

Final Report

Road Inventory and Condition Assessment of Paved Routes Curecanti National Recreation Area



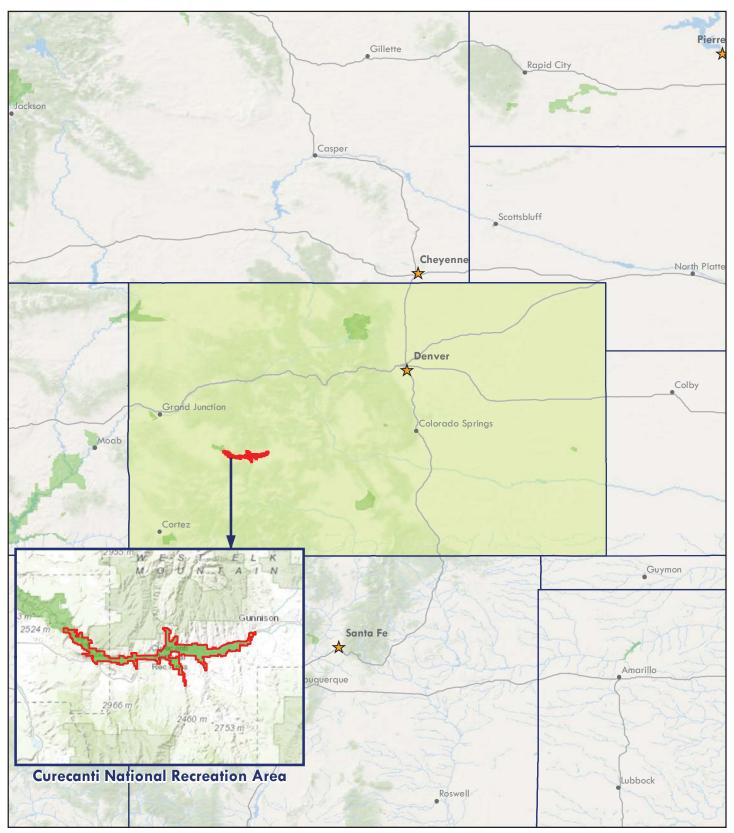


Road Inventory Program

Prepared By: Federal Highway Administration Eastern Federal Lands Highway Division Road Inventory Program (RIP)

Report Date: November 2015

Curecanti National Recreation Area in Colorado

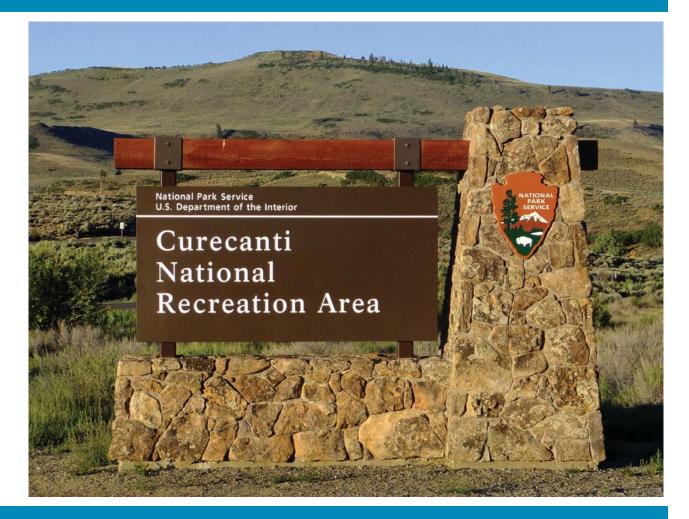


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Section 1 Introduction





Introduction

The Federal Highway Administration's (FHWA), Road Inventory Program (RIP) inventories all roads and parking areas in the National Park System, and performs condition inspections on all paved roads and parking areas for the National Park Service (NPS). This report contains the results of the Cycle 6 condition assessment of paved roads and parking lots for this park unit. This assessment was done using an automated, state-of-the-art pavement inspection vehicle as well as manual ratings. This information represents the condition of the paved assets at the time of the inspection. The pavement management system utilized by FHWA and the NPS uses these assessments to estimate future conditions and help prioritize pavement maintenance and rehabilitation projects. Further information about RIP data and its role in managing paved roads and bridges can be obtained by contacting the NPS Regional Transportation Program Manager.

A History of the Road Inventory Program:

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

The FHWA completed the initial phase of inventory in the early 1980s. As a result of this effort, each NPS unit included in the collection received a RIP Report known as the "Brown Book" which contained information that was inventoried during this first RIP phase. In the 1990s, a cyclical program was developed, and since then five cycles of collection have been completed. Cycle 6 is currently in progress. A summary of the RIP collection cycles is shown in the table below.

Cycle	Years	Parks Collected
Cycle 1	1994 - 1997	° 44 Large Parks
Cycle 2	1997 - 2001	 79 Large Parks 5 Small Parks
Cycle 3	2001 - 2004	 All Large Parks All Small Parks
Cycle 4	2006 - 2010	 86 Large Parks Several Small Parks
Cycle 5	2010 - 2014	 All Large Parks (Only functional class 1, 2, 7, and new/modified routes collected) All Small Parks (all roads and parking areas collected)
Cycle 6	2014 – 2020 (±)	 All roads and parking areas collected at all Parks Additional partial collections of functional class 1, 2, and 7 roads at Large Parks Cycle 6 is expected to last 6 years

Note: Large Parks have ≥ 10 Paved Miles; Small Parks have < 10 Paved Miles

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

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

In 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) amended Title 23 U.S.C., and under Section 203(c)(1-2) stated that the National Park Service in cooperation with the DOT/FHWA, shall maintain a comprehensive national inventory of their transportation facilities, with the goal of quantifying transportation infrastructure needs within the National Park System.

A History of the Pavement Management System:

In 2005, the FHWA began implementing the use of a pavement management system to assist the NPS in prioritizing Pavement Maintenance and Rehabilitation activities. The system used by FHWA is the Highway Pavement Management Application (HPMA), which has the ability to store inventory and condition data from RIP and forecast future performance using prediction models. Outputs include performance and condition reports at the National, Regional, Park, or Route level. Regional prioritized lists and optimizations have been produced for most regions, and the Service's overall roadway Deferred Maintenance is calculated via the HPMA.

Overview of Cycle 6:

Cycle 6 launched in the spring of 2014 and will again comprise all NPS park units that are served by paved roads and/or parking areas. For Cycle 6, all paved roads (approximately 5,700 miles) and parking areas will be collected in all parks at least once, while the primary routes (functional class 1, 2, and 7 roads) at Large Parks will have additional collections. These multiple collections will provide updated condition data on a majority of the NPS's primary road network and help build a better pavement management system, allowing for more accurate pavement performance prediction models.

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

Respectfully,

FHWA RIP Team

FHWA/Eastern Federal Lands 21400 Ridgetop Circle Sterling, VA 20166 (703) 404-6371 FHWA/Central Federal Lands 12300 West Dakota Ave Lakewood, CO 80228 (720) 963-3556

Section 2 Park Route Inventory





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Report Date: 11/16/2015

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Non-NPS Routes	= Concession Route
	Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas	
				DCV = Data Collection Vehicle

Red text denotes:

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

DCV = Data Collection Vehicle MRL = Manually Rated Line MRP = Manually Rated Polygon PKG = Parking Areas

NC = Not Collected

				E		ROAD INVENTORY (1	100 SERIES FMSS I	OCATIONS)				5			
Route No.	Cycle Collected	lteration Collected	FMSS Number	Concessio	Route Name	Route Dese	cription To	Maintenance District	Paved Miles	Unpaved Miles	Total Mileage		Area (SQ FT)	Surf. Type	
0010	6	1	79442		ELK CREEK ENTRANCE ROAD	FROM ROUTE 5050 (US HIGHWAY 50)	TO BOAT RAMP		0.58	0.00	0.58	1		AS	2A
0100	6	1	90805		LAKE FORK CAMPGROUND ROAD	FROM ROUTE 5092 (STATE HIGHWAY 92)	TO ROUTE 0914A (LAKE FORK MARINA PARKING A)		0.18	0.00	0.18	2		AS	3B
0101	NC		75882		EAST ELK CREEK ROAD	FROM ROUTE 5050 (US HIGHWAY 50)	TO ROUTE 0950 (EAST ELK CREEK PARKING)		0.00	1.06	1.06	2		GR	
0102	NC		90831		BAY OF CHICKENS ROAD	FROM ROUTE 5050 (US HIGHWAY 50)	TO ROUTE 0951 (BAY OF CHICKENS PARKING)		0.00	0.59	0.59	2		GR	
0103	NC		90832		DRY GULCH ROAD	FROM ROUTE 5050 (US HIGHWAY 50)	TO ROUTE 0952 (DRY GULCH PARKING)		0.00	0.37	0.37	2		GR	
0104	NC		75883		RED CREEK ROAD	FROM ROUTE 5050 (US HIGHWAY 50)	TO ROUTE 0953 (RED CREEK PARKING) ON LEFT		0.00	0.45	0.45	2		GR	
0105	NC		75881		SOAP CREEK FS -721	FROM ROUTE 5092 (STATE HIGHWAY 92)	TO ROUTE 0106 (PONDEROSA ROAD)		0.00	7.22	7.22	2		GR	
0106	NC		90833		PONDEROSA ROAD	FROM ROUTE 0105 (SOAP CREEK FS -721)	TO ROUTE 0956 (PONDEROSA ROAD PARKING)		0.00	1.90	1.90	2		GR	
0107	NC		75884		GATEVIEW ROAD	FROM COUNTY ROAD 25	TO ROUTE 0958 (GATEVIEW ROAD PARKING)		0.00	5.09	5.09	2		GR	
0108	6	1	108067		DRY CREEK ROAD	FROM ROUTE 5050 (US HIGHWAY 50)	TO ROUTE 0922 (DRY CREEK PARKING)		0.16	0.00	0.16	2		AS	2A
0200	6	1	90834		IOLA ROAD	FROM ROUTE 5149 (STATE HIGHWAY 149)	TO ROUTE 0917 (IOLA BOAT PARKING)		0.22	0.00	0.22	3		AS	1A
0206	NC		90835		WILLOW CREEK ROAD	FROM ROUTE 5050 (US HIGHWAY 50)	TO END		0.00	0.28	0.28	3		GR	

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Report Date: 11/16/2015

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



Shading Color Key	White = Payed Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Non-NPS Routes	= Concession Route
с ,	Yellow = Unpaved Routes, DCV not Driven	, .	Green = Unpaved Parking Areas	
				DCV = Data Collection Vehicle

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				c	ROAD INVENTORY (100 SERIES FMSS	LOCATIONS)				a			
Route	cle Ilected	lteration Collected	FMSS	ncessic	Route Des	•	Maintenance	Paved	Unpaved Miles	Total	nction ass	Area	Surf.	Area
No.	ပ်ပိ	≗ ů	Number	B Route Name	From	То	District	IMILES	Miles	mileage	Ϋ́Ο	(SQ FT)	Туре	Мар
0207ZZ	6	1	90836	ELK CREEK CAMPGROUND ROADS	FROM ROUTE 0010 (ELK CREEK ENTRANCE ROAD)	TO ROUTE 0227 (ELK CREEK CAMPGROUND LOOP B) AND ROUTE 0228 (ELK CREEK CAMPGROUND LOOP C)		0.55	0.00	0.55	2		AS	2A
0220	6	1	90837	ELK CREEK SERVICE ROAD	FROM ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)	TO INTERSECTION OF ROUTE 0960 (WAREHOUSE STORAGE AREA) AND ROUTE 0403 (ELK CREEK WATER TANK ROAD)		0.34	0.00	0.34	6		AS	2A
0221	6	1	83617	OLD US HIGHWAY 50	FROM ROUTE 5050 (US HIGHWAY 50)	TO ROUTE 0935 (SWIM BEACH PARKING)		0.37	0.00	0.37	3		AS	2A
0223	NC		90839	SAPINERO FISHING ACCESS ROAD	FROM ROUTE 5050 (US HIGHWAY 50)	TO END		0.00	0.25	0.25	3		GR	
0224	NC		90840	LAKE FORK FISHING ACCESS ROAD	FROM ROUTE 5092 (STATE HIGHWAY 92)	TO END		0.00	0.23	0.23	3		GR	
0226	6	1	90842	ELK CREEK CAMPGROUND LOOP A	FROM ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)	TO END OF LOOP		0.42	0.00	0.42	3		AS	2A
0227	6	1	90843	ELK CREEK CAMPGROUND LOOP B	FROM END OF ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)	TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)		0.31	0.00	0.31	3		AS	2A
0228	6	1	90844	ELK CREEK CAMPGROUND LOOP C	FROM END OF ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)	TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)		0.29	0.00	0.29	3		AS	2A
0229	6	1	90845	ELK CREEK CAMPGROUND LOOP D	FROM ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)	TO END OF LOOP		0.44	0.00	0.44	3		AS	2A
0230	6	1	90846	CIMARRON CAMPGROUND	FROM ROUTE 5000 (MORROW POINT DAM ROAD)	TO END OF LOOP		0.30	0.00	0.30	3		AS	3A
0231	6	1	90847	NEW STEVENS CREEK CAMPGROUND ROAD	FROM ROUTE 5050 (US HIGHWAY 50)	TO BEGIN ROUTE 0232 (NEW STEVENS CREEK CAMPGROUND LOOP A)		0.10	0.00	0.10	2		AS	1A

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Report Date: 11/16/2015

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Non-NPS Routes	= Concession Route
	Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas	
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				Ę		ROAD INVENTORY (1	100 SERIES FMSS	LOCATIONS)				B			
Route No.	Cycle Collected	lteration Collected	FMSS Number	Concessio	Route Name	Route Dese	cription To	Maintenance District	Paved Miles	Unpaved Miles	Total Mileage		Area (SQ FT)	Surf. Type	Area Map
0232	6	1	90848		NEW STEVENS CREEK CAMPGROUND LOOP A	FROM END OF ROUTE 0231 (NEW STEVENS CREEK CAMPGROUND ROAD)	TO END OF LOOP		0.21	0.00	0.21	3		AS	1A
0233	6	1	90849		NEW STEVENS CREEK CAMPGROUND LOOP B	FROM ROUTE 0231 (NEW STEVENS CREEK CAMPGROUND ROAD) ON LEFT	TO END OF LOOP		0.20	0.00	0.20	3		AS	1A
0235	6	1	90850		NEW STEVENS CREEK CAMPGROUND LOOP C	FROM ROUTE 0231 (NEW STEVENS CREEK CAMPGROUND ROAD) ON RIGHT	TO END OF LOOP		0.33	0.00	0.33	3		AS	1A
0236	NC		233385		COVE ROAD	FROM US HIGHWAY 50	TO PARK BOUNDARY		0.00	0.60	0.60	3		GR	
0240	6	1	238291		LAKE FORK LOWER CAMPGROUND ROAD	FROM ROUTE 0914A (LAKE FORK MARINA PARKING A)	TO BEGIN ROUTE 0404 (LAKE FORK WATER TANK ROAD)		0.22	0.00	0.22	3		AS	3B
0241	6	1	90865		LAKE FORK UPPER CAMPGROUND LOOP	FROM END OF ROUTE 0100 (LAKE FORK CAMPGROUND ROAD) AND ROUTE 0914A (LAKE FORK MARINA PARKING A)	TO END OF LOOP		0.29	0.00	0.29	3		AS	3в
0400	6	1	90851		elk creek maintenance Road	FROM ROUTE 0010 (ELK CREEK ENTRANCE ROAD)	TO BEGIN ROUTE 0402 (ELK CREEK RESIDENCE ROAD) AND INTERSECTION WITH ROUTE 0900 (MAINTENANCE AREA)		0.22	0.00	0.22	5		AS	2A
0402	6	1	90852		ELK CREEK RESIDENCE ROAD	FROM END OF ROUTE 0400 (ELK CREEK MAINTENANCE ROAD) AND INTERSECTION WITH ROUTE 0900 (MAINTENANCE AREA)	TO ROUTE 0902C (EC5 PARKING)		0.19	0.00	0.19	5		AS	2A
0403	NC		238293		ELK CREEK WATER TANK ROAD	FROM ROUTE 0220 (ELK CREEK SERVICE ROAD) ON RIGHT	TO WATER TANK		0.00	0.05	0.05	6		GR	
0404	NC		238294		lake fork water tank Road	FROM ROUTE 0240 (LAKE FORK LOWER CAMPGROUND ROAD)	TO END		0.00	0.09	0.09	6		GR	

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Report Date: 11/16/2015

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Non-NPS Routes	= Concession Route
	Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas	
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NC = Not Collected

				Ę		ROAD INVENTORY (1100 SERIES FMSS I	OCATIONS)				a			
Route	Cycle Collected	ration Ilected	FMSS	ncessio		Route Des	<u> </u>	Maintenance		Unpaved		unction ass	Area		Area
No.	ပ်ပိ	≗ů	Number	ပိ	Route Name	From	То	District	Miles	Miles	Mileage	50	(SQ FT)	Туре	Мар
0405	NC		238295		LAKE FORK SEWER UTILITY AREA ROAD	FROM ROUTE 5092 (STATE HIGHWAY 92)	TO ROUTE 0912 (LAKE FORK LOWER CAMPGROUND LOOP PARKING)		0.00	0.11	0.11	6		GR	
0406	NC		238298		IOLA WATER TANK ROAD	FROM ROUTE 0200 (IOLA ROAD)	TO WATER TANK		0.00	0.20	0.20	6		GR	
0407	NC		238299		IOLA WELL PUMPHOUSE ROAD	FROM ROUTE 5149 (STATE HIGHWAY 149)	TO PUMPHOUSE		0.00	0.07	0.07	6		GR	
0408	NC		238300		STEVENS CREEK WELL PUMPHOUSE	FROM ROUTE 0962 (STEVENS CREEK CAMPGROUND OVERFLOW PARKING)	to pumphouse		0.00	0.06	0.06	6		GR	
0409	NC		238301		CIMARRON WATER TANK ROAD	FROM ROUTE 0230 (CIMARRON CAMPGROUND LOOP)	TO WATER TANK		0.00	0.34	0.34	6		GR	
						NON-NPS	ROADS INVENTOR	Y				_			
Route	Cycle Collected	ation llected	FMSS	ıcession		Route Des	cription	Maintenance		Unpaved		nctiona ass	Area	Surf.	
No.	ပ်ပိ	ů ŧ	Number	Ŝ	Route Name	From	То	District	Miles	Miles	Mileage	ъş	(SQ FT)	Туре	Мар
5000	5	1	-	-	MORROW POINT DAM ROAD	FROM ROUTE 0938 (CIMARRON MAINTENANCE AREA)	TO ROUTE 0230 (CIMARRON CAMPGROUND LOOP)		0.23	0.00	0.23			AS	3A
5050	5	1			US HIGHWAY 50	FROM COUNTY ROAD 32	MORROW POINT DAM ROAD		40.67	0.00	40.67			AS	1,1A,1B, 2,2A,3,3 A,3B
5092	5	1			STATE HIGHWAY 92	FROM ROUTE 5050 (US HIGHWAY 50)	TO ROUTE 0925 (HERMITS REST LOOKOUT)		18.11	0.00	18.11			AS	3, 3B
5149	5	1			STATE HIGHWAY 149	FROM ROUTE 5050 (US HIGHWAY 50)	TO COUNTY HIGHWAY 25 AT GATEVIEW COUNTY		24.53	0.00	24.53			AS	KEY,1,1A

Page 5 of 11 Report Date: 1		Cycle 6 NPS / RIP Rout (Numerical By Summary Route and So	•	Federal Lands Highway Road Inventory Program
Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Non-NPS Routes	= Concession Route
	Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas	
	Red text denotes: *Unpaved route data was obtained fro	m the NPS and was not collected by the Road	Inventory Program (RIP).	DCV = Data Collection Vehicle MRL = Manually Rated Line MRP = Manually Rated Polyaon

MRP = Manually Rated Polygon PKG = Parking Areas NC = Not Collected

				_	PAR	KING AREA INVENTORY (1	300 SERIES FMSS LOCATIO	ONS)				
Route	le ected	lteration Collected	FMSS	cession		Route De	scription	Maintenance	Access	Area	Surf.	
No.	လို မိ	lter Coll	Number	Con	Route Name	From	То	District	Level	(SQ FT)	Туре	Мар
0900	6	1	90853		MAINTENANCE AREA	FROM END OF ROUTE 0400 (ELK CREEK MAINTENANCE ROAD)	TO PARKING		NONPUBLIC	37,611	AS	2A
0901	6	1	90854		EMPLOYEE PARKING	ADJACENT TO ROUTE 0402 (ELK CREEK RESIDENCE ROAD)			NONPUBLIC	5,750	AS	2A
0902A	6	1	103038		EC6 PARKING	ADJACENT TO ROUTE 0402 (ELK CREEK RESIDENCE ROAD) ON RIGHT			NONPUBLIC	2,415	AS	2A
0902B	6	1	103036		EC7 PARKING	ADJACENT TO ROUTE 0402 (ELK CREEK RESIDENCE ROAD) ON LEFT			NONPUBLIC	1,828	AS	2A
0902C	6	1	103037		EC5 PARKING	ADJACENT TO ROUTE 0402 (ELK CREEK RESIDENCE ROAD)			NONPUBLIC	1,456	AS	2A
0902D	6	1	90855		SERVICE PARKING	FROM ROUTE 0402 (ELK CREEK RESIDENCE ROAD)	TO PARKING		NONPUBLIC	2,780	AS	2A
0902E	6	1	238302		EC1 PARKING	FROM ROUTE 0402 (ELK CREEK RESIDENCE ROAD)	TO PARKING		NONPUBLIC	11,268	AS	2A
0903	6	1	90856		VISITOR CENTER PARKING	FROM ROUTE 0010 (ELK CREEK ENTRANCE ROAD)	TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS) ON RIGHT		PUBLIC	75,229	AS	2A
0904	6	1	75233		MARINA PARKING	FROM ROUTE 0010 (ELK CREEK ENTRANCE ROAD)	TO BOAT RAMP		PUBLIC	101,514	AS	2A
0906	6	1	90858		ELK CREEK PICNIC AREA PARKING	FROM ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)	TO ROUTE 0220 (ELK CREEK SERVICE ROAD) ON LEFT		PUBLIC	18,514	AS	2A
0907	6	1	90859		RV SEWER DUMP STATION	FROM ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)	TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)		PUBLIC	8,438	AS	2A
0908	6	1	90860		WASH STATION	ADJACENT TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)			PUBLIC	2,067	AS	2A
0909A	6	1	103034		KIOSK PARKING A	ADJACENT TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)			NONPUBLIC	1,230	AS	2A
0909B	6	1	90861		KIOSK PARKING B	ADJACENT TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)			NONPUBLIC	833	AS	2A

Page 6 of 11 Report Date: 1		Cycle 6 NPS / RIP Rou (Numerical By Summary Route and S	•	Federal Lands Highway Road Inventory Program
Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Non-NPS Routes	= Concession Route
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NC = Not Collected

				_	PAR	KING AREA INVENTORY (1	300 SERIES FMSS LOCATIO	ONS)				
Route	e ected	lteration Collected	FMSS	cessio		Route De	scription	Maintenance	Access	Area	Surf.	Area
No.	р Ш С С	ltero Coll	Number	Con	Route Name	From	То	District	Level	(SQ FT)	Туре	Μαρ
0910A	6	1	75835		LAKE FORK VISITOR CENTER PARKING A	ADJACENT TO ROUTE 0100 (LAKE FORK CAMPGROUND ROAD)			PUBLIC	1,865	AS	ЗВ
0910B	6	1	103039		LAKE FORK VISITOR CENTER PARKING B	ADJACENT TO ROUTE 0100 (LAKE FORK CAMPGROUND ROAD)			PUBLIC	1,963	AS	ЗВ
0911	6	1	90862		RV DUMP STATION	FROM ROUTE 0100 (LAKE FORK CAMPGROUND ROAD)	TO ROUTE 0100 (LAKE FORK CAMPGROUND ROAD)		PUBLIC	7,058	AS	ЗВ
0912	6	1	90864		LAKE FORK LOWER CAMPGROUND LOOP PARKING	ADJACENT TO ROUTE 0240 (LAKE FORK LOWER CAMPGROUND ROAD)			PUBLIC	1,604	AS	ЗВ
0914A	6	1	90866		LAKE FORK MARINA PARKING A	FROM END OF ROUTE 0100 (LAKE FORK CAMPGROUND ROAD) AND ROUTE 0241 (LAKE FORK UPPER CAMPGROUND LOOP)	TO BOAT RAMP		PUBLIC	62,328	AS	3в
0914B	6	1	103021		LAKE FORK MARINA PARKING B	FROM ROUTE 0914A (LAKE FORK MARINA PARKING A)	TO ROUTE 0240 (LAKE FORK LOWER CAMPGROUND ROAD)		PUBLIC	18,583	AS	ЗВ
0915	6	1	90867		LAKE FORK HANDICAP PARKING	ADJACENT TO ROUTE 0241 (LAKE FORK UPPER CAMPGROUND LOOP)			PUBLIC	783	AS	ЗВ
0916A	6	1	103035		IOLA PARKING A	ADJACENT TO ROUTE 0200 (IOLA ROAD)			PUBLIC	6,039	AS	1A
0916B	6	1	75851		IOLA PARKING B	ADJACENT TO ROUTE 0200 (IOLA ROAD)			PUBLIC	4,178	AS	1A
0917	6	1	90868		IOLA BOAT PARKING	FROM END OF ROUTE 0200 (IOLA ROAD)	TO BOAT RAMP		PUBLIC	60,843	AS	1A
0918	6	1	90869		NEVERSINK PARKING	FROM ROUTE 5050 (US HIGHWAY 50)	TO PARKING		PUBLIC	20,555	AS	1 B
0919	6	1	90870		COOPER RANCH PARKING	FROM ROUTE 5050 (US HIGHWAY 50)	TO PARKING		PUBLIC	36,113	AS	1 B
0920	6	1	90871		NEW STEVENS CREEK PARKING	FROM ROUTE 0231 (NEW STEVENS CREEK CAMPGROUND ROAD)	ΤΟ ΒΟΑΤ RAMP		PUBLIC	27,844	AS	1A
0921	6	1	90872		OLD STEVENS CREEK PARKING	FROM ROUTE 5050 (US HIGHWAY 50)	TO PARKING		PUBLIC	44,088	AS	1A

Page 7 of 11		Cycle 6 NPS / RIP Rou	te ID Report	چ 😓
Report Date: 1	1/16/2015	(Numerical By Summary Route and S	ubcomponent #)	Federal Lands Highway Road Inventory Program
Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Non-NPS Routes	Concession Route
	Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas	
	Red text denotes:			DCV = Data Collection Vehicle

MRL = Manually Rated Line MRP = Manually Rated Polygon

PKG = Parking Areas NC = Not Collected

CURE Curecanti National Recreation Area

PARKING AREA INVENTORY (1300 SERIES FMSS LOCATIONS)

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

Route	cle lected	lteration Collected	FMSS	ncession		Route De	escription	Maintenance	Access	Area	Surf.	Area
No.	င် ပီ	Ler Col	Number	ŝ	Route Name	From	То	District	Level	(SQ FT)	Туре	Мар
0922	6	1	90873		DRY CREEK PARKING	FROM END OF ROUTE 0108 (DRY CREEK ROAD)	TO PARKING		PUBLIC	26,223	AS	2A
0923	6	1	90874		DILLON PINNACLES PARKING	FROM ROUTE 5050 (US HIGHWAY 50)	TO PARKING		PUBLIC	21,787	AS	2
0924	6	1	90876		PIONEER POINT PARKING	FROM ROUTE 5092 (STATE HIGHWAY 92)	TO PARKING		PUBLIC	20,643	AS	3
0925	6	1	90877		HERMITS REST LOOKOUT	FROM ROUTE 5092 (STATE HIGHWAY 92)	TO PARKING		PUBLIC	14,174	AS	3
0926	6	1	75050		BLUE MESA DAM PARKING	FROM ROUTE 5092 (STATE HIGHWAY 92)	TO PARKING		PUBLIC	14,099	AS	3B
0927	6	1	90878		EAST CIMARRON PARKING	FROM ROUTE 5050 (US HIGHWAY 50)	TO PARKING		PUBLIC	9,924	AS	3A
0929	6	1	90880		CIMARRON DUMP STATION	FROM ROUTE 5000 (MORROW POINT DAM ROAD)	TO ROUTE 5000 (MORROW POINT DAM ROAD)		PUBLIC	7,417	AS	3A
0930A	6	1	90881		CIMARRON VISITOR CENTER PARKING A	ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)			PUBLIC	1,162	AS	3A
0930B	6	1	103016		CIMARRON VISITOR CENTER PARKING B	ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)			PUBLIC	1,804	AS	3A
0931	6	1	90882		CIMARRON EMPLOYEE PARKING	FROM ROUTE 5000 (MORROW POINT DAM ROAD)	TO PARKING		NONPUBLIC	3,009	AS	3A
0932	6	1	90883		BEAVER CREEK PARKING	FROM ROUTE 5050 (US HIGHWAY 50)	TO PARKING		PUBLIC	14,890	AS	1 B
0933	6	1	90884		LAKE CITY BRIDGE PARKING	ADJACENT TO ROUTE 5149 (STATE HIGHWAY 149)			PUBLIC	9,084	AS	1
0934	NC		75467		WILLOW CREEK PARKING	FROM ROUTE 0206 (WILLOW CREEK ROAD)	TO PARKING		PUBLIC	2,500	GR	
0935	NC		90885		SWIM BEACH PARKING	FROM ROUTE 0221 (OLD US HIGHWAY 50)	TO PARKING		PUBLIC	1,000	GR	
0936	NC		90888		LAKE FORK BRIDGE PARKING	FROM ROUTE 5050 (US HIGHWAY 50)	TO PARKING		PUBLIC	3,000	GR	

Page 8 of 11 Report Date: 1		Cycle 6 NPS / RIP Route (Numerical By Summary Route and Suk	•	Federal Lands Highway Road Inventory Program
Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Non-NPS Routes	= Concession Route
	Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas	
	Red text denotes: *Unpaved route data was obtained fro	m the NPS and was not collected by the Road In	iventory Program (RIP).	DCV = Data Collection Vehicle MRL = Manually Rated Line MRP = Manually Rated Polygon

PKG = Parking Areas NC = Not Collected

					PAR	KING AREA INVENTORY (1	300 SERIES FMSS LOCATIO	ONS)				
	hed	hed		ssion		Route De		Maintenance	Access	Area	Surf.	Area
Route No.	Cycle Collected	lterati Collec	FMSS Number	Conce	Route Name	From	То	District	Level	(SQ FT)	Туре	Map
0937	6	1	75839		LAKE FORK MAINTENANCE AREA	FROM ROUTE 5092 (STATE HIGHWAY 92)	TO PARKING		NONPUBLIC	41,905	AS	ЗВ
0938	6	1	90891		CIMARRON MAINTENANCE AREA	FROM BEGIN ROUTE 5000 (MORROW POINT DAM ROAD)	TO PARKING		NONPUBLIC	23,361	AS	3A
0939	6	1	90897		MORROW POINT DAM PICNIC AREA	FROM MORROW POINT DAM ROAD	TO PARKING		PUBLIC	31,277	AS	3A
0940	NC		90898		RIVERWAY PARKING	FROM COUNTY ROUTE 32	TO PARKING		PUBLIC	12,300	GR	
0941ZZ	6	1	90899		NEVERSINK PARKING AREAS	FROM ROUTE 0918 (NEVERSINK PARKING) ON LEFT AND RIGHT	TO PARKING		PUBLIC	1,821	AS	1 B
0942	NC		90900		NEVERSINK UNPAVED PARKING	ADJACENT TO ROUTE 0918 (NEVERSINK PARKING) ON RIGHT			PUBLIC	12,200	GR	
0943	6	1	90901		COOPER RANCH COMFORT STATION PARKING	ADJACENT TO ROUTE 0919 (COOPER RANCH PARKING)			PUBLIC	1,341	AS	1 B
0944	NC		90902		COOPER RANCH RIVER ACCESS PARKING	FROM ROUTE 0919 (COOPER RANCH PARKING) ON RIGHT	TO PARKING		PUBLIC	6,315	GR	
0945	NC		75479		COOPER WEST PARKING	FROM ROUTE 5050 (US HIGHWAY 50)	TO PARKING		PUBLIC	29,450	GR	
0946	NC		90903		WILSON LANDING NORTH	FROM ROUTE 5050 (US HIGHWAY 50)	TO PARKING		PUBLIC	27,300	GR	
0947	NC		90904		WILSON LANDING SOUTH	FROM ROUTE 5050 (US HIGHWAY 50)	TO PARKING		PUBLIC	13,570	GR	
0950	NC		90905		EAST ELK CREEK PARKING	FROM ROUTE 0101 (EAST ELK CREEK ROAD)	TO PARKING		PUBLIC	6,735	GR	
0951	NC		90906		BAY OF CHICKENS PARKING	FROM ROUTE 0102 (BAY OF CHICKENS ROAD)	TO PARKING		PUBLIC	8,000	GR	
0952	NC		90907		DRY GULCH PARKING	FROM ROUTE 0103 (DRY GULCH ROAD)	TO PARKING		PUBLIC	18,200	GR	
0953	NC		90908		RED CREEK PARKING	FROM ROUTE 0104 (RED CREEK ROAD)	TO PARKING		PUBLIC	6,520	GR	

Page 9 of 11 Report Date: 1	1/16/2015	Cycle 6 NPS / RIP Rou (Numerical By Summary Route and S	•	Federal Lands Highway Road Inventory Program
Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Non-NPS Routes	= Concession Route
	Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas	
	Red text denotes: *Unpaved route data was obtained fr	om the NPS and was not collected by the Road	d Inventory Program (RIP).	DCV = Data Collection Vehicle MRL = Manually Rated Line MRP = Manually Rated Polygon PKG = Parking Areas

NC = Not Collected

				-	PAR	KING AREA INVENTORY (1	300 SERIES FMSS LOCATIO	ONS)				
Route	Cycle Collected	ıtion ected	FMSS	cessio		Route De	scription	Maintenance	Access	Area	Surf.	Area
No.	C C C	lterc Coll	Number	Con	Route Name	From	То	District	Level	(SQ FT)	Туре	Мар
0954	NC		75743		MCINTIRE GULCH PARKING	FROM ROUTE 0105 (SOAP CREEK FS -721)	TO PARKING		PUBLIC	11,900	GR	
0955	NC		90909		MCINTIRE GULCH PARKING B	FROM ROUTE 0105 (SOAP CREEK FS -721)	TO PARKING		PUBLIC	3,500	GR	
0956	NC		90910		PONDEROSA ROAD PARKING	FROM ROUTE 0106 (PONDEROSA ROAD)	TO PARKING		PUBLIC	9,750	GR	
0957	NC		90911		CRYSTAL PARKING AREA	FROM ROUTE 5092 (STATE HIGHWAY 92)	TO PARKING		PUBLIC	6,624	GR	
0958	NC		90912		GATEVIEW ROAD PARKING	FROM ROUTE 0107 (GATEVIEW ROAD)	TO PARKING		PUBLIC	21,449	GR	
0959	NC		75457		PINE CREEK PARKING AREA	ADJACENT TO PINE CREEK ROAD			PUBLIC	11,664	GR	
0960	6	1	238303		WAREHOUSE STORAGE AREA	FROM END OF ROUTE 0220 (ELK CREEK SERVICE ROAD)	TO PARKING		NONPUBLIC	19,143	AS	2A
0961	NC		238304		LAKE FORK OVERFLOW PARKING	FROM ROUTE 5092 (STATE HIGHWAY 92)	TO PARKING		PUBLIC		GR	
0962	NC		238305		STEVENS CREEK CAMPGROUND OVERFLOW PARKING	FROM ROUTE 0920 (NEW STEVENS CREEK PARKING)	TO ROUTE 0920 (NEW STEVENS CREEK PARKING)		PUBLIC		GR	
0963	6	1	238306		BLUE MESA OVERLOOK PARKING	FROM ROUTE 5092 (STATE HIGHWAY 92)	TO PARKING		PUBLIC	35,720	AS	3B
0964ZZ	6	1			CIMARRON PARKING LOTS	ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)			PUBLIC	4,145	AS	3A

