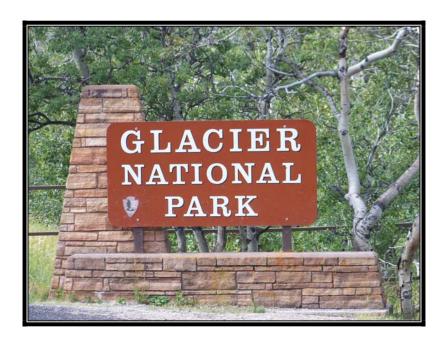


Road Inventory and Condition Assessment



Glacier National Park GLAC - 1430

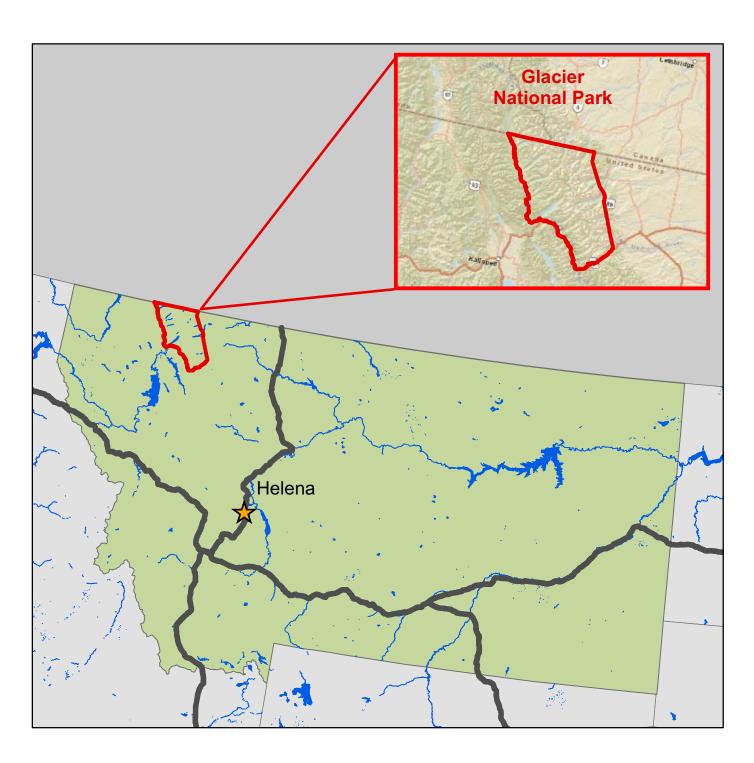
Cycle 5 Report

Prepared By: Federal Highway Administration

Road Inventory Program (RIP)

Data Collected: 09/2010 Report Date: 07/2012

# Glacier National Park in Montana

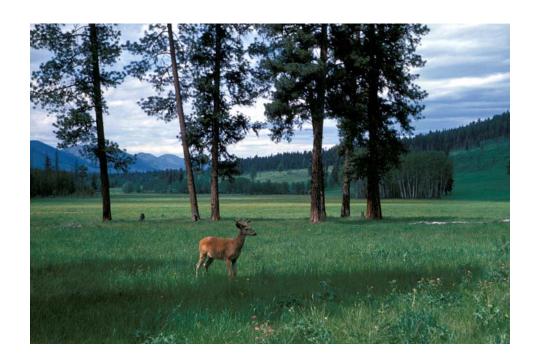




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# **Section 1 Introduction**



## Glacier National Park



#### INTRODUCTION

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

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

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

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

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

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

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

Cycle 5 has launched in the summer of 2010 and will again comprise all parks, large and small, that are served by paved roads and/or parking areas. For Cycle 5, the decision was made to collect condition data in large parks on Functional Class 1, 2, and 7 paved routes only, as well as any new routes that were previously not collected. In small parks, all paved routes and parking areas will be collected. As a result, this will include 81 large parks with 4,459 paved route miles and 168 small parks with 529 paved route miles and associated paved parking areas.

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

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

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

Respectfully,

FHWA RIP Team

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) 963-3560

# Section 2 Park Route Inventory



## Glacier National Park



Road Inventory Program 07/04/2012

(Numerical By Route #)

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Shading Color Key: Red text denotes approx. mileage

White = Paved Routes, DCV Driven

Yellow = Unpaved Routes, DCV not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Grey = Paved Routes, DCV not Driven

Black = State, Local or Private non-NPS Routes

= Concession Route Flag ON

\*\*\* Only Functional Class 1, 2, & 7 routes, and previously uncollected routes were collected in Cycle 5

### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Des From	scription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0010E	5	5729		GOING TO THE SUN ROAD EAST	SUN ROAD WEST)	TO BEGIN BRIDGE AT DIVIDE CREEK, AT EAST PARK ENTRANCE	WEST LAKE	17.97	0.00	17.97	1	0	AS	2,5
0010W	5	6763		GOING TO THE SUN ROAD WEST	FROM END OF BRIDGE AT WEST PARK BOUNDARY (ENTERING THE PARK, NORTH EDGE OF BRIDGE)	TO ROUTE 0943 (LOGAN PASS PARKING LOT) AND BEGINNING OF ROUTE 0010E (GOING TO THE SUN ROAD EAST)	WEST LAKE	31.86	0.00	31.86	1	0	AS	1,2
0011	5	6821		CAMAS ROAD	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 1.72	TO WEST PARK BOUNDARY	WEST LAKE	11.50	0.00	11.50	1	0	AS	1
0012	5	6791		TWO MEDICINE ROAD	FROM U.S. HIGHWAY 49	TO ROUTE 0965 (TWO MEDICINE PARKING)	HUDSON BAY	7.28	0.00	7.28	1	0	AS	6
0013	5	6781		CHIEF MOUNTAIN INTERNATIONAL HIGHWAY	FROM U.S. HIGHWAY 89	THE US / CANADA BORDER	HUDSON BAY	14.25	0.00	14.25	1	0	AS	3
0014	5	6783		MANY GLACIER ROAD	FROM U.S. HIGHWAY 89	TO ROUTE 0974 (SWIFT CURRENT MOTOR INN PARKING)	HUDSON BAY	12.44	0.00	12.44	1	0	AS	4
0100A	5	6823		FISH CREEK ACCESS ROAD	FROM ROUTE 0011 (CAMAS ROAD) AT MP 1.30	TO BEGINNING OF ROUTE 0100B (INSIDE NORTH FORK ROAD, SOUTH SECTION) AND END OF LOOP	WEST LAKE	1.15	0.00	1.15	2	0	AS	1
0100B	NC	6829		INSIDE NORTH FORK ROAD, SOUTH SECTION	FROM ROUTE 0100A (FISH CREEK ACCESS ROAD)	TO KINTLA CAMPGROUND	WEST LAKE	0.00	30.60	30.60	2	0	GR	
0101	5	6807		APGAR LOOP ROAD	FROM ROUTE 0011 (CAMAS ROAD) AT MP 0.32	TO ROUTE 0010W (GOING TO THE SUN ROAD WEST)	WEST LAKE	1.11	0.00	1.11	1	0	AS	1
0102	5	6769		ST. MARY RANGER STATION ROAD	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 17.76	TO ROUTE 0982 (ST. MARY BONE YARD PARKING)	HUDSON BAY	0.91	0.00	0.91	2	0	AS	5
0200	5	6816		LAKE MCDONALD LODGE LOOP ROAD	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 10.31 ON LEFT	TO ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 10.76	WEST LAKE	0.52	0.00	0.52	2	0	AS	2
0201	4	37315		AVALANCHE CAMPGROUND ENTRANCE ROAD	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 16.13	TO ROUTE 0201B (AVALANCHE CAMPGROUND LOOP B)	WEST LAKE	0.26	0.00	0.26	3	0	AS	2

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

<sup>\*\*</sup> DCV - Data Collection Vehicle

Road Inventory Program 07/04/2012

(Numerical By Route #)

Green = All Unpaved Parking Areas

Shading Color Key: Red text denotes approx. mileage

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Yellow = Unpaved Routes, DCV not Driven

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\*\*\* Only Functional Class 1, 2, & 7 routes, and previously uncollected routes were collected in Cycle 5

### **GLAC**

#### **GLACIER NATIONAL PARK**

Rte. No.	Cycle Collected	FMSS	Concess	Route Name	Route Des	-	Maint. District	Paved Miles	Un- Paved	Total Route	Func.	Manual Rated	Surf. Type	Area Maps
	Colle	No.	S S		From	То	District	Miles	Miles	Length	Class	SQ/FT	туре	марѕ
0201A	4	37336		AVALANCHE CAMPGROUND LOOP A	FROM ROUTE 0201 (AVALANCHE CAMPGROUND ENTRANCE ROAD) AT MP 0.15	TO ROUTE 0201 (AVALANCHE CAMPGROUND ENTRANCE ROAD) AT MP 0.19	WEST LAKE	0.36	0.00	0.36	3	0	AS	2
0201B	4	38439		AVALANCHE CAMPGROUND LOOP B	FROM END OF ROUTE 0201 (AVALANCHE CAMPGROUND ENTRANCE ROAD)	ROAD)	WEST LAKE	0.27	0.00	0.27	3	0	AS	2
0201C	4	38749		AVALANCHE CAMPGROUND LOOP C	FROM ROUTE 0201 (AVALANCHE CAMPGROUND ENTRANCE ROAD) AT MP 0.09	TO DEAD END	WEST LAKE	0.19	0.00	0.19	3	0	AS	2
0202	5	37354		KELLY CAMP ROAD	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 12.13	TO END	WEST LAKE	0.41	1.68	2.09	2	0	AS	2
0204	4	6812		FISH CREEK CAMPGROUND ENTRANCE ROAD	FROM ROUTE 0100A (FISH CREEK ACCESS ROAD) AT MP 1.12	TO INTERSECTION OF ROUTES 0204C (FISH CREEK CAMPGROUND LOOP C) ON LEFT AND ROUTE 0204D (FISH CREEK CAMPGROUND LOOP D)	WEST LAKE	0.31	0.00	0.31	3	0	AS	1
0204A	4	103567		FISH CREEK CAMPGROUND LOOP A	FROM ROUTE 0204 (FISH CREEK CAMPGROUND ENTRANCE ROAD) AT MP 0.03 ON RIGHT	TO END OF LOOP	WEST LAKE	0.26	0.00	0.26	3	0	AS	1
0204B	4	103572		FISH CREEK CAMPGROUND LOOP B	FROM ROUTE 0204 (FISH CREEK CAMPGROUND ENTRANCE ROAD) AT MP 0.23 ON LEFT	TO END OF LOOP	WEST LAKE	0.38	0.00	0.38	3	0	AS	1
0204C	4	103578		FISH CREEK CAMPGROUND LOOP C	FROM END OF ROUTE 0204 (FISH CREEK CAMPGROUND ENTRANCE ROAD) ON LEFT	TO END OF LOOP	WEST LAKE	0.38	0.00	0.38	3	0	AS	1
0204D	4	103579		FISH CREEK CAMPGROUND LOOP D	FROM END OF ROUTE 0204 (FISH CREEK CAMPGROUND ENTRANCE ROAD)	TO END OF LOOP	WEST LAKE	0.30	0.00	0.30	3	0	AS	1
0205	4	103521		APGAR CAMPGROUND ENTRANCE ROAD	FROM ROUTE 0101 (APGAR LOOP ROAD)	TO ROUTE 0205E (APGAR CAMPGROUND LOOP E GROUP SITES)	WEST LAKE	0.31	0.00	0.31	3	0	AS	1
						GROUP SITES)								

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<sup>\*\*</sup> DCV - Data Collection Vehicle

Road Inventory Program 07/04/2012

(Numerical By Route #)

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### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Des	scription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0205A	4	107682		APGAR CAMPGROUND LOOP A	FROM ROUTE 0205 (APGAR CAMPGROUND ENTRANCE ROAD)	TO END OF LOOP	WEST LAKE	0.60	0.00	0.60	3	0	AS	1
0205B	4	107684		APGAR CAMPGROUND LOOP B	FROM ROUTE 0205 (APGAR CAMPGROUND ENTRANCE ROAD)	TO ROUTE 0205 (APGAR CAMPGROUND ENTRANCE ROAD)	WEST LAKE	0.49	0.00	0.49	3	0	AS	1
0205C	4	107685		APGAR CAMPGROUND LOOP C	FROM ROUTE 0205 (APGAR CAMPGROUND ENTRANCE ROAD)	CAMPGROUND ENTRANCE ROAD)	WEST LAKE	0.40	0.00	0.40	3	0	AS	1
0205D	4	107687		APGAR CAMPGROUND LOOP D	ROAD)	TO ROUTE 0205 (APGAR CAMPGROUND ENTRANCE ROAD)	WEST LAKE	0.27	0.00	0.27	3	0	AS	1
0205E	4	107688		APGAR CAMPGROUND LOOP E GROUP SITES	FROM END OF ROUTE 0205 (APGAR CAMPGROUND ENTRANCE ROAD)	TO END OF LOOP	WEST LAKE	0.33	0.00	0.33	3	0	AS	1
0206	4	6804		WASTE WATER TREATMENT PLANT ROAD	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 0.92	TO END OF PAVEMENT AT WASTE WATER TREATMENT PLANT	WEST LAKE	0.59	0.00	0.59	3	0	AS	1
0207	4	6792		TWO MEDICINE CAMPGROUND ENTRANCE ROAD	FROM ROUTE 0012 (TWO MEDICINE ROAD)	TO END OF LOOP	HUDSON BAY	0.77	0.00	0.77	3	0	AS	6
0207A	4	107690		TWO MEDICINE CAMPGROUND LOOP A	FROM ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD)	TO ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD)	HUDSON BAY	0.19	0.00	0.19	3	0	AS	6
0207B	4	107691		TWO MEDICINE CAMPGROUND LOOP B	FROM ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD)	TO ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD)	HUDSON BAY	0.22	0.00	0.22	3	0	AS	6
0207C	4	107692		TWO MEDICINE CAMPGROUND LOOP C	FROM ROUTE 0207B (TWO MEDICINE CAMPGROUND LOOP B)	TO ROUTE 0207B (TWO MEDICINE CAMPGROUND LOOP B)	HUDSON BAY	0.16	0.00	0.16	3	0	AS	6
0207D	4	107693		TWO MEDICINE PICNIC AREA LOOP	FROM ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD)	TO ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD)	HUDSON BAY	0.22	0.00	0.22	3	0	AS	6
0208A	4	103833		SWIFT CURRENT CABINS ROAD	FROM END OF ROUTE 0014 (MANY GLACIER ROAD)	TO END OF LOOP	HUDSON BAY	0.45	0.00	0.45	3	0	AS	4
0208B	4	103836		SWIFT CURRENT CABINS CUTOFF ROAD	FROM ROUTE 0208A (SWIFT CURRENT CABINS ROAD)	TO ROUTE 0974 (SWIFT CURRENT MOTOR INN PARKING)	HUDSON BAY	0.03	0.00	0.03	3	2,297	AS	4
0208C	NC	231852		SWIFT CURRENT ROAD, CABINS CROSSOVER ROAD	FROM ROUTE 0208A (SWIFT CURRENT CABINS ROAD)	TO ROUTE 0208A (SWIFT CURRENT CABINS ROAD)	HUDSON BAY	0.00	0.04	0.04	3	0	GR	

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<sup>\*\*</sup> DCV - Data Collection Vehicle

