

## The Road Inventory of Theodore Roosevelt National Park THRO – 1540 Cycle 4







Prepared By: Federal Highway Administration Road Inventory Program Cycle 4

## Theodore Roosevelt National Park in North Dakota





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# Theodore Roosevelt 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 21<sup>st</sup> 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.

**<u>RIP Cycle 4:</u>** 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

FHWA/EFLHD 21400 Ridgetop Circle Sterling, VA 20166 (703) 404-6371 FHWA/CFLHD 12300 West Dakota Ave. Lakewood, CO 80228 (720) 963-3560

# Theodore Roosevelt National Park



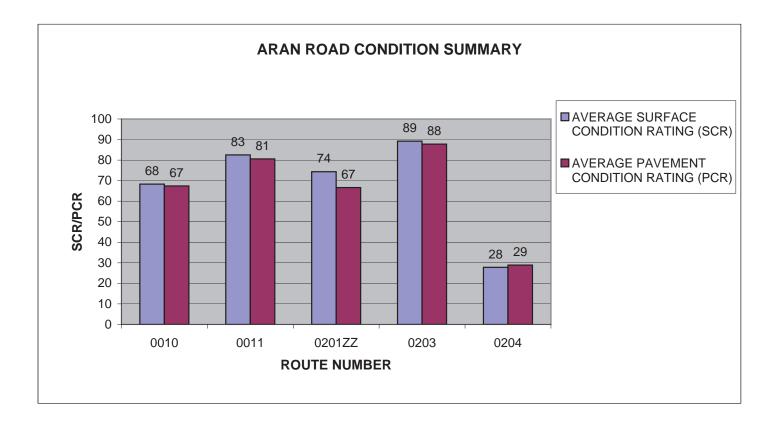
# Section 2 Park Summary Information

### THRO: PAVED ROUTE MILES AND PERCENTAGES BY FUNCTIONAL CLASS AND PCR

		Pavement Condition Rating (PCR)											
	Poor (•	<=60)	Fair (6	1-84)	Good	(85-94)	Excellent	TOTAL					
F.C.	MILES	% MILES % MILES %		MILES	%	MILES							
1	4.68	14.05%	11.71	35.15%	5.02	15.07%	8.70	26.12%	30.11				
2	0.75	2.25%	0.02	0.06%					0.77				
3	0.71	2.13%	0.60	1.80%	0.19	0.57%	0.18	0.54%	1.68				
4													
5	0.36	1.08%	0.16	0.48%	0.02	0.06%			0.54				
6													
7													
8	0.15	0.45%	0.06	0.18%					0.21				
Totals	6.65	19.96%	12.55	37.68%	5.23	15.70%	8.88	26.66%	33.31				

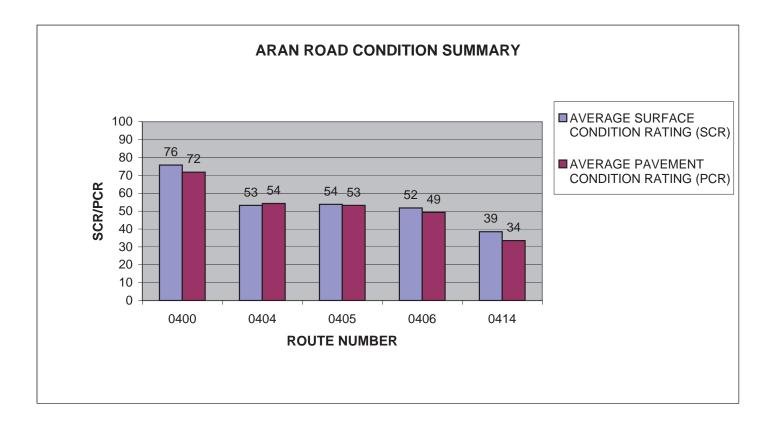
#### THRO: ARAN ROAD CONDITION SUMMARY

ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	ROUTE LENGTH	~	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0010	SCENIC DRIVE	1	13.86	ASPHALT	68	67
0011	SCENIC LOOP	1	28.75	ASPHALT	83	81
0201ZZ	COTTONWOOD CAMPGROUND AREA	3	1.42	ASPHALT	74	67
0203	PEACEFUL VALLEY RANCH ROAD	3	0.26	ASPHALT	89	88
0204	BUCK HILL SPUR	2	0.75	ASPHALT	28	29



#### THRO: ARAN ROAD CONDITION SUMMARY

ROUTE NUMBER	ROUTE NAME	101101	ROUTE LENGTH		AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0400	THIRD AVENUE	5	0.08	ASPHALT	76	72
0404	NORTH UNIT MAINTENANCE ROAD	5	0.3	ASPHALT	53	54
0405	HEADQUARTERS STREET	8	0.21	ASPHALT	54	53
0406	GRAY HOUSE ROAD	5	0.33	ASPHALT	52	49
0400	SKAT HOUSE KOLD	e	0.00		-	

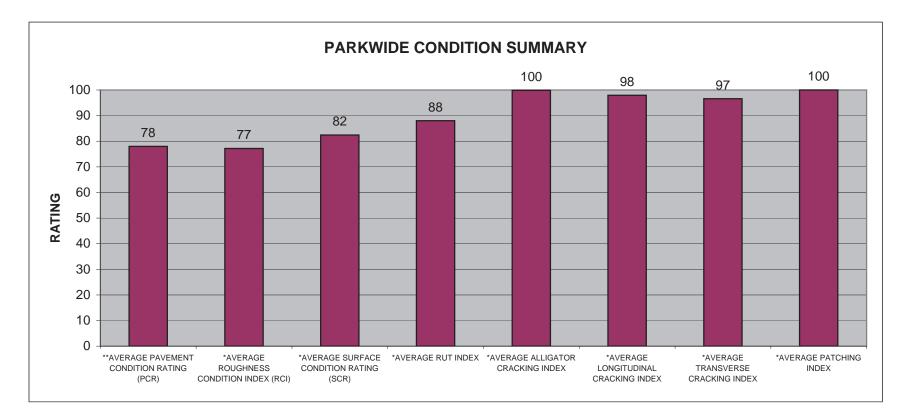


### THRO: PARKWIDE CONDITION SUMMARY

**AVERAGE	*AVERAGE	*AVERAGE		*AVERAGE	*AVERAGE	*AVERAGE	
PAVEMENT	ROUGHNESS	SURFACE		ALLIGATOR	LONGITUDINAL	TRANSVERSE	*AVERAGE
CONDITION	CONDITION	CONDITION	*AVERAGE	CRACKING	CRACKING	CRACKING	PATCHING
RATING (PCR)	INDEX (RCI)	RATING (SCR)	RUT INDEX	INDEX	INDEX	INDEX	INDEX
78	77	82	88	100	98	97	100

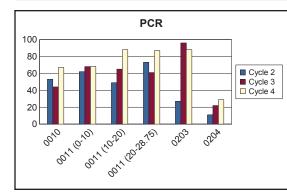
\*\* PCR Index is based on all ARAN-driven roads, parking areas, and manually rated routes.

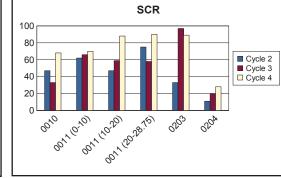
\* Index values are based on ARAN-driven roads only.

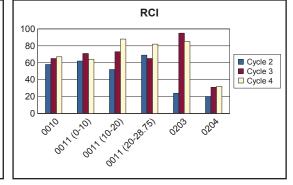


THRO	CYCLE 2 vs CYCLE 3 vs CYCLE 4 CONDITION COMPARISONS
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					EMENT RATIN		DITION (R)	5	SURFACE CONDITION RATING (SCR)				ROUG		CONDITION K (RCI)	Ι
ROUTE NUMBER	PAVED MILES	FROM MILEPOST	TO MILEPOST	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	COMMENT
0010	1.38	0.00	1.38	53	44	67	+52%	47	33	68	+106%	58	65	67	+3%	
0011	10.00	0.00	10.00	62	68	68	0%	62	66	70	+6%	62	71	64	-10%	
0011	10.00	10.00	20.00	49	65	88	+35%	47	59	88	+49%	52	73	88	+21%	
0011	8.75	20.00	28.75	73	61	87	+43%	75	58	90	+55%	69	65	82	+26%	
0203	0.26	0.00	0.26	27	96	88	-8%	33	97	89	-8%	24	95	85	-11%	
0204	0.73	0.00	0.73	11	22	29	+32%	11	20	28	+40%	20	31	32	+3%	



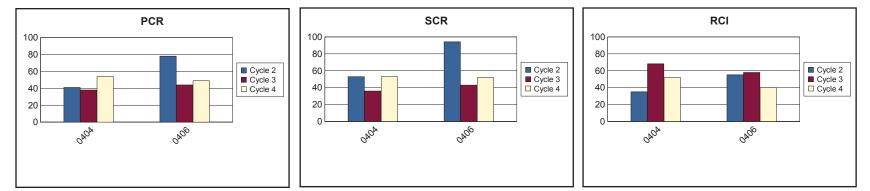




Cycle 4 Data Collected 10/16/2008 - 10/17/2008

THRO	CYCLE 2 vs CYCLE 3 vs	<b>CYCLE 4 CONDITION COMPARISONS</b>
------	-----------------------	--------------------------------------

				1 · · ·	PAVEMENT CONDITION RATING (PCR)			SURFACE CONDITION RATING (SCR)				R	OUGI	1			
ROUTE NUMBER	PAVED MILES	FROM MILEPOST	TO MILEPOST	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE			CYCLE 3	CYCLE 4	PERCENT CHANGE	COMMENT
0404	0.30	0.00	0.30	41	38	54	+42%	53	36	53	+47%	-	35	68	52	-24%	
0406	0.31	0.00	0.31	78	44	49	+11%	94	43	52	+21%	:	55	58	40	-31%	



Cycle 4 Data Collected 10/16/2008 - 10/17/2008

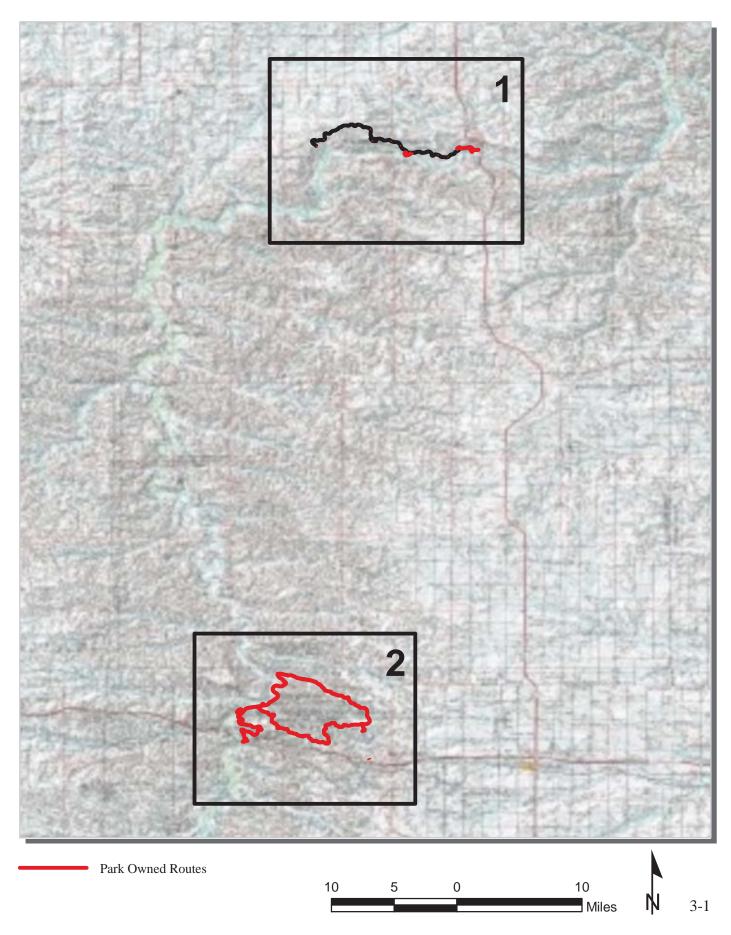


# Theodore Roosevelt National Park

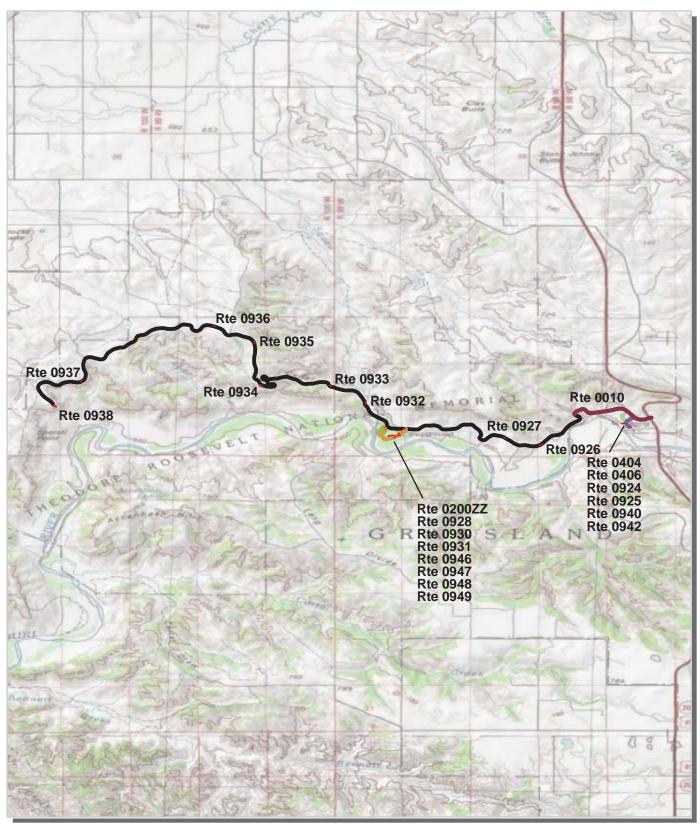


# Section 3 Park Route Location / Condition Maps

#### Theodore Roosevelt National Park Route Location Map Key Map



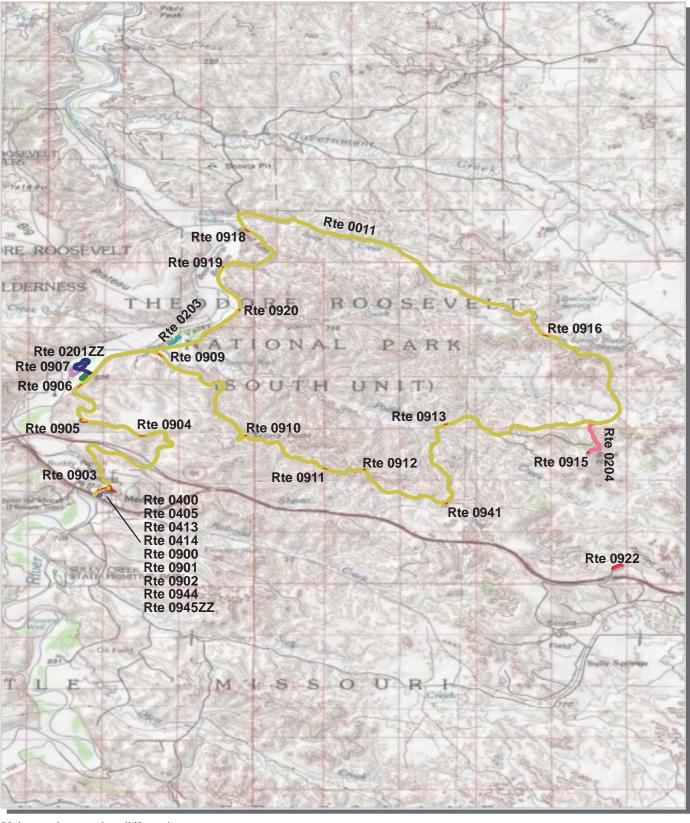
#### Theodore Roosevelt National Park Route Location Map Area 1



Unique colors used to differentiate routes



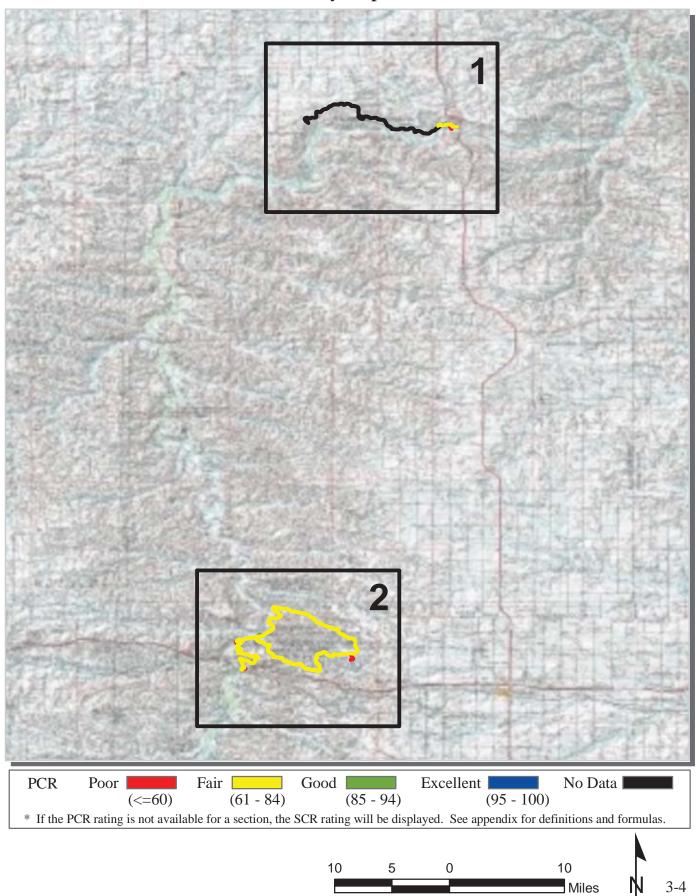
#### Theodore Roosevelt National Park Route Location Map Area 2



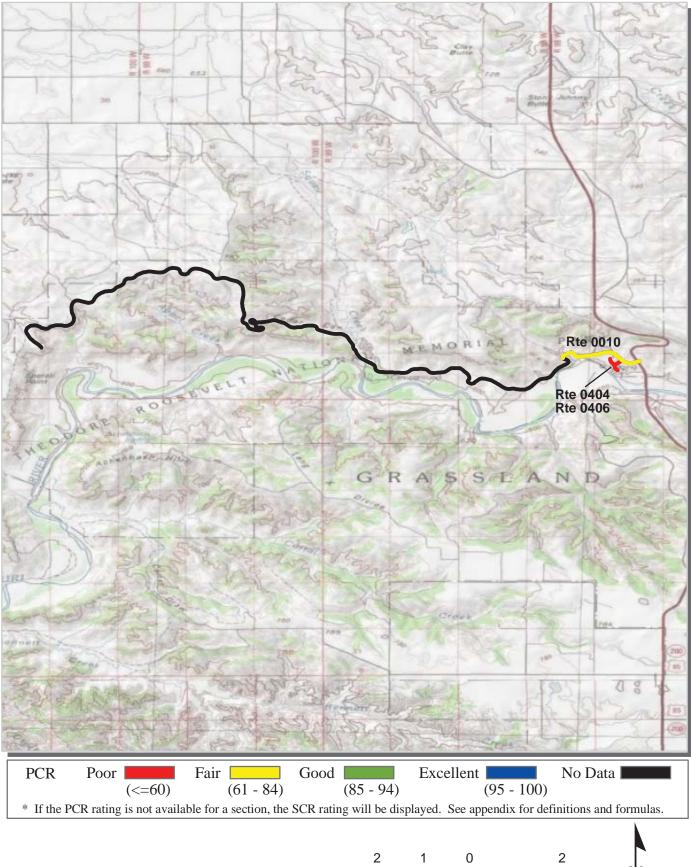
Unique colors used to differentiate routes



Theodore Roosevelt National Park Route Condition Map PCR - Mile by Mile Key Map



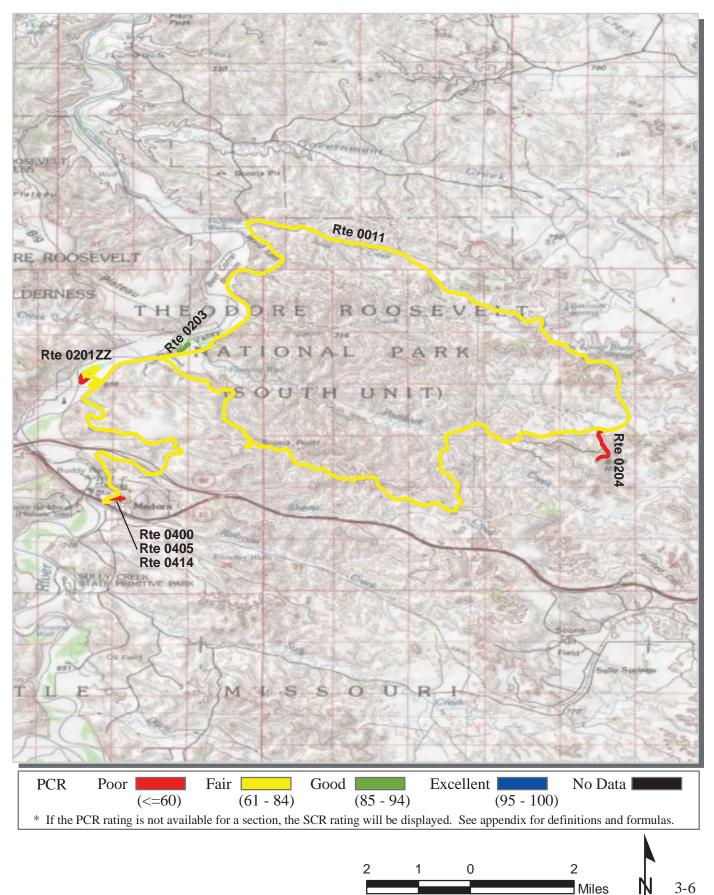
#### Theodore Roosevelt National Park Route Condition Map PCR - Mile by Mile Area 1



3-5

Miles

#### Theodore Roosevelt National Park Route Condition Map PCR - Mile by Mile Area 2



# Theodore Roosevelt National Park



# Section 4 Park Route Inventory

### **NPS/RIP** Route ID Report

Road Inventory Program 11/13/2009

(Numerical By Route #)

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Shading Color Key:<br/>Red text denotes<br/>approx. mileageWhite = Paved Routes, ARAN DrivenYellow = Unpaved Routes, ARAN not DrivenBlue = All Paved Parking AreasGreen = All Unpaved Parking AreasGrey = Paved Routes, ARAN not DrivenBlack = 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)

Rte. No.	FMSS No.	Concess Route	Route Name	Route De From	scription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Rte. Lanes	Manual Rated SQ/FT	Surf. Type	Area Maps
0010	56765		SCENIC DRIVE	FROM U.S. 85	TO ROUTE 0938 (OXBOW OVERLOOK)	NORTH UNIT	13.860	0.000	13.860	1		0	AS	1
0011	49027		SCENIC LOOP	FROM U.S. BUSINESS 94	TO END OF LOOP	SOUTH UNIT	28.750	0.000	28.750	1		0	AS	2
0100	49039		NORTH BOUNDARY ROAD	FROM ROUTE 0011 (SCENIC LOOP) AT MP 24.56 (ON RIGHT)	TO PARK BOUNDARY	SOUTH UNIT	0.000	1.310	1.310	2		0	GR	
0200ZZ	28457		JUNIPER CAMPGROUND AREA	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 4.80 (ON LEFT)	THROUGH CAMPGROUND	NORTH UNIT	0.993	0.000	0.993	3		0	AS	1
0201ZZ	N/A		COTTONWOOD CAMPGROUND AREA	FROM ROUTE 0011 (SCENIC LOOP) AT MP 5.60 (ON LEFT)	THROUGH CAMPGROUND	SOUTH UNIT	1.420	0.000	1.420	3		0	AS	2
0202	49041		PEACEFUL VALLEY PICNIC AREA	FROM ROUTE 0011 (SCENIC LOOP) AT MP 28.40 (ON LEFT)	TO END	SOUTH UNIT	0.000	0.300	0.300	3		0	GR	
0203	30276		PEACEFUL VALLEY RANCH ROAD	FROM ROUTE 0011 (SCENIC LOOP) AT MP 28.48 (ON RIGHT)	TO END OF PAVEMENT AND ROUTE 0939 (PEACEFUL VALLEY RANCH PARKING)	SOUTH UNIT	0.260	0.000	0.260	3		0	AS	2
0204	49042		BUCK HILL SPUR	FROM ROUTE 0011 (SCENIC LOOP) AT MP 16.88 (ON RIGHT)	TO ROUTE 0915 (BUCK HILL OVERLOOK)	SOUTH UNIT	0.730	0.020	0.750	2		0	AS	2
0205	49007		HALLIDAY WELLS ROAD	FROM ROUTE 0011 (SCENIC LOOP) AT MP 28.17 (ON LEFT)	TO END OF LOOP	SOUTH UNIT	0.000	0.540	0.540	3		0	GR	
0206	49043		BURNING COAL VEIN ROAD	FROM ROUTE 0011 (SCENIC LOOP) AT MP 15.43 (ON RIGHT)	TO PARKING AREA	SOUTH UNIT	0.000	0.810	0.810	3		0	GR	
0400	29405		THIRD AVENUE	FROM ROUTE 0011 (SCENIC LOOP) AT MP 0.02 (ON RIGHT)	TO MAIN STREET	SOUTH UNIT	0.080	0.000	0.080	5		0	AS	2
0401	48983		MIX PIT ROAD	FROM ROUTE 0011 (SCENIC LOOP) AT MP 6.55 (ON RIGHT)	TO MAINTENANCE BUILDINGS	SOUTH UNIT	0.000	0.600	0.600	6		0	GR	
0402	48996		ROUNDUP HORSE CAMP ROAD	FROM ROUTE 0100 (NORTH BOUNDARY ROAD)	TO CORRALS	SOUTH UNIT	0.000	0.900	0.900	6		0	GR	
0403	28466		CORRAL AREA ACCESS ROAD	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 2.7	TO CORRALS	NORTH UNIT	0.000	0.930	0.930	5		0	GR	
0404	28438		NORTH UNIT MAINTENANCE ROAD	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 0.31 (ON LEFT)	TO ROUTE 0940 (NORTH UNIT MAINTENANCE YARD)	NORTH UNIT	0.300	0.000	0.300	5		0	AS	1
0405	56776		HEADQUARTERS STREET	FROM MAIN STREET AT PARK BOUNDARY	TO DEAD END	SOUTH UNIT	0.210	0.000	0.210	8		0	AS	2

### **NPS/RIP** Route ID Report

Road Inventory Program 11/13/2009

(Numerical By Route #)

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Red text denotes	White = Paved Routes, ARAN Driven	Yellow = Unpaved Routes, ARAN not Driven	Blue = All Paved Parking Area	IS	Green = All Unpaved Parking Areas		
	Grey = Paved Routes, ARAN not Driven	Black = Paved State, Local or Private non-NPS Rou	= Concess	sion Route Flag ON			

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

Rte.	FMSS No.	cess ute	Route Name	Route De	escription	Maint.	Paved	Un- Paved	Total Route	Func.	Rte.	Manual Rated	Surf.	Area
No.	NO.	Concess Route		From	То	District	Miles	Miles	Length	Class	Lanes	SQ/FT	Туре	Maps
0406	28439		GRAY HOUSE ROAD	FROM ROUTE 0404 (NORTH UNIT MAINTENANCE ROAD) AT MP 0.16 (ON RIGHT)	TO END OF PAVEMENT	NORTH UNIT	0.160	0.170	0.330	5		0	AS	1
0407	28441		HEADQUARTERS WELLHOUSE ACCESS ROAD	FROM ROUTE 0406 (GRAY HOUSE ROAD) AT MP 0.12 (ON LEFT)	TO WELL	NORTH UNIT	0.000	0.150	0.150	5		0	GR	
0408	28414		WEST BOUNDARY ACCESS ROAD	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 13.4	TO PARK BOUNDARY	NORTH UNIT	0.000	0.330	0.330	6		0	GR	
0409	28458		CAMPGROUND WELLHOUSE ACCESS ROAD	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 5.4	TO WELL	NORTH UNIT	0.000	0.090	0.090	5		0	GR	
0410	28459		LAGOON ACCESS ROAD	FROM ROUTE 0010 (SCENIC DRIVE)	TO LAGOONS	NORTH UNIT	0.000	0.360	0.360	5		0	GR	
0411	28443		HEADQUARTERS RESERVOIR ACCESS ROAD	FROM ROUTE 0010 (SCENIC DRIVE)	TO END	NORTH UNIT	0.000	0.180	0.180	6		0	GR	
0412	28444		RADIO EQUIPMENT ACCESS ROAD	FROM U.S. 85	TO RADIO TOWER	NORTH UNIT	0.000	0.370	0.370	5		0	GR	
0413	N/A		THIRD STREET	FROM THIRD STREET AT PARK BOUNDARY	TO ROUTE 0405 (HEADQUARTERS STREET) AT MP 0.09 (ON RIGHT)	SOUTH UNIT	0.025	0.000	0.025	2		0	AS	2
0414	N/A		FOURTH STREET	FROM FOURTH STREET AT PARK BOUNDARY	TO ROUTE 0902 (SOUTH UNIT MAINTENANCE YARD)	SOUTH UNIT	0.040	0.000	0.040	2		0	AS	2
0900	56778		MEDORA VISITOR'S CENTER PARKING	FROM ROUTE 0011 (SCENIC LOOP) AT MP 0.14 (ON LEFT)	TO ROUTE 0011 (SCENIC LOOP) AT MP 0.22 (ON LEFT)	SOUTH UNIT	0.000	0.000	0.000			24,172	AS	2
0901	56780		MEDORA VISITOR'S CENTER EMPLOYEE PARKING	FROM ROUTE 0011 (SCENIC LOOP) AT MP 0.09 (ON LEFT)	TO PARKING	SOUTH UNIT	0.000	0.000	0.000			5,268	AS	2
0902	56785		SOUTH UNIT MAINTENANCE YARD	FROM ROUTE 0414 (FOURTH STREET) AT END	TO ROUTE 0011 (SCENIC LOOP) AT MP 0.28 (ON RIGHT)	SOUTH UNIT	0.000	0.000	0.000			34,162	AS	2
0903	56786		MEDORA OVERLOOK	FROM ROUTE 0011 (SCENIC LOOP) AT MP 0.46 (ON LEFT)	TO ROUTE 0011 (SCENIC LOOP) AT MP 0.48 (ON LEFT)	SOUTH UNIT	0.000	0.000	0.000			4,386	AS	2
0904	56790		JOHNSON PLATEAU PARKING AREA	ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 3.34 (ON RIGHT)		SOUTH UNIT	0.000	0.000	0.000			4,838	AS	2
0905	56793		SKYLINE VISTA	FROM ROUTE 0011 (SCENIC LOOP) AT MP 4.17 (ON LEFT)	TO ROUTE 0011 (SCENIC LOOP) AT MP 4.26 (ON LEFT)	SOUTH UNIT	0.000	0.000	0.000			30,548	AS	2
0906	56794		RIVER WOODLAND OVERLOOK	ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 5.31 (ON LEFT)		SOUTH UNIT	0.000	0.000	0.000			8,385	AS	2

# NPS/RIP Route ID Report (Numerical By Route #)

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Road Inventory Program 11/13/2009

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Shading Color Key: White = Paved Routes, ARAN D	iven Yellow = Unpav	red Routes, ARAN not Driven Blue	= All Paved Parking Areas	G	Green = All Unpaved Parking Areas
Red text denotes       approx. mileage   Grey = Paved Routes, ARAN not	Driven Black = Paved S	State, Local or Private non-NPS Routes, Al	RAN Driven	= Concessio	on Route Flag ON

