longitude Co-ordinate (-decimal degrees)	Contractor Post-processing	Video Analysis	<= 3.00 feet
34	BEG_GPS_ELEV	99999.9	GPS Elevation Feet	Contractor Post-processing	Video Analysis	Untested
35	BEG_GPS_MODE	(Text)	GPS Satellite Mode	Contractor Post-processing	Video Analysis	Untested
36	END_GPS_LAT	999.999999	GPS Latitude Co-ordinate (decimal degrees)	Contractor Post-processing	Video Analysis	<= 3.00 feet
37	END_GPS_LON	-999.999999	GPS Longitude Co-ordinate (-decimal degrees)	Contractor Post-processing	Video Analysis	<= 3.00 feet
38	END_GPS_ELEV	99999.9	GPS Elevation Feet	Contractor Post-processing	Video Analysis	Untested
39	END_GPS_MODE	(Text)	GPS Satellite Mode	Contractor Post-processing	Video Analysis	Untested
40	DATUM	(Text)	LL_WGS84_DD	Contractor Post-processing	Database Processing	100%
41	VIDEO	<Park>C04VID<#>	Removable USB video hard drive number	Contractor Post-processing	Database Processing	Untested
42	IMAGE	(Text)	Filename of .jpg image showing feature	Contractor Post-processing	Automatic Output	Untested
43	DATE	MM/DD/YY	Data collection date	ARAN Data Collection	Automatic Output	100%
44	FILENAME	(Text)	Filename of raw data files	ARAN Data Collection	Automatic Output	100%
45	SECTION	(Text)	Route section ID	Route ID Meeting/ARAN Data Collection	Survey Crew Input/Automatic Output	100%
46	FKEY	(Numeric)	Unique record ID	Contractor Post-processing	Database Processing	100%
47	VISI_FROM	999999 (millimiles)	Raw MP of first video frame showing feature	Contractor Post-processing	Database Processing	Untested
48	VISI_TO	999999 (millimiles)	Raw MP of last video frame showing feature	Contractor Post-processing	Database Processing	Untested

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
49	IDKEY	(Text)	Unique record ID used by VisiData	Contractor Post-processing	Database Processing	Untested
50	MP_REF	(Text)	Range of mileage to play in VisiData	Contractor Post-processing	Database Processing	Untested

List of Roadway Features						
#	EVENT	EVENT_CODE	FEATURE_TYPE	EVENT_DESC	STRUCTURE #	COLLECTED BY
1	BRIDGE	BRDG	LINEAR	BRIDGE	ALWAYS	ARAN
2	CATTLE GUARD	CGD	POINT	CATTLE GUARD	-	VIDEO RATING
3	CONSTRUCTION	CNST	LINEAR	CONSTRUCTION WORK ZONE	-	ARAN
4	CULVERT	CUL	POINT	CULVERT	SOMETIMES	ARAN
5	CURB	CRBL	LINEAR	CURB ON LEFT	-	VIDEO RATING
	""	CRBR	LINEAR	CURB ON RIGHT	-	VIDEO RATING
6	CURB-AND-GUTTER	CAGL	LINEAR	CURB-AND-GUTTER ON LEFT	-	VIDEO RATING
	""	CAGR	LINEAR	CURB-AND-GUTTER ON RIGHT	-	VIDEO RATING
7	DROP INLET	DINL	POINT	DROP INLET ON LEFT	-	ARAN
	""	DINR	POINT	DROP INLET ON RIGHT	-	ARAN
8	GATE	GATE	POINT	GATE	-	VIDEO RATING
9	FIRE HYDRANT	FHDL	POINT	FIRE HYDRANT ON LEFT	-	VIDEO RATING
	""	FHDR	POINT	FIRE HYDRANT ON RIGHT	-	VIDEO RATING
10	GUARD/GUIDE WALL	GGWL	LINEAR	GUARD/GUIDE WALL ON LEFT	-	VIDEO RATING
	""	GGWR	LINEAR	GUARD/GUIDE WALL ON RIGHT	-	VIDEO RATING
11	GUARD/GUIDE RAIL	GGRL	LINEAR	GUARD/GUIDE RAIL ON LEFT	-	VIDEO RATING
	""	GGRR	LINEAR	GUARD/GUIDE RAIL ON RIGHT	-	VIDEO RATING
12	INTERSECTION	INTL	POINT	INTERSECTION ON LEFT	-	ARAN
	""	INTR	POINT	INTERSECTION ON RIGHT	-	ARAN
	""	INTN	POINT	INTERSECTION SIDE N/A	-	ARAN

13	LANE DEVIATION	LADV	LINEAR	LANE DEVIATION	-	ARAN
14	LOW WATER CROSSING	LWCR	LINEAR	LOW WATER CROSSING	SOMETIMES	VIDEO RATING
15	MILE MARKER	MML	POINT	MILE MARKER ON LEFT	-	VIDEO RATING
	""	MMR	POINT	MILE MARKER ON RIGHT	-	VIDEO RATING
16	OVERPASS	OPV	POINT	OVERPASS VEHICULAR	SOMETIMES	ARAN
	""	OPP	POINT	OVERPASS PEDESTRIAN	SOMETIMES	ARAN
	""	OPRX	POINT	OVERPASS RAILROAD CROSSING	SOMETIMES	ARAN
17	PARK BOUNDARY	PRK	POINT	PARK BOUNDARY	-	ARAN
18	PAVED DITCH	PVDL	LINEAR	PAVED DITCH ON LEFT	-	VIDEO RATING
	""	PVDR	LINEAR	PAVED DITCH ON RIGHT	-	VIDEO RATING
19	PULLOUT	PLOL	LINEAR	PULLOUT ON LEFT	-	VIDEO RATING
	""	PLOR	LINEAR	PULLOUT ON RIGHT	-	VIDEO RATING
20	RAILROAD CROSSING	RRX	POINT	RAILROAD CROSSING	-	VIDEO RATING
21	RETAINING WALL	RTWL	LINEAR	RETAINING WALL ON LEFT	-	VIDEO RATING
	""	RTWR	LINEAR	RETAINING WALL ON RIGHT	-	VIDEO RATING
22	ROUTE BEGIN	RBEG	POINT	ROUTE BEGIN	-	ARAN
23	ROUTE END	REND	POINT	ROUTE END	-	ARAN
24	SIGN	REGU, WARN, GUID, UNKN	POINT	DOCUMENT CONTENTS OF SIGN. (WHAT THE SIGN SAYS) FOR GRAPHICS ONLY SIGNS POPULATED WITH ("GRAPHIC SIGN, NO TEXT") FOR UNREADABLE TEXT POPULATED WITH ("UNABLE TO READ FROM VIDEO")	-	VIDEO RATING
25	STATE BOUNDARY	STB	POINT	STATE BOUNDARY	-	ARAN
26	TRAFFIC LIGHT	TRF	POINT	TRAFFIC LIGHT	-	VIDEO RATING
27	TUNNEL	TUN	LINEAR	TUNNEL	ALWAYS	ARAN

PMS_20, PMS_MILE, & PMS_TENTH Tables Metadata:

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
1	RIP_CYCLE	XX	4, for RIP data collection Cycle 4	Route ID Meeting	FHWA Determination	100% Referenced to other tables
2	STATE	XX	State where route is located	Route ID Meeting	Park Input/FHWA Determination	Untested. (1)
3	PARK_ALPHA	XXXX	Park alpha code	Route ID Meeting	NPS References	100% Referenced to other tables
4	PARK_NO	XXXX	Park numeric code	Route ID Meeting	NPS References	100% Referenced to other tables
5	RTE_NO	9999XXX	Route number	Route ID Meeting	Park Input/FHWA Classification	100% Referenced to other tables
6	FUNCT_CLASS	X	Route functional class	Route ID Meeting	Park Input/FHWA Classification	100% Referenced to other tables
7	DIRECTION	XXX	Survey lane: PRI (primary) or OPP (opposite)	Route ID Meeting	Park Input/FHWA Determination	100%
8	BEG_MP	999.999 (miles)	MP at start of road interval described by database record	Contractor Post-processing	Database Processing	100% (3)
9	END_MP	999.999 (miles)	MP at end of road interval described by database record	Contractor Post-processing	Database Processing	100% (3)
10	INT_LENGTH	999.9 (ft)	Length of road interval as aggregated for data table	Contractor Post-processing	Database Processing	100%
11	RTE_LENGTH	999.999 (miles)	Collected route length	ARAN Data Collection	Automatic Output	100% (3)
12	NO_LANES	99	Number of lanes in route	ARAN Data Collection	Survey Crew Input	Untested. (1)
13	LANE_NO	99	Data collection lane	Contractor Post-processing	Database Processing	Untested
14	D_LANE_WIDTH	99.999 (ft)	WiseCrax (crack detection software) analysis width	Contractor Post-processing	Automatic Output	Untested
15	LANE_WIDTH	99.9 (ft)	Width of lane	Contractor Post-processing	Video Analysis	95%, <=1.0 foot
16	PAVE_WIDTH	99.9 (ft)	Full pavement width	Contractor Post-processing	Video Analysis	95%, <=1.0 foot
17	SHLD_WIDTH_L	99.9 (ft)	Left shoulder width	Contractor Post-processing	Video Analysis	95%, <=1.0 foot (2)
18	SHLD_WIDTH_R	99.9 (ft)	Right shoulder width	Contractor Post-processing	Video Analysis	95%, <=1.0 foot (2)
19	SHLD_COND_L	N/A	N/A. Intended to be Left shoulder condition	ARAN Data Collection	Survey Crew Input	Values inaccurate, defaulted to "N/A"
20	SHLD_COND_R	N/A	N/A. Intended to be Right shoulder condition	ARAN Data Collection	Survey Crew Input	Values inaccurate, defaulted to "N/A"
21	DRAIN_COND_L	N/A	N/A. Intended to be Left drainage condition	ARAN Data Collection	Survey Crew Input	Values inaccurate, defaulted to "N/A"
22	DRAIN_COND_R	N/A	N/A. Intended to be Right drainage condition	ARAN Data Collection	Survey Crew Input	Values inaccurate, defaulted to "N/A"

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
23	SURF_TYPE	XX	Surface type of route	ARAN Data Collection	Survey Crew Input	Untested. (1)
24	PCR	999	Pavement Condition Rating	Contractor Post-processing	Database Processing	100% for calculation (6)
25	RCI	999	Roughness Condition Index; -1 if invalid IRI	Contractor Post-processing	Database Processing	100% for calculation
26	SCR	999	Surface Condition Rating	Contractor Post-processing	Database Processing	100% for calculation (5) (6)
27	IRI_AVG	999.9 (inches/mile)	Average IRI	Contractor Post-processing	Database Processing	Untested
28	IRI_SD	999.9 (inches/mile)	IRI standard deviation	Contractor Post-processing	Database Processing	Untested
29	IRI_L	999.9 (inches/mile)	Left wheel path IRI	ARAN Data Collection	Automatic Output	Untested
30	IRI_R	999.9 (inches/mile)	Right wheel path IRI	ARAN Data Collection	Automatic Output	Untested
31	IRI_FLAG	0 or -1	-1 if invalid IRI data	Contractor Post-processing	Database Processing	Untested
32	RUT_INDEX	999	Rut index	Contractor Post-processing	Database Processing	100% for calculation (5)
33	RUT_AVG	99.99 (inches)	Average rut depth of both wheelpaths	Contractor Post-processing	Database Processing	Untested (5)
34	RUT_MAX	99.99 (inches)	Maximum rut depth of both wheelpaths	Contractor Post-processing	Database Processing	Untested (5)
35	RUT_SD	9.9	Rut depth standard deviation	Contractor Post-processing	Database Processing	Untested (5)
36	RUT_LOW	999 (%)	Percent of low severity ruts (on a 0-200% scale) in both wheelpaths	Contractor Post-processing	Database Processing	Untested (5)
37	RUT_MED	999 (%)	Percent of medium severity ruts (on a 0-200% scale) in both wheelpaths	Contractor Post-processing	Database Processing	Untested (5)
38	RUT_HI	999 (%)	Percent of high severity ruts (on a 0-200% scale) in both wheelpaths	Contractor Post-processing	Database Processing	Untested (5)
39	XFALL	999.9 (% slope)	Cross fall at start of road interval	ARAN Data Collection	Automatic Output	Untested
40	GRADE	999.9 (% slope)	Grade at start of road interval	ARAN Data Collection	Automatic Output	Untested
41	AC_INDEX	999	Alligator cracking index	Contractor Post-processing	Database Processing	100% for calculation (5) (6)
42	AC_LOW	999.9999 (%)	Percent of WiseCrax measured lane area with low-severity alligator cracking	Contractor Post-processing	Pavement Video Analysis	As a Computed 95% Confidence Level (5) (6)
43	AC_MED	999.9999 (%)	Percent of WiseCrax measured lane area with medium-severity alligator cracking	Contractor Post-processing	Pavement Video Analysis	As a Computed 95% Confidence Level (5) (6)
44	AC_HI	999.9999 (%)	Percent of WiseCrax measured lane area with high-severity alligator	Contractor Post-processing	Pavement Video Analysis	As a Computed 95% Confidence Level (5) (6)

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
			cracking			
45	LC_INDEX	999	Longitudinal cracking index	Contractor Post-processing	Database Processing	100% for calculation (5) (6)
46	LC_LOW	999.99 (%)	Low-severity longitudinal cracking in lane as a percentage of road interval length	Contractor Post-processing	Pavement Video Analysis	As a Computed 95% Confidence Level (5) (6)
47	LC_MED	999.99 (%)	Medium-severity longitudinal cracking in lane as a percentage of road interval length	Contractor Post-processing	Pavement Video Analysis	As a Computed 95% Confidence Level (5) (6)
48	LC_HI	999.99 (%)	High-severity longitudinal cracking in lane as a percentage of road interval length	Contractor Post-processing	Pavement Video Analysis	As a Computed 95% Confidence Level (5) (6)
49	TC_INDEX	999	Transverse cracking index	Contractor Post-processing	Database Processing	100% for calculation (5) (6)
50	TC_LOW	999.99 (cracks)	Count of low-severity transverse cracks, where one crack unit equals the WiseCrax measured lane width	Contractor Post-processing	Pavement Video Analysis	As a Computed 95% Confidence Level (5) (6)
51	TC_MED	999.99 (cracks)	Count of medium-severity transverse cracks, where one crack unit equals the WiseCrax measured lane width	Contractor Post-processing	Pavement Video Analysis	As a Computed 95% Confidence Level (5) (6)
52	TC_HI	999.99 (cracks)	Count of high-severity transverse cracks, where one crack unit equals the WiseCrax measured lane width	Contractor Post-processing	Pavement Video Analysis	As a Computed 95% Confidence Level (5) (6)
53	PATCH_INDEX	999	Patching index	Contractor Post-processing	Database Processing	100% for calculation (5) (6)
54	PATCHING	999.9999 (%)	Percent of WiseCrax measured lane area affected by patching	Contractor Post-processing	Pavement Video Analysis	As a Computed 95% Confidence Level (5) (6)
55	GPS_LAT	999.999999	Latitude coordinate	ARAN Data Collection	Automatic Output	<= 3.00 feet
56	GPS_LON	-999.999999	Longitude coordinate	ARAN Data Collection	Automatic Output	<= 3.00 feet
57	GPS_ELEV	99999.9	Elevation	ARAN Data Collection	Automatic Output	Untested
58	GPS_MODE	XXX	GPS Satellite Mode during collection	ARAN Data Collection	Automatic Output	Untested
59	DATUM	(Text)	LL_WGS84_DD	ARAN Data Collection	Database Processing	100%
60	VIDEO	<Park>C04VID<#>	Removable USB video hard	Contractor Post-processing	Database Processing	Untested