Road Inventory Program 07/04/2012

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### **GLAC**

#### **GLACIER NATIONAL PARK**

Rte.	le	FMSS	ess	Route Name	Route Des	scription	Maint.	Paved	Un- Paved	Total Route	Func.	Manual	Surf.	Area
No.	Cycle Collected	No.	Concess Route	Route Name	From	То	District	Miles	Miles	Length	Class	Rated SQ/FT	Туре	Maps
0209A	4	6780		MANY GLACIER CAMPGROUND LOOP A	FROM ROUTE 0014 (MANY GLACIER ROAD) AT MP 12.35	TO END OF LOOP	HUDSON BAY	0.58	0.00	0.58	3	0	AS	4
0209B	4	103610		MANY GLACIER CAMPGROUND LOOP B	FROM ROUTE 0209A (MANY GLACIER CAMPGROUND LOOP A)	TO ROUTE 0209A (MANY GLACIER CAMPGROUND LOOP A)	HUDSON BAY	0.22	0.00	0.22	3	0	AS	4
0209C	4	103613		MANY GLACIER CAMPGROUND CUT THROUGH ROAD	FROM ROUTE 0209A (MANY GLACIER CAMPGROUND LOOP A)	TO ROUTE 0209B (MANY GLACIER CAMPGROUND LOOP B)	HUDSON BAY	0.07	0.00	0.07	3	0	AS	4
0210	4	6784		MANY GLACIER HOTEL ROAD	FROM ROUTE 0014 (MANY GLACIER ROAD) AT MP 11.52	TO END OF LOOP	HUDSON BAY	0.69	0.00	0.69	3	0	AS	4
0211ZZ	5	5730		SUN POINT ROADS	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST)	TO ROUTE 0211Z (SUN POINT ROAD) AND ROUTE 0948B (SUN POINT PICNIC AREA B)	HUDSON BAY	0.32	0.00	0.32	3	0	AS	5
0212A	5	37391		RISING SUN LODGE ROAD A	FROM END OF ROUTE 0212F (RISING SUN LODGE ROAD F)	TO ROUTE 0951G (RISING SUN UPPER MOTEL PARKING NORTH)	HUDSON BAY	0.19	0.00	0.19	3	0	AS	5
0212B	5	103845		RISING SUN LODGE ROAD B	FROM ROUTE 0212A (RISING SUN LODGE ROAD A) AT MP 0.19	TO ROUTE 0212D (RISING SUN LODGE ROAD D)	HUDSON BAY	0.06	0.00	0.06	3	0	AS	5
0212C	5	103846		RISING SUN LODGE ROAD C	FROM ROUTE 0212A (RISING SUN LODGE ROAD A) AT MP 0.26	TO ROUTE 0212D (RISING SUN LODGE ROAD D)	HUDSON BAY	0.04	0.00	0.04	3	0	AS	5
0212D	5	231844		RISING SUN LODGE ROAD D	FROM END OF ROUTE 0212B (RISING SUN LODGE ROAD B)	TO ROUTE 0212B (RISING SUN LODGE ROAD B)	HUDSON BAY	0.08	0.00	0.08	3	0	AS	5
0212E	NC	231845		RISING SUN LODGE ROAD E	FROM ROUTE 0951G (RISING SUN UPPER MOTEL PARKING NORTH)	TO ROUTE 0212D (RISING SUN LODGE ROAD D)	HUDSON BAY	0.00	0.09	0.09	3	0	GR	
0212F	5	231853		RISING SUN LODGE ROAD F	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 43.85	TO ROUTE 0212A (RISING SUN LODGE ROAD A)	HUDSON BAY	0.10	0.00	0.10	3	0	AS	5
0213A	4	6776		RISING SUN CAMPGROUND ROAD A	FROM ROUTE 0213B (RISING SUN CAMPGROUND ROAD B)	TO END OF LOOP	HUDSON BAY	0.40	0.00	0.40	3	0	AS	5
0213B	4	103850		RISING SUN CAMPGROUND ROAD B	FROM ROUTE 0951B (RISING SUN LODGE AND RESTAURANT PARKING)	TO END OF LOOP	HUDSON BAY	0.40	0.00	0.40	3	0	AS	5

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Road Inventory Program 07/04/2012

(Numerical By Route #)

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### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Des	scription To	Maint. District	Paved Miles	Un- Paved	Total Route	Func. Class	Manual Rated	Surf. Type	Area Maps
	ς les	NO.	8 8		110111	10		165	Miles	Length	Ciuss	SQ/FT	,,,,	Паро
0214	4	6770		ST. MARY CAMPGROUND ENTRANCE ROAD	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 17.11	TO ROUTE 0214A (ST. MARY CAMPGROUND LOOP A)	HUDSON BAY	0.20	0.00	0.20	3	0	AS	5
0214A	4	103841		ST. MARY CAMPGROUND LOOP A	FROM END OF ROUTE 0214 (ST. MARY CAMPGROUND ENTRANCE ROAD)	TO END OF LOOP	HUDSON BAY	0.45	0.00	0.45	3	0	AS	5
0214B	4	103843		ST. MARY CAMPGROUND LOOP B	FROM ROUTE 0214 (ST. MARY CAMPGROUND ENTRANCE ROAD)	TO ROUTE 0214 (ST. MARY CAMPGROUND ENTRANCE ROAD)	HUDSON BAY	0.48	0.00	0.48	3	0	AS	5
0214C	4	103853		ST. MARY CAMPGROUND LOOP C	FROM ROUTE 0214 (ST. MARY CAMPGROUND ENTRANCE ROAD) AT MP 0.12	TO END OF LOOP	HUDSON BAY	0.60	0.00	0.60	3	0	AS	5
0219	NC	6795		CUT BANK ROAD	FROM U.S. HIGHWAY 89	THROUGH CUT BANK CREEK CAMPGROUND	HUDSON BAY	0.00	5.19	5.19	4	0	GR	
0221	NC	6826		BOWMAN LAKE CAMPGROUND ROAD	FROM ROUTE 0100B (INSIDE NORTH FORK ROAD, SOUTH SECTION) AT MP 25.7	THROUGH BOWMAN LAKE CAMPGROUND	WEST LAKE	0.00	5.91	5.91	4	0	GR	
0226	NC	6771		ST. MARY 1913 RANGER STATION ROAD	FROM ROUTE 0102 (ST. MARY RANGER STATION ROAD) AT MP 0.297	TO PARKING	HUDSON BAY	0.00	0.31	0.31	3	0	GR	
0239	4	6819		AVALANCHE PICNIC AREA ROAD	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 16.12	THROUGH PICNIC AREA	WEST LAKE	0.00	0.00	0.00	3	26,596	AS	2
0240	4	6832		WALTON RANGER STATION ROAD	FROM ROUTE 5000 (STATE ROUTE 2)	TO UNPAVED ROUTE	WEST LAKE	0.00	0.00	0.00	3	8,933	AS	7
0241	4	107768		HUCKLEBERRY SCENIC VIEWPOINT	FROM ROUTE 0011 (CAMAS ROAD)	TO END OF LOOP	WEST LAKE	0.24	0.00	0.24	3	0	AS	1
0242	4	6815		SPRAGUE CREEK CAMPGROUND	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 9.77	TO END OF LOOP	WEST LAKE	0.19	0.00	0.19	3	0	AS	2
0243	4	37389		SPRAGUE CREEK PICNIC AREA	FROM ROUTE 0242 (SPRAGUE CREEK CAMPGROUND)	TO ROUTE 0242 (SPRAGUE CREEK CAMPGROUND)	WEST LAKE	0.16	0.00	0.16	3	0	AS	2
0244	4	37217		MANY GLACIER BOAT RAMP ACCESS	FROM ROUTE 0014 (MANY GLACIER ROAD) AT MP 11.87	TO LAUNCH AREA	HUDSON BAY	0.00	0.00	0.00	3	2,486	AS	4
0245	4	231848		STEWART MOTEL ROAD	FROM ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD)	TO ROUTE 0926C (STEWART MOTEL PARKING)	WEST LAKE	0.00	0.00	0.00	3	3,595	AS	2
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<sup>\*\*</sup> DCV - Data Collection Vehicle

Road Inventory Program 07/04/2012

(Numerical By Route #)

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### **GLAC**

Rte.	le	FMSS	ess	Doube Name	Route Des	scription	Maint.	Paved	Un- Paved	Total Route	Func.	Manual	Surf.	Area
No.	Cycle Collected	No.	Concess Route	Route Name	From	То	District	Miles	Miles	Length	Class	Rated SQ/FT	Туре	Maps
0400	4	6802		HEADQUARTERS AREA ROAD	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 0.31	TO INTERSECTION OF ROUTES 0407 (CAMEL'S HUMP ROAD) 0409A (GRINNELL DRIVE) AND 0409E (MATHER DRIVE)	WEST LAKE	0.28	0.00	0.28	5	0	AS	1
0401	4	6785		MANY GLACIER RESIDENCE AREA	FROM ROUTE 0209A (MANY GLACIER CAMPGROUND LOOP A)	TO END OF LOOP	HUDSON BAY	0.25	0.00	0.25	5	0	AS	4
0402	4	6772		ST. MARY RESIDENCE AREA	FROM ROUTE 0102 (ST. MARY RANGER STATION ROAD) AT MP 0.49	TO END OF LOOP	HUDSON BAY	0.36	0.00	0.36	6	0	AS	5
0403	NC	6820		PACKERS ROOST ROAD	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 22.19	TO TRAILHEAD	WEST LAKE	0.00	0.65	0.65	6	0	GR	
0404	4	6811		GRIST ROAD	FROM ROUTE 0011 (CAMAS ROAD) AT MP 0.59	TO END	WEST LAKE	0.37	1.30	1.67	6	0	AS	1
0405	NC	6803		YOUTH CONSERVATION CORPS ROAD	FROM ROUTE 0206 (WASTE WATER TREATMENT PLANT ROAD)	TO GLACIER INSTITUTE	WEST LAKE	0.00	0.40	0.40	5	0	GR	
0406A	NC	37320		QUARTER CIRCLE ROAD APGAR LOOKOUT TRAILHEAD	FROM ROUTE 0206 (WASTE WATER TREATMENT PLANT ROAD)	TO APGAR LOOKOUT TRAILHEAD	WEST LAKE	0.00	1.92	1.92	3	0	GR	
0406B	NC	107749		QUARTER CIRCLE ROAD RUBIDEAU SPRINGS	FROM END OF ROUTE 0406A (QUARTER CIRCLE ROAD, APGAR LOOKOUT TRAILHEAD)	TO SPRINGS	WEST LAKE	0.00	0.96	0.96	6	0	GR	
0407	4	6805		CAMEL'S HUMP ROAD	FROM END OF ROUTE 0400 (HEADQUARTERS AREA ROAD) ON LEFT	TO GAVEL PILE	WEST LAKE	0.13	0.11	0.24	3	0	AS	1
0408	4	6817		LAKE MCDONALD HORSE STABLES ROAD	FROM INTERSECTION OF ROUTE 0010W (GOING TO THE SUN ROAD WEST) AND ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD)	TO END	WEST LAKE	0.07	0.00	0.07	3	4,240	AS	2
0409A	4	38466		GRINNELL DRIVE	FROM END OF ROUTE 0400 (HEADQUARTERS AREA ROAD)	TO ROUTE 0409B (LOGAN LANE)	WEST LAKE	0.17	0.00	0.17	5	0	AS	1
0409B	4	107694		LOGAN LANE	FROM ROUTE 0409A (GRINNELL DRIVE)	TO ROUTE 0409D (ALBRIGHT CIRCLE)	WEST LAKE	0.35	0.00	0.35	5	0	AS	1
0409C	4	107695		SPERRY DRIVE	FROM ROUTE 0409E (MATHER DRIVE)	TO ROUTE 0409B (LOGAN LANE)	WEST LAKE	0.15	0.00	0.15	6	0	AS	1
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Road Inventory Program 07/04/2012

(Numerical By Route #)

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### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Des From	cription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0409D	4	107696		ALBRIGHT CIRCLE	FROM ROUTE 0409E (MATHER DRIVE)	TO END OF LOOP	WEST LAKE	0.33	0.00	0.33	6	0	AS	1
0409E	4	107697		MATHER DRIVE	FROM END OF ROUTE 0400 (HEADQUARTERS AREA ROAD) ON RIGHT	TO ROUTE 0409F (RHULE DRIVE)	WEST LAKE	0.32	0.00	0.32	5	0	AS	1
0409F	4	107698		RHULE DRIVE	FROM ROUTE 0409E (MATHER DRIVE)	TO END	WEST LAKE	0.17	0.00	0.17	6	0	AS	1
0410A	4	107699		ADMINISTRATIVE ROAD A	FROM ROUTE 0400 (HEADQUARTERS AREA ROAD)	TO ROUTE 0901D (HEADQUARTERS MAINTENANCE AREA)	HUDSON BAY	0.22	0.00	0.22	5	0	AS	1
0410B	4	107700		ADMINISTRATIVE ROAD B	FROM ROUTE 0901D (HEADQUARTERS MAINTENANCE AREA)	TO 0410A (ADMINISTRATIVE ROAD A)	WEST LAKE	0.14	0.00	0.14	5	0	AS	1
0411	NC	107750		LAKE MCDONALD ROAD, SNYDER CREEK WATER TANK	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST)	TO WATER TANK	WEST LAKE	0.00	0.48	0.48	6	0	GR	
0412	NC	107751		HEADQUARTERS ROAD WATER TANK	FROM ROUTE 0409D (ALBRIGHT CIRCLE)	TO WATER TANK	WEST LAKE	0.00	0.19	0.19	6	0	GR	
0413	NC	107752		FISH CREEK ROAD, WATER TANK	FROM ROUTE 0100B (INSIDE NORTH FORK ROAD, SOUTH SECTION) AT MP .37	TO WATER TANK	WEST LAKE	0.00	0.45	0.45	6	0	GR	
0414	NC	107753		QUARTER CIRCLE ROAD HAY BARN	FROM ROUTE 0206 (WASTE WATER TREATMENT PLANT ROAD)	TO HAY BARN B 1581	WEST LAKE	0.00	0.21	0.21	6	0	GR	
0415	NC	107754		CAMAS ROAD - CAMAS DUMP	FROM ROUTE 0011 (CAMAS ROAD)	TO DUMP AREA	WEST LAKE	0.00	0.08	0.08	6	0	GR	
0416	NC	107755		GTSW ROAD - OLD QUARRY ROAD	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST)	TO END	WEST LAKE	0.00	0.33	0.33	6	0	GR	
0417	NC	107756		MANY GLACIER ROAD ICE HOUSE	FROM ROUTE 0210 (MANY GLACIER HOTEL ROAD)	TO ICE HOUSE	HUDSON BAY	0.00	0.40	0.40	5	0	GR	
0418	NC	107757		MANY GLACIER ROAD HORSE STABLES, LAGOON	FROM ROUTE 0014 (MANY GLACIER ROAD)	TO STABLES AND LAGOON	HUDSON BAY	0.00	0.40	0.40	5	0	GR	
0419	NC	107758		TWO MEDICINE ROAD WATER TANK SEWER RADIO TOWER	FROM ROUTE 0012 (TWO MEDICINE ROAD)	TO WATER TANK SEWER AND RADIO TOWER	HUDSON BAY	0.00	0.25	0.25	6	0	GR	
0420A	NC	107923		BOWMAN LAKE ROAD PUBLIC HORSE RAMP	FROM ROUTE 0221 (BOWMAN LAKE CAMPGROUND ROAD)	TO HORSE RAMP	WEST LAKE	0.00	0.08	0.08	5	0	GR	

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Road Inventory Program 07/04/2012

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### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Des From	cription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0420B	NC	107924		BOWMAN LAKE ROAD HORSE CORRAL	FROM END OF ROUTE 0420A (BOWMAN LAKE ROAD, HORSE CORRAL)	TO NPS CORRAL	WEST LAKE	0.00	0.22	0.22	6	0	GR	
0422	NC	6787		MANY GLACIER ROAD WATER TANK	FROM ROUTE 0210 (MANY GLACIER HOTEL ROAD)	TO WATER TANK AREA	HUDSON BAY	0.00	0.20	0.20	6	0	GR	
0900	4	37337		HEADQUARTERS VISITOR PARKING	FROM ROUTE 0400 (HEADQUARTERS AREA ROAD) AT MP 0.05	TO PARKING	WEST LAKE	0.00	0.00	0.00		12,062	AS	1
0901A	4	6806		HEADQUARTERS EMPLOYEE PARKING	FROM ROUTE 0410A (ADMINISTRATIVE ROAD A) AT MP 0.04	TO ROUTE 0410A (ADMINISTRATIVE ROAD A)	WEST LAKE	0.00	0.00	0.00		28,143	AS	1
0901B	4	107701		HEADQUARTERS LIBRARY PARKING	ADJACENT TO ROUTE 0410A (ADMINISTRATIVE ROAD A) ON RIGHT AT MP 0.2		WEST LAKE	0.00	0.00	0.00		628	AS	1
0901C	4	107702		HEADQUARTERS MAINTENANCE BUILDING PARKING	ADJACENT TO ROUTE 0410A (ADMINISTRATIVE ROAD A) ON LEFT AT MP 0.2		WEST LAKE	0.00	0.00	0.00		2,645	AS	1
0901D	4	107703		HEADQUARTERS MAINTENANCE AREA	FROM END OF ROUTE 0410A (ADMINISTRATIVE ROAD A) AT MP 0.2	THROUGH MAINTENANCE AREA	WEST LAKE	0.00	0.00	0.00		78,592	AS	1
0901E	4	107705		HEADQUARTERS ELECTRONIC OFFICE PARKING	ADJACENT TO ROUTE 0410B (ADMINISTRATIVE ROAD B) AT MP 0.03		WEST LAKE	0.00	0.00	0.00		1,240	AS	1
0903	4	37390		SCHOOL HOUSE PARKING	FROM ROUTE 0101 (APGAR LOOP ROAD) AT MP 0.17	TO PARKING	WEST LAKE	0.00	0.00	0.00		7,575	AS	1
0904A	4	37311		APGAR PUBLIC PARALLEL PARKING	ADJACENT TO ROUTE 0101 (APGAR LOOP ROAD) AT MP 0.2		WEST LAKE	0.00	0.00	0.00		2,458	AS	1
0904B	4	107706		APGAR PUBLIC PARKING	FROM ROUTE 0101 (APGAR LOOP ROAD) ON RIGHT AT MP 0.2	TO ROUTE 0101 (APGAR LOOP ROAD)	WEST LAKE	0.00	0.00	0.00		12,474	AS	1
0905	4	37314		APGAR VILLAGE COMPLEX	FROM ROUTE 0101 (APGAR LOOP ROAD) AT MP 0.3	TO PARKING	WEST LAKE	0.00	0.00	0.00		52,872	AS	1
0906	4	37303		APGAR BOAT LAUNCH PARKING	ADJACENT TO ROUTE 0101 (APGAR LOOP ROAD) ON LEFT AT MP 0.4		WEST LAKE	0.00	0.00	0.00		11,011	AS	1
0907	4	37312		APGAR RANGERS/RESTROOM PARKING	FROM ROUTE 0101 (APGAR LOOP ROAD) ON RIGHT AT MP 0.4	TO ROUTE 0101 (APGAR LOOP ROAD) ON RIGHT AT MP 0.42	WEST LAKE	0.00	0.00	0.00		19,676	AS	1