Page 10 of 11 Report Date: 1		Cycle 6 NPS / RIP Rou (Numerical By Summary Route and S	•	Federal Lands Highway Road Inventory Program
Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Non-NPS Routes	= Concession Route
	Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas	
	Red text denotes: *Unpaved route data was obtained from	n the NPS and was not collected by the Road	l Inventory Program (RIP).	DCV = Data Collection Vehicle MRL = Manually Rated Line MRP = Manually Rated Polygon PKG = Parking Areas NC = Not Collected

Cycle 6 Summary Totals for Curecanti National Recreation Area

Cycle 6 Route Totals								
	NPS Maintained	Concessionaire Maintained	Park Totals					
Paved Roads, Data Collection Vehicle Rated (Miles)	5.91	0	5.91					
Paved Roads, Manually Rated Length (Miles)	0	0	0					
Paved Roads, Manually Rated Area (Sq. Ft.)	0	0	0					
Unpaved Roads (Miles)	18.96	0	18.96					
Paved Parking (Sq. Ft.)	848,563	19,143	867,706					
Unpaved Parking (Sq. Ft.)	211,977	0	211,977					

Cycle 6 Lane Miles and Overall Pavement Condition									
	Lanes Miles*	Pavement Condition Rating**							
Data Collection Vehicle Routes	10.55	85							
Manually Rated Roads	0	N/A							
Parking Areas	14.94	72							

 \ast Equivalent Lane Miles are calculated by route using the following equations:

**Parking and Manually Rated Routes are assigned the following PCR values based on the type of observed distresses:

- DCV and MRLs = - MRPs and PKGs =

- = (PAVE_WIDTH x PAVED_MI) / 11 foot lane = SQ_FEET / 5280 / 11 foot lane
- -Excellent = 97 -Good = 90 -Fair = 73 -Poor = 53, 30, or 0 -Construction / Not Rated = -1

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Cycle 6 NPS / RIP Route ID Report

Report Date: 11/16/2015

(Numerical By Summary Route and Subcomponent #)



Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Non-NPS Routes	= Concession Route
	Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas	
	Red text denotes:		-	DCV = Data Collection Vehicle

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MRL = Manually Rated Line MRP = Manually Rated Polygon

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NC = Not Collected

General Park Road Functional Classification (FC) Table

FC	Туре	User Access	Description	Route Numbers	Surface Types
1	Principal Park Road Rural Parkway	Public	Roads which constitute the main access route, circulatory tour, or thoroughfare for park visitors. Rural Parkways (e.g. Natchez Trace) are numbered 0001 - 0009.	0001 - 0009 0010 - 0099	AS - Asphaltic Concrete Pavement BR - Brick or Pavers Road Bed
2	Connector Park Road	Public	Roads which provide access within a park to areas of scenic, scientific, recreational or cultural interest, such as overlooks, campgrounds, etc.	0100 - 0199	CB - Cobble Stone Road Bed
3	Special Purpose Park Road	Public	Roads which provide circulation within public areas, such as campgrounds, picnic areas, visitor center complexes, concessionaire facilities, etc. These roads generally serve low-speed traffic and are often designed for one-way circulation.	0200 - 0299	CO - Portland Cement Concrete Pavement GR - Gravel Road Bed
4	Primitive Park Road	Public	Roads which provide circulation through remote areas and/or access to primitive campgrounds and undeveloped areas. These roads frequently have no minimum design standards and their use may be limited to specially equipped vehicles. Note: Functional Classes 3 and 4 have the same route numbers because, historically, they were numbered similarly.	0200 - 0299	NV - Native or Dirt Material Road Bed
5	Administrative Park Road	Public	All public roads intended for access to administrative developments or structures such as park offices, employee quarters, or utility areas.	0400 - 0499	OT - Other Materials Road Bed
6	Administrative Park Road (Restricted Access)	Nonpublic	All roads normally closed to the public, including patrol roads, truck trails, and other similar roads. Note: Functional Classes 5 and 6 have the same route numbers because historically they were numbered similarly and often there is little distinction between these routes. For example, because utility areas and employee housing are often closed to the public, this restriction would result in classification of FC 6 rather than FC 5.	0400 - 0499	
7	Urban Parkway	Public	These facilities serve high volumes of park and non-park related traffic and are restricted, limited-access facilities in an urban area. This category of roads primarily encompasses the major parkways which serve as gateways to our nation's capital. Other major park roads or portions thereof, however, may be included in this category.	0001 - 0009	
8	City Street	Public	City streets are usually extensions of the adjoining street system that are owned and maintained by the National Park Service. The construction and/or reconstruction should conform with accepted local engineering practice and local conditions.	0600 - 0699	1
N/A	Non-NPS Roads	Public	State, County, or City owned roads which border, traverse, or provide access to Park Facilities or Locations. Non-NPS roads are not assigned functional classes and are driven for GPS and Video Log only.	5000 - 5999]

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

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

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NPS / RIP Subcomponent Details for CURE

Report Date: 11/02/2015

(Numerical By Summary Route and Subcomponent #)



Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Paved Routes, Non-NPS	Concession Route
	Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas	
	Red text denotes: *Unpaved route data was obtained from	n the NPS and was not collected by the Road Inv	DCV = Data Collection Vehicle MRL = Manually Rated Line MRP = Manually Rated Polygon PKG = Parking Areas NC = Not Collected	

	SUMMARY ROUTE INVENTORY FOR ROADS (1100 SERIES FMSS LOCATIONS)										
Route	FMSS	cle llectec	ation llectec		Route I	Description	•	Unpaved		nctio	Area
Number	Number	ວໍ່ວິ .	Col	š Route Name	From	То	Miles	Miles	Mileage	ŢΩ	(SQ FT)
0207ZZ	90836	6	1	ELK CREEK CAMPGROUND ROADS	FROM ROUTE 0010 (ELK CREEK ENTRANCE ROAD)	TO ROUTE 0227 (ELK CREEK CAMPGROUND LOOP B) AND ROUTE 0228 (ELK CREEK CAMPGROUND LOOP C)	0.55	0.00	0.55	2	

	SUMMARY ROUTE INVENTORY FOR PARKING AREAS (1300 SERIES FMSS LOCATIONS)										
Route FMSS <u>e te ce ce</u>			Route Description		User	Area					
Number	voute FMSS _{왕 한} 왕 umber Number 중 왕 한 왕 명 이 아이		Route Name	From	Το	Access	(SQ FT)				
0941ZZ	90899	6	1		NEVERSINK PARKING AREAS	FROM ROUTE 0918 (NEVERSINK PARKING) ON LEFT AND RIGHT	TO PARKING	PUBLIC	1,821		
0964ZZ		6	1		CIMARRON PARKING LOTS	ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)		PUBLIC	4,145		

	CURE-0207ZZ Subcomponent Breakdown											
Route	FMSS Number	rcle ollected	ration Ilected	ncessic	Davida Marina		escription	Paved Miles	Unpaved Miles	Total	unction ass	Area (SQ FT)
Number	Number	ບົບິ	å ů	ů	Route Name	From	То	Miles	INITES	Mileage	30	(50(11)
0207AZ	90836	6	1		ELK CREEK CAMPGROUND ROAD A	FROM ROUTE 0010 (ELK CREEK ENTRANCE ROAD)	TO ROUTE 0227 (ELK CREEK CAMPGROUND LOOP B) AND ROUTE 0228 (ELK CREEK CAMPGROUND LOOP C)	0.46	0.00	0.46	2	
0207BZ	90836	6	1		ELK CREEK CAMPGROUND ROAD B	FROM ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)	TO ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)	0.10	0.00	0.10	2	

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Report Date: 11/02/2015

NPS / RIP Subcomponent Details for CURE

(Numerical By Summary Route and Subcomponent #)



Shading Color Key	White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Paved Routes, Non-NPS	Concession Route
	Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas	
	Red text denotes: *Unpaved route data was obtained from	the NPS and was not collected by the Road Inv	ventory Program (RIP).	DCV = Data Collection Vehicle MRL = Manually Rated Line MRP = Manually Rated Polygon PKG = Parking Areas NC = Not Collected

CURE Curecanti National Recreation Area

CURE-0941ZZ Subcomponent Breakdown

Route			Route De	Route Description		Area			
Number	Number	Cycl Coll	ltera Collo	Con	Route Name	From	То	Access	(SQ FT)
0941AZ	90899	6	1		NEVERSINK PARKING AREA A	FROM ROUTE 0918 (NEVERSINK PARKING) ON RIGHT	TO PARKING	PUBLIC	935
0941BZ	90899	6	1		NEVERSINK PARKING AREA B	FROM ROUTE 0918 (NEVERSINK PARKING) ON LEFT	TO PARKING	PUBLIC	886

CURE-C	CURE-0964ZZ Subcomponent Breakdown											
Route	Route FMSS واقتلون افتلون واقتلون Number Number کې Number Number States			Route Description		User Access	Area (SQ FT)					
Number	Number	ပ်ပိ	° He	ů	Route Name	From	То	Access	(30(11)			
0964AZ		6	1		CIMARRON PICNIC PAVILLION PARKING	ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)		PUBLIC	1,875			
0964BZ		6	1		CIMARRON CS WEST PARKING	ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)		PUBLIC	855			
0964CZ		6	1		CIMARRON CS EAST PARKING	ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)		PUBLIC	1,415			

Route Identification Changes to Paved Routes from Previous Cycle Curecanti National Recreation Area

ROUTES ADDED FROM PREVIOUS INVENTORY:									
Route No.	Route Name	Type of Change	Comments						
0964ZZ	CIMARRON PARKING LOTS		PAVED PARKING AREA ADDED TO THE INVENTORY IN CYCLE 6.						

	ROUT	ES MODIFIED FROM PR	REVIOUS INVENTORY:
Route No.	Route Name	Type of Change	Comments
0207ZZ	ELK CREEK CAMPGROUND ROADS	OTHER	FUNCTIONAL CLASS WAS CHANGED FROM 3 TO 2 BECAUSE ROUTE IS MAIN ENTRANCE TO CAMPGROUND. THE LENGTH INCREASED BECAUSE THE ONE WAY SECTION AT THE KIOSK WAS ADDED AND WAS NOT INCLUDED IN PREVIOUS CYCLES.
0220	ELK CREEK SERVICE ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS WAS CHANGED FROM 3 TO 6 BECAUSE ROUTE IS SERVICE ROAD AND CLOSED TO PUBLIC ACCESS.
0231	NEW STEVENS CREEK CAMPGROUND ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 3 TO 2 BECAUSE ROUTE IS MAIN ACCESS TO CAMPGROUND AREA.
0900	MAINTENANCE AREA	SQ FEET CHANGE	PARKING LOT WAS RECONFIGURED AND RECOLLECTED.
0901	EMPLOYEE PARKING	SQ FEET CHANGE	PARKING LOT SURFACE AREA EXPANDED AND RECOLLECTED.
0931	CIMARRON EMPLOYEE PARKING	OTHER	USER ACCESS CHANGED FROM PUBLIC TO NONPUBLIC.
0960	WAREHOUSE STORAGE AREA	OTHER	USER ACCESS CHANGED FROM PUBLIC TO NONPUBLIC.

Section 3 Park Summary Information





Parkwide Paved Route Condition Summary Curecanti National Recreation Area

Table 1: Paved Route Miles and Parking Area Square Footages by Access Level and PCR

	POOR (PCR of 0 - 60)	FAIR (PCR of 61 - 84)	GOOD (PCR of 85 - 94)	EXCELLENT (PCR of 95 -100)	
		PAVED	ROADS		
Functional Class	Length (miles)	Length (miles)	Length (miles)	Length (miles)	Total Mileage by FC
1	0.02	0.12	0.36	0.08	0.58
2	0.04	0.12	0.26	0.57	0.98
3	0.41	1.18	1.07	0.94	3.60
4					
5		0.16	0.24		0.40
6	0.00	0.10	0.20	0.04	0.34
7					
8					
Total Mileage by PCR	0.47	1.68	2.12	1.64	5.91
		PAVED P	PARKING		
Access Level	Area (sq. ft.)	Area (sq. ft.)	Area (sq. ft.)	Area (sq. ft.)	Total Area
PUBLIC	282,224	37,072	394,480	1,341	715,117
NONPUBLIC	114,365	5,750	32,474		152,589
Total Area by PCR	396,589	42,822	426,954	1,341	867,706

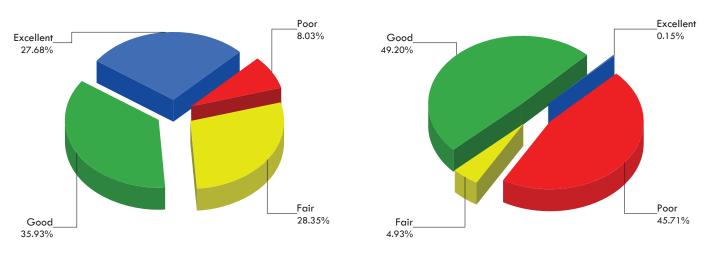
Breakdown of Pavement Condition Rating (PCR) Based on Access Level

NOTES:

1. Data are reported in the table only for paved roads and parking lots that received a condition rating.

2. Non-linear roads (MRP collected routes) are measured by area and converted to equivalent route miles based on a 22-ft pavement width in order to be included in the mileage totals for paved roads shown above.

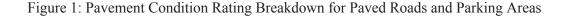
3. Quantities in the table above are derived from the route condition data within the PMS_20, PMS_MRL, PMS_MRP, and PMS_PKG tables in the Park geodatabase.



Parkwide Condition Percentages

Road Condition Percentages

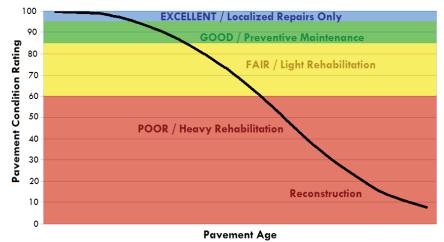
Parking Area Condition Percentages



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

The Road Inventory Program aims to provide assistance in translating the excellent / good / fair / poor rating categories into pavement needs categories. The PCR can be used to indicate the place in the Pavement Life Cycle and the type of treatments that should be considered now and into the future.

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



CONDITION CATEGORIES AND TREATMENTS

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



Cycle 6 - Road Inventory Program

Road Condition Summary Report for Data Collection Vehicle (DCV) Rated Roads

Curecanti National Recreation Area

Condition (Rating / Index) Legend

EXCELLENT (95 - 100)
GOOD (85 - 94)
FAIR (61 - 84)
POOR (0 - 60)
NR = NOT RATED

Notes:

• This condition summary report contains only the roads rated with the Data Collection Vehicle (DCV).

• Condition on roads that were manually rated and parking areas are shown in separate reports.

• Additional details on individual road ratings can be found in Section 5 of the Cycle 6 RIP Report.

• Refer to the RIP Report Appendix for an explanation of the rating system and rating methods.

Route-Level Condition for Roads Rated with the Data Collection Vehicle (DCV)						ient Condition (PCR)	ness Condition (RCI)	Condition (SCR)	al Crack Index	or Crack Index	dinal Cracking	erse Cracking	Pothole Index	Index
Route No.	FMSS No.	Route Name	Functiona Class	l Surf. Type	Paved Length (Miles)	vem ting	Roughr Index (Surface Rating	Structur	Alligate	Longitu Index	Transve Index	Patch /	Rutting
CURE-0010	79442	ELK CREEK ENTRANCE ROAD	1	AS	0.58	88	79	94	98	100	98	94	100	99
CURE-0100	90805	LAKE FORK CAMPGROUND ROAD	2	AS	0.18	93	NR	93	96	100	96	93	100	98
CURE-0108	108067	DRY CREEK ROAD	2	AS	0.16	86	NR	86	93	100	93	86	100	94
CURE-0200	90834	IOLA ROAD	3	AS	0.22	89	NR	89	96	100	96	89	100	99
CURE-0207AZ	90836	ELK CREEK CAMPGROUND ROAD A	2	AS	0.46	97	NR	97	99	100	99	97	100	99
CURE-0207BZ	90836	ELK CREEK CAMPGROUND ROAD B	2	AS	0.10	99	NR	99	99	100	99	99	100	100
CURE-0220	90837	ELK CREEK SERVICE ROAD	6	AS	0.34	88	NR	88	99	100	99	88	100	95
CURE-0221	83617	OLD US HIGHWAY 50	3	AS	0.37	91	NR	91	96	99	97	92	100	91
CURE-0226	90842	ELK CREEK CAMPGROUND LOOP A	3	AS	0.42	95	NR	95	98	100	98	95	100	98
CURE-0227	90843	ELK CREEK CAMPGROUND LOOP B	3	AS	0.31	97	NR	97	99	100	99	97	100	99
CURE-0228	90844	ELK CREEK CAMPGROUND LOOP C	3	AS	0.29	98	NR	98	98	100	98	98	100	98
CURE-0229	90845	ELK CREEK CAMPGROUND LOOP D	3	AS	0.44	66	NR	66	97	100	97	66	100	98
CURE-0230	90846	CIMARRON CAMPGROUND LOOP	3	AS	0.30	76	NR	76	92	100	92	76	100	94
CURE-0231	90847	NEW STEVENS CREEK CAMPGROUND ROAD	2	AS	0.10	69	NR	69	90	100	90	69	100	98
CURE-0232	90848	NEW STEVENS CREEK CAMPGROUND LOOP A	3	AS	0.21	67	NR	67	87	100	87	67	100	95
CURE-0233	90849	NEW STEVENS CREEK CAMPGROUND LOOP B	3	AS	0.20	58	NR	58	92	100	92	58	100	95
CURE-0235	90850	NEW STEVENS CREEK CAMPGROUND LOOP C	3	AS	0.33	60	NR	60	93	100	93	60	100	97
CURE-0240	238291	LAKE FORK LOWER CAMPGROUND ROAD	3	AS	0.22	97	NR	97	97	100	97	98	100	98
CURE-0241	90865	LAKE FORK UPPER CAMPGROUND LOOP	3	AS	0.29	93	NR	93	93	100	93	97	100	95
CURE-0400	90851	ELK CREEK MAINTENANCE ROAD	5	AS	0.22	88	NR	88	95	100	95	88	100	97
CURE-0402	90852	ELK CREEK RESIDENCE ROAD	5	AS	0.19	85	NR	85	88	100	88	85	100	95

Data Collection Date: 05/2015



Cycle 6 - Road Inventory Program

Parking Area Condition Summary Report

Curecanti National Recreation Area

Notes:

• A PCR of 0 indicates a paved parking area in very poor condition. Individual distresses could not be identified.

• Additional details on individual parking areas can be found in Section 6 of the Cycle 6 RIP Report.

• Refer to the RIP Report Appendix for an explanation of the rating system and rating methods.

Condition (Rating / Index) Legend

EXCELLENT (97)
GOOD (90)
FAIR (73)
POOR* (0, 30, 53)
NR = NOT RATED

Concrete Surface Distresses

Asphalt Surface Distresses

Route No.	FMSS No.	Condition Rating Details for Parking Areas Route Name	Access	Surf. Type	Area (Sq. Ft.)	Pavement Condition Rating (PCR)		Longitudinal / Tranverse Cracking	Rutting / Distortions	Potholes / Patching	HMA Patching	Surface Raveling / Bleeding	Joint Faulting	Slab Cracking	Joint Distresses Delamination /	Pop-Outs Potholes / Patching
CURE-0900 CURE-0901	90853 90854	MAINTENANCE AREA EMPLOYEE PARKING	NONPUBLIC	-	37,611	53	73 73	53	90 90	97	97 97	90				
CURE-0901 CURE-0902A	103038	EC6 PARKING	NONPUBLIC	-	5,750 2,415	73 53	73 97	90 53	90	97 97	97	90 90				
CURE-0902A	103038	EC7 PARKING EC7 PARKING	NONPUBLIC	-	1,828	53	97 97	53	97	97	97	90 90				
CURE-0902C	103037	EC5 PARKING	NONPUBLIC	-	1,456	53	97 97	53	90	97	97	90 90				
CURE-0902D	90855	SERVICE PARKING	NONPUBLIC	-	2,780	53	90	53	90	97	97	90				
CURE-0902E	238302	EC1 PARKING	NONPUBLIC	-	11,268	90	97	90	90	97	97	90				
CURE-0903	90856	VISITOR CENTER PARKING	PUBLIC	AS	75,229	90	97	90	97	97	97	90				
CURE-0904	75233	MARINA PARKING	PUBLIC	AS	101,514	90	97	90	90	97	97	90				
CURE-0906	90858	ELK CREEK PICNIC AREA PARKING	PUBLIC	AS	18,514	90	97	90	90	97	97	90				
CURE-0907	90859	RV SEWER DUMP STATION	PUBLIC	AS	8,438	90	97	90	97	97	97	90				
CURE-0908	90860	WASH STATION	PUBLIC	AS	2,067	90	97	97	90	97	97	97				
CURE-0909A	103034	KIOSK PARKING A	NONPUBLIC	AS	1,230	90	97	97	97	97	97	90				
CURE-0909B	90861	KIOSK PARKING B	NONPUBLIC	AS	833	90	97	97	97	97	97	90				
CURE-0910A	75835	LAKE FORK VISITOR CENTER PARKING A	PUBLIC	AS	1,865	90	97	90	97	97	97	90				
CURE-0910B	103039	LAKE FORK VISITOR CENTER PARKING B	PUBLIC	AS	1,963	90	97	90	90	97	97	90				
CURE-0911	90862	RV DUMP STATION	PUBLIC	AS	7,058	90	97	90	90	97	97	90				
CURE-0912	90864	LAKE FORK LOWER CAMPGROUND LOOP PARKING	PUBLIC	AS	1,604	90	97	97	97	97	97	90				
CURE-0914A	90866	LAKE FORK MARINA PARKING A	PUBLIC	AS	62,328	90	97	97	90	97	97	90				
CURE-0914B	103021	LAKE FORK MARINA PARKING B	PUBLIC	AS	18,583	90	97	90	90	97	97	90				
CURE-0915	90867	LAKE FORK HANDICAP PARKING	PUBLIC	AS	783	90	97	90	90	97	97	90				
CURE-0916A	103035	IOLA PARKING A	PUBLIC	AS	6,039	90	97	90	97	97	97	90				
CURE-0916B	75851	IOLA PARKING B	PUBLIC	AS	4,178	90	97	90	97	97	97	90				
CURE-0917	90868	IOLA BOAT PARKING	PUBLIC	AS	60,843	53	97	53	97	97	97	73				
CURE-0918	90869	NEVERSINK PARKING	PUBLIC	AS	20,555	90	90	90	90	90	97	97				
CURE-0919	90870	COOPER RANCH PARKING	PUBLIC	AS	36,113	53	97	53	90	90	97	90				



Cycle 6 - Road Inventory Program

Parking Area Condition Summary Report

Curecanti National Recreation Area

Notes:

• A PCR of 0 indicates a paved parking area in very poor condition. Individual distresses could not be identified.

• Additional details on individual parking areas can be found in Section 6 of the Cycle 6 RIP Report.

• Refer to the RIP Report Appendix for an explanation of the rating system and rating methods.

Condition (Rating / Index) Legend

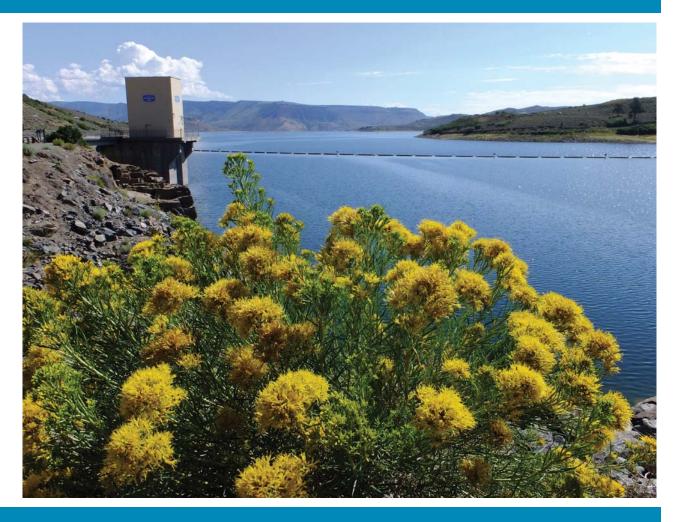
EXCELLENT (97)	
GOOD (90)	
FAIR (73)	
POOR* (0, 30, 53)	
NR = NOT RATED	

Concrete Surface Distresses

Asphalt Surface Distresses

								•								
		Condition Rating Details for Parking Areas				u o		B	ns	Ð						бu
		<u></u>				ndition	icking	cking	Distortions	atching		Bu			\$	atching
						R Con	ack	~ 8	stoi	ato	bu	aveling	p	b	sses on /	Pat
						te Q	δ	e E.	Di	Α	Patching	Rav	ulting	cking	ati	
						g (F	Alligator	jitud vers	ן פר	otholes	Pa	in çe	Fa	Cra	nin Dis	Outs oles
			User	Surf.	Area	Pave Ratin	lig	Longi Tranv	Rutting	the	٩A	Surface Bleedin	Joint	Slab (Joint Delar	Pop-(
Route No.	FMSS No.	Route Name	Access	Туре	(Sq. Ft.)	Pav Rati	A	Т, Го	Rı	Po	WH	Su Bl	٩	SI	٩ď	Pe Pe
CURE-0920	90871	NEW STEVENS CREEK PARKING	PUBLIC	AS	27,844	53	97	53	97	97	97	97				
CURE-0921	90872	OLD STEVENS CREEK PARKING	PUBLIC	AS	44,088	90	97	90	97	97	97	90				
CURE-0922	90873	DRY CREEK PARKING	PUBLIC	AS	26,223	73	73	90	90	97	97	90				
CURE-0923	90874	DILLON PINNACLES PARKING	PUBLIC	AS	21,787	53	73	53	90	97	97	90				
CURE-0924	90876	PIONEER POINT PARKING	PUBLIC	AS	20,643	53	73	53	73	90	97	90				
CURE-0925	90877	HERMITS REST LOOKOUT	PUBLIC	AS	14,174	90	97	90	90	97	97	90				
CURE-0926	75050	BLUE MESA DAM PARKING	PUBLIC	AS	14,099	53	97	53	90	97	97	73				
CURE-0927	90878	EAST CIMARRON PARKING	PUBLIC	AS	9,924	30	30	90	53	73	97	90				
CURE-0929	90880	CIMARRON DUMP STATION	PUBLIC	AS	7,417	73	73	90	73	97	97	73				
CURE-0930A	90881	CIMARRON VISITOR CENTER PARKING A	PUBLIC	AS	1,162	73	97	90	73	97	97	90				
CURE-0930B	103016	CIMARRON VISITOR CENTER PARKING B	PUBLIC	AS	1,804	90	97	90	90	97	97	90				
CURE-0931	90882	CIMARRON EMPLOYEE PARKING	NONPUBLI	C AS	3,009	53	90	53	73	97	97	90				
CURE-0932	90883	BEAVER CREEK PARKING	PUBLIC	AS	14,890	53	90	53	90	97	97	90				
CURE-0933	90884	LAKE CITY BRIDGE PARKING	PUBLIC	AS	9,084	53	97	53	97	97	97	97				
CURE-0937	75839	LAKE FORK MAINTENANCE AREA	NONPUBLI	C AS	41,905	53	97	53	53	90	97	73				
CURE-0938	90891	CIMARRON MAINTENANCE AREA	NONPUBLI	C AS	23,361	53	73	53	53	73	97	73				
CURE-0939	90897	MORROW POINT DAM PICNIC AREA	PUBLIC	AS	31,277	53	97	53	90	90	97	90				
CURE-0941AZ	90899	NEVERSINK PARKING AREA A	PUBLIC	AS	935	90	97	90	97	97	97	97				
CURE-0941BZ	90899	NEVERSINK PARKING AREA B	PUBLIC	AS	886	90	97	90	97	97	97	97				
CURE-0943	90901	COOPER RANCH COMFORT STATION PARKING	PUBLIC	AS	1,341	97	97	97	97	97	97	97				
CURE-0960	238303	WAREHOUSE STORAGE AREA	NONPUBLI	C AS	19,143	90	97	90	90	97	97	90				
CURE-0963	238306	BLUE MESA OVERLOOK PARKING	PUBLIC	AS	35,720	53	73	53	90	97	97	90				
CURE-0964AZ	N/A	CIMARRON PICNIC PAVILLION PARKING	PUBLIC	AS	1,875	90	97	90	90	97	97	90				
CURE-0964BZ	N/A	CIMARRON CS WEST PARKING	PUBLIC	AS	855	73	97	90	73	97	97	90				
CURE-0964CZ	N/A	CIMARRON CS EAST PARKING	PUBLIC	AS	1,415	73	97	90	73	97	97	90				

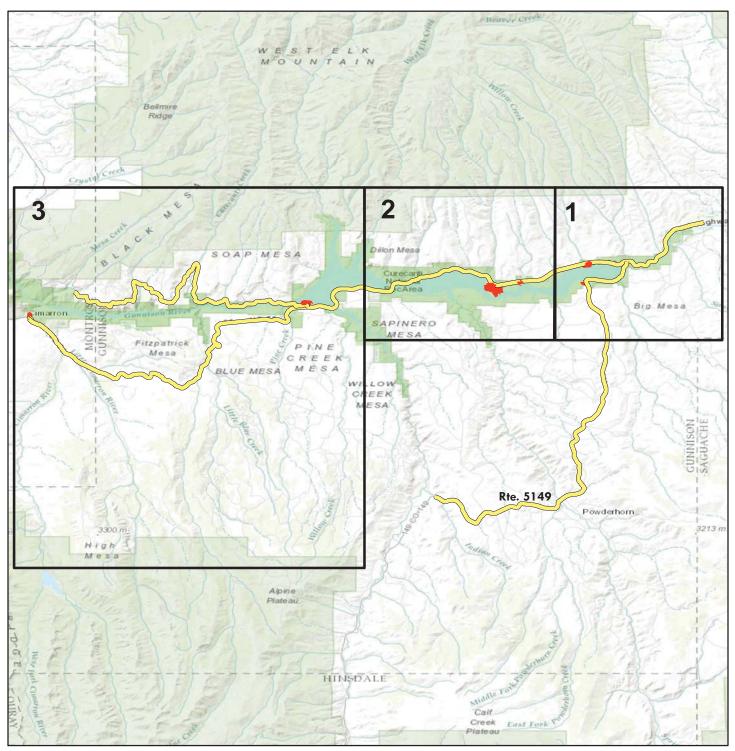
Section 4 Park Route Location Maps



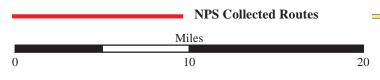


ROUTE LOCATION MAP

Key Map



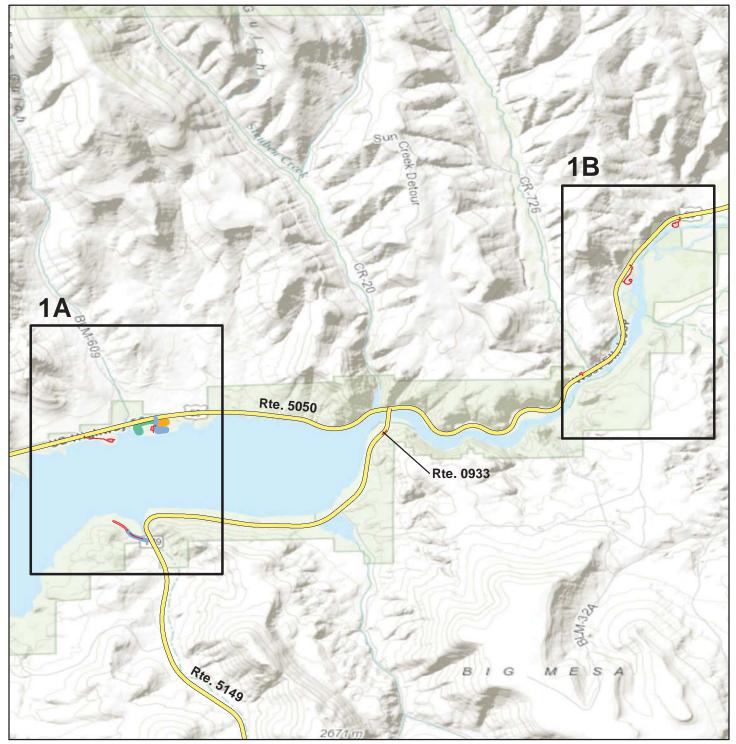
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



Non-NPS Collected Routes

ROUTE LOCATION MAP

Area Map 1



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Note: Unique colors are used to differentiate roads

Non-NPS Collected Routes

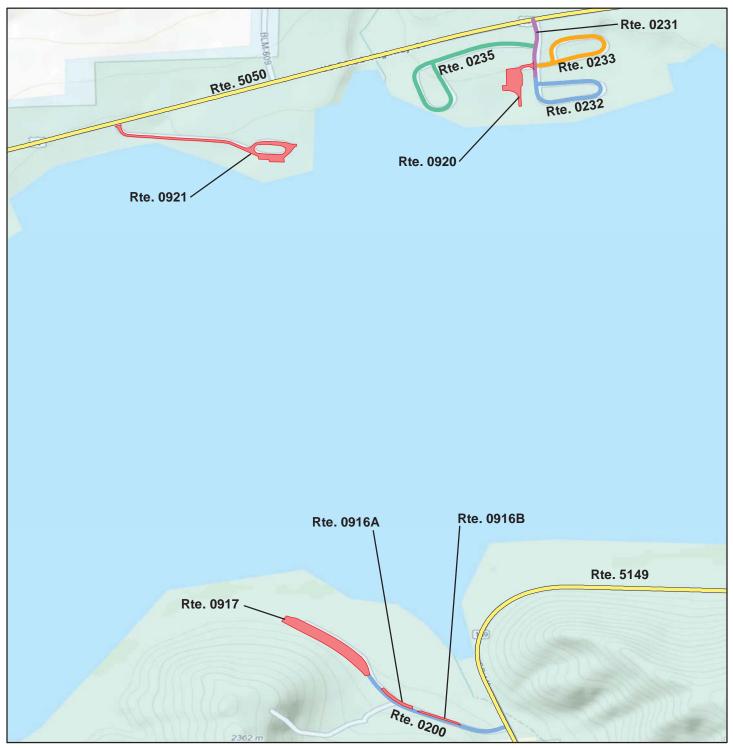
5

Miles 2.5

0

ROUTE LOCATION MAP

Area Map 1A



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Note: Unique colors are used to differentiate roads