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
			drive number			
61	IMAGE	(Text)	Filename of .jpg image showing road interval	Contractor Post-processing	Automatic Output	Untested
62	SPEED	999 (miles/hour)	Average ARAN speed during data collection	ARAN Data Collection	Automatic Output	Untested
63	BRIDGE_FLAG	0 or 1	Flag indicating presence of bridge in interval	ARAN Data Collection	Survey Crew Input	Untested
64	CONSTR_FLAG	0 or 1	Flag indicating construction in interval	ARAN Data Collection	Survey Crew Input	Untested
65	LANEDEV_FLAG	0 or 1	Flag indicating lane deviation in interval	ARAN Data Collection	Survey Crew Input	Untested
66	DATE	MM/DD/YY	Data collection date	ARAN Data Collection	Automatic Output	100%
67	NODISTRESS	0 OR 1	Flag indicating absence of pavement distress	Contractor Post-processing	Database Processing	100%
68	FILENAME	(Text)	Filename of raw data files	ARAN Data Collection	Automatic Output	100%
69	SECTION	(Text)	Route section ID	Route ID Meeting/ARAN Data Collection	Survey Crew Input/Automatic Output	100%
70	FKEY	(Numeric)	Unique record ID	Contractor Post-processing	Database Processing	100%
71	CONTRACTOR1	(Numeric)	Raw MP of first video frame in section	Contractor Post-processing	Database Processing	Untested
72	CONTRACTOR2	(Numeric)	Raw MP of last video frame in section	Contractor Post-processing	Database Processing	Untested
73	CONTRACTOR3	(Text)	Unique record ID used by VisiData	Contractor Post-processing	Database Processing	Untested
74	CONTRACTOR4	(Text)	Range of mileage to play in VisiData	Contractor Post-processing	Database Processing	Untested

ROUTE_GPS table metadata:

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
1	RIP_CYCLE	XX	4, for RIP data collection Cycle 4	Route ID Meeting	FHWA Determination	100% referenced to other tables
2	STATE	XX	State where route is located	Route ID Meeting	Park Input/FHWA Determination	Untested
3	PARK_ALPHA	XXXX	Park alpha code	Route ID Meeting	NPS References	100% Referenced to other tables
4	PARK_NO	XXXX	Park numeric code	Route ID Meeting	NPS References	100% Referenced to other tables
5	RTE_NO	9999XXX	Route number	Route ID Meeting	Park Input/FHWA Classification	100% Referenced to other tables
6	FUNCT_CLASS	X	Route functional classification	Route ID Meeting	Park Input/FHWA Classification	100% Referenced to other tables
7	RTE_NAME	(Text)	Route name	Route ID Meeting	Park Input	100% Referenced to other tables . 100 characters fit in field
8	LANE_NUMBER	99	Data collection lane	Contractor Post-processing	Database Processing	Untested
9	DIRECTION	XXX	Survey lane: PRI (primary) or OPP (opposite)	Route ID Meeting	Park Input/FHWA Determination	Untested
10	MP	999.999	Mile Post (at 0.01 record)	ARAN Data Collection, Contractor Post-processing	Survey Crew Input/GPS Processing	Untested (3)
11	GPS_LAT	999.999999	GPS Latitude Co-ordinate (decimal degrees)	ARAN Data Collection, Contractor Post-processing	Automatic Output	<= 3.00 feet
12	GPS_LON	-999.999999	GPS Longitude Co-ordinate (-decimal degrees)	ARAN Data Collection, Contractor Post-processing	Automatic Output	<= 3.00 feet
13	GPS_ELEV	99999.9	Elevation	ARAN Data Collection, Contractor Post-processing	Automatic Output	Untested
14	GPS_MODE	XXX	GPS Satellite Mode during collection	ARAN Data Collection, Contractor Post-processing	Automatic Output	Untested
15	XFALL	999.9	Cross Fall: % Slope at GPS Location (Caution, Data not Validated)	ARAN Data Collection, Contractor Post-processing	Automatic Output	Untested
16	GRADE	999.9	Grade: % Slope at GPS Location (Caution, Data not Validated)	ARAN Data Collection, Contractor Post-processing	Automatic Output	Untested
17	HEADING	999.9	Heading Relative to True North	ARAN Data Collection	Automatic Output	Untested
18	DATUM	(Text)	LL_WGS84_DD	ARAN Data Collection	Database Processing	Untested
19	FILENAME	(Text)	Filename of raw data files	ARAN Data Collection	Automatic Output	Untested
20	FKEY	9999999	Unique record ID	Contractor Post-processing	Database Processing	Untested

21	DATE	MM/DD/YY	ARAN Data Collection Date	ARAN Data Collection	Automatic Output	Untested
22	COMMENT	(Text)	Source of Any Digitized Data	ARAN Data Collection	Database Processing	Untested
23	CONTRACTOR1	(Numeric)	Visi_from	Contractor Post-processing	Database Processing	Untested
24	CONTRACTOR2	(Numeric)	Visi_to	Contractor Post-processing	Database Processing	Untested
25	CONTRACTOR3	(Text)	Visi_dir (ipdated to chapter 1)	Contractor Post-processing	Database Processing	Untested
26	CONTRACTOR4	(Text)	Comments/exceptions	Contractor Post-processing	Database Processing	Untested

FHWA "Route ID Program" Database
Database Name: ROUTEINFO.mdb
Table Name: ROUTE_ID

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
1	ROUTE_IDENT	XXXX-9999XXX	The Park's Alpha Code + "-" + RTE_NO (below).	Route ID Meeting	Automatic Output	100%, Reference source for all tables
2	RIP_CYCLE	99	4, for RIP data collection Cycle 4	Route ID Meeting	FHWA Determination	100%, Reference source for all tables
3	PARK_ALPHA	XXXX	Park Alpha Code	Route ID Meeting	NPS References	100%, Reference source for all tables
4	GROUP_ALPHA	XXXX	Group Alpha Code	Route ID Meeting	NPS References	100%, Reference source for all tables
5	PARK_NO	9999	Park Numeric Code	Route ID Meeting	NPS References	100%, Reference source for all tables
6	PARK_NAME	(text)	NPS Name of Park	Route ID Meeting	NPS References	100%, Reference source for all tables
7	RTE_NO	9999XXX	Route Number	Route ID Meeting	Park Input	100%, Reference source for all tables
8	RTE_NAME	(Text)	Route Name	Route ID Meeting	Park Input	100%, Reference source for all tables
9	FROM_DESC	(Text)	Beginning terminus of route	Route ID Meeting	Park Input/FHWA Determination	100%, Reference source for all tables
10	TO_DESC	(Text)	Ending terminus of route	Route ID Meeting	Park Input/FHWA Determination	100%, Reference source for all tables
11	INSP_DATE	MM/DD/YYYY	Collection Date	ARAN Data Collection	FHWA Determination	100%, Reference source for all tables
12	FUNCT_CLASS	XX	Functional Class	Route ID Meeting	Park Input/FHWA Determination	100%, Reference source for all tables
13	STATE	XX	State where route is located	Route ID Meeting	Park Input/FHWA Determination	Untested (1)
14	STATE2	XX	Additional State Park Route traverses	Route ID Meeting	Park Input/FHWA Determination	Untested (1)
15	FMSS_NO	(Text)	NPS's Facility Management Software System (FMSS) Asset number	Route ID Meeting	Park Input	100%, Reference source for all tables
16	FMSS_SUR_EQP	(Text)	FMSS Surface Equipment Number	Route ID Meeting	Park Input	Untested
17	M_DISTRICT	(Text)	Park Maintenance District Route resides in	Route ID Meeting	Park Input	100%, Reference source for all tables (1)
18	TOPOGRAPHY	(Text)	Predominate Terrain condition for	Route ID Meeting	FHWA Determination	100%, Reference source for all