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Road Inventory Program 07/04/2012

(Numerical By Route #)

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### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Des From	cription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0908A	4	6808		APGAR AMPHITHEATER PARKING A	ADJACENT TO ROUTE 0101 (APGAR LOOP ROAD) ON LEFT AT MP 0.7		WEST LAKE	0.00	0.00	0.00		6,306	AS	1
0908B	4	103528		APGAR AMPHITHEATER PARKING B	ADJACENT TO ROUTE 0101 (APGAR LOOP ROAD) ON RIGHT AT MP 0.8		WEST LAKE	0.00	0.00	0.00		7,705	AS	1
0909	4	6810		APGAR PICNIC LOOP	FROM ROUTE 0101 (APGAR LOOP ROAD) AT MP 1.0	TO ROUTE 0101 (APGAR LOOP ROAD)	WEST LAKE	0.00	0.00	0.00		37,069	AS	1
0910	NC	37313		HEADQUARTERS PARKING SEWAGE LAGOON	FROM END OF ROUTE 0206 (WAST WATER TREATMENT PLANT ROAD)	TO PARKING	WEST LAKE	0.00	0.00	0.00		3,150	GR	
0911	4	6813		FISH CREEK PICNIC AREA	FROM ROUTE 0100A (FISH CREEK ACCESS ROAD) ON RIGHT AT MP 1.0	TO PARKING	WEST LAKE	0.00	0.00	0.00		19,995	AS	1
0913	4	7708		FISH CREEK RANGER/RESIDENCE PARKING	FROM ROUTE 0100A (FISH CREEK ACCESS ROAD) ON RIGHT AT MP 1.1	TO PARKING	WEST LAKE	0.00	0.00	0.00		8,203	AS	1
0914A	4	37397		FISH CREEK CAMPGROUND DUMP STATION	FROM ROUTE 0204 (FISH CREEK CAMPGROUND ENTRANCE ROAD) AT MP 0.04	TO ROUTE 0204 (FISH CREEK CAMPGROUND ENTRANCE ROAD)	WEST LAKE	0.00	0.00	0.00		1,890	AS	1
0914B	4	38754		FISH CREEK CAMPGROUND PARKING AMPHITHEATER LOOP PARKING	FROM ROUTE 0204 (FISH CREEK CAMPGROUND ENTRANCE ROAD) AT MP 0.1	TO PARKING	WEST LAKE	0.00	0.00	0.00		15,057	AS	1
0915	4	37371		MCGEE MEADOWS PARKING	FROM ROUTE 0011 (CAMAS ROAD) AT MP 5.6	TO ROUTE 0011 (CAMAS ROAD)	WEST LAKE	0.00	0.00	0.00		7,707	AS	1
0916	4	37166		HUCKLEBERRY LOOKOUT TRAILHEAD PARKING	ADJACENT TO ROUTE 0011 (CAMAS ROAD) AT MP 5.8		WEST LAKE	0.00	0.00	0.00		6,076	AS	1
0917	4	37319		CAMAS CREEK OVERLOOK	FROM ROUTE 0011 (CAMAS ROAD) AT MP 8.2	TO ROUTE 0011 (CAMAS ROAD)	WEST LAKE	0.00	0.00	0.00		17,063	AS	1
0918	4	37318		CAMAS CREEK ENTRANCE STATION PARKING	ADJACENT TO ROUTE 0011 (CAMAS ROAD) AT MP 10.8		WEST LAKE	0.00	0.00	0.00		4,819	AS	1
0919	4	6822		HUCKLEBERRY MOUNTAIN SCENIC VIEWPOINT	ADJACENT TO ROUTE 0241 (HUCKLEBERRY MOUNTAIN TRAILHEAD ACCESS ROAD) AT MP 0.2		WEST LAKE	0.00	0.00	0.00		1,973	AS	1
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0920	NC	6831		QUARTZ CREEK CAMPGROUND PARKING	FROM ROUTE 0100B (INSIDE NORTH FORK ROAD, SOUTH SECTION)	TO PARKING	WEST LAKE	0.00	0.00	0.00		1,000	GR	
0921	NC	6830		LOGGING CREEK CAMPGROUND PARKING	FROM ROUTE 0100B (INSIDE NORTH FORK ROAD, SOUTH SECTION)	TO PARKING	WEST LAKE	0.00	0.00	0.00		1,500	GR	
0922	4	37167		LAKESHORE FOREST PARKING	ADJACENT TO ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 7.7		WEST LAKE	0.00	0.00	0.00		5,891	AS	2
0923	4	37171		LINCOLN LAKE PARKING	ADJACENT TO ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 9.2		WEST LAKE	0.00	0.00	0.00		3,380	AS	2
0926A	4	6818		LAKE MCDONALD LODGE PARKING A	FROM ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD) AT MP 0.3	TO ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD)	WEST LAKE	0.00	0.00	0.00		11,329	AS	2
0926B	4	103592		LAKE MCDONALD LODGE ACCESS	FROM ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD) ON LEFT AT MP 0.35	TO ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD) ON LEFT AT MP 0.42	WEST LAKE	0.00	0.00	0.00		13,837	AS	2
0926C	4	103599		STEWART MOTEL PARKING	FROM ROUTE 0245 (STEWART MOTEL ROAD)	TO PARKING	WEST LAKE	0.00	0.00	0.00		8,031	AS	2
0926D	NC	231849		LAKE MCDONALD PARKING/REAR OF STORE PARKING	ADJACENT TO ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD)		WEST LAKE	0.00	0.00	0.00		2,200	GR	
0927	4	37360		LAKE MCDONALD GENERAL PARKING	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 10.7	TO ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD)	WEST LAKE	0.00	0.00	0.00		57,777	AS	2
0928A	4	37357		LAKE MCDONALD RESTAURANT PARKING	FROM ROUTE 0927 (LAKE MCDONALD GENERAL PARKING)	TO ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD)	WEST LAKE	0.00	0.00	0.00		15,137	AS	2
0928B	4	107707		LAKE MCDONALD RESTAURANT REAR PARKING	FROM ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD) ON RIGHT AT MP 0.4	TO PARKING	WEST LAKE	0.00	0.00	0.00		5,246	AS	2
0929	4	37349		LAKE MCDONALD POST OFFICE PARKING	FROM ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD) ON RIGHT AT MP 0.45	TO PARKING	WEST LAKE	0.00	0.00	0.00		9,211	AS	2
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0930	4	8341		LAKE MCDONALD GENERAL STORE PARKING	ADJACENT TO ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD) AT MP 0.4		WEST LAKE	0.00	0.00	0.00		7,888	AS	2
0932	4	6797		MCDONALD CREEK OVERLOOK	ADJACENT TO ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 14.2		WEST LAKE	0.00	0.00	0.00		8,693	AS	2
0934A	4	38751		AVALANCHE RANGER RESIDENCE PARKING	ADJACENT TO ROUTE 0201 (AVALANCHE CAMPGROUND ENTRANCE ROAD)		WEST LAKE	0.00	0.00	0.00		1,179	AS	2
0934B	4	103544		AVALANCHE CAMPGROUND PARKING B	FROM ROUTE 0201 (AVALANCHE CAMPGROUND ENTRANCE ROAD) AT MP 0.1	TO ROUTE 0201 (AVALANCHE CAMPGROUND ENTRANCE ROAD)	WEST LAKE	0.00	0.00	0.00		2,021	AS	2
0934C	4	103550		AVALANCHE CAMPGROUND PARKING C	ADJACENT TO ROUTE 0201 (AVALANCHE CAMPGROUND ENTRANCE ROAD) AT MP 0.1		WEST LAKE	0.00	0.00	0.00		1,559	AS	2
0934D	4	103563		AVALANCHE CAMPGROUND HANDICAP PARKING	ADJACENT TO ROUTE 0201C (AVALANCHE CAMPGROUND LOOP C) AT MP 0.1		WEST LAKE	0.00	0.00	0.00		1,113	AS	2
0937	NC	37182		GTSR PARKING, LOGAN CREEK PIT	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 20.1	TO PARKING	WEST LAKE	0.00	0.00	0.00		5,685	GR	
0938A	4	6798		LOOP PARKING AREA A	ADJACENT TO ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 23.8		WEST LAKE	0.00	0.00	0.00		4,782	AS	2
0938B	4	103605		LOOP PARKING AREA B	ADJACENT TO ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 23.9		WEST LAKE	0.00	0.00	0.00		7,436	AS	2
0939A	4	6801		GTSR PARKING, ROAD CAMP	ADJACENT TO ROUTE 0010W (GOING TO THE SUN ROAD WEST) ON RIGHT AT MP 26.6		WEST LAKE	0.00	0.00	0.00		2,100	AS	2
0939B	4	103861		ROAD CAMP PARKING AREA B	ADJACENT TO ROUTE 0010W (GOING TO THE SUN ROAD WEST) ON LEFT AT MP 26.6		WEST LAKE	0.00	0.00	0.00		1,832	AS	2

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<sup>\*\*</sup> DCV - Data Collection Vehicle

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(Numerical By Route #)

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Grey = Paved Routes, DCV not Driven

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### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Des From	scription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0942	4	37372		OBERLIN BEND PARKING	ADJACENT TO ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 31.4		WEST LAKE	0.00	0.00	0.00		7,288	AS	2
0943	4	6779		LOGAN PASS PARKING	FROM END OF ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 31.7	TO ROUTE 0010E (GOING TO THE SUN ROAD EAST)	HUDSON BAY	0.00	0.00	0.00		113,319	AS	2
0944	4	6765		LUNCH CREEK PARKING	ADJACENT TO ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 32.7		HUDSON BAY	0.00	0.00	0.00		8,513	AS	5
0946A	4	6766		JACKSON GLACIER AND GUNSIGHT PASS PARKING A	ADJACENT TO ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 36.5		HUDSON BAY	0.00	0.00	0.00		7,894	AS	5
0946B	4	103585		JACKSON GLACIER AND GUNSIGHT PASS PARKING B	ADJACENT TO ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 36.6		HUDSON BAY	0.00	0.00	0.00		9,540	AS	5
0947	4	6767		SUNRIFT GORGE PARKING	ADJACENT TO ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 39.4		HUDSON BAY	0.00	0.00	0.00		3,314	AS	5
0948A	4	6768		SUN POINT PICNIC AREA A	ADJACENT TO ROUTE 0211ZZ (SUN POINT ROADS) AT MP 0.2 ON RIGHT		HUDSON BAY	0.00	0.00	0.00		2,270	AS	5
0948B	4	103855		SUN POINT PICNIC AREA B	FROM END OF ROUTE 0211ZZ (SUN POINT ROADS)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		51,152	AS	5
0949A	4	37243		WILDGOOSE ISLAND PARKING A	ADJACENT TO ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 43.0		HUDSON BAY	0.00	0.00	0.00		3,261	AS	5
0949B	4	103868		WILDGOOSE ISLAND PARKING B	ADJACENT TO ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 42.9		HUDSON BAY	0.00	0.00	0.00		4,151	AS	5
0950	4	6778		RISING SUN BOAT TOURS PARKING	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 43.5	TO PARKING	HUDSON BAY	0.00	0.00	0.00		64,008	AS	5
0951A	4	6775		RISING SUN LODGE BUS PARKING	FROM ROUTE 0212A (RISING SUN LODGE ROAD A)	TO ROUTE 0212A (RISING SUN LODGE ROAD A)	HUDSON BAY	0.00	0.00	0.00		8,757	AS	5
0951B	4	103873		RISING SUN LODGE AND RESTAURANT PARKING	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 43.7	TO ROUTE 0212A (RISING SUN LODGE ROAD A)	HUDSON BAY	0.00	0.00	0.00		57,398	AS	5

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### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess	Route Name	Route Des From	scription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0951C	4	103876		RISING SUN LODGE REAR STORE PARKING	FROM ROUTE 0212A (RISING SUN LODGE ROAD A) AT MP 0.12	TO PARKING	HUDSON BAY	0.00	0.00	0.00		7,327	AS	5
0951D	4	103877		RISING SUN LOWER MOTEL PARKING SOUTH	FROM ROUTE 0212A (RISING SUN LODGE ROAD A) AT MP 0.18	TO PARKING	HUDSON BAY	0.00	0.00	0.00		4,601	AS	5
0951E	4	103878		RISING SUN LOWER MOTEL PARKING NORTH	FROM ROUTE 0212A (RISING SUN LODGE ROAD A) AT MP 0.21	TO PARKING	HUDSON BAY	0.00	0.00	0.00		4,135	AS	5
0951F	4	103879		RISING SUN UPPER MOTEL PARKING SOUTH	FROM ROUTE 0212A (RISING SUN LODGE ROAD A) AT MP 0.24	TO PARKING	HUDSON BAY	0.00	0.00	0.00		5,072	AS	5
0951G	4	103881		RISING SUN UPPER MOTEL PARKING NORTH	FROM ROUTE 0212A (RISING SUN LODGE ROAD A) AT MP 0.3	TO PARKING	HUDSON BAY	0.00	0.00	0.00		2,789	AS	5
0951H	4	107708		RISING SUN RESTAURANT REAR PARKING	FROM ROUTE 0212A (RISING SUN LODGE ROAD A) AT MP 0.2	TO PARKING	HUDSON BAY	0.00	0.00	0.00		5,650	AS	5
0953	4	6777		RISING SUN PICNIC AREA PARKING	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 43.8	TO PARKING	HUDSON BAY	0.00	0.00	0.00		37,869	AS	5
0954	4	37240		TWO DOG FLATS	ADJACENT TO ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 47.0		HUDSON BAY	0.00	0.00	0.00		3,232	AS	5
0955A	4	103882		ST. MARY CAMPGROUND DUMP STATION	FROM ROUTE 0214 (ST. MARY CAMPGROUND ENTRANCE ROAD) AT MP 0.6	TO ROUTE 0214 (ST. MARY CAMPGROUND ENTRANCE ROAD)	HUDSON BAY	0.00	0.00	0.00		2,441	AS	5
0955B	4	103884		ST. MARY CAMPGROUND PARKING B	ADJACENT TO ROUTE 0214A (ST. MARY CAMPGROUND LOOP A) AT MP 0.08		HUDSON BAY	0.00	0.00	0.00		749	AS	5
0955C	4	103885		ST. MARY CAMPGROUND PARKING C	ADJACENT TO ROUTE 0214A (ST. MARY CAMPGROUND LOOP A) AT MP 0.20		HUDSON BAY	0.00	0.00	0.00		2,401	AS	5
0955D	4	103886		ST. MARY CAMPGROUND PARKING D	ADJACENT TO ROUTE 0214A (ST. MARY CAMPGROUND LOOP A) AT MP 0.29		HUDSON BAY	0.00	0.00	0.00		1,025	AS	5