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Rte. No.	FMSS No.	Concess Route	Route Name	Route De	-	Maint. District	Paved	Un- Paved	Total Route	Func.	Rte.	Manual Rated	Surf.	Area
NO.		Con Ro		From	То	District	Miles	Miles	Length	Class	Lanes	SQ/FT	Туре	Maps
0907	56795		COTTONWOOD CAMPGROUND FEE STATION PARKING	ADJACENT TO ROUTE 0201ZZ ON RIGHT AT FEE STATION		SOUTH UNIT	0.000	0.000	0.000			3,681	AS	2
0909	56797		PRAIRIE DOG TOWN PARKING AREA	ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 6.71 (ON RIGHT)		SOUTH UNIT	0.000	0.000	0.000			8,600	AS	2
0910	56798		SCORIA POINT OVERLOOK	ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 9.31 (ON LEFT)		SOUTH UNIT	0.000	0.000	0.000			6,079	AS	2
0911	56799		RIDGELINE TRAILHEAD	ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 10.70 (ON RIGHT)		SOUTH UNIT	0.000	0.000	0.000			2,591	AS	2
0912	56800		NORTH DAKOTA BADLANDS OVERLOOK	FROM ROUTE 0011 (SCENIC LOOP) AT MP 11.28 (ON LEFT)	TO ROUTE 0011 (SCENIC LOOP)	SOUTH UNIT	0.000	0.000	0.000			6,751	AS	2
0913	56801		PADDOCK CREEK / TALKINGTON TRAILHEAD PARKING	ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 14.51 (ON LEFT)		SOUTH UNIT	0.000	0.000	0.000			3,163	AS	2
0915	56802		BUCK HILL OVERLOOK	FROM ROUTE 0204 (BUCK HILL SPUR) AT END	TO PARKING	SOUTH UNIT	0.000	0.000	0.000			12,775	AS	2
0916	56806		BOICOURT OVERLOOK PARKING	ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 19.39 (ON LEFT)		SOUTH UNIT	0.000	0.000	0.000			4,307	AS	2
0917	104902		UPPER JONES CREEK TRAILHEAD PARKING	ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 20.74 (ON LEFT)		SOUTH UNIT	0.000	0.000	0.000			0	GR	
0918	56808		WIND CANYON PARKING	FROM ROUTE 0011 (SCENIC LOOP) AT MP 24.86 (ON RIGHT)	TO ROUTE 0011 (SCENIC LOOP)	SOUTH UNIT	0.000	0.000	0.000			23,990	AS	2
0919	56809		BEEF CORRAL PULLOUT	ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 26.30 (ON RIGHT)		SOUTH UNIT	0.000	0.000	0.000			3,695	AS	2
0920	56810		LOWER JONES CREEK TRAILHEAD	ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 27.25 (ON LEFT)		SOUTH UNIT	0.000	0.000	0.000			10,067	AS	2
0922	30291		PAINTED CANYON VISITORS CENTER	FROM CATTLEGUARD OFF OF U.S. HIGHWAY 94, EXIT 32 EAST	TO PARKING	SOUTH UNIT	0.000	0.000	0.000			119,189	AS	2
0924	56970		NORTH UNIT VISITORS CENTER PARKING	ADJACENT TO ROUTE 0010 AT MP 0.27 ON RIGHT AT VISITOR CENTER		NORTH UNIT	0.000	0.000	0.000			14,120	AS	1
			CENTER PARKING											E

### **NPS/RIP Route ID Report**

Road Inventory Program 11/13/2009

(Numerical By Route #)

Page 4 of 7

Shading Color Key:<br/>Red text denotes<br/>approx. mileageWhite = Paved Routes, ARAN DrivenYellow = Unpaved Routes, ARAN not DrivenBlue = All Paved Parking AreasGreen = All Unpaved Parking AreasGrey = Paved Routes, ARAN not DrivenBlack = 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)

Rte. No.	FMSS No.	Concess Route	Route Name		escription	Maint. District	Paved	Un- Paved	Total Route	Func.	Rte.	Manual Rated	Surf.	Area
		Con		From	То		Miles	Miles	Length	Class	Lanes	SQ/FT	Туре	Maps
0925	56868		RESIDENCE SPUR	FROM ROUTE 0404 (NORTH UNIT MAINTENANCE ROAD) AT MP 0.20 (ON RIGHT)	TO PARKING	NORTH UNIT	0.000	0.000	0.000			15,154	AS	1
0926	56876		LONGHORN PULLOUT	ADJACENT TO ROUTE 0010 (SCENIC DRIVE) AT MP 2.3 (ON LEFT)		NORTH UNIT	0.000	0.000	0.000			4,243	AS	1
0927	56877		SLUMP BLOCK PULLOUT	ADJACENT TO ROUTE 0010 (SCENIC DRIVE) AT MP 2.9 (ON RIGHT)		NORTH UNIT	0.000	0.000	0.000			3,550	AS	1
0928	56878		CANNONBALL CONCRETIONS PULLOUT	ADJACENT TO ROUTE 0010 (SCENIC DRIVE) AT MP 4.8 (ON RIGHT)		NORTH UNIT	0.000	0.000	0.000			13,638	AS	1
0930	56881		JUNIPER PICNIC AREA	FROM ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)	TO PARKING	NORTH UNIT	0.000	0.000	0.000			26,355	AS	1
0931	56889		JUNIPER GROUP SITE	FROM ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)	TO ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)	NORTH UNIT	0.000	0.000	0.000			17,488	AS	1
0932	56897		LONG X TRAIL PULLOUT	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 5.7 (ON RIGHT)	TO PARKING	NORTH UNIT	0.000	0.000	0.000			12,879	AS	1
0933	56898		CAPROCK COULEE TRAIL	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 6.4 (ON RIGHT)	TO ROUTE 0010 (SCENIC DRIVE)	NORTH UNIT	0.000	0.000	0.000			9,125	AS	1
0934	56901		RIVER BEND OVERLOOK	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 8.0 (ON LEFT)	TO ROUTE 0010 (SCENIC DRIVE)	NORTH UNIT	0.000	0.000	0.000			13,654	AS	1
0935	56904		BENTONITE CLAY OVERLOOK	ADJACENT TO ROUTE 0010 (SCENIC DRIVE) AT MP 9.0 (ON RIGHT)		NORTH UNIT	0.000	0.000	0.000			7,752	AS	1
0936	56909		MAN AND GRASS PULLOUT	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 9.8 (ON RIGHT)	TO ROUTE 0010 (SCENIC DRIVE)	NORTH UNIT	0.000	0.000	0.000			8,379	AS	1
0937	56923		EDGE OF GLACIER PULLOUT	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 12.7 (ON RIGHT)	TO ROUTE 0010 (SCENIC DRIVE)	NORTH UNIT	0.000	0.000	0.000			7,310	AS	1
0938	56930		OXBOW OVERLOOK	FROM ROUTE 0010 (SCENIC DRIVE) AT END	TO PARKING	NORTH UNIT	0.000	0.000	0.000			29,365	AS	1
0939	56839		PEACEFUL VALLEY RANCH PARKING	FROM ROUTE 0203 (PEACEFUL VALLEY RANCH ROAD)	TO PARKING	SOUTH UNIT	0.000	0.000	0.000			0	GR	

### **NPS/RIP Route ID Report**

Road Inventory Program 11/13/2009

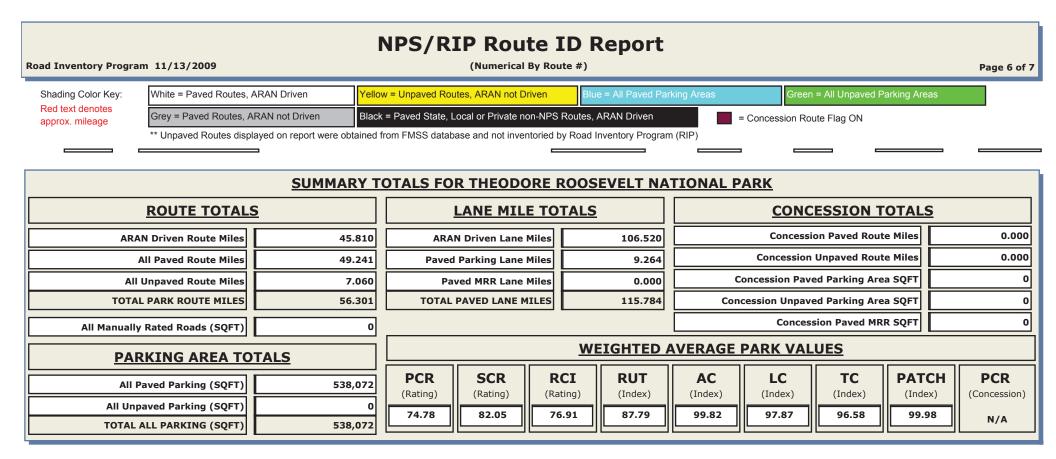
(Numerical By Route #)

Page 5 of 7

ε,	White = Paved Routes, ARAN Driven	Yellow = Unpaved Routes, ARAN not Driven	Blue = All Paved Parking Are	eas	Green = All Unpaved Parking Areas
Red text denotes approx. mileage	Grey = Paved Routes, ARAN not Driven	Black = Paved State, Local or Private non-NPS Rou	tes, ARAN Driven	= Concess	sion Route Flag ON

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

Rte. No.	FMSS No.	Concess Route	Route Name	Route De From	scription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Rte. Lanes	Manual Rated SQ/FT	Surf. Type	Area Maps
0940	56941		NORTH UNIT MAINTENANCE YARD	FROM ROUTE 0404 (NORTH UNIT MAINTENANCE ROAD) AT END	TO PARKING	NORTH UNIT	0.000	0.000	0.000			12,469	AS	1
0941	104633		OLD EAST ENTRANCE TRAILHEAD PARKING	FROM ROUTE 0011 (SCENIC LOOP) AT MP 12.72 (ON RIGHT)	TO ROUTE 0011 (SCENIC LOOP) AT MP 12.76 (ON RIGHT)	SOUTH UNIT	0.000	0.000	0.000			8,016	AS	2
0942	N/A		NORTH UNIT MAINTENANCE YARD OVERFLOW PARKING	ADJACENT TO ROUTE 0404 (NORTH UNIT MAINTENANCE ROAD) AT MP 0.24 (ON RIGHT)		NORTH UNIT	0.000	0.000	0.000			1,542	AS	1
0944	N/A		HEADQUARTERS PARKING	ADJACENT TO ROUTE 0405 (HEADQUARTERS STREET) AT MP 0.11 (ON LEFT)		SOUTH UNIT	0.000	0.000	0.000			1,373	со	2
0945ZZ	N/A		RESIDENCE AREA PARKING	ADJACENT TO INTERSECTION OF ROUTE 0405 AND ROUTE 0414		SOUTH UNIT	0.000	0.000	0.000			2,756	AS	2
0946	N/A		JUNIPER CAMPGROUND REGISTRATION PARKING	FROM ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)	TO ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)	NORTH UNIT	0.000	0.000	0.000			7,192	AS	1
0947	N/A		JUNIPER CAMPGROUND DUMPSTATION	FROM ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)	TO ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)	NORTH UNIT	0.000	0.000	0.000			2,545	AS	1
0948	N/A		JUNIPER CAMPGROUND LOOP PARKING 1	ADJACENT TO ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)		NORTH UNIT	0.000	0.000	0.000			1,296	AS	1
0949	N/A		JUNIPER CAMPGROUND LOOP PARKING 2	ADJACENT TO ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)		NORTH UNIT	0.000	0.000	0.000			1,223	AS	1



oad Invento	ory Progra	am 11/13/2009	NPS/RIP Route I (Numerical By Rout	-	Page
Shading Col Red text der approx. mile	notes	White = Paved Routes, ARAN Driven Grey = Paved Routes, ARAN not Driven ** Unpaved Routes displayed on report were	Yellow = Unpaved Routes, ARAN not Driven           Black = Paved State, Local or Private non-NPS F           obtained from FMSS database and not inventoried by		Green = All Unpaved Parking Areas = Concession Route Flag ON
Class 2 (Class 3 Class 4 F	Route Number Connector Par campgrounds, Special Purpos concessionaire Primitive Park roads frequen Note: Administrative quarters, or u Restricted Roa Note:	Road/Rural Parkway (Public Roads) Roads which constitute rs 1 - 99. Note: Rural parkways (e.g. Natchez Trace) are n rk Road (Public Roads) - Roads which provide access within a , etc. Route Numbers 100-199. se Park Road (Public Roads) - Roads which provide circulatic e facilities, etc. These roads generally serve low-speed traffi : Roads (Public Roads) - Roads which provide circulation thro ty have no minimum design standards and their use may b Functional Classes 3 and 4 have the same route numbers be e Access Road (Administrative Roads) - All public roads inter tillty areas. Route Numbers 400-499. ad (Administrative Roads) - All roads normally closed to the Functional Classes 5 and 6 have the same route numbers to routes. For example, because utility areas and employee hoi	park to areas of scenic, scientific, recreational or cultural interest, s in within public areas, such as campgrounds, picnic areas, visitor cent c and are often designed for one-way circulation. Route Numbers 20 ough remote areas and/or access to primitive campgrounds and und e limited to specially equipped vehicles. Route Numbers 200-299.	or Park. Route Numbers 5000-5999 such as overlooks, nter complexes, 30-299. eveloped areas. These s park offices, employee Route Numbers 400-499. little distinction between	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
Class 8	Urban Parkwa an urban area thereof, howe City Streets (I	iy (Urban Parkways and City Streets) - These facilities serve a. This category of roads primarily encompasses the major p ever, may be included in this category. Route Numbers 1-9. Urban Parkways and City Streets) - City streets are usually e	high volumes of park and non-park related traffic and are restricted, arkways which serve as gateways to our nation's capital. Other maj xtensions of the adjoining street system that are owned and mainta epted local engineering practice and local conditions. Route Numbe	or park roads or portions ined by the National Park	
*********** A park road agencies. The The historic nationwide whi one-way routes	************* d system conta assignment o c route numbe ich are design ts are not as cl	ains those roads within or giving access to a park or other ur of a functional classification (FC) to a park road is not based of ering system also included a 300 number series for interpreti bated by the 300 and 500 series. The numbers for these road learly tied to a specific functional class, the 300 and 500 seri	it of the NPS which are administered by the NPS, or by the Service on traffic volumes or design speed, but on the intended use or functi ve roads, and a 500 series for one-way roads. There are approxima is will be maintained for reporting consistency. However, since thes	in cooperation with other on of that road or route. tely 250 roads se interpretive and	

are driven for GPS, Video Log and Road Features only.

### **NPS/RIP Subcomponent Details for THRO**

Road Inver	itory Prog	am 11	/03/2009	(Numerical By Su	bcomponent #)						Page 1 of 2
-	Color Key:	Whi	ite = Paved Routes, ARAN Driven	Yellow = Unpaved Routes, ARAN not Driven	Blue = All Paved Parking Areas		G	reen = All Unp	aved Parking	g Areas	
Red text of approx. m		Gre	y = Paved Routes, ARAN not Driven	Black = Paved State, Local or Private non-NPS	Routes, ARAN Driven	= Conc	ession F	oute Flag ON	=	= Subcompone	nt Flag ON
		** U	Inpaved Routes displayed on report were ob	tained from FMSS database and not inventoried	by Road Inventory Program (RIP)						
TH	IRO		THEODORE ROOSEVELT NATIO	NAL PARK							
			MSS System	Route Desc	ription	sss			Un-	Total	Manual
Rte. No.	FMSS No.	Sub Comp	Route Name	From	То	Conce Route	Func. Class	Paved Miles	Paved Miles	Route Length	Rated SQ/FT
0200ZZ	28457		JUNIPER CAMPGROUND AREA	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 4.80 (ON LEFT)	THROUGH CAMPGROUND		3	0.99	0.00	0.99	0
0201ZZ	N/A		COTTONWOOD CAMPGROUND AREA	FROM ROUTE 0011 (SCENIC LOOP) AT MP 5.60 (ON LEFT)	THROUGH CAMPGROUND		3	1.42	0.00	1.42	C
0945ZZ	N/A		RESIDENCE AREA PARKING	ADJACENT TO INTERSECTION OF ROUTE 0405 AND ROUTE 0414				0.00	0.00	0.00	2,756
				-					_		
Asset T	HRO-0	2002	Z Subcomponent Breakd	OWN Route Desc	rintion	ess			Un-	Total	Manual

Rte.	FMSS	<u>م</u>		Route De	scription	icess ite	ე წ	Paved	Un- Paved	Route	Rated
No.	No.	Sub Cor	Route Name	From	То	Cor Rot	Fun Clas	Miles	Miles	Length	SQ/FT
0200AZ	28457		JUNIPER CAMPGROUND LOOP A	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 4.80 (ON LEFT)	END OF LOOP		3	0.92	0.00	0.92	0
0200BZ	28457		JUNIPER CAMPGROUND CUT THROUGH	FROM ROUTE 0200AZ (JUNIPER CAMPGROUND LOOP A)	TO ROUTE 0200AZ (JUNIPER CAMPGROUND LOOP A)		3	0.08	0.00	0.08	0

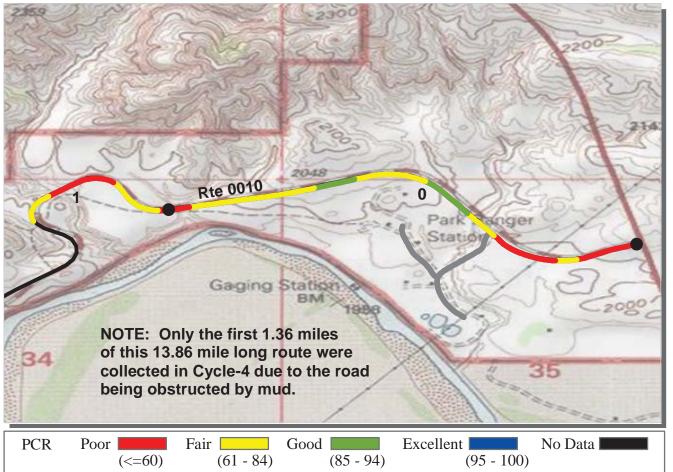
Asset 1	HRO-0	2012	ZZ Subcomponent Breakdo	own							
Rte.	FMSS	đ		Route De	escription	icess	s c	Paved	Un- Paved	Total Route	Manual Rated
No.	No.	Sub Com	Route Name	From	То	Conc Rout	Func. Class	Miles	Miles	Length	SQ/FT
0201AZ	N/A		COTTONWOOD CAMPGROUND LOOP A	FROM ROUTE 0011 (SCENIC LOOP) AT MP 5.60 (ON LEFT)	TO END OF LOOP		3	0.76	0.00	0.76	0
0201BZ	N/A		COTTONWOOD CAMPGROUND LOOP B	FROM ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A) AT MP 0.28 (ON LEFT)	TO ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A) AT MP 0.21 (ON LEFT)		3	0.33	0.00	0.33	0
0201CZ	N/A		COTTONWOOD CAMPGROUND LOOP C	FROM ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)	TO END OF LOOP			0.33	0.00	0.33	0
		⇒ L					i		1	i	

			NPS	6/RIP Subcomponer	nt Details for T	IRC	)				
oad Inver	ntory Prog	ram 11	1/03/2009	(Numerical By Sub	ocomponent #)						Page 2 of 2
0	Color Key:	Wh	ite = Paved Routes, ARAN Driven	Yellow = Unpaved Routes, ARAN not Driven	Blue = All Paved Parking Areas		Gre	en = All Unpa	wed Parking	g Areas	
Red text of approx. In		Gre	ey = Paved Routes, ARAN not Driven	Black = Paved State, Local or Private non-NPS	Routes, ARAN Driven	= Cond	ession Ro	oute Flag ON	=	Subcomponer	nt Flag ON
		** L	Inpaved Routes displayed on report were	obtained from FMSS database and not inventoried b	by Road Inventory Program (RIP)						
Tŀ	IRO		THEODORE ROOSEVELT NATIO	ONAL PARK							
1											
Asset 7 <sub>Rte.</sub>	THRO-0		ZZ Subcomponent Break	c <b>down</b> Route Desc	ription	icess ite	j N	Paved	Un- Paved	Total Route	Manual Rated
		9452	ZZ Subcomponent Break Route Name		ription To	Concess Route	Func. Class	Paved Miles			
Rte.	FMSS			Route Desc		Concess Route	Func. Class		Paved	Route	Rated
Rte. No.	FMSS No.		Route Name	Route Desc From ADJACENT TO ROUTE 0405 (HEADQUARTERS STREET) AT MP		Concess Route	Func. Class	Miles	Paved Miles	Route Length	Rated SQ/FT

Theodore Roosevelt National Park



# Section 5 Paved Route Condition Rating Sheets (CRS)



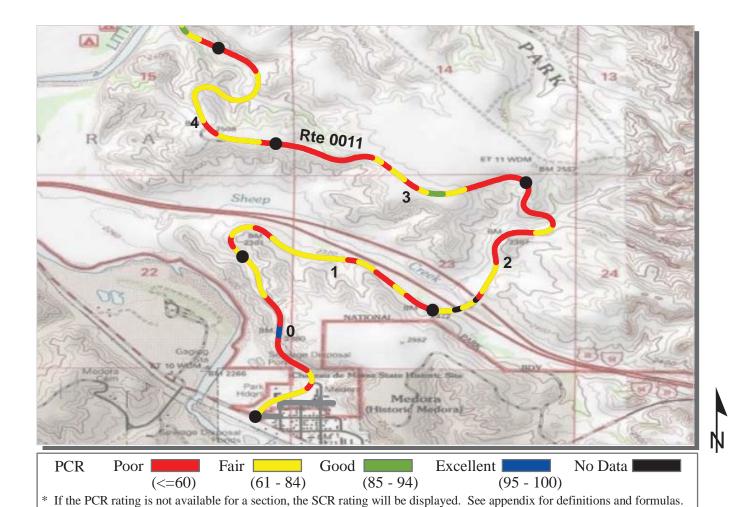
\* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

COLLECTED: 10/17/2008

#### **ROUTE: 0010 SCENIC DRIVE** THRO: THEODORE ROOSEVELT NATIONAL PARK

MIDWEST REGION			TOTAL	LENGTH:	13.86 Miles
Section Number	0	1			
Section Length (mi)	1.00	0.36			
<i>Traffic</i> AADT SADT ADT Date	Click on PRO	nay be found at v OGRAMS / NPS l parks have trafi	Traffic Data	ot.gov	
Cross Section Information					
Number of Lanes	2	2			
Paved Width (ft)	30	33			
Lane Width (ft)	12	11			
Shoulder Width Right (ft)	NC	NC			
Shoulder Width Left (ft)	NC	NC			
Roadway Condition Information					
SCR (Surface Condition Rating)	71	61			
PCR (Pavement Condition Rating)	69	60			
Distress Index Values					
Alligator Cracking Index	97	100			
Longitudinal Cracking Index	95	94			
Tranverse Cracking Index	96	96			
Patching Index	99	100			
Rutting Index	83	71			
Roughness Condition Index (RCI)	70	57			

**ROUTE: 0010 SCENIC DRIVE** 



ROUTE: 0011 SCENIC LOOP

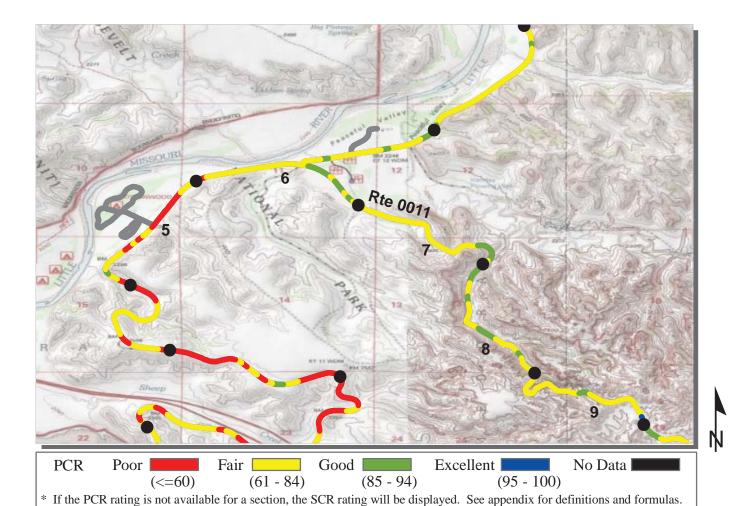
#### THRO : THEODORE ROOSEVELT NATIONAL PARK

			CO	LLECIED:	10/10/2008
MIDWEST REGION			TOTAL	LENGTH:	28.75 Miles
Section Number	0	1	2	3	4
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
<i>Traffic</i> AADT SADT ADT Date	Click on PRO	nay be found at v OGRAMS / NPS l parks have traf	Traffic Data	ot.gov	
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	25	25	25	24	23
Lane Width (ft)	11	11	10	10	11
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)	69	67	63	61	68
PCR (Pavement Condition Rating)	63	59	58	55	65
Distress Index Values					
Alligator Cracking Index	100	100	100	99	100
Longitudinal Cracking Index	94	91	92	89	95
Tranverse Cracking Index	92	92	92	89	92
Patching Index	100	100	100	100	100
Rutting Index	83	83	80	84	81
Roughness Condition Index (RCI)	54	49	51	45	62

COLLECTED: 10/16/2008

ROUTE: 0011 SCENIC LOOP

NC - Not Collected

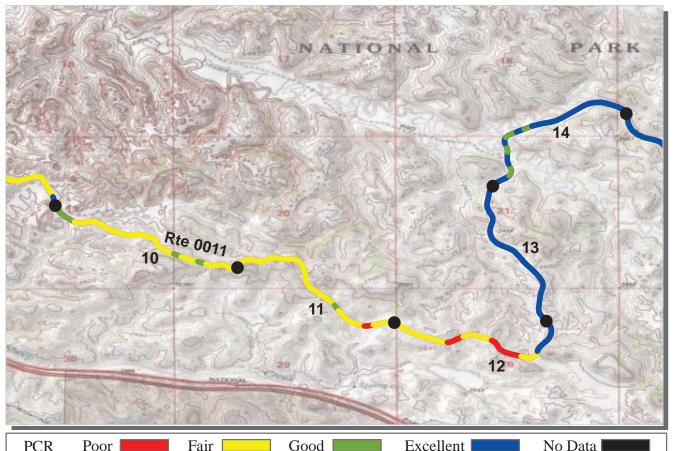


ROUTE: 0011 SCENIC LOOP THRO : THEODORE ROOSEVELT NATIONAL PARK

				<b>COLLECTED:</b>	10/16/2008
MIDWEST REGION			ΤΟ	TAL LENGTH:	28.75 Miles
Section Number	5	6	7	8	9
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
<i>Traffic</i> AADT SADT ADT Date	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
<b>Cross Section Information</b>					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	24	22	22	22	22
Lane Width (ft)	10	10	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)	73	70	76	79	78
PCR (Pavement Condition Rating)	62	74	80	82	76
Distress Index Values					
Alligator Cracking Index	100	100	100	100	100
Longitudinal Cracking Index	94	99	100	100	100
Tranverse Cracking Index	92	95	100	100	100
Patching Index	100	100	100	100	100
Rutting Index	86	76	77	79	79
Roughness Condition Index (RCI)	47	79	85	88	73

**ROUTE: 0011 SCENIC LOOP** 

NC - Not Collected

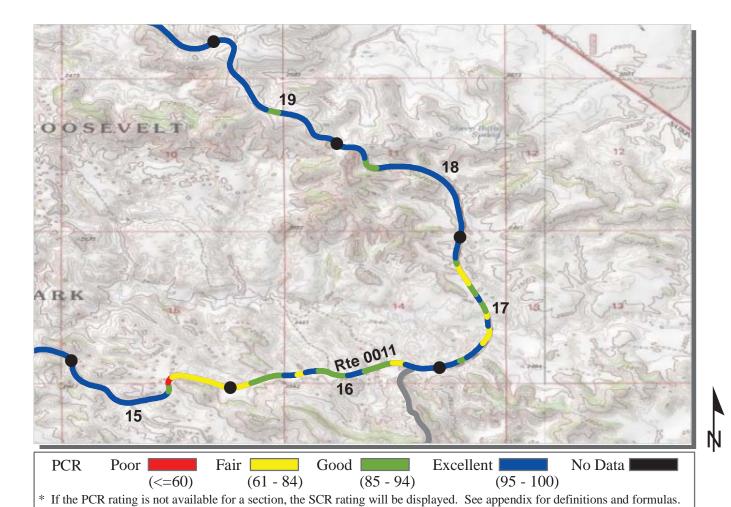


	1 011	1001			• • •	
		(<=60)	(61 - 84)	(85 - 94)	(95 - 100)	
k	If the PCR	rating is not availab	ble for a section, the S	SCR rating will be displayed.	See appendix for d	efinitions and formulas.