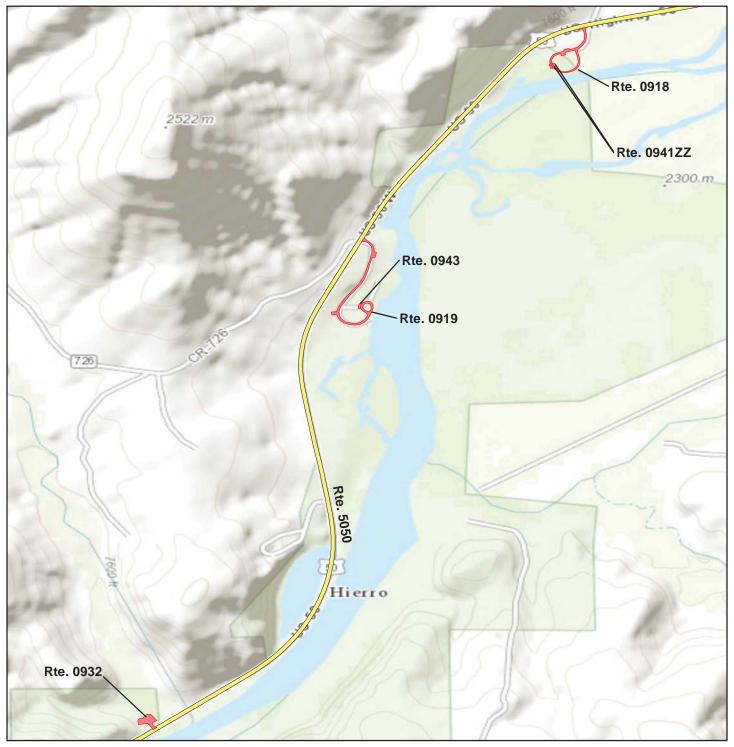
Non-NPS Collected Routes

1

Miles 0.5

ROUTE LOCATION MAP

Area Map 1B



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

1

Note: Unique colors are used to differentiate roads

0

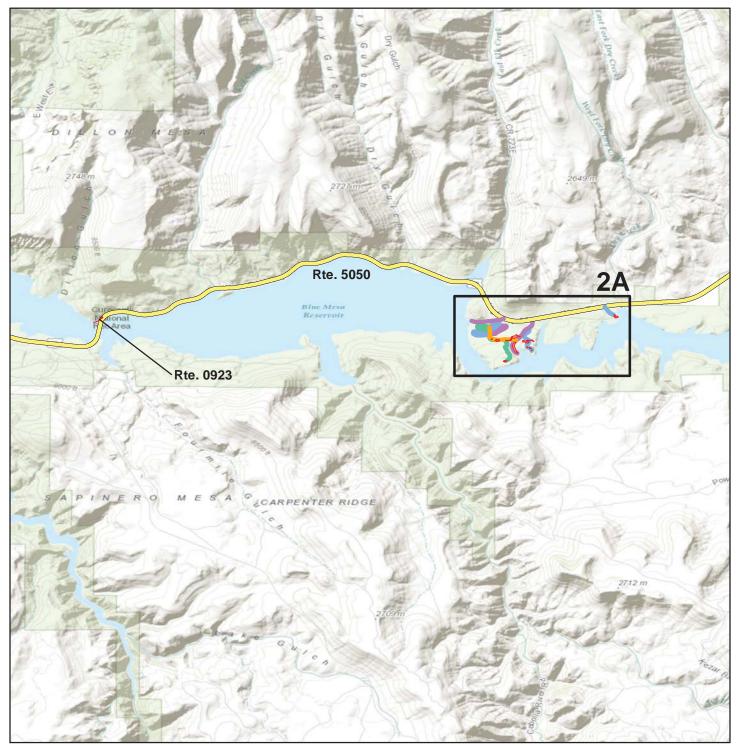
Non-NPS Collected Routes



4-4

ROUTE LOCATION MAP

Area Map 2



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

5

Note: Unique colors are used to differentiate roads

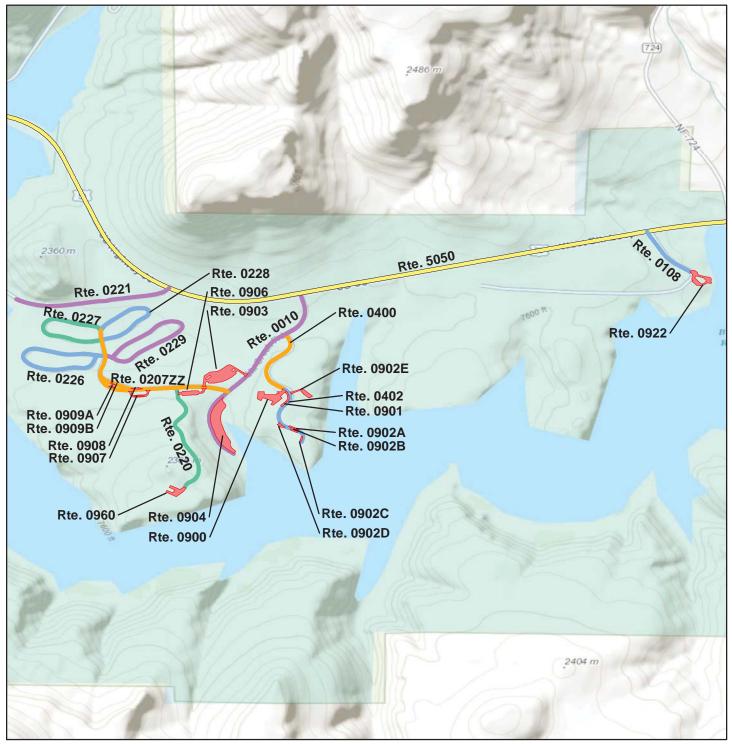
Non-NPS Collected Routes



4-5

ROUTE LOCATION MAP

Area Map 2A



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

1

Note: Unique colors are used to differentiate roads

Non-NPS Collected Routes

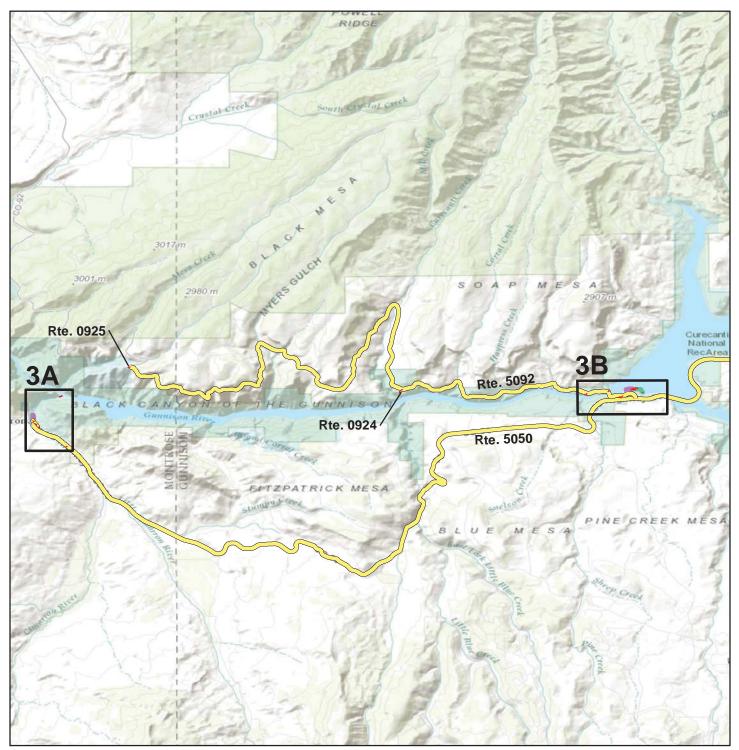
Miles 0.5

0

Ν

ROUTE LOCATION MAP

Area Map 3



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

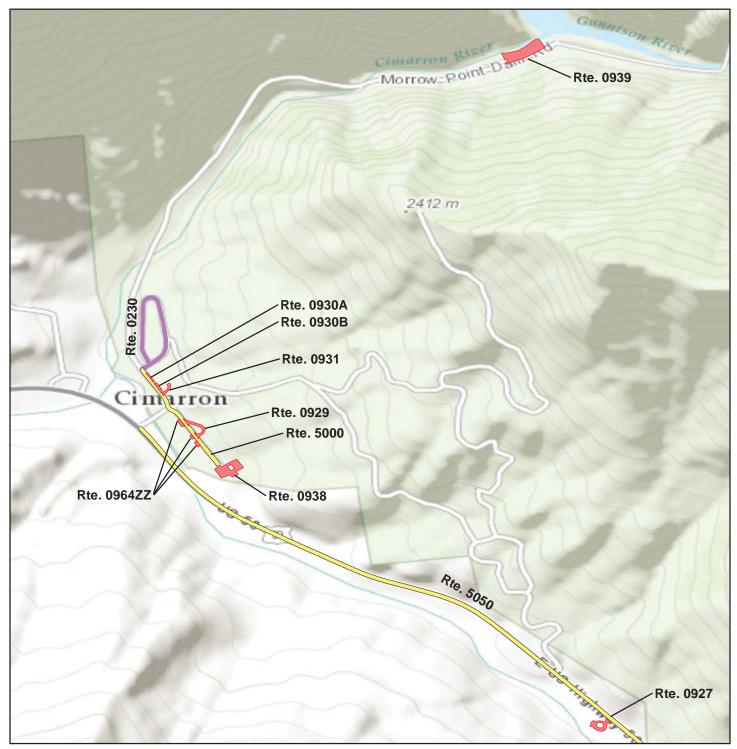
Note: Unique colors are used to differentiate roads

Non-NPS Collected Routes

Miles 5

ROUTE LOCATION MAP

Area Map 3A



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Note: Unique colors are used to differentiate roads

Non-NPS Collected Routes

1

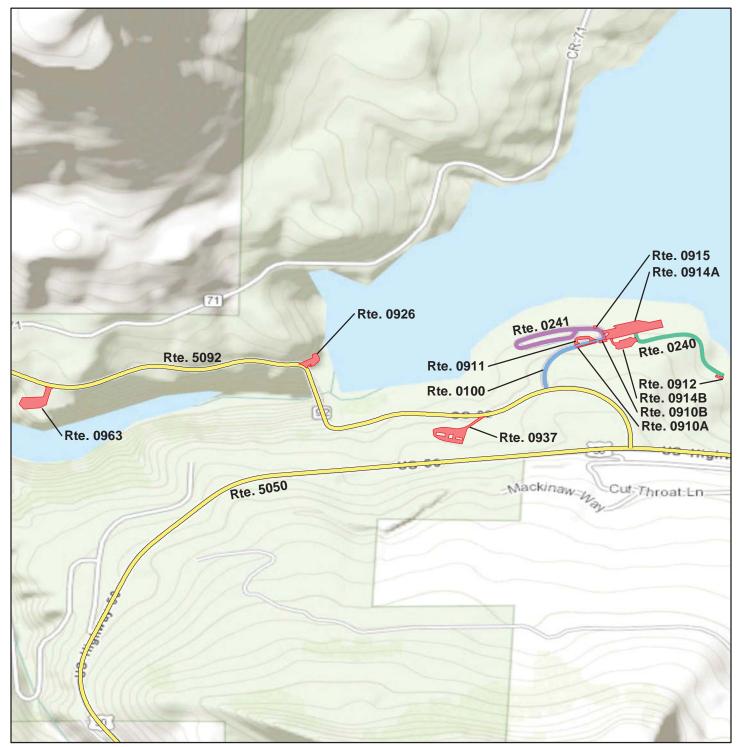
N

4-8

Miles

0

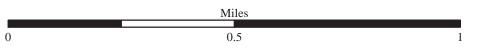
ROUTE LOCATION MAP Area Map 3B



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Note: Unique colors are used to differentiate roads

Non-NPS Collected Routes

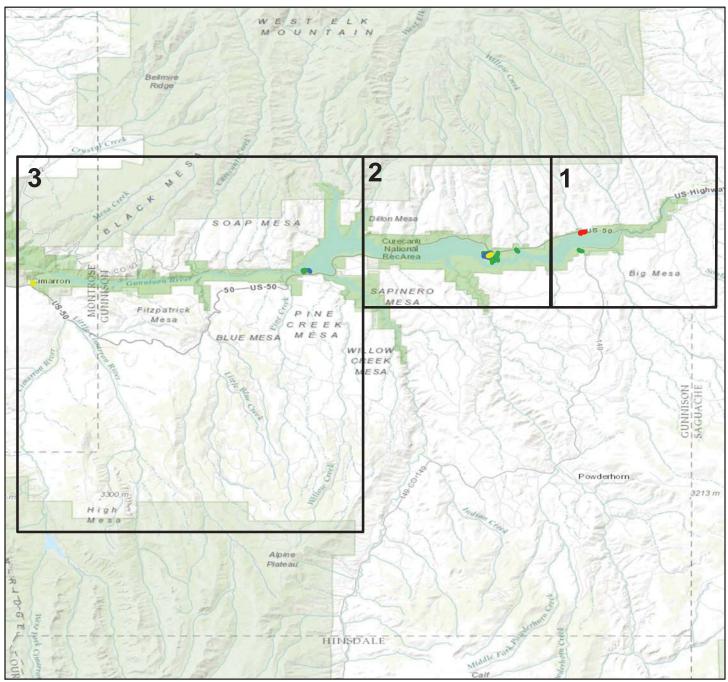


4-9

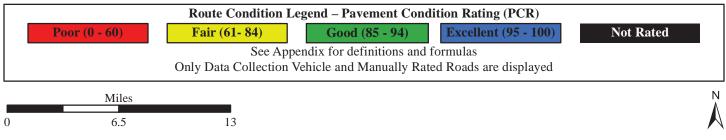
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ROUTE CONDITION MAP PCR - MILE BY MILE

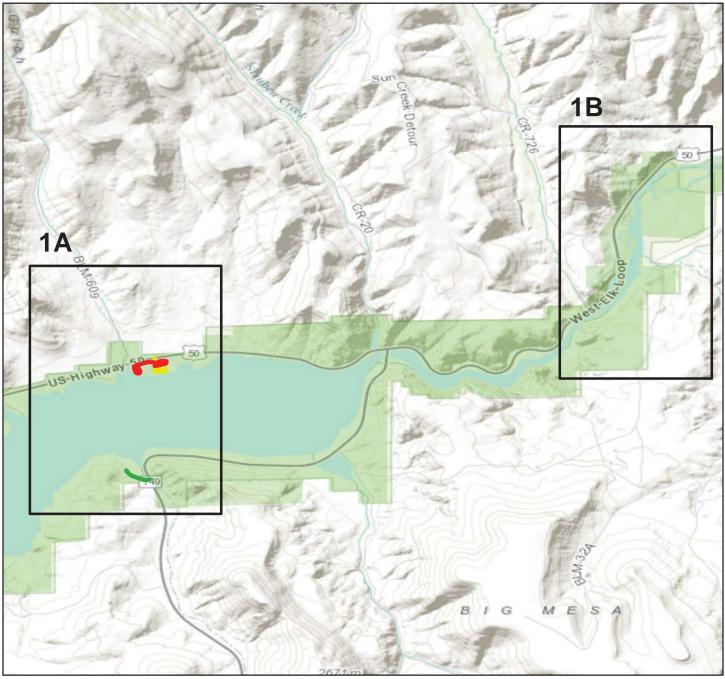
Key Map



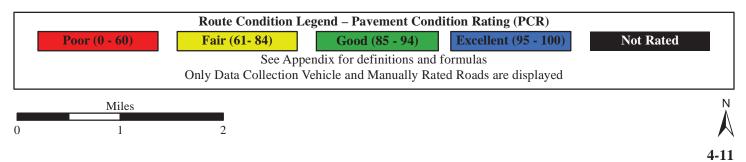
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 1



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 1A

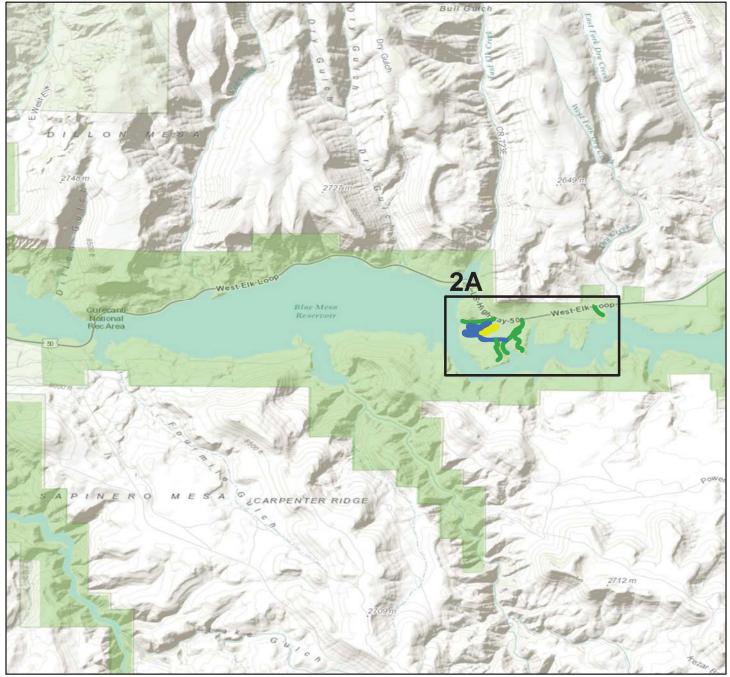


Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

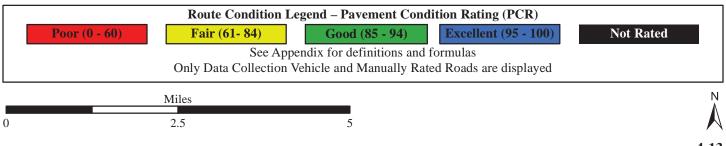
	Route Condition Le	gend – Pavement Con	dition Rating (PCR)	
Poor (0 - 60)	Fair (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated
	See Appe	ndix for definitions and	formulas	
	Only Data Collection V	ehicle and Manually Ra	ted Roads are displayed	
	Miles			IN A
0	0.5		1	\wedge

ROUTE CONDITION MAP PCR - MILE BY MILE

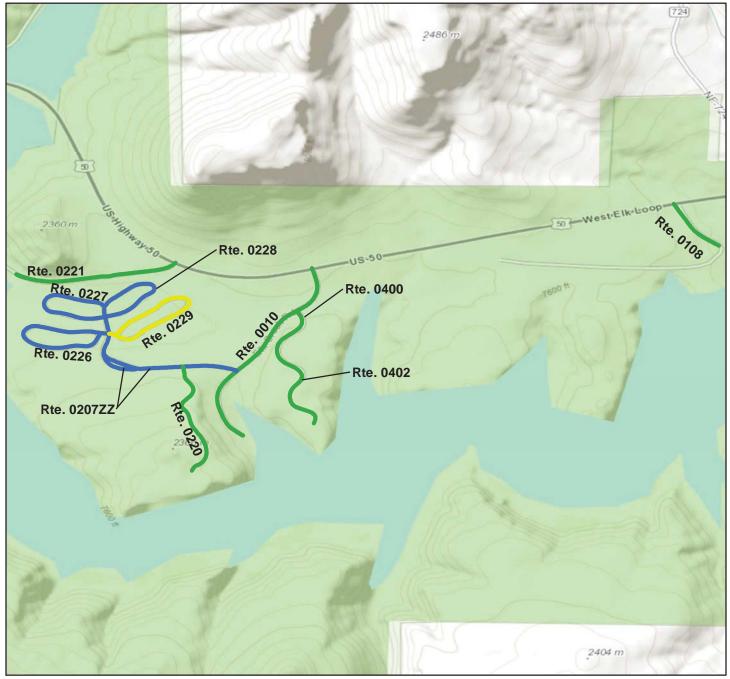
Area Map 2



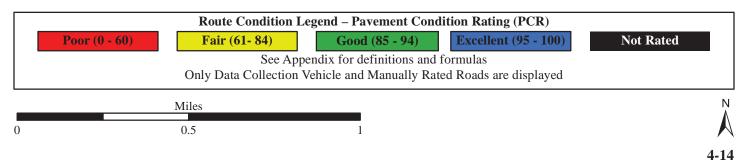
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



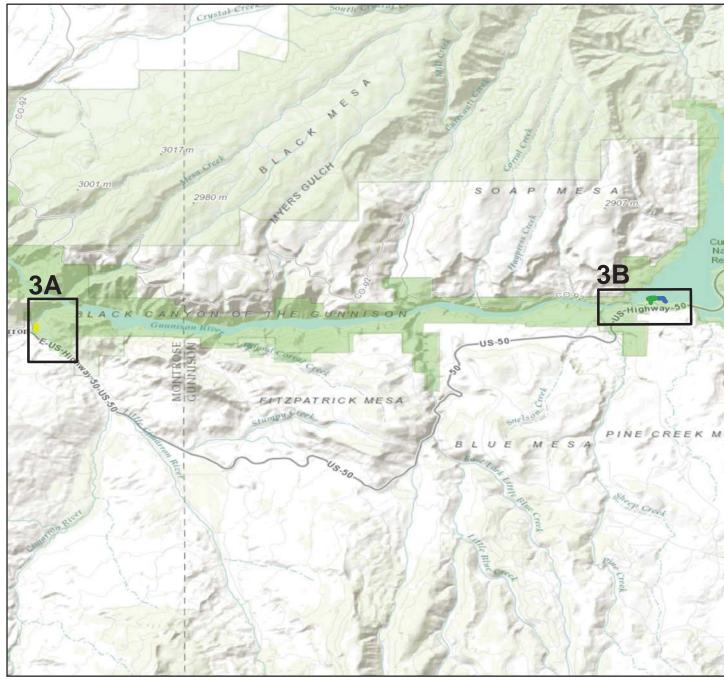
ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 2A



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



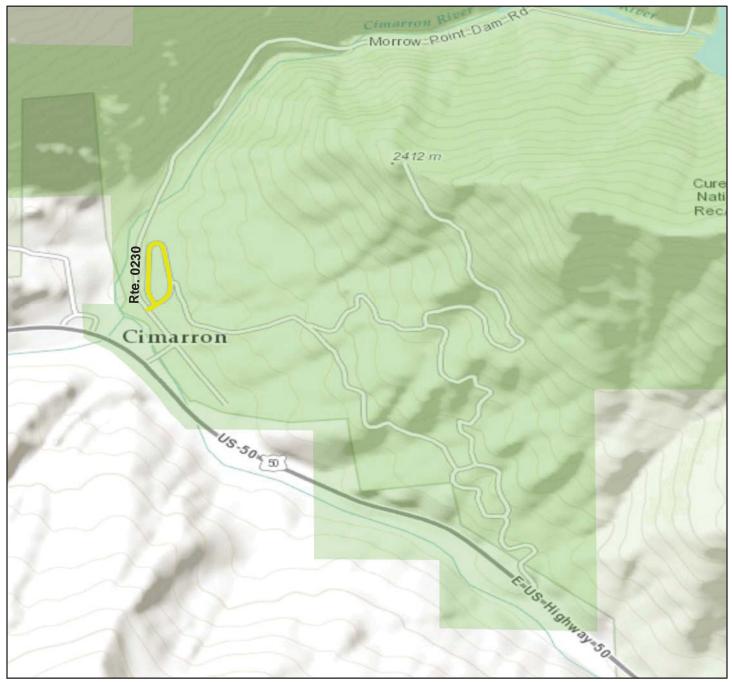
ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 3



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Poo	Route Condition or (0 - 60) Fair (61- 84)	Image: Only Condition Condition Rating (PCR)Good (85 - 94)Excellent (95 - 100)	Not Rated
		Appendix for definitions and formulas	
	Only Data Collect	ion Vehicle and Manually Rated Roads are displayed	
	Miles		N
0	5	10	
•	-		/

ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 3A



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

	Route Condition Le	gend – Pavement Cond	dition Rating (PCR)		
Poor (0 - 60)	Fair (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated	
	See Appe	ndix for definitions and	formulas		
	Only Data Collection V	ehicle and Manually Ra	ted Roads are displayed		
	Miles				N
0	0.5		1		
0	0.5		1		

ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 3B



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

	Route Condition L	egend – Pavement Cond	lition Rating (PCR)	
Poor (0 - 60)) Fair (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated
	See App	endix for definitions and	formulas	
	Only Data Collection	Vehicle and Manually Rat	ted Roads are displayed	
	Miles			, N
				$\mathbf{\Lambda}$
0	0.5		1	\square
				4-17

Section 5 Paved Road Condition Rating Sheets



Curecanti National Recreation Area



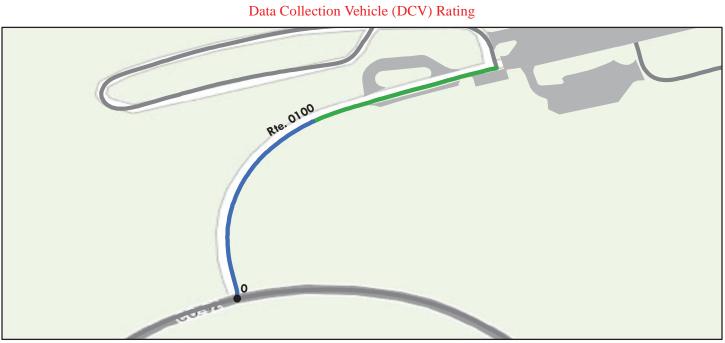
ROUTE 0010: ELK CREEK ENTRANCE ROAD



Sources: Esri, HERE, DeLorme, TomTom, Internap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)					
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated	
	See Appendix for def	initions and f	ormulas		
Inspection Date: 5/14/2015	Beginning Section MP	0			
Paved Length (Miles): 0.58	Section Length (MI)	0.58			
Surface Type: ASPHALT	Route Summary		•		
Roadway Condition Information					
Pavement Condition Rating (PCR)	88	88			
Surface Condition Rating (SCR)	94	94			
Roughness Condition Index (RCI)	79	79			
Distress Index Values					
Structural Crack Index	98	98			
Alligator Crack Index	100	100			
Longitudinal Crack Index	98	98			
Transverse Cracking Index	94	94			
Patching Index	100	100			
Rutting Index	99	99			
International Roughness Index (IRI)	171	171			
Lane & Width Information					
Number of Lanes	2	2			
Paved Width (ft)	20.8	20.8			
Lane Width (ft)	9.2	9.2			

ROUTE 0100: LAKE FORK CAMPGROUND ROAD

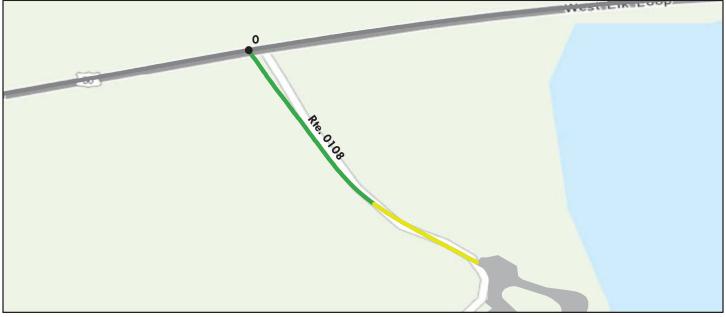


Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)						
Poor (0 - 60) Fair (6	1- 84) Good	(85 - 94)	Excellent (95 - 100)	Not Rated		
See Appendix for definitions and formulas						
Inspection Date: 5/14/2015	Beginning Section MP	0				
Paved Length (Miles): 0.18	Section Length (MI)	0.17				
Surface Type: ASPHALT	Route Summary					
Roadway Condition Information						
Pavement Condition Rating (PCR)	93	93				
Surface Condition Rating (SCR)	93	93				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	96	96				
Alligator Crack Index	100	100				
Longitudinal Crack Index	96	96				
Transverse Cracking Index	93	93				
Patching Index	100	100				
Rutting Index	98	98				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	23.7	23.7				
Lane Width (ft)	10.2	10.2				

ROUTE 0108: DRY CREEK ROAD





Sources: Esri, HERE, DeLorme, TomTom, Internap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)					
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated	
	See Appendix for def	initions and f	ormulas		
Inspection Date: 5/14/2015	Beginning Section MP	0			
Paved Length (Miles): 0.16	Section Length (MI)	0.16			
Surface Type: ASPHALT	Route Summary		•		
Roadway Condition Information					
Pavement Condition Rating (PCR)	86	86			
Surface Condition Rating (SCR)	86	86			
Roughness Condition Index (RCI)	N/A	N/A			
Distress Index Values					
Structural Crack Index	93	93			
Alligator Crack Index	100	100			
Longitudinal Crack Index	93	93			
Transverse Cracking Index	86	86			
Patching Index	100	100			
Rutting Index	94	94			
International Roughness Index (IRI)	N/A	N/A			
Lane & Width Information					
Number of Lanes	2	2			
Paved Width (ft)	25.8	25.8			
Lane Width (ft)	13.7	13.7			

ROUTE 0200: IOLA ROAD

Data C	Collection	Vehicle	(DCV)	Rating
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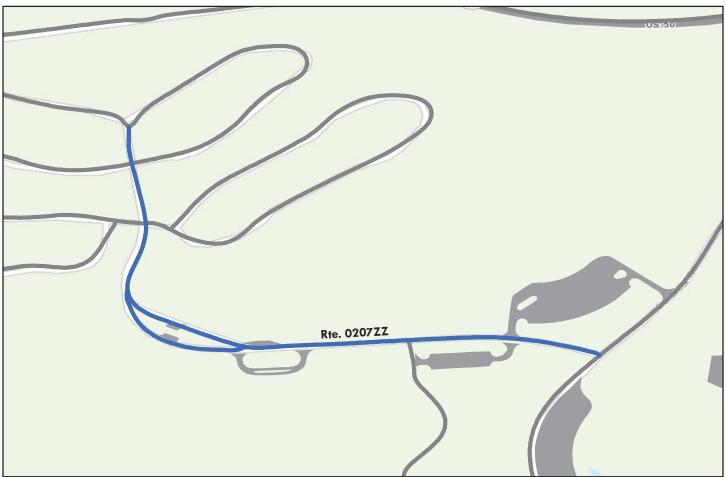


Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)						
Poor (0 - 60) Fair (6	Good (Good ((85 - 94)	Excellent (95 - 100)	Not Rated		
See Appendix for definitions and formulas						
Inspection Date: 5/14/2015	Beginning Section MP	0				
Paved Length (Miles): 0.22	Section Length (MI)	0.22				
Surface Type: ASPHALT	Route Summary					
Roadway Condition Information						
Pavement Condition Rating (PCR)	89	89				
Surface Condition Rating (SCR)	89	89				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	96	96				
Alligator Crack Index	100	100				
Longitudinal Crack Index	96	96				
Transverse Cracking Index	89	89				
Patching Index	100	100				
Rutting Index	99	99				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	21.2	21.2				
Lane Width (ft)	9.3	9.3				

ROUTE 0207ZZ: ELK CREEK CAMPGROUND ROADS

Summary Route



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Note: The weighted average summary PCR value is calculated from only the sections of road where the PCR was collected. The overall PCR for the summary route may not reflect individual subcomponent ratings.

	Route C	Condition Legend – Pay	ement Cond	ition Rating (PCR)		
Poor (0 - 60) Fair (61		1- 84) Good	(85 - 94)			Not Rated	
		See Appendix for de	finitions and f	formulas			
Inspection Date:	5/14/2015						
Paved Length (Miles	s): 0.55						
Surface Type:	ASPHALT	Route Summary				•	
Roadway Condition	Information						
Pavement Condition	n Rating (PCR)	97					
Lane & Width Infor	Lane & Width Information						
Number of Lanes		1					
Paved Width (ft)		19.7					
Lane Width (ft)		9.4					

Curecanti National Recreation Area ROUTE 0207AZ: ELK CREEK CAMPGROUND ROAD A

Subcomponent of Route CURE-0207ZZ Data Collection Vehicle (DCV) Rating

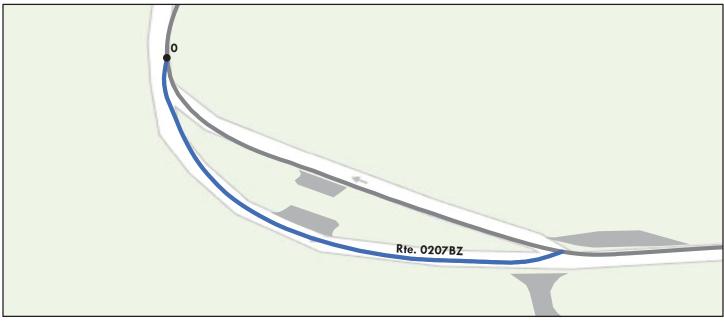


Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)						
Poor (0 - 60) Fair (6	1- 84) Good	(85 - 94)	Excellent (95 - 100)	Not Rated		
	See Appendix for def	initions and f	ormulas			
Inspection Date: 5/14/2015	Beginning Section MP	0				
Paved Length (Miles): 0.46	Section Length (MI)	0.46				
Surface Type: ASPHALT	Route Summary		•	•		
Roadway Condition Information						
Pavement Condition Rating (PCR)	97	97				
Surface Condition Rating (SCR)	97	97				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	99	99				
Alligator Crack Index	100	100				
Longitudinal Crack Index	99	99				
Transverse Cracking Index	97	97				
Patching Index	100	100				
Rutting Index	99	99				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	21.3	21.3				
Lane Width (ft)	9.3	9.3				

Curecanti National Recreation Area ROUTE 0207BZ: ELK CREEK CAMPGROUND ROAD B

Subcomponent of Route CURE-0207ZZ Data Collection Vehicle (DCV) Rating



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)					
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated	
	See Appendix for def	initions and f	ormulas		
Inspection Date: 5/14/2015	Beginning Section MP	0			
Paved Length (Miles): 0.1	Section Length (MI)	0.1			
Surface Type: ASPHALT	Route Summary		•		
Roadway Condition Information					
Pavement Condition Rating (PCR)	99	99			
Surface Condition Rating (SCR)	99	99			
Roughness Condition Index (RCI)	N/A	N/A			
Distress Index Values					
Structural Crack Index	99	99			
Alligator Crack Index	100	100			
Longitudinal Crack Index	99	99			
Transverse Cracking Index	99	99			
Patching Index	100	100			
Rutting Index	100	100			
International Roughness Index (IRI)	N/A	N/A			
Lane & Width Information					
Number of Lanes	1	1			
Paved Width (ft)	12	12			
Lane Width (ft)	9.9	9.9			

ROUTE 0220: ELK CREEK SERVICE ROAD





Sources: Esri, HERE, DeLorme, TomTom, Internap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (6	1- 84) Good	(85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	initions and f	ormulas	
Inspection Date: 5/14/2015	Beginning Section MP	0		
Paved Length (Miles): 0.34	Section Length (MI)	0.34		
Surface Type: ASPHALT	Route Summary		•	• •
Roadway Condition Information				
Pavement Condition Rating (PCR)	88	88		
Surface Condition Rating (SCR)	88	88		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	99	99		
Alligator Crack Index	100	100		
Longitudinal Crack Index	99	99		
Transverse Cracking Index	88	88		
Patching Index	100	100		
Rutting Index	95	95		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	2	2		
Paved Width (ft)	17	17		
Lane Width (ft)	8.5	8.5		

ROUTE 0221: OLD US HIGHWAY 50



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route C	Condition Legend – Pav	ement Condi	Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated			
	See Appendix for def	initions and f	ormulas				
Inspection Date: 5/14/2015	Beginning Section MP	0					
Paved Length (Miles): 0.37	Section Length (MI)	0.37					
Surface Type: ASPHALT	Route Summary		•	- ·			
Roadway Condition Information							
Pavement Condition Rating (PCR)	91	91					
Surface Condition Rating (SCR)	91	91					
Roughness Condition Index (RCI)	N/A	N/A					
Distress Index Values							
Structural Crack Index	96	96					
Alligator Crack Index	99	99					
Longitudinal Crack Index	97	97					
Transverse Cracking Index	92	92					
Patching Index	100	100					
Rutting Index	91	91					
International Roughness Index (IRI)	N/A	N/A					
Lane & Width Information							
Number of Lanes	2	2					
Paved Width (ft)	23	23					
Lane Width (ft)	11.6	11.6					