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### **GLAC**

Rte.	ile	FMSS	Concess Route	Route Name	Route Descri	ption	Maint.	Paved	Un- Paved	Total Route	Func.	Manual Rated	Surf.	Area
No.	Cycle Collected	No.	Conc	Route Name	From	То	District	Miles	Miles	Length	Class	SQ/FT	Туре	Maps
0955E	4	103888		ST. MARY CAMPGROUND PARKING E	ADJACENT TO ROUTE 0214A (ST. MARY CAMPGROUND LOOP A) AT MP 0.34		HUDSON BAY	0.00	0.00	0.00		507	AS	5
0955F	4	103889		ST. MARY CAMPGROUND PARKING F	ADJACENT TO ROUTE 0214A (ST. MARY CAMPGROUND LOOP A) AT MP 0.40		HUDSON BAY	0.00	0.00	0.00		808	AS	5
0955G	4	103890		ST. MARY CAMPGROUND PARKING G	ADJACENT TO ROUTE 0214B (ST. MARY CAMPGROUND LOOP B) AT MP 0.06		HUDSON BAY	0.00	0.00	0.00		970	AS	5
0955H	4	103891		ST. MARY CAMPGROUND PARKING H	ADJACENT TO ROUTE 0214B (ST. MARY CAMPGROUND LOOP B) AT MP 0.14		HUDSON BAY	0.00	0.00	0.00		895	AS	5
0955I	4	103892		ST. MARY CAMPGROUND PARKING I	ADJACENT TO ROUTE 0214B (ST. MARY CAMPGROUND LOOP B) AT MP 0.16		HUDSON BAY	0.00	0.00	0.00		941	AS	5
09553	4	103893		ST. MARY CAMPGROUND PARKING J	ADJACENT TO ROUTE 0214B (ST. MARY CAMPGROUND LOOP B) AT MP 0.29		HUDSON BAY	0.00	0.00	0.00		717	AS	5
0955K	4	103894		ST. MARY CAMPGROUND PARKING K	ADJACENT TO ROUTE 0214B (ST. MARY CAMPGROUND LOOP B) AT MP 0.33		HUDSON BAY	0.00	0.00	0.00		1,256	AS	5
0955L	4	103896		ST. MARY CAMPGROUND PARKING L	ADJACENT TO ROUTE 0214B (ST. MARY CAMPGROUND LOOP B) AT MP 0.41		HUDSON BAY	0.00	0.00	0.00		718	AS	5
0956	4	37384		ST. MARY RIVER PARKING	ADJACENT TO ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 48.1		HUDSON BAY	0.00	0.00	0.00		2,286	AS	5
0957A	4	6773		ST. MARY VISITOR CENTER PARKING A	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 49.0	TO PARKING	HUDSON BAY	0.00	0.00	0.00		32,557	AS	5
0957В	4	103897		ST. MARY VISITOR CENTER PARKING B	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 49.4	TO PARKING	HUDSON BAY	0.00	0.00	0.00		26,689	AS	5

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### **GLAC**

Rte.	Cycle Collected	FMSS	Concess Route	Route Name	Route Des	•	Maint.	Paved	Un- Paved	Total Route	Func.	Manual Rated	Surf.	Area
NO.	Cyc	No.			From	То	District	Miles	Miles	Length	Class	SQ/FT	Туре	Maps
0958	4	37385		ST. MARY SEWAGE TREATMENT PLANT PARKING	FROM ROUTE 0102 (ST. MARY RANGER STATION ROAD) AT MP 0.5	TO PARKING	HUDSON BAY	0.00	0.00	0.00		4,765	AS	5
0959A	4	6774		ST. MARY MAINTENANCE AREA PARKING A (HUDSON BAY DISTRICT OFFICE)	ADJACENT TO ROUTE 0102 (ST. MARY RANGER STATION ROAD) ON LEFT AT MP 0.6		HUDSON BAY	0.00	0.00	0.00		1,677	AS	5
0959B	4	107710		ST. MARY MAINTENANCE AREA PARKING B (HUDSON BAY DISTRICT OFFICE)	FROM ROUTE 0102 (ST. MARY RANGER STATION ROAD) ON RIGHT AT MP 0.7	THROUGH MAINTENANCE AREA	HUDSON BAY	0.00	0.00	0.00		35,351	AS	5
0959C	4	107711		ST. MARY MAINTENANCE AREA PARKING C (HUDSON BAY DISTRICT OFFICE)	ADJACENT TO ROUTE 0102 (ST. MARY RANGER STATION ROAD) ON LEFT AT MP 0.7		HUDSON BAY	0.00	0.00	0.00		1,219	AS	5
0960A	4	8329		ST. MARY RESIDENCE AREA PARKING A	ADJACENT TO ROUTE 0402 (ST. MARY RESIDENCE AREA) ON RIGHT AT MP 0.2		HUDSON BAY	0.00	0.00	0.00		1,750	AS	5
0960B	4	107712		ST. MARY RESIDENCE AREA PARKING B	ADJACENT TO ROUTE 0402 (ST. MARY RESIDENCE AREA) ON LEFT AT MP 0.2		HUDSON BAY	0.00	0.00	0.00		1,822	AS	5
0960C	4	107714		ST. MARY RESIDENCE AREA PARKING C	ADJACENT TO ROUTE 0402 (ST. MARY RESIDENCE AREA) ON LEFT AT MP 0.25		HUDSON BAY	0.00	0.00	0.00		1,241	AS	5
0962	4	6833		GOAT LICK PARKING	FROM ROUTE 5000 (STATE ROUTE 2)	TO PARKING	WEST LAKE	0.00	0.00	0.00		31,699	AS	7
0963	NC	6794		EAST GLACIER COMPOUND PARKING	FROM U.S. HIGHWAY 49	TO INSIDE COMPOUND PARKING AREA	HUDSON BAY	0.00	0.00	0.00		41,700	GR	
0964	4	37380		RUNNING EAGLE FALLS PARKING	FROM ROUTE 0012 (TWO MEDICINE ROAD) AT MP 5.2	TO ROUTE 0012 (TWO MEDICINE ROAD)	HUDSON BAY	0.00	0.00	0.00		11,636	AS	6
0965	4	6793		TWO MEDICINE PARKING	FROM END OF ROUTE 0012 (TWO MEDICINE ROAD) AT MP 7.3	TO PARKING	HUDSON BAY	0.00	0.00	0.00		30,935	AS	6
0966A	4	37296		TWO MEDICINE RANGER STATION PARKING A	ADJACENT TO ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD) AT MP 0.0		HUDSON BAY	0.00	0.00	0.00		1,661	AS	6
0966B	4	107715		TWO MEDICINE RANGER STATION PARKING B	FROM ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD) AT MP 0.0	TO PARKING	HUDSON BAY	0.00	0.00	0.00		4,289	AS	6

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### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Des From	scription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0967	4	37234		POIA LAKE PARKING	ADJACENT TO ROUTE 0014 (MANY GLACIER ROAD) AT MP 10.3		HUDSON BAY	0.00	0.00	0.00		3,707	AS	4
0968A	4	6788		MANY GLACIER HOTEL 15 MINUTE PARKING	ADJACENT TO ROUTE 0210 (MANY GLACIER HOTEL ROAD) AT MP 0.2		HUDSON BAY	0.00	0.00	0.00		1,512	AS	4
0968B	5	107716		MANY GLACIER HOTEL HANDICAP PARKING	ADJACENT TO ROUTE 0210 (MANY GLACIER HOTEL ROAD) AT MP 0.3		HUDSON BAY	0.00	0.00	0.00		4,145	AS	4
0968C	4	107717		MANY GLACIER HOTEL TRAILHEAD PARALLEL PARKING	ADJACENT TO ROUTE 0210 (MANY GLACIER HOTEL ROAD) ON LEFT AT MP 0.5		HUDSON BAY	0.00	0.00	0.00		1,887	AS	4
0968D	4	107718		MANY GLACIER HOTEL TRAILHEAD PARKING	FROM ROUTE 0210 (MANY GLACIER HOTEL ROAD) AT MP 0.5	TO ROUTE 0210 (MANY GLACIER HOTEL ROAD)	HUDSON BAY	0.00	0.00	0.00		80,890	AS	4
0968E	5	232976		MANY GLACIER HOTEL SOUTH PARKING	ADJACENT TO ROUTE 0210 (MANY GLACIER HOTEL ROAD)		HUDSON BAY	0.00	0.00	0.00		2,156	AS	4
0971	4	37222		MANY GLACIER HELIPAD PARKING	FROM ROUTE 0014 (MANY GLACIER ROAD) AT MP 11.9	TO HELIPAD	HUDSON BAY	0.00	0.00	0.00		9,279	AS	4
0972	4	6786		MANY GLACIER PICNIC AREA PARKING	FROM ROUTE 0014 (MANY GLACIER ROAD) AT MP 12.0	TO ROUTE 0014 (MANY GLACIER ROAD)	HUDSON BAY	0.00	0.00	0.00		25,185	AS	4
0973A	4	6790		SWIFT CURRENT CABINS ROAD PARKING AREA A	FROM ROUTE 0208A (SWIFT CURRENT CABINS ROAD) AT MP 0.2	TO ROUTE 0208A (SWIFT CURRENT CABINS ROAD)	HUDSON BAY	0.00	0.00	0.00		7,501	AS	4
0973B	4	103899		SWIFT CURRENT CABINS ROAD PARKING AREA B/ ICEBERG LAKE TRAILHEAD PARKING	ADJACENT TO ROUTE 0208A (SWIFT CURRENT CABINS ROAD) AT MP 0.2		HUDSON BAY	0.00	0.00	0.00		3,752	AS	4
0973C	4	103900		SWIFT CURRENT CABINS ROAD PARKING AREA C	FROM ROUTE 0208A (SWIFT CURRENT CABINS ROAD) AT MP 0.3	TO ROUTE 0208A (SWIFT CURRENT CABINS ROAD) AT MP 0.35	HUDSON BAY	0.00	0.00	0.00		7,731	AS	4
0973D	4	103901		SWIFT CURRENT CABINS ROAD PARKING AREA D	FROM ROUTE 0208A (SWIFT CURRENT CABINS ROAD) AT MP 0.4	TO ROUTE 0208A (SWIFT CURRENT CABINS ROAD) AT MP 0.45	HUDSON BAY	0.00	0.00	0.00		7,605	AS	4
0973E	4	103902		SWIFT CURRENT CABINS ROAD PARKING AREA E	FROM ROUTE 0208A (SWIFT CURRENT CABINS ROAD) AT MP 0.5	TO PARKING	HUDSON BAY	0.00	0.00	0.00		9,636	AS	4

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### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Des From	cription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0974	4	6789		SWIFT CURRENT MOTOR INN PARKING	FROM END OF ROUTE 0014 (MANY GLACIER ROAD) AT MP 12.4	TO PARKING	HUDSON BAY	0.00	0.00	0.00		56,272	AS	4
0975	4	37053		CRUSHER HILL PARKING	FROM ROUTE 0013 (CHIEF MOUNTAIN INTERNATIONAL HIGHWAY) AT MP 4.84	TO ROUTE 0013 (CHIEF MOUNTAIN INTERNATIONAL HIGHWAY) AT MP 5.06	HUDSON BAY	0.00	0.00	0.00		38,908	AS	3
0976	4	6782		BELLY RIVER TRAILHEAD PARKING	FROM ROUTE 0013 (CHIEF MOUNTAIN INTERNATIONAL HIGHWAY) US-CANADIAN BORDER AT MP 14.1	TO ROUTE 0013 (CHIEF MOUNTAIN INTERNATIONAL HIGHWAY)	HUDSON BAY	0.00	0.00	0.00		25,746	AS	3
0978	NC	38006		TWO MEDICINE GENERAL STORE PARKING	FROM ROUTE 0012 (TWO MEDICINE ROAD) AT MP 7.2	TO PARKING	HUDSON BAY	0.00	0.00	0.00		15,048	GR	
0979	NC	38007		TWO MEDICINE SCENIC CRUISE PARKING	FROM ROUTE 0965 (TWO MEDICINE PARKING)	TO BOAT DOCK PARKING	HUDSON BAY	0.00	0.00	0.00		3,763	GR	
0980	NC	38008		TWO MEDICINE EMPLOYEE HOUSING PARKING	FROM ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		5,120	GR	
0981	NC	38009		TWO MEDICINE SCENIC POINT PARKING	FROM ROUTE 0012 (TWO MEDICINE ROAD) AT MP 6.8	TO PARKING	HUDSON BAY	0.00	0.00	0.00		15,190	GR	
0982	NC	38011		ST. MARY BONE YARD PARKING	FROM END OF ROUTE 0102 (ST. MARY RANGER STATION ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		45,780	GR	
0983	4	38012		GRIZZLY POINT PARKING	ADJACENT TO ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 37.3 ON RIGHT		HUDSON BAY	0.00	0.00	0.00		17,156	AS	5
0984	4	107719		APGAR CAMPGROUND DUMP STATION	FROM ROUTE 0205 (APGAR CAMPGROUND ENTRANCE ROAD)	TO ROUTE 0205A (APGAR CAMPGROUND LOOP A)	WEST LAKE	0.00	0.00	0.00		2,752	AS	1
0985	4	107720		TWO MEDICINE CAMPGROUND DUMP STATION	FROM ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD) AT MP 0.1	TO ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD)	HUDSON BAY	0.00	0.00	0.00		3,001	AS	6
0986A	4	107721		LOGAN LANE RESIDENCE PARKING A	ADJACENT TO ROUTE 0409B (LOGAN LANE)		WEST LAKE	0.00	0.00	0.00		3,224	AS	1
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<sup>\*</sup>Unpaved route data was obtained from NPS and was not inventoried by the Road Inventory Program (RIP).

<sup>\*\*</sup> DCV - Data Collection Vehicle

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Grey = Paved Routes, DCV not Driven

Black = State, Local or Private non-NPS Routes

= Concession Route Flag ON

\*\*\* Only Functional Class 1, 2, & 7 routes, and previously uncollected routes were collected in Cycle 5

### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess	Route Name	Route Desc From	cription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0986B	4	107722		LOGAN LANE PARKING B	ADJACENT TO ROUTE 0409B (LOGAN LANE) AT MP 0.1		WEST LAKE	0.00	0.00	0.00		7,362	AS	1
0987	4	107723		COMMUNITY BUILDING PARKING	FROM ROUTE 0409E (MATHER DRIVE) AT MP 0.2	TO PARKING	WEST LAKE	0.00	0.00	0.00		18,811	AS	1
0988	4	107724		APGAR VISITOR CENTER PARKING	FROM ROUTE 0101 (APGAR LOOP ROAD) ON LEFT AT MP 0.2	TO PARKING	WEST LAKE	0.00	0.00	0.00		13,233	AS	1
0989A	4	107725		MANY GLACIER RANGER STATION PARKING	ADJACENT TO ROUTE 0401 (MANY GLACIER RESIDENCE AREA) ON RIGHT AT MP 0.0		HUDSON BAY	0.00	0.00	0.00		1,201	AS	4
0989B	4	107726		MANY GLACIER PARKING B	FROM ROUTE 0401 (MANY GLACIER RESIDENCE AREA) AT MP 0.0	TO ROUTE 0401 (MANY GLACIER RESIDENCE AREA)	HUDSON BAY	0.00	0.00	0.00		3,577	AS	4
0989C	4	107727		MANY GLACIER RESIDENCE PARKING	FROM ROUTE 0401 (MANY GLACIER RESIDENCE AREA) AT MP 0.2	TO ROUTE 0401 (MANY GLACIER RESIDENCE AREA)	HUDSON BAY	0.00	0.00	0.00		10,040	AS	4
0990	4	107728		MANY GLACIER DUMP STATION	FROM ROUTE 0014 (MANY GLACIER ROAD) ON LEFT JUST BEFORE ROUTE 0401 (MANY GLACIER RESIDENCE AREA) AT MP 12.3	TO ROUTE 0014 (MANY GLACIER ROAD)	HUDSON BAY	0.00	0.00	0.00		2,514	AS	4
0991	4	107729		MANY GLACIER ENTRANCE PARKING	ADJACENT TO ROUTE 0014 (MANY GLACIER ROAD) ON RIGHT AT MP 7.5		HUDSON BAY	0.00	0.00	0.00		3,576	AS	4
0992A	4	107730		TWO MEDICINE PARKING A	ADJACENT TO ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD) AT MP 0.2		HUDSON BAY	0.00	0.00	0.00		1,893	AS	6
0992B	4	107731		TWO MEDICINE PARKING B	ADJACENT TO ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD)		HUDSON BAY	0.00	0.00	0.00		3,864	AS	6
0992C	4	107732		TWO MEDICINE PARKING C	ADJACENT TO ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD) AT MP 0.5		HUDSON BAY	0.00	0.00	0.00		1,570	AS	6
0993A	4	107733		TWO MEDICINE PICNIC PARKING A	ADJACENT TO ROUTE 0207D (TWO MEDICINE PICNIC AREA LOOP) AT MP 0.1		HUDSON BAY	0.00	0.00	0.00		1,161	AS	6

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Road Inventory Program 07/04/2012

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\*\*\* Only Functional Class 1, 2, & 7 routes, and previously uncollected routes were collected in Cycle 5

### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess	Route Name	Route Des	scription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0993B	4	107734		TWO MEDICINE PICNIC PARKING B	ADJACENT TO ROUTE 0207D (TWO MEDICINE PICNIC AREA LOOP) AT MP 0.17		HUDSON BAY	0.00	0.00	0.00		1,368	AS	6
0993C	4	107735		TWO MEDICINE PICNIC PARKING C	ADJACENT TO ROUTE 0207D (TWO MEDICINE PICNIC AREA LOOP) AT MP 0.18		HUDSON BAY	0.00	0.00	0.00		1,267	AS	6
0993D	4	107736		TWO MEDICINE PICNIC PARKING D	ADJACENT TO ROUTE 0207D (TWO MEDICINE PICNIC AREA LOOP) AT MP 0.2		HUDSON BAY	0.00	0.00	0.00		1,716	AS	6
0993E	4	107737		TWO MEDICINE PICNIC PARKING E	ADJACENT TO ROUTE 0207D (TWO MEDICINE PICNIC AREA LOOP) AT MP 0.25		HUDSON BAY	0.00	0.00	0.00		1,433	AS	6
0994	4	107738		WEST GLACIER INFO KIOSK PARKING	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 1.1	TO ROUTE 0010W (GOING TO THE SUN ROAD WEST)	WEST LAKE	0.00	0.00	0.00		4,965	AS	1
0995	4	107739		HANDICAP PARKING	ADJACENT TO ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 12.4		WEST LAKE	0.00	0.00	0.00		1,195	AS	2
0996	4	107740		RISING SUN CAMPGROUND DUMP STATION	FROM ROUTE 0213B (RISING SUN CAMPGROUND ROAD B) AT MP 0.1	TO ROUTE 0213A (RISING SUN CAMPGROUND ROAD A)	HUDSON BAY	0.00	0.00	0.00		4,818	AS	5
0997	4	107741		AVALANCHE SHUTTLE STOP PARKING	ADJACENT TO ROUTE 0010W (GOING TO THE SUN ROAD WEST) AT MP 16.2		WEST LAKE	0.00	0.00	0.00		7,179	AS	2
0998	4	107742		PAVED HORSE BARN PARKING	FROM ROUTE 0206 (WASTE WATER TREATMENT PLANT ROAD)	TO PARKING	WEST LAKE	0.00	0.00	0.00		3,183	AS	1
0999	NC	107925		QUARTER CIRCLE PARKING MULE SHOE	FROM ROUTE 0206 (WASTE WATER TREATMENT PLANT ROAD)	TO PARKING	WEST LAKE	0.00	0.00	0.00		7,800	GR	
1000	NC	107926		QUARTER CIRCLE PARKING HAY BARN	FROM ROUTE 0206 (WASTE WATER TREATMENT PLANT ROAD)	TO PARKING	WEST LAKE	0.00	0.00	0.00		13,000	GR	

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Road Inventory Program 07/04/2012

(Numerical By Route #)

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### **GLAC**

Rte. No.	Cycle Collected	FMSS No.	Concess	Route Name	Route Des	cription To	Maint. District	Paved Miles	Un- Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
1001	NC	107928		QUARTER CIRCLE PARKING APGAR LOOKOUT	FROM ROUTE 0206 (WASTE WATER TREATMENT PLANT ROAD)		WEST LAKE	0.00	0.00	0.00		8,100	GR	
1002	NC	108092		GTSR AVALANCHE PATHS	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		11,950	GR	
1003	NC	108097		MANY GLACIER BOAT CONCESSIONAIRE	FROM ROUTE 0210 (MANY GLACIER HOTEL ROAD)	TO END OF ROUTE 0417 (MANY GLACIER ROAD ICE HOUSE)	HUDSON BAY	0.00	0.00	0.00		1,482	GR	
1004	NC	108157		ST. MARY RED EAGLE TRAILHEAD	FROM ROUTE 0102 (ST. MARY RANGER STATION ROAD) AT MP 0.3	TO PARKING	HUDSON BAY	0.00	0.00	0.00		6,060	GR	
1005	NC	108108		MANY GLACIER CARETAKERS RES. AREA	FROM ROUTE 0210 (MANY GLACIER HOTEL ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		1,968	GR	
1006	NC	108158		ST. MARY HOUSING AREA UNPAVED PARKING	FROM ROUTE 0402 (ST. MARY RESIDENCE AREA)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		3,960	GR	
1007	NC	108111		MANYGLACIER MULE SHOE PARKING	FROM ROUTE 0014 (MANY GLACIER ROAD)	TO ROUTE 0418 (MANY GLACIER ROAD HORSE STABLES LAGOON)	HUDSON BAY	0.00	0.00	0.00		9,975	GR	
1008	NC	108161		ST. MARY RESIDENCE AREA DORM PARKING	FROM ROUTE 0402 (ST. MARY RESIDENCE AREA)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		3,335	GR	
1009	NC	108175		ST. MARY COMPOUND PARKING	FROM ROUTE 0402 (ST. MARY RESIDENCE AREA)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		1,564	GR	
1010	NC	108176		EAST GLACIER RANGER STATION PARKING	FROM U.S. HIGHWAY 49	TO NORTH SIDE OF RANGER STATION	HUDSON BAY	0.00	0.00	0.00		3,900	GR	
1011	NC	108178		WALTON PARK/OLE CREEK TRAILHEAD PARKING	FROM ROUTE 0240 (WALTON RANGER STATION ROAD)	TO PARKING	WEST LAKE	0.00	0.00	0.00		800	GR	
1012	NC	108180		WALTON FIRE CACHE PARKING	FROM ROUTE 0240 (WALTON RANGER STATION ROAD)	TO GARAGE/FIRE CACHE	WEST LAKE	0.00	0.00	0.00		1,400	GR	
1014	NC	108100		GTSR SUNRIFT GORGE PARKING	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		3,584	GR	
1015	NC	108101		GTSR BARING CREEK CABIN	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		2,700	GR	

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Road Inventory Program 07/04/2012

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### **GLAC**

Rte.	e ed	FMSS	ess		Route Des	cription	Maint.	Paved	Un-	Total	Func.	Manual	Surf.	Area
No.	Cycle Collected	No.	Concess Route	Route Name	From	То	District	Miles	Paved Miles	Route Length	Class	Rated SQ/FT	Туре	Maps
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1016	NC	108104		MANY GLACIER ROAD/SHERBURNE DAM (NORTH)	FROM ROUTE 0014 (MANY GLACIER ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		6,969	GR	
1017	NC	108109		MANY GLACIER ROAD/SHERBURNE DAM (SOUTH)	FROM ROUTE 0014 (MANY GLACIER ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		9,056	GR	
1018	NC	108112		MANY GLACIER ROAD/WINDY CREEK	FROM ROUTE 0014 (MANY GLACIER ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		2,034	GR	
1019	NC	108156		SWIFTCURRENT CABINS ROAD PARKING	FROM ROUTE 0208A (SWIFT CURRENT CABINS ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		1,940	GR	
1020	NC	108159		SWIFTCURRENT CABINS ROAD PARKING, PUBLIC SHOWER AREA	FROM ROUTE 0208A (SWIFT CURRENT CABINS ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		1,800	GR	
1021	NC	108160		SWIFTCURRENT CABINS ROAD PARKING, EMPLOYEE SHOWER	FROM ROUTE 0208A (SWIFT CURRENT CABINS ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		2,040	GR	
1022	NC	108162		SWIFTCURRENT CABINS ROAD PARKING, RESTAURANT SERVICE AREA	FROM ROUTE 0208A (SWIFT CURRENT CABINS ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		7,200	GR	
1023	NC	108164		MANY GLACIER ROAD BOAT RAMP PARKING	FROM ROUTE 0014 (MANY GLACIER ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		3,000	GR	
1024	NC	108166		MANY GLACIER ROAD HOTEL LOWER MAINTENANCE PARKING	FROM ROUTE 0210 (MANY GLACIER HOTEL ROAD)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		5,400	GR	
1036	NC	108169		ST. MARY CORRALS PARKING	FROM ROUTE 0402 (ST. MARY RESIDENCE AREA)	TO PARKING	HUDSON BAY	0.00	0.00	0.00		11,700	GR	
1037	NC	108171		CUT BANK CREEK TRAILHEAD PARKING	FROM U.S. HIGHWAY 89	TO END OF ROUTE 0219 (CUT BANK ROAD)	HUDSON BAY	0.00	0.00	0.00		6,480	GR	
1038	NC	108173		TWO MEDICINE CAMPGROUND GROUP AREA PARKING	FROM ROUTE 0012 (TWO MEDICINE ROAD)	TO OF ROUTE 0207 (TWO MEDICINE CAMPGROUND ENTRANCE ROAD)	HUDSON BAY	0.00	0.00	0.00		2,190	GR	
1039	NC	108174		UNPAVED HORSE BARN PARKING	FROM ROUTE 0206 (WASTE WATER TREATMENT PLANT ROAD)	TO PARKING	WEST LAKE	0.00	0.00	0.00		3,296	GR	
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<sup>\*</sup>Unpaved route data was obtained from NPS and was not inventoried by the Road Inventory Program (RIP).

<sup>\*\*</sup> DCV - Data Collection Vehicle

Road Inventory Program 07/04/2012

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### **GLAC**

Rte.	cted	FMSS	oncess Route	Route Name	Route Des	scription	Maint.	Paved	Un- Paved		Func.	Manual Rated	Surf.	Area
No.	Cycle Collecte	No.	So o		From	То	District	Miles	Miles	Length	Class	SQ/FT	Туре	Maps
1040	5	228276		LAKE MCDONALD LEWIS DORM EMPLOYEE PARKING	FROM ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD)	TO PARKING	WEST LAKE	0.00	0.00	0.00		1,128	AS	2
1041	5	230217		APGAR TRANSIT CENTER PARKING	FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST)	TO PARKING	WEST LAKE	0.00	0.00	0.00		94,459	AS	1
5000	4			STATE ROUTE 2	FROM END OF BRIDGE AT WALTON (NEAR GLACIER NP SIGN)	TO TRAIN TRESSLE (NEAR GLACIER NP SIGN)	WEST LAKE	3.48	0.00	3.48		0	AS	7

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

<sup>\*\*</sup> DCV - Data Collection Vehicle

<sup>\*\*\*</sup> Only Functional Class 1, 2, & 7 routes, and previously uncollected routes were collected in Cycle 5

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(Numerical By Route #)

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Yellow = Unpaved Routes, DCV not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Grey = Paved Routes, DCV not Driven

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\*\*\* Only Functional Class 1, 2, & 7 routes, and previously uncollected routes were collected in Cycle 5

#### CYCLE 5 COLLECTED SUMMARY TOTALS FOR GLACIER NATIONAL PARK **CYCLE 5 COLLECTED CONCESSION TOTALS CYCLE 5 COLLECTED ROUTE TOTALS Concession Paved Route Miles** 0.18 **DCV Driven Route Miles** 100.18 Concession Paved Parking Area SOFT **Manually Rated Route Miles** 0.00 **TOTAL PARK ROUTE MILES COLLECTED IN CYCLE 5** 100.18 **Concession Manually Rated Rotes SQFT** Manually Rated Routes (SQFT) CYCLE 5 COLLECTED WEIGHTED AVERAGE PARK VALUES \* CYCLE 5 COLLECTED PARKING AREA TOTALS **DCV Driven PCR** 84 Paved Parking (SQFT) 101,888 \*\*Manually Rated Routes PCR N/A \*\*Parking PCR 94 \*\*\*Total Equivalent Lane Miles 232.70

TOTAL PARK SUMM	ARY FOR GLACIER NATIONAL PARK
ROUTE TOTALS	
TOTAL PAVED PARK ROUTE MILES 1:	5.91
TOTAL PAVED PARKING (SQFT) 1,649	<b>9,784</b>

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

<sup>\*\*</sup> DCV - Data Collection Vehicle

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

<sup>\*\*\* -</sup> Equivalent Lane Miles are calculated by route using the following equations : DCV and Manually Rated Lines Routes=(PAVE\_WIDTHxPAVED\_MI)/11 foot lane. Parking Areas=SQ\_FEET/5280/11. Manually Rated Polygons=SQ\_FEET/5280/11.

Road Inventory Program 07/04/2012

(Numerical By Route #)

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Shading Color Key: Red text denotes approx. mileage

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#### **General Park Road Functional Classification Table**

- Class 1 Principal Park Road/Rural Parkway (Public Roads) Roads which constitute the main access route, circulatory tour, or thoroughfare for park visitors. Route Numbers 1 - 99. Note: Rural parkways (e.g. Natchez Trace) are numbered 1 - 9. State Routes Inventoried for Park, Route Numbers 5000-5999
- Connector Park Road (Public Roads) Roads which provide access within a park to areas of scenic, scientific, recreational or cultural interest, such as overlooks, Class 2 camparounds, etc. Route Numbers 100-199.
- Special Purpose Park Road (Public Roads) Roads which provide circulation within public areas, such as campgrounds, picnic areas, visitor center complexes, Class 3 concessionaire facilities, etc. These roads generally serve low-speed traffic and are often designed for one-way circulation. Route Numbers 200-299.
- Primitive Park Roads (Public Roads) Roads which provide circulation through remote areas and/or access to primitive campgrounds and undeveloped areas. These Class 4 roads frequently have no minimum design standards and their use may be limited to specially equipped vehicles. Route Numbers 200-299. Note: Functional Classes 3 and 4 have the same route numbers because, historically, they were numbered similarly.
- Administrative Access Road (Administrative Roads) All public roads intended for access to administrative developments or structures such as park offices, employee quarters, or utility areas. Route Numbers 400-499.
- Restricted Road (Administrative Roads) All roads normally closed to the public, including patrol roads, truck trails, and other similar roads. Route Numbers 400-499. Class 6 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.
- Urban Parkway (Urban Parkways and City Streets) These facilities serve high volumes of park and non-park related traffic and are restricted, limited-access facilities in Class 7 an urban area. This category of roads primarily encompasses the major parkways which serve as gateways to our nation's capital. Other major park roads or portions thereof, however, may be included in this category. Route Numbers 1-9.
- City Streets (Urban Parkways and City Streets) City streets are usually extensions of the adjoining street system that are owned and maintained by the National Park Class 8 Service. The construction and/or reconstruction should conform with accepted local engineering practice and local conditions. Route Numbers 600-699.

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

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

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

#### **Surface Type Abbreviations:**

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AS - Asphaltic Concrete Pavement

**CO - Portland Cement Concrete Pavement** 

BR - Brick or Pavers Road Bed

**CB - Cobble Stone Road Bed** 

**GR - Gravel Road Bed** 

SA - Sand Road Bed

NV - Native or Dirt Material Road Bed

**OT - Other Materials Road Bed** 

<sup>\*</sup>Unpayed route data was obtained from NPS and was not inventoried by the Road Inventory Program (RIP)

<sup>\*\*</sup> DCV - Data Collection Vehicle

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

Road Inventory Program 07/04/2012

(Numerical By Subcomponent #)

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**GLAC** 

Asset Entered in FMSS System											
Rte. No.	FMSS No.	Cycle Collected	Route Name		escription	Concess Route	Func. Class	Paved Miles	Un- Paved Miles	Total Route Length	Manual Rated SQ/FT
NO.		00	Noute Name	From	То	0 &	ĒО	Miles	MIIES		3Q/F1
0211ZZ	5730	5	SUN POINT ROADS	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST)	TO ROUTE 0211Z (SUN POINT ROAD) AND ROUTE 0948B (SUN POINT PICNIC AREA B)		3	0.32	0.00	0.32	0

Asset	Asset GLAC-0211ZZ Subcomponent Breakdown										
Rte. No.	FMSS No.	Cycle Collected	Route Name	Route De From	scription To	Concess Route	Func. Class	Paved Miles	Un- Paved Miles	Total Route Length	Manual Rated SQ/FT
0211AZ	5730	5	SUN POINT ROAD CUT THROUGH	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 8.08	TO ROUTE 0211Z (SUN POINT ROAD CUT THROUGH)		3	0.08	0.00	0.08	0
0211Z	5730	5	SUN POINT ROAD	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 8.15	TO ROUTE 0948B (SUN POINT PICNIC AREA B)		3	0.24	0.00	0.24	0

	ROUTES ADDED FROM PREVIOUS INVENTORY:							
Route #	Route Name	Reason for Addition	Comments					
0968E	MANY GLACIER HOTEL SOUTH PARKING	OTHER	NEW ROUTE ADDED IN CYCLE 5.					
1040	LAKE MCDONALD LEWIS DORM EMPLOYEE PARKING	OTHER	NEW ROUTE ADDED IN CYCLE 5.					
1041	APGAR TRANSIT CENTER PARKING	OTHER	NEW ROUTE ADDED IN CYCLE 5.					
	ROUTES	MODIFIED FROM PREVIOUS II	NVENTORY:					
Route #	Route Name	Type of Modification	Comments					
0010E	GOING TO THE SUN ROAD EAST	LENGTH CHANGE	ROUTE DRIVEN 0.12 MILES LONGER IN CYCLE 5 BECAUSE THE CYCLE 4 COLLECTION ENDED TOO EARLY (ENDED AT ENTRANCE SIGN INSTEAD OF AT BEGIN BRIDGE AS IT SHOULD HAVE)					
0211ZZ	SUN POINT ROADS	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS (FC) CHANGED FROM FC 5 TO FC 3. THE LENGTH IS LONGER IN CYCLE 5 BECAUSE THE SPUR WAS ADDED TO THIS ROUTE.					
0212A	RISING SUN LODGE ROAD A	ROUTE SPLIT	ROUTE 0212A (AS COLLECTED IN CYCLE 4) WAS SPLIT INTO CONCESSIONAIRE (0212F) AND NON-CONCESSIONAIRE (0212A) PORTIONS DURING THE C5 ROUTE ID MEETING. ROUTE LENGTH DECREASED FROM 0.28 MI IN CYCLE 4 TO 0.189 MI IN CYCLE 5 DUE TO SPLIT.					
0212B	RISING SUN LODGE ROAD B	ROUTE SPLIT	ROUTE 0212B (AS COLLECTED IN CYCLE 4) WAS SPLIT INTO CONCESSIONAIRE (0212D) AND NON-CONCESSIONAIRE (0212B) PORTIONS DURING THE C5 ROUTE ID MEETING. ROUTE LENGTH DECREASED FROM 0.13 MI IN CYCLE 4 TO 0.06 MI IN CYCLE 5 DUE TO SPLIT.					
0212D	RISING SUN LODGE ROAD D	ROUTE SPLIT	NEW ROUTE ADDED DUE TO SPLITTING ROUTE 0212B (AS COLLECTED IN CYCLE 4) INTO CONCESSIONAIRE (0212D) AND NON-CONCESSIONAIRE (0212B) PORTIONS DURING THE CYCLE 5 ROUTE ID MEETING.					