#### ROUTE: 0011 SCENIC LOOP THRO : THEODORE ROOSEVELT NATIONAL PARK

#### COLLECTED: 10/16/2008 **MIDWEST REGION** TOTAL LENGTH: 28.75 Miles 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 AADT Click on PROGRAMS / NPS Traffic Data SADT (Note: Not all parks have traffic data) ADT Date **Cross Section Information** 2 Number of Lanes 2 2 2 2 24 22 23 25 25 Paved Width (ft) 10 11 10 Lane Width (ft) 9 10 NC NC NC Shoulder Width Right (ft) NC NC NC NC NC NC NC Shoulder Width Left (ft) **Roadway Condition Information** 78 70 76 94 SCR (Surface Condition Rating) 96 72 PCR (Pavement Condition Rating) 79 69 97 96 Distress Index Values Alligator Cracking Index 100 100 100 100 100 Longitudinal Cracking Index 100 100 100 100 100 100 100 100 Tranverse Cracking Index 100 100 100 100 Patching Index 100 100 100 Rutting Index 78 71 76 96 94 99 80 67 Roughness Condition Index (RCI) 66 100

**ROUTE: 0011 SCENIC LOOP** 

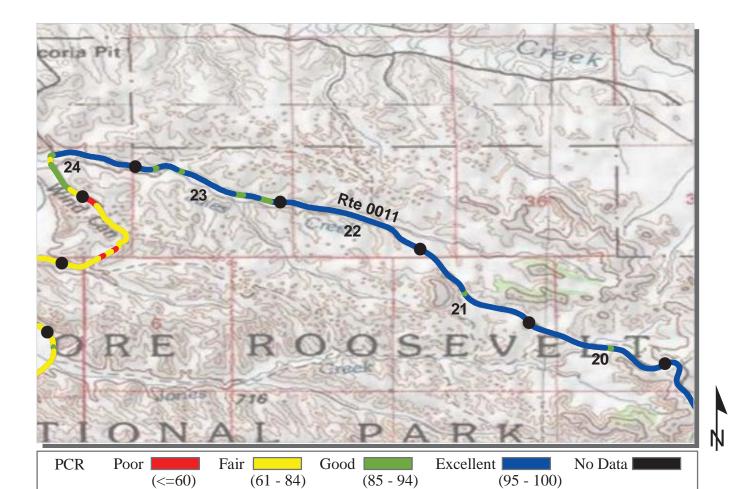


#### ROUTE: 0011 SCENIC LOOP THRO : THEODORE ROOSEVELT NATIONAL PARK

				COLLECTED:	10/16/2008
MIDWEST REGION			TO	TOTAL LENGTH:	
Section Number	15	16	17	18	19
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
<i>Traffic</i> AADT SADT ADT Date	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)	24	26	23	26	26
Lane Width (ft)	10	9	9	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)	90	90	92	97	97
PCR (Pavement Condition Rating)	91	90	90	98	98
Distress Index Values					
Alligator Cracking Index	100	100	100	100	99
Longitudinal Cracking Index	100	100	100	100	100
Tranverse Cracking Index	96	98	95	100	99
Patching Index	100	100	100	100	100
Rutting Index	94	92	97	97	98
Roughness Condition Index (RCI)	93	89	87	99	100

**ROUTE: 0011 SCENIC LOOP** 

NC - Not Collected

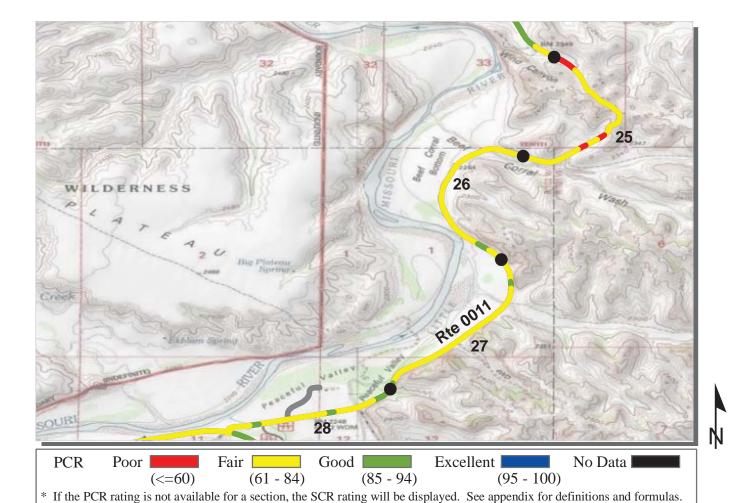


\* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

#### ROUTE: 0011 SCENIC LOOP THRO : THEODORE ROOSEVELT NATIONAL PARK

#### **COLLECTED:** 10/16/2008 **MIDWEST REGION** TOTAL LENGTH: 28.75 Miles Section Number 20 21 22 23 24 1.00 Section Length (mi) 1.00 1.00 1.00 1.00 Traffic Traffic data may be found at www.efl.fhwa.dot.gov AADT Click on PROGRAMS / NPS Traffic Data SADT (Note: Not all parks have traffic data) ADT Date **Cross Section Information** 2 Number of Lanes 2 2 2 2 25 27 25 25 26 Paved Width (ft) 11 10 10 Lane Width (ft) 10 11 NC NC NC Shoulder Width Right (ft) NC NC NC NC NC NC NC Shoulder Width Left (ft) **Roadway Condition Information** 98 98 98 92 SCR (Surface Condition Rating) 95 99 98 97 89 PCR (Pavement Condition Rating) 98 Distress Index Values Alligator Cracking Index 100 100 100 100 100 99 Longitudinal Cracking Index 100 100 96 100 100 95 Tranverse Cracking Index 100 100 100 100 100 Patching Index 100 100 100 Rutting Index 98 99 98 99 97 99 99 99 99 85 Roughness Condition Index (RCI)

ROUTE: 0011 SCENIC LOOP



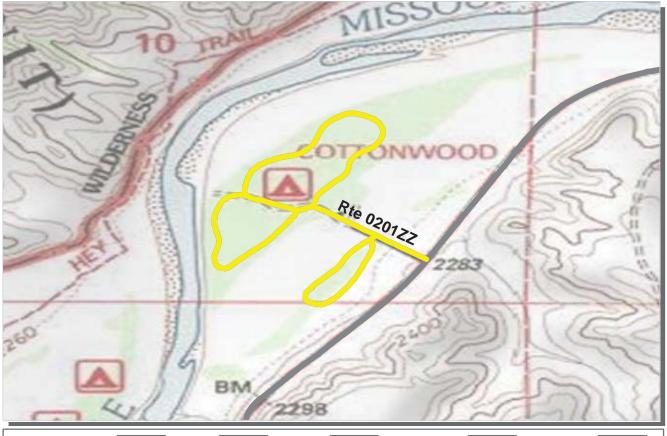
#### ROUTE: 0011 SCENIC LOOP THRO : THEODORE ROOSEVELT NATIONAL PARK

			CO	LLECTED:	10/16/2008	
MIDWEST REGION		TOTAL LENGTH				
Section Number	25	26	27	28		
Section Length (mi)	1.00	1.00	1.00	0.75		
Traffic						
AADT		nay be found at y DGRAMS / NPS		ot.gov		
SADT		l parks have traf				
ADT Date	(11010.1101 a)	ii parks nave trai	ne data)			
Cross Section Information						
Number of Lanes	2	2	2	2		
Paved Width (ft)	22	21	21	23		
Lane Width (ft)	10	9	9	9		
Shoulder Width Right (ft)	NC	NC	NC	NC		
Shoulder Width Left (ft)	NC	NC	NC	NC		
Roadway Condition Information						
SCR (Surface Condition Rating)	77	85	86	78		
PCR (Pavement Condition Rating)	67	78	75	77		
Distress Index Values						
Alligator Cracking Index	99	100	100	100		
Longitudinal Cracking Index	97	99	99	99		
Tranverse Cracking Index	92	94	94	94		
Patching Index	100	100	100	100		
Rutting Index	89	92	93	86		
Roughness Condition Index (RCI)	51	67	59	75		

**ROUTE: 0011 SCENIC LOOP** 

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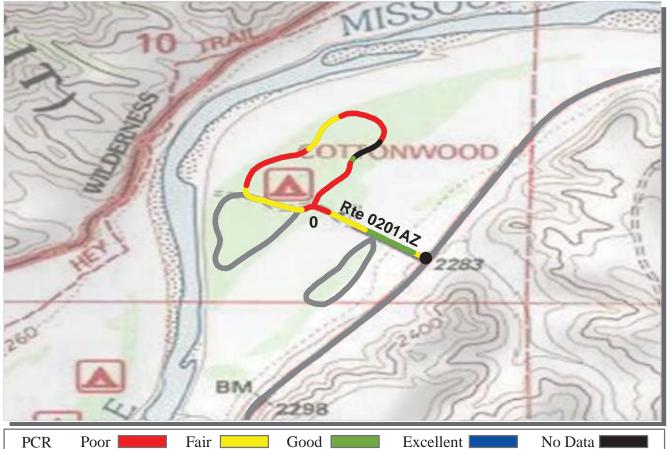


Excellent No Data PCR Poor Fair Good (85 - 94) (61 - 84) (<=60) (95 - 100)\* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

#### ROUTE: 0201ZZ COTTONWOOD CAMPGROUND AREA THRO: THEODORE ROOSEVELT NATIONAL PARK

Summary Record			CO	LLECTED:	10/16/2008
MIDWEST REGION			TOTAL	LENGTH:	1.42 Miles
Section Number					
Section Length (mi)					
<i>Traffic</i> AADT SADT	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
ADT Date	(	- F			
Cross Section Information					
Number of Lanes	N/A				
Paved Width (ft)	N/A				
Lane Width (ft)	N/A				
Shoulder Width Right (ft)	NC				
Shoulder Width Left (ft)	NC				
Roadway Condition Information					
SCR (Surface Condition Rating)	74				
PCR (Pavement Condition Rating)	67				
Distress Index Values					
Alligator Cracking Index	N/A				
Longitudinal Cracking Index	N/A				
Tranverse Cracking Index	N/A				
Patching Index	N/A				
Rutting Index	N/A				
Roughness Condition Index (RCI)	N/A				

ROUTE: 0201ZZ COTTONWOOD CAMPGROUND AREA

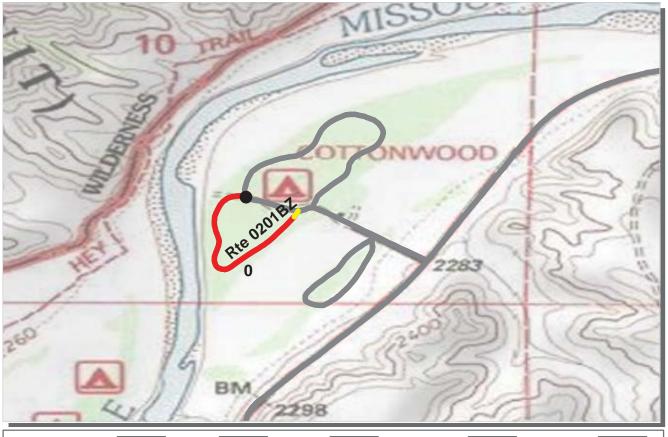


Excellent Poor Fair Good No Data (85 - 94) (61 - 84) (<=60) (95 - 100)\* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

#### ROUTE: 0201AZ COTTONWOOD CAMPGROUND LOOP A THRO: THEODORE ROOSEVELT NATIONAL PARK

Subcomponent Record			CO	LLECTED:	10/16/2008
MIDWEST REGION			TOTAL	LENGTH:	0.76 Miles
Section Number	0				
Section Length (mi)	0.76				
<i>Traffic</i> AADT SADT ADT Date	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)	15				
Lane Width (ft)	11				
Shoulder Width Right (ft)	NC				
Shoulder Width Left (ft)	NC				
Roadway Condition Information					
SCR (Surface Condition Rating)	74				
PCR (Pavement Condition Rating)	66				
Distress Index Values					
Alligator Cracking Index	100				
Longitudinal Cracking Index	98				
Tranverse Cracking Index	93				
Patching Index	100				
Rutting Index	83				
Roughness Condition Index (RCI)	43				

ROUTE: 0201AZ COTTONWOOD CAMPGROUND LOOP A



Fair Excellent No Data PCR Poor Good (<=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: 0201BZ COTTONWOOD CAMPGROUND LOOP B** THRO: THEODORE ROOSEVELT NATIONAL PARK

Subcomponent Record

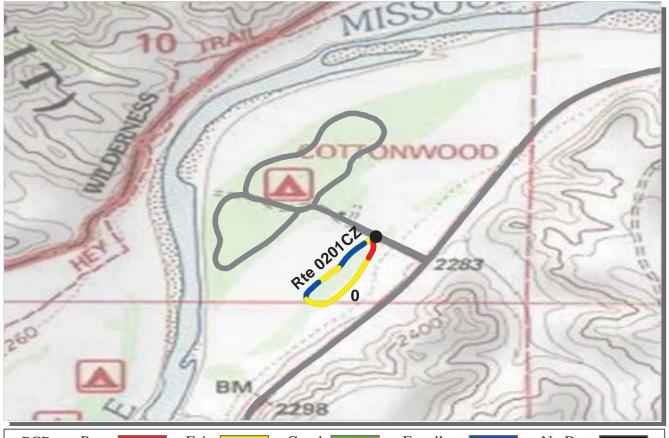
#### 10/16/2008 **COLLECTED: MIDWEST REGION TOTAL LENGTH:** 0.33 Miles Section Number 0 Section Length (mi) 0.33 Traffic Traffic data may be found at www.efl.fhwa.dot.gov AADT Click on PROGRAMS / NPS Traffic Data SADT (Note: Not all parks have traffic data) ADT Date **Cross Section Information** Number of Lanes 1 11 Paved Width (ft) Lane Width (ft) 11 Shoulder Width Right (ft) NC NC Shoulder Width Left (ft) **Roadway Condition Information** SCR (Surface Condition Rating) 66 PCR (Pavement Condition Rating) 57 Distress Index Values Alligator Cracking Index 100 Longitudinal Cracking Index 100 Tranverse Cracking Index 99

100

67 32 ROUTE: 0201BZ COTTONWOOD CAMPGROUND LOOP B

Roughness Condition Index (RCI)

Patching Index Rutting Index



Poor Fair Excellent No Data PCR Good (<=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: 0201CZ COTTONWOOD CAMPGROUND LOOP C THRO: THEODORE ROOSEVELT NATIONAL PARK

Subcomponent Record

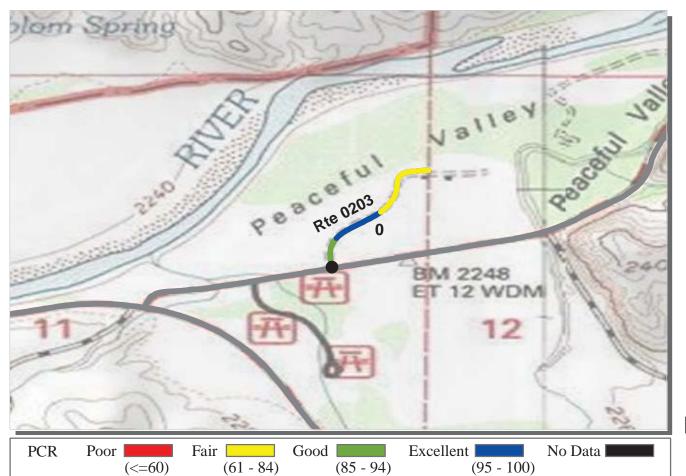
#### 10/16/2008 **COLLECTED: MIDWEST REGION TOTAL LENGTH:** 0.33 Miles Section Number 0 Section Length (mi) 0.33 Traffic Traffic data may be found at www.efl.fhwa.dot.gov AADT Click on PROGRAMS / NPS Traffic Data SADT (Note: Not all parks have traffic data) ADT Date **Cross Section Information** Number of Lanes 1 16 Paved Width (ft) Lane Width (ft) 16 Shoulder Width Right (ft) NC NC Shoulder Width Left (ft) **Roadway Condition Information** 81 SCR (Surface Condition Rating) PCR (Pavement Condition Rating) 75 Distress Index Values Alligator Cracking Index 97 97 Longitudinal Cracking Index Tranverse Cracking Index 97 100 Patching Index Rutting Index 90

50

ROUTE: 0201CZ COTTONWOOD CAMPGROUND LOOP C

NC - Not Collected

Roughness Condition Index (RCI)



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

#### **ROUTE: 0203 PEACEFUL VALLEY RANCH ROAD THRO : THEODORE ROOSEVELT NATIONAL PARK**

MINUER DECIMI				LLECTED:	10/16/2008
MIDWEST REGION Section Number	0		IUIAL	LENGTH:	0.26 Miles
Section Length (mi)	0.26				
Traffic AADT SADT ADT Date	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)	16				
Lane Width (ft)	8				
Shoulder Width Right (ft)	NC				
Shoulder Width Left (ft)	NC				
Roadway Condition Information					
SCR (Surface Condition Rating)	89				
PCR (Pavement Condition Rating)	88				
Distress Index Values					
Alligator Cracking Index	100				
Longitudinal Cracking Index	99				
Tranverse Cracking Index	97				
Patching Index	100				
Rutting Index	93				
Roughness Condition Index (RCI)	85				

ROUTE: 0203 PEACEFUL VALLEY RANCH ROAD



PCR	Poor	Fair	Good	Excellent	No Data
	(<=60)	(61 - 84)	(85 - 94)	(95 - 100	))
* If the PC	R rating is not availa	ble for a section, the	SCR rating will be disp	played. See appendix for	definitions and formulas.

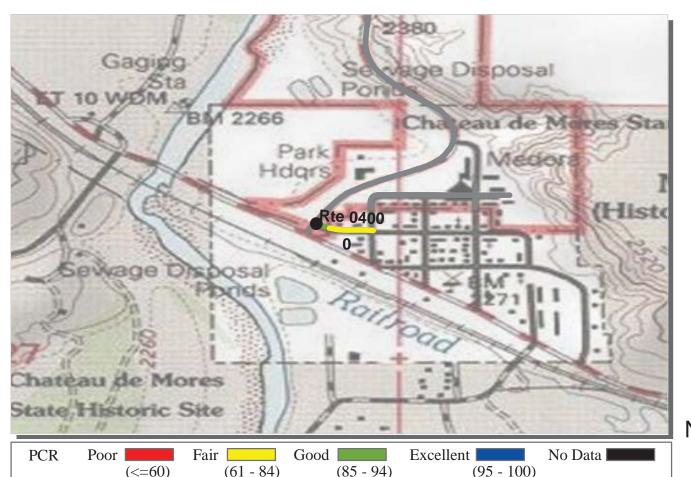
**COLLECTED:** 

10/16/2008

#### ROUTE: 0204 BUCK HILL SPUR THRO : THEODORE ROOSEVELT NATIONAL PARK

#### **MIDWEST REGION TOTAL LENGTH:** 0.73 Miles Section Number 0 Section Length (mi) 0.73 Traffic Traffic data may be found at www.efl.fhwa.dot.gov AADT Click on PROGRAMS / NPS Traffic Data SADT (Note: Not all parks have traffic data) ADT Date **Cross Section Information** Number of Lanes 2 27 Paved Width (ft) 12 Lane Width (ft) NC Shoulder Width Right (ft) NC Shoulder Width Left (ft) **Roadway Condition Information** 28 SCR (Surface Condition Rating) PCR (Pavement Condition Rating) 29 Distress Index Values 79 Alligator Cracking Index Longitudinal Cracking Index 92 Tranverse Cracking Index 92 100 Patching Index Rutting Index 56 Roughness Condition Index (RCI) 32

**ROUTE: 0204 BUCK HILL SPUR** 



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

#### **ROUTE: 0400 THIRD AVENUE** THRO: THEODORE ROOSEVELT NATIONAL PARK

#### **COLLECTED: MIDWEST REGION TOTAL LENGTH:** 0.08 Miles Section Number 0 Section Length (mi) 0.08 Traffic Traffic data may be found at www.efl.fhwa.dot.gov AADT Click on PROGRAMS / NPS Traffic Data SADT (Note: Not all parks have traffic data) ADT Date **Cross Section Information** Number of Lanes 2 33 Paved Width (ft) Lane Width (ft) 17 Shoulder Width Right (ft) NC NC Shoulder Width Left (ft) **Roadway Condition Information** SCR (Surface Condition Rating) 76 PCR (Pavement Condition Rating) 72 **Distress Index Values** Alligator Cracking Index 100 97 Longitudinal Cracking Index Tranverse Cracking Index 88 Patching Index 100 Rutting Index 91 Roughness Condition Index (RCI) 41

**ROUTE: 0400 THIRD AVENUE** 

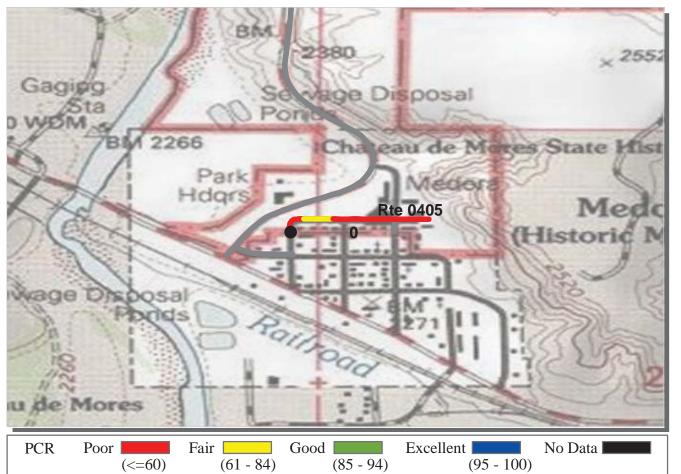
10/16/2008

(<=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: 0404 NORTH UNIT MAINTENANCE ROAD THRO : THEODORE ROOSEVELT NATIONAL PARK**

MIDWEST REGION				LLECTED: LENGTH:	10/17/2008 0.30 Miles
Section Number	0				
Section Length (mi)	0.30				
<i>Traffic</i> AADT SADT ADT Date	Click on PRO	nay be found at v OGRAMS / NPS l parks have trafi	Traffic Data	t.gov	
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)	53				
PCR (Pavement Condition Rating)	54				
Distress Index Values					
Alligator Cracking Index	92				
Longitudinal Cracking Index	92				
Tranverse Cracking Index	88				
Patching Index	96				
Rutting Index	85				
Roughness Condition Index (RCI)	52				

ROUTE: 0404 NORTH UNIT MAINTENANCE ROAD

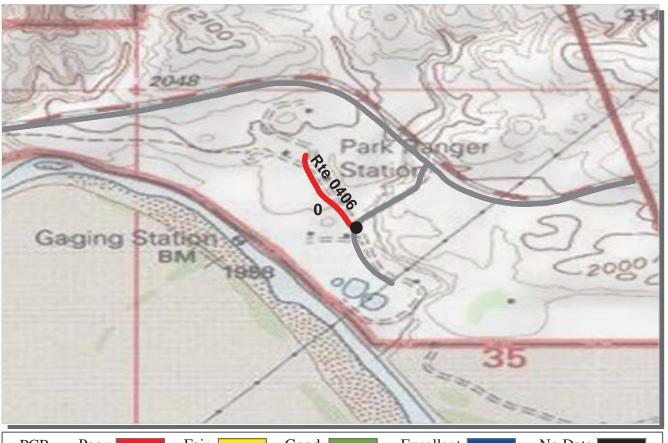


\* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

#### ROUTE: 0405 HEADQUARTERS STREET THRO : THEODORE ROOSEVELT NATIONAL PARK

MIDWEST REGION			•••	LLECTED: LENGTH:	10/16/2008 0.21 Miles
Section Number	0		IUIAL		
Section Length (mi)	0.21				
Traffic AADT SADT ADT Date	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)	27				
Lane Width (ft)	13				
Shoulder Width Right (ft)	NC				
Shoulder Width Left (ft)	NC				
Roadway Condition Information					
SCR (Surface Condition Rating)	54				
PCR (Pavement Condition Rating)	53				
Distress Index Values					
Alligator Cracking Index	99				
Longitudinal Cracking Index	91				
Tranverse Cracking Index	83				
Patching Index	100				
Rutting Index	82				
Roughness Condition Index (RCI)	39				

**ROUTE: 0405 HEADQUARTERS STREET** 



PCR	Poor	Fair	Good	Excellent	No Data
	(<=60)	(61 - 84)	(85 - 94)	(95 - 100	))
* If the PC	R rating is not availa	ble for a section. the	SCR rating will be dist	played. See appendix for	definitions and formulas.

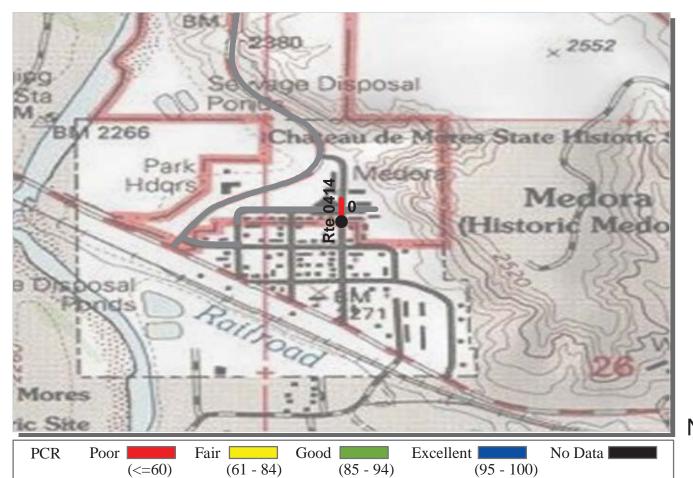
#### **ROUTE: 0406 GRAY HOUSE ROAD** THRO : THEODORE ROOSEVELT NATIONAL PARK

MIDWEST REGION			TOTAL	0.16 Miles	
Section Number	0				
Section Length (mi)	0.16				
<i>Traffic</i> AADT SADT ADT Date	Traffic data may be found at www.efl.fhwa.dot.gov Click on PROGRAMS / NPS Traffic Data (Note: Not all parks have traffic data)				
<b>Cross Section Information</b>					
Number of Lanes	2				
Paved Width (ft)	20				
Lane Width (ft)	10				
Shoulder Width Right (ft)	NC				
Shoulder Width Left (ft)	NC				
Roadway Condition Information					
SCR (Surface Condition Rating)	52				
PCR (Pavement Condition Rating)	49				
Distress Index Values					
Alligator Cracking Index	100				
Longitudinal Cracking Index	96				
Tranverse Cracking Index	90				
Patching Index	100				
Rutting Index	66				
Roughness Condition Index (RCI)	40				

**ROUTE: 0406 GRAY HOUSE ROAD** 

COLLECTED: 10/17/2008

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

**COLLECTED:** 

10/16/2008

#### ROUTE: 0414 FOURTH STREET THRO : THEODORE ROOSEVELT NATIONAL PARK

#### **MIDWEST REGION** TOTAL LENGTH: 0.04 Miles Section Number 0 Section Length (mi) 0.04 Traffic Traffic data may be found at www.efl.fhwa.dot.gov AADT Click on PROGRAMS / NPS Traffic Data SADT (Note: Not all parks have traffic data) ADT Date **Cross Section Information** Number of Lanes 2 25 Paved Width (ft) Lane Width (ft) 13 Shoulder Width Right (ft) NC NC Shoulder Width Left (ft) **Roadway Condition Information** 39 SCR (Surface Condition Rating) PCR (Pavement Condition Rating) 34 Distress Index Values Alligator Cracking Index 87 Longitudinal Cracking Index 93 Tranverse Cracking Index 81 Patching Index 100 Rutting Index 78 Roughness Condition Index (RCI) 26

**ROUTE: 0414 FOURTH STREET** 

# Theodore Roosevelt National Park



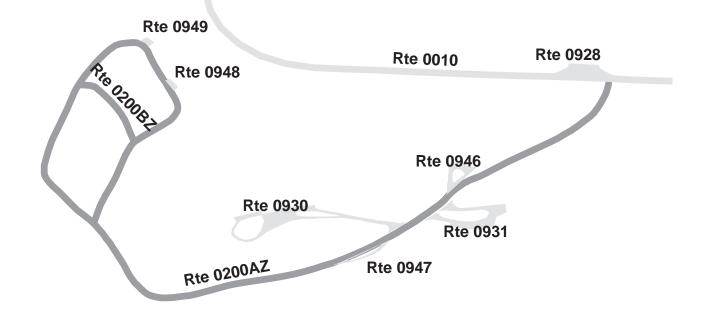
# Section 6 Manually Rated Paved Route Condition Rating Sheets (MRR)

#### JUNIPER CAMPGROUND AREA

FROM ROUTE 0010 (SCENIC DRIVE) AT MP 4.80 (ON LEFT)

THROUGH CAMPGROUND

NOTE: No	t Collected in C	ycle 4		Summary Record		Lenth = 0.993 Miles
Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0200ZZ	PUBLIC	NC		0	0.00	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	SUMMARY/-1



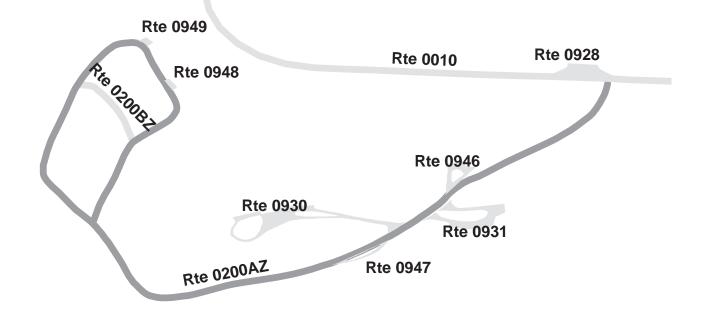


JUNIPER CAMPGROUND LOOP A

FROM ROUTE 0010 (SCENIC DRIVE) AT MP 4.80 (ON LEFT)

END OF LOOP

**NOTE:** Not Collected in Cycle 4 Lenth = 0.917 Miles - Width = 22 Feet Subcomponent Record Route Public / Number NonPublic Lane Miles \* **Date Visited** Area (sq ft) **Surface Type** 0200AZ PUBLIC NC 0 0.00 AS Fire **Drop Inlets Culverts** Gates **Hydrants Curb & Gutter** Curb PCR NO CURB AND 0 0 0 0 **GUTTER** NO CURB NC/-1





JUNIPER CAMPGROUND CUT THROUGH FROM ROUTE 0200AZ (JUNIPER CAMPGROUND LOOP A) TO ROUTE 0200AZ (JUNIPER CAMPGROUND LOOP A)

NOTE: Not Collected in Cycle 4

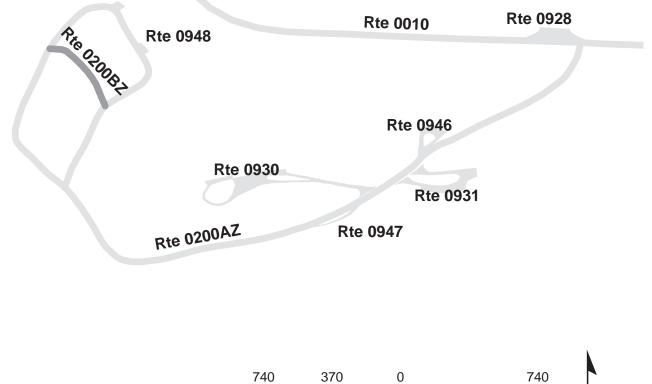
Subcomponent Record Lenth

Lenth = 0.076 Miles - Width = 13 Feet

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0200BZ	PUBLIC		NC	0	0.00	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	NC/-1

\* Lane miles are based on 11' lane widths

Rte 0949



Feet

# THIRD STREET

#### FROM THIRD STREET AT PARK BOUNDARY

TO ROUTE 0405 (HEADQUARTERS STREET) AT MP 0.09 (ON RIGHT) Leasted in Cycle 4 Leasted in C

NOTE: No	t Collected in C	ycle 4	Lenth = 0.025 Miles - Width = 28 Feet			
Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0413	PUBLIC		NC	0	0.00	AS
			Fire			
Culverts	Drop Inlets	Gates	Hydrants	Curb & Gutter	Curb	PCR
				CONCRETE CURB		
0	0	0	0	AND GUTTER	NO CURB	NC/-1



# Theodore Roosevelt National Park

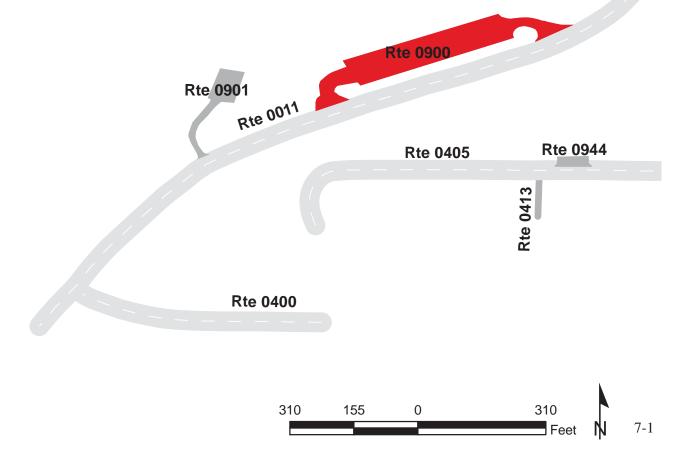


# Section 7 Parking Area Condition Rating Sheets

MEDORA VISITOR'S CENTER PARKING FROM ROUTE 0011 (SCENIC LOOP) AT MP 0.14 (ON LEFT) TO ROUTE 0011 (SCENIC LOOP) AT MP 0.22 (ON LEFT)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0900	PUBLIC	5/1	5/2008	24,172	0.42	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	2	0	1	GUTTER	CURB	FAIR/73

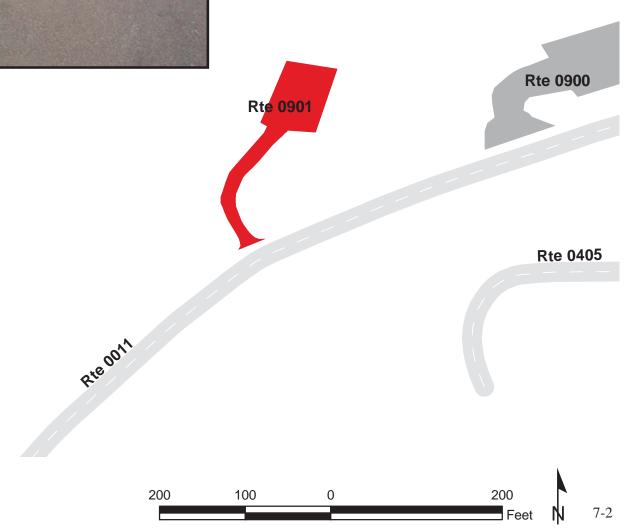




MEDORA VISITOR'S CENTER EMPLOYEE PARKING FROM ROUTE 0011 (SCENIC LOOP) AT MP 0.09 (ON LEFT) TO PARKING

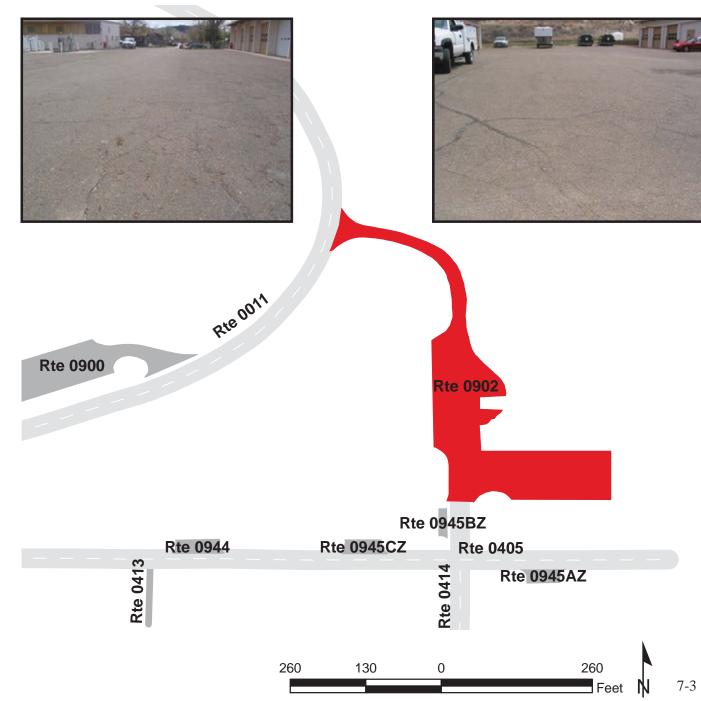
Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0901	NONPUBLIC	5/1	5/2008	5,268	0.09	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
1	0	0	0	GUTTER	NO CURB	FAIR/73