ROUTE 0226: ELK CREEK CAMPGROUND LOOPA



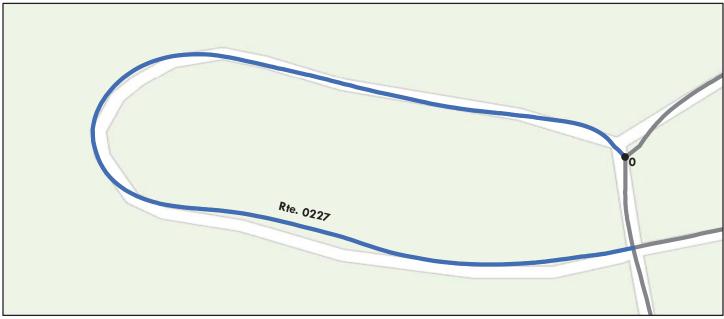


Sources: Esri, HERE, DeLorme, TomTom, Internap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route	Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated	
	See Appendix for def	initions and f	ormulas		
Inspection Date: 5/14/2015	Beginning Section MP	0			
Paved Length (Miles): 0.42	Section Length (MI)	0.42			
Surface Type: ASPHALT	Route Summary		•		
Roadway Condition Information					
Pavement Condition Rating (PCR)	95	95			
Surface Condition Rating (SCR)	95	95			
Roughness Condition Index (RCI)	N/A	N/A			
Distress Index Values					
Structural Crack Index	98	98			
Alligator Crack Index	100	100			
Longitudinal Crack Index	98	98			
Transverse Cracking Index	95	95			
Patching Index	100	100			
Rutting Index	98	98			
International Roughness Index (IRI)	N/A	N/A			
Lane & Width Information					
Number of Lanes	1	1			
Paved Width (ft)	15.8	15.8			
Lane Width (ft)	15.8	15.8			

Curecanti National Recreation Area ROUTE 0227: ELK CREEK CAMPGROUND LOOP B

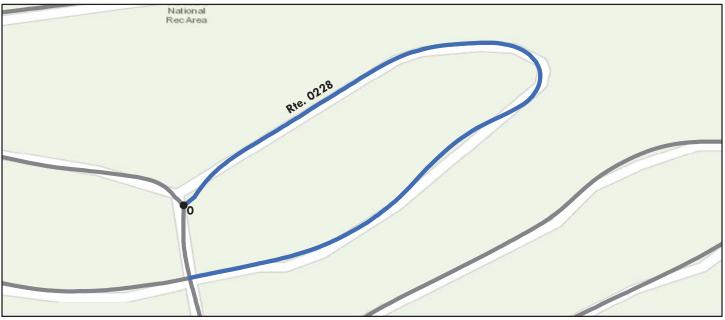




Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair	(61- 84) Good	(85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	finitions and f	formulas	
Inspection Date: 5/14/2015	Beginning Section MP	0		
Paved Length (Miles): 0.31	Section Length (MI)	0.31		
Surface Type: ASPHALT	Route Summary		• •	•
Roadway Condition Information				
Pavement Condition Rating (PCR)	97	97		
Surface Condition Rating (SCR)	97	97		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	99	99		
Alligator Crack Index	100	100		
Longitudinal Crack Index	99	99		
Transverse Cracking Index	97	97		
Patching Index	100	100		
Rutting Index	99	99		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	1	1		
Paved Width (ft)	13.2	13.2		
Lane Width (ft)	13.2	13.2		

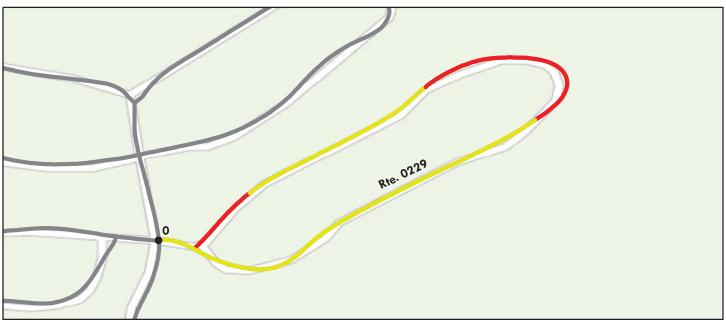
Curecanti National Recreation Area ROUTE 0228: ELK CREEK CAMPGROUND LOOP C



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	initions and f	ormulas	
Inspection Date: 5/14/2015	Beginning Section MP	0		
Paved Length (Miles): 0.29	Section Length (MI)	0.29		
Surface Type: ASPHALT	Route Summary			
Roadway Condition Information				
Pavement Condition Rating (PCR)	98	98		
Surface Condition Rating (SCR)	98	98		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	98	98		
Alligator Crack Index	100	100		
Longitudinal Crack Index	98	98		
Transverse Cracking Index	98	98		
Patching Index	100	100		
Rutting Index	98	98		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	1	1		
Paved Width (ft)	14	14		
Lane Width (ft)	14	14		

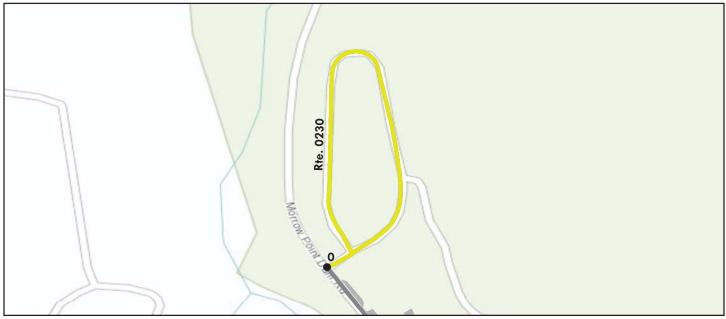
Curecanti National Recreation Area ROUTE 0229: ELK CREEK CAMPGROUND LOOP D



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	initions and f	ormulas	
Inspection Date: 5/14/2015	Beginning Section MP	0		
Paved Length (Miles): 0.44	Section Length (MI)	0.44		
Surface Type: ASPHALT	Route Summary		•	
Roadway Condition Information				
Pavement Condition Rating (PCR)	66	66		
Surface Condition Rating (SCR)	66	66		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	97	97		
Alligator Crack Index	100	100		
Longitudinal Crack Index	97	97		
Transverse Cracking Index	66	66		
Patching Index	100	100		
Rutting Index	98	98		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	1	1		
Paved Width (ft)	15.3	15.3		
Lane Width (ft)	15.3	15.3		

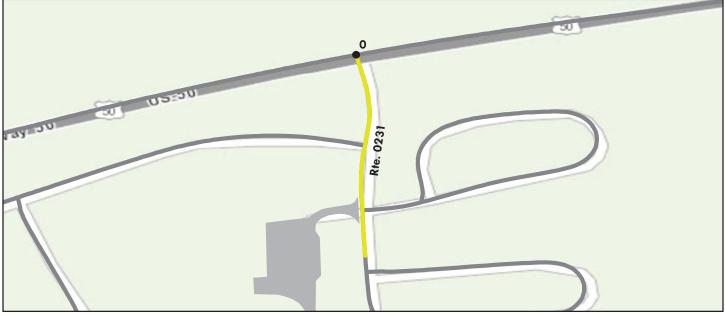
Curecanti National Recreation Area ROUTE 0230: CIMARRON CAMPGROUND LOOP



Sources: Esri, HERE, DeLorme, TomTom, Internap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	initions and f	ormulas	
Inspection Date: 5/14/2015	Beginning Section MP	0		
Paved Length (Miles): 0.3	Section Length (MI)	0.3		
Surface Type: ASPHALT	Route Summary			•
Roadway Condition Information				
Pavement Condition Rating (PCR)	76	76		
Surface Condition Rating (SCR)	76	76		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	92	92		
Alligator Crack Index	100	100		
Longitudinal Crack Index	92	92		
Transverse Cracking Index	76	76		
Patching Index	100	100		
Rutting Index	94	94		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	1	1		
Paved Width (ft)	15.9	15.9		
Lane Width (ft)	15.9	15.9		

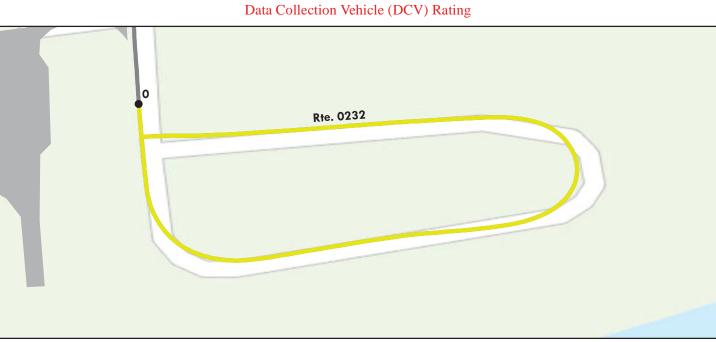
Curecanti National Recreation Area ROUTE 0231: NEW STEVENS CREEK CAMPGROUND ROAD



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (6	1- 84) Good	(85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	finitions and f	formulas	
Inspection Date: 5/14/2015	Beginning Section MP	0		
Paved Length (Miles): 0.1	Section Length (MI)	0.1		
Surface Type: ASPHALT	Route Summary			•
Roadway Condition Information				
Pavement Condition Rating (PCR)	69	69		
Surface Condition Rating (SCR)	69	69		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	90	90		
Alligator Crack Index	100	100		
Longitudinal Crack Index	90	90		
Transverse Cracking Index	69	69		
Patching Index	100	100		
Rutting Index	98	98		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	2	2		
Paved Width (ft)	22.5	22.5		
Lane Width (ft)	11.6	11.6		

Curecanti National Recreation Area ROUTE 0232: NEW STEVENS CREEK CAMPGROUND LOOP A

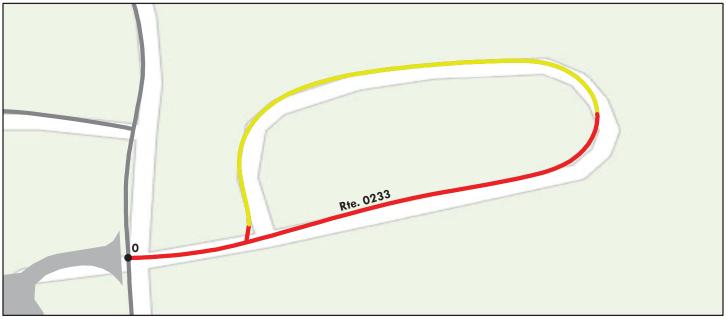


Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	initions and f	ormulas	
Inspection Date: 5/14/2015	Beginning Section MP	0		
Paved Length (Miles): 0.21	Section Length (MI)	0.21		
Surface Type: ASPHALT	Route Summary		•	
Roadway Condition Information				
Pavement Condition Rating (PCR)	67	67		
Surface Condition Rating (SCR)	67	67		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	87	87		
Alligator Crack Index	100	100		
Longitudinal Crack Index	87	87		
Transverse Cracking Index	67	67		
Patching Index	100	100		
Rutting Index	95	95		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	2	2		
Paved Width (ft)	19.6	19.6		
Lane Width (ft)	9.8	9.8		

Curecanti National Recreation Area ROUTE 0233: NEW STEVENS CREEK CAMPGROUND LOOP B

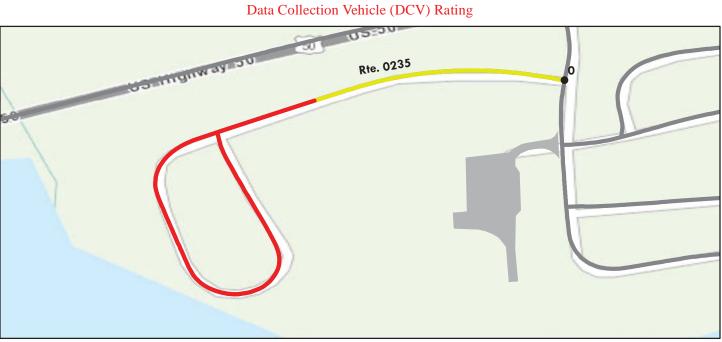




Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	initions and f	ormulas	
Inspection Date: 5/14/2015	Beginning Section MP	0		
Paved Length (Miles): 0.2	Section Length (MI)	0.2		
Surface Type: ASPHALT	Route Summary			• •
Roadway Condition Information				
Pavement Condition Rating (PCR)	58	58		
Surface Condition Rating (SCR)	58	58		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	92	92		
Alligator Crack Index	100	100		
Longitudinal Crack Index	92	92		
Transverse Cracking Index	58	58		
Patching Index	100	100		
Rutting Index	95	95		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	1	1		
Paved Width (ft)	18.5	18.5		
Lane Width (ft)	18.5	18.5		

ROUTE 0235: NEW STEVENS CREEK CAMPGROUND LOOP C

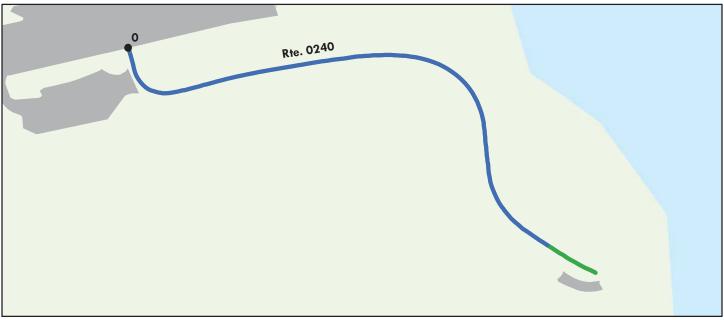


Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (61- 84) Good	(85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	finitions and f	formulas	
Inspection Date: 5/14/2015	Beginning Section MP	0		
Paved Length (Miles): 0.33	Section Length (MI)	0.33		
Surface Type: ASPHALT	Route Summary			• •
Roadway Condition Information				
Pavement Condition Rating (PCR)	60	60		
Surface Condition Rating (SCR)	60	60		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	93	93		
Alligator Crack Index	100	100		
Longitudinal Crack Index	93	93		
Transverse Cracking Index	60	60		
Patching Index	100	100		
Rutting Index	97	97		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	1	1		
Paved Width (ft)	21	21		
Lane Width (ft)	15.5	15.5		

Curecanti National Recreation Area ROUTE 0240: LAKE FORK LOWER CAMPGROUND ROAD





Sources: Esri, HERE, DeLorme, TomTom, Internap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	initions and f	ormulas	
Inspection Date: 5/14/2015	Beginning Section MP	0		
Paved Length (Miles): 0.22	Section Length (MI)	0.22		
Surface Type: ASPHALT	Route Summary			
Roadway Condition Information				
Pavement Condition Rating (PCR)	97	97		
Surface Condition Rating (SCR)	97	97		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	97	97		
Alligator Crack Index	100	100		
Longitudinal Crack Index	97	97		
Transverse Cracking Index	98	98		
Patching Index	100	100		
Rutting Index	98	98		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	2	2		
Paved Width (ft)	21.6	21.6		
Lane Width (ft)	10.3	10.3		

Curecanti National Recreation Area ROUTE 0241: LAKE FORK UPPER CAMPGROUND LOOP



Sources: Esri, HERE, DeLorme, TomTom, Internap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)								
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 10	0) Not Rated				
See Appendix for definitions and formulas								
Inspection Date: 5/14/2015	Beginning Section MP	0						
Paved Length (Miles): 0.29	Section Length (MI)	0.29						
Surface Type: ASPHALT	Route Summary		•	• •				
Roadway Condition Information								
Pavement Condition Rating (PCR)	93	93						
Surface Condition Rating (SCR)	93	93						
Roughness Condition Index (RCI)	N/A	N/A						
Distress Index Values								
Structural Crack Index	93	93						
Alligator Crack Index	100	100						
Longitudinal Crack Index	93	93						
Transverse Cracking Index	97	97						
Patching Index	100	100						
Rutting Index	95	95						
International Roughness Index (IRI)	N/A	N/A						
Lane & Width Information								
Number of Lanes	2	2						
Paved Width (ft)	32.2	32.2						
Lane Width (ft)	14	14						

ROUTE 0400: ELK CREEK MAINTENANCE ROAD



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)							
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated			
See Appendix for definitions and formulas							
Inspection Date: 5/14/2015	Beginning Section MP	0					
Paved Length (Miles): 0.22	Section Length (MI)	0.22					
Surface Type: ASPHALT	Route Summary			•			
Roadway Condition Information							
Pavement Condition Rating (PCR)	88	88					
Surface Condition Rating (SCR)	88	88					
Roughness Condition Index (RCI)	N/A	N/A					
Distress Index Values							
Structural Crack Index	95	95					
Alligator Crack Index	100	100					
Longitudinal Crack Index	95	95					
Transverse Cracking Index	88	88					
Patching Index	100	100					
Rutting Index	97	97					
International Roughness Index (IRI)	N/A	N/A					
Lane & Width Information							
Number of Lanes	2	2					
Paved Width (ft)	22.3	22.3					
Lane Width (ft)	9.8	9.8					

Curecanti National Recreation Area ROUTE 0402: ELK CREEK RESIDENCE ROAD



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Route Condition Legend – Pavement Condition Rating (PCR)								
Poor (0 - 60) Fair (6	Good (Good ((85 - 94)	Excellent (95 - 100)	Not Rated				
See Appendix for definitions and formulas								
Inspection Date: 5/14/2015	Beginning Section MP	0						
Paved Length (Miles): 0.19	Section Length (MI)	0.19						
Surface Type: ASPHALT	Route Summary			• •				
Roadway Condition Information								
Pavement Condition Rating (PCR)	85	85						
Surface Condition Rating (SCR)	85	85						
Roughness Condition Index (RCI)	N/A	N/A						
Distress Index Values								
Structural Crack Index	88	88						
Alligator Crack Index	100	100						
Longitudinal Crack Index	88	88						
Transverse Cracking Index	85	85						
Patching Index	100	100						
Rutting Index	95	95						
International Roughness Index (IRI)	N/A	N/A						
Lane & Width Information								
Number of Lanes	2	2						
Paved Width (ft)	19.8	19.8						
Lane Width (ft)	9.2	9.2						

Section 6 Paved Parking Area Condition Rating Sheets



Curecanti National Recreation Area

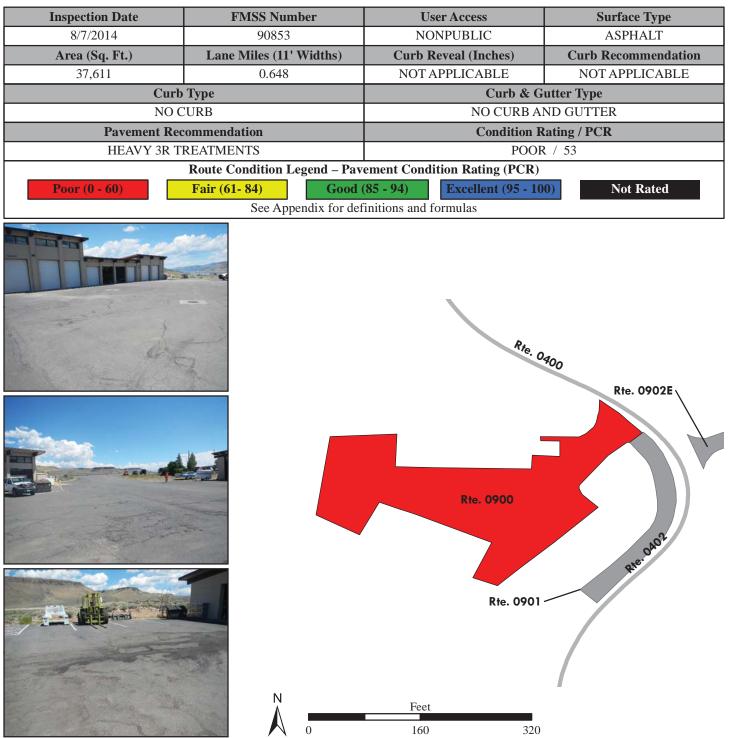


ROUTE 0900: MAINTENANCE AREA

Manual Rating

FROM END OF ROUTE 0400 (ELK CREEK MAINTENANCE ROAD)

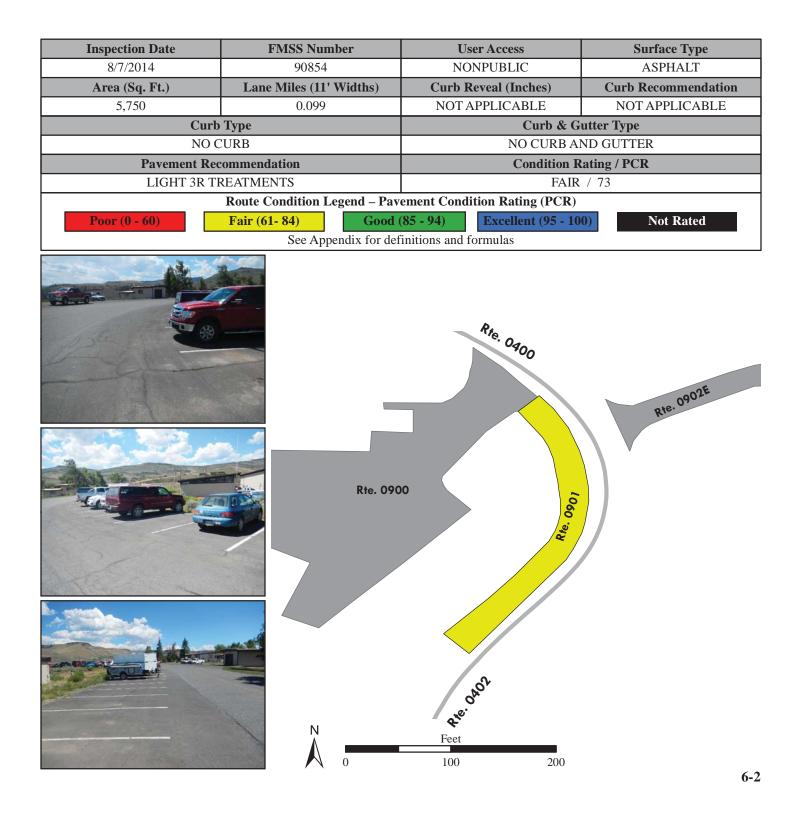
TO PARKING



Curecanti National Recreation Area ROUTE 0901: EMPLOYEE PARKING

Manual Rating

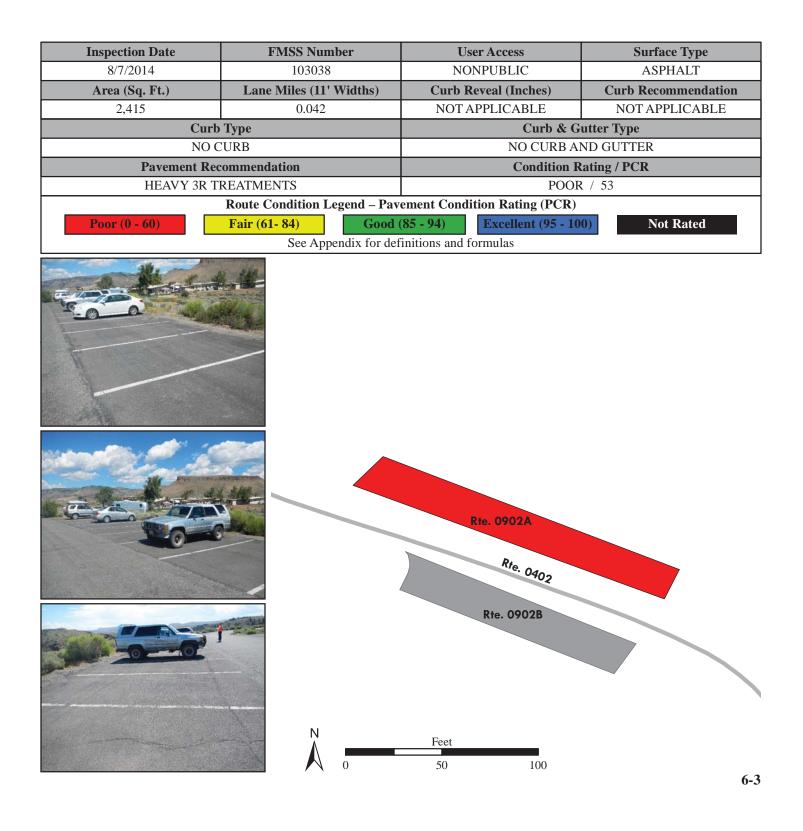
ADJACENT TO ROUTE 0402 (ELK CREEK RESIDENCE ROAD)



ROUTE 0902A: EC6 PARKING

Manual Rating

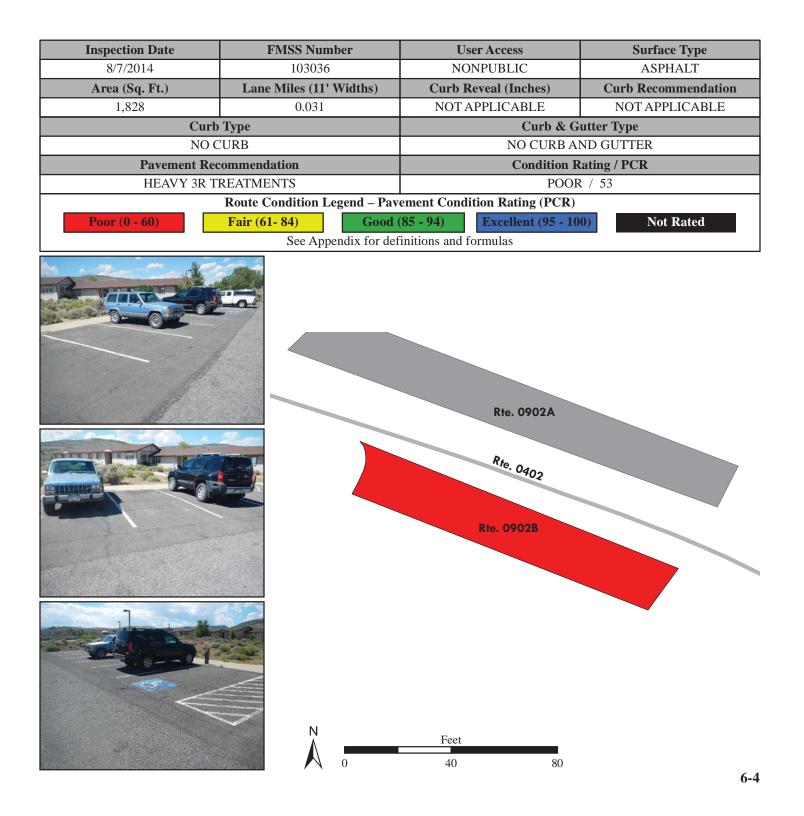
ADJACENT TO ROUTE 0402 (ELK CREEK RESIDENCE ROAD) ON RIGHT



ROUTE 0902B: EC7 PARKING

Manual Rating

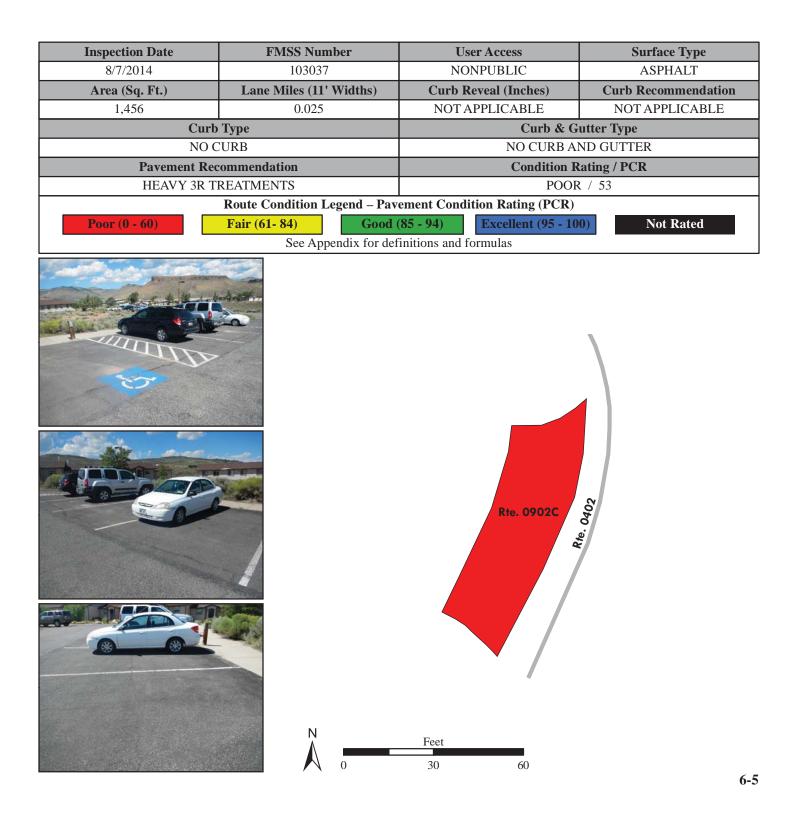
ADJACENT TO ROUTE 0402 (ELK CREEK RESIDENCE ROAD) ON LEFT



ROUTE 0902C: EC5 PARKING

Manual Rating

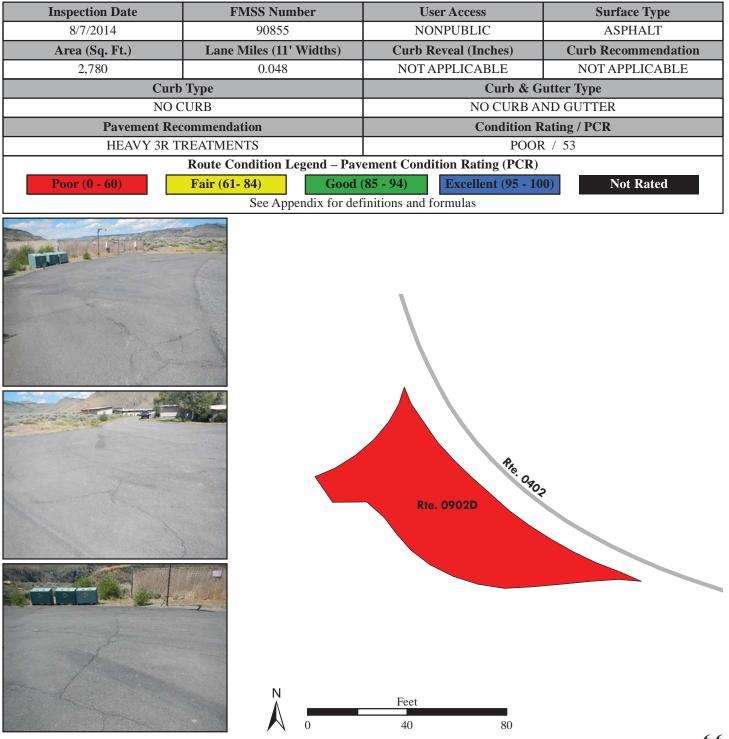
ADJACENT TO ROUTE 0402 (ELK CREEK RESIDENCE ROAD)



ROUTE 0902D: SERVICE PARKING

Manual Rating

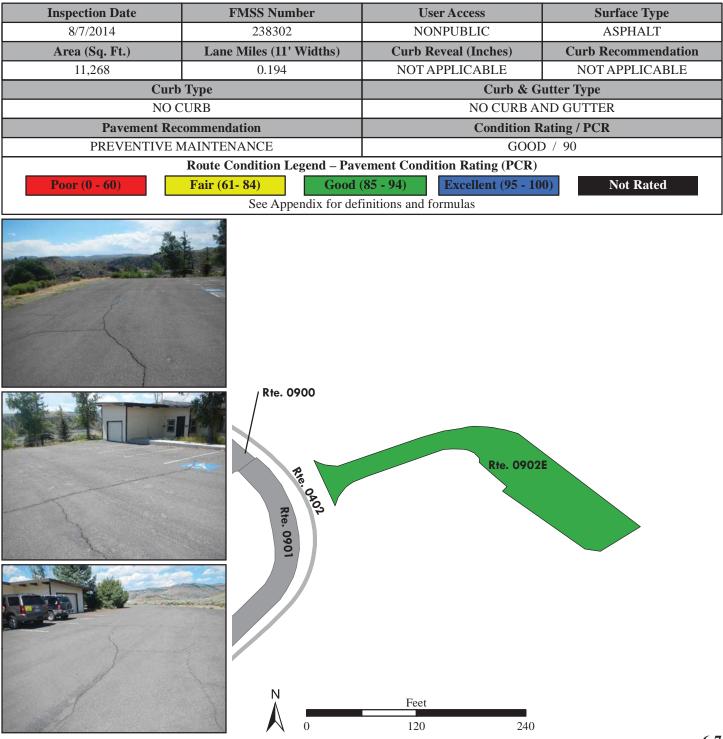
FROM ROUTE 0402 (ELK CREEK RESIDENCE ROAD)



ROUTE 0902E: EC1 PARKING

Manual Rating

FROM ROUTE 0402 (ELK CREEK RESIDENCE ROAD)

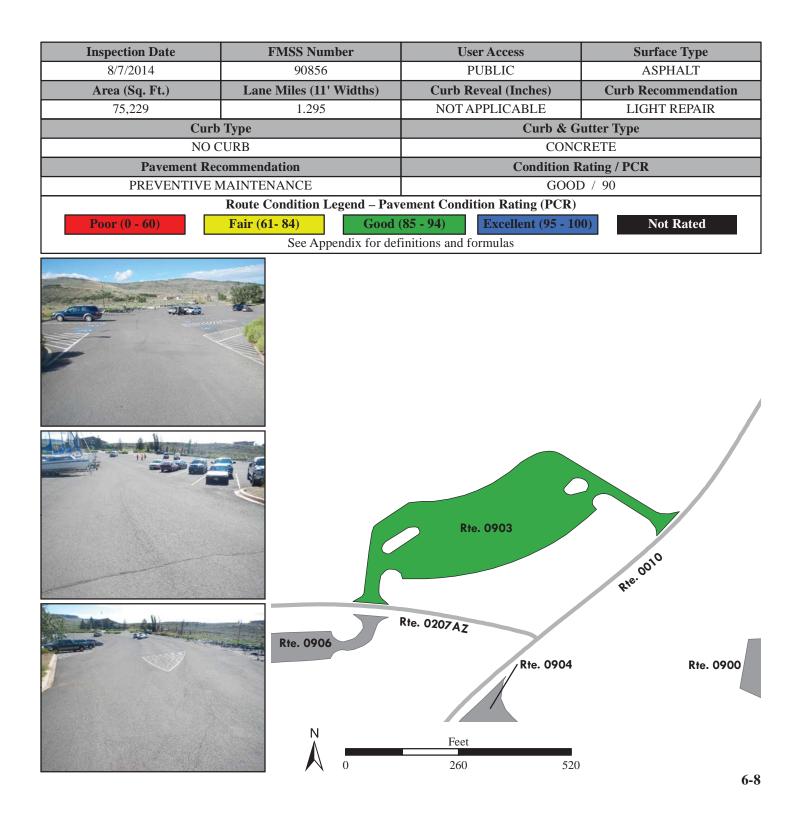


Curecanti National Recreation Area ROUTE 0903: VISITOR CENTER PARKING

Manual Rating

FROM ROUTE 0010 (ELK CREEK ENTRANCE ROAD)

TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS) ON RIGHT

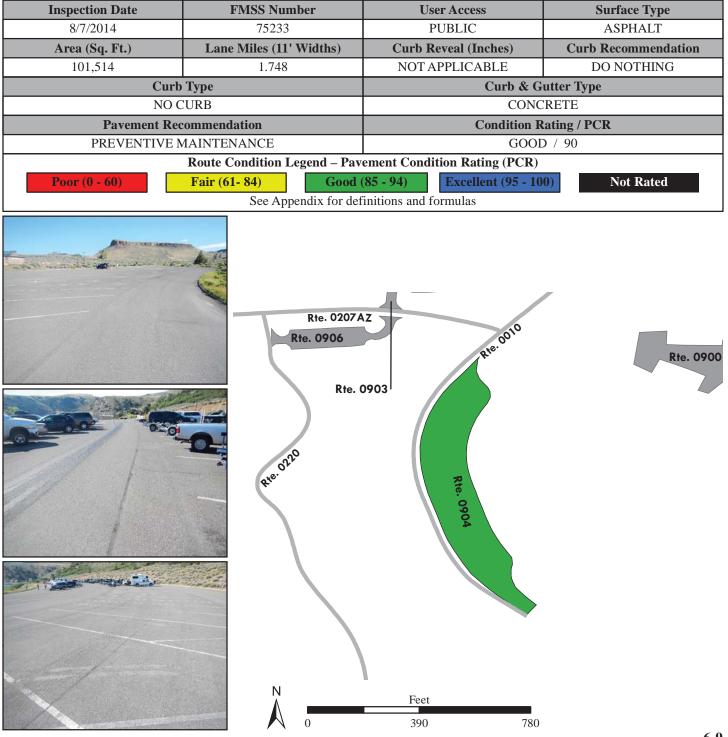


ROUTE 0904: MARINA PARKING

Manual Rating

FROM ROUTE 0010 (ELK CREEK ENTRANCE ROAD)

TO BOAT RAMP

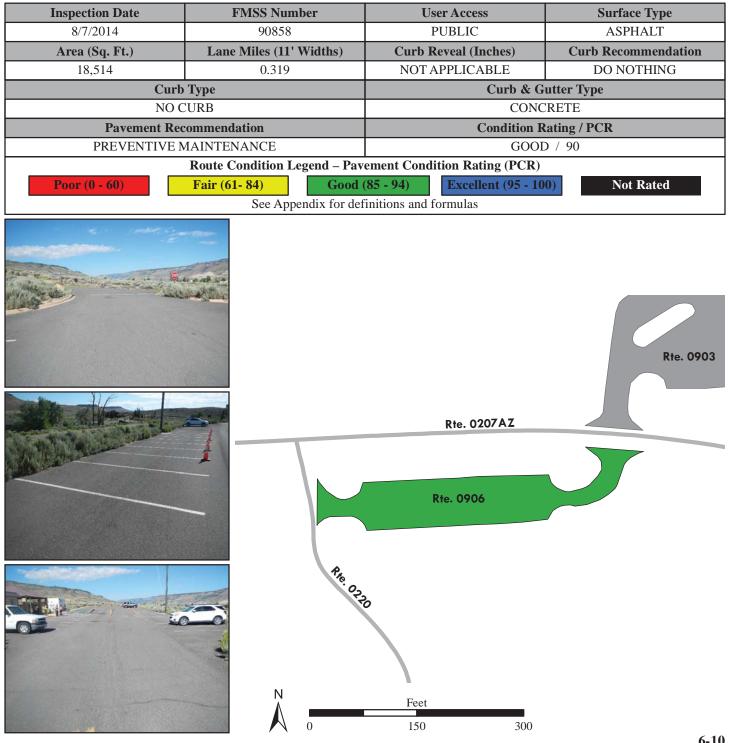


Curecanti National Recreation Area ROUTE 0906: ELK CREEK PICNIC AREA PARKING

Manual Rating

FROM ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)

TO ROUTE 0220 (ELK CREEK SERVICE ROAD) ON LEFT

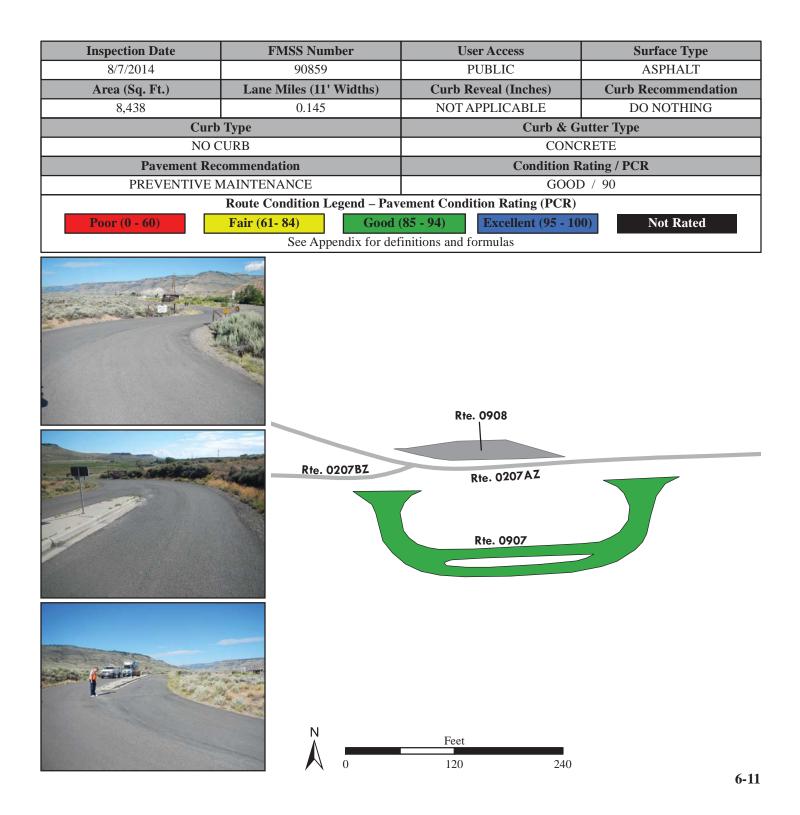


ROUTE 0907: RV SEWER DUMP STATION

Manual Rating

FROM ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)

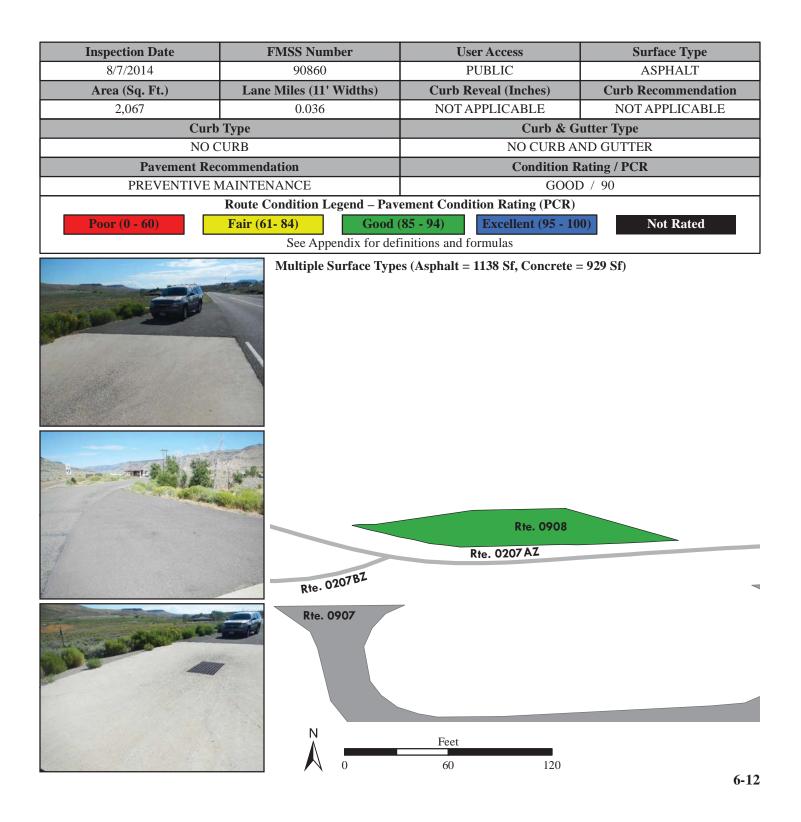
TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)



ROUTE 0908: WASH STATION

Manual Rating

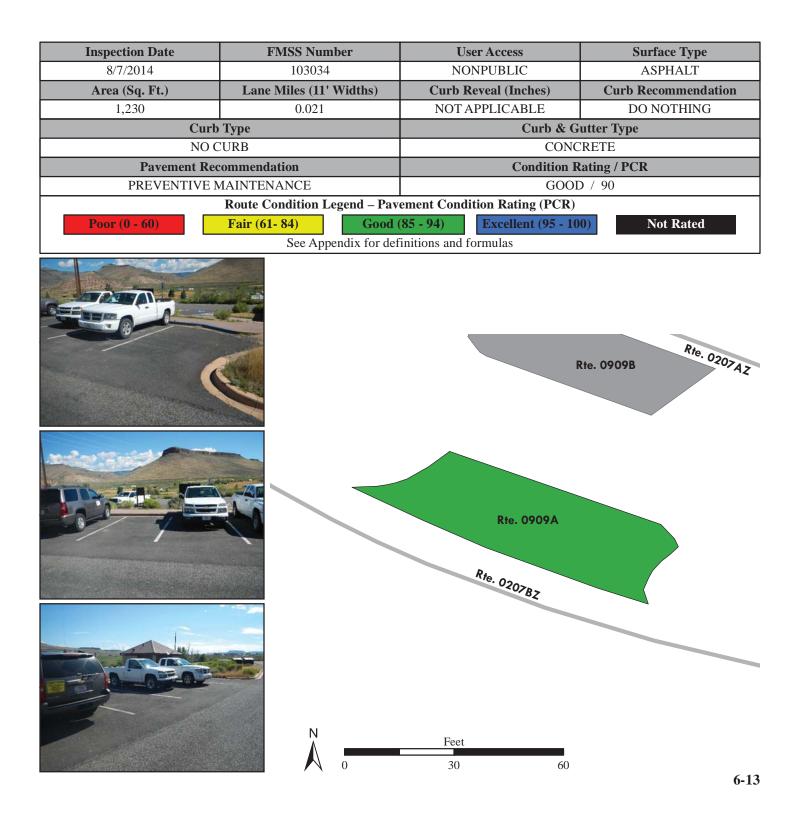
ADJACENT TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)



ROUTE 0909A: KIOSK PARKING A

Manual Rating

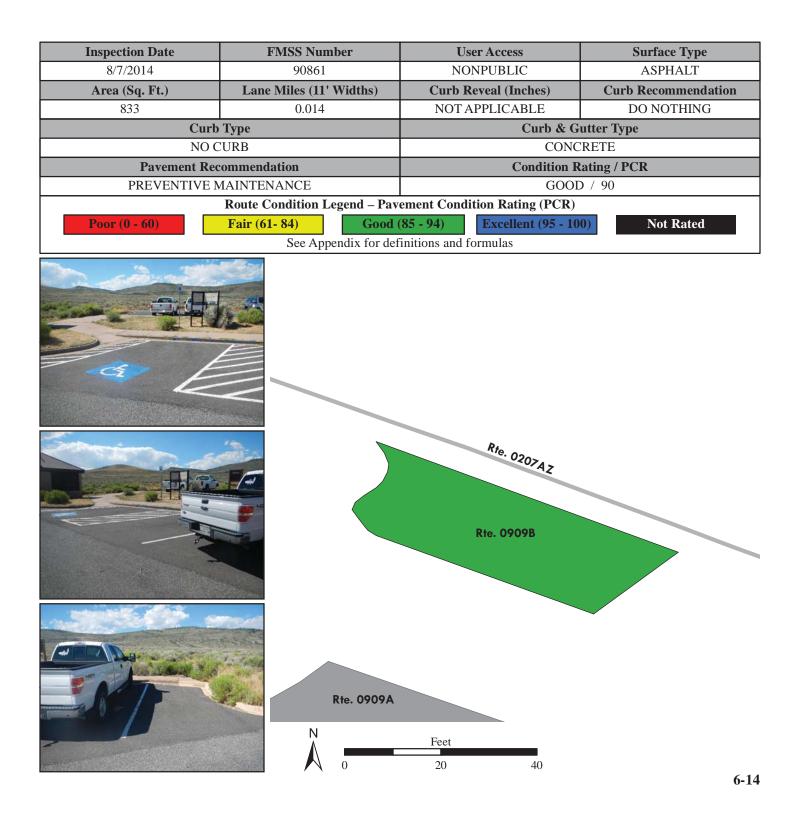
ADJACENT TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)



Curecanti National Recreation Area ROUTE 0909B: KIOSK PARKING B

Manual Rating

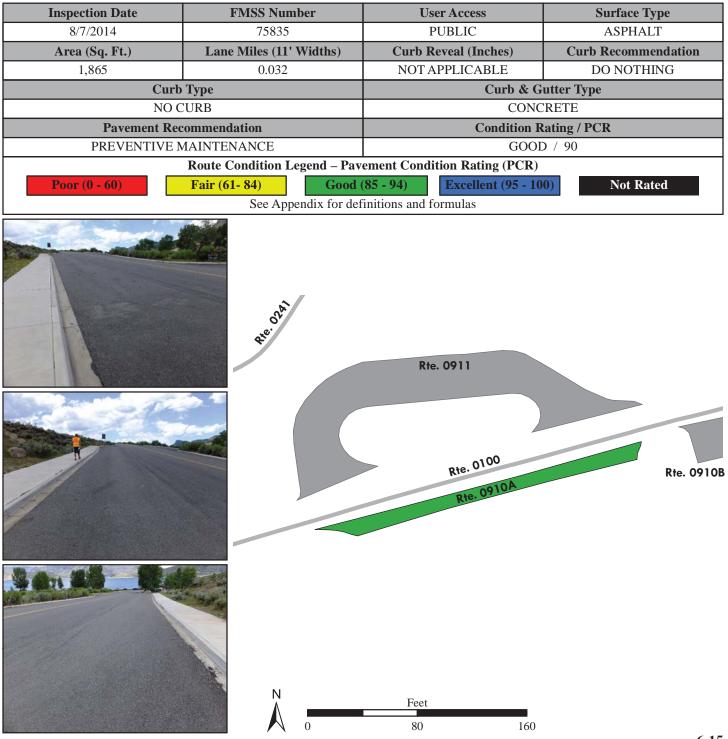
ADJACENT TO ROUTE 0207ZZ (ELK CREEK CAMPGROUND ROADS)



Curecanti National Recreation Area ROUTE 0910A: LAKE FORK VISITOR CENTER PARKING A

Manual Rating

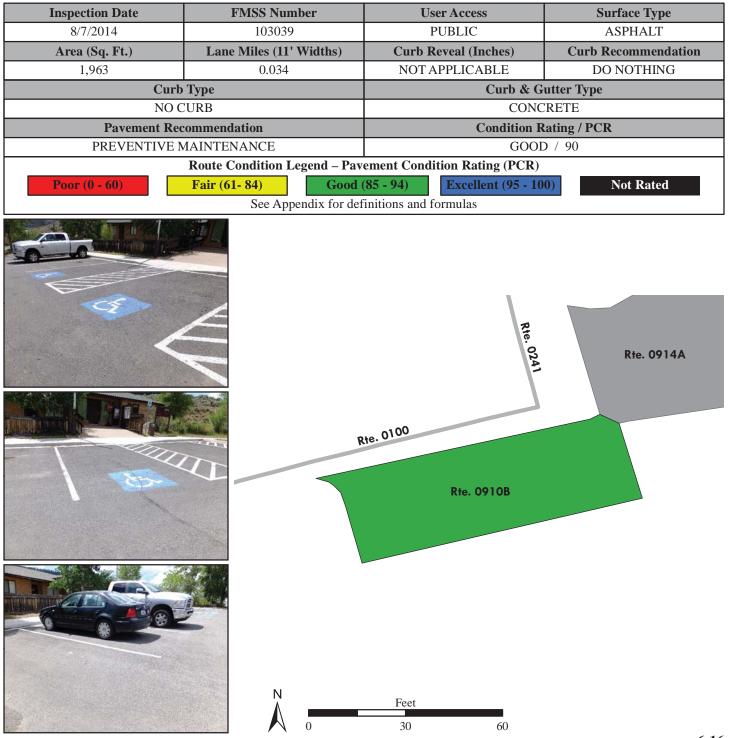
ADJACENT TO ROUTE 0100 (LAKE FORK CAMPGROUND ROAD)



Curecanti National Recreation Area ROUTE 0910B: LAKE FORK VISITOR CENTER PARKING B

Manual Rating

ADJACENT TO ROUTE 0100 (LAKE FORK CAMPGROUND ROAD)

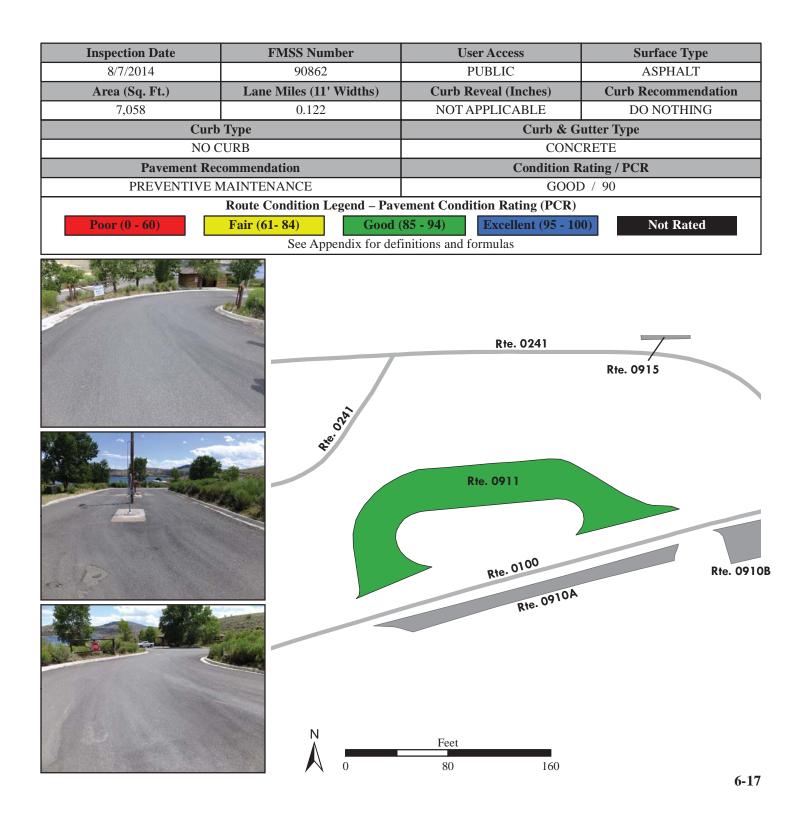


ROUTE 0911: RV DUMP STATION

Manual Rating

FROM ROUTE 0100 (LAKE FORK CAMPGROUND ROAD)

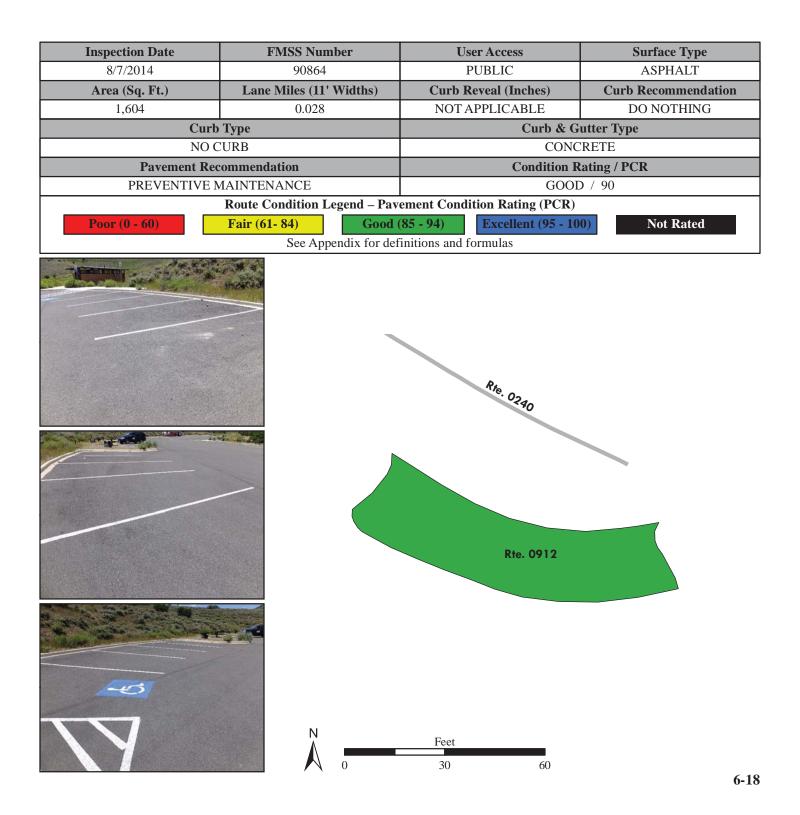
TO ROUTE 0100 (LAKE FORK CAMPGROUND ROAD)



Curecanti National Recreation Area ROUTE 0912: LAKE FORK LOWER CAMPGROUND LOOP PARKING

Manual Rating

ADJACENT TO ROUTE 0240 (LAKE FORK LOWER CAMPGROUND ROAD)

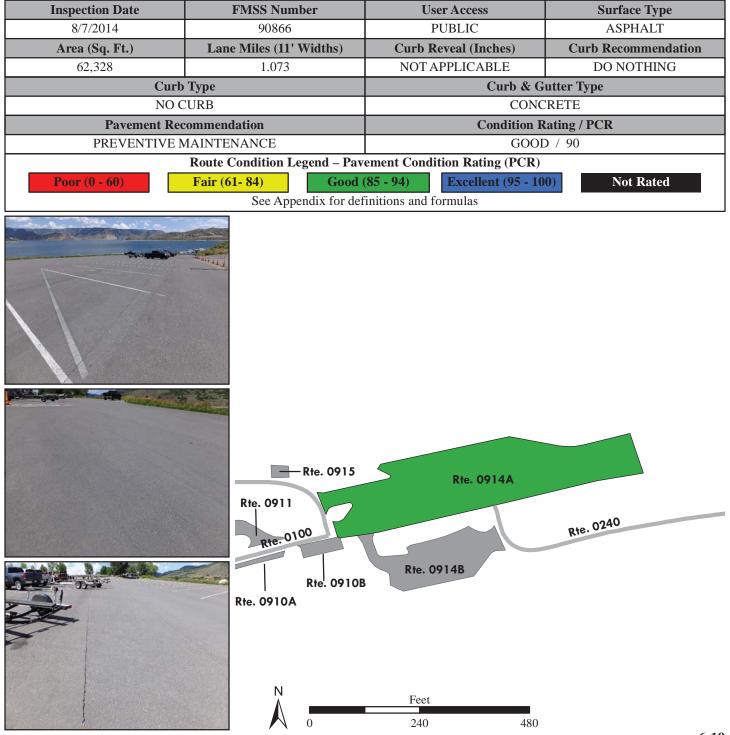


Curecanti National Recreation Area ROUTE 0914A: LAKE FORK MARINA PARKING A

Manual Rating

FROM END OF ROUTE 0100 (LAKE FORK CAMPGROUND ROAD) AND ROUTE 0241 (LAKE FORK UPPER CAMPGROUND LOOP)

TO BOAT RAMP

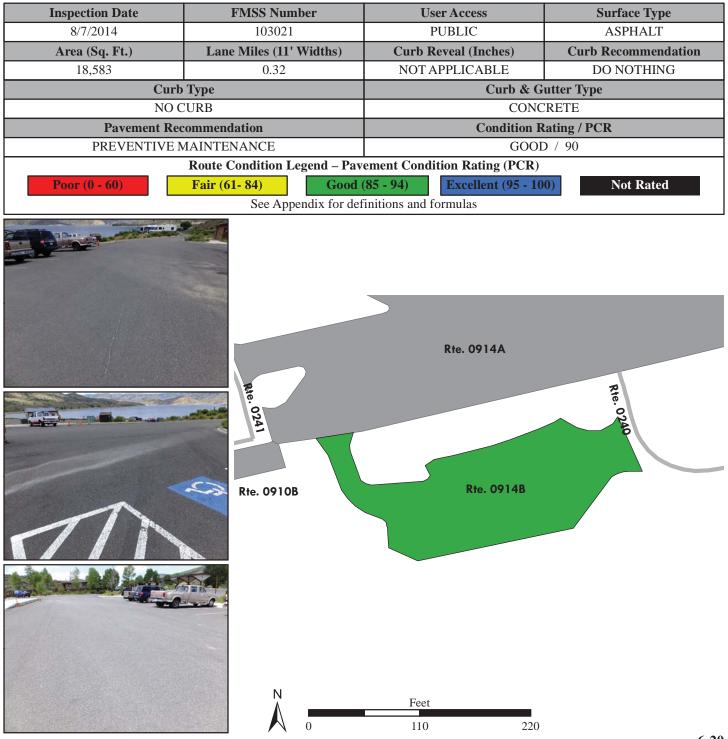


Curecanti National Recreation Area ROUTE 0914B: LAKE FORK MARINA PARKING B

Manual Rating

FROM ROUTE 0914A (LAKE FORK MARINA PARKING A)

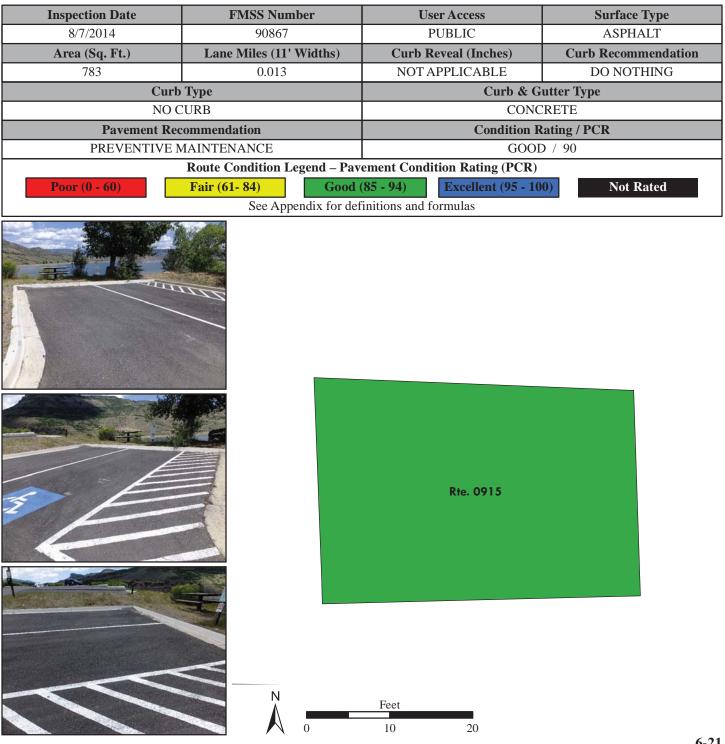
TO ROUTE 0240 (LAKE FORK LOWER CAMPGROUND ROAD)



Curecanti National Recreation Area ROUTE 0915: LAKE FORK HANDICAP PARKING

Manual Rating

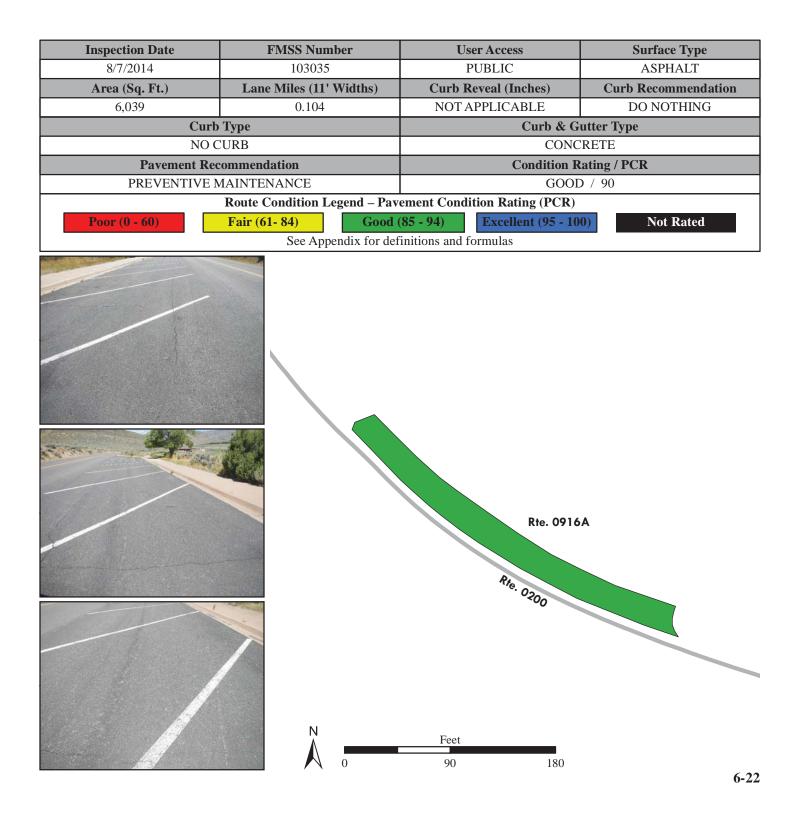
ADJACENT TO ROUTE 0241 (LAKE FORK UPPER CAMPGROUND LOOP)



ROUTE 0916A: IOLA PARKING A

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Manual Rating
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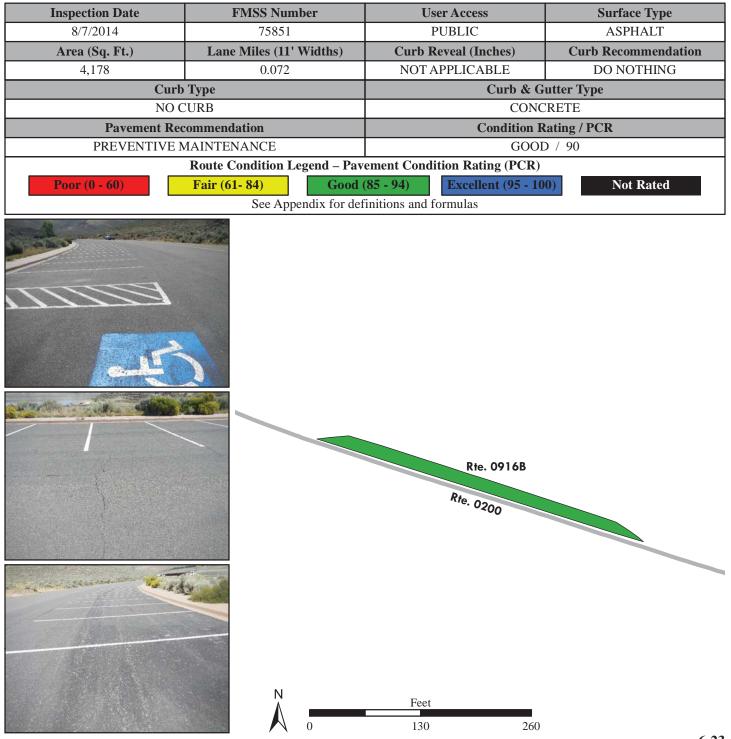
ADJACENT TO ROUTE 0200 (IOLA ROAD)



Curecanti National Recreation Area ROUTE 0916B: IOLA PARKING B

Manual Rating

ADJACENT TO ROUTE 0200 (IOLA ROAD)

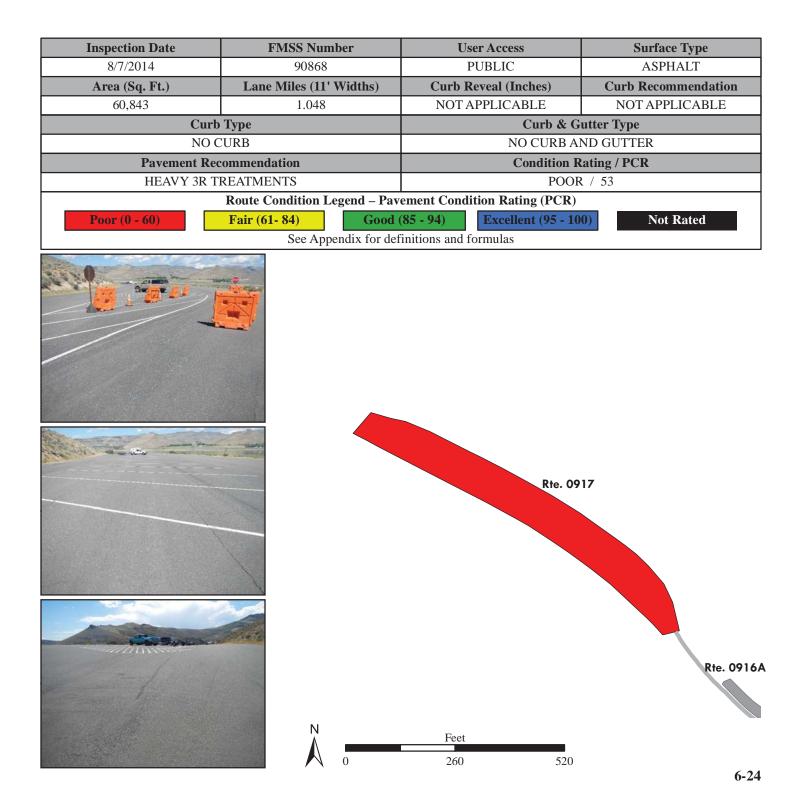


ROUTE 0917: IOLA BOAT PARKING

Manual Rating

FROM END OF ROUTE 0200 (IOLA ROAD)

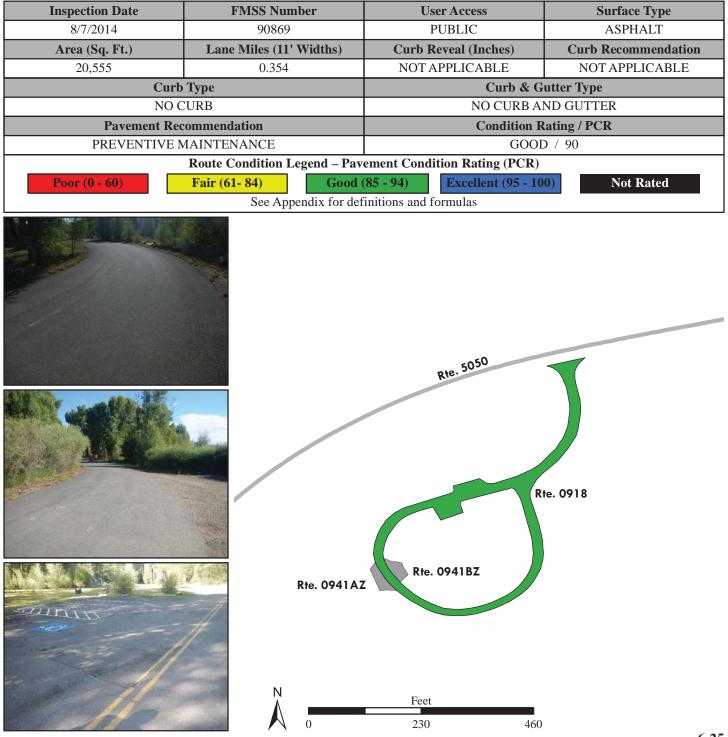
TO BOAT RAMP



ROUTE 0918: NEVERSINK PARKING

Manual Rating

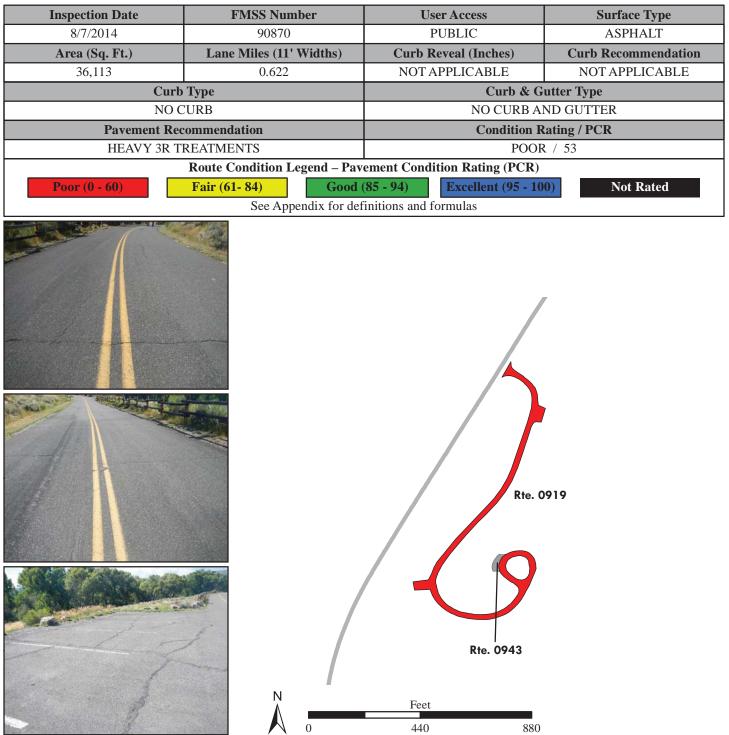
FROM ROUTE 5050 (US HIGHWAY 50)