ROUTES MODIFIED FROM PREVIOUS INVENTORY:							
Route #	Route Name	Type of Modification	Comments				
0212F	RISING SUN LODGE ROAD F	ROUTE SPLIT	NEW ROUTE ADDED DUE TO SPLITTING ROUTE 0212A (AS COLLECTED IN CYCLE 4) INTO CONCESSIONAIRE (0212F) AND NON-CONCESSIONAIRE (0212A) PORTIONS DURING THE CYCLE 5 ROUTE ID MEETING.				
0245	STEWART MOTEL ROAD	ROUTE SPLIT	NEW ROUTE ADDED DUE TO SPLITTING ROUTE 0926C (AS COLLECTED IN CYCLE 4) INTO CONCESSIONAIRE (0245) AND NON-CONCESSIONAIRE (0926C) PORTIONS IN CYCLE 5. THIS ROUTE WAS NOT RECOLLECTED IN CYCLE 5.				
0926C	STEWART MOTEL PARKING	ROUTE SPLIT	ROUTE 0926C (AS COLLECTED IN CYCLE 4) WAS SPLIT INTO CONCESSIONAIRE (0245) AND NON-CONCESSIONAIRE (0926C) PORTIONS IN CYCLE 5. THIS ROUTE WAS NOT RECOLLECTED IN CYCLE 5.				
0968B	MANY GLACIER HOTEL HANDICAP PARKING	SQ FEET CHANGE	SHAPE RECOLLECTED PER PARKS REQUEST BECAUSE THE CYCLE 4 SHAPE WAS MISSING A SIGNIFICANT PORTION OF THE PARKING AREA.				

	OTHER CHANGES FROM PREVIOUS INVENTORY:							
Route #	Route Name	Type of Change	Comments					
0101	APGAR LOOP ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS (FC) CHANGED FROM FC 2 TO FC 1 IN CYCLE 5.					
0401	MANY GLACIER RESIDENCE AREA	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS (FC) CHANGED FROM FC 6 TO FC 5 DURING WEB ROUTE ID MEETING.					
0402	ST. MARY RESIDENCE AREA	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS (FC) CHANGED FROM FC 5 TO FC 6 DURING WEB ROUTE ID MEETING.					
0404	GRIST ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS (FC) CHANGED FROM FC 5 TO FC 6 DURING WEB ROUTE ID MEETING.					
0407	CAMEL'S HUMP ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS (FC) CHANGED FROM FC 2 TO FC 3 ON 9/23/2010 AFTER DISCUSSING WITH PARK. ROUTE DOES NOT PROVIDE ACCESS WITHIN THE PARK AND DEAD ENDS AT A GRAVEL PILE.					
0409C	SPERRY DRIVE	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS (FC) CHANGED FROM FC 5 TO FC 6 DURING WEB ROUTE ID MEETING.					
0409D	ALBRIGHT CIRCLE	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS (FC) CHANGED FROM FC 5 TO FC 6 DURING WEB ROUTE ID MEETING.					
0409F	RHULE DRIVE	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS (FC) CHANGED FROM FC 5 TO FC 6 DURING WEB ROUTE ID MEETING.					
0968C	MANY GLACIER HOTEL TRAILHEAD PARALLEL PARKING	SQ FEET CHANGE	ROUTE SHAPE WAS VERIFIED DURING THE DCV COLLECTION TRIP. THE SHAPE HAS NOT CHANGED BUT THE AREA WAS UPDATED AS IT WAS INCORRECTLY REPORTED AS 80,890 SQ. FT. IN CYCLE 4; AREA IS 1,887 SQ. FT.					

	ROUTES REMOVED FROM PREVIOUS INVENTORY:							
Route #	Route Name	Reason for Removal	Comments					
0935	REDROCK POINT PULLOFF	OTHER	ROUTE REMOVED PER PARK'S REQUEST DURING THE CYCLE 5 ROUTE ID MEETING BECAUSE IT IS A PULLOUT.					
0936	AVALANCHE INTERP. PULLOFF	OTHER	ROUTE REMOVED PER PARK'S REQUEST DURING THE CYCLE 5 ROUTE ID MEETING BECAUSE IT IS A PULLOUT.					
0940	BIRD WOMAN FALLS	OTHER	ROUTE REMOVED PER PARK'S REQUEST DURING THE CYCLE 5 ROUTE ID MEETING BECAUSE IT IS A PULLOUT.					
0941A	BIG BEND PARKING A	OTHER	ROUTE REMOVED PER PARK'S REQUEST DURING THE CYCLE 5 ROUTE ID MEETING BECAUSE IT IS A PULLOUT.					
0941B	BIG BEND PARKING B	OTHER	ROUTE REMOVED PER PARK'S REQUEST DURING THE CYCLE 5 ROUTE ID MEETING BECAUSE IT IS A PULLOUT.					
0945A	SIYEH BEND PARKING A	OTHER	ROUTE REMOVED PER PARK'S REQUEST DURING THE CYCLE 5 ROUTE ID MEETING BECAUSE IT IS A PULLOUT.					
0945B	SIYEH BEND PARKING B	OTHER	ROUTE REMOVED PER PARK'S REQUEST DURING THE CYCLE 5 ROUTE ID MEETING BECAUSE IT IS A PULLOUT.					

# **Section 3 Park Summary Information**



Glacier National Park



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

	Pavement Condition Rating (PCR)								
	Poor (	0-60)	Fair (6	1-84)	Good	(85-94)	Excellent	(95-100)	TOTAL
F.C.	MILES	%	MILES	%	MILES	%	MILES	%	MILES
1	11.38	11.36%	23.42	23.38%	23.04	23.00%	38.57	38.50%	96.41
2	0.28	0.28%	1.10	1.10%	1.13	1.13%	0.46	0.46%	2.97
3	0.08	0.08%	0.18	0.18%	0.24	0.24%	0.29	0.29%	0.79
4									
5									
6									
7									
8									
Totals	11.74	11.72%	24.70	24.66%	24.41	24.37%	39.32	39.25%	100.17

Note:

The information in this table is derived from the PMS\_20 table in the Park database, which only contains processed data from routes collected with the Data Collection Vehicle (DCV). Information for Manually Rated Routes (MRR) and Parking Areas is not reported in this table. Only Functional Class 1, 2, & 7 routes, and any new routes not previously collected by RIP, are collected in Large Parks.

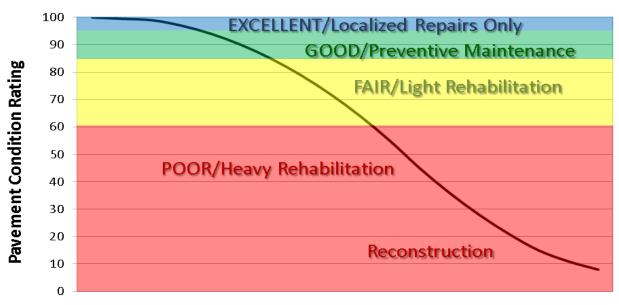
#### Explanation of the Excellent, Good, Fair and Poor Condition Descriptions

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

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

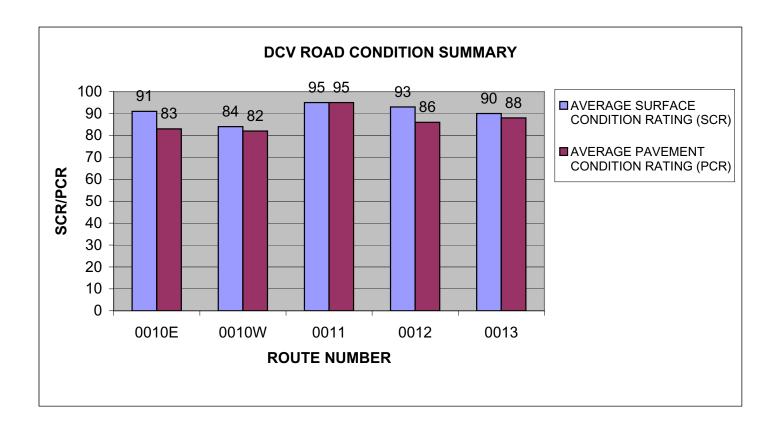
At this time, specific Maintenance and Rehabilitation activities should be evaluated and recommended at the project level. Site-specific conditions that influence treatment type should be determined based on performing a subsurface investigation and/or pavement condition survey, and not be based solely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

# **Condition Categories and Treatments**

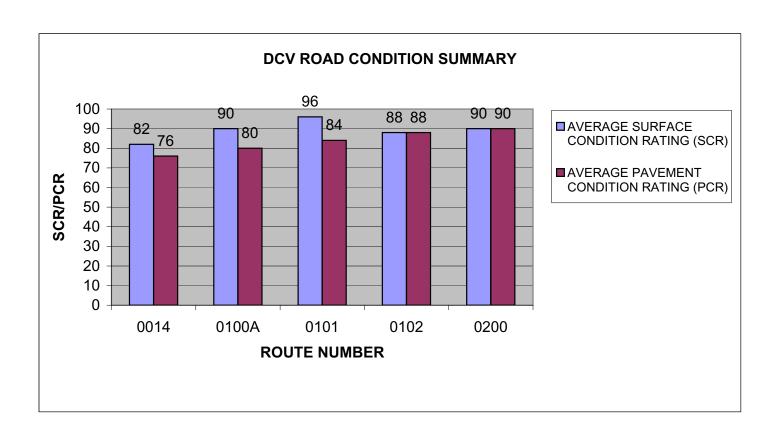


**Pavement Age** 

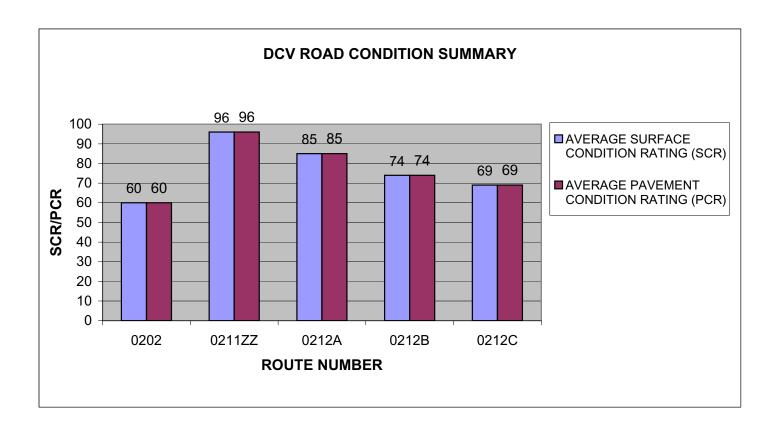
ROUTE NUMBER	ROUTE NAME		PAVED LENGTH		AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0010E	GOING TO THE SUN ROAD EAST	1	17.97	ASPHALT	91	83
0010W	GOING TO THE SUN ROAD WEST	1	31.86	ASPHALT	84	82
0011	CAMAS ROAD	1	11.50	ASPHALT	95	95
0012	TWO MEDICINE ROAD	1	7.28	ASPHALT	93	86
0013	CHIEF MOUNTAIN INTERNATIONAL HIGHWAY	1	14.25	ASPHALT	90	88



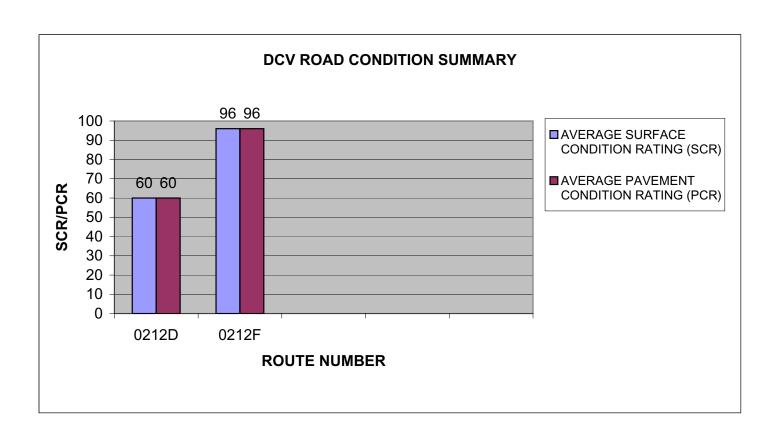
ROUTE NUMBER	ROUTE NAME	101.01	PAVED LENGTH		AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0014	MANY GLACIER ROAD	1	12.44	ASPHALT	82	76
0100A	FISH CREEK ACCESS ROAD	2	1.15	ASPHALT	90	80
0101	APGAR LOOP ROAD	1	1.11	ASPHALT	96	84
0102	ST. MARY RANGER STATION ROAD	2	0.91	ASPHALT	88	88
0200	LAKE MCDONALD LODGE LOOP ROAD	2	0.52	ASPHALT	90	90



ROUTE		FUNCT	PAVED	SURFACE	AVERAGE SURFACE CONDITION	AVERAGE PAVEMENT CONDITION
NUMBER	ROUTE NAME	CLASS	LENGTH	TYPE	RATING (SCR)	RATING (PCR)
0202	KELLY CAMP ROAD	2	0.41	ASPHALT	60	60
0211ZZ	SUN POINT ROADS	3	0.32	ASPHALT	96	96
0212A	RISING SUN LODGE ROAD A	3	0.19	ASPHALT	85	85
0212B	RISING SUN LODGE ROAD B	3	0.06	ASPHALT	74	74
0212C	RISING SUN LODGE ROAD C	3	0.04	ASPHALT	69	69



					AVERAGE	AVERAGE
					SURFACE	PAVEMENT
ROUTE		FUNCT	PAVED	SURFACE	CONDITION	CONDITION
NUMBER	ROUTE NAME	CLASS	LENGTH	TYPE	RATING (SCR)	RATING (PCR)
0212D	RISING SUN LODGE ROAD D	3	0.08	ASPHALT	60	60
0212F	RISING SUN LODGE ROAD F	3	0.10	ASPHALT	96	96