SOUTH UNIT MAINTENANCE YARD FROM ROUTE 0414 (FOURTH STREET) AT END TO ROUTE 0011 (SCENIC LOOP) AT MP 0.28 (ON RIGHT)

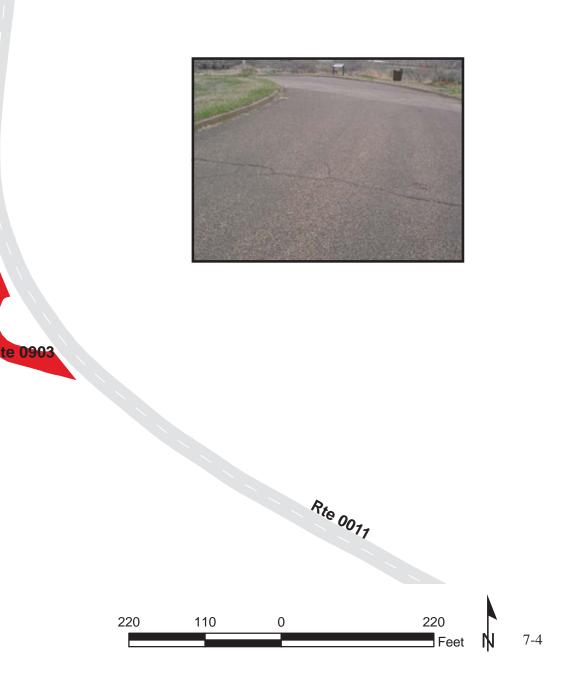
Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0902	NONPUBLIC	5/1	5/2008	34,162	0.59	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	2	2	GUTTER	CURB	FAIR/73



MEDORA OVERLOOK

FROM ROUTE 0011 (SCENIC LOOP) AT MP 0.46 (ON LEFT) TO ROUTE 0011 (SCENIC LOOP) AT MP 0.48 (ON LEFT)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0903	PUBLIC	5/1	5/2008	4,386	0.08	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				CONCRETE CURB	CONCRETE	
0	1	0	0	AND GUTTER	CURB	POOR/45



JOHNSON PLATEAU PARKING AREA ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 3.34 (ON RIGHT)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0904	PUBLIC	5/1	5/2008	4,838	0.08	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	GOOD/90







SKYLINE VISTA

FROM ROUTE 0011 (SCENIC LOOP) AT MP 4.17 (ON LEFT) TO ROUTE 0011 (SCENIC LOOP) AT MP 4.26 (ON LEFT)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0905	PUBLIC	5/1	5/2008	30,548	0.53	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	ASPHALT &	
1	1	0	0	GUTTER	CONCRETE	FAIR/73





RIVER WOODLAND OVERLOOK

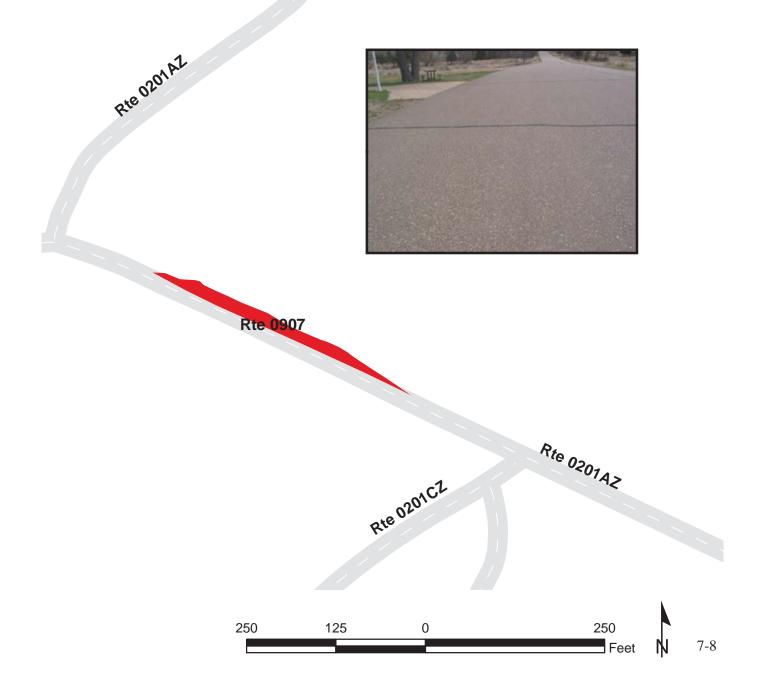
ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 5.31 (ON LEFT)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0906	PUBLIC	5/1	5/2008	8,385	0.14	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	ASPHALT	
0	1	0	0	GUTTER	CURB	FAIR/73



### COTTONWOOD CAMPGROUND FEE STATION PARKING ADJACENT TO ROUTE 0201ZZ ON RIGHT AT FEE STATION

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0907	PUBLIC	5/1	5/2008	3,681	0.06	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	GOOD/90



PRAIRIE DOG TOWN PARKING AREA

ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 6.71 (ON RIGHT)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0909	PUBLIC	5/1	5/2008	8,600	0.15	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	0	GUTTER	CURB	GOOD/90

\* Lane miles are based on 11' lane widths







Pre Oorr

SCORIA POINT OVERLOOK

ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 9.31 (ON LEFT)

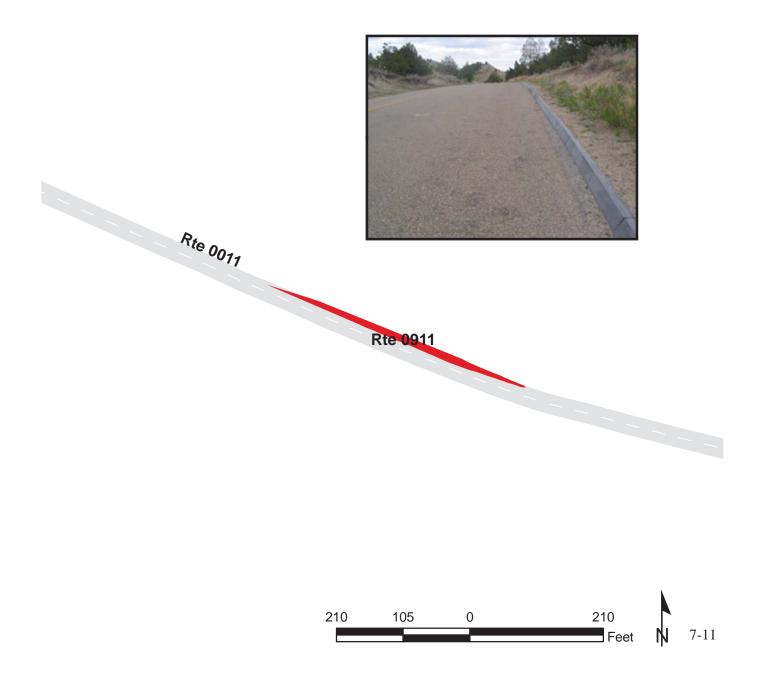
Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0910	PUBLIC	5/1	5/2008	6,079	0.11	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	0	GUTTER	CURB	GOOD/90



**RIDGELINE TRAILHEAD** 

ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 10.70 (ON RIGHT)

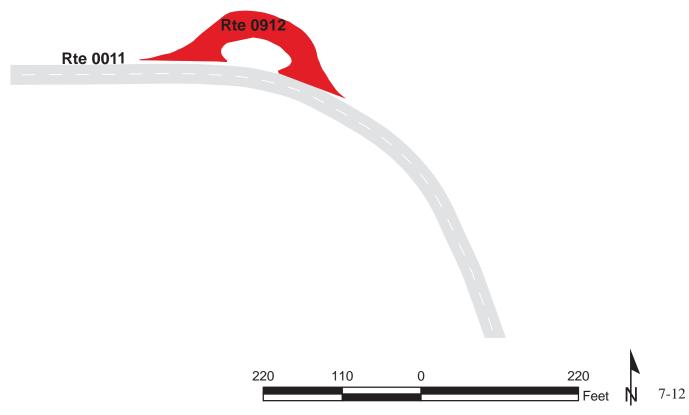
Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0911	PUBLIC	5/1	5/2008	2,591	0.05	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	0	GUTTER	CURB	GOOD/90



NORTH DAKOTA BADLANDS OVERLOOK FROM ROUTE 0011 (SCENIC LOOP) AT MP 11.28 (ON LEFT) TO ROUTE 0011 (SCENIC LOOP)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0912	PUBLIC	5/1	5/2008	6,751	0.12	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	0	GUTTER	CURB	GOOD/90

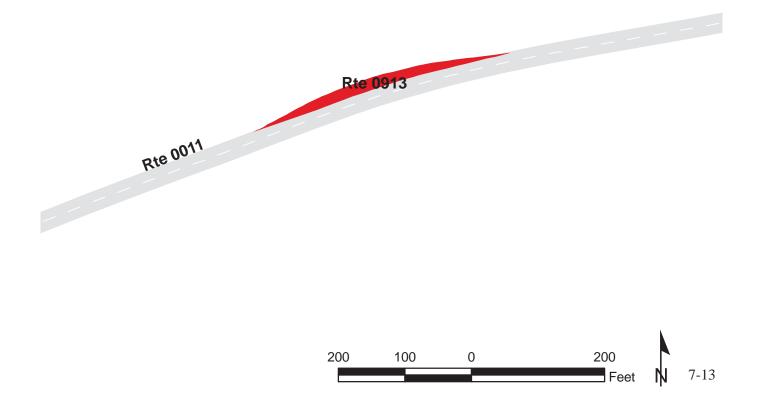




# PADDOCK CREEK / TALKINGTON TRAILHEAD PARKING ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 14.51 (ON LEFT)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0913	PUBLIC	5/15/2008		3,163	0.05	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	0	GUTTER	CURB	GOOD/90





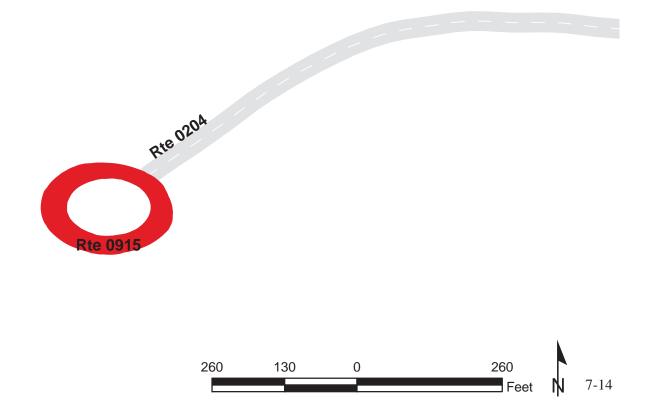
BUCK HILL OVERLOOK

FROM ROUTE 0204 (BUCK HILL SPUR) AT END

TO PARKING

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0915	PUBLIC	5/1	5/2008	12,775	0.22	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				CONCRETE CURB	CONCRETE	
0	1	0	0	AND GUTTER	CURB	FAIR/73





BOICOURT OVERLOOK PARKING

ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 19.39 (ON LEFT)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0916	PUBLIC	5/1	5/2008	4,307	0.07	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	0	GUTTER	CURB	GOOD/90

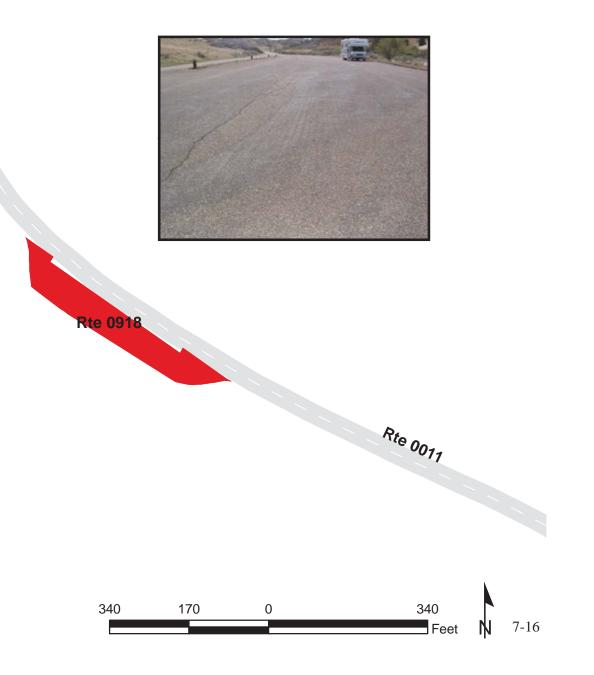






WIND CANYON PARKING FROM ROUTE 0011 (SCENIC LOOP) AT MP 24.86 (ON RIGHT) TO ROUTE 0011 (SCENIC LOOP)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0918	PUBLIC	5/1	5/2008	23,990	0.41	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	ASPHALT	
0	0	0	0	GUTTER	CURB	FAIR/73



BEEF CORRAL PULLOUT

ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 26.30 (ON RIGHT)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0919	PUBLIC	5/15/2008		3,695	0.06	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	FAIR/73

\* Lane miles are based on 11' lane widths



Rte 0919

160



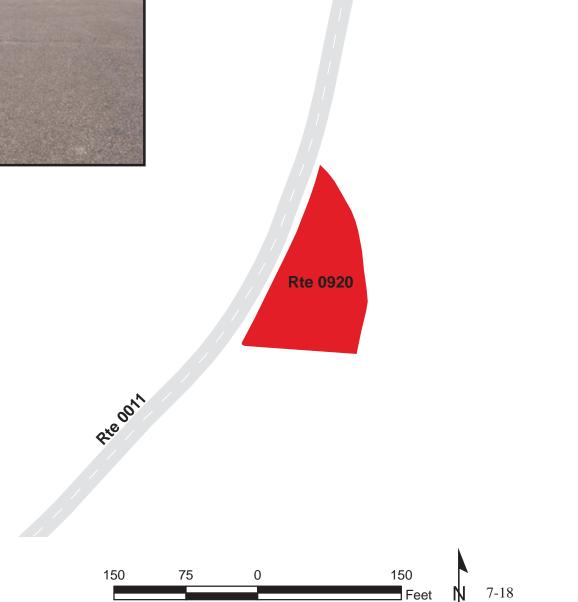
Rte 0011

LOWER JONES CREEK TRAILHEAD

ADJACENT TO ROUTE 0011 (SCENIC LOOP) AT MP 27.25 (ON LEFT)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0920	PUBLIC	5/1	5/2008	10,067	0.17	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	1	0	0	GUTTER	NO CURB	FAIR/73





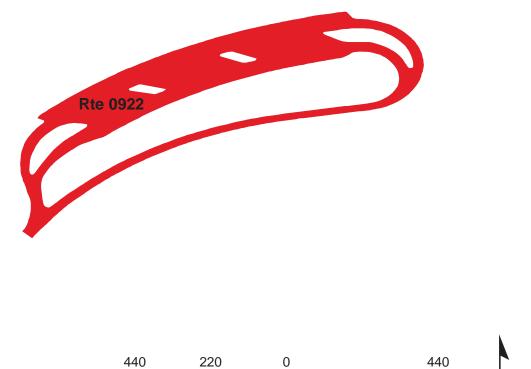
PAINTED CANYON VISITORS CENTER FROM CATTLEGUARD OFF OF U.S. HIGHWAY 94, EXIT 32 EAST TO PARKING

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0922	PUBLIC	5/1	5/2008	119,189	2.05	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				CONCRETE CURB	CONCRETE	
0	3	0	0	AND GUTTER	CURB	GOOD/90

\* Lane miles are based on 11' lane widths



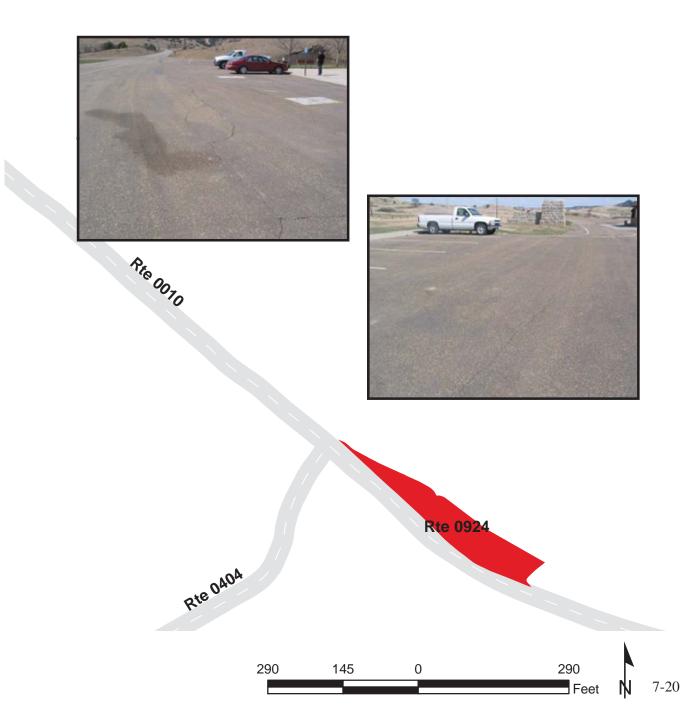




Feet

#### NORTH UNIT VISITORS CENTER PARKING ADJACENT TO ROUTE 0010 AT MP 0.27 ON RIGHT AT VISITOR CENTER

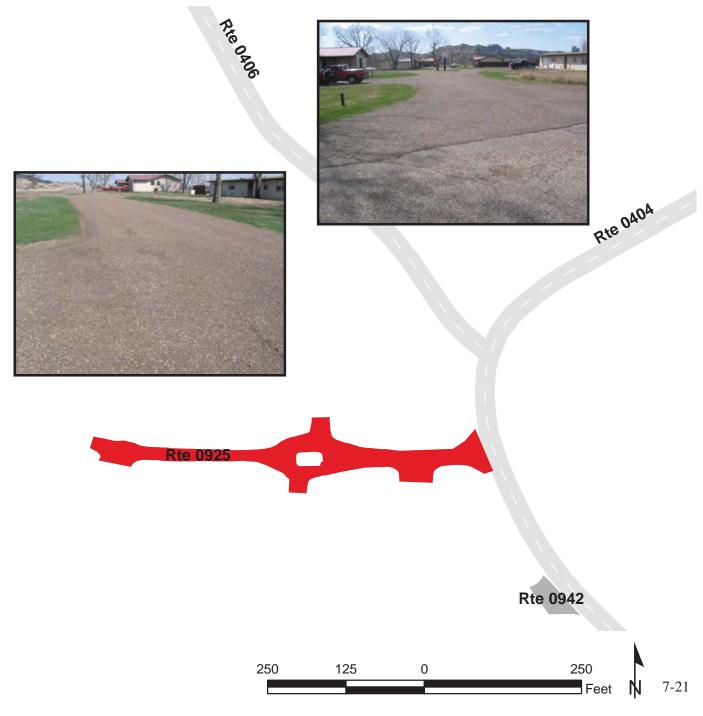
Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0924	PUBLIC	5/1	5/2008	14,120	0.24	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	0	GUTTER	CURB	GOOD/90



**RESIDENCE SPUR** 

FROM ROUTE 0404 (NORTH UNIT MAINTENANCE ROAD) AT MP 0.20 (ON RIGHT) TO PARKING

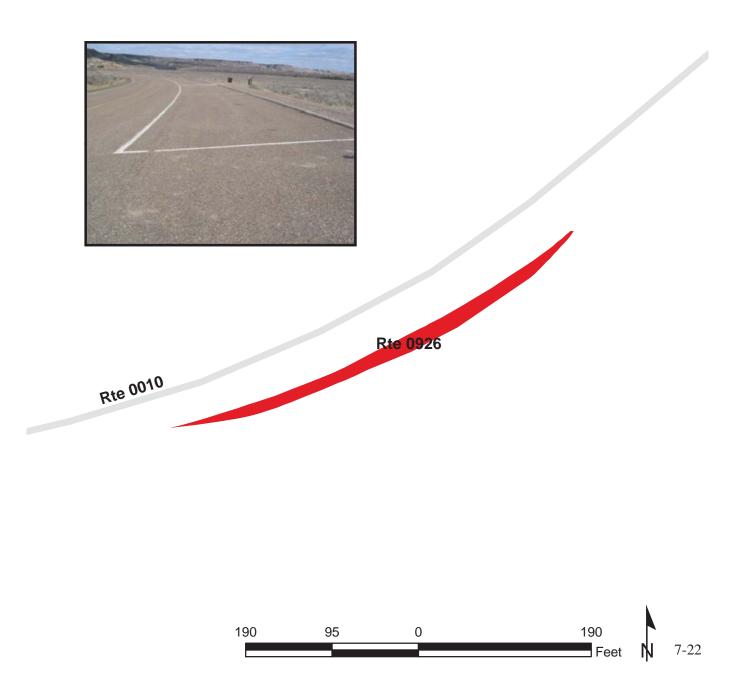
Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0925	NONPUBLIC	5/1	5/2008	15,154	0.26	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	2	GUTTER	NO CURB	GOOD/90



LONGHORN PULLOUT

ADJACENT TO ROUTE 0010 (SCENIC DRIVE) AT MP 2.3 (ON LEFT)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0926	PUBLIC	5/1	5/2008	4,243	0.07	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	0	GUTTER	CURB	GOOD/90

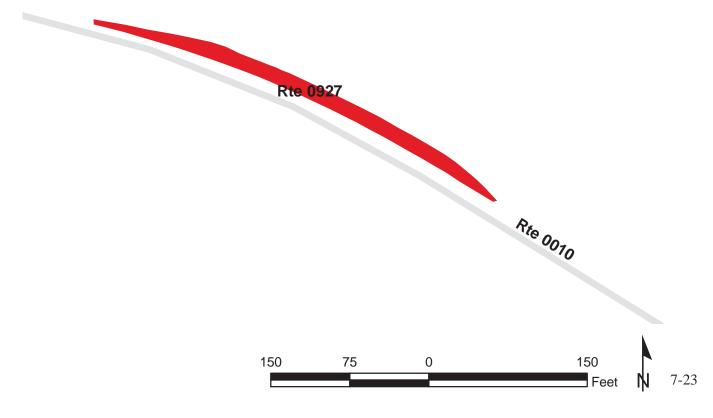


SLUMP BLOCK PULLOUT

ADJACENT TO ROUTE 0010 (SCENIC DRIVE) AT MP 2.9 (ON RIGHT)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0927	PUBLIC	5/1	5/2008	3,550	0.06	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	0	GUTTER	CURB	GOOD/90

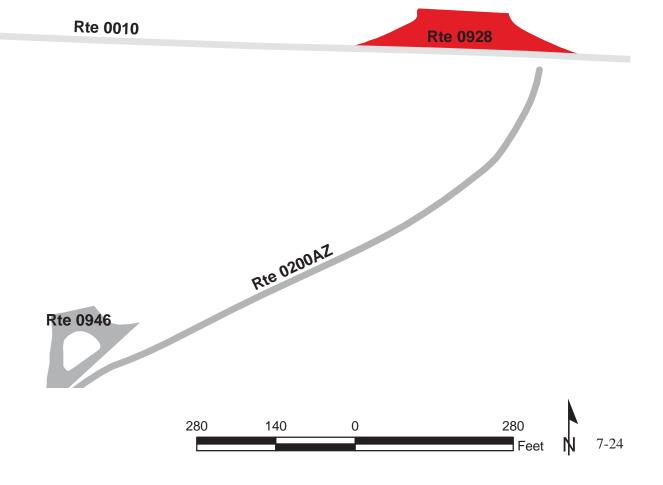




#### CANNONBALL CONCRETIONS PULLOUT ADJACENT TO ROUTE 0010 (SCENIC DRIVE) AT MP 4.8 (ON RIGHT)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0928	PUBLIC	5/1	5/2008	13,638	0.24	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	0	GUTTER	CURB	FAIR/73



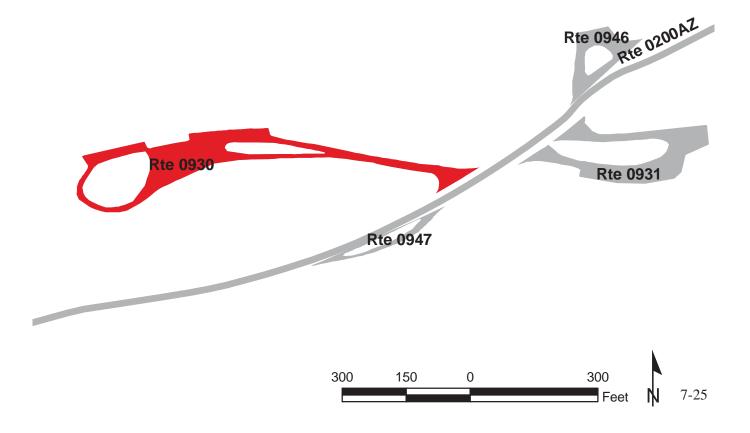


JUNIPER PICNIC AREA FROM ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA) TO PARKING

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0930	PUBLIC	5/1	5/2008	26,355	0.45	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	GOOD/90





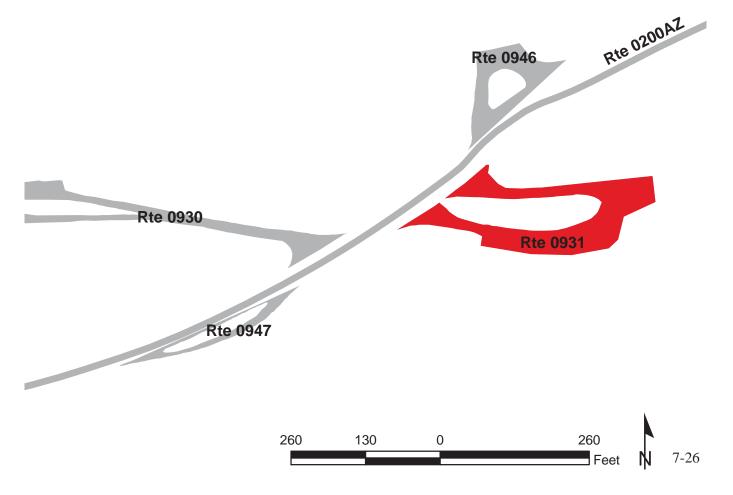


JUNIPER GROUP SITE FROM ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA) TO ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0931	PUBLIC	5/1	5/2008	17,488	0.30	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	2	0	GUTTER	NO CURB	GOOD/90







LONG X TRAIL PULLOUT

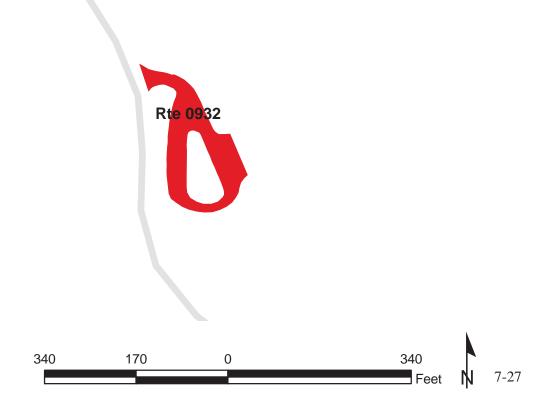
FROM ROUTE 0010 (SCENIC DRIVE) AT MP 5.7 (ON RIGHT) TO PARKING

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0932	PUBLIC	5/1	5/2008	12,879	0.22	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	FAIR/73

\* Lane miles are based on 11' lane widths

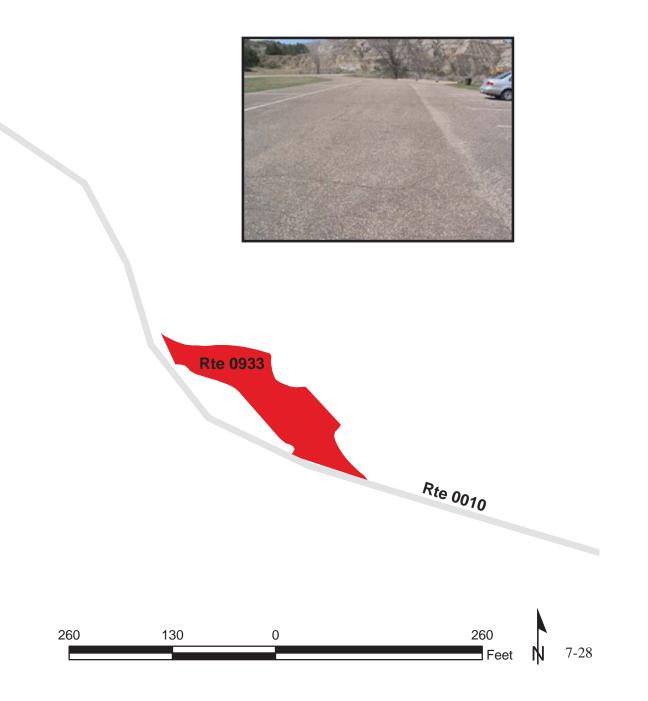
Ate 0010





CAPROCK COULEE TRAIL FROM ROUTE 0010 (SCENIC DRIVE) AT MP 6.4 (ON RIGHT) TO ROUTE 0010 (SCENIC DRIVE)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0933	PUBLIC	5/1	5/2008	9,125	0.16	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	FAIR/73

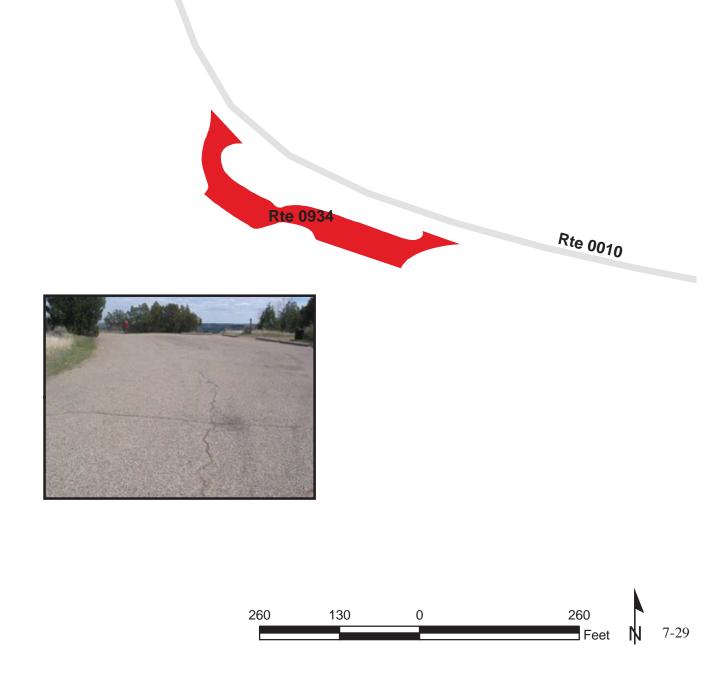


RIVER BEND OVERLOOK

FROM ROUTE 0010 (SCENIC DRIVE) AT MP 8.0 (ON LEFT)

TO ROUTE 0010 (SCENIC DRIVE)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0934	PUBLIC	5/1	5/2008	13,654	0.24	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	FAIR/73



BENTONITE CLAY OVERLOOK

ADJACENT TO ROUTE 0010 (SCENIC DRIVE) AT MP 9.0 (ON RIGHT)

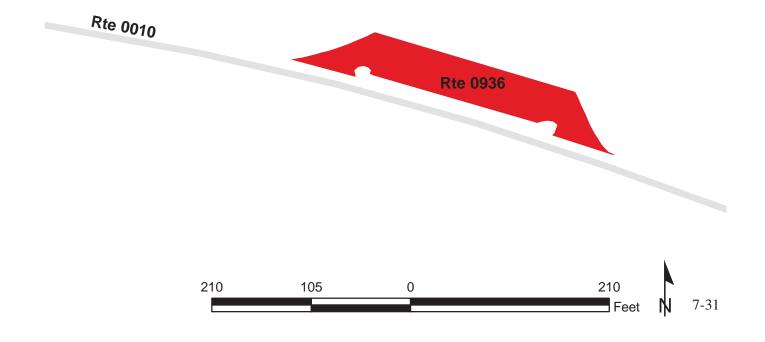
Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0935	PUBLIC	5/15/2008		7,752	0.13	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	FAIR/73



MAN AND GRASS PULLOUT FROM ROUTE 0010 (SCENIC DRIVE) AT MP 9.8 (ON RIGHT) TO ROUTE 0010 (SCENIC DRIVE)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0936	PUBLIC	5/15/2008		8,379	0.14	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	FAIR/73