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
			Route. (FLAT, ROLLING, MOUNTAINOUS, or URBAN)			tables (1)
19	POSTED_SPEED	99	Posted Speed Limit for Route (Value is Predominate Speed Limit along Route)	Route ID Meeting	Park Input/FHWA Determination	Untested (1)
20	ARAN_ROUTE	XXX	Yes/No	Route ID Meeting	Park Input/FHWA Determination	100%, Reference source for all tables
21	PARKING_AREA	XXX	Yes/No	Route ID Meeting	Park Input/FHWA Determination	100%, Reference source for all tables
22	CONCESSION	XXX	Yes/No	Route ID Meeting	Park Input	100%, Reference source for all tables
23	PAVED_MI	999.999	Paved mileage (to the nearest 0.001)	ARAN Data Collection	Automatic Output	100%, Reference source for all tables
24	UNPAVED_MI	999.999	Unpaved mileage (to the nearest 0.001)	Route ID Meeting	Automatic Output	100%, Reference source for all tables
25	RTE_LENGTH	999.999	Official Route Length	Contractor Post-processing	Automatic Output	100%, Reference source for all tables
26	SURF_TYPE	XX	Surface type (PAVED: AS (asphalt, includes composite), CO (concrete), BR (brick/pavers), CB (cobblestone), OT (other))	Route ID Meeting	Survey Crew Input	100%, Reference source for all tables (1)
27	UNPAVED	XXXX	Unpaved Route (Yes/No/Both)	Route ID Meeting	Automatic Output	100%, Reference source for all tables
28	UNPAVED_CAT	XXX	Unpaved Road Category	Route ID Meeting	Automatic Output	Untested
29	CURB	(Text)	Parking Area with Curb around perimeter.	Route ID Meeting	Park Input/FHWA Determination	Untested
30	CURB_GUTTER	(Text)	Parking Area with Curb and Gutter around perimeter.	Route ID Meeting	Park Input/FHWA Determination	Untested
31	ADJ_ROUTE	9999XXX	Route number	Route ID Meeting	Automatic Output	100%, Reference source for all tables
32	USER_ACCESS	(Text)	Access Designation for Parking	Route ID Meeting	Park Input/FHWA Determination	100%, Reference source for all tables
33	PHOTO_NO	(Text)	Photo or Image	Route ID Meeting	Survey Crew Input	100%, Reference source for all tables
34	PLOT_SIZE	(Text)	Unpaved Parking Area Size	Route ID Meeting	Automatic Output	100%, Reference source for all tables
35	SQ_FEET	999.999	Route Square Footage	Contractor Post-processing	Automatic Output	100%, Reference source for all tables
36	M_RATING	(Text)	Manual Rating	Route ID Meeting	Automatic Output	100%, Reference source for all tables

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
37	SQ_YARDS	999.999	Route Square Yardage	Contractor Post-processing	Automatic Output	100%, Reference source for all tables
38	LANES	XX	Route travel lanes	Route ID Meeting	Automatic Output	Untested (1)
39	PAVE_WIDTH	999.99	Pavement Width (Weighted average)	RIP Post-processing	Automatic Output	100% Referenced to other tables
40	LANE_MILES	999.999	Route Equivalent Lane Miles	RIP Post-processing	Automatic Output	100%, Reference source for all tables
41	AREA_MAP	(Text)	1 or 2-digit number	Contractor Post-processing	FHWA/Contractor Input	100%, Reference source for all tables
42	REMARKS	(Memo)	General remarks on Park route and data collection operations.	Contractor Post-processing	FHWA/Contractor Input	Untested
43	SUMMARY_REC	XXXX-9999XXX	ROUTE_IDENT of summary Park Asset	Route ID Meeting	Park Input/FHWA Determination	100%, Reference source for all tables
44	NPS_REGION	(Text)	Park Region	Route ID Meeting	Park Input/FHWA Determination	100%, Reference source for all tables
45	DIVISION	(Text)	FHWA Division	Route ID Meeting	Park Input/FHWA Determination	100%, Reference source for all tables
46	PCR	999.99	Route Weighted Average PCR value	RIP Post-processing	Automatic Output	100% Referenced to other tables
47	SCR	999.99	Route Weighted Average SCR value	RIP Post-processing	Automatic Output	100% Referenced to other tables
48	AADT	999	Average Adjusted Daily Traffic	RIP	Automatic Output	Untested
49	SADT	999	Seasonal Adjusted Daily Traffic	RIP	Automatic Output	Untested
50	ADT_DATE	MM/DD/YYYY	Traffic Date of Collection	RIP	Automatic Output	Untested
51	BEG_LAT	999.999999	Route Begin GPS Latitude Coordinate (decimal degrees)	ARAN Data Collection	Automatic Output	<= 3.00 feet, Referenced from other tables
52	BEG_LON	-999.999999	Route Begin GPS Longitude Coordinate (-decimal degrees)	ARAN Data Collection	Automatic Output	<= 3.00 feet, Referenced from other tables
53	BEG_ELEV	99999.9	Route Begin Elevation	ARAN Data Collection	Automatic Output	100% Referenced to other tables
54	BEG_MODE	XXX	Route Begin GPS Satellite Mode during collection	ARAN Data Collection	Automatic Output	100% Referenced to other tables
55	END_LAT	999.999999	Route End GPS Latitude Coordinate (decimal degrees)	ARAN Data Collection	Automatic Output	<= 3.00 feet, Referenced from other tables

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
56	END_LON	-999.999999	Route End GPS Longitude Co-ordinate (-decimal degrees)	ARAN Data Collection	Automatic Output	<= 3.00 feet, Referenced from other tables
57	END_ELEV	99999.9	Route End Elevation	ARAN Data Collection	Automatic Output	100% Referenced to other tables
58	END_MODE	XXX	Route End GPS Satellite Mode during collection	ARAN Data Collection	Automatic Output	100% Referenced to other tables
59	DATUM	(Text)	LL_WGS84_DD	ARAN Data Collection	Automatic Output	100% Referenced to other tables
60	CHILD_ROUTE	XXX	Yes/No	Route ID Meeting	Automatic Output	100% Reference source for all tables
61	CULVERT_CNT	999	Route Culvert Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
62	DROP_INLET_CNT	999	Route Drop Inlet Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
63	GATE_CNT	999	Route Gate Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
64	TRAFLIGHT_CNT	999	Route Traffic Light Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
65	SIGN_CNT	999	Route Sign Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
66	LWCROSS_CNT	999	Route Low Water Crossing Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
67	BRIDGE_CNT	999	Route Bridge Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
68	TUNNEL_CNT	999	Route Tunnel Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
69	PULLOUT_CNT	999	Route Pullout Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
70	INTERSEC_CNT	999	Route Intersection Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
71	ST_BNDRY_CNT	999	Route State Boundary Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
72	PRK_BNDRY_CNT	999	Route Park Boundary Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
73	RETWALL_CNT	999	Route Retaining Wall Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
74	RR_CROSS_CNT	999	Route RR Crossing Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
75	CATTLE_CNT	999	Route Cattle Guard Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
76	OVHDSIGN_CNT	999	Route Overhead Sign Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
77	MILEMARK_CNT	999	Route Mile Marker Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
78	FHYD_CNT	999	Route Fire Hydrant Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
79	OVERPASS_CNT	999	Route Overpass Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
80	CABLE_TLNG	9999.999 (ft)	Route Total Length Cable Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
81	GDRAIL_TLNG	9999.999 (ft)	Route Total Length Guard/Guide Rail Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
82	GDWALL_TLNG	9999.999 (ft)	Route Total Length Guard/Guide Wall Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
83	TEMP_BARR_TLNG	9999.999 (ft)	Route Total Length Temporary Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
84	BOLLARD_TLNG	9999.999 (ft)	Route Total Length Bollard Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
85	BARRIER_TLNG	9999.999 (ft)	Route Total Length All Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
86	CURB_TLNG	9999.999 (ft)	Route Total Length Curbing (excludes Parking Areas)	RIP Post-processing	Automatic Output	100% Referenced to other tables
87	LWCROSS_TLNG	9999.999 (ft)	Route Total Length Low Water Crossings	RIP Post-processing	Automatic Output	100% Referenced to other tables
88	PAVDITCH_TLNG	9999.999 (ft)	Route Total Length Paved Ditch	RIP Post-processing	Automatic Output	100% Referenced to other tables (2)
89	TURNOUT_TLNG	9999.999 (ft)	Route Total Length Turnouts	RIP Post-processing	Automatic Output	100% Referenced to other tables
90	LANE_NUMBER	99	Number of Lane Tested	RIP Post-processing	Automatic Output	100% Referenced to other tables
91	LOCAL_FACTOR	9.9999	Park Location Factor	NPS Partner	Automatic Output	100% Reference source for all tables
92	E_ZONE	XXX	Route Environmental Zone	FHWA HPMA	Automatic Output	100% Reference source for all tables
93	PAVEMENT_DM	\$99,999,999.99	Pavement Deferred Maintenance	FHWA HPMA	Automatic Output	100% Reference source for all tables
94	CRV	\$99,999,999.99	Current Replacement Value	RIP Post-processing	Automatic Output	100% Reference source for all tables