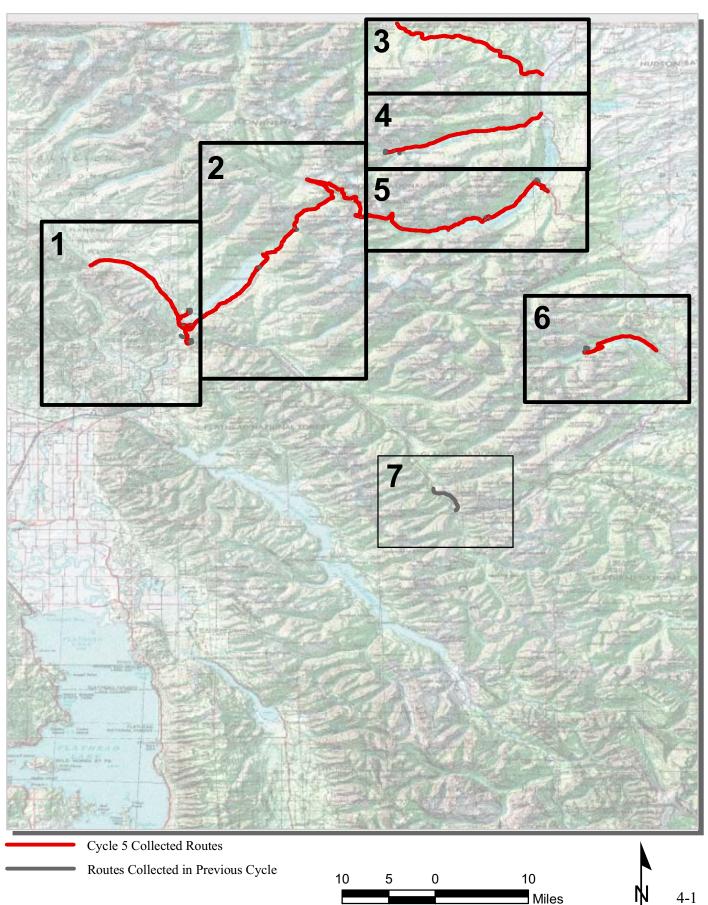


# **Section 4 Park Route Location Maps**

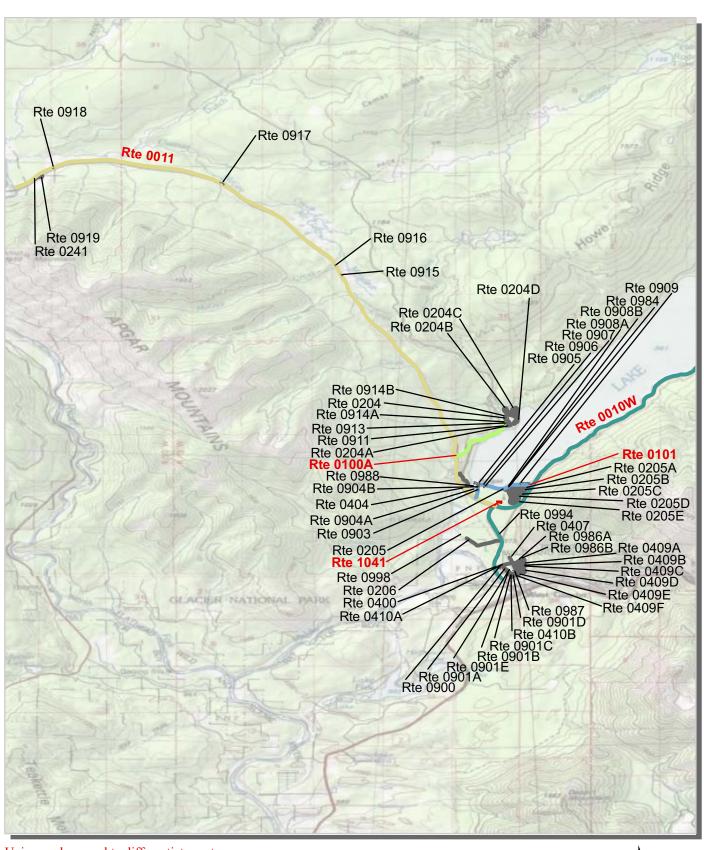


Glacier National Park



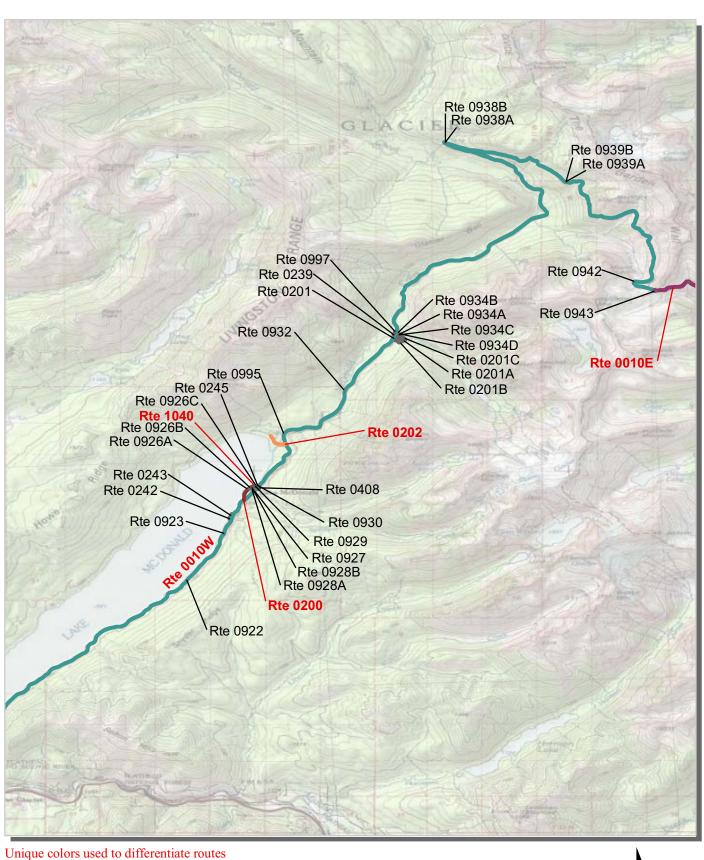


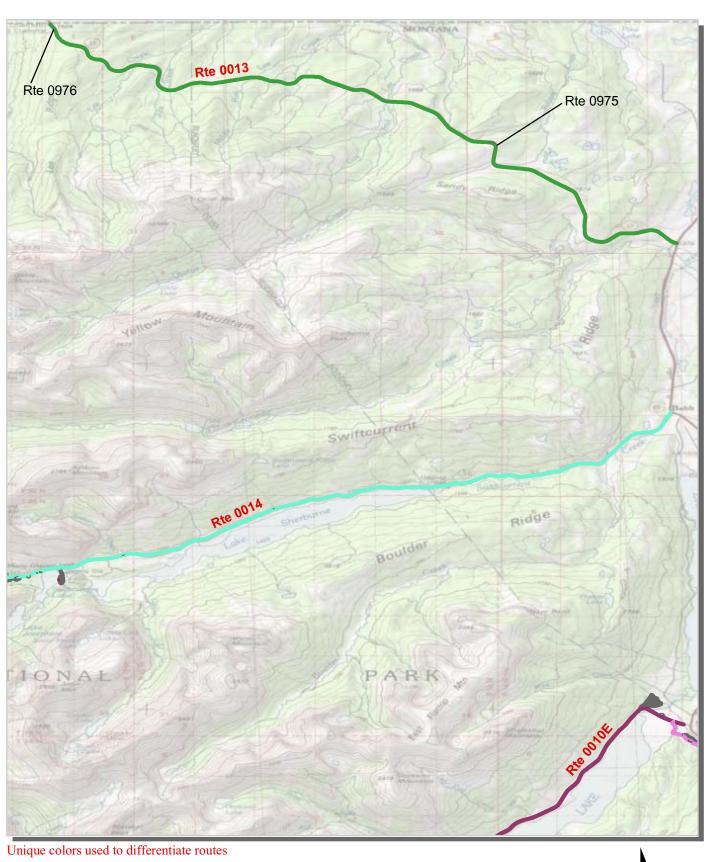
Miles



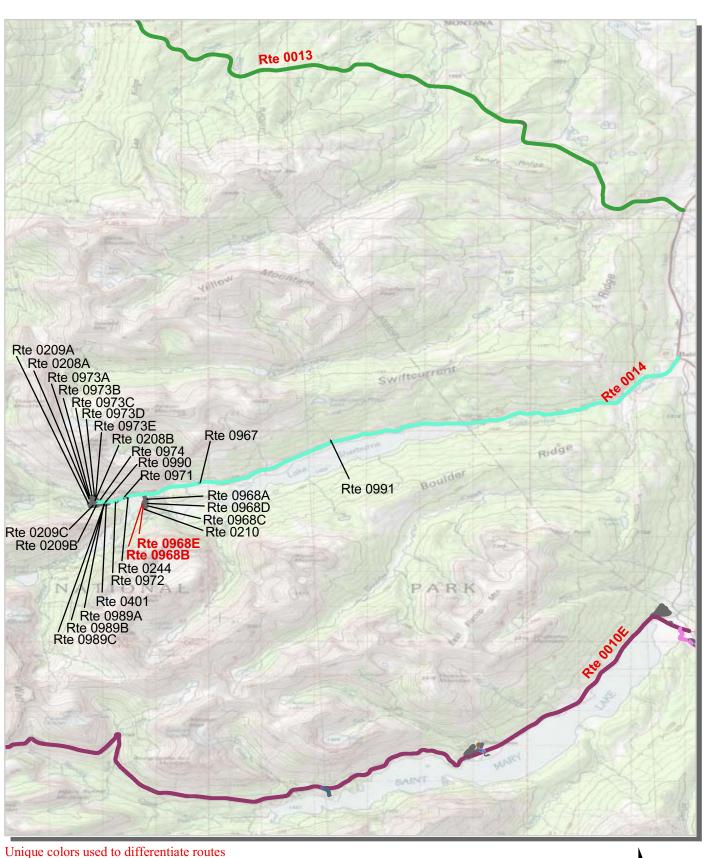
Unique colors used to differentiate routes