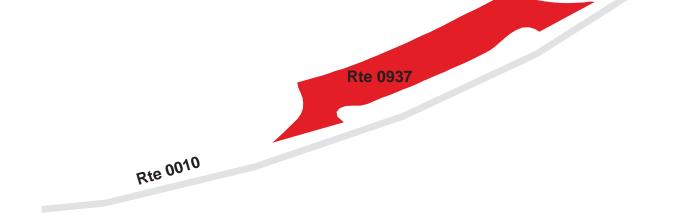




EDGE OF GLACIER PULLOUT FROM ROUTE 0010 (SCENIC DRIVE) AT MP 12.7 (ON RIGHT) TO ROUTE 0010 (SCENIC DRIVE)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0937	PUBLIC	5/15/2008		7,310	0.13	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	FAIR/73







OXBOW OVERLOOK

FROM ROUTE 0010 (SCENIC DRIVE) AT END

TO PARKING

Rou	te	Public /					
Numb	ber	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
093	8	PUBLIC	5/15/2008		29,365	0.51	AS
				Fire			
Culve	rts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
					NO CURB AND		
1		0	0	0	GUTTER	NO CURB	FAIR/73

\* Lane miles are based on 11' lane widths

Rte 0010









NORTH UNIT MAINTENANCE YARD FROM ROUTE 0404 (NORTH UNIT MAINTENANCE ROAD) AT END TO PARKING

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0940	NONPUBLIC	5/15/2008		12,469	0.22	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	1	GUTTER	CURB	FAIR/73

\* Lane miles are based on 11' lane widths



Rte 0942





OLD EAST ENTRANCE TRAILHEAD PARKING FROM ROUTE 0011 (SCENIC LOOP) AT MP 12.72 (ON RIGHT) TO ROUTE 0011 (SCENIC LOOP) AT MP 12.76 (ON RIGHT)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0941	PUBLIC	5/15/2008		8,016	0.14	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	GOOD/90

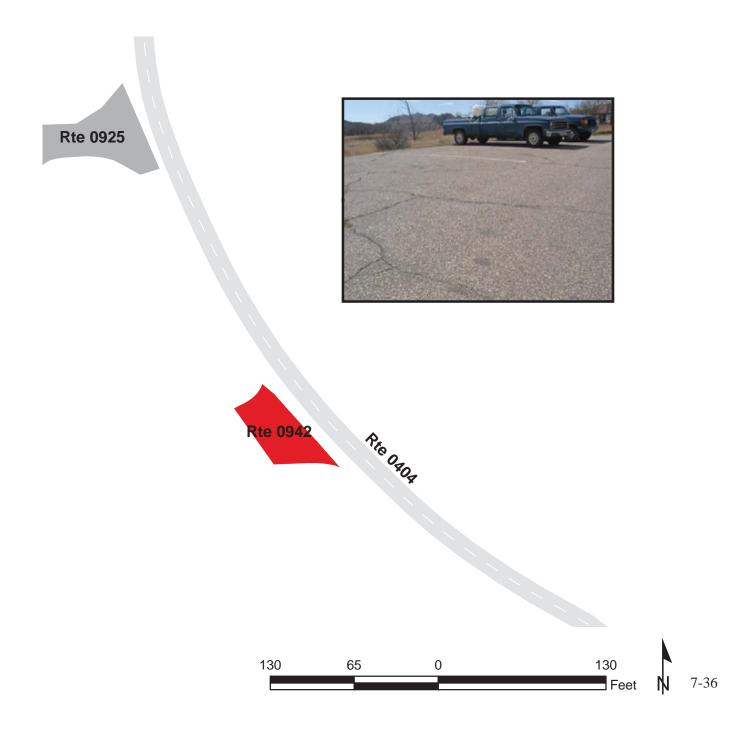






#### NORTH UNIT MAINTENANCE YARD OVERFLOW PARKING ADJACENT TO ROUTE 0404 (NORTH UNIT MAINTENANCE ROAD) AT MP 0.24 (ON RIGHT)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0942	NONPUBLIC	5/15/2008		1,542	0.03	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	POOR/45

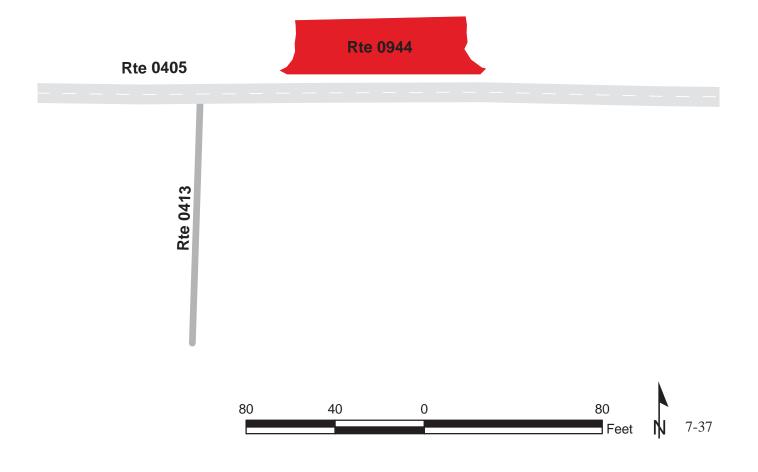


HEADQUARTERS PARKING

ADJACENT TO ROUTE 0405 (HEADQUARTERS STREET) AT MP 0.11 (ON LEFT)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0944	PUBLIC	5/15/2008		1,373	0.02	СО
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND	CONCRETE	
0	0	0	0	GUTTER	CURB	FAIR/73

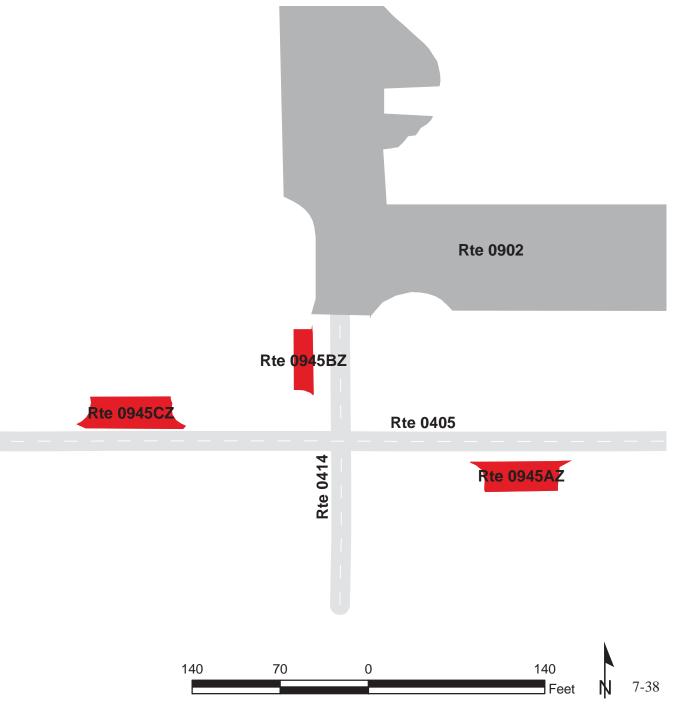




**RESIDENCE AREA PARKING** 

ADJACENT TO INTERSECTION OF ROUTE 0405 AND ROUTE 0414

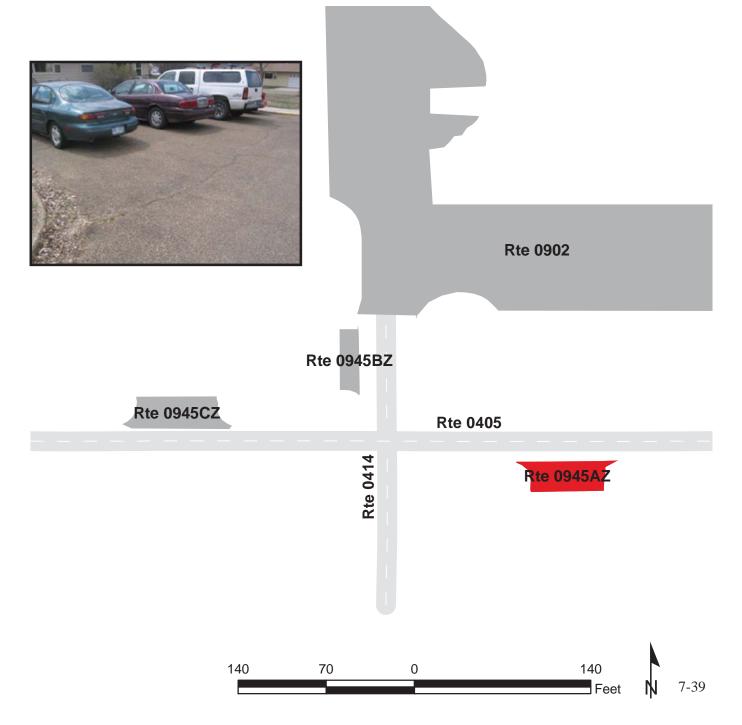
	Summary Record									
Route	Public /									
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type				
0945ZZ	NONPUBLIC	5/1	5/2008	2,756	0.05	AS				
			Fire							
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR				
				CONCRETE CURB	CONCRETE					
0	0	0	0	AND GUTTER	CURB	SUMMARY/73				



#### **RESIDENCE PARKING A**

ADJACENT TO ROUTE 0405 (HEADQUARTERS STREET) AT MP 0.18 (ON RIGHT)

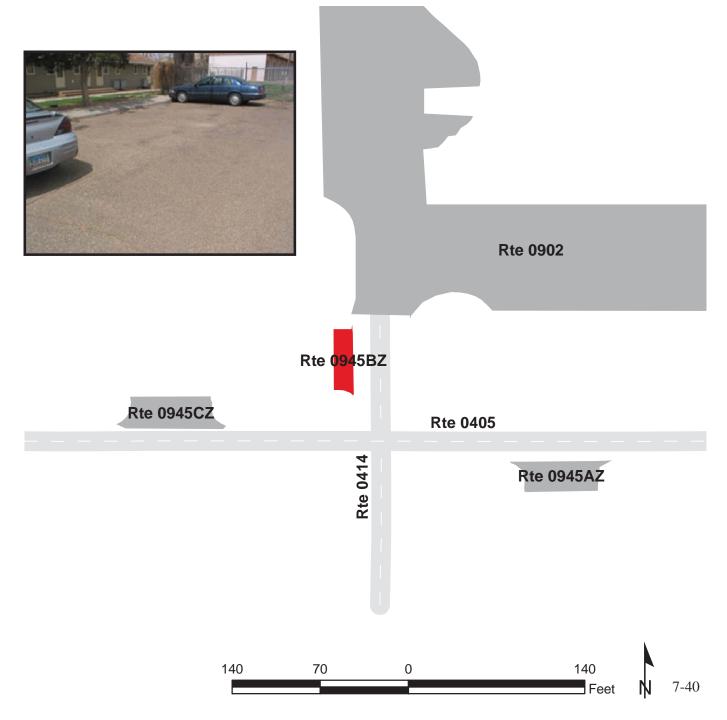
	Subcomponent Record										
Route	Public /										
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type					
0945AZ	NONPUBLIC	5/1	5/2008	1,015	0.02	AS					
			Fire								
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR					
				CONCRETE CURB	CONCRETE						
0	0	0	0	AND GUTTER	CURB	FAIR/73					



**RESIDENCE PARKING B** 

ADJACENT TO ROUTE 0414 (FOURTH STREET) AT MP 0.04 (ON LEFT)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0945BZ	NONPUBLIC	5/1	5/2008	521	0.01	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				CONCRETE CURB	CONCRETE	
				AND GUTTER	CURB	FAIR/73



**RESIDENCE PARKING C** 

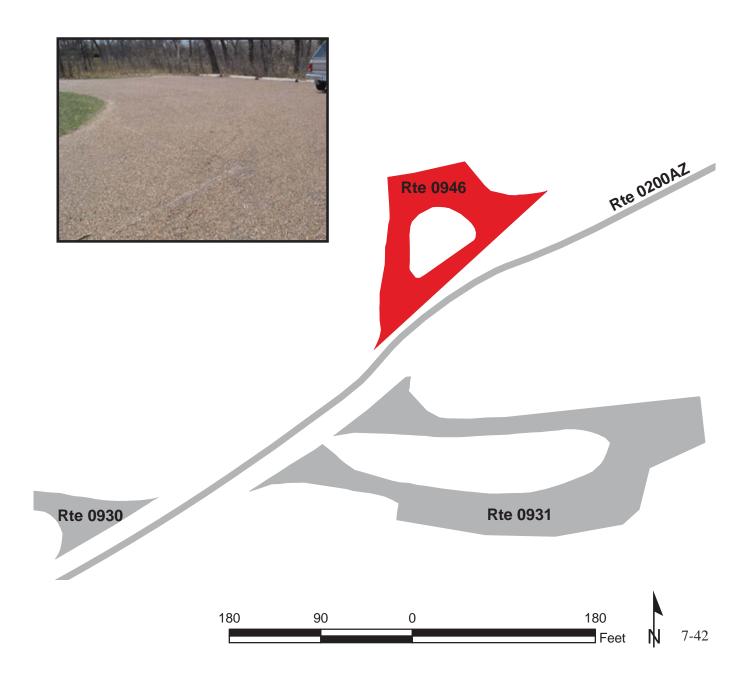
ADJACENT TO ROUTE 0405 (HEADQUARTERS STREET) AT MP 0.14 (ON LEFT)

	Subcomponent Record										
Route	Public /										
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type					
0945CZ	NONPUBLIC	5/1	5/2008	1,219	0.02	AS					
			Fire								
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR					
				NO CURB AND	CONCRETE						
0	0	0	0	GUTTER	CURB	FAIR/73					



JUNIPER CAMPGROUND REGISTRATION PARKING FROM ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA) TO ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)

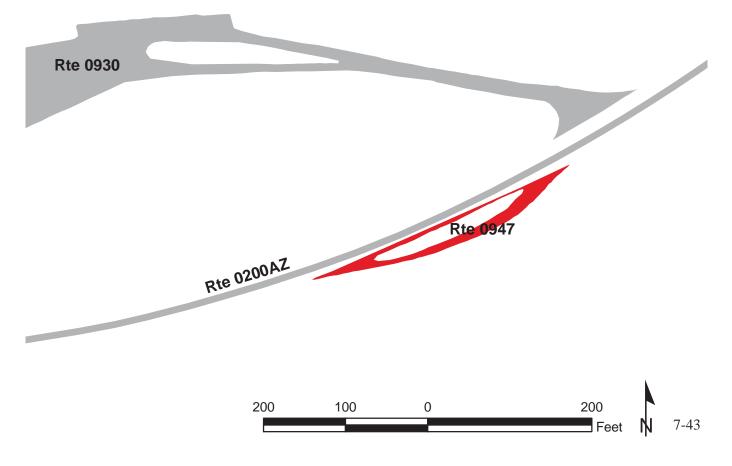
Route	Public /							
Number	NonPublic	Date Visited		Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0946	PUBLIC	5/1	5/2008	7,192	0.12	AS		
			Fire					
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR		
				NO CURB AND				
0	0	0	0	GUTTER	NO CURB	FAIR/73		



JUNIPER CAMPGROUND DUMPSTATION FROM ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA) TO ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)

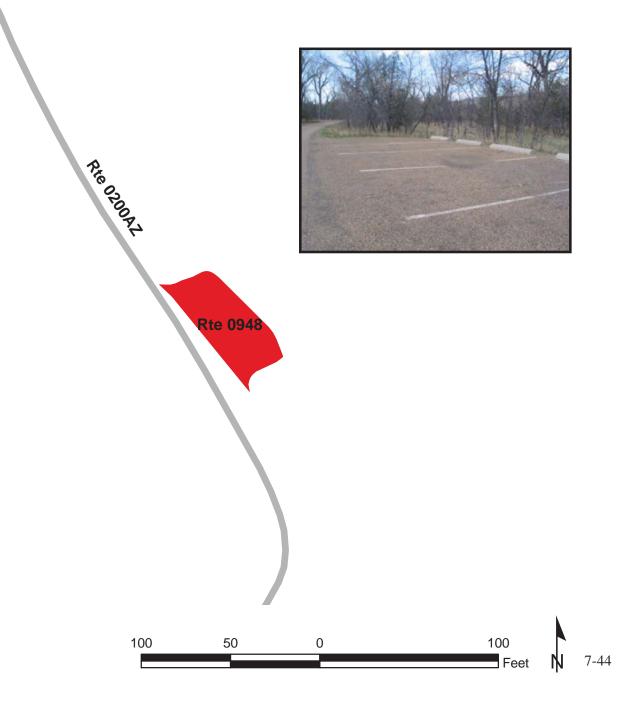
Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0947	PUBLIC	5/1	5/2008	2,545	0.04	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	GOOD/90





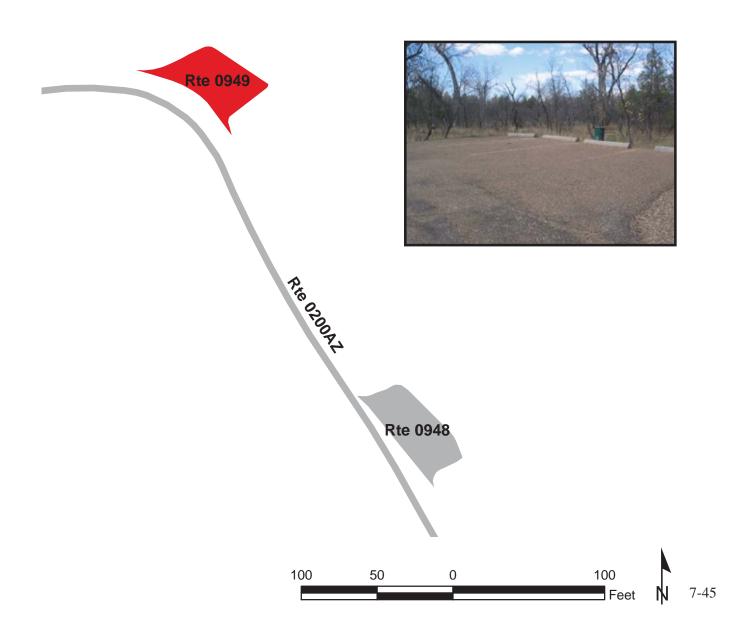
#### JUNIPER CAMPGROUND LOOP PARKING 1 ADJACENT TO ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)

Route	Public /					
Number	NonPublic	Date Visited		Area (sq ft)	Lane Miles *	Surface Type
0948	PUBLIC	5/15/2008		1,296	0.02	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	FAIR/73



#### JUNIPER CAMPGROUND LOOP PARKING 2 ADJACENT TO ROUTE 0200ZZ (JUNIPER CAMPGROUND AREA)

Route	Public /					
Number	NonPublic	Date	Visited	Area (sq ft)	Lane Miles *	Surface Type
0949	PUBLIC	5/1	5/2008	1,223	0.02	AS
			Fire			
Culverts	<b>Drop Inlets</b>	Gates	Hydrants	Curb & Gutter	Curb	PCR
				NO CURB AND		
0	0	0	0	GUTTER	NO CURB	FAIR/73



# Theodore Roosevelt National Park



# Section 8 Parkwide / Route Maintenance Features Summaries

## THRO: 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	19,842			
BOLLARD	1,927			
BRIDGE		4		
CABLE	0			
CATTLE GUARD		3		
CULVERT		252		
CURB	61,792			
DROP INLET		63		
FIRE HYDRANT		13		
GATE		9		
GUARD/GUIDE RAIL	17,873			
GUARD/GUIDE WALL	1,969			
INTERSECTION		101		
LOW WATER CROSSING	0	0		
MILE MARKER		57		
OVERPASS		0		
OVERHEAD SIGN		0		
PARK BOUNDARY		0		
PAVED DITCH	0			
PULLOUT		32		
RAILROAD CROSSING		0		
RETAINING WALL	0	0		
SIGN		271		
STATE BOUNDARY		0		
TEMPORARY BARRIER	0			
TRAFFIC LIGHT		1		
TUNNEL	0	0		
TURNOUT	0			

Data Collected 10/17/2008

# THRO: ROUTE MAINTENANCE FEATURES SUMMARY

FEATURE	ROUTE 0010 SCENIC DRIVE	ROUTE 0011 SCENIC LOOP	ROUTE 0201ZZ COTTONWOOD CAMPGROUND AREA	ROUTE 0203 PEACEFUL VALLEY RANCH ROAD	ROUTE 0204 BUCK HILL SPUR	ROUTE 0400 THIRD AVENUE	UNIT
BARRIER	523	16,030	1,605	37	1,647	0	LINEAR FEET
BOLLARD	0	275	1,605	37	11	0	LINEAR FEET
BRIDGE	0	4	0	0	0	0	EACH
CABLE	0	0	0	0	0	0	LINEAR FEET
CATTLE GUARD	1	1	0	0	0	0	EACH
CULVERT	6	234	1	1	5	1	EACH
CURB	2,872	53,365	264	0	2,397	702	LINEAR FEET
DROP INLET	1	50	0	0	1	1	EACH
FIRE HYDRANT	0	1	0	0	0	1	EACH
GATE	0	2	2	0	0	0	EACH
GUARD/GUIDE RAIL	523	15,713	0	0	1,637	0	LINEAR FEET
GUARD/GUIDE WALL	0	317	1,605	37	11	0	LINEAR FEET
INTERSECTION	8	37	22	4	3	4	EACH
LOW WATER CROSSING	0	0	0	0	0	0	EACH
LOW WATER CROSSING	0	0	0	0	0	0	LINEAR FEET
MILE MARKER	0	57	0	0	0	0	EACH
OVERHEAD SIGN	0	0	0	0	0	0	EACH
OVERPASS	0	0	0	0	0	0	EACH
PARK BOUNDARY	0	0	0	0	0	0	EACH
PAVED DITCH	0	0	0	0	0	0	LINEAR FEET
PULLOUT	0	26	5	0	1	0	EACH
RAILROAD CROSSING	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	0	0	LINEAR FEET
SIGN	23	184	25	3	8	4	EACH
STATE BOUNDARY	0	0	0	0	0	0	EACH
TEMPORARY BARRIER	0	0	0	0	0	0	LINEAR FEET
TRAFFIC LIGHT	0	1	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	LINEAR FEET
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.

## THRO: ROUTE MAINTENANCE FEATURES SUMMARY

FEATURE	ROUTE 0404 NORTH UNIT MAINTENANCE ROAD	ROUTE 0405 HEADQUARTERS STREET	ROUTE 0406 GRAY HOUSE ROAD	ROUTE 0414 FOURTH STREET	UNIT
BARRIER	0	0	0	0	LINEAR FEET
BOLLARD	0	0	0	0	LINEAR FEET
BRIDGE	0	0	0	0	EACH
CABLE	0	0	0	0	LINEAR FEET
CATTLE GUARD	1	0	0	0	EACH
CULVERT	1	0	0	0	EACH
CURB	0	1,922	0	269	LINEAR FEET
DROP INLET	0	0	0	0	EACH
FIRE HYDRANT	1	3	0	1	EACH
GATE	0	0	0	1	EACH
GUARD/GUIDE RAIL	0	0	0	0	LINEAR FEET
GUARD/GUIDE WALL	0	0	0	0	LINEAR FEET
INTERSECTION	6	8	4	5	EACH
LOW WATER CROSSING	0	0	0	0	EACH
LOW WATER CROSSING	0	0	0	0	LINEAR FEET
MILE MARKER	0	0	0	0	EACH
OVERHEAD SIGN	0	0	0	0	EACH
OVERPASS	0	0	0	0	EACH
PARK BOUNDARY	0	0	0	0	EACH
PAVED DITCH	0	0	0	0	LINEAR FEET
PULLOUT	0	0	0	0	EACH
RAILROAD CROSSING	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	LINEAR FEET
SIGN	2	15	0	7	EACH
STATE BOUNDARY	0	0	0	0	EACH
TEMPORARY BARRIER	0	0	0	0	LINEAR FEET
TRAFFIC LIGHT	0	0	0	0	EACH
TUNNEL	0	0	0	0	EACH
TUNNEL	0	0	0	0	LINEAR FEET
TURNOUT	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.

# THRO: STRUCTURE LIST

ROUTE	FUNCTIONAL	MILEPOST	MILEPOST		STRUCTURE
NUMBER	CLASS	START	END	FEATURE	NUMBER
0011	1	14.273	14.273	CULVERT	1540-004
0011	1	24.592	24.596	BRIDGE	1540-003
0011	1	28.177	28.192	BRIDGE	1540-001

# Theodore Roosevelt National Park



# Section 9 Park Route Maintenance Features Road Logs

### THRO: ROUTE MAINTENANCE FEATURES ROAD LOG

### **ROUTE 0010: SCENIC DRIVE**

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM U.S. 85
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (U.S. HWY 85 / NON NPS))
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (U.S. HWY 85 / NON NPS))
0.004	0.004	SIGN	RIGHT	REGULATORY, STOP
0.016	0.016	CULVERT	N/A	
0.032	0.032	SIGN	RIGHT	GUIDE, JUNCTION US NO 85 WATFORD CITY 15 BELFIELD 55
0.091	0.091	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.172	0.172	SIGN	RIGHT	GUIDE, U.S. FEE AREA
0.172	0.172	SIGN	RIGHT	WARNING, ICY ROAD
0.177	0.177	CATTLE GUARD	N/A	
0.194	0.194	SIGN	RIGHT	WARNING, SLOW
0.230	0.230	SIGN	LEFT	REGULATORY, STOP
0.230	0.230	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.230	0.230	SIGN	RIGHT	GUIDE, WELCOME THEODORE ROOSEVELT NATIONAL PARK
0.257	0.257	SIGN	LEFT	GUIDE, VISITOR CENTER
0.257	0.257	SIGN	RIGHT	GUIDE, VISITOR CENTER
0.267	0.267	INTERSECTION	RIGHT	ROUTE 0924 (NORTH UNIT VISITORS CENTER PARKING)
0.274	0.274	INTERSECTION	LEFT	PAVED ROUTE (VISITOR CENTER TURNOUT)
0.284	0.284	DROP INLET	LEFT	
0.298	0.298	INTERSECTION	LEFT	PAVED ROUTE (VISITOR CENTER TURNOUT)
0.310	0.310	INTERSECTION	LEFT	ROUTE 0404 (NORTH UNIT MAINTENANCE ROAD)
0.329	0.329	SIGN	RIGHT	WARNING, ROUGH ROAD AHEAD
0.337	0.337	SIGN	RIGHT	GUIDE, JUNIPER CAMPGROUND 5 MI. ROAD END 14 MI.
0.341	0.341	SIGN	RIGHT	WARNING, SLOW
0.356	0.356	CULVERT	N/A	
0.401	0.401	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.407	0.407	SIGN	RIGHT	GUIDE, GRAPHIC SIGN, NO TEXT
0.407	0.407	SIGN	RIGHT	GUIDE, IT'S THE LAW
0.407	0.407	SIGN	RIGHT	GUIDE, BUCKLE UP
0.449	0.449	CULVERT	N/A	
0.481	0.481	SIGN	RIGHT	GUIDE, TODAY'S FIRE DANGER PREVENT WILDFIRES
0.503	0.586	CURB	LEFT	
0.508	0.588	CURB	RIGHT	
0.619	0.619	SIGN	RIGHT	WARNING, 20 M.P.H.

### THRO: ROUTE MAINTENANCE FEATURES ROAD LOG

### **ROUTE 0010: SCENIC DRIVE**

TO MILEPOST	FEATURE	SIDE	COMMENT
0.625	INTERSECTION	RIGHT	UNPAVED ROUTE
0.626	CULVERT	N/A	
0.869	SIGN	RIGHT	GUIDE, BUFFALO ARE DANGEROUS VIEW FROM A DISTANCE
0.977	CURB	LEFT	
0.981	CURB	RIGHT	
0.968	CULVERT	N/A	
0.991	CURB	LEFT	
0.995	CURB	RIGHT	
1.005	SIGN	RIGHT	WARNING, DEER XING
1.005	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
1.247	CURB	RIGHT	
1.224	CURB	LEFT	
1.280	GUARD/GUIDE RAIL	LEFT	
1.273	CURB	LEFT	
1.297	GUARD/GUIDE RAIL	RIGHT	
1.360	CURB	RIGHT	
1.262	CULVERT	N/A	
1.360	INTERSECTION	N/A	ROUTE 0010 (SCENIC DRIVE) UNCOLLECTED SECTION
1.360	ROUTE END	N/A	TO ROUTE 0938 (OXBOW OVERLOOK)
	MILEPOST         0.625         0.626         0.869         0.977         0.981         0.968         0.991         0.995         1.005         1.247         1.224         1.224         1.224         1.230         1.273         1.297         1.360         1.360	MILEPOSTFEATURE0.625INTERSECTION0.626CULVERT0.869SIGN0.977CURB0.981CURB0.991CURB0.995CURB1.005SIGN1.247CURB1.224CURB1.230GUARD/GUIDE RAIL1.297GUARD/GUIDE RAIL1.360INTERSECTION	MILEPOSTFEATURESIDE0.625INTERSECTIONRIGHT0.626CULVERTN/A0.869SIGNRIGHT0.977CURBRIGHT0.981CULVERTN/A0.991CURBLEFT0.995CURBRIGHT1.005SIGNRIGHT1.247CURBRIGHT1.224CURBLEFT1.280GUARD/GUIDE RAILLEFT1.297GUARD/GUIDE RAILLEFT1.360KURBN/A1.360INTERSECTIONN/A

FROM <u>MILEPOST</u>	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM U.S. BUSINESS 94
0.000	0.000	SIGN	N/A	REGULATORY, EAST
0.000	0.000	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.000	0.000	SIGN	N/A	REGULATORY, WEST
0.000	0.000	SIGN	N/A	REGULATORY, PACIFIC AVE
0.000	0.000	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT
0.000	0.000	SIGN	N/A	GUIDE, INTERSTATE 94
0.000	0.000	SIGN	N/A	GUIDE, INTERSTATE 94
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (PACIFIC AVENUE (STATE MAINTAINED / NON NPS))
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (PACIFIC AVENUE (STATE MAINTAINED / NON NPS))
0.000	0.000	SIGN	N/A	REGULATORY, GRAPHIC SIGN, NO TEXT
0.003	0.027	CURB	LEFT	
0.006	0.006	SIGN	RIGHT	REGULATORY, STOP
0.006	0.011	CURB-AND-GUTTER	RIGHT	
0.008	0.008	SIGN	LEFT	GUIDE, BIKE ROUTE
0.008	0.008	SIGN	LEFT	GUIDE, GRAPHIC SIGN, NO TEXT
0.020	0.020	INTERSECTION	RIGHT	ROUTE 0400 (THIRD AVENUE)
0.020	0.020	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.020	0.020	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.034	0.034	SIGN	RIGHT	REGULATORY, GRAPHIC SIGN, NO TEXT
0.034	0.034	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.040	0.040	CULVERT	N/A	
0.042	0.042	CULVERT	N/A	
0.060	0.060	SIGN	RIGHT	GUIDE, ENTRANCE FEES PARK ANNUAL PASS
0.060	0.060	SIGN	RIGHT	GUIDE, U.S. FEE AREA
0.063	0.063	SIGN	RIGHT	REGULATORY, STOP
0.065	0.065	TRAFFIC LIGHT	LEFT	
0.087	0.087	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.093	0.093	INTERSECTION	LEFT	ROUTE 0901 (MEDORA VISITOR'S CENTER EMPLOYEE PARKING)
0.095	0.095	SIGN	LEFT	GUIDE, DO NOT ENTER
0.102	0.102	SIGN	RIGHT	GUIDE, COTTONWOOD CAMPGROUND 5 PICNIC AREA 5 LOOP ROAD 6