Database Name: ROUTEINFO.mdb

Table Name: PARK_TOTALS

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
1	RIP_CYCLE	99	4, for RIP data collection Cycle 4	Route ID Meeting	FHWA Determination	100% Referenced to other tables
2	PARK_ALPHA	XXXX	Park Alpha Code	Route ID Meeting	FHWA Determination	100% Referenced to other tables
3	GROUP_ALPHA	XXXX	Group Alpha Code	Route ID Meeting	NPS References	100% Referenced to other tables
4	PARK_NO	9999	Park Numeric Code	Route ID Meeting	NPS References	100% Referenced to other tables
5	PARK_NAME	XXXX	NPS Name of Park	Route ID Meeting	NPS References	100% Referenced to other tables
6	INSP_DATE	MM/DD/YYYY	Date that data was collected in the park (completion date).	Route ID Meeting and ARAN Data Collection	FHWA Determination	100% Referenced to other tables
7	NPS_REGION	XXXX	Park Region	Route ID Meeting	Park Input	100% Referenced to other tables
8	DIVISION	XXXX	FHWA Division	Route ID Meeting	FHWA Determination	100% Referenced to other tables
9	T_PAVED_MI	999.999	Total Park Paved Miles	RIP Post-processing	Automatic Output	100% Referenced to other tables
10	T_UNPAVED_MI	999.999	Total Park Unpaved Miles	RIP Post-processing	Automatic Output	100% Referenced to other tables
11	T_ROUTE_MILES	999.999	Total Park Route Miles	RIP Post-processing	Automatic Output	100% Referenced to other tables
12	T_ARAN_DRIVEN	999.999	Total Park ARAN Driven Miles	RIP Post-processing	Automatic Output	100% Referenced to other tables
13	T_ARAN_LMILES	999.999	Total Park ARAN Lane Miles	RIP Post-processing	Automatic Output	100% Referenced to other tables
14	T_CONCESS_PAVED	999.999	Total Park Concession Paved Miles	RIP Post-processing	Automatic Output	100% Referenced to other tables
15	T_CONCESS_UNPAVED	999.999	Total Park Concession Unpaved Miles	RIP Post-processing	Automatic Output	100% Referenced to other tables
16	T_PRK_PAVEDSQFT	999.999	Total Park Parking Paved Square Feet	RIP Post-processing	Automatic Output	100% Referenced to other tables
17	T_PRK_UNPAVEDSQFT	999.999	Total Park Parking Unpaved Square Feet	RIP Post-processing	Automatic Output	100% Referenced to other tables
18	T_CPRK_PAVEDSQFT	999.999	Total Park Concession Parking Paved Square Feet	RIP Post-processing	Automatic Output	100% Referenced to other tables

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
19	T_CPRK_UNPAVEDSQFT	999.999	Total Park Concession Parking Unpaved Square Feet	RIP Post-processing	Automatic Output	100% Referenced to other tables
20	T_PARKING_SQFT	999.999	Total Park Parking Square Feet	RIP Post-processing	Automatic Output	100% Referenced to other tables
21	T_PARKING_LMILES	999.999	Total Park Parking Equivalent Lane Miles	RIP Post-processing	Automatic Output	100% Referenced to other tables
22	T_MRR_SQFT	999.999	Total Park Manually Rated Road Square Feet	RIP Post-processing	Automatic Output	100% Referenced to other tables
23	T_CMRR_SQFT	999.999	Total Park Concession Manually Rated Road Square Feet	RIP Post-processing	Automatic Output	100% Referenced to other tables
24	T_MRR_LMILES	999.999	Total Park Manually Rated Road Equivalent Lane Miles	RIP Post-processing	Automatic Output	100% Referenced to other tables
25	T_LMILES	999.999	Total Park Lane Miles	RIP Post-processing	Automatic Output	100% Referenced to other tables
26	T_CULVERT_CNT	999	Total Park Culvert Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
27	T_DROP_INLET_CNT	999	Total Park Drop Inlet Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
28	T_GATE_CNT	999	Total Park Gate Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
29	T_TRAFLIGHT_CNT	999	Total Park Traffic light Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
30	T_SIGN_CNT	999	Total Park Sign Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
31	T_LWCROSS_CNT	999	Total Park Low Water Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
32	T_BRIDGE_CNT	999	Total Park Bridge Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
33	T_TUNNEL_CNT	999	Total Park Tunnel Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
34	T_PULLOUT_CNT	999	Total Park Pullout Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
35	T_INTERSEC_CNT	999	Total Park Intersections Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
36	T_ST_BNDRY_CNT	999	Total Park State Boundaries Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
37	T_PRK_BNDRY_CNT	999	Total Park Boundaries Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
38	T_RETWALL_CNT	999	Total Park Retaining Wall Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
39	T_RR_CROSS_CNT	999	Total Park RR Crossing Count	RIP Post-processing	Automatic Output	100% Referenced to other

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
						tables
40	T_CATTLE_CNT	999	Total Park Cattle Guard Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
41	T_OVHDSIGN_CNT	999	Total Park Overhead Sign Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
42	T_MILEMARK_CNT	999	Total Park Mile Marker Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
43	T_FHYD_CNT	999	Total Park Fire Hydrant Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
44	T_OVERPASS_CNT	999	Total Park Overpass Count	RIP Post-processing	Automatic Output	100% Referenced to other tables
45	T_CABLE_TLNG	9999.999 (ft)	Total Length Park Cable Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
46	T_GDRAIL_TLNG	9999.999 (ft)	Total Length Park Guard/Guide Rail Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
47	T_GDWALL_TLNG	9999.999 (ft)	Total Length Park Guard/Guide Wall Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
48	T_TEMP_BARR_TLNG	9999.999 (ft)	Total Length Park Temporary Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
49	T_BOLLARD_TLNG	9999.999 (ft)	Total Length Park Bollard Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
50	T_BARRIER_TLNG	9999.999 (ft)	Total Length All Park Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
51	T_CURB_TLNG	9999.999 (ft)	Total Length Park Curbing	RIP Post-processing	Automatic Output	100% Referenced to other tables
52	T_LWCROSS_TLNG	9999.999 (ft)	Total Length Park Low Water Crossings	RIP Post-processing	Automatic Output	100% Referenced to other tables
53	T_PAVDITCH_TLNG	9999.999 (ft)	Total Length Park Paved Ditches	RIP Post-processing	Automatic Output	100% Referenced to other tables (2)
54	T_TURNOUT_TLNG	9999.999 (ft)	Total Length Park Turnouts	RIP Post-processing	Automatic Output	100% Referenced to other tables
55	PARK_PCR	99.99	Overall Park PCR Rating	RIP Post-processing	Automatic Output	100% Referenced to other tables
56	PARK_RCI	99.99	Overall Park RCI Rating	RIP Post-processing	Automatic Output	100% Referenced to other tables
57	PARK_SCR	99.99	Overall Park SCR Rating	RIP Post-processing	Automatic Output	100% Referenced to other tables
58	PARK_RUT_INDEX	99.99	Overall Park Rutting Index Rating	RIP Post-processing	Automatic Output	100% Referenced to other tables
59	PARK_AC_INDEX	99.99	Overall Park Alligator Cracking Index Rating	RIP Post-processing	Automatic Output	100% Referenced to other tables