Curecanti National Recreation Area ROUTE 0919: COOPER RANCH PARKING

Manual Rating

FROM ROUTE 5050 (US HIGHWAY 50)

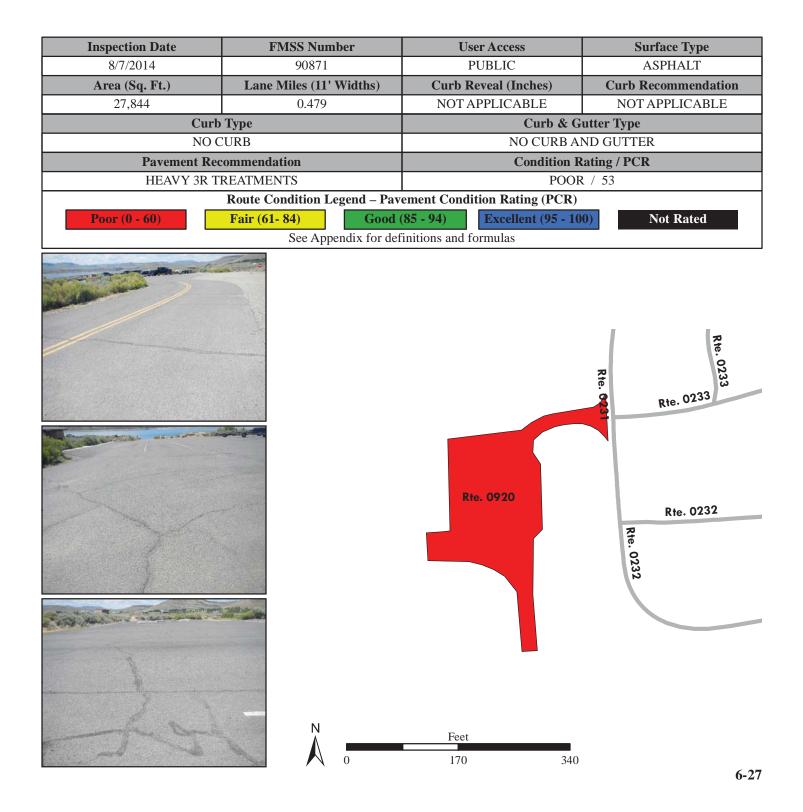


ROUTE 0920: NEW STEVENS CREEK PARKING

Manual Rating

FROM ROUTE 0231 (NEW STEVENS CREEK CAMPGROUND ROAD)

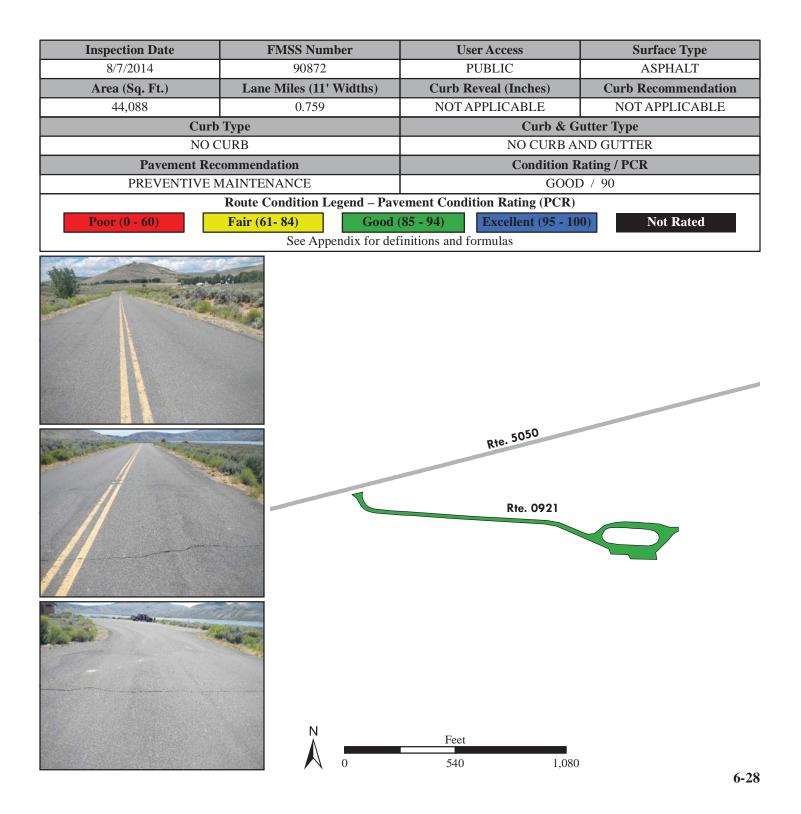
TO BOAT RAMP



Curecanti National Recreation Area ROUTE 0921: OLD STEVENS CREEK PARKING

Manual Rating

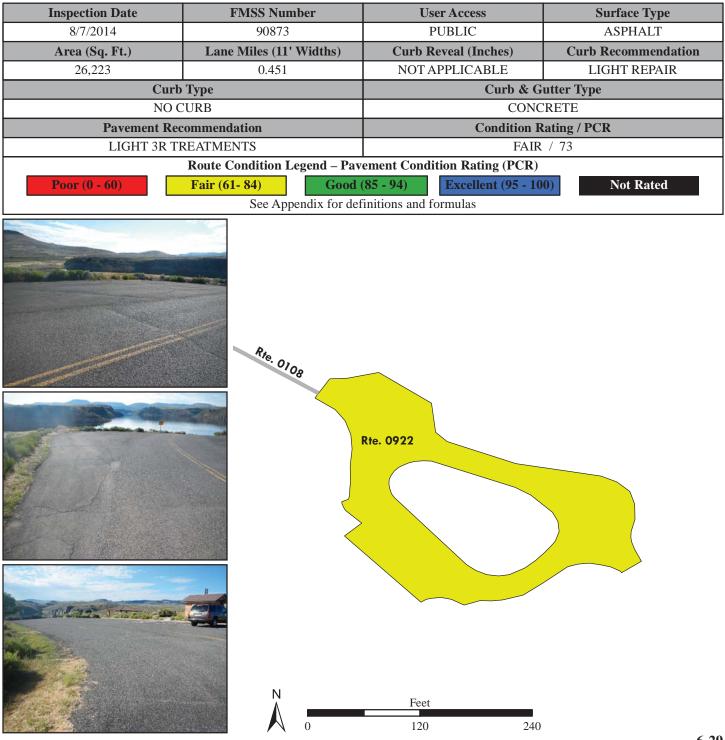
FROM ROUTE 5050 (US HIGHWAY 50)



Curecanti National Recreation Area ROUTE 0922: DRY CREEK PARKING

Manual Rating

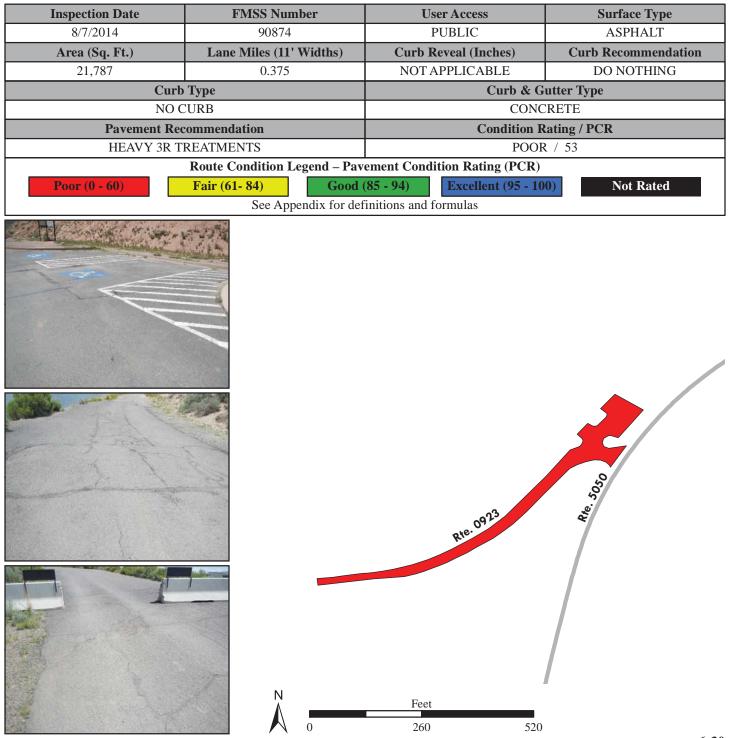
FROM END OF ROUTE 0108 (DRY CREEK ROAD)



Curecanti National Recreation Area ROUTE 0923: DILLON PINNACLES PARKING

Manual Rating

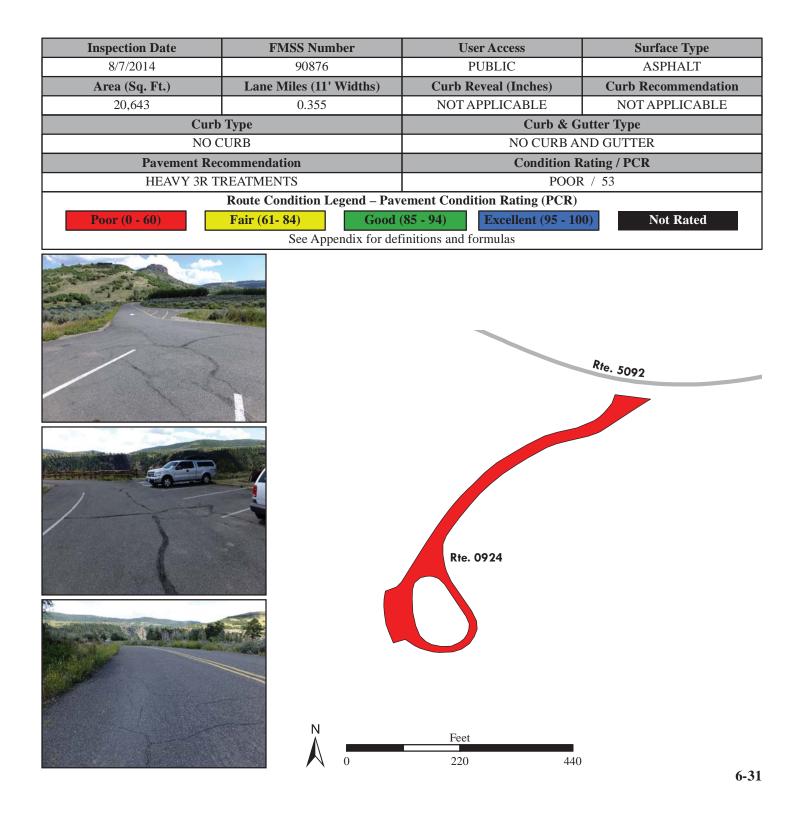
FROM ROUTE 5050 (US HIGHWAY 50)



Curecanti National Recreation Area ROUTE 0924: PIONEER POINT PARKING

Manual Rating

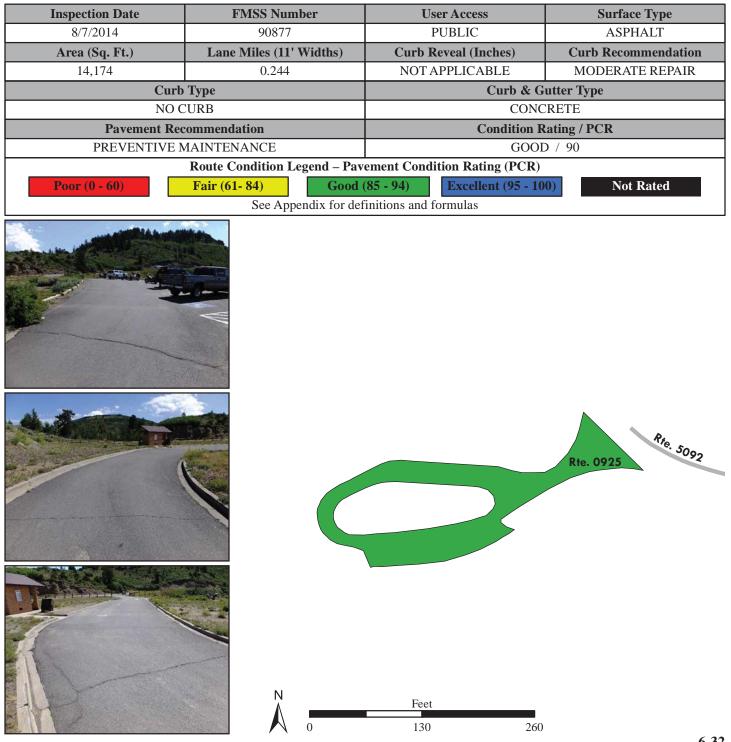
FROM ROUTE 5092 (STATE HIGHWAY 92)



Curecanti National Recreation Area ROUTE 0925: HERMITS REST LOOKOUT

Manual Rating

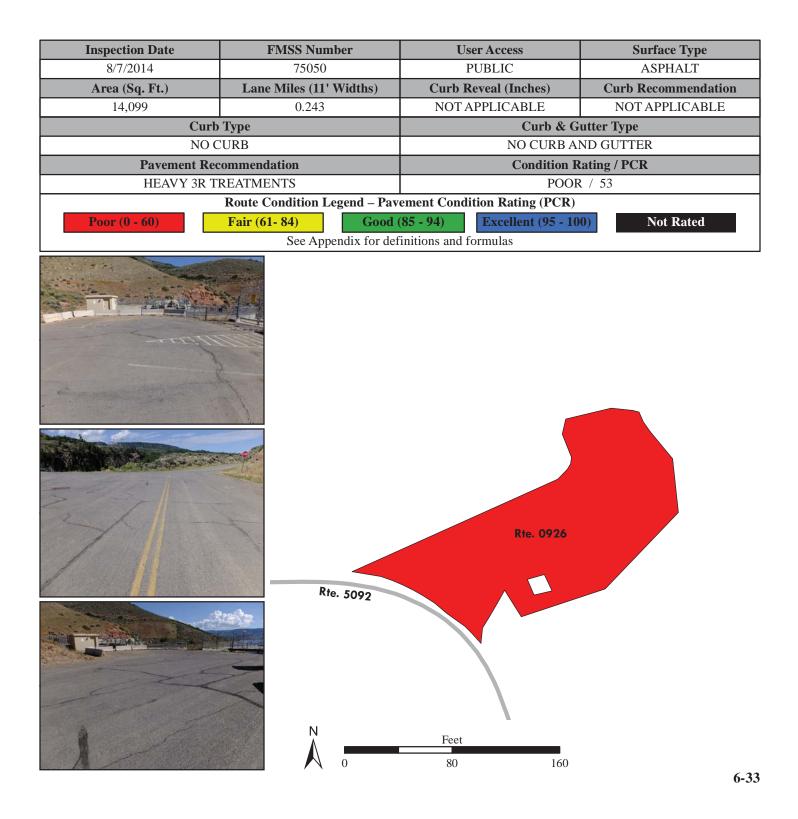
FROM ROUTE 5092 (STATE HIGHWAY 92)



Curecanti National Recreation Area ROUTE 0926: BLUE MESA DAM PARKING

Manual Rating

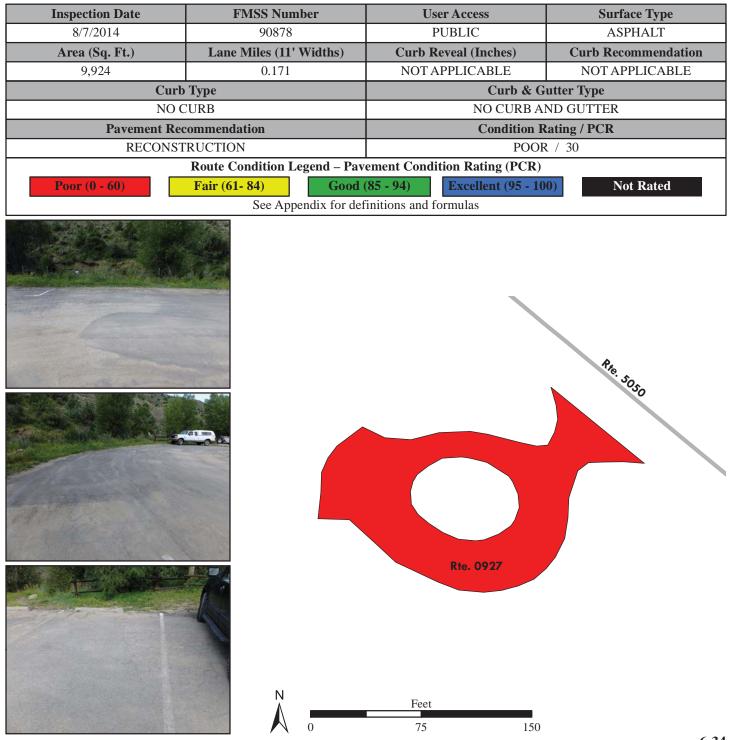
FROM ROUTE 5092 (STATE HIGHWAY 92)



Curecanti National Recreation Area ROUTE 0927: EAST CIMARRON PARKING

Manual Rating

FROM ROUTE 5050 (US HIGHWAY 50)

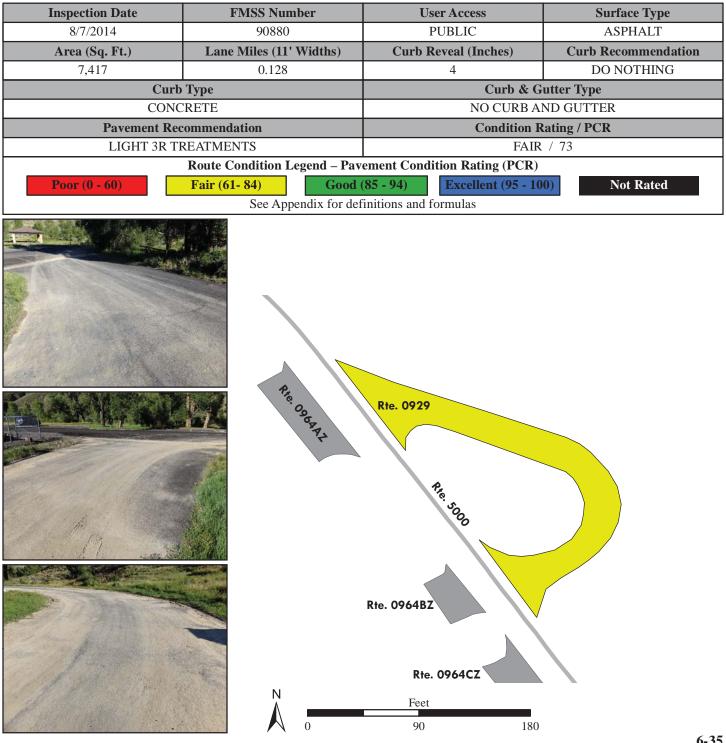


Curecanti National Recreation Area ROUTE 0929: CIMARRON DUMP STATION

Manual Rating

FROM ROUTE 5000 (MORROW POINT DAM ROAD)

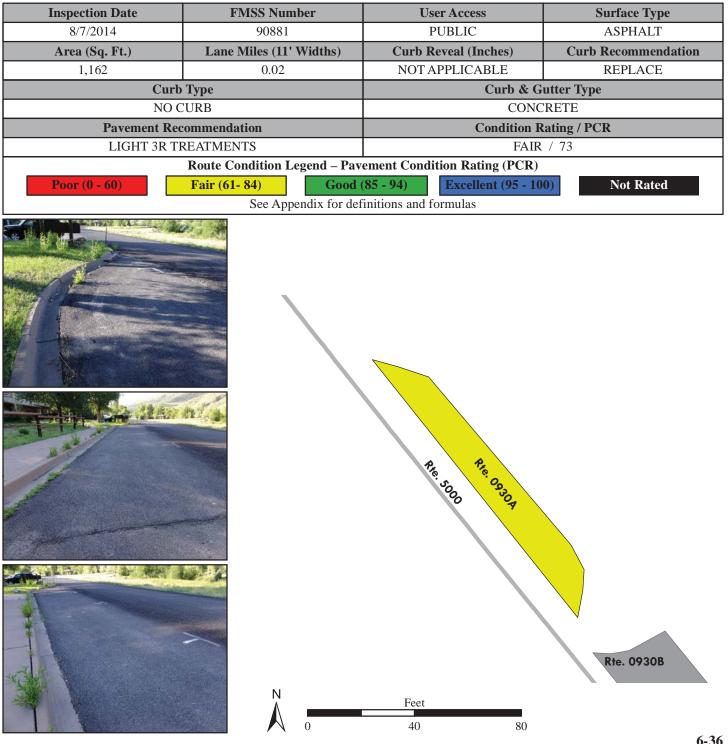
TO ROUTE 5000 (MORROW POINT DAM ROAD)



Curecanti National Recreation Area ROUTE 0930A: CIMARRON VISITOR CENTER PARKING A

Manual Rating

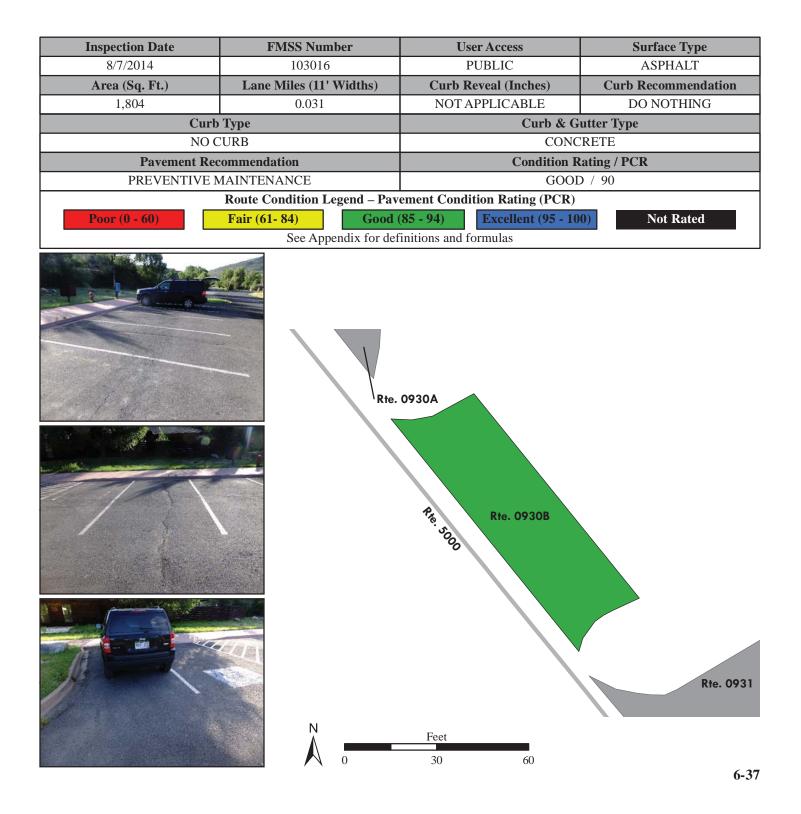
ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)



Curecanti National Recreation Area ROUTE 0930B: CIMARRON VISITOR CENTER PARKING B

Manual Rating

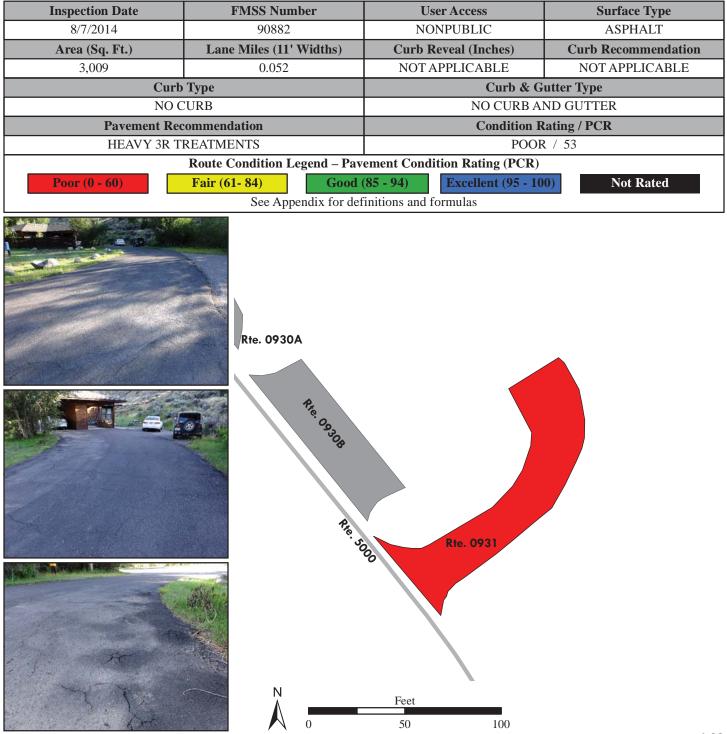
ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)



Curecanti National Recreation Area ROUTE 0931: CIMARRON EMPLOYEE PARKING

Manual Rating

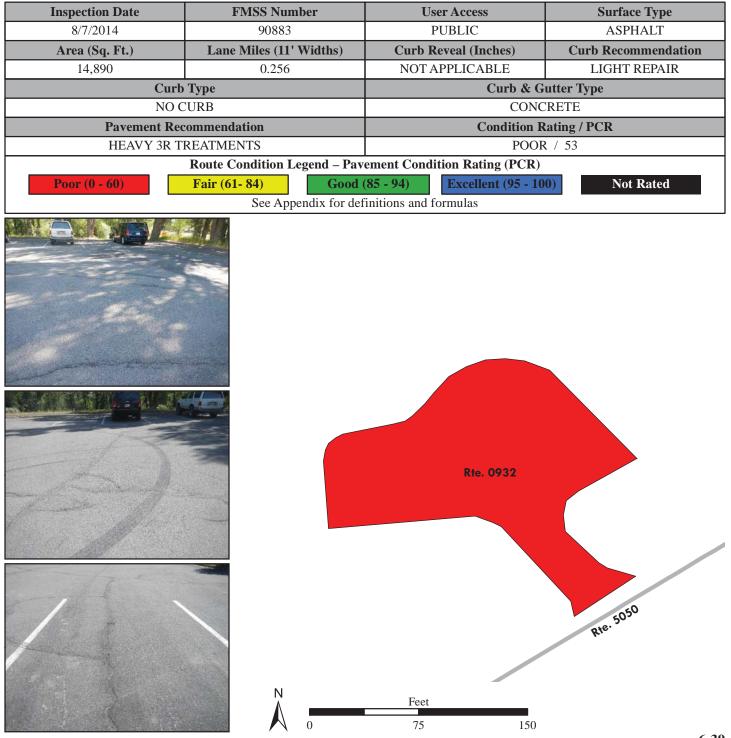
FROM ROUTE 5000 (MORROW POINT DAM ROAD)



Curecanti National Recreation Area ROUTE 0932: BEAVER CREEK PARKING

Manual Rating

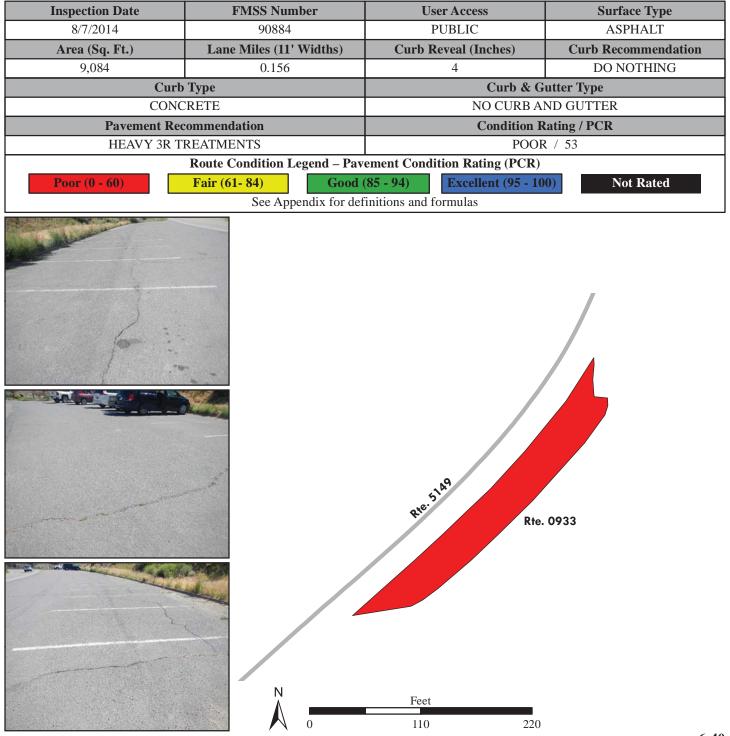
FROM ROUTE 5050 (US HIGHWAY 50)



Curecanti National Recreation Area ROUTE 0933: LAKE CITY BRIDGE PARKING

Manual Rating

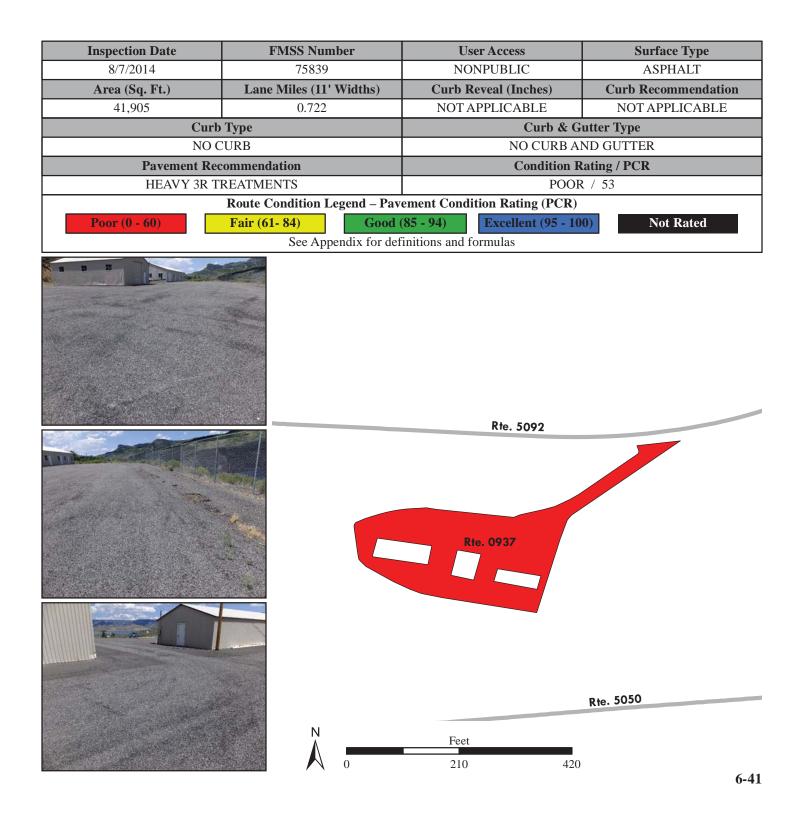
ADJACENT TO ROUTE 5149 (STATE HIGHWAY 149)



Curecanti National Recreation Area ROUTE 0937: LAKE FORK MAINTENANCE AREA

Manual Rating

FROM ROUTE 5092 (STATE HIGHWAY 92)

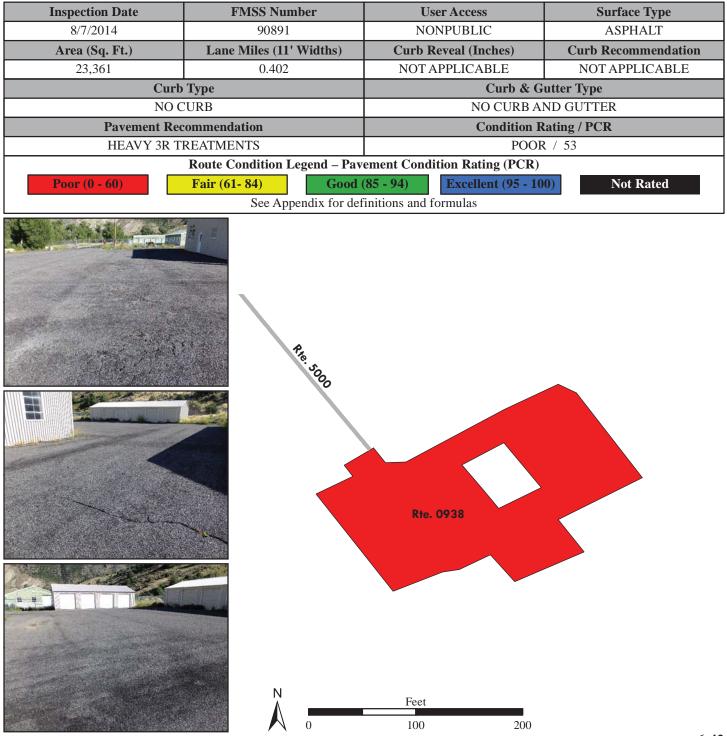


Curecanti National Recreation Area

ROUTE 0938: CIMARRON MAINTENANCE AREA

Manual Rating

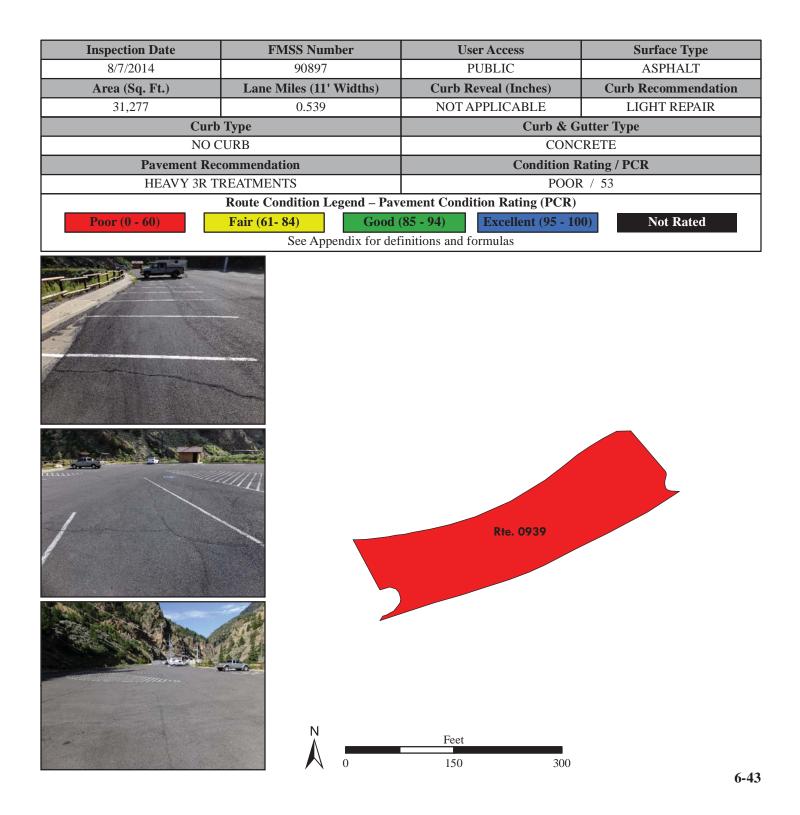
FROM BEGIN ROUTE 5000 (MORROW POINT DAM ROAD)



Curecanti National Recreation Area ROUTE 0939: MORROW POINT DAM PICNIC AREA

Manual Rating

FROM MORROW POINT DAM ROAD



Curecanti National Recreation Area

ROUTE 0941ZZ: NEVERSINK PARKING AREAS

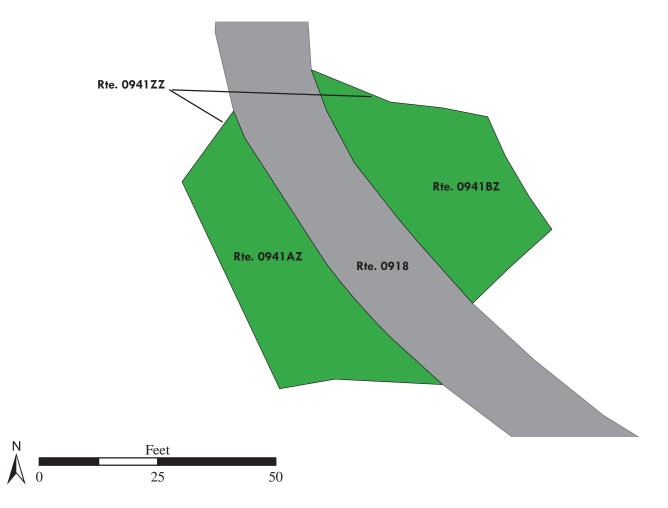
Summary Route Manual Rating

FROM ROUTE 0918 (NEVERSINK PARKING) ON LEFT AND RIGHT

TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type			
8/7/2014	90899	PUBLIC	ASPHALT			
Area (Sq. Ft.)	Lane Miles (11' Widths)	Condition R	ating / PCR			
1,821	0.031	SUMMARY / 90				
	Route Condition Legend – Pavement Condition Rating (PCR)					
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated			
See Appendix for definitions and formulas						

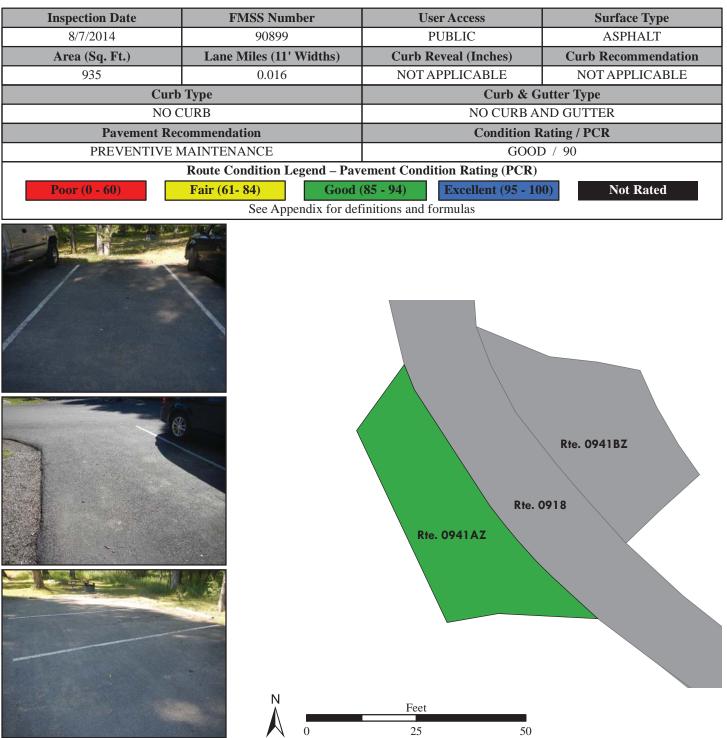
The condition shown on this page reflects the overall route condition and may not reflect individual subcomponent ratings.