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.116	0.116	SIGN	RIGHT	WARNING, STOP AHEAD
0.130	0.131	GUARD/GUIDE WALL	LEFT	
0.131	0.131	FIRE HYDRANT	LEFT	
0.131	0.131	SIGN	RIGHT	GUIDE, PAY ENTRANCE FEE AT VISITOR CENTER
0.139	0.139	INTERSECTION	LEFT	ROUTE 0900 (MEDORA VISITOR'S CENTER PARKING)
0.146	0.146	SIGN	LEFT	GUIDE, VISITOR CENTER
0.146	0.146	SIGN	RIGHT	GUIDE, VISITOR CENTER THEODORE ROOSEVELT NATIONAL PARK EXHIBITS INFORMATION REST ROOMS OPEN DAILY 8:00 AM -
0.192	0.192	CULVERT	N/A	
0.215	0.215	INTERSECTION	LEFT	ROUTE 0900 (MEDORA VISITOR'S CENTER PARKING)
0.226	0.226	DROP INLET	LEFT	
0.226	0.398	CURB	LEFT	
0.235	0.235	SIGN	RIGHT	GUIDE, VISITOR CENTER INFORMATION & EXHIBITS
0.243	0.243	SIGN	RIGHT	GUIDE, BUCKLE UP
0.243	0.243	SIGN	RIGHT	GUIDE, GRAPHIC SIGN, NO TEXT
0.243	0.243	SIGN	RIGHT	GUIDE, IT'S THE LAW
0.245	0.245	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.278	0.278	INTERSECTION	RIGHT	ROUTE 0902 (SOUTH UNIT MAINTENANCE YARD)
0.284	0.284	CULVERT	N/A	
0.302	0.302	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
0.319	0.319	SIGN	RIGHT	GUIDE, TODAY'S FIRE DANGER PREVENT WILDFIRES
0.331	0.331	SIGN	RIGHT	REGULATORY, REDUCED SPEED AHEAD
0.335	0.380	PULLOUT	RIGHT	
0.340	0.365	CURB	RIGHT	
0.364	0.364	CULVERT	N/A	
0.379	0.379	CULVERT	N/A	
0.399	0.399	SIGN	RIGHT	GUIDE, MEDORA OVERLOOK
0.448	0.448	CULVERT	N/A	
0.459	0.459	INTERSECTION	LEFT	ROUTE 0903 (MEDORA OVERLOOK)
0.465	0.475	CURB	LEFT	
0.482	0.482	INTERSECTION	LEFT	ROUTE 0903 (MEDORA OVERLOOK)
0.492	0.500	CURB-AND-GUTTER	LEFT	
0.518	0.518	CULVERT	N/A	
0.519	0.617	PULLOUT	RIGHT	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.525	0.560	CURB	RIGHT	
0.547	0.547	SIGN	RIGHT	GUIDE, MEDORA OVERLOOK
0.568	0.568	CULVERT	N/A	
0.586	0.613	CURB	RIGHT	
0.721	0.758	CURB	LEFT	
0.724	0.724	CULVERT	N/A	
0.756	0.756	CULVERT	N/A	
0.756	0.832	CURB	RIGHT	
0.832	0.832	DROP INLET	RIGHT	
0.854	0.873	CURB	LEFT	
0.879	0.879	CULVERT	N/A	
0.887	0.999	CURB	LEFT	
0.918	0.918	CULVERT	N/A	
0.984	0.984	DROP INLET	LEFT	
1.002	1.002	DROP INLET	RIGHT	
1.003	1.036	CURB	RIGHT	
1.006	1.006	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
1.010	1.010	MILE MARKER	RIGHT	
1.011	1.011	MILE MARKER	LEFT	
1.022	1.022	CULVERT	N/A	
1.041	1.120	PULLOUT	RIGHT	
1.044	1.112	CURB	RIGHT	
1.046	1.046	CULVERT	N/A	
1.215	1.243	CURB	RIGHT	
1.242	1.242	CULVERT	N/A	
1.245	1.261	CURB	RIGHT	
1.260	1.260	DROP INLET	RIGHT	
1.284	1.284	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
1.295	1.588	CURB	LEFT	
1.312	1.312	CULVERT	N/A	
1.360	1.360	CULVERT	N/A	
1.424	1.424	CULVERT	N/A	
1.436	1.436	CULVERT	N/A	
1.502	1.502	DROP INLET	LEFT	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
1.554	1.554	CULVERT	N/A	
1.570	1.570	DROP INLET	RIGHT	
1.571	1.611	CURB	RIGHT	
1.592	1.592	CULVERT	N/A	
1.674	1.674	CULVERT	N/A	
1.683	1.743	PULLOUT	RIGHT	
1.684	1.717	CURB	RIGHT	
1.780	1.780	CULVERT	N/A	
1.780	1.921	CURB	LEFT	
1.827	1.827	CULVERT	N/A	
1.970	1.970	CULVERT	N/A	
2.005	2.005	MILE MARKER	RIGHT	
2.005	2.005	MILE MARKER	LEFT	
2.029	2.029	SIGN	RIGHT	GUIDE, DANGER DO NOT APPROACH WILDLIFE
2.050	2.088	GUARD/GUIDE RAIL	RIGHT	
2.052	2.083	GUARD/GUIDE RAIL	LEFT	
2.073	2.081	CURB	LEFT	
2.078	2.085	CURB	RIGHT	
2.080	2.080	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
2.081	2.109	GUARD/GUIDE RAIL	LEFT	
2.082	2.112	BRIDGE	N/A	A Structure Number has not been assigned to this Bridge
2.085	2.085	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
2.085	2.113	GUARD/GUIDE RAIL	RIGHT	
2.106	2.167	GUARD/GUIDE RAIL	LEFT	
2.109	2.109	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
2.109	2.117	CURB	LEFT	
2.110	2.168	GUARD/GUIDE RAIL	RIGHT	
2.113	2.120	CURB	RIGHT	
2.114	2.114	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
2.157	2.165	CURB	LEFT	
2.158	2.165	CURB	RIGHT	
2.164	2.164	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
2.165	2.165	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
2.165	2.191	GUARD/GUIDE RAIL	RIGHT	

FROM <u>MILEPOST</u>	TO MILEPOST	FEATURE	SIDE	COMMENT
2.165	2.192	GUARD/GUIDE RAIL	LEFT	
2.166	2.191	BRIDGE	N/A	A Structure Number has not been assigned to this Bridge
2.189	2.216	GUARD/GUIDE RAIL	LEFT	
2.189	2.209	GUARD/GUIDE RAIL	RIGHT	
2.191	2.199	CURB	RIGHT	
2.192	2.192	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
2.192	2.192	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
2.192	2.199	CURB	LEFT	
2.199	2.199	DROP INLET	LEFT	
2.219	2.219	CATTLE GUARD	N/A	
2.250	2.250	SIGN	RIGHT	GUIDE, DO NOT DRIVE OR PARK OFF ROADWAY
2.307	2.307	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
2.339	2.339	CULVERT	N/A	
2.374	2.404	CURB	LEFT	
2.412	2.422	CURB	RIGHT	
2.522	2.522	CULVERT	N/A	
2.738	2.738	CULVERT	N/A	
2.774	2.883	PULLOUT	RIGHT	
2.782	2.782	CULVERT	N/A	
2.782	2.871	PULLOUT	LEFT	
2.785	2.859	CURB	LEFT	
2.866	2.877	CURB	RIGHT	
2.890	2.890	CULVERT	N/A	
2.900	2.900	CULVERT	N/A	
2.901	2.946	CURB	RIGHT	
2.901	2.951	PULLOUT	RIGHT	
2.933	3.002	PULLOUT	LEFT	
2.934	3.001	CURB	LEFT	
2.936	2.936	CULVERT	N/A	
2.980	2.980	MILE MARKER	LEFT	
2.981	2.981	MILE MARKER	RIGHT	
3.017	3.017	CULVERT	N/A	
3.086	3.086	DROP INLET	LEFT	
3.086	3.185	CURB	LEFT	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
3.091	3.091	CULVERT	N/A	
3.112	3.163	PULLOUT	RIGHT	
3.113	3.158	CURB	RIGHT	
3.135	3.135	SIGN	RIGHT	WARNING, 30 M.P.H.
3.135	3.135	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
3.180	3.180	CULVERT	N/A	
3.211	3.249	CURB	LEFT	
3.212	3.212	DROP INLET	LEFT	
3.237	3.237	CULVERT	N/A	
3.289	3.289	SIGN	RIGHT	REGULATORY, PARKING
3.340	3.340	INTERSECTION	RIGHT	ROUTE 0904 (JOHNSON PLATEAU PARKING AREA)
3.370	3.370	CULVERT	N/A	
3.431	3.431	SIGN	RIGHT	REGULATORY, PARKING
3.454	3.454	CULVERT	N/A	
3.674	3.698	CURB	LEFT	
3.698	3.698	DROP INLET	LEFT	
3.723	3.814	PULLOUT	LEFT	
3.729	3.814	CURB	LEFT	
3.730	3.730	DROP INLET	LEFT	
3.748	3.748	DROP INLET	RIGHT	
3.749	3.798	CURB	RIGHT	
3.966	3.966	MILE MARKER	LEFT	
3.966	3.966	MILE MARKER	RIGHT	
4.052	4.052	CULVERT	N/A	
4.069	4.069	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
4.172	4.172	INTERSECTION	LEFT	ROUTE 0905 (SKYLINE VISTA)
4.174	4.174	SIGN	LEFT	GUIDE, SKYLINE VISTA
4.174	4.174	SIGN	RIGHT	GUIDE, SKYLINE VISTA
1.222	4.267	CURB	RIGHT	
4.257	4.257	INTERSECTION	LEFT	ROUTE 0905 (SKYLINE VISTA)
4.278	4.278	CULVERT	N/A	
4.283	4.382	PULLOUT	RIGHT	
4.286	4.382	CURB	RIGHT	
4.357	4.405	CURB	LEFT	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
4.380	4.380	CULVERT	N/A	
4.386	4.386	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
4.390	4.390	CULVERT	N/A	
4.408	4.438	PULLOUT	RIGHT	
4.414	4.438	CURB	RIGHT	
4.444	4.444	CULVERT	N/A	
4.451	4.507	PULLOUT	RIGHT	
4.460	4.503	CURB	RIGHT	
4.532	4.532	CULVERT	N/A	
4.546	4.591	PULLOUT	RIGHT	
4.553	4.589	CURB	RIGHT	
4.590	4.590	CULVERT	N/A	
4.601	4.697	CURB	LEFT	
4.626	4.626	CULVERT	N/A	
4.682	4.682	CULVERT	N/A	
4.698	4.698	DROP INLET	LEFT	
4.764	4.931	CURB	LEFT	
4.794	4.794	CULVERT	N/A	
4.836	4.836	DROP INLET	LEFT	
4.843	4.843	CULVERT	N/A	
4.902	4.902	DROP INLET	LEFT	
4.926	4.926	CULVERT	N/A	
4.928	4.928	CULVERT	N/A	
4.936	4.996	PULLOUT	RIGHT	
4.998	4.998	MILE MARKER	RIGHT	
4.999	4.999	MILE MARKER	LEFT	
5.025	5.089	CURB	LEFT	
5.042	5.042	CULVERT	N/A	
5.068	5.068	CULVERT	N/A	
5.086	5.086	CULVERT	N/A	
5.103	5.103	CULVERT	N/A	
5.124	5.143	CURB	RIGHT	
5.236	5.236	CULVERT	N/A	
5.310	5.310	INTERSECTION	LEFT	ROUTE 0906 (RIVER WOODLAND OVERLOOK)

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
5.358	5.358	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
5.493	5.493	CULVERT	N/A	
5.525	5.525	CULVERT	N/A	
5.564	5.564	SIGN	RIGHT	GUIDE, COTTONWOOD CAMPGROUND PICNIC AREA
5.578	5.578	CULVERT	N/A	
5.595	5.595	INTERSECTION	LEFT	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)
5.630	5.630	SIGN	RIGHT	GUIDE, COTTONWOOD CAMPGROUND PICNIC AREA
5.719	5.719	CULVERT	N/A	
5.721	5.721	CULVERT	N/A	
5.796	5.796	CULVERT	N/A	
5.872	5.872	CULVERT	N/A	
5.982	5.982	MILE MARKER	RIGHT	
5.982	5.982	MILE MARKER	LEFT	
5.044	6.044	CULVERT	N/A	
.119	6.119	CULVERT	N/A	
5.300	6.300	CULVERT	N/A	
.396	6.396	CULVERT	N/A	
.454	6.454	CULVERT	N/A	
.465	6.465	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
5.465	6.465	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
5.508	6.508	SIGN	RIGHT	GUIDE, COAL VEIN TRAILHEAD 10 BUCK HILL 12 WIND CANYON 4
5.535	6.535	SIGN	RIGHT	GUIDE, EAST RIVER ROAD
5.542	6.542	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
.546	6.546	INTERSECTION	RIGHT	ROUTE 0401 (MIX PIT ROAD)
.564	6.564	INTERSECTION	LEFT	ROUTE 0011 (SCENIC LOOP)
5.576	6.577	GUARD/GUIDE WALL	LEFT	
5.586	6.586	CULVERT	N/A	
5.621	6.621	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
5.636	6.636	SIGN	RIGHT	GUIDE, CAMPGROUND 1 PICNIC AREA 1 MEDORA 6 WIND CANYON 4
5.693	6.693	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
5.709	6.709	INTERSECTION	RIGHT	ROUTE 0909 (PRAIRIE DOG TOWN PARKING AREA)
5.795	6.795	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
5.795	6.795	SIGN	RIGHT	WARNING, NEXT 20 MILES

FROM <u>MILEPOST</u>	TO MILEPOST	FEATURE	SIDE	COMMENT
6.804	6.804	CULVERT	N/A	
6.805	6.805	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
6.806	6.806	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
6.807	6.807	SIGN	N/A	WARNING, GRAPHIC SIGN, NO TEXT
6.807	6.807	SIGN	N/A	WARNING, GRAPHIC SIGN, NO TEXT
6.807	6.807	SIGN	N/A	REGULATORY, ROAD CLOSED
6.807	6.807	GATE	N/A	
6.807	6.807	SIGN	N/A	REGULATORY, NO PARKING ANY TIME
6.811	6.811	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
6.813	6.813	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
6.848	6.848	SIGN	RIGHT	REGULATORY, REDUCED SPEED AHEAD
6.897	6.897	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
6.955	6.955	MILE MARKER	RIGHT	
6.956	6.956	MILE MARKER	LEFT	
7.006	7.006	CULVERT	N/A	
7.110	7.110	CULVERT	N/A	
7.206	7.206	CULVERT	N/A	
7.354	7.354	CULVERT	N/A	
7.421	7.421	CULVERT	N/A	
7.504	7.504	CULVERT	N/A	
7.611	7.611	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
7.658	7.658	CULVERT	N/A	
7.770	7.770	CULVERT	N/A	
7.796	7.843	CURB	RIGHT	
7.846	7.846	DROP INLET	RIGHT	
7.846	7.846	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
7.898	7.898	CULVERT	N/A	
7.954	7.954	MILE MARKER	LEFT	
7.954	7.954	MILE MARKER	RIGHT	
7.976	7.976	CULVERT	N/A	
8.036	8.036	CULVERT	N/A	
8.058	8.058	CULVERT	N/A	
8.129	8.129	CULVERT	N/A	
8.134	8.134	CULVERT	N/A	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
8.135	8.135	CULVERT	N/A	
8.136	8.136	CULVERT	N/A	
8.202	8.202	CULVERT	N/A	
8.283	8.283	CULVERT	N/A	
8.390	8.390	CULVERT	N/A	
8.420	8.420	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
8.442	8.442	CULVERT	N/A	
8.509	8.509	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
8.598	8.598	CULVERT	N/A	
8.642	8.642	CULVERT	N/A	
8.716	8.716	CULVERT	N/A	
8.728	8.756	PULLOUT	LEFT	
8.730	8.755	CURB	LEFT	
8.794	8.794	CULVERT	N/A	
8.853	8.853	CULVERT	N/A	
8.902	8.902	CULVERT	N/A	
8.905	8.905	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
8.935	8.935	MILE MARKER	LEFT	
8.935	8.935	MILE MARKER	RIGHT	
8.944	8.944	CULVERT	N/A	
8.958	9.049	CURB	RIGHT	
8.958	8.958	DROP INLET	RIGHT	
8.974	8.974	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
9.044	9.044	DROP INLET	RIGHT	
9.137	9.137	CULVERT	N/A	
9.180	9.180	CULVERT	N/A	
9.246	9.246	CULVERT	N/A	
9.307	9.307	INTERSECTION	LEFT	ROUTE 0910 (SCORIA POINT OVERLOOK)
9.343	9.343	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
9.374	9.374	CULVERT	N/A	
9.441	9.441	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
9.478	9.478	CULVERT	N/A	
9.489	9.740	CURB	RIGHT	
9.490	9.490	DROP INLET	RIGHT	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
9.553	9.553	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
9.639	9.639	DROP INLET	RIGHT	
9.748	9.748	CULVERT	N/A	
9.751	9.751	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
9.786	9.786	CULVERT	N/A	
9.827	9.827	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
9.841	9.877	CURB	RIGHT	
9.842	9.878	PULLOUT	RIGHT	
9.849	9.849	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
9.925	9.925	MILE MARKER	RIGHT	
9.925	9.925	MILE MARKER	LEFT	
9.988	9.988	CULVERT	N/A	
9.991	9.991	SIGN	RIGHT	WARNING, ROAD NARROWS
10.029	10.029	SIGN	RIGHT	WARNING, NARROW BRIDGE
10.069	10.150	GUARD/GUIDE RAIL	LEFT	
10.074	10.074	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
10.077	10.149	GUARD/GUIDE RAIL	RIGHT	
10.109	10.109	CULVERT	N/A	
10.189	10.189	SIGN	RIGHT	WARNING, NARROW BRIDGE
10.220	10.220	SIGN	RIGHT	WARNING, ROAD NARROWS
10.270	10.270	CULVERT	N/A	
10.383	10.418	PULLOUT	RIGHT	
10.384	10.417	CURB	RIGHT	
10.447	10.476	CURB	RIGHT	
10.448	10.448	DROP INLET	RIGHT	
10.508	10.508	CULVERT	N/A	
10.514	10.514	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
10.577	10.577	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
10.600	10.600	SIGN	RIGHT	GUIDE, RIDGELINE NATURE TRAIL
10.628	10.666	CURB	RIGHT	
10.697	10.697	INTERSECTION	RIGHT	ROUTE 0911 (RIDGELINE TRAILHEAD)
10.760	10.760	CULVERT	N/A	
10.777	10.777	SIGN	RIGHT	GUIDE, RIDGELINE NATURE TRAIL
10.777	10.847	CURB	RIGHT	

FROM <u>MILEPOST</u>	TO MILEPOST	FEATURE	SIDE	COMMENT
10.846	10.846	DROP INLET	RIGHT	
10.886	10.886	MILE MARKER	LEFT	
10.887	10.887	MILE MARKER	RIGHT	
10.890	10.890	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
10.933	11.113	CURB	RIGHT	
11.013	11.013	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
11.015	11.015	DROP INLET	RIGHT	
11.083	11.083	DROP INLET	RIGHT	
11.177	11.390	CURB	RIGHT	
11.232	11.232	DROP INLET	RIGHT	
11.278	11.278	INTERSECTION	LEFT	ROUTE 0912 (NORTH DAKOTA BADLANDS OVERLOOK)
11.296	11.296	INTERSECTION	LEFT	ROUTE 0912 (NORTH DAKOTA BADLANDS OVERLOOK)
11.342	11.342	DROP INLET	RIGHT	
11.388	11.388	DROP INLET	RIGHT	
11.410	11.410	CULVERT	N/A	
11.452	11.452	CULVERT	N/A	
11.533	11.533	DROP INLET	RIGHT	
11.582	11.582	DROP INLET	RIGHT	
11.730	11.730	CULVERT	N/A	
11.795	11.838	GUARD/GUIDE RAIL	RIGHT	
11.829	11.829	CULVERT	N/A	
11.833	11.873	PULLOUT	RIGHT	
11.835	11.872	CURB	RIGHT	
11.892	11.892	MILE MARKER	LEFT	
11.892	11.892	MILE MARKER	RIGHT	
11.915	11.915	CULVERT	N/A	
11.964	11.964	CULVERT	N/A	
12.498	12.498	DROP INLET	LEFT	
12.498	12.539	CURB	RIGHT	
12.499	12.568	CURB	LEFT	
12.499	12.499	DROP INLET	RIGHT	
12.724	12.724	INTERSECTION	RIGHT	ROUTE 0941 (OLD EAST ENTRANCE TRAILHEAD PARKING)
12.755	12.755	INTERSECTION	RIGHT	ROUTE 0941 (OLD EAST ENTRANCE TRAILHEAD PARKING)
12.768	12.847	CURB	RIGHT	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
12.851	12.851	CULVERT	N/A	
12.866	12.962	CURB	LEFT	
12.880	12.880	MILE MARKER	LEFT	
12.880	12.880	MILE MARKER	RIGHT	
12.887	12.924	GUARD/GUIDE RAIL	RIGHT	
12.919	12.919	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
12.959	12.959	CULVERT	N/A	
12.972	12.972	CULVERT	N/A	
13.127	13.127	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
13.451	13.451	CULVERT	N/A	
13.526	13.526	CULVERT	N/A	
13.569	13.569	CULVERT	N/A	
13.585	13.938	CURB	RIGHT	
13.596	13.596	DROP INLET	RIGHT	
13.643	13.712	GUARD/GUIDE RAIL	LEFT	
13.681	13.681	CULVERT	N/A	
13.708	13.708	CULVERT	N/A	
13.709	13.850	CURB	LEFT	
13.849	13.849	CULVERT	N/A	
13.872	13.872	CULVERT	N/A	
13.873	13.873	MILE MARKER	RIGHT	
13.873	13.873	MILE MARKER	LEFT	
14.065	14.186	CURB	LEFT	
14.184	14.184	CULVERT	N/A	
14.251	14.251	SIGN	RIGHT	GUIDE, PADDOCK CREEK
14.273	14.273	CULVERT	N/A	1540-004 (UPPER PADDOCK CREEK CULVERT)
14.285	14.520	CURB	RIGHT	
14.290	14.290	SIGN	RIGHT	GUIDE, PADDOCK CREEK
14.366	14.366	SIGN	RIGHT	GUIDE, GRAPHIC SIGN, NO TEXT
14.440	14.440	DROP INLET	RIGHT	
14.473	14.473	SIGN	RIGHT	GUIDE, GRAPHIC SIGN, NO TEXT
14.507	14.507	INTERSECTION	LEFT	ROUTE 0913 (PADDOCK CREEK / TALKINGTON TRAILHEAD PARKING)
14.520	14.673	CURB	RIGHT	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
14.523	14.530	CURB	LEFT	
14.559	14.559	CULVERT	N/A	
14.688	14.688	CULVERT	N/A	
14.817	15.011	CURB	RIGHT	
14.819	14.819	DROP INLET	RIGHT	
14.862	14.862	MILE MARKER	RIGHT	
14.863	14.863	MILE MARKER	LEFT	
15.020	15.020	CULVERT	N/A	
15.144	15.144	CULVERT	N/A	
15.194	15.194	CULVERT	N/A	
15.210	15.322	CURB	RIGHT	
15.210	15.210	DROP INLET	RIGHT	
15.321	15.321	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
15.369	15.369	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
15.369	15.369	SIGN	RIGHT	WARNING, AHEAD
15.371	15.371	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
15.392	15.392	SIGN	RIGHT	GUIDE, COAL VEIN TRAIL 1.0 MI.
15.414	15.414	CULVERT	N/A	
15.421	15.538	CURB	LEFT	
15.427	15.427	INTERSECTION	RIGHT	ROUTE 0206 (BURNING COAL VEIN ROAD)
15.459	15.459	SIGN	RIGHT	GUIDE, COAL VEIN TRAIL 1.0 MI.
15.492	15.492	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
15.492	15.492	SIGN	RIGHT	WARNING, AHEAD
15.541	15.541	CULVERT	N/A	
15.568	15.649	CURB	LEFT	
15.593	15.647	PULLOUT	RIGHT	
15.595	15.646	CURB	RIGHT	
15.691	15.691	CULVERT	N/A	
15.836	15.879	CURB	RIGHT	
15.843	15.843	MILE MARKER	LEFT	
15.843	15.843	MILE MARKER	RIGHT	
15.850	15.850	CULVERT	N/A	
15.967	16.000	CURB	LEFT	
15.999	15.999	CULVERT	N/A	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
16.003	16.064	CURB	LEFT	
16.062	16.116	GUARD/GUIDE RAIL	RIGHT	
16.063	16.116	GUARD/GUIDE RAIL	LEFT	
16.075	16.075	CULVERT	N/A	
16.094	16.094	CULVERT	N/A	
16.104	16.104	CULVERT	N/A	
16.116	16.190	PULLOUT	LEFT	
16.117	16.187	CURB	LEFT	
16.215	16.215	CULVERT	N/A	
16.284	16.284	CULVERT	N/A	
16.380	16.380	CULVERT	N/A	
16.426	16.426	CULVERT	N/A	
16.508	16.508	CULVERT	N/A	
16.518	16.645	CURB	LEFT	
16.547	16.663	CURB	RIGHT	
16.646	16.691	CURB	LEFT	
16.649	16.694	GUARD/GUIDE RAIL	LEFT	
16.659	16.700	GUARD/GUIDE RAIL	RIGHT	
16.664	16.698	CURB	RIGHT	
16.676	16.676	CULVERT	N/A	
16.691	16.747	CURB	LEFT	
16.697	16.744	CURB	RIGHT	
16.743	16.743	SIGN	RIGHT	WARNING, AHEAD
16.743	16.743	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
16.745	16.804	CURB	RIGHT	
16.761	16.761	CULVERT	N/A	
16.808	16.808	SIGN	RIGHT	GUIDE, BUCK HILL
16.810	16.820	CURB	RIGHT	
16.811	16.917	CURB	LEFT	
16.828	16.828	MILE MARKER	LEFT	
16.828	16.828	MILE MARKER	RIGHT	
16.840	16.870	CURB	RIGHT	
16.879	16.879	INTERSECTION	RIGHT	ROUTE 0204 (BUCK HILL SPUR)
16.925	16.925	CULVERT	N/A	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
17.024	17.024	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
17.034	17.034	SIGN	RIGHT	GUIDE, BUCK HILL
17.042	17.042	CULVERT	N/A	
17.047	17.047	SIGN	RIGHT	WARNING, AHEAD
17.047	17.047	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
17.158	17.158	CULVERT	N/A	
17.257	17.286	CURB	LEFT	
17.314	17.320	CURB	LEFT	
17.320	17.320	CULVERT	N/A	
17.323	17.373	CURB	LEFT	
17.325	17.325	CULVERT	N/A	
17.361	17.361	CULVERT	N/A	
17.372	17.372	CULVERT	N/A	
17.395	17.395	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
17.395	17.395	SIGN	RIGHT	GUIDE, UPPER TALKINGTON TRAIL LOWER TALKINGTON TRAIL
17.395	17.395	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
17.395	17.395	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
17.427	17.519	CURB	LEFT	
17.427	17.522	PULLOUT	LEFT	
17.705	17.705	CULVERT	N/A	
17.804	17.804	CULVERT	N/A	
17.817	17.817	MILE MARKER	RIGHT	
17.817	17.817	MILE MARKER	LEFT	
17.848	17.848	CULVERT	N/A	
17.944	17.944	CULVERT	N/A	
18.028	18.028	CULVERT	N/A	
18.216	18.216	CULVERT	N/A	
18.288	18.288	CULVERT	N/A	
18.456	18.456	CULVERT	N/A	
18.577	18.577	CULVERT	N/A	
18.684	18.684	CULVERT	N/A	
18.721	18.810	CURB	RIGHT	
18.751	18.928	CURB	LEFT	

FROM <u>MILEPOST</u>	TO MILEPOST	FEATURE	SIDE	COMMENT
18.762	18.889	GUARD/GUIDE RAIL	RIGHT	
18.774	18.774	DROP INLET	LEFT	
18.795	18.795	MILE MARKER	LEFT	
18.795	18.795	MILE MARKER	RIGHT	
18.818	18.818	DROP INLET	LEFT	
18.855	18.855	DROP INLET	LEFT	
18.928	18.998	GUARD/GUIDE RAIL	RIGHT	
18.946	18.946	CULVERT	N/A	
18.948	18.995	CURB	RIGHT	
18.952	18.997	GUARD/GUIDE RAIL	LEFT	
18.970	18.970	CULVERT	N/A	
18.998	19.005	CURB	LEFT	
19.008	19.050	CURB	LEFT	
19.068	19.099	CURB	RIGHT	
19.081	19.146	CURB	LEFT	
19.082	19.146	PULLOUT	LEFT	
19.103	19.173	CURB	RIGHT	
19.179	19.179	CULVERT	N/A	
19.394	19.394	INTERSECTION	LEFT	ROUTE 0916 (BOICOURT OVERLOOK PARKING)
19.435	19.435	CULVERT	N/A	
19.652	19.728	CURB	RIGHT	
19.666	19.666	CULVERT	N/A	
19.677	19.740	PULLOUT	LEFT	
19.677	19.734	CURB	LEFT	
19.735	19.773	GUARD/GUIDE RAIL	LEFT	
19.779	19.934	CURB	LEFT	
19.787	19.787	MILE MARKER	RIGHT	
19.788	19.788	MILE MARKER	LEFT	
19.937	20.013	CURB	LEFT	
19.938	19.938	CULVERT	N/A	
19.999	20.079	GUARD/GUIDE RAIL	LEFT	
19.999	20.157	GUARD/GUIDE RAIL	RIGHT	
20.013	20.020	CURB	LEFT	
20.023	20.078	CURB	RIGHT	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
20.064	20.064	CULVERT	N/A	
20.081	20.133	CURB	RIGHT	
20.127	20.183	GUARD/GUIDE RAIL	LEFT	
20.134	20.221	CURB	RIGHT	
20.155	20.155	CULVERT	N/A	
20.190	20.413	CURB	LEFT	
20.221	20.474	GUARD/GUIDE RAIL	RIGHT	
20.225	20.306	CURB	RIGHT	
20.234	20.234	DROP INLET	RIGHT	
20.234	20.234	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
20.291	20.291	DROP INLET	LEFT	
20.307	20.307	CULVERT	N/A	
20.335	20.335	DROP INLET	LEFT	
20.405	20.463	GUARD/GUIDE RAIL	LEFT	
20.408	20.460	CURB	RIGHT	
20.416	20.416	CULVERT	N/A	
20.517	20.610	GUARD/GUIDE RAIL	LEFT	
20.519	20.548	GUARD/GUIDE RAIL	RIGHT	
20.536	20.536	CULVERT	N/A	
20.603	20.603	CULVERT	N/A	
20.628	20.628	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
20.630	20.630	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
20.673	20.673	SIGN	RIGHT	WARNING, NEXT 20 MILES
20.673	20.673	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
20.700	20.700	SIGN	RIGHT	GUIDE, JONES CREEK TRAIL HIKING & HORSEBACK RIDING
20.736	20.736	INTERSECTION	LEFT	ROUTE 0917 (UPPER JONES CREEK TRAILHEAD PARKING)
20.760	20.760	MILE MARKER	LEFT	
20.760	20.760	MILE MARKER	RIGHT	
20.763	20.763	SIGN	RIGHT	GUIDE, JONES CREEK TRAIL HIKING & HORSEBACK RIDING
20.843	20.923	GUARD/GUIDE RAIL	LEFT	
20.851	20.858	CURB	LEFT	
20.853	20.891	GUARD/GUIDE RAIL	RIGHT	
20.859	20.882	CURB	RIGHT	
20.859	20.913	CURB	LEFT	

FROM <u>MILEPOST</u>	TO MILEPOST	FEATURE	SIDE	COMMENT
20.868	20.868	CULVERT	N/A	
20.928	21.026	CURB	RIGHT	
20.936	21.041	CURB	LEFT	
21.051	21.051	CULVERT	N/A	
21.090	21.154	GUARD/GUIDE RAIL	RIGHT	
21.115	21.142	CURB	LEFT	
21.124	21.124	CULVERT	N/A	
21.180	21.180	CULVERT	N/A	
21.244	21.244	CULVERT	N/A	
21.273	21.327	GUARD/GUIDE RAIL	RIGHT	
21.285	21.333	GUARD/GUIDE RAIL	LEFT	
21.310	21.310	CULVERT	N/A	
21.384	21.384	CULVERT	N/A	
21.412	21.513	GUARD/GUIDE RAIL	LEFT	
21.430	21.430	CULVERT	N/A	
21.485	21.485	CULVERT	N/A	
21.566	21.566	CULVERT	N/A	
21.600	21.665	GUARD/GUIDE RAIL	RIGHT	
21.646	21.646	CULVERT	N/A	
21.727	21.727	CULVERT	N/A	
21.740	21.821	CURB	LEFT	
21.758	21.758	MILE MARKER	LEFT	
21.758	21.758	MILE MARKER	RIGHT	
21.845	21.845	CULVERT	N/A	
21.895	21.895	CULVERT	N/A	
21.920	22.039	CURB	LEFT	
21.979	22.292	CURB	RIGHT	
22.045	22.045	DROP INLET	RIGHT	
22.089	22.210	GUARD/GUIDE RAIL	LEFT	
22.111	22.111	DROP INLET	RIGHT	
22.187	22.187	DROP INLET	RIGHT	
22.320	22.320	CULVERT	N/A	
22.368	22.368	CULVERT	N/A	
22.377	22.537	CURB	RIGHT	