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
60	PARK_LC_INDEX	99.99	Overall Park Longitudinal Cracking Index Rating	RIP Post-processing	Automatic Output	100% Referenced to other tables
61	PARK_TC_INDEX	99.99	Overall Park Transverse Cracking Index Rating	RIP Post-processing	Automatic Output	100% Referenced to other tables
62	PARK_PATCH_INDEX	99.99	Overall Park Patching Index Rating	RIP Post-processing	Automatic Output	100% Referenced to other tables
63	PARK_CONC_PCR	99.99	Overall Park Concession PCR Rating	RIP Post-processing	Automatic Output	100% Referenced to other tables

Business Practices for Route Numbering and Roadway Asset Identification

Introduction and Background:

Beginning in November 2006, inventory and condition information gathered by the Federal Highway Administration (FHWA) has been stored in FMSS to enable NPS to report Deferred Maintenance (DM) and Current Replacement Value (CRV) for NPS paved roads, paved parking areas, bridges, and tunnels. The NPS Roads Working Group (RWG) has been tasked with developing and implementing the procedures necessary to transfer DM and CRV from FHWA's databases to NPS' Facility Management Software System (FMSS).

Current business practices for roadway definition in national parks involve face-to-face meetings between FHWA personnel and individual park staff known as "Route ID" meetings. These meetings have been ongoing for several years and have been performed within the context of the Road Inventory Program (RIP) executed mainly by FHWA. The primary focus of these meetings has been on defining roadway static information such as route names, numbers, functional class, etc. The FHWA personnel are the primary individuals responsible for implementing the RIP and the route ID meetings are an integral and fundamental part of that process. The RIP process provides route numbers for each individual road and parking area in each park. After the route ID meetings establish a given park's roadway asset base, various types of condition and inventory data are collected either manually or with a data collection van that drives each individual road with an individual route number.

The FMSS requires asset numbers as unique identifiers for all asset types including roadways. **The current practice is that all roadways that are assigned a route number at route ID, also are defined as assets and therefore also receive an FMSS asset number** (Route names and functional classes are also collaboratively assigned during the face-to-face route ID meetings). This practice began midway through the third RIP data collection cycle (ending in 2003) and was further reinforced during an asset alignment process conducted in the summer of 2006. The alignment process ensured that each route number in RIP and each asset number in FMSS were matched to the correct road and parking area.

Issue Statement:

As a result of various pre-existing business practices associated with the RIP, which predates FMSS by several years, route numbers are assigned for routes that are often very small. In tandem with the current business practice that all routes with route numbers are considered assets, this has caused a proliferation of asset numbers within FMSS. Over the past year, the RWG has learned that this business practice has significantly increased time and resources that parks must dedicate to administering FMSS data entry and management. This additional work effort is due to the fact that tying FMSS asset records to the more detailed, granular RIP route numbers has generated numerous new assets that require additional database and work order management. This has led to a situation where assets are not being defined the way they are managed.

The following proposed practices seek to create an asset definition process that is dictated by to how road assets are managed at the park level, not according to the pre-existing practices used in RIP for collecting detailed road information. RIP practices assign route numbers mainly based on how data are collected and driven with a data collection device. These procedures will disassociate the driving of roads with the data collection van from the process of assigning them asset status. **The end goal is to only assign asset numbers based on how parks manage their facilities within guidelines set up within FMSS and herein.** Driving the road with the data collection van allows for the collection of higher quality data as well as the ability to view road segments with video viewing software (Visidata). By de-linking driving the roads with the assignment of “asset status”, we are able to get the best quality data without the proliferation of assets that has serious negative ramifications for managing roadways in parks using asset management tools.

Proposed Actions:

1. Make a distinction within the route number field in the RIP database between those route numbers that represent assets, those that are subcomponents of assets and those that are groups of sub-components. The route number field in the RIP database will be expanded from 6 to 7 characters. The additional character will denote the asset status of the route in question. Combined routes will be designated with a double “zz”, while subcomponents will be designated with one “z”. Whenever possible, a combined route should use the lowest route number to be combined as the combined route number.
2. Only show assets, whether a group of subcomponents or a single component, on the Route ID report. Assets that are composed of subcomponents will have “zz” in the route number. Individual routes will have no additional characters in the route number. Subcomponents (designated in RIP with a “z”) will not be listed on the route ID report. Only assign asset numbers to those routes listed on the route ID report.
3. Provide a separate reporting function (other than the Route ID report) to identify and display information for route numbers not representing assets. Specific reporting requirements and format TBD.
4. Add a new field to the RIP database to indicate the “asset status” of a route number. The flag will have three possible values:
 - a. Asset with no subcomponents.
 - b. Asset with subcomponents.
 - c. Non-asset (i.e. subcomponent).

Both a change in the route number and a new “asset ID” field in the RIP database are recommended. It is easier to perform queries and other database manipulations using a separate field instead of a character within the route number field. The character in the route number field allows for rapid identification of the asset status of a road without having to access the database as a whole. Even though non-asset routes will not be included in the route ID report (the primary location for parks to view road information in RIP), there are many other reports as well as the Visidata application where the route number is

displayed. In these cases, the character in the route number will clearly identify the asset status of the roadway.

5. Focus asset definition practices on NPS asset management needs. Create roadway assets based on how parks manage these assets within the following guidelines:
 - a. Individual road segments (asset subcomponents) may be combined into a single asset. **Note that all the attributes of individual subcomponents (paved area, equipment, work orders, etc) will be included in the combined asset.**
 - b. In general, combination should be used in complex circulatory environments such as campground areas, housing and other administrative areas, maintenance areas, etc.
 - c. Public and non-public segments may not be combined.
 - d. Segments with differing functional classes may not be combined.
 - e. Discrete parking areas may be combined into a single asset where they service the same facility or resource and are within walking distance of each other.
 - f. Parking areas and roads may not be combined. This includes short road segments that may be near or adjacent to parking areas. See 5h below for exceptions to this.
 - g. Where the primary purpose of a road is to provide access to a parking area, and that road segment is approximately 0.25 miles in length or shorter, the access road should be considered part of the parking area (Note that this is an existing RIP business practice).
 - h. Particularly long routes may be divided into multiple assets based on how a park manages the roadway network. This should not be confused with the use of sub-components listed in 5a.
 - i. Roads that are actively managed by concession operations may not be combined with those managed by the NPS.

Discussion:

The first four items listed above are actions required by FHWA RIP to allow for the adoption of the practices shown in 5a-i. The following will provide additional direction and examples for guidelines listed.

Individual road segments (asset subcomponents) may be combined into a single asset. Where previous route ID practices have generated more assets (routes) than are practical from an asset management standpoint, small, discrete road lengths may be designated as asset subcomponents and then combined into a larger single asset. A subcomponent is NOT an FMSS term. Subcomponents will be used in RIP to indicate which routes are small, drivable individual road segments and which routes may include these segments. Once a piece of road is designated a subcomponent of another route, it will no longer have any individual identity in FMSS. Only those routes listed on the RIP Route ID report will have asset numbers in FMSS. As stated in business rule 2 above, subcomponents will not be listed on the route ID. The quantity information (length, area) will be included into the larger route of which they are a part. See Figures 1 and 2 for an example of how existing assets may be combined using subcomponents. Note that

subcomponents will have an identity in the RIP database and, if driven by RIP team, may be referenced in RIP reports, Visidata, or other RIP documentation.