Curecanti National Recreation Area ROUTE 0941AZ: NEVERSINK PARKING AREA A

Subcomponent of Route CURE-0941ZZ Manual Rating

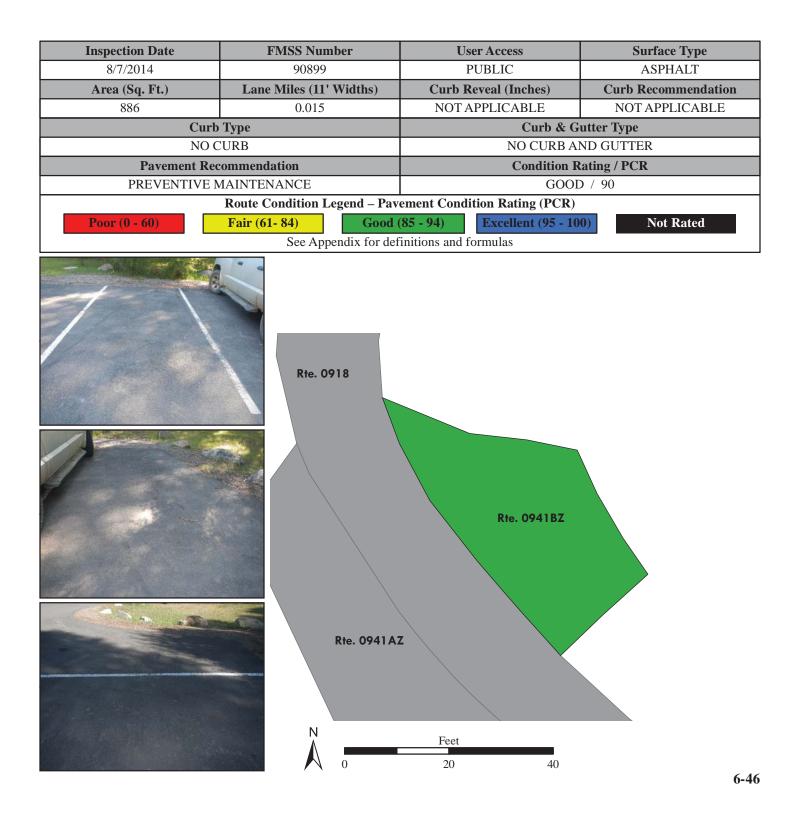
FROM ROUTE 0918 (NEVERSINK PARKING) ON RIGHT



Curecanti National Recreation Area ROUTE 0941BZ: NEVERSINK PARKING AREA B

Subcomponent of Route CURE-0941ZZ Manual Rating

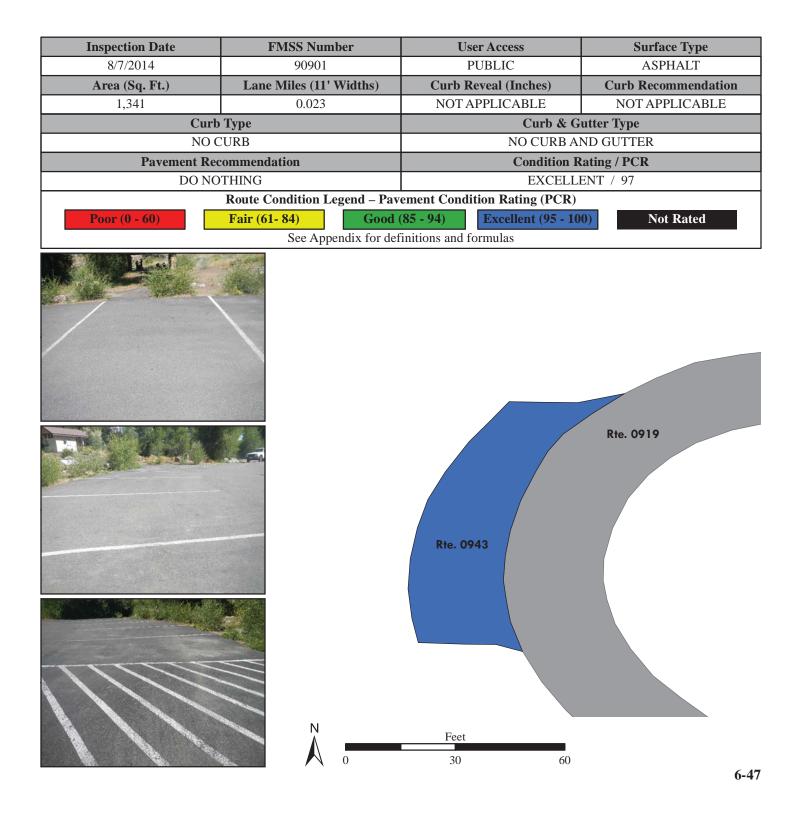
FROM ROUTE 0918 (NEVERSINK PARKING) ON LEFT



Curecanti National Recreation Area ROUTE 0943: COOPER RANCH COMFORT STATION PARKING

Manual Rating

ADJACENT TO ROUTE 0919 (COOPER RANCH PARKING)

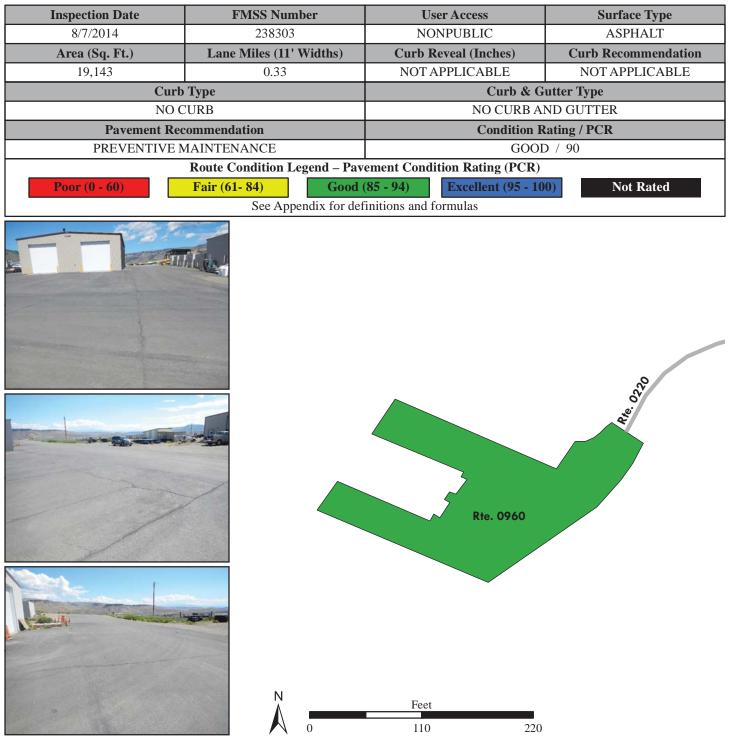


Curecanti National Recreation Area

ROUTE 0960: WAREHOUSE STORAGE AREA

Manual Rating

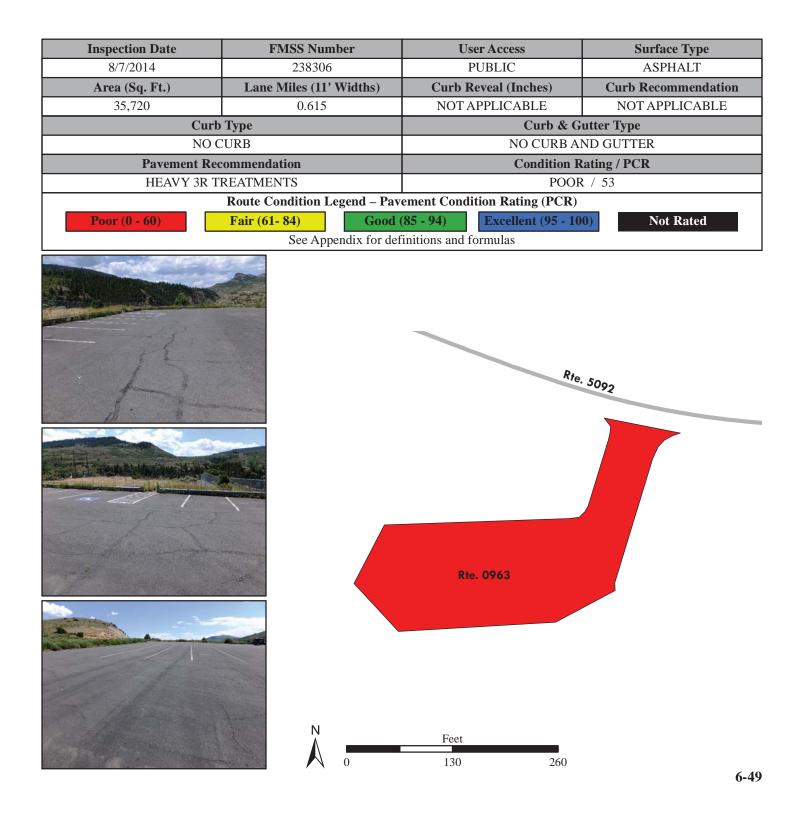
FROM END OF ROUTE 0220 (ELK CREEK SERVICE ROAD)



Curecanti National Recreation Area ROUTE 0963: BLUE MESA OVERLOOK PARKING

Manual Rating

FROM ROUTE 5092 (STATE HIGHWAY 92)



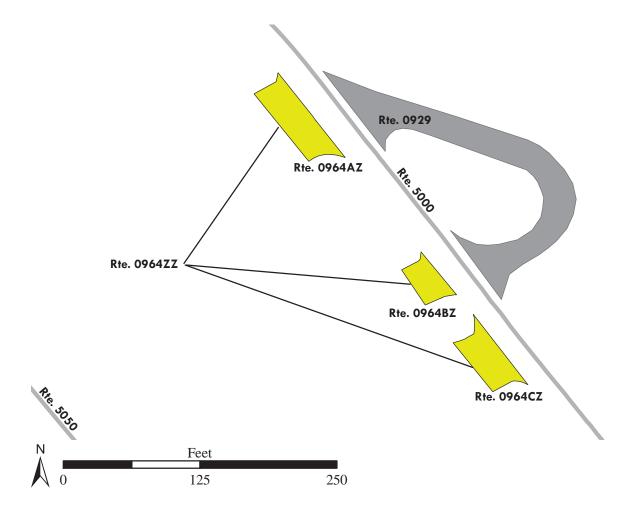
Curecanti National Recreation Area ROUTE 0964ZZ: CIMARRON PARKING LOTS

Summary Route Manual Rating

ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)

Inspection Date	FMSS Number	User Access	Surface Type	
8/7/2014	N/A	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Condition R	ating / PCR	
4,145	0.071	SUMMARY / 81		
	Route Condition Legend – Pav	ement Condition Rating (PCR)		
Poor (0 - 60)	Fair (61- 84) Good	(85 - 94) Excellent (95 - 10	0) Not Rated	
	See Appendix for def	initions and formulas		

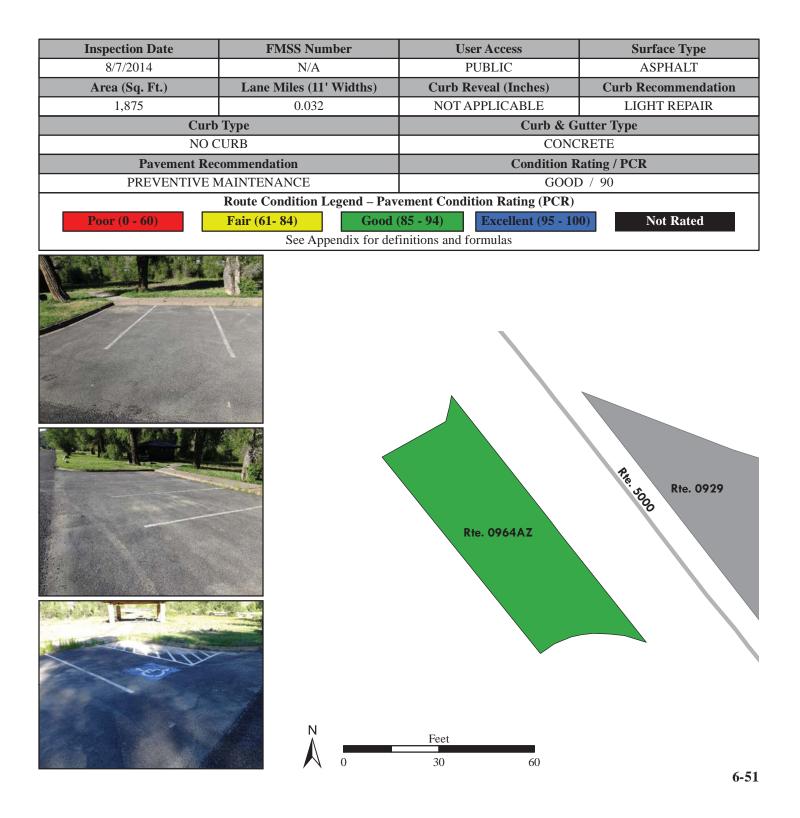
The condition shown on this page reflects the overall route condition and may not reflect individual subcomponent ratings.



Curecanti National Recreation Area ROUTE 0964AZ: CIMARRON PICNIC PAVILLION PARKING

Subcomponent of Route CURE-0964ZZ Manual Rating

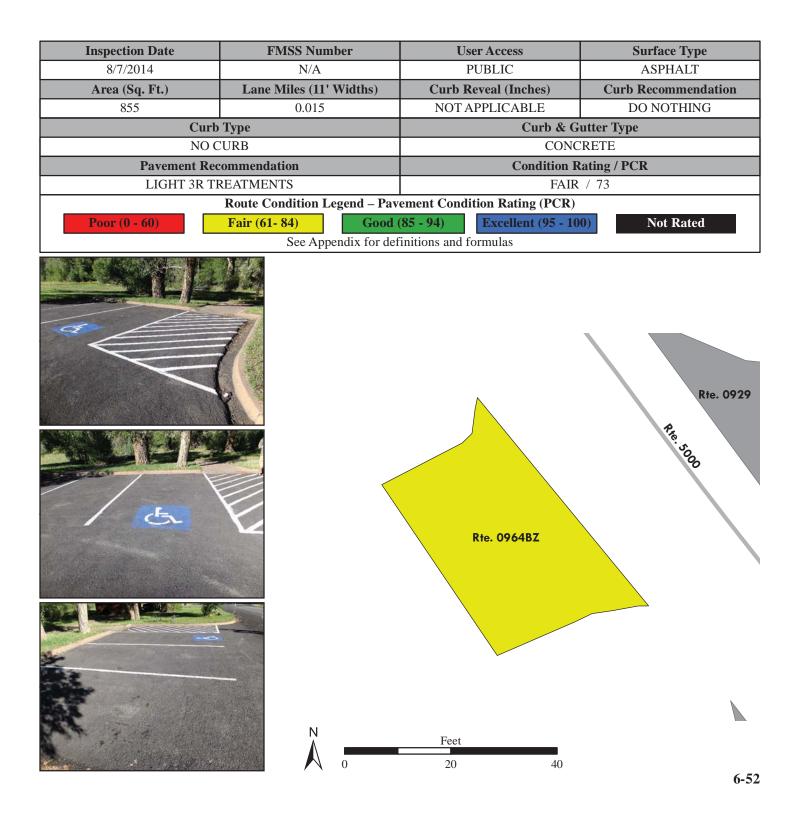
ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)



Curecanti National Recreation Area ROUTE 0964BZ: CIMARRON CS WEST PARKING

Subcomponent of Route CURE-0964ZZ Manual Rating

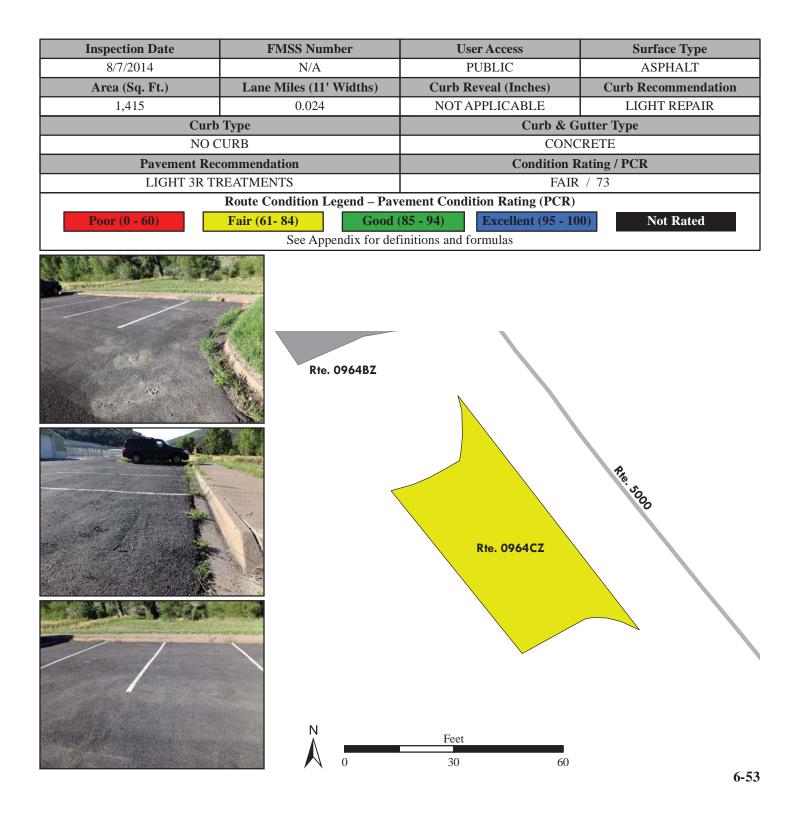
ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)



Curecanti National Recreation Area ROUTE 0964CZ: CIMARRON CS EAST PARKING

Subcomponent of Route CURE-0964ZZ Manual Rating

ADJACENT TO ROUTE 5000 (MORROW POINT DAM ROAD)



Section 7 Road Milepost Information



Curecanti National Recreation Area



Road Milepost Information

This report section contains road milepost information for all paved roads in the park that were collected with the Data Collection Vehicle (DCV).

The milepost data is obtained from the DCV by using a distance measuring instrument (DMI) that is calibrated to record mileage to the nearest thousandth of a mile. Park roads that were manually rated did not have milepost data collected, and thus are not included in this report section. For routes that have mileposts signs along them, the milepost reported by RIP will most likely not line up exactly with the sign located in the field. This could be happening for many reasons, most likely due to either the error falling within the acceptable calibration range of the vehicle, or the level of accuracy that the milepost signs were placed in the field.

For Cycle 6, the information presented in this section differs from previous RIP cycles in that it does not contain the roadside features inventories for the paved park roads. Some examples of the features previously collected are signs, culverts/drop inlets, guardrails, curbing, pullouts, etc. If the park was collected in a previous RIP cycle, then the latest features data can be obtained by referencing the following:

Where to find the latest Features Inventories for NPS Parks:

- For Small Parks (parks with less than 10 miles of paved roads):
 - Refer to Cycle 5 data (collected 2010 2014)
 - Features were reported in Section 9 of the *Cycle 5* RIP report
 - Video of features can be viewed using the *PathViewVO* program and *Cycle 5* data
- For Large Parks (parks with more than 10 miles of paved roads):
 - Refer to Cycle 4 data (collected 2006 2009)
 - Features were reported in Section 9 of the *Cycle 4* RIP report
 - Video of features can be viewed using the *VisiData* program and *Cycle 4* data
 - Note: Features inventories were updated in Large Parks in *Cycle 5* only on a route by route basis if the route was new or modified in *Cycle 5*. If this is the case for a particular route, then features for the route can be obtained using the *PathViewVO* program and *Cycle 5* data (same as above for Small parks).

Milepost Events Collected in Cycle 6

In Cycle 6, the following events were collected and reported in Section 7 of this report:

- Intersections with roads and parking areas
- One-Way travel directions
- All bridges and culverts with BIP Numbers (bridge inspection program numbers)
- Overpasses
- Tunnels
- Low Water Crossings (LWCR)
- Surface type changes
- Construction areas where no pavement condition data was obtained

ROUTE 0010: ELK CREEK ENTRANCE ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 5050 (US HIGHWAY 50)
0.00	0.00	INTERSECTION	L	ROUTE 5050 (US HIGHWAY 50)
0.14	0.14	INTERSECTION	L	ROUTE 0400 (ELK CREEK MAINTENANCE ROAD)
0.29	0.29	INTERSECTION	R	ROUTE 0903 (VISITOR CENTER PARKING)
0.36	0.36	INTERSECTION	R	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.40	0.40	INTERSECTION	L	ROUTE 0904 (MARINA PARKING)
0.58	0.58	INTERSECTION	N/A	NPS BOAT RAMP

ROUTE 0100: LAKE FORK CAMPGROUND ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 5092 (STATE HIGHWAY 92)
0.00	0.00	INTERSECTION	R	ROUTE 5092 (STATE HIGHWAY 92)
0.13	0.13	INTERSECTION	L	ROUTE 0911 (RV DUMP STATION)
0.14	0.14	INTERSECTION	R	ROUTE 0910A (LAKE FORK VISITOR CENTER PARKING A)
0.15	0.15	INTERSECTION	L	ROUTE 0911 (RV DUMP STATION)
0.17	0.17	INTERSECTION	R	ROUTE 0910B (LAKE FORK VISITOR CENTER PARKING B)
0.17	0.17	INTERSECTION	L	ROUTE 0241 (LAKE FORK UPPER CAMPGROUND LOOP)
0.18	0.18	INTERSECTION	N/A	ROUTE 0914A (LAKE FORK MARINA PARKING A)

ROUTE 0108: DRY CREEK ROAD

FROM MILEPOS	TO ST MILEPOST	Γ FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 5050 (US HIGHWAY 50)
0.00	0.00	INTERSECTION	R	ROUTE 5050 (US HIGHWAY 50)
0.16	0.16	INTERSECTION	N/A	ROUTE 0922 (DRY CREEK PARKING)

ROUTE 0200: IOLA ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 5149 (STATE HIGHWAY 149)
0.00	0.00	INTERSECTION	L	ROUTE 5149 (STATE HIGHWAY 149)
0.10	0.10	INTERSECTION	R	ROUTE 0916B (IOLA PARKING B)
0.16	0.16	INTERSECTION	R	ROUTE 0916A (IOLA PARKING A)
0.16	0.16	INTERSECTION	L	ROUTE 0406 (IOLA WATER TANK ROAD)
0.22	0.22	INTERSECTION	N/A	ROUTE 0917 (IOLA BOAT PARKING)

ROUTE 0207AZ: ELK CREEK CAMPGROUND ROAD A

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0010 (ELK CREEK ENTRANCE ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0010 (ELK CREEK ENTRANCE ROAD)
0.06	0.06	INTERSECTION	R	ROUTE 0903 (VISITOR CENTER PARKING)
0.06	0.06	INTERSECTION	L	ROUTE 0906 (ELK CREEK PICNIC AREA PARKING)
0.13	0.13	INTERSECTION	L	ROUTE 0220 (ELK CREEK SERVICE ROAD)
0.19	0.19	INTERSECTION	L	ROUTE 0907 (RV SEWER DUMP STATION)
0.21	0.21	INTERSECTION	R	ROUTE 0908 (WASH STATION)
0.23	0.23	INTERSECTION	L	ROUTE 0207BZ (ELK CREEK CAMPGROUND ROAD B)
0.24	0.24	ONE-WAY START	N/A	N/A
0.25	0.25	INTERSECTION	L	PAVED CUT-THRU
0.28	0.28	INTERSECTION	L	ROUTE 0909B (KIOSK PARKING B)
0.30	0.30	INTERSECTION	L	PAVED CUT-THRU
0.31	0.31	ONE-WAY END	N/A	N/A
0.31	0.31	INTERSECTION	L	ROUTE 0207BZ (ELK CREEK CAMPGROUND ROAD B)
0.38	0.38	INTERSECTION	L	ROUTE 0226 (ELK CREEK CAMPGROUND LOOP A)
0.38	0.38	INTERSECTION	R	ROUTE 0229 (ELK CREEK CAMPGROUND LOOP D)
0.43	0.43	INTERSECTION	L	ROUTE 0227 (ELK CREEK CAMPGROUND LOOP B)
0.43	0.43	INTERSECTION	R	ROUTE 0228 (ELK CREEK CAMPGROUND LOOP C)
0.43	0.43	ONE-WAY START	N/A	N/A
0.46	0.46	INTERSECTION	N/A	ROUTE 0228 (ELK CREEK CAMPGROUND LOOP C)
0.46	0.46	ONE-WAY END	N/A	N/A
0.46	0.46	INTERSECTION	L	ROUTE 0227 (ELK CREEK CAMPGROUND LOOP B)

ROUTE 0207BZ: ELK CREEK CAMPGROUND ROAD B

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	L	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.03	0.03	INTERSECTION	L	PAVED CUT-THRU
0.05	0.05	INTERSECTION	L	ROUTE 0909A (KIOSK PARKING A)
0.07	0.07	INTERSECTION	L	PAVED CUT-THRU
0.10	0.10	INTERSECTION	L	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.10	0.10	INTERSECTION	N/A	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.10	0.10	INTERSECTION	R	ROUTE 0907 (RV SEWER DUMP STATION)
0.10	0.10	ONE-WAY END	N/A	N/A

ROUTE 0220: ELK CREEK SERVICE ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.00	0.00	INTERSECTION	L	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.02	0.02	INTERSECTION	L	ROUTE 0906 (ELK CREEK PICNIC AREA PARKING)
0.34	0.34	INTERSECTION	R	ROUTE 0403 (ELK CREEK WATER TANK ROAD)
0.34	0.34	INTERSECTION	N/A	ROUTE 0960 (WAREHOUSE STORAGE AREA)

ROUTE 0221: OLD US HIGHWAY 50

FROM MILEPOS	TO ST MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 5050 (US HIGHWAY 50)
0.00	0.00	INTERSECTION	L	ROUTE 5050 (US HIGHWAY 50)
0.37	0.37	INTERSECTION	N/A	ROUTE 0935 (SWIM BEACH PARKING)

ROUTE 0226: ELK CREEK CAMPGROUND LOOP A

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.00	0.00	INTERSECTION	L	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.00	0.00	INTERSECTION	N/A	ROUTE 0229 (ELK CREEK CAMPGROUND LOOP D)
0.02	0.02	ONE-WAY START	N/A	N/A
0.02	0.02	INTERSECTION	L	ROUTE 0226 (ELK CREEK CAMPGROUND LOOP A)
0.42	0.42	INTERSECTION	L	ROUTE 0226 (ELK CREEK CAMPGROUND LOOP A)
0.42	0.42	ONE-WAY END	N/A	N/A
0.42	0.42	INTERSECTION	R	ROUTE 0226 (ELK CREEK CAMPGROUND LOOP A)

ROUTE 0227: ELK CREEK CAMPGROUND LOOP B

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	R	ROUTE 0228 (ELK CREEK CAMPGROUND LOOP C)
0.00	0.00	INTERSECTION	L	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.31	0.31	INTERSECTION	L	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.31	0.31	INTERSECTION	R	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.31	0.31	ONE-WAY END	N/A	N/A
0.31	0.31	INTERSECTION	N/A	ROUTE 0228 (ELK CREEK CAMPGROUND LOOP C)

ROUTE 0228: ELK CREEK CAMPGROUND LOOP C

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	R	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.00	0.00	INTERSECTION	L	ROUTE 0227 (ELK CREEK CAMPGROUND LOOP B)
0.29	0.29	ONE-WAY END	N/A	N/A
0.29	0.29	INTERSECTION	R	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.29	0.29	INTERSECTION	N/A	ROUTE 0227 (ELK CREEK CAMPGROUND LOOP B)
0.29	0.29	INTERSECTION	L	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)

ROUTE 0229: ELK CREEK CAMPGROUND LOOP D

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0226 (ELK CREEK CAMPGROUND LOOP A)
0.00	0.00	INTERSECTION	L	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.00	0.00	INTERSECTION	R	ROUTE 0207AZ (ELK CREEK CAMPGROUND ROAD A)
0.02	0.02	ONE-WAY START	N/A	N/A
0.02	0.02	INTERSECTION	L	ROUTE 0229 (ELK CREEK CAMPGROUND LOOP D)
0.44	0.44	INTERSECTION	L	ROUTE 0229 (ELK CREEK CAMPGROUND LOOP D)
0.44	0.44	INTERSECTION	R	ROUTE 0229 (ELK CREEK CAMPGROUND LOOP D)
0.44	0.44	ONE-WAY END	N/A	N/A

ROUTE 0230: CIMARRON CAMPGROUND LOOP

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 5000 (MORROW POINT DAM ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 5000 (MORROW POINT DAM ROAD)
0.01	0.01	INTERSECTION	L	ROUTE 0230 (CIMARRON CAMPGROUND LOOP)
0.01	0.01	ONE-WAY START	N/A	N/A
0.30	0.30	INTERSECTION	L	ROUTE 0230 (CIMARRON CAMPGROUND LOOP)
0.30	0.30	ONE-WAY END	N/A	N/A
0.30	0.30	INTERSECTION	R	ROUTE 0230 (CIMARRON CAMPGROUND LOOP)

ROUTE 0231: NEW STEVENS CREEK CAMPGROUND ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 5050 (US HIGHWAY 50)
0.00	0.00	INTERSECTION	L	ROUTE 5050 (US HIGHWAY 50)
0.04	0.04	INTERSECTION	R	ROUTE 0235 (NEW STEVENS CREEK CAMPGROUND LOOP C)
0.07	0.07	INTERSECTION	L	ROUTE 0233 (NEW STEVENS CREEK CAMPGROUND LOOP B)
0.07	0.07	INTERSECTION	R	ROUTE 0920 (NEW STEVENS CREEK PARKING)
0.10	0.10	INTERSECTION	L	ROUTE 0232 (NEW STEVENS CREEK CAMPGROUND LOOP A)
0.10	0.10	INTERSECTION	N/A	ROUTE 0232 (NEW STEVENS CREEK CAMPGROUND LOOP A)

ROUTE 0232: NEW STEVENS CREEK CAMPGROUND LOOP A

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	L	ROUTE 0232 (NEW STEVENS CREEK CAMPGROUND LOOP A)
0.00	0.00	INTERSECTION	N/A	ROUTE 0231 (NEW STEVENS CREEK CAMPGROUND ROAD)
0.21	0.21	INTERSECTION	R	ROUTE 0231 (NEW STEVENS CREEK CAMPGROUND ROAD)
0.21	0.21	INTERSECTION	L	ROUTE 0232 (NEW STEVENS CREEK CAMPGROUND LOOP A)
0.21	0.21	ONE-WAY END	N/A	N/A

ROUTE 0233: NEW STEVENS CREEK CAMPGROUND LOOP B

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0231 (NEW STEVENS CREEK CAMPGROUND ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0231 (NEW STEVENS CREEK CAMPGROUND ROAD)
0.02	0.02	INTERSECTION	L	ROUTE 0233 (NEW STEVENS CREEK CAMPGROUND LOOP B)
0.02	0.02	ONE-WAY START	N/A	N/A
0.20	0.20	INTERSECTION	L	ROUTE 0233 (NEW STEVENS CREEK CAMPGROUND LOOP B)
0.20	0.20	ONE-WAY END	N/A	N/A
0.20	0.20	INTERSECTION	R	ROUTE 0233 (NEW STEVENS CREEK CAMPGROUND LOOP B)

ROUTE 0235: NEW STEVENS CREEK CAMPGROUND LOOP C

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0231 (NEW STEVENS CREEK CAMPGROUND ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0231 (NEW STEVENS CREEK CAMPGROUND ROAD)
0.14	0.14	INTERSECTION	L	ROUTE 0235 (NEW STEVENS CREEK CAMPGROUND LOOP C)
0.14	0.14	ONE-WAY START	N/A	N/A
0.33	0.33	INTERSECTION	L	ROUTE 0235 (NEW STEVENS CREEK CAMPGROUND LOOP C)
0.33	0.33	INTERSECTION	R	ROUTE 0235 (NEW STEVENS CREEK CAMPGROUND LOOP C)
0.33	0.33	ONE-WAY END	N/A	N/A

ROUTE 0240: LAKE FORK LOWER CAMPGROUND ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0914A (LAKE FORK MARINA PARKING A)
0.01	0.01	INTERSECTION	R	ROUTE 0914B (LAKE FORK MARINA PARKING B)
0.22	0.22	INTERSECTION	R	ROUTE 0912 (LAKE FORK LOWER CAMPGROUND LOOP PARKING)
0.22	0.22	INTERSECTION	N/A	ROUTE 0404 (LAKE FORK WATER TANK ROAD)

ROUTE 0241: LAKE FORK UPPER CAMPGROUND LOOP

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0910B (LAKE FORK VISITOR CENTER PARKING B)
0.00	0.00	INTERSECTION	L	ROUTE 0100 (LAKE FORK CAMPGROUND ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0914A (LAKE FORK MARINA PARKING A)
0.01	0.01	INTERSECTION	R	ROUTE 0914A (LAKE FORK MARINA PARKING A)
0.03	0.03	INTERSECTION	R	ROUTE 0915 (LAKE FORK HANDICAP PARKING)
0.06	0.06	INTERSECTION	L	ROUTE 0241 (LAKE FORK UPPER CAMPGROUND LOOP)
0.29	0.29	INTERSECTION	R	ROUTE 0241 (LAKE FORK UPPER CAMPGROUND LOOP)
0.29	0.29	INTERSECTION	L	ROUTE 0241 (LAKE FORK UPPER CAMPGROUND LOOP)

ROUTE 0400: ELK CREEK MAINTENANCE ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0010 (ELK CREEK ENTRANCE ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0010 (ELK CREEK ENTRANCE ROAD)
0.22	0.22	INTERSECTION	R	ROUTE 0900 (MAINTENANCE AREA)
0.22	0.22	INTERSECTION	N/A	ROUTE 0402 (ELK CREEK RESIDENCE ROAD)

ROUTE 0402: ELK CREEK RESIDENCE ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0400 (ELK CREEK MAINTENANCE ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0900 (MAINTENANCE AREA)
0.02	0.02	INTERSECTION	L	ROUTE 0902E (EC1 PARKING)
0.03	0.03	INTERSECTION	R	ROUTE 0901 (EMPLOYEE PARKING)
0.12	0.12	INTERSECTION	R	ROUTE 0902D (SERVICE PARKING)
0.15	0.15	INTERSECTION	L	ROUTE 0902A (EC6 PARKING)
0.16	0.16	INTERSECTION	R	ROUTE 0902B (EC7 PARKING)
0.19	0.19	INTERSECTION	N/A	DEAD END
0.19	0.19	INTERSECTION	R	ROUTE 0902C (EC5 PARKING)

Section 8 Appendix



Curecanti National Recreation Area



Improvements to the RIP Index Equations and Determination of PCR

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

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

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

Additionally, methodologies were updated in 2013 for Manually Rated Routes (paved routes that the collection vehicle is unable to drive) as well as Parking Areas to provide more accurate condition data to the HPMA. These updated methodologies allow for the efficient assessment of pavement conditions using a visual inspection method to denote specific distresses. These distresses are indicative of current conditions, the causes for current and future deterioration, and identify the level of targeted repair and rehabilitation practices required.