FROM <u>MILEPOST</u>	TO MILEPOST	FEATURE	SIDE	COMMENT
22.415	22.415	DROP INLET	RIGHT	
22.548	22.548	CULVERT	N/A	
22.611	22.681	GUARD/GUIDE RAIL	LEFT	
22.634	22.634	CULVERT	N/A	
22.757	22.757	MILE MARKER	RIGHT	
22.758	22.758	MILE MARKER	LEFT	
22.772	22.772	CULVERT	N/A	
22.797	22.951	CURB	RIGHT	
22.816	22.841	GUARD/GUIDE RAIL	LEFT	
22.949	22.949	DROP INLET	RIGHT	
22.997	23.052	GUARD/GUIDE RAIL	LEFT	
22.999	23.025	CURB	RIGHT	
23.020	23.020	CULVERT	N/A	
23.027	23.046	CURB	RIGHT	
23.197	23.197	CULVERT	N/A	
23.290	23.290	CULVERT	N/A	
23.354	23.354	CULVERT	N/A	
23.465	23.465	CULVERT	N/A	
23.615	23.615	CULVERT	N/A	
23.706	23.706	CULVERT	N/A	
23.732	23.732	MILE MARKER	RIGHT	
23.732	23.732	MILE MARKER	LEFT	
23.740	23.816	CURB	LEFT	
23.794	23.965	CURB	RIGHT	
23.880	23.880	DROP INLET	RIGHT	
24.016	24.016	CULVERT	N/A	
24.062	24.332	CURB	RIGHT	
24.098	24.098	DROP INLET	RIGHT	
24.368	24.368	CULVERT	N/A	
24.467	24.467	SIGN	RIGHT	WARNING, AHEAD
24.467	24.467	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
24.481	24.481	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
24.496	24.496	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
24.496	24.496	SIGN	RIGHT	WARNING, NEXT 20 MILES

FROM <u>MILEPOST</u>	TO MILEPOST	FEATURE	SIDE	COMMENT
24.515	24.515	CULVERT	N/A	
24.533	24.533	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
24.533	24.533	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
24.534	24.534	SIGN	N/A	REGULATORY, NO PARKING ANY TIME
24.534	24.534	SIGN	N/A	WARNING, GRAPHIC SIGN, NO TEXT
24.534	24.534	GATE	N/A	
24.534	24.534	SIGN	N/A	WARNING, GRAPHIC SIGN, NO TEXT
24.534	24.534	SIGN	N/A	REGULATORY, ROAD CLOSED
24.538	24.538	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
24.539	24.539	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
24.546	24.546	SIGN	RIGHT	REGULATORY, STOP
24.551	24.551	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
24.556	24.556	INTERSECTION	RIGHT	ROUTE 0100 (NORTH BOUNDARY ROAD)
24.559	24.559	SIGN	RIGHT	GUIDE, MEDORA 11 MI.
24.575	24.575	SIGN	RIGHT	GUIDE, SCENIC LOOP BUCK HILL 8 MI. COAL VEIN 10 MI. MEDORA 25 MI.
24.592	24.592	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
24.592	24.592	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
24.592	24.596	BRIDGE	N/A	1540-003 (JULES CREEK BRIDGE)
24.592	24.596	GUARD/GUIDE WALL	LEFT	
24.592	24.596	GUARD/GUIDE WALL	RIGHT	
24.597	24.597	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
24.597	24.597	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
24.599	24.599	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
24.613	24.662	CURB	LEFT	
24.665	24.685	CURB	LEFT	
24.678	24.678	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
24.686	24.787	CURB	LEFT	
24.718	24.718	MILE MARKER	RIGHT	
24.774	24.774	SIGN	RIGHT	GUIDE, GRAPHIC SIGN, NO TEXT
24.774	24.774	SIGN	RIGHT	GUIDE, IT'S THE LAW
24.774	24.774	SIGN	RIGHT	GUIDE, BUCKLE UP
24.788	24.788	DROP INLET	LEFT	
24.790	24.931	CURB	LEFT	

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
24.827	24.827	SIGN	RIGHT	GUIDE, WIND CANYON NATURE TRAIL
24.864	24.864	INTERSECTION	RIGHT	ROUTE 0918 (WIND CANYON PARKING)
24.873	24.912	CURB	RIGHT	
24.873	24.912	GUARD/GUIDE WALL	RIGHT	
24.923	24.923	INTERSECTION	RIGHT	ROUTE 0918 (WIND CANYON PARKING)
24.930	24.930	CULVERT	N/A	
24.957	24.957	SIGN	RIGHT	GUIDE, WIND CANYON NATURE TRAIL
25.122	25.122	CULVERT	N/A	
25.228	25.241	CURB	LEFT	
25.243	25.271	CURB	LEFT	
25.274	25.306	CURB	RIGHT	
25.318	25.318	CULVERT	N/A	
25.320	25.321	GUARD/GUIDE WALL	RIGHT	
25.335	25.361	PULLOUT	LEFT	
25.347	25.347	SIGN	RIGHT	WARNING, 25 M.P.H.
25.347	25.347	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
25.348	25.355	GUARD/GUIDE WALL	LEFT	
25.354	25.371	PULLOUT	RIGHT	
25.368	25.368	CULVERT	N/A	
25.387	25.424	CURB	RIGHT	
25.424	25.621	GUARD/GUIDE RAIL	RIGHT	
25.492	25.493	GUARD/GUIDE WALL	LEFT	
25.492	25.492	CULVERT	N/A	
25.538	25.553	CURB	LEFT	
25.642	25.642	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
25.707	25.707	MILE MARKER	LEFT	
25.707	25.707	MILE MARKER	RIGHT	
25.863	25.863	CULVERT	N/A	
26.112	26.150	CURB	LEFT	
26.151	26.168	CURB	LEFT	
26.158	26.180	GUARD/GUIDE RAIL	RIGHT	
26.168	26.168	CULVERT	N/A	
26.303	26.303	INTERSECTION	RIGHT	ROUTE 0919 (BEEF CORRAL PULLOUT)
26.536	26.536	CULVERT	N/A	

FROM <u>MILEPOST</u>	TO MILEPOST	FEATURE	SIDE	COMMENT
26.677	26.677	CULVERT	N/A	
26.699	26.699	MILE MARKER	LEFT	
26.699	26.699	MILE MARKER	RIGHT	
26.714	26.714	CULVERT	N/A	
26.719	26.721	GUARD/GUIDE WALL	RIGHT	
26.794	26.794	CULVERT	N/A	
27.029	27.029	CULVERT	N/A	
27.192	27.192	CULVERT	N/A	
27.234	27.234	SIGN	RIGHT	GUIDE, JONES CREEK TRAIL HIKING & HORSEBACK RIDING
27.251	27.251	INTERSECTION	LEFT	ROUTE 0920 (LOWER JONES CREEK TRAILHEAD)
27.260	27.286	GUARD/GUIDE RAIL	RIGHT	
27.265	27.289	GUARD/GUIDE RAIL	LEFT	
27.267	27.281	CURB	RIGHT	
27.278	27.278	CULVERT	N/A	
27.313	27.313	SIGN	RIGHT	GUIDE, JONES CREEK TRAIL HIKING & HORSEBACK RIDING
27.370	27.370	CULVERT	N/A	
27.487	27.487	CULVERT	N/A	
27.587	27.587	CULVERT	N/A	
27.588	27.588	CULVERT	N/A	
27.589	27.589	CULVERT	N/A	
27.664	27.664	CULVERT	N/A	
27.686	27.686	MILE MARKER	RIGHT	
27.686	27.686	MILE MARKER	LEFT	
27.720	27.720	CULVERT	N/A	
27.780	27.780	CULVERT	N/A	
27.809	27.809	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
27.898	27.964	GUARD/GUIDE RAIL	RIGHT	
27.924	27.924	CULVERT	N/A	
28.013	28.013	CULVERT	N/A	
28.014	28.014	CULVERT	N/A	
28.015	28.015	CULVERT	N/A	
28.122	28.122	CULVERT	N/A	
28.138	28.138	SIGN	RIGHT	GUIDE, HALLIDAY WELL PADDOCK CREEK TRAILHEAD
28.161	28.161	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
28.161	28.161	SIGN	RIGHT	WARNING, TRAIL XING
28.162	28.203	GUARD/GUIDE RAIL	RIGHT	
28.164	28.174	CURB	RIGHT	
28.171	28.171	INTERSECTION	LEFT	ROUTE 0205 (HALLIDAY WELLS ROAD)
28.172	28.205	GUARD/GUIDE RAIL	LEFT	
28.176	28.176	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
28.177	28.192	BRIDGE	N/A	1540-001 (PADDOCK CREEK BRIDGE)
28.177	28.177	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
28.189	28.189	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
28.191	28.191	SIGN	LEFT	WARNING, GRAPHIC SIGN, NO TEXT
28.193	28.203	CURB	RIGHT	
28.207	28.207	SIGN	RIGHT	GUIDE, HALLIDAY WELL PADDOCK CREEK TRAILHEAD
28.432	28.432	SIGN	RIGHT	GUIDE, PEACEFUL VALLEY RANCH
28.468	28.468	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
28.475	28.475	INTERSECTION	RIGHT	ROUTE 0203 (PEACEFUL VALLEY RANCH ROAD)
28.523	28.523	SIGN	RIGHT	GUIDE, PEACEFUL VALLEY RANCH
28.631	28.631	SIGN	RIGHT	WARNING, STOP AHEAD
28.644	28.644	CULVERT	N/A	
28.676	28.676	MILE MARKER	RIGHT	
28.677	28.677	MILE MARKER	LEFT	
28.698	28.698	SIGN	RIGHT	WARNING, GRAPHIC SIGN, NO TEXT
28.698	28.698	SIGN	RIGHT	WARNING, TRAIL XING
28.744	28.744	SIGN	RIGHT	REGULATORY, STOP
28.750	28.750	SIGN	N/A	GUIDE, COAL VEIN TRAIL 10 CAMPGROUND 1 MEDORA 6
28.750	28.750	INTERSECTION	RIGHT	ROUTE 0011 (SCENIC LOOP)
28.750	28.750	INTERSECTION	LEFT	ROUTE 0011 (SCENIC LOOP)
28.750	28.750	ROUTE END	N/A	TO END OF LOOP

# ROUTE 0201AZ: COTTONWOOD CAMPGROUND LOOP A

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0011 (SCENIC LOOP) AT MP 5.60 (ON LEFT)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0011 (SCENIC LOOP)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0011 (SCENIC LOOP)
0.000	0.000	SIGN	N/A	GUIDE, VISITOR CENTER 5 MEDORA 5 PEACEFUL VALLEY JUNCTION 1
0.008	0.008	SIGN	RIGHT	REGULATORY, STOP
0.029	0.029	SIGN	RIGHT	GUIDE, CUTTING OR GATHERING OF FIREWOOD PROHIBITED
0.057	0.057	SIGN	RIGHT	WARNING, SLOW CHILDREN PLAYING
0.057	0.057	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.077	0.077	INTERSECTION	LEFT	ROUTE 0201CZ (COTTONWOOD CAMPGROUND LOOP C)
0.078	0.078	SIGN	LEFT	GUIDE, PICNIC AREA
0.078	0.078	SIGN	RIGHT	GUIDE, PICNIC AREA
0.115	0.115	SIGN	RIGHT	GUIDE, R V POTABLE WATER FILL
0.131	0.131	INTERSECTION	RIGHT	ROUTE 0907 (COTTONWOOD CAMPGROUND FEE STATION PARKING)
0.149	0.149	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.169	0.169	SIGN	RIGHT	GUIDE, NO PICNICKING
0.169	0.169	SIGN	RIGHT	GUIDE, QUIET HOURS 10 PM TO 6 AM
0.176	0.176	SIGN	RIGHT	REGULATORY, DO NOT ENTER
0.177	0.177	INTERSECTION	RIGHT	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)
0.183	0.183	SIGN	RIGHT	REGULATORY, DO NOT ENTER
0.186	0.186	INTERSECTION	RIGHT	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A) SPUR
0.204	0.204	SIGN	RIGHT	GUIDE, FEE COLLECTION STATION AHEAD ALL CAMPERS STOP READ INSTRUCTIONS
0.208	0.208	INTERSECTION	LEFT	ROUTE 0201BZ (COTTONWOOD CAMPGROUND LOOP B)
0.208	0.220	GUARD/GUIDE WALL	RIGHT	
0.211	0.211	SIGN	LEFT	REGULATORY, DO NOT ENTER
0.211	0.221	GUARD/GUIDE WALL	LEFT	
0.224	0.239	CURB	LEFT	
0.226	0.226	SIGN	RIGHT	GUIDE, GRAPHIC SIGN, NO TEXT
0.240	0.275	CURB	LEFT	
0.250	0.250	INTERSECTION	RIGHT	UNPAVED PARKING
0.277	0.281	GUARD/GUIDE WALL	LEFT	
0.280	0.280	INTERSECTION	LEFT	ROUTE 0201BZ (COTTONWOOD CAMPGROUND LOOP B)
0.283	0.285	GUARD/GUIDE WALL	LEFT	

# ROUTE 0201AZ: COTTONWOOD CAMPGROUND LOOP A

TO MILEDOST		SIDE	COMMENT
0.308	SIGN	RIGHT	COMMENT GUIDE, GRAPHIC SIGN, NO TEXT
0.351	SIGN	RIGHT	GUIDE, GRAPHIC SIGN, NO TEXT
0.512	INTERSECTION	LEFT	UNPAVED ROUTE (GROUP CAMPSITE)
0.519	GUARD/GUIDE WALL	RIGHT	
0.575	GUARD/GUIDE WALL	RIGHT	
0.747	PULLOUT	RIGHT	
0.735	GUARD/GUIDE WALL	RIGHT	
0.750	INTERSECTION	RIGHT	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A) SPUR
0.758	SIGN	RIGHT	REGULATORY, YIELD
0.760	INTERSECTION	LEFT	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)
0.760	INTERSECTION	RIGHT	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)
0.760	ROUTE END	N/A	TO END OF LOOP
	MILEPOST         0.308         0.351         0.512         0.519         0.575         0.747         0.735         0.750         0.758         0.760	MILEPOSTFEATURE0.308SIGN0.351SIGN0.512INTERSECTION0.519GUARD/GUIDE WALL0.575GUARD/GUIDE WALL0.747PULLOUT0.735GUARD/GUIDE WALL0.750INTERSECTION0.758SIGN0.760INTERSECTION	MILEPOSTFEATURESIDE0.308SIGNRIGHT0.351SIGNRIGHT0.512INTERSECTIONLEFT0.519GUARD/GUIDE WALLRIGHT0.575GUARD/GUIDE WALLRIGHT0.747PULLOUTRIGHT0.735GUARD/GUIDE WALLRIGHT0.750SIGNRIGHT0.750INTERSECTIONLEFT0.760INTERSECTIONLEFT

# ROUTE 0201BZ: COTTONWOOD CAMPGROUND LOOP B

FROM <u>MILEPOST</u>	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A) AT MP 0.28 (ON LEFT)
0.000	0.000	INTERSECTION	N/A	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)
0.004	0.027	GUARD/GUIDE WALL	LEFT	
0.004	0.004	SIGN	RIGHT	GUIDE, CAMPSITES BACK IN PULL THROUGH GROUP SITE
0.004	0.004	GATE	N/A	
0.009	0.022	GUARD/GUIDE WALL	RIGHT	
0.033	0.034	GUARD/GUIDE WALL	RIGHT	
0.037	0.049	GUARD/GUIDE WALL	LEFT	
0.062	0.078	PULLOUT	LEFT	
0.067	0.084	GUARD/GUIDE WALL	LEFT	
0.075	0.079	GUARD/GUIDE WALL	RIGHT	
0.091	0.100	GUARD/GUIDE WALL	RIGHT	
0.093	0.101	GUARD/GUIDE WALL	LEFT	
0.117	0.118	GUARD/GUIDE WALL	RIGHT	
0.121	0.138	GUARD/GUIDE WALL	LEFT	
0.121	0.141	PULLOUT	LEFT	
0.142	0.144	GUARD/GUIDE WALL	RIGHT	
0.144	0.154	GUARD/GUIDE WALL	LEFT	
0.162	0.179	GUARD/GUIDE WALL	LEFT	
0.176	0.176	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.191	0.198	GUARD/GUIDE WALL	LEFT	
0.197	0.208	GUARD/GUIDE WALL	RIGHT	
0.217	0.237	GUARD/GUIDE WALL	RIGHT	
0.236	0.251	GUARD/GUIDE WALL	LEFT	
0.246	0.262	GUARD/GUIDE WALL	RIGHT	
0.261	0.262	GUARD/GUIDE WALL	LEFT	
0.272	0.273	GUARD/GUIDE WALL	RIGHT	
0.281	0.304	GUARD/GUIDE WALL	LEFT	
0.282	0.292	GUARD/GUIDE WALL	RIGHT	
0.303	0.313	GUARD/GUIDE WALL	RIGHT	
0.314	0.330	GUARD/GUIDE WALL	LEFT	
0.322	0.322	GATE	N/A	

#### ROUTE 0201BZ: COTTONWOOD CAMPGROUND LOOP B

FROM	ТО			
MILEPOST	MILEPOST	FEATURE	SIDE	COMMENT
0.324	0.324	SIGN	RIGHT	REGULATORY, YIELD
0.328	0.328	INTERSECTION	LEFT	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)
0.328	0.328	INTERSECTION	RIGHT	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)
0.330	0.330	ROUTE END	N/A	TO ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A) AT MP 0.21 (ON LEFT)

# ROUTE 0201CZ: COTTONWOOD CAMPGROUND LOOP C

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0201AZ (COTTONWOOD CAMPGROUND LOOP A)
0.003	0.003	CULVERT	N/A	
0.009	0.009	INTERSECTION	LEFT	ROUTE 0201CZ (COTTONWOOD CAMPGROUND LOOP C)
0.014	0.014	SIGN	LEFT	REGULATORY, KEEP RIGHT
0.017	0.017	SIGN	RIGHT	GUIDE, FIRE DANGER LOW
0.017	0.017	SIGN	RIGHT	GUIDE, NO CAMPING PICNIC AREA CLOSED 10:00PM TO 5:00AM
0.200	0.254	PULLOUT	RIGHT	
0.202	0.231	PULLOUT	LEFT	
0.330	0.330	INTERSECTION	RIGHT	ROUTE 0201CZ (COTTONWOOD CAMPGROUND LOOP C)
0.330	0.330	INTERSECTION	LEFT	ROUTE 0201CZ (COTTONWOOD CAMPGROUND LOOP C)
0.330	0.330	ROUTE END	N/A	TO END OF LOOP

# ROUTE 0203: PEACEFUL VALLEY RANCH ROAD

FROM <u>MILEPOST</u>	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0011 (SCENIC LOOP) AT MP 28.48 (ON RIGHT)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0011 (SCENIC LOOP)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0011 (SCENIC LOOP)
0.002	0.002	CULVERT	N/A	
0.008	0.008	SIGN	RIGHT	REGULATORY, STOP
0.234	0.234	SIGN	RIGHT	GUIDE, HIKER PARKING TRAIL RIDE OFFICE & HORSE TRAILER PARKING AHEAD
0.234	0.234	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.238	0.245	GUARD/GUIDE WALL	RIGHT	
0.241	0.241	INTERSECTION	LEFT	UNPAVED PARKING
0.260	0.260	INTERSECTION	N/A	ROUTE 0939 (PEACEFUL VALLEY RANCH PARKING)
0.260	0.260	ROUTE END	N/A	TO END OF PAVEMENT AND ROUTE 0939 (PEACEFUL VALLEY RANCH PARKING)

#### **ROUTE 0204: BUCK HILL SPUR**

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0011 (SCENIC LOOP) AT MP 16.88 (ON RIGHT)
0.000	0.000	SIGN	N/A	GUIDE, WIND CANYON 9 MILES COAL VEIN 1.5 MILES
0.000	0.000	INTERSECTION	LEFT	ROUTE 0011 (SCENIC LOOP)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0011 (SCENIC LOOP)
0.002	0.002	SIGN	RIGHT	REGULATORY, STOP
0.004	0.004	CULVERT	N/A	
0.005	0.020	GUARD/GUIDE RAIL	LEFT	
0.014	0.014	SIGN	RIGHT	GUIDE, BUCK HILL 1 MILE
0.021	0.107	CURB	LEFT	
0.033	0.033	SIGN	RIGHT	WARNING, 15 M.P.H.
0.033	0.033	SIGN	RIGHT	WARNING, ROUGH ROAD
0.042	0.143	GUARD/GUIDE RAIL	RIGHT	
).044	0.044	SIGN	RIGHT	WARNING, STOP AHEAD
).112	0.149	CURB	LEFT	
).144	0.144	CULVERT	N/A	
).145	0.173	CURB	RIGHT	
).161	0.165	CURB	LEFT	
).171	0.216	CURB	LEFT	
).176	0.228	CURB	RIGHT	
).232	0.263	CURB	RIGHT	
).276	0.276	CULVERT	N/A	
).312	0.313	GUARD/GUIDE WALL	RIGHT	
).312	0.317	CURB	RIGHT	
).312	0.348	PULLOUT	RIGHT	
).319	0.339	CURB	RIGHT	
).374	0.379	CURB	LEFT	
).433	0.453	CURB	LEFT	
).463	0.474	CURB	LEFT	
).493	0.557	GUARD/GUIDE RAIL	LEFT	
).573	0.574	GUARD/GUIDE WALL	LEFT	
).584	0.598	GUARD/GUIDE RAIL	LEFT	
0.601	0.601	DROP INLET	LEFT	
).614	0.730	GUARD/GUIDE RAIL	RIGHT	
).641	0.730	CURB	LEFT	

# ROUTE 0204: BUCK HILL SPUR

FROM	ТО			
MILEPOST	MILEPOST	FEATURE	SIDE	COMMENT
0.706	0.706	CULVERT	N/A	
0.709	0.730	CURB	RIGHT	
0.719	0.719	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.729	0.729	CULVERT	N/A	
0.730	0.730	INTERSECTION	N/A	ROUTE 0915 (BUCK HILL OVERLOOK)
0.730	0.730	SIGN	LEFT	REGULATORY, KEEP RIGHT
0.730	0.730	ROUTE END	N/A	TO ROUTE 0915 (BUCK HILL OVERLOOK)

### **ROUTE 0400: THIRD AVENUE**

TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	ROUTE BEGIN	N/A	FROM ROUTE 0011 (SCENIC LOOP) AT MP 0.02 (ON RIGHT)
0.000	INTERSECTION	LEFT	ROUTE 0011 (SCENIC LOOP)
0.000	INTERSECTION	RIGHT	ROUTE 0011 (SCENIC LOOP)
0.072	CURB-AND-GUTTER	RIGHT	
0.006	CULVERT	N/A	
0.006	SIGN	LEFT	GUIDE, THEODORE ROOSEVELT
0.006	SIGN	RIGHT	REGULATORY, STOP
0.007	SIGN	RIGHT	GUIDE, THEODORE ROOSEVELT
0.072	CURB-AND-GUTTER	LEFT	
0.024	DROP INLET	LEFT	
0.031	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.044	FIRE HYDRANT	RIGHT	
0.080	INTERSECTION	RIGHT	PAVED ROUTE (MAIN STREET / NON NPS)
0.080	INTERSECTION	LEFT	PAVED ROUTE (MAIN STREET / NON NPS)
0.080	ROUTE END	N/A	TO MAIN STREET
	MILEPOST         0.000         0.000         0.000         0.000         0.001         0.006         0.006         0.006         0.007         0.007         0.007         0.007         0.007         0.007         0.0031         0.044         0.080	MILEPOSTFEATURE0.000ROUTE BEGIN0.000INTERSECTION0.000INTERSECTION0.001CURB-AND-GUTTER0.006SIGN0.006SIGN0.006SIGN0.006SIGN0.007SIGN0.007SIGN0.007SIGN0.007SIGN0.017SIGN0.024DROP INLET0.031SIGN0.080INTERSECTION	MILEPOSTFEATURESIDE0.000ROUTE BEGINN/A0.000INTERSECTIONLEFT0.000INTERSECTIONRIGHT0.001CURB-AND-GUTTERRIGHT0.006CULVERTN/A0.006SIGNLEFT0.006SIGNRIGHT0.007SIGNRIGHT0.007SIGNLEFT0.007SIGNLEFT0.017CURB-AND-GUTTERLEFT0.024DROP INLETLEFT0.031SIGNRIGHT0.044FIRE HYDRANTRIGHT0.080INTERSECTIONLEFT

# **ROUTE 0404: NORTH UNIT MAINTENANCE ROAD**

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0010 (SCENIC DRIVE) AT MP 0.31 (ON LEFT)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0010 (SCENIC DRIVE)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0010 (SCENIC DRIVE)
0.011	0.011	SIGN	RIGHT	REGULATORY, STOP
0.138	0.138	CULVERT	N/A	
0.155	0.155	SIGN	RIGHT	WARNING, CAUTION CHILDREN PLAYING
0.164	0.164	INTERSECTION	RIGHT	ROUTE 0406 (GRAY HOUSE ROAD)
0.178	0.178	CATTLE GUARD	N/A	
0.196	0.196	INTERSECTION	RIGHT	ROUTE 0925 (RESIDENCE SPUR)
0.240	0.240	INTERSECTION	RIGHT	ROUTE 0942 (NORTH UNIT MAINTENANCE YARD OVERFLOW PARKING)
0.289	0.289	FIRE HYDRANT	LEFT	
0.300	0.300	INTERSECTION	N/A	ROUTE 0940 (NORTH UNIT MAINTENANCE YARD)
0.300	0.300	ROUTE END	N/A	TO ROUTE 0940 (NORTH UNIT MAINTENANCE YARD)

# **ROUTE 0405: HEADQUARTERS STREET**

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM MAIN STREET AT PARK BOUNDARY
0.000	0.000	INTERSECTION	N/A	PAVED ROUTE (MAIN STREET (STATE MAINTAINED / NON NPS))
0.003	0.003	SIGN	RIGHT	REGULATORY, NO PARKING HERE TO CORNER
0.003	0.003	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.003	0.003	SIGN	RIGHT	WARNING, SLOW CHILDREN
0.003	0.088	CURB	RIGHT	
0.003	0.098	CURB	LEFT	
0.019	0.019	SIGN	LEFT	REGULATORY, SECOND AVE.
0.020	0.020	SIGN	RIGHT	REGULATORY, SECOND AVE.
0.058	0.058	FIRE HYDRANT	RIGHT	
0.079	0.079	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.087	0.087	SIGN	LEFT	REGULATORY, THIRD ST.
0.087	0.087	SIGN	RIGHT	REGULATORY, THIRD ST.
0.092	0.092	INTERSECTION	RIGHT	ROUTE 0413 (THIRD STREET)
0.096	0.158	CURB	RIGHT	
0.105	0.105	INTERSECTION	LEFT	ROUTE 0944 (HEADQUARTERS PARKING)
0.111	0.136	CURB	LEFT	
0.128	0.128	FIRE HYDRANT	RIGHT	
0.140	0.140	INTERSECTION	LEFT	ROUTE 0945CZ (RESIDENCE PARKING C)
0.146	0.158	CURB	LEFT	
0.155	0.155	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.155	0.155	SIGN	RIGHT	WARNING, SLOW CHILDREN
0.158	0.158	SIGN	LEFT	REGULATORY, FOURTH ST.
0.158	0.158	SIGN	RIGHT	REGULATORY, FOURTH ST.
0.158	0.158	SIGN	RIGHT	REGULATORY, STOP
0.162	0.162	INTERSECTION	LEFT	ROUTE 0414 (FOURTH STREET)
0.162	0.162	INTERSECTION	RIGHT	ROUTE 0414 (FOURTH STREET)
0.167	0.210	CURB	LEFT	
0.168	0.210	CURB	RIGHT	
0.169	0.169	SIGN	RIGHT	REGULATORY, NO THRU TRAFFIC
0.170	0.170	SIGN	RIGHT	REGULATORY, STOP
0.183	0.183	INTERSECTION	RIGHT	ROUTE 0945AZ (RESIDENCE PARKING A)
0.210	0.210	INTERSECTION	N/A	ROUTE 0405 (HEADQUARTERS STREET)

### **ROUTE 0405: HEADQUARTERS STREET**

FROM	ТО			
MILEPOST	MILEPOST	FEATURE	SIDE	COMMENT
0.210	0.210	FIRE HYDRANT	LEFT	
0.210	0.210	ROUTE END	N/A	TO DEAD END

# THRO: ROUTE MAINTENANCE FEATURES ROAD LOG

# ROUTE 0406: GRAY HOUSE ROAD

FROM MILEDOST	TO MILEDOST		CIDE	CONDUCT
0.000	<b>MILEPOST</b> 0.000	ROUTE BEGIN	SIDE N/A	<b>COMMENT</b> FROM ROUTE 0404 (NORTH UNIT MAINTENANCE ROAD) AT MP 0.16 (ON RIGHT)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0404 (NORTH UNIT MAINTENANCE ROAD)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0404 (NORTH UNIT MAINTENANCE ROAD)
0.121	0.121	INTERSECTION	LEFT	ROUTE 0407 (HEADQUARTERS WELLHOUSE ACCESS ROAD)
0.160	0.160	INTERSECTION	N/A	ROUTE 0406 (GRAY HOUSE ROAD) UNPAVED SECTION
0.160	0.160	ROUTE END	N/A	TO END OF PAVEMENT

# THRO: ROUTE MAINTENANCE FEATURES ROAD LOG

## **ROUTE 0414: FOURTH STREET**

MILEPOST 0.000	<b>MILEPOST</b> 0.000		SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM FOURTH STREET AT PARK BOUNDARY
0.000	0.000	INTERSECTION	N/A	PAVED ROUTE (THIRD STREET (STATE MAINTAINED / NON NPS))
0.003	0.022	CURB	LEFT	
0.004	0.022	CURB	RIGHT	
0.007	0.007	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.007	0.007	SIGN	RIGHT	WARNING, SLOW CHILDREN
0.020	0.020	SIGN	RIGHT	REGULATORY, STOP
0.021	0.021	SIGN	LEFT	REGULATORY, SECOND AVE.
0.022	0.022	SIGN	RIGHT	REGULATORY, SECOND AVE.
0.024	0.024	INTERSECTION	RIGHT	ROUTE 0405 (HEADQUARTERS STREET)
0.024	0.024	INTERSECTION	LEFT	ROUTE 0405 (HEADQUARTERS STREET)
0.029	0.032	CURB	LEFT	
0.029	0.040	CURB-AND-GUTTER	RIGHT	
0.030	0.030	SIGN	RIGHT	REGULATORY, GRAPHIC SIGN, NO TEXT
0.034	0.034	SIGN	RIGHT	REGULATORY, DO NOT ENTER
0.038	0.038	INTERSECTION	LEFT	ROUTE 0945BZ (RESIDENCE PARKING B)
0.040	0.040	FIRE HYDRANT	RIGHT	
0.040	0.040	GATE	N/A	
0.040	0.040	INTERSECTION	N/A	ROUTE 0902 (SOUTH UNIT MAINTENANCE YARD)
0.040	0.040	ROUTE END	N/A	TO ROUTE 0902 (SOUTH UNIT MAINTENANCE YARD)

# Theodore Roosevelt National Park



# Section 10 Appendix

## APPENDIX A: GLOSSARY OF TERMS AND ABBREVIATIONS

# TERM ORABBREVIATIONDESCRIPTION OR DEFINITION

ADDREVIATION				
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	Funtional 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**

<u>Note:</u> 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  $\ge 0$  to  $\le 100$ .

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

%MED = (Total square area WX measured medium severity alligator cracking) / (Section length \* WX measured lane width) %HI = (Total square area WX measured high severity alligator cracking) / (Section length \* WX measured

%HI = (1otal square area WX measured high severity alligator cracking) / (Section length \* 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  $\geq 0$  and can exceed 100.

%LOW = (Total linear feet WX measured low severity longitudinal cracking) / (Section length in linear feet)

%MED = (Total linear feet WX measured medium severity longitudinal cracking) / (Section length in linear feet)

%HI = (Total linear feet WX measured high severity longitudinal cracking) / (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  $\leq \frac{1}{4}$ ", or are sealed cracks of indeterminate width whose sealant material is in good condition.