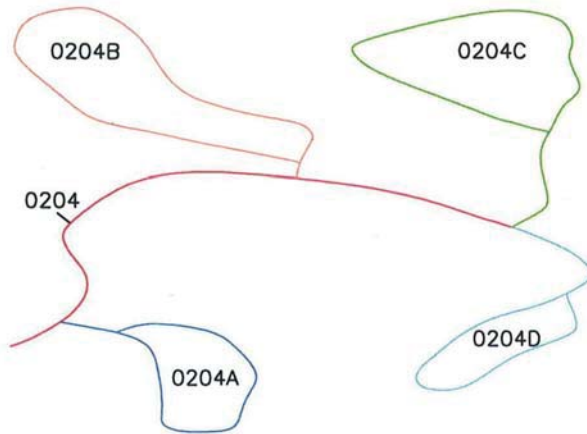


Figure 1: Campground with five routes and five assets

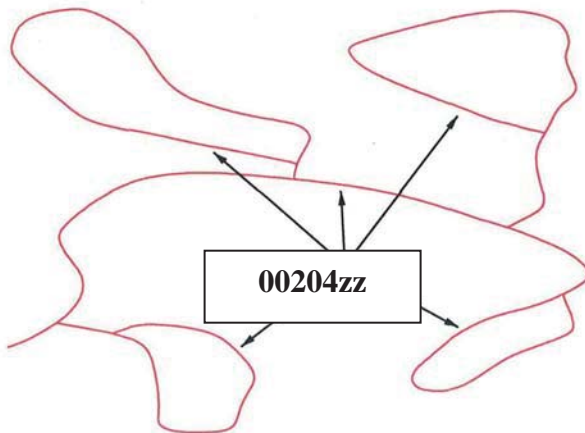


Figure 2: Campground with all loops combined into one route and one asset. This has eliminated four assets.

In general, combination should occur in complex circulatory environments such as campground areas, housing and other administrative areas, maintenance areas, etc.

Typically these complex situations are where too many assets have been used to define roadways. Combining simple “point A to point B” roads that are clearly defined and provide access to different facilities or locations may not be done.

Public and non-public segments may not be combined. Roads that are posted as closed to the public or are intended as administrative access only (maintenance areas, housing areas, fire roads, etc) can not be combined with roads open to the public.

Segments with differing functional classes may not be combined. The roadway functional class is found on the Route ID report. Functional class indicates the type of circulatory function a given road provides. Functional class is used in a variety of applications (engineering, safety, funding) so it is important to maintain the correct functional class attributes of individual roads/assets. There are some cases where functional class was erroneously assigned in prior Route ID meetings such as where campground loops have a different functional class than the campground road. Functional classes of individual roads may be modified to correct discrepancies. The functional class definitions may not be modified.

Discrete parking areas may be combined into a single asset where they service the same facility or resource and are within walking distance of each other. These combined areas should be maintained as one asset. There are many instances where small (5-10 space), discrete parking areas have been separated into individual assets even though they provide parking for the same area or facility. These may be combined into a single asset. Figures 3 and 4 shows examples of combining parking areas.

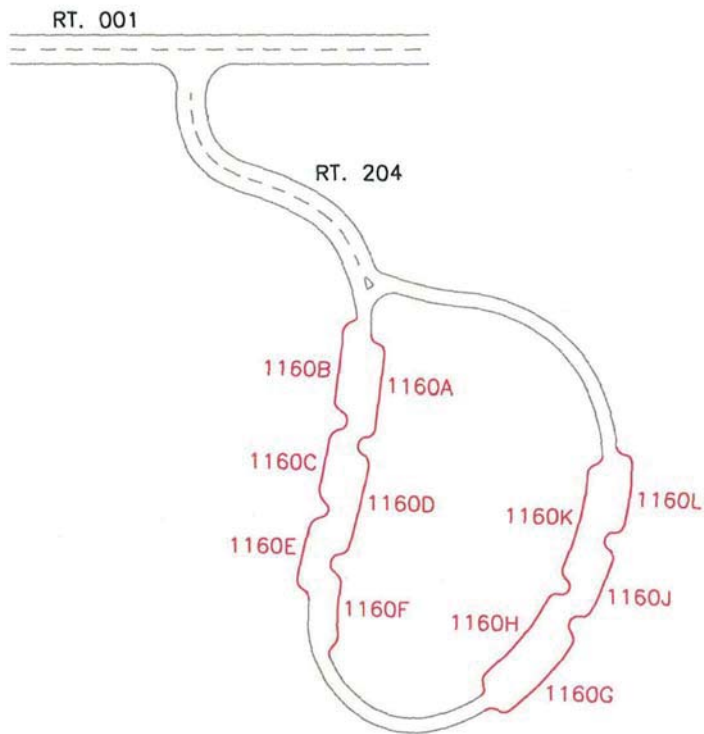


Figure 3: Parking with access route 204 and multiple parking areas (1160 A-L). Currently, this parking area is 12 routes and 12 assets (one 1100 asset and 11 1300 assets).

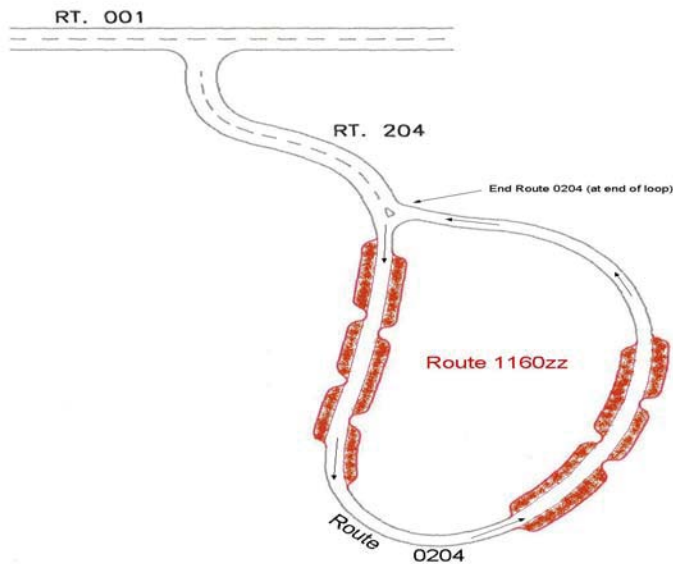


Figure 4: Parking with access route 204 and one parking area 1160zz. Route 204 is assumed longer than 0.25 miles. There are now 2 assets (one 1100 asset, one 1300 asset) instead of 12.

Parking areas and roads may not be combined. Parking areas and roads are tracked as separate asset types (1300 vs. 1100) in FMSS and as such should not be combined except in situations described by 5g. In Figure 5, Route 207 is a spur road from the main route running through parking area 1102. Since the spur road continues through and beyond the parking area, it will remain a separate route.

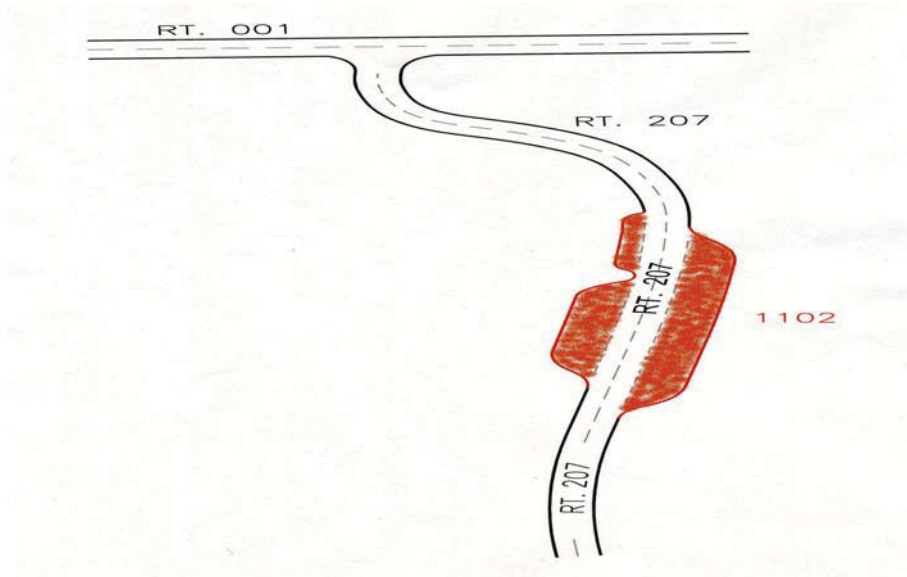


Figure 5: Parking with access route 207 running through and continuing beyond parking 1102. This access route cannot be considered a part of the parking area and two routes and two assets continue to exist.