The changes that were implemented were endorsed by management at both the FHWA and NPS. In order to show the effectiveness of these changes, several sites were ground truth tested in early 2014 to ensure that an improvement was achieved between the relationship of PCR and the actual Maintenance and Rehabilitation needs that were represented. The changes will allow greater use of RIP and HPMA data for not simply condition data reporting, but also as a reliable tool for project identification and selection.

Description of the Rating System

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

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

With the use of quality digital photography and automated crack detection software, FHWA RIP is tasked with executing a pavement condition assessment on a network of roughly 5,700 miles of National Park Service roads and parkways. Because a subset of roads will be collected multiple times this cycle, the total collection length will be around 13,000 miles. Foremost in setting up the basis of pavement distress identification is employing the distress identification protocols used by FHWA. There is no single distress identification system that is universal among entities conducting a program of distress identification. For the purpose of the NPS RIP, FHWA employs distress identification protocols that are specific to this program.

FHWA has referenced the "Distress Identification Manual for the Long-Term Pavement Performance Program", Publication No. FHWA-RD 03-031, June 2003, as the point-of- reference for distress types on NPS pavement. In truth, the FHWA RIP distress types are similar to those described in the LTPP manual with some modifications. This document, "Distress Identification Manual for the NPS Road Inventory Program, Cycle 6, 2014-2020" was developed using the "Distress Identification Manual for the Long-Term Pavement Performance Program" as a guideline. Definitions of severity levels based on crack width contained in this document adhere to the LTPP Distress ID Manual. Modifications have been made to the definition of Alligator and Longitudinal Cracking and determination of Alligator Cracking severity. This manual also addresses Rutting and Roughness and its application to RIP.

Cycle 6 has launched in the spring of 2014 and will again comprise all parks, large and small, that are served by paved roads and/or parking areas. For Cycle 6, roughly 333 large and small parks will have all paved routes and parking areas collected at least once in the cycle, some will have multiple collections depending on the size of the park and the functional class of the route.

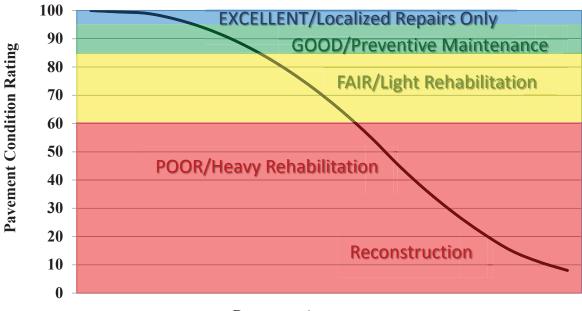
This "Distress Identification Manual for the NPS Road Inventory Program, Cycle 6, 2014-2020" will be used as a reference resource in crack detection and classification, determination of distress severity and extent, and in the calculation of distress index values for the FHWA RIP Cycle 6.

Explanation of the Condition Descriptions

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

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

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



Condition Categories and Treatments

Pavement Age

Description of Pavement Treatment Types

- 1. Preventive Maintenance is a planned strategy of cost-effective treatments to an existing roadway system and its appurtenances that preserves the system, retards future deterioration, and maintains or improves the functional condition of the system (without significantly increasing the structural capacity). Preventive maintenance is typically applied to pavements in good condition having significant remaining service life. As a major component of pavement preservation, preventive maintenance is a strategy of extending the service life by applying cost-effective treatments to the surface or near-surface of structurally sound pavements. Examples of preventive treatments include asphalt crack sealing, chip sealing, slurry or micro-surfacing, thin and ultra-thin hot-mix asphalt overlay, concrete joint sealing, diamond grinding, dowel-bar retrofit, and isolated, partial and/or full-depth concrete repairs to restore functionality of individual slabs.
- 2. Pavement Rehabilitation consists of structural enhancements that extend the service life of an existing pavement and/or improve its load carrying capacity. Rehabilitation techniques include restoration treatments and structural overlays. Rehabilitation projects extend the life of existing pavement structures either by restoring existing structural capacity through the elimination of age-related, environmental cracking of embrittled pavement surface or by increasing pavement thickness to strengthen existing pavement sections to accommodate existing or projected traffic loading conditions. Two sub-categories result from these distinctions, which are directly related to the restoration or increase of structural capacity.
 - Light Rehabilitation (L3R) Examples include single-lift overlays up to 2.5 inches in total thickness and milling and overlays for flexible pavements
 - Heavy Rehabilitation (H3R) Requires rehabilitation with grade improvement. H3R stands for resurfacing, restoration, and rehabilitation projects. H3R projects typically involve multi-depth (overlays greater than 2.5 inches) pavement improvement work (short of full-depth replacement) and targeted safety improvements. H3R projects generally involve retention of the existing three-dimensional alignment.
- 3. Reconstruction (4R) is defined as the replacement of the entire existing pavement structure by the placement of the equivalent or increased pavement structure. Reconstruction usually requires the complete removal and replacement of the existing pavement structure. Reconstruction may utilize either new or recycled materials incorporated into the materials used for the reconstruction of the complete pavement section. Reconstruction is required when a pavement has either failed or has become functionally obsolete.

Appendix A

Methodology for Determining Condition Ratings with the Data Collection Vehicle (DCV)

Surface Distresses Identified by the Data Collection Vehicle

Surface Condition Rating – SCR

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

Surface distresses and rutting are determined from digital images that provide both the longitudinal and transverse profile. The images also provide an elevation profile of the road, creating a 3-dimensional image of the paved surface.

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

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

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

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

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

Roughness Condition Index - RCI

Additional condition data measured by DCV (lasers and accelerometers)

• Roughness (IRI)

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

Pavement Condition Rating - PCR

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

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

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

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

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

POOR = (less than or equal to 60), **FAIR**= (61 – 84), GOOD= (85 - 94), **EXCELLENT**= (95 - 100)

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

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

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

ASPHALT-SURFACED PAVEMENT DISTRESS TYPES WITH RUTTING AND ROUGHNESS				
Distress Type	Units Of Measure	Converted To	Defined Severity Levels?	Measured By
Alligator Cracking	Square Feet	Percent of Lane Per 0.02 Mile	Yes	3 Dimensional pavement imaging system
Transverse Cracking	Linear feet	Number of Cracks Per 0.02 Mile	Yes	3 Dimensional pavement imaging system
Longitudinal Cracking	Linear feet	Percent of Lane Length Per 0.02 Mile	Yes	3 Dimensional pavement imaging system
Patching / Potholes	Square Feet	Percent of Lane Per 0.02 Mile	No	3 Dimensional pavement imaging system
Rutting	Inches	Rut Depth Per 0.02 Mile	Yes	3 Dimensional pavement imaging system
Roughness	IRI	*RCI Per 0.02 Mile	No	DCV – Lasers / Accelerometers

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

Table 1. Distress summary

Alligator Cracking

Description:

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

Severity Levels:

LOW

An area with little to no interconnecting cracks with no visible spalling. Cracks are less than or equal to a mean width of 0.25 in. (6mm). Cracks in the pattern are no further apart than 1 foot (0.328 m). May be sealed cracks with sealant in good condition and a crack width that cannot be determined.

MEDIUM

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

HIGH

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

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

ALLIGATOR CRACKING SEVERITY LEVELS				
	CRACK	CRACK PATTERN		
	SEVERITY	LOW	MED	HIGH
CDACU	LOW	LOW	MED	HIGH
CRACK WIDTH	MED	MED	MED	HIGH
	HIGH	HIGH	HIGH	HIGH

 Table 2. Alligator Crack Severity Levels

Longitudinal Cracking

Description:

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

Severity Levels:

LOW

Cracks with a mean width less than or equal to 0.25 in. (6 mm). This also includes sealed cracks with sealant in good condition and a width that cannot be determined.

MEDIUM

Cracks with a mean width greater than 0.25 in. (6 mm) but less than 0.75 in. (19 mm). Also, any crack with a mean width less than 0.75 in. (19 mm) and adjacent random low severity cracking.

HIGH

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

Transverse Cracking

Description:

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

Severity Levels:

LOW

Cracks with a mean width of less than or equal to 0.25 in. (6 mm). Sealed cracks with sealant in good condition and a width that cannot be determined.

MEDIUM

Cracks with a mean width greater 0.25 in. (6 mm) and less than or equal to 0.75 in. (19 mm). Also, any crack with a mean width less than 0.75 in. (19 mm) and adjacent random low severity cracking.

HIGH

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

Patching and Potholes

Description:

Patching is an area of pavement surface that has been removed and replaced with patching material or an area of pavement surface that has had additional patching material applied. Patching may encompass partial lane or full lane width. On full lane width patching; the total, contiguous length of patch may not exceed 0.100 mi. (0.161 km). (Any full-lane patch exceeding 0.100 mi. in length is considered a pavement change). Patching must have a quantifiable area.

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

Manhole covers should not be rated as patches unless there is obvious patching around the manhole.

Speed bumps should not be rated as patches

Severity Levels:

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

RUTTING

Description:

Rutting is a longitudinal surface depression in the wheelpath.

Severity Levels:

LOW

Ruts with a measured depth of 0.20 inches to 0.49 inches Ruts less than 0.20 in. are not included in the distress calculations.

MEDIUM

Ruts with a measured depth of 0.50 inches to 0.99 inches

HIGH

Ruts with a measured depth greater than 1.00 inch

ROUGHNESS

Description:

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

Severity Levels:

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

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

Table 3. International Roughness Index

Roughness Collection Parameters

On shorter roads with a lower speed limit the usefulness in collecting and reporting IRI is negligible. Lower, inconsistent speeds can lead to a less accurate IRI value. Therefore RIP has put in place the following protocols for reporting IRI.

International Roughness Index (IRI) is not reported on routes with the following criteria:

- Posted speed limit is less than 25 mph
- Length of route is less than 0.50 miles

When a collected route has a posted speed limit of at least 25 mph and length of at least 0.50 miles, IRI will be collected except on road sections where the speed is less than 20 mph

Other situations may arise where the speed and length factors are met, but reporting IRI could lead to an inaccurate PCR. RIP will determine whether or not it is reasonable to report IRI on these routes on a case by case basis.

Index Formulas

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

Alligator Crack Index

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

Where:

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

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

Percent of total area is computed as:

square foot area of alligator crack severity (0.02 mile)*(lane width)

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

Longitudinal Crack Index

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

Where:

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

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

Percent of interval length is computed as:

length of respective longitudinal cracking (0.02 mile)*(105.6 ft.)

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

Structural Crack Index

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

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

Transverse Crack Index

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

Where:

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

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

Number of cracks is computed as:

Total length of transverse cracks Lane width

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

Patching Index

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

Where:

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

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

Percent of total area is computed as:

square foot area of patching/potholes (0.02 mile)*(lane width)

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

There are no severity levels for patching. It either exists or does not. In PATCH_INDEX, the denominator 80 is the Maximum Allowable Extent (MAE) for each severity. In other words, we will allow up to 80% patching for a 0.02 interval before failure. As you can see, if patching/potholes reaches MAE the resulting index value is 60, or failure.

Rutting Index

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

Where:

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

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

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

(total number of ruts within each severity in both wheelpaths)20× 100

In RUT_INDEX, the denominators 535, 205, and 40 are the Maximum Allowable Extents for each severity; Low, Medium, and High, respectively. Only the MAE for high severity rutting can fail a section, since 200% of *only* low severity ruts would yield a rut index of 85 and 200% of *only* medium severity ruts would yield a rut index of 61.

Roughness Condition Index (Asphalt)

$$\mathbf{RCI} = 32 * [5 * (2.718282^{(-.0041 * AVG IRI)})]$$

Where:

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

Average IRI is computed as:

(Left wheelpath IRI) + (Right wheelpath IRI) 2

There is no applicable threshold for failure for this index.

Roughness Condition Index (Concrete)

 $\mathbf{RCI} = (-0.0012)(\mathrm{IRI}^2) + (0.0499)(\mathrm{IRI}) + 99.542$

For concrete, PCR = RCI

Surface Condition Rating Index

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

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

Where:

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

The threshold for failure for this index is SCR = 60.Data Collection Vehicle Subsystems

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

Cameras

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

Two forward-facing cameras are mounted above the vehicle cab, one pointed straight ahead and the other to the right shoulder providing seamless roughly 120 degree viewing. A third camera is mounted in the rear of the vehicle, recording the left shoulder.

CAMERA SPECIFICATIONS TWO FORWARD / ONE REAR FACING CAMERA			
Camera lens/type	Prosilica GT 2750 (GigE Technology)		
Image format	*.jpg		
Image resolution	2750 x 2200, 18 frames/second		
Image pixel size	depends on distance		
Zoom ratio	16mm Fixed		
	Aperture Range F 1.8 – Infinity (P-Iris,		
Iris range	Automatic		

Pavement Imaging and Rutting

High resolution rutting data and surface imaging are collected in a single data stream using a threedimensional (3D) pavement surface transverse profile data acquisition system. The 3D camera captures a laser line as it is projected over the pavement surface and uses the location of this line to measure the height deviations of the pavement surface. These height deviations can be used to calculate rutting in both wheelpaths. These deviations also provide a grayscale image detailing the change in height throughout the surface, i.e. providing depth measurements for cracking.

PAVEMENT SURFACE AND TRANSVERSE PROFILE DATA ACQUISITION SYSTEM			
Surface Image Specifications			
Image size	1536 pixels/scan @3000 Hz		
Image width	4 meters (3950 mm nominal)		
Laser class	3B		
Power	16W (Two lasers @ 8W Ea)		
Vehicle speed limitations	62 mph		
Environment	Dry pavement, day or night		
Sensor size (approximate)	1536 pixels x 512 pixels		
Image display length	26.4 feet		
Rutting Specifications			
Reported rut depth units	Inches		
Vehicle speed limitations	Up to 62 mph		
Sampling rate	3000 profiles/second		
Transverse resolution	1536 points/profile		
Transverse field-of-view	14 feet		
Depth accuracy (nominal)	<1mm		
Environment	Dry pavement, day or night, above 32 degrees F		
Adherence to specifications	ASTM E1703M-95 (reapproved 2005)		

THREE-DIMENSIONAL

Distance Measuring Instrument (DMI)

The DMI (Distance Measuring Instrument) obtains road length measurements that are accurate to 0.15% for speeds up to 60 mph. The DMI is connected to the hub of the rear wheel on the driver's side, and is calibrated to the revolutions of the rear vehicle axle on a regular basis.

Roughness (IRI)

IRI SPECIFICATIONS			
Reported IRI units	Inches/mile		
Vehicle speed limitations	12-62 mph		
IRI equipment certification	Texas Transportation Institute (TTI)		
Wavelengths accommodated	0.5 feet to 300 feet		
IRI computed & reported	World Bank Technical Paper Number 46		
Environment	Dry pavement, day or night, above 32 degrees		
Adherence to specifications	ASTM E950 Class 1 & AASHTO M 328		

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

GPS & Inertial Systems

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

GPS SPECIFICATIONS			
Static accuracy	Sub-meter		
Dynamic accuracy	2-3 meters		
Receiver	12 satellite tracking		
Coordinate system	Lat Lon WGS 84		
Environment	Day or night		
Cross-slope	± 1.75%		
Grade	± 1.75%		
Adherence to specifications	ASTM E1703M-95 (reapproved 2005)		

*NOTE – GPS accuracy is dependent on many different factors. Satellite constellation, tree coverage, GPS receiver quality, and real-time correction availability can all affect the locational and elevation accuracies. The elevation (z coordinate) accuracy is less dependable than locational or horizontal accuracy (x/y coordinates or latitude/longitude). In areas of heavy tree coverage or poor satellite constellations, elevation data can vary by as much as +/- 100 feet.

Appendix B

Methodology for Determining Condition Ratings Using Manual Rating Procedures

Description of Manual Rating Methods

In 2013, the Federal Highway Administration updated existing Manual Rating Procedures in an effort to better align pavement conditions for Manually Rated Routes and Parking with the Highway Pavement Management Application (HPMA). HPMA is the Pavement Management System used by the FHWA to store inventory and condition data from the Road Inventory Program (RIP) and forecast future performance using prediction models. HPMA uses pavement condition data (collected by the Road Inventory Program) to develop life cycles for pavements and recommend treatments to maximize useable pavement life while minimizing costs associated with maintenance and repair.

The Federal Highway Administration (FHWA) developed a set of manual rating methods for pavement that are appropriate for Federal Roadways. Two different methods were developed for linear roads and a separate method was developed for parking areas and nonlinear roads. These methods employ a 0 to 100 rating scale and improve consistency and objectivity in the manual evaluation of surface distresses. They are compatible with ratings that are collected by the automated Data Collection Vehicle (DCV).

- The first of the two manual evaluation methods for roads uses rating criteria to assign index values to each distress type based on a visual evaluation of severity and extent.
- The second manual evaluation method for roads is very time demanding and is best employed on only a select set of routes which may have the highest visitor use and require a more intensive assessment. This method will be used for the Manual Rating of Function Class 1, 2, 7, and 8 Roads. This method is based on measurements that are recorded for each instance of a surface distress. These measurements are converted into index values using conversion formulas.
- Parking areas and non-linear roads are rated similar to the first method shown above, however, there are some slight differences due to the non-linear nature.

The details and criteria used for each of these rating methods are outlined below.

Visual Inspection Method for Manually Rating Secondary Roads

The visual inspection method for manually rated roads uses condition rating criteria that have been developed by FHWA. This criteria is based on a visual evaluation of the severity and extent of distresses to determine the overall condition of the roadway. This method is used for secondary roads that are Functional Class 3, 4, 5, and 6. This constitutes the majority of manually rated roads collected by the Road Inventory Program.

Rating Section Lengths

For this method, Manually Rated Roads are rated in sections. These sections may be made based on length of changes in surface type or condition as described below. The ratings are then aggregated to give an overall rating for the Route:

- Rating sections should be no longer than 0.25 miles in order to keep the area being rated manageable.
- A new rating section may be started based on changes in condition, width, or surface type if these changes represent a significant portion of the route (are not isolated instances).
- If the road condition, width, and surface type remain constant then new sections do not need to be created unless the road exceeds 0.25 miles.

Rating Criteria

For this method, Manually Rated Roads are evaluated using a visual inspection of the six distress types listed below. Each distress is assigned one of five index values. An overall Surface Condition Rating (SCR) and Pavement Condition Rating (PCR) are calculated based on these index values.

- Alligator Cracking
 - o Rating based on percentage of road surface affected
- Longitudinal Cracking
 - o Rating based on severity level (crack width) and percentage of road section length of longitudinal cracks
- Transverse Cracking
 - o Rating based on crack width, crack spacing, and percentage of surface affected
- Patching
 - o Rating based on percentage of road surface affected
- Rutting
 - o Rating based on percentage of road surface affected
- Roughness
 - o Only included if the overall roadway length is greater than 0.5 miles and the posted speed limit is greater than or equal to 25 mph. Subjective rating based on the overall ride comfort of the section.

Concrete Routes also receive a PCR rating based on visual evaluation of the following six distress types.

- Slab Faulting at Joints
- Slab Cracking and breakup
- Surface Delamination and Pop-outs
- Joint Distresses
- Patching

Distress Measurement Method for Manually Rating Primary Roads

A more intensive and time demanding assessment than our standard method was developed for Primary roads that are functional class 1, 2, 7, or 8. These high visitation roads are usually accessible by the automated Data Collection Vehicle but in rare instances may need to be manually rated. The method developed is based on measuring each instance of a distress. These measurements are totaled over each section length being measured and are then converted into index values between 0 to 100 (100 being a road with no distress) using index formula equations outlined below. The goal of this method is to produce measured index values which are directly comparable to the automated DCV.

Rating Section Lengths

For the distress measurement method roads are broken into sections in order to rate. Distress measurements are totaled for each section separately in order to determine the index value for that particular section. The section length to be rated is determined based on the following rules:

- Rating sections are between 0.25 and 0.50 miles long
- A new rating section is created if there is a significant change in condition or pavement width
- If there are no significant changes in condition or pavement width, rating sections are broken at equal intervals, typically 0.50 miles

Manual Distress Measurements

Alligator Cracking

- Alligator cracking is measured by area (square feet). Instances of Alligator cracking are measured along the length and multiplied by the average width of the distressed area.
- The index for alligator cracking takes the total area of cracking compared to the interval length and converts it to a percentage. That percentage is then input into an index formula that yields a value between 0 and 100 (0 being the most distressed).
- Severity levels are not defined for manually measured Alligator cracks. The Alligator Crack Index formula is calculated based on an assumption of medium severity.

Longitudinal Cracking

- Longitudinal cracking (cracking in the direction parallel to the roadway) is measured by length (ft.).
- The index for longitudinal cracking takes the total length of cracking compared to the interval length and converts it to a percentage broken down by severity. That percentage is then input into a formula that yields a value between 0 and 100 (0 being the most distressed).
- Two severity levels are defined for manually measured Longitudinal Cracks. Lower severity cracks are those with a mean width of less than 0.25 inches. Sealed cracks with sealant in good condition are also considered lower severity. Higher severity cracks are those with a mean width of greater than 0.25 inches.

Transverse Cracking

- Transverse cracking (cracking in the direction perpendicular to the roadway) is measured by length (ft).
- The index for transverse cracking takes the total number of cracks (1 crack would encompass the full lane) broken down by severity. The total numbers of each severity are then put into a formula that yields a value between 0 and 100 (0 being the most distressed).
- Two severity levels are defined for manually measured Transverse Cracks. Lower severity cracks are those with a mean width of less than or equal to 0.25 inches. Sealed cracks with sealant in

good condition are also considered lower severity. Higher severity cracks are those with a mean width of greater than 0.25 inches.

Patching and Potholes

- Patching and Potholes are measured by area (square feet). Instances of Patching are measured along the length and multiplied by the average width of the patch.
- Instances of full lane width patching cannot be longer than 0.100 miles, otherwise is should be considered a pavement change rather than a distress.
- There are no stratified severities for Patching. It is either present or it is not.

Rutting

- Visible rutting is measured by length (ft) in each wheelpath. Rutting needs only to be visible for it to be rated.
- Severity levels are not defined for manually measured rutting.

Roughness

• Roughness is given a subjective rating of Excellent, Good, Fair, or Poor based on the overall riding comfort of the section. Roughness is only included if the overall roadway length is greater than 0.5 miles and the posted speed limit is greater than or equal to 25 mph.

Index Formulas for Distress Measurement Method:

The method used to convert distress measurements into index values is shown below. The Surface Condition Rating and Pavement Condition Rating are calculated based on these index values.

Alligator Crack Index for Manual Rating:

AC_INDEX = 100 – 40 * (%ALLIGATOR / 15)

Where:

%ALLIGATOR = Percent of total area of section being rated that contains Alligator cracking.

Longitudinal Crack Index for Manual Rating:

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

Where:

%LOW = Percent length of longitudinal cracks where crack width less than or equal to 0.25 inches

%HIGH = Percent length of longitudinal cracks where crack width greater than 0.25 inches

Transverse Crack Index for Manual Rating:

 $TC_INDEX = (100 - 40) * [(LOW / 21.1) + (MED / 4.4)]$

Where:

LOW = Count of the total number of transverse cracks within the section length whereone transverse crack is equal to the lane width and the crack width <= 0.25 inchesHIGH = Count of the total number of transverse cracks within the section length whereone transverse crack is equal to the lane width and the crack width > 0.25 inches Number of cracks is computed as: Total length of transverse cracks/Lane width

Patching Index for Manual Rating:

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

Where:

%PATCHING = Percentage of pavement section that contains patching/potholes.

Rutting Index for Manual Rating:

RUT_INDEX = 100 - 40 * (%RUTTING / 205)

Where:

%RUTTING = Percentage length of rutting within the section being measured.

Method for Manually Rating Paved Parking Areas and Non-Linear Roads

Parking areas are evaluated based on a visual inspection using condition rating criteria that has been developed by FHWA. This criteria is based on a visual evaluation of the severity and extent of distresses to determine the overall condition of the parking area. This overall condition rating is linked to the level of repair and rehabilitation practices required.

A distress index is determined for each of the distresses listed below for Asphalt and Concrete Parking areas. The overall Pavement Condition Rating (PCR) of the parking lot is driven by the most severe distress present.

Rating Criteria:

Asphalt Parking Distress Types

- Alligator Cracking
 - o Rating based on percentage of road surface affected
- Longitudinal, Transverse and Block cracking
 - o Rating based on crack width, crack spacing, and percentage of surface affected
- Rutting and Distortions
 - o Rating based on percentage of road surface affected
- Hot Mix Asphalt Patches
 - o Rating based on overall percentage of HMA patches
- Potholes and Cold Patches
 - o Rating based on percentage of road surface affected
- Surface Raveling and Bleeding
 - o Rating based on percentage of road surface affected

Concrete Parking Distress Types

- Slab Faulting at Joints
 - o Rating based on height differential between adjacent slabs or pieces of broken slabs
- Slab Cracking and breakup
 - o Rating based on quantity of cracks and if slab is acting to able distribute load as designed
- Surface Delamination and Pop-outs
 - o Rating based on percentage of road surface affected to include pop-outs, spalls and surface delamination
- Joint Distresses
 - o Rating based on sealant condition and concrete distresses at/or adjacent to joints
- Patching
 - o Rating based on percentage of road surface affected

Curb Inspection and Treatments

During inspections of manually rated parking lots and routes, the curb reveal and overall curb condition are evaluated. The curb condition is used to determine a recommendation.

Curb Reveal

The vertical distance on the curb face from the gutter flow line or pavement surface to the top of curb. When resurfacing adjacent to curb, the resulting curb reveal should be no less than 4 inches. Additionally, when resurfacing adjacent to a gutter, the resulting pavement surface should be flush with the gutter pan. In cases where a resurfacing would violate either of these parameters, the surface may need to be milled or removed to adjust to these field conditions.

Curb Recommendations

The following treatment categories are based on the overall percentage of distresses along the entire curb structure for a specific pavement structure. Distresses include spalling, cracking, loss of material and any other damage which prevents the curb from conveying storm runoff or failing to perform in its intended function.

- Overall curb damage ranging 0%-5%: o DO NOTHING
- Overall curb damage ranging 5%-20% o LIGHT REPAIR
- Overall curb damage ranging 20%-50% o MODERATE REPAIR
- Overall curb damage greater than 50%: o REPLACE

GPS for Manually Rated Roads and Parking

GPS information for Manually Collected Cycle 6 Routes will be recorded using the latest hardware and software by TRIMBLE 6000 Series GeoXT. Cycle 6 GPS collection units will allow access to GPS and GLONASS, improving overall GPS reliability, accuracy and precision to submeter accuracy. Additionally, the new GPS units have an enhanced ability to collect accurate signals underneath tree cover or adjacent to buildings or natural terrain with extreme vertical gradations that typically reduce GPS accuracy. Trees and buildings create "satellite shadows", limiting the areas where you can reliably collect high-accuracy GPS data. The updated GPS receiver will deliver improved usable data under tree canopy or in natural or urban canyons. Routes that were previously collected accurately will not be recollected in Cycle 6.

TRIMBLE 6000 SERIES GeoXT GPS SPECIFICATIONS			
Receiver	Trimble Maxwell [™] 6 GNSS chipset		
Channels	220 channels		
Systems	GPS / GLONASS / WAAS		
Accuracy	Sub-meter		
Operation Temperature	-20 °C to +60 °C (-4 °F to +140 °F)		
Cellular and Wireless	UMTS / HSDPA / GPRS / EDGE / Wi-Fi / Bluetooth		
Internal Still Camera w/ GEOTAG ability	Autofocus 5 MP (JPG) and WMV w/ Audio		

Appendix C Description of Cycle 6 Deliverables

Interim Report Delivery

Partial report will be primarily focused on manually collected routes. The report will be released approximately four months after manual collection of parking lots and other manually collected routes to provide NPS an immediate report on the condition of routes collected manually.

The Interim Report Delivery consists of an Interim Report PDF that contains the following:

- Parking lot and manually rated route conditions
- Route ID Reports
- Route ID Changes Report.

Please note that since the Data Collection Vehicle will have not collected data at this point in time, the following will not be in the Interim Report:

- No park summary information will be provided in the report
- No DCV data will be provided in report
- No road logs will be provided in report
- No maps will be provided in report
- Any mileages collected will be approximate

All data provided in the Interim Report will also be included in the Final Report.

Final Report Delivery

The Final Report will contain all data collected by Manual Inspection and the Data Collection Vehicle. All information provided in the Interim Report will be included in the Final report. Manually collected information reported in the Interim Report may be updated in the Final Report if pavement conditions have substantially changed between the Manual Inspection and Data Collection Vehicle Inspection or other unforeseen circumstances.

The final report will be released approximately 8 months after the Data Collection Vehicle completes its collection of that specific park.

Data included in the Final Report package consists of the following:

- Condition Photos: All photos taken during Cycle 6.
- **Data Video:** Data and video of each route collected by the DCV will viewable through PATHVIEW software. PATHVIEW Software and training will be provided to NPS personnel by Eastern Federal Lands.
- **GPS on All Rated Routes:** All GPS data collected from the DCV will be provided. Parking areas, some roads, and other paved areas that are not fully drivable with the DCV are collected manually by field technicians. GPS is collected for these routes using portable Trimble GPS units.
 - o GPS will be provided as Shapefiles and KMLs
 - o All GPS data related to road collection with be linear referenced to the collected length
- Geodatabase Background and Metadata: In addition to this park report, a geodatabase containing both tabular and spatial data specific to this park has been provided.
 - All data disseminated in the preceding report has been obtained from the tables and fields within said geodatabase. The geodatabase can be referenced for tabular data via Microsoft Access or for both tabular and spatial data via ESRI's ArcGIS Suite of software which consists of; ArcMap, ArcCatalog and ArcExplorer.
 - Consolidating the RIP data into one database creates a seamless relationship of tables and geographic data. It allows RIP to facilitate easier updates and enhancements in the future. A geodatabase can be thought of as simply a database containing spatial data. A complete and thorough description of the tables and fields contained within this geodatabase can be found in the metadata. The metadata is attached directly within the geodatabase and can be accessed via ESRI's ArcCatalog.
- **Report (RIP Report and Route ID):** A PDF report will be provided that includes a list of all routes and key data. Condition reports for each route will be included. All changes, additions and deletions to any route will be included in the report. Features along routes will not be collected in Cycle 6.

Partial DCV Collections

Additional Partial DCV Collections may be done on specific parks depending on their size and overall mileage of routes within its boundaries during Cycle 6. Parks with greater than 10 miles of paved roadways will receive at least one additional Partial DCV collection during Cycle 6. Data collected during these Partial DCV Collections will not result in the delivery of an additional report to the park.

Data collected by the DCV during Partial DCV Collection will be used to improve HPMA modeling by providing additional "snapshots in time" of park pavement conditions. This improved HMPA modeling will assist in the programing and budgeting of future projects which will help maximize the life of pavement infrastructures.

Instead of receiving a report of conditions collected during the Partial DCV collection, the park will receive a formal letter from the Road Inventory Program requesting coordination for the additional Partial DCV collection, identifying the dates of the Partial DCV Collection and will reinforce the purpose and importance of the Partial DCV Collection.

Appendix D

Glossary of Terms and Abbreviations

Glossary of Terms and Abbreviations

TERM OR ABBREVIATION	DESCRIPTION OR DEFINITION
AC	Alligator Cracking
CRS	Condition Rating Sheets (Section 5)
Curb Recommendation	Curb remediation based on overall percentage of curb distress
Curb Reveal	Height of curb exposed from gutter flow line to top of curb
DCV	Data Collection Vehicle
Excellent	Excellent rating with an index value of 95 to 100
Fair	Fair rating with an index value from 61 to 84
FUNCT_CLASS	Functional Classification (see Route ID, Section 2)
Good	Good rating with an index value from 85 to 94
IRI	International Roughness Index
НРМА	Highway Pavement Management Application
Lane Width	Width from road centerline to fogline, or from centerline to edge- of-pavement when no fogline exists
LC	Longitudinal Cracking
MRR	Manually Rated Route
MRL	Manually Rated Line
MRP	Manually Rated Polygon
N/A	Not Applicable
NC	Not Collected
РАТСН	Patching and Potholes
Paved Width	Width from edge-of-pavement to edge-of-pavement
PCR	Pavement Condition Rating
PKG	Parking Area
Poor	Poor rating with an index value of 0 to 60
RCI	Roughness Condition Index
SC	Structural Cracking
SCR	Surface Condition Rating
ТС	Transverse Cracking