Medium severity longitudinal cracks have a mean width  $> \frac{1}{4}$ " and  $\leq \frac{3}{4}$ ".

High severity longitudinal cracks have a mean width  $> \frac{3}{4}$ ".

#### **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  $\geq 0$ .

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  $\leq \frac{1}{4}$ ", or are sealed cracks of indeterminate width whose sealant material is in good condition.

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

High severity transverse cracks have a mean width  $> \frac{3}{4}$ ".

#### 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  $\ge 0$  to  $\le 100$ .

%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**

 $\mathbf{RUT\_INDEX} = 100 - 40 * [(\% \text{LOW} / 160) + (\% \text{MED} / 80) + (\% \text{HI} / 40)]$ 

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  $\geq 0$  to  $\leq 200$ .

%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 measured Left IRI + ARAN 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)

**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	2.104 meters from front-center rutbar to				
camera	camera				
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					

## **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 MiLLenium, 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 primarydirection video and mileage. Signs and Mile Markers are the only features collected using the oppositedirection 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:

						EXPECTED
	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	ACCURACY
						100% Referenced to
1	RIP_CYCLE	XX	4, for data collection cycle 4	Route ID Meeting	FHWA Determination	other tables
						100%, Referenced to
2	STATE	XX	State where route is located	Route ID Meeting	Park Input / FHWA Determination	other tables (1)
		******				100%, Referenced to
3	PARK_ALPHA	XXXX	Park alpha code	Route ID Meeting	NPS References	other tables
4	DADK NO	VVVV	Darla muna aria an da	Deute ID Masting	NIDC Deferrer and	100%, Referenced to other tables
4	PARK_NO	XXXX	Park numeric code	Route ID Meeting	NPS References	100%, Referenced to
5	RTE_NO	9999XXX	Route number	Route ID Meeting	Park Input / FHWA Classification	other tables
3	KIE_NO	99997777	Koute number	Koute ID Meeting		100%, Referenced to
						other tables. 100
6	RTE_NAME	(Text)	Route name	Route ID Meeting	Park Input	characters fit in field
0		(10,1)	Koute name	Route ID Meeting		100%, Referenced to
7	FUNCT_CLASS	Х	Route functional classification	Route ID Meeting	Park Input / FHWA Classification	other tables
,			Survey lane: PRI (primary) or			
8	DIRECTION	XXX	OPP (opposite)	Route ID Meeting	Park Input / FHWA Determination	100%,
_						Estimated before data
9	BEG_MP_EST	999.999 (miles)	Estimated starting MP	Route ID Meeting	Park Input / FHWA Determination	collected
		, , , , , , , , , , , , , , , , , , ,			· · · · · · · · · · · · · · · · · · ·	Estimated before data
10	END_MP_EST	999.999 (miles)	Estimated ending MP	Route ID Meeting	Park Input / FHWA Determination	collected
11	RTE_LENGTH	999.999 (miles)	Collected route length	ARAN Data Collection	Automatic Output	100%
						100% Referenced to
12	FROM_DESC	(Text)	Beginning terminus of route	Route ID Meeting	Park Input / FHWA Determination	other tables
						100% Referenced to
13	TO_DESC	(Text)	Ending terminus of route	Route ID Meeting	Park Input / FHWA Determination	other tables
14	NO_LANES	Х	Number of lanes in route	ARAN Data Collection	Survey Crew Input	Untested. (1)
						100%, Referenced to
15	SURF_TYPE	XX	Surface type of route	ARAN Data Collection	Survey Crew Input	other tables (1)
			Compass direction of route's			
			primary lane (nearest cardinal			
16	COMP_DIR	XX	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%
				Route ID Meeting/ARAN	Survey Crew Input/Automatic	
19	SECTION	(Text)	Route section ID	Data Collection	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:

						EXPECTED
	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	ACCURACY
						100% Referenced to
1	RIP_CYCLE	XX	4, for data collection cycle 4	Route ID Meeting	FHWA Determination	other tables
					Park Input / FHWA	
2	STATE	XX	State where route is located	Route ID Meeting	Determination	Untested (1)
						100% Referenced to
3	PARK_ALPHA	XXXX	Park alpha code	Route ID Meeting	NPS References	other tables
	DADU NO					100% Referenced to
4	PARK_NO	XXXX	Park numeric code	Route ID Meeting	NPS References	other tables
_		000011111			Park Input / FHWA	100% Referenced to
5	RTE_NO	9999XXX	Route number	Route ID Meeting	Classification	other tables
			Facility Management			
-		*****	Software System Equipment			
6	FMSS_EQUIP	XXXXXXX	number	NPS FMSS application	NPS References	Untested
7		X7			Park Input / FHWA	100% Referenced to
7	FUNCT_CLASS	Х	Route functional class	Route ID Meeting	Classification	other tables
	DIDECTION	373737	Survey lane: PRI (primary)		Park Input / FHWA	1000/
8	DIRECTION	XXX	or OPP (opposite)	Route ID Meeting	Determination	100%
				ARAN Data		
		000.000 ( 11 )		Collection/Contractor Post-	X7'1 A 1 '	0.001 '1
9	MP	999.999 (miles)	Feature location along route	processing	Video Analysis	<=0.001 mile
10	DEC MD	000,000,(1)	Feature Beginning location	Contractor Dest	X7 Les Assals	< 0.001 m <sup>-1</sup> 1
10	BEG_MP	999.999 (miles)	along route	Contractor Post-processing	Video Analysis	<=0.001 mile
1.1		000,000,(1)	Feature Ending location	Contractor Dest	X7 Les Assals	< 0.001 m <sup>-1</sup> 1
11	END_MP	999.999 (miles)	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
			Event sub-category of			
14	EVENT_CODE	XXXX	feature	Contractor Post-processing	Video Analysis	Untested
			Feature designation:			
15	FEATURE_TYPE	(Text)	LINEAR or POINT	Contractor Post-processing	Video Analysis	Untested
			Description of			
16	EVENT_DESC	(Text)	feature/contents of sign	Contractor Post-processing	Video Analysis	Untested
17	MUTCD	(Text)	MUTCD Code of Sign	Contractor Post-processing	Database Processing	95%
			Sign condition. N/A. Not to			Values inaccurate,
18	CONDITION	"N/A"	be populated	Contractor Post-processing	Video Analysis	defaulted to "N/A"
			Sign label, intersecting			
19	COMMENT	(Text)	route, etc.	Contractor Post-processing	Database Processing	Untested
			Offset from Road Edge.			Values inaccurate,
20	OFFSET	"N/A"	N/A. Not to be populated	Contractor Post-processing	Database Processing	defaulted to "N/A"

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
			Side of route relative to lane			
21	SIDE	(Text)	driven	Contractor Post-processing	Video Analysis	95%
			FHWA bridge structure			
22	STR_NUMBER	(Text)	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
			GPS Latitude Co-ordinate			
36	END_GPS_LAT	999.999999	(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&lt;#&gt;</park>	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
			Unique record ID used by			
49	IDKEY	(Text)	VisiData	Contractor Post-processing	Database Processing	Untested
			Range of mileage to play in			
50	MP_REF	(Text)	VisiData	Contractor Post-processing	Database Processing	Untested

			List of Ro	adway 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
24	STATE	GOID, ORINI	10111			
25	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
			4, for RIP data collection			100% Referenced to other
1	RIP_CYCLE	XX	Cycle 4	Route ID Meeting	FHWA Determination	tables
					Park Input/FHWA	
2	STATE	XX	State where route is located	Route ID Meeting	Determination	Untested. (1)
						100% Referenced to other
3	PARK_ALPHA	XXXX	Park alpha code	Route ID Meeting	NPS References	tables
						100% Referenced to other
4	PARK_NO	XXXX	Park numeric code	Route ID Meeting	NPS References	tables
-	DTE NO	0000	Destauration		Park Input/FHWA	100% Referenced to other
5	RTE_NO	9999XXX	Route number	Route ID Meeting	Classification	tables 100% Referenced to other
6	FUNCT_CLASS	Х	Route functional class	Route ID Meeting	Park Input/FHWA Classification	tables
0	FUNCI_CLASS	Λ	Survey lane: PRI (primary)	Route ID Meeting	Park Input/FHWA	tables
7	DIRECTION	XXX	or OPP (opposite)	Route ID Meeting	Determination	100%
/	DIRECTION	71777	MP at start of road interval			100 /0
			described by database			
8	BEG MP	999.999 (miles)	record	Contractor Post-processing	Database Processing	100% (3)
	_	× /	MP at end of road interval			
			described by database			
9	END_MP	999.999 (miles)	record	Contractor Post-processing	Database Processing	100% (3)
			Length of road interval as			
10	INT_LENGTH	999.9 (ft)	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
			WiseCrax (crack detection			
14	D_LANE_WIDTH	99.999 (ft)	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)
			N/A. Intended to be Left			Values inaccurate, defaulted
19	SHLD_COND_L	N/A	shoulder condition	ARAN Data Collection	Survey Crew Input	to "N/A"
			N/A. Intended to be Right			Values inaccurate, defaulted
20	SHLD_COND_R	N/A	shoulder condition	ARAN Data Collection	Survey Crew Input	to "N/A"
			N/A. Intended to be Left			Values inaccurate, defaulted
21	DRAIN_COND_L	N/A	drainage condition	ARAN Data Collection	Survey Crew Input	to "N/A"
		<b>NT / A</b>	N/A. Intended to be Right			Values inaccurate, defaulted
22	DRAIN_COND_R	N/A	drainage condition	ARAN Data Collection	Survey Crew Input	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)
			Average rut depth of both			
33	RUT_AVG	99.99 (inches)	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)

10-20

	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 49	LC_HI TC_INDEX	999.99 (%) 999	High-severity longitudinal cracking in lane as a percentage of road interval length Transverse cracking index	Contractor Post-processing Contractor Post-processing	Pavement Video Analysis Database Processing	As a Computed 95% Confidence Level (5) (6) 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	ТС_НІ	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&lt;#&gt;</park>	Removable USB video hard	Contractor Post-processing	Database Processing	Untested

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

## **ROUTE\_GPS table metadata:**

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
						100% referenced to other
1	RIP_CYCLE	XX	4, for RIP data collection Cycle 4	Route ID Meeting	FHWA Determination	tables
					Park Input/FHWA	
2	STATE	XX	State where route is located	Route ID Meeting	Determination	Untested
3	DADV ALDUA	XXXX	Dark alpha aada	Pouto ID Masting	NPS References	100% Referenced to other tables
5	PARK_ALPHA	ΛΛΛΛ	Park alpha code	Route ID Meeting	INFS Kelefences	100% Referenced to other
4	PARK_NO	XXXX	Park numeric code	Route ID Meeting	NPS References	tables
· ·					Park Input/FHWA	100% Referenced to other
5	RTE_NO	9999XXX	Route number	Route ID Meeting	Classification	tables
				<u> </u>	Park Input/FHWA	100% Referenced to other
6	FUNCT_CLASS	Х	Route functional classification	Route ID Meeting	Classification	tables
						100% Referenced to other
						tables . 100 characters fit in
7	RTE_NAME	(Text)	Route name	Route ID Meeting	Park Input	field
		0.0				
8	LANE_NUMBER	99	Data collection lane	Contractor Post-processing	Database Processing	Untested
	DIDECTION	VVV	Survey lane: PRI (primary) or	Deute ID Masting	Park Input/FHWA	Linte sted
9	DIRECTION	XXX	OPP (opposite)	Route ID MeetingARAN Data Collection,	Determination	Untested
10	MP	999.999	Mile Post (at 0.01 record)	Contractor Post-processing	Survey Crew Input/GPS Processing	Untested (3)
10	1411	,,,,,,,,	GPS Latitude Co-ordinate	ARAN Data Collection,		Unicsted (5)
11	GPS_LAT	999.999999	(decimal degrees)	Contractor Post-processing	Automatic Output	<= 3.00 feet
			GPS Longitude Co-ordinate	ARAN Data Collection,		
12	GPS_LON	-999.999999	(-decimal degrees)	Contractor Post-processing	Automatic Output	<= 3.00 feet
				ARAN Data Collection,	· · · · · · · · · · · · · · · · · · ·	
13	GPS_ELEV	99999.9	Elevation	Contractor Post-processing	Automatic Output	Untested
			GPS Satellite Mode	ARAN Data Collection,		
14	GPS_MODE	XXX	during collection	Contractor Post-processing	Automatic Output	Untested
			Cross Fall: % Slope at GPS			
15	VEALL	000.0	Location (Caution, Data not	ARAN Data Collection,	Automotic Outout	Lintented
15	XFALL	999.9	Validated) Grade: % Slope at GPS Location	Contractor Post-processing ARAN Data Collection,	Automatic Output	Untested
16	GRADE	999.9	(Caution, Data not Validated)	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)
			Posted Speed Limit for Route			
19	POSTED_SPEED	99	(Value is Predominate Speed Limit along Route)	Route ID Meeting	Park Input/FHWA Determination	Untested (1)
17	TOSTED_STEED			Route ID Meeting		100%, Reference source for all
20	ARAN_ROUTE	XXX	Yes/No	Route ID Meeting	Park Input/FHWA Determination	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)
20	SUKF_IIFE	ΛΛ	(cobblestolle), OT (other))	Koule ID Meeting		100%, Reference source for all
27	UNPAVED	XXXX	Unpaved Route (Yes/No/Both)	Route ID Meeting	Automatic Output	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
				Contractor Post-		100%, Reference source for all
37	SQ_YARDS	999.999	Route Square Yardage	processing	Automatic Output	tables
38	LANES	XX	Route travel lanes	Route ID Meeting	Automatic Output	Untested (1)
			Pavement Width (Weighted			
39	PAVE_WIDTH	999.99	average)	RIP Post-processing	Automatic Output	100% Referenced to other tables
10		000.000				100%, Reference source for all
40	LANE_MILES	999.999	Route Equivalent Lane Miles	RIP Post-processing	Automatic Output	tables
41	ADEA MAD	(Tout)	1 on 2 digit number	Contractor Post-	ELWA (Contractor Input	100%, Reference source for all
41	AREA_MAP	(Text)	1 or 2-digit number General remarks on Park route	processing Contractor Post-	FHWA/Contractor Input	tables
42	REMARKS	(Memo)	and data collection operations.	processing	FHWA/Contractor Input	Untested
	REMARKS	(ivicilio)	ROUTE_IDENT of summary	processing		100%, Reference source for all
43	SUMMARY_REC	XXXX-9999XXX	Park Asset	Route ID Meeting	Park Input/FHWA Determination	tables
	_			Ŭ		100%, Reference source for all
44	NPS_REGION	(Text)	Park Region	Route ID Meeting	Park Input/FHWA Determination	tables
						100%, Reference source for all
45	DIVISION	(Text)	FHWA Division	Route ID Meeting	Park Input/FHWA Determination	tables
			Route Weighted Average PCR			
46	PCR	999.99	value	RIP Post-processing	Automatic Output	100% Referenced to other tables
			Route Weighted Average SCR	6		
47	SCR	999.99	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
			Route Begin GPS Latitude Co-			
			ordinate	ARAN Data		<= 3.00 feet, Referenced from
51	BEG_LAT	999.999999	(decimal degrees)	Collection	Automatic Output	other tables
			Route Begin GPS Longitude Co-			
50	DEC LON	000 000000	ordinate	ARAN Data		<= 3.00 feet, Referenced from
52	BEG_LON	-999.999999	(-decimal degrees)	Collection ARAN Data	Automatic Output	other tables
53	BEG_ELEV	99999.9	Route Begin Elevation	Collection	Automatic Output	100% Referenced to other tables
- 55	220_000		Route Begin GPS Satellite Mode	ARAN Data		
54	BEG_MODE	XXX	during collection	Collection	Automatic Output	100% Referenced to other tables
			Route End GPS Latitude Co-		· · · · · · · · · · · · · · · · · · ·	
			ordinate	ARAN Data		<= 3.00 feet, Referenced from
55	END_LAT	999.999999	(decimal degrees)	Collection	Automatic Output	other tables

	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
			Route End GPS Longitude Co-			
56	END_LON	-999.999999	ordinate (-decimal degrees)	ARAN Data Collection	Automatic Output	<= 3.00 feet, Referenced from other tables
50	LIU_LOIV	,,,,,,,,,,,	( deemail degrees)	ARAN Data		
57	END_ELEV	99999.9	Route End Elevation	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
			Route Total Length Guard/Guide			
81	GDRAIL_TLNG	9999.999 (ft)	Rail Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
			Route Total Length Guard/Guide			
82	GDWALL_TLNG	9999.999 (ft)	Wall Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
			Route Total Length Temporary			
83	TEMP_BARR_TLNG	9999.999 (ft)	Barriers	RIP Post-processing	Automatic Output	100% Referenced to other tables
			Route Total Length Bollard			
84	BOLLARD_TLNG	9999.999 (ft)	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
			Route Total Length Curbing			
86	CURB_TLNG	9999.999 (ft)	(excludes Parking Areas)	RIP Post-processing	Automatic Output	100% Referenced to other tables
			Route Total Length Low Water			
87	LWCROSS_TLNG	9999.999 (ft)	Crossings	RIP Post-processing	Automatic Output	100% Referenced to other tables
						100% Referenced to other tables
88	PAVDITCH_TLNG	9999.999 (ft)	Route Total Length Paved Ditch	RIP Post-processing	Automatic Output	(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
						100% Reference source for all
91	LOCAL_FACTOR	9.9999	Park Location Factor	NPS Partner	Automatic Output	tables
						100% Reference source for all
92	E_ZONE	XXX	Route Environmental Zone	FHWA HPMA	Automatic Output	tables
						100% Reference source for all
93	PAVEMENT_DM	\$99,999,999.99	Pavement Deferred Maintenance	FHWA HPMA	Automatic Output	tables
						100% Reference source for all
94	CRV	\$99,999,999.99	Current Replacement Value	RIP Post-processing	Automatic Output	tables

#### Database Name: ROUTEINFO.mdb Table Name: PARK\_TOTALS

		FORMAT		COUDCE		EXPECTED
	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	ACCURACY 100% Referenced to other
1	DID CVCLE	99	4, for RIP data collection Cycle 4	Poute ID Meeting	FHWA Determination	tables
1	RIP_CYCLE	99	4, for Kir data conection Cycle 4	Route ID Meeting	FHWA Determination	100% Referenced to other
2	PARK_ALPHA	XXXX	Park Alpha Code	Route ID Meeting	FHWA Determination	tables
					THWA Determination	100% Referenced to other
3	GROUP_ALPHA	XXXX	Group Alpha Code	Route ID Meeting	NPS References	tables
						100% Referenced to other
4	PARK_NO	9999	Park Numeric Code	Route ID Meeting	NPS References	tables
				<u> </u>		100% Referenced to other
5	PARK_NAME	XXXX	NPS Name of Park	Route ID Meeting	NPS References	tables
				Route ID Meeting and		
			Date that data was collected in the park	ARAN Data		100% Referenced to other
6	INSP_DATE	MM/DD/YYYY	(completion date).	Collection	FHWA Determination	tables
						100% Referenced to other
7	NPS_REGION	XXXX	Park Region	Route ID Meeting	Park Input	tables
						100% Referenced to other
8	DIVISION	XXXX	FHWA Division	Route ID Meeting	FHWA Determination	tables
						100% Referenced to other
9	T_PAVED_MI	999.999	Total Park Paved Miles	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
10	T_UNPAVED_MI	999.999	Total Park Unpaved Miles	RIP Post-processing	Automatic Output	tables
1.1		000.000				100% Referenced to other
11	T_ROUTE_MILES	999.999	Total Park Route Miles	RIP Post-processing	Automatic Output	tables
10	T_ARAN_DRIVEN	999.999	Total Park ARAN Driven Miles	RIP Post-processing	Automatic Output	100% Referenced to other tables
12	I_ARAN_DRIVEN	999.999	Total Park ARAN Driven Miles	KIP Post-processing		100% Referenced to other
13	T_ARAN_LMILES	999.999	Total Park ARAN Lane Miles	RIP Post-processing	Automatic Output	tables
15	I_ARAN_LWILLES	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		KII I Ost-processing		100% Referenced to other
14	T_CONCESS_PAVED	999.999	Total Park Concession Paved Miles	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
15	T_CONCESS_UNPAVED	999.999	Total Park Concession Unpaved Miles	RIP Post-processing	Automatic Output	tables
_					· · · · <b>F</b> · · ·	100% Referenced to other
16	T_PRK_PAVEDSQFT	999.999	Total Park Parking Paved Square Feet	RIP Post-processing	Automatic Output	tables
	-		Total Park Parking Unpaved Square			100% Referenced to other
17	T_PRK_UNPAVEDSQFT	999.999	Feet	RIP Post-processing	Automatic Output	tables
			Total Park Concession Parking Paved			100% Referenced to other
18	T_CPRK_PAVEDSQFT	999.999	Square Feet	RIP Post-processing	Automatic Output	tables

		FORMAT		SOUDCE		EXPECTED
	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	ACCURACY
10	T CDDK UNDAVEDSOFT	000 000	Total Park Concession Parking Unpaved Square Feet	DID Doct processing	Automotic Output	100% Referenced to other tables
19	T_CPRK_UNPAVEDSQFT	999.999	Square reet	RIP Post-processing	Automatic Output	100% Referenced to other
20	T_PARKING_SQFT	999.999	Total Park Parking Square Feet	RIP Post-processing	Automatic Output	tables
20	I_IAKKINO_SQI'I	,,,,,,	Total Park Parking Equivalent Lane	KII I Ost-processing		100% Referenced to other
21	T_PARKING_LMILES	999.999	Miles	RIP Post-processing	Automatic Output	tables
21		///////////////////////////////////////	Total Park Manually Rated Road Square	itil 10st processing		100% Referenced to other
22	T_MRR_SQFT	999.999	Feet	RIP Post-processing	Automatic Output	tables
			Total Park Concession Manually Rated	<u>-</u> <u>-</u>		100% Referenced to other
23	T_CMRR_SQFT	999.999	Road Square Feet	RIP Post-processing	Automatic Output	tables
			Total Park Manually Rated Road		1	100% Referenced to other
24	T_MRR_LMILES	999.999	Equivalent Lane Miles	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
25	T_LMILES	999.999	Total Park Lane Miles	<b>RIP</b> Post-processing	Automatic Output	tables
						100% Referenced to other
26	T_CULVERT_CNT	999	Total Park Culvert Count	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
27	T_DROP_INLET_CNT	999	Total Park Drop Inlet Count	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
28	T_GATE_CNT	999	Total Park Gate Count	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
29	T_TRAFLIGHT_CNT	999	Total Park Traffic light Count	RIP Post-processing	Automatic Output	tables
20		000		DIDD		100% Referenced to other
30	T_SIGN_CNT	999	Total Park Sign Count	RIP Post-processing	Automatic Output	tables
31	T LWCDOSS CNT	999	Total Dark Low Water Count	DID Doct processing	Automotic Output	100% Referenced to other tables
51	T_LWCROSS_CNT	999	Total Park Low Water Count	RIP Post-processing	Automatic Output	100% Referenced to other
32	T_BRIDGE_CNT	999	Total Park Bridge Count	RIP Post-processing	Automatic Output	tables
52	I_DRIDGE_CIVI	,,,,		Kii Tost-processing		100% Referenced to other
33	T_TUNNEL_CNT	999	Total Park Tunnel Count	RIP Post-processing	Automatic Output	tables
55		,,,,		itil 1 öst processing		100% Referenced to other
34	T_PULLOUT_CNT	999	Total Park Pullout Count	RIP Post-processing	Automatic Output	tables
-				<u>8</u>		100% Referenced to other
35	T_INTERSEC_CNT	999	Total Park Intersections Count	RIP Post-processing	Automatic Output	tables
					1	100% Referenced to other
36	T_ST_BNDRY_CNT	999	Total Park State Boundaries Count	RIP Post-processing	Automatic Output	tables
					1	100% Referenced to other
37	T_PRK_BNDRY_CNT	999	Total Park Boundaries Count	<b>RIP</b> Post-processing	Automatic Output	tables
						100% Referenced to other
38	T_RETWALL_CNT	999	Total Park Retaining Wall Count	RIP Post-processing	Automatic Output	tables
39	T_RR_CROSS_CNT	999	Total Park RR Crossing Count	RIP Post-processing	Automatic Output	100% Referenced to other
57	1_IVIC_CICOD2_CIVI	177	Total Lark IXIX Crossing Count	Kii i üst-piücessiiig		

						EXPECTED
	FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	ACCURACY
						tables
						100% Referenced to other
40	T_CATTLE_CNT	999	Total Park Cattle Guard Count	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
41	T_OVHDSIGN_CNT	999	Total Park Overhead Sign Count	RIP Post-processing	Automatic Output	tables
10		000		DIDD		100% Referenced to other
42	T_MILEMARK_CNT	999	Total Park Mile Marker Count	RIP Post-processing	Automatic Output	tables
12	T EUVD CNT	999	Total Dark Fire Hydront Count	DID Doct processing	Automotic Output	100% Referenced to other
43	T_FHYD_CNT	999	Total Park Fire Hydrant Count	RIP Post-processing	Automatic Output	tables 100% Referenced to other
44	T_OVERPASS_CNT	999	Total Park Overpass Count	RIP Post-processing	Automatic Output	tables
		222	Total Laik Overpass Count	Kii Tost-processing		100% Referenced to other
45	T_CABLE_TLNG	9999.999 (ft)	Total Length Park Cable Barriers	RIP Post-processing	Automatic Output	tables
		· · · · · · · · · · · · · · · · · · ·	Total Length Park Guard/Guide Rail	The Fost processing		100% Referenced to other
46	T_GDRAIL_TLNG	9999.999 (ft)	Barriers	RIP Post-processing	Automatic Output	tables
			Total Length Park Guard/Guide Wall			100% Referenced to other
47	T_GDWALL_TLNG	9999.999 (ft)	Barriers	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
48	T_TEMP_BARR_TLNG	9999.999 (ft)	Total Length Park Temporary Barriers	<b>RIP</b> Post-processing	Automatic Output	tables
						100% Referenced to other
49	T_BOLLARD_TLNG	9999.999 (ft)	Total Length Park Bollard Barriers	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
50	T_BARRIER_TLNG	9999.999 (ft)	Total Length All Park Barriers	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
51	T_CURB_TLNG	9999.999 (ft)	Total Length Park Curbing	RIP Post-processing	Automatic Output	tables
50	T LUCDOGG TING	0000 000 (6)				100% Referenced to other
52	T_LWCROSS_TLNG	9999.999 (ft)	Total Length Park Low Water Crossings	RIP Post-processing	Automatic Output	tables
53	T_PAVDITCH_TLNG	9999.999 (ft)	Total Length Park Paved Ditches	RIP Post-processing	Automatic Output	100% Referenced to other tables (2)
33	I_FAVDITCH_ILNG	9999.999 (IL)	Total Lengul Faik Faved Ditches	KIP Post-processing	Automatic Output	100% Referenced to other
54	T_TURNOUT_TLNG	9999.999 (ft)	Total Length Park Turnouts	RIP Post-processing	Automatic Output	tables
57		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		itii i ost processing		100% Referenced to other
55	PARK_PCR	99.99	Overall Park PCR Rating	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
56	PARK_RCI	99.99	Overall Park RCI Rating	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
57	PARK_SCR	99.99	Overall Park SCR Rating	RIP Post-processing	Automatic Output	tables
						100% Referenced to other
58	PARK_RUT_INDEX	99.99	Overall Park Rutting Index Rating	RIP Post-processing	Automatic Output	tables
			Overall Park Alligator Cracking Index			100% Referenced to other
59	PARK_AC_INDEX	99.99	Rating	RIP Post-processing	Automatic Output	tables

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

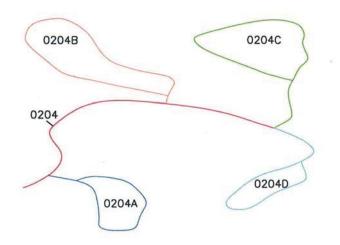


Figure 1: Campground with five routes and five assets

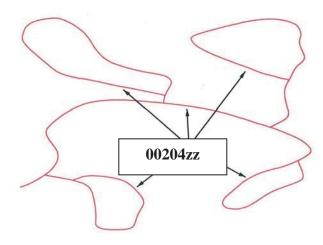


Figure 2: Campground with all loops combined into one route and one asset. This has eliminated four assets.

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.

<u>Public and non-public segments may not be combined</u>. 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.

<u>Segments with differing functional classes may not be combined.</u> 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 class 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.

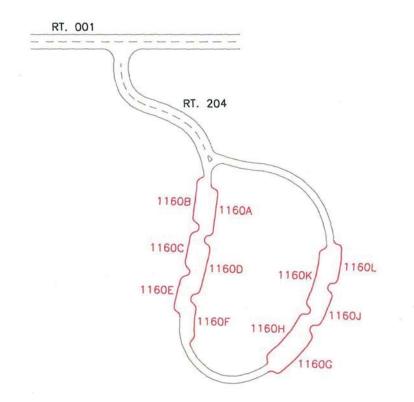


Figure 3: Parking with access route 204 and multiple parking areas (1160 A-L). Currently, this parking area is 12 routes and 12 assets ( one 1100 asset and 11 1300 assets).

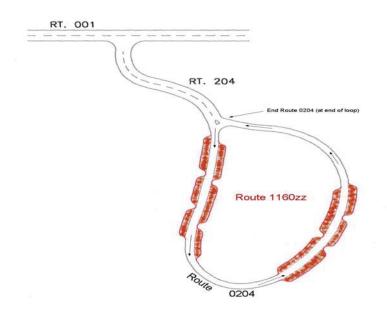


Figure 4: Parking with access route 204 and one parking area 1160zz. Route 204 is assumed longer than 0.25 miles. There are now 2 assets (one 1100 asset, one 1300 asset) instead of 12.

<u>Parking areas and roads may not be combined.</u> 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.

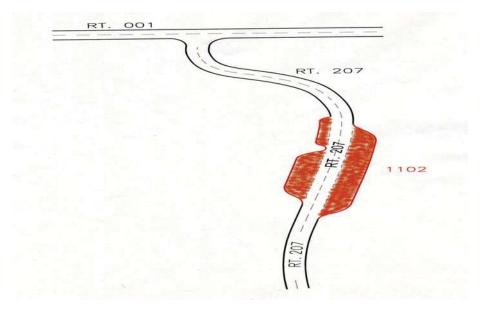


Figure 5: Parking with access route 207 running through and continuing beyond parking 1102. This access route cannot be considered a part of the parking area and two routes and two assets continue to exist.

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.

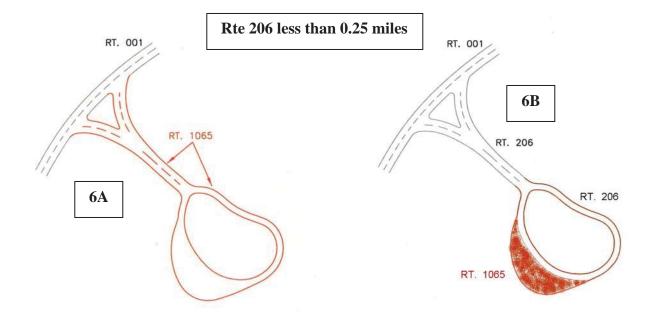
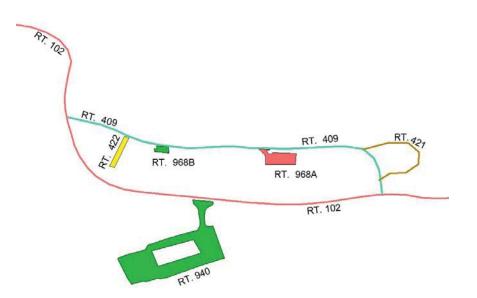


Figure 6: Since the access route is less than .25 miles in length and the only use of the access is to the parking, one route for both the access and the parking area can be established.

<u>Particularly long routes may be divided into multiple assets based on how a park manages</u> 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.

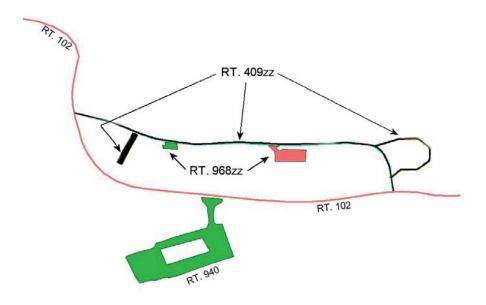


Figure 8 – Combined housing area access configuration – Parking and road assets combined to eliminate 3 assets.