Where the primary purpose of a road is to provide access to a parking area, and that road segment is less than 0.25 miles in length, the access road should be considered part of the parking area. See Figures 8. Where a road continues on past a parking area to another facility or destination, even if it is less than 0.25 miles to the initial parking area, the road and parking area may not be combined.

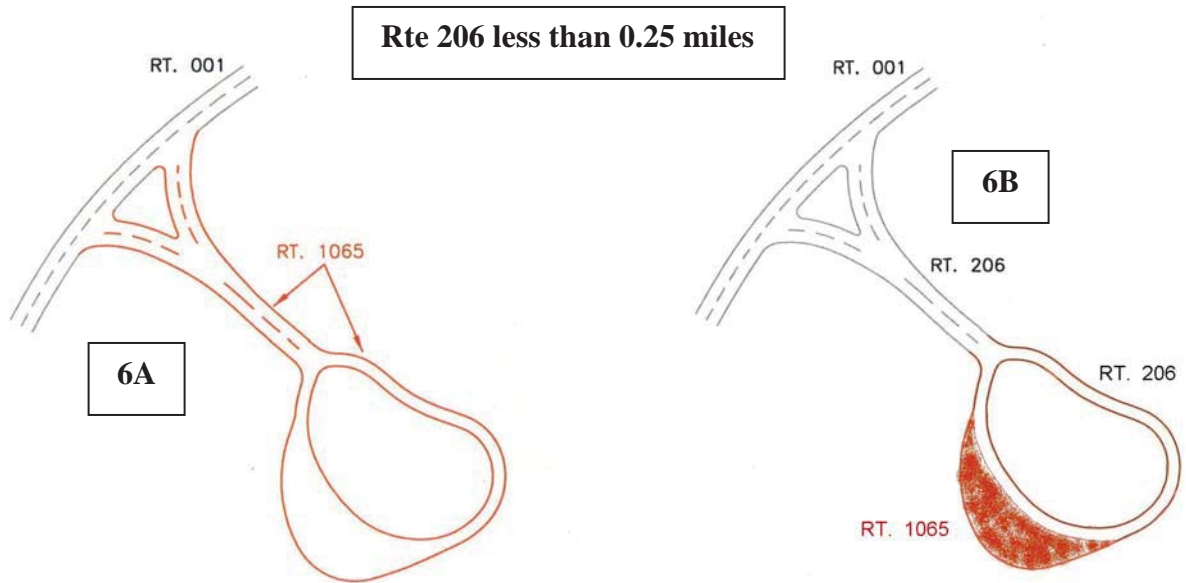


Figure 6: Since the access route is less than .25 miles in length and the only use of the access is to the parking, one route for both the access and the parking area can be established.

Particularly long routes may be divided into multiple assets based on how a park manages the roadway network. This should not be confused with the use of sub-components listed in 5a. Routes like the Blue Ridge Parkway or the Yellowstone Grand Loop may not lend themselves to management as a single asset by virtue of their length. Often management districts are created for sections of these routes and maintenance activities occur primarily within these districts. Parks may break routes up into separate assets during the Route ID process if the road is managed as discrete sections. This should only be done for very long roads.

The following example illustrates a complex road system and how the proposed business practice and several of the guidelines could be applied to create fewer assets that are consistent with local management.

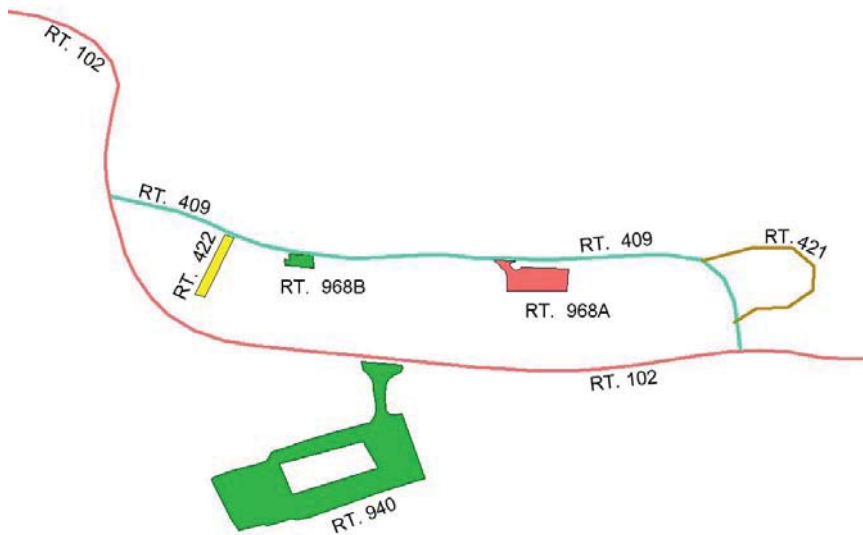


Figure 7 – Current Housing area access configuration. Route 409 is less than 0.25 miles long.

The area serviced by Routes 409, 421, 422, 968A, and 968B is all employee housing. Route 940 provides access to visitor services and not to the housing area. Routes may be combined to create assets that reflect local management. Routes 409, 421, and 422 are all the same functional class, provide access to one type of activity (housing) and are all posted as non-public. These routes may be combined. They should not be combined with any parking areas even though they are all less than 0.25 miles long. This is because their main function is not to provide access to parking. Routes 968A and B provide parking for access to the same facility (housing). Even though these discrete areas may provide parking to different housing units, it's reasonable to manage them as a single asset. They may also be combined.

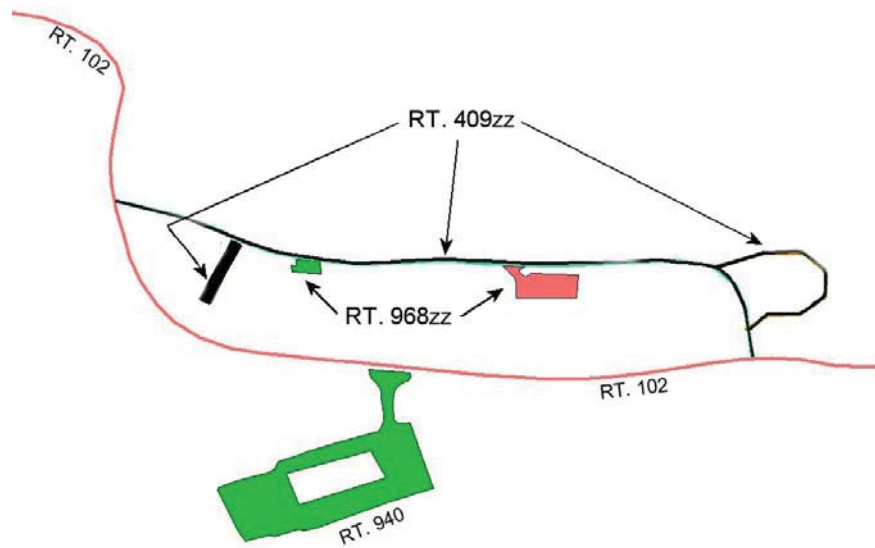


Figure 8 – Combined housing area access configuration – Parking and road assets combined to eliminate 3 assets.