Routes Collected in Previous Cycle

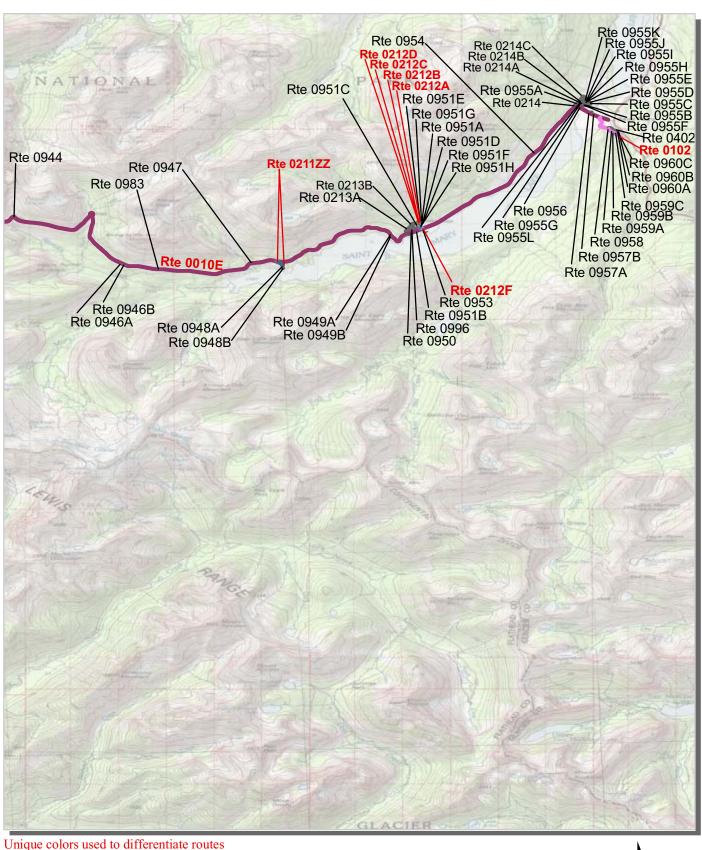


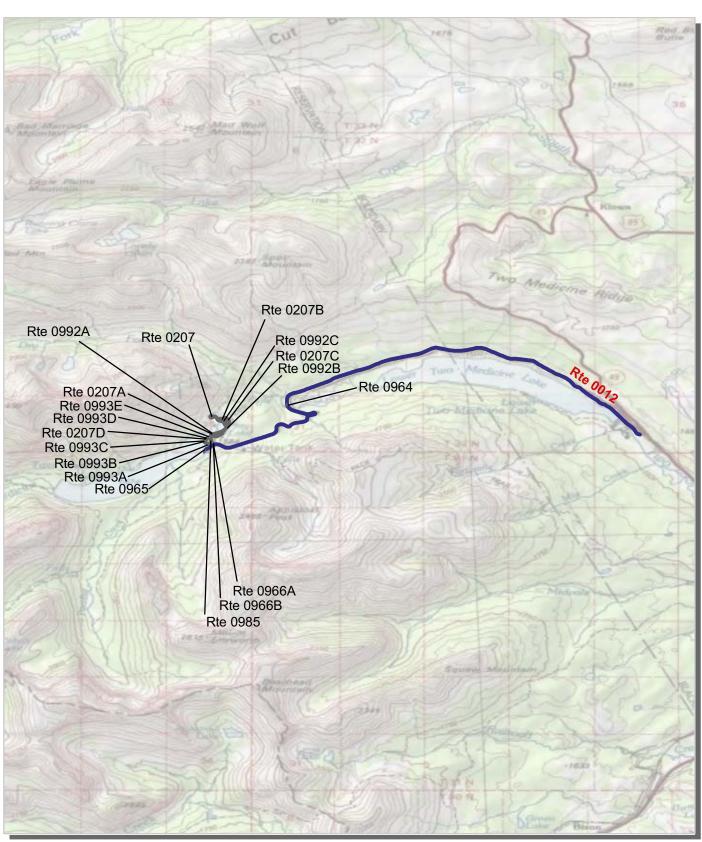






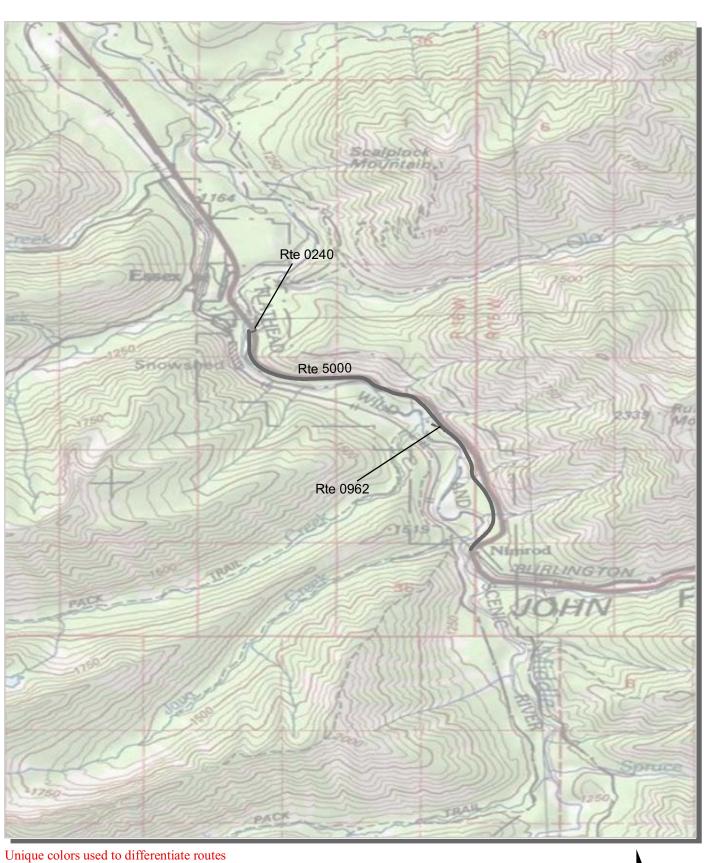


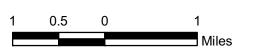


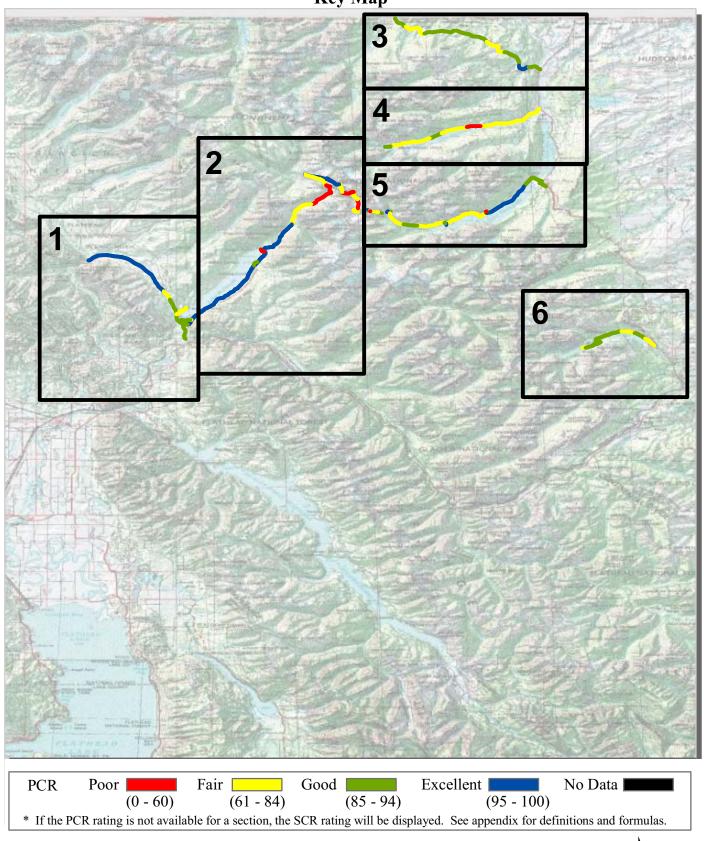


Unique colors used to differentiate routes

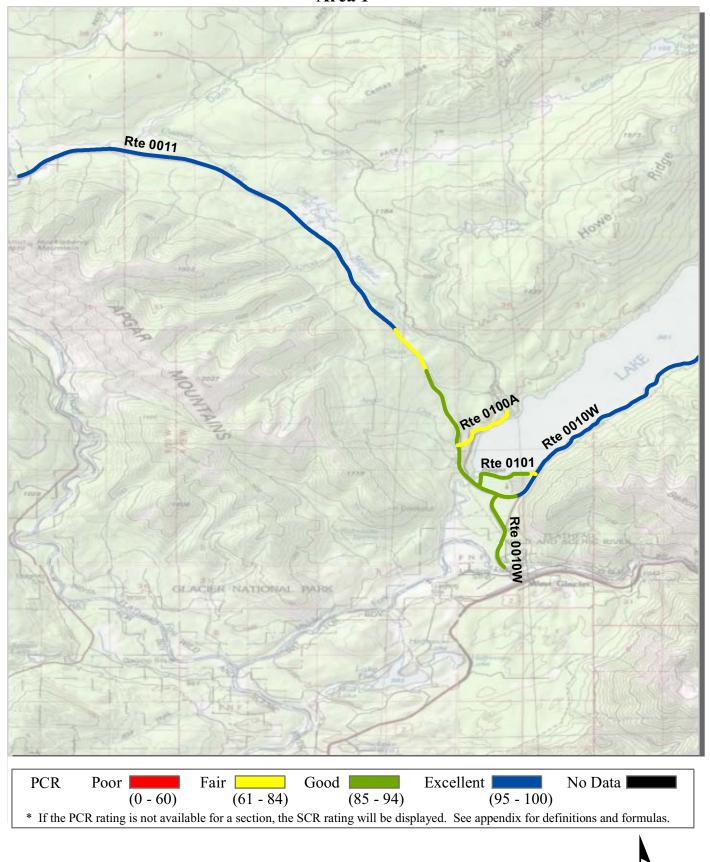
1 0.5 0 1 Miles



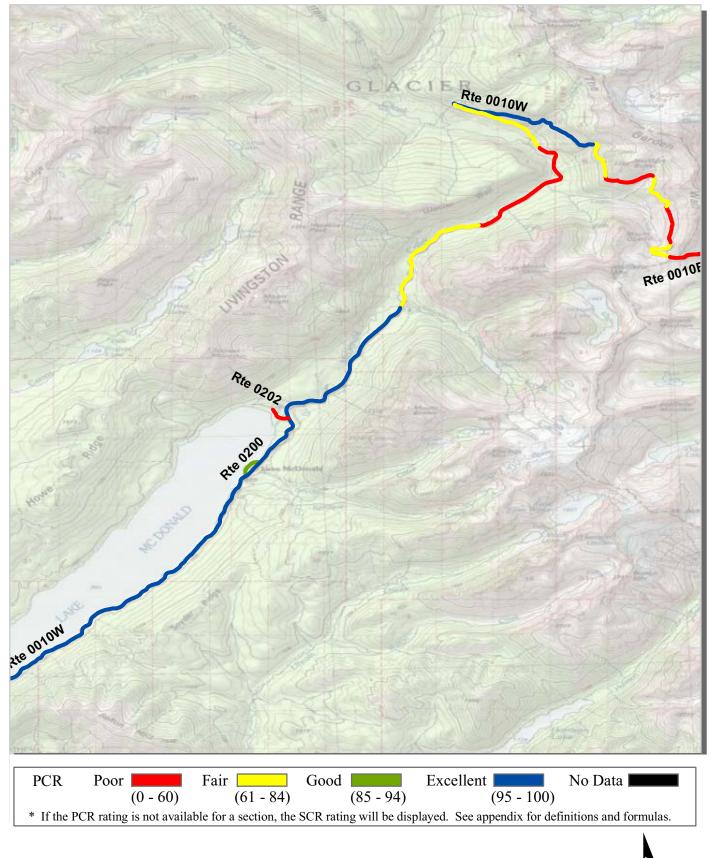




Note: Only routes collected by the DCV in Cycle-5 are displayed.



2.5

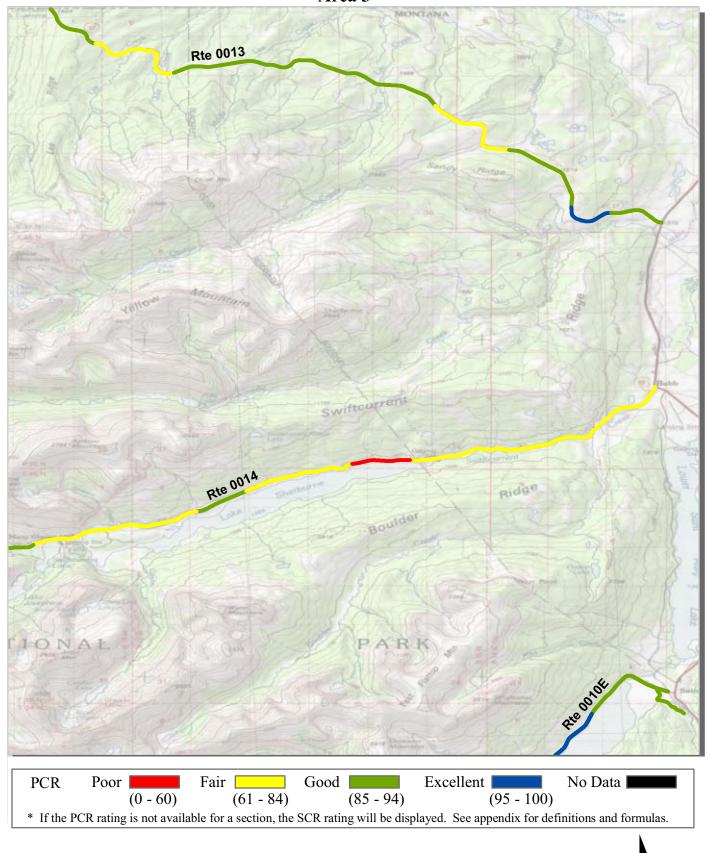


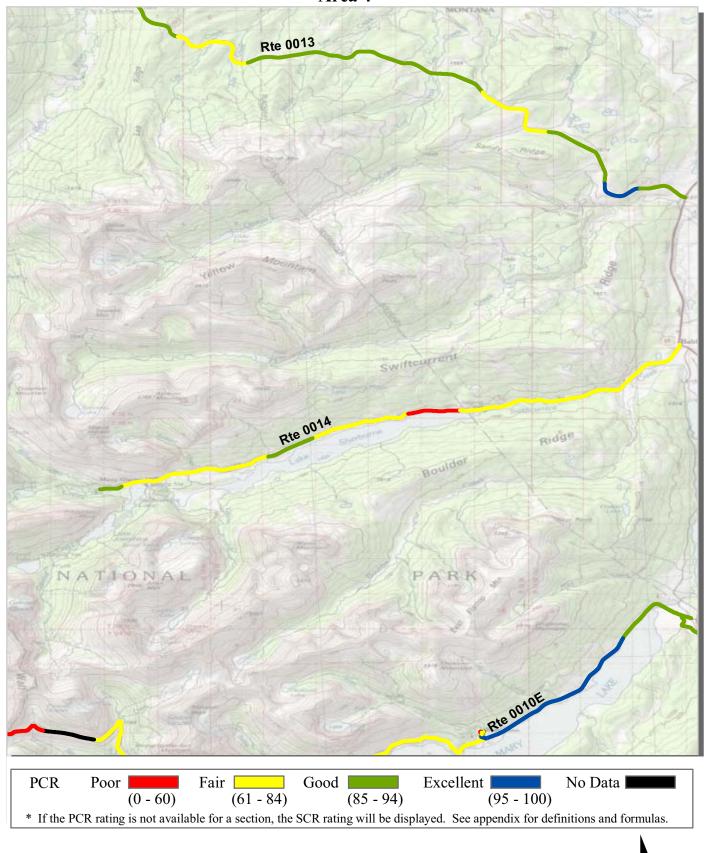
1.5



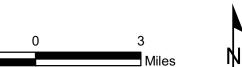
3

Miles

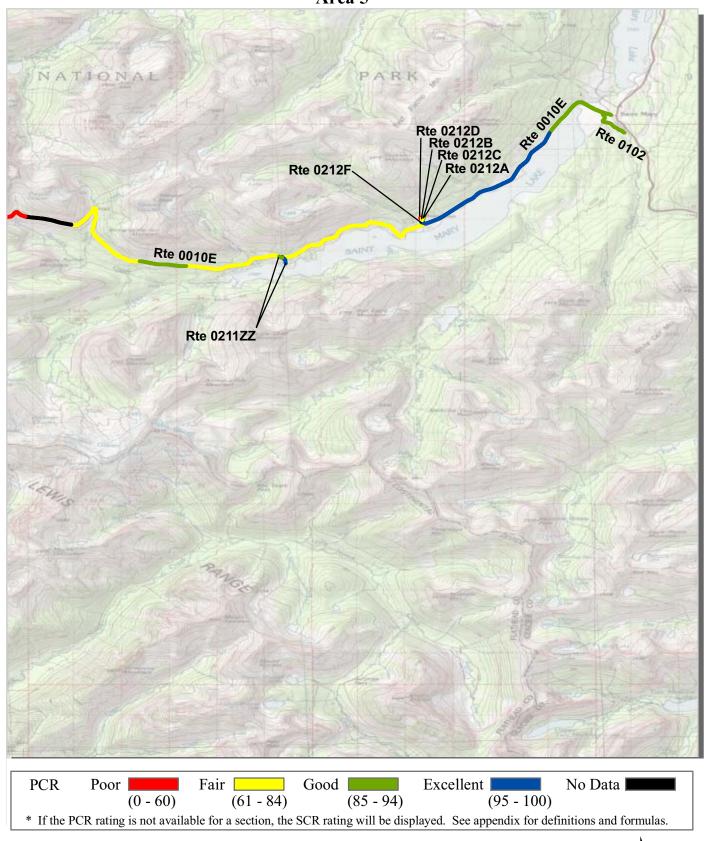




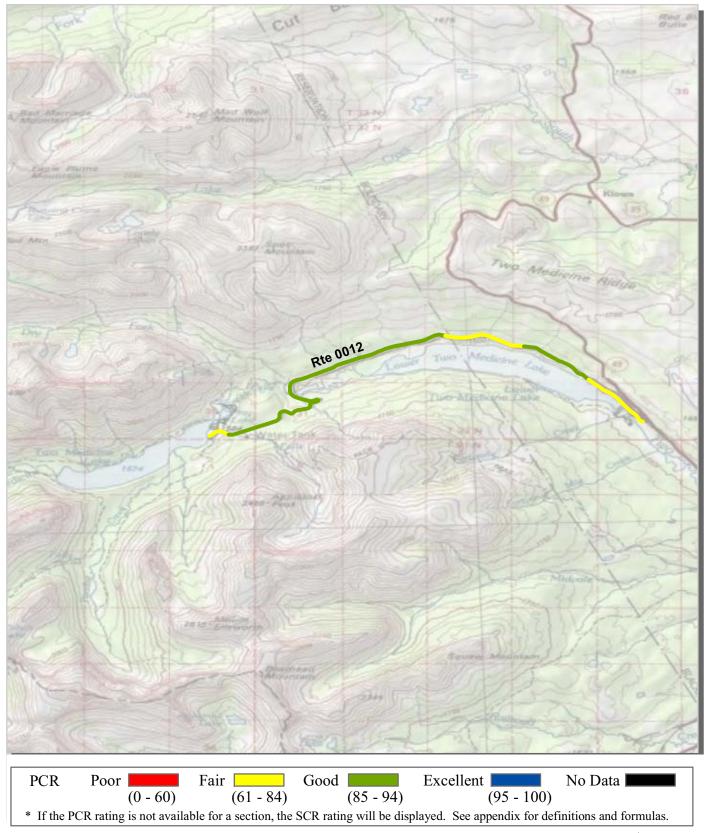
1.5



4-13



1.5



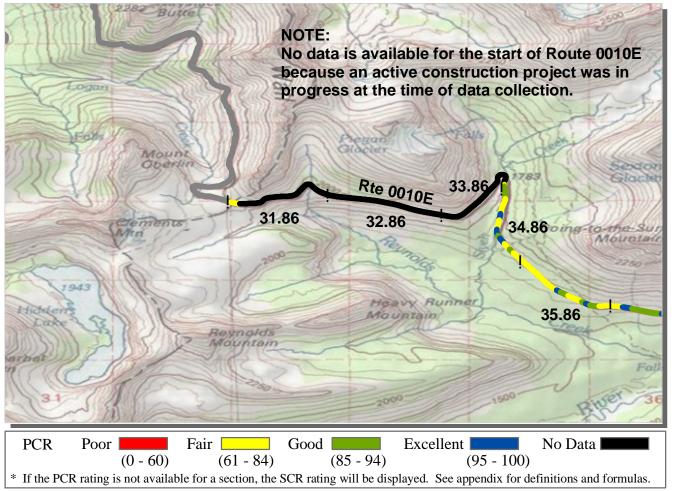


# Section 5 Paved Route Condition Rating Sheets



Glacier National Park





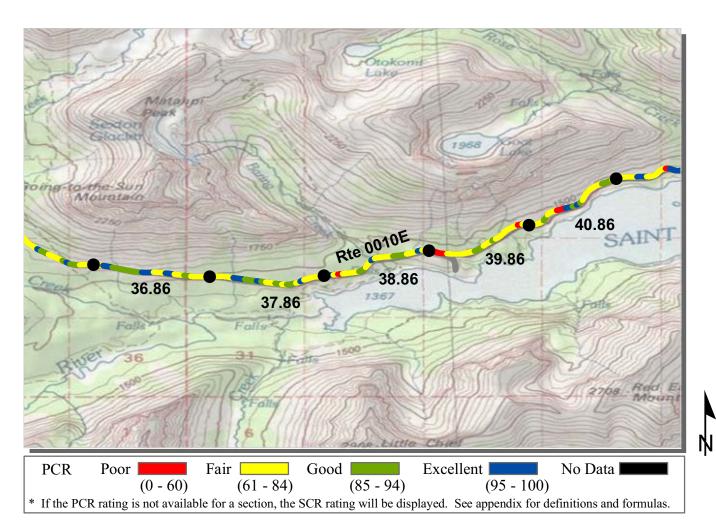
9/11/2010

ROUTE: 0010E GOING TO THE SUN ROAD EAST

**GLAC: GLACIER NATIONAL PARK** 

#### INTERMOUNTAIN DECION

INTERMOUNTAIN REGION			TOT	AL LENGTH	<b>H:</b> 17.97 Miles
Section Number	31.86	32.86	33.86	34.86	35.86
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	22	-1	22	22	22
Lane Width (ft)	11	-1	11	11	11
Roadway Condition Information					
SCR (Surface Condition Rating)	NC	NC	NC	89	91
PCR (Pavement Condition Rating)	53	NC	67	82	80
Distress Index Values					
Structural Crack Index	NC	NC	NC	100	99
Transverse Cracking Index	NC	NC	NC	100	100
Patching Index	NC	NC	NC	100	100
Rutting Index	NC	NC	NC	89	91
Roughness Condition Index (RCI)	53	NC	67	71	64



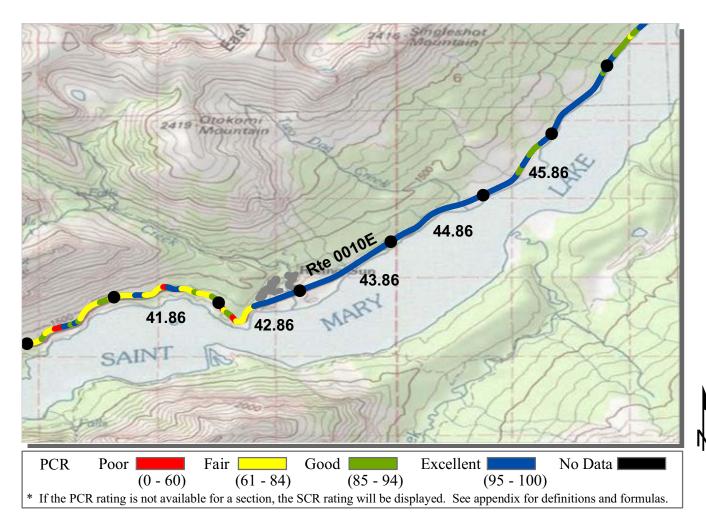
9/11/2010

**ROUTE: 0010E GOING TO THE SUN ROAD EAST** 

**GLAC: GLACIER NATIONAL PARK** 

#### INTERMOUNTAIN REGION

INTERMOUNTAIN REGION			TOTAL	LENGTH:	17.97 Miles
Section Number	36.86	37.86	38.86	39.86	40.86
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	23	22	22	22	22
Lane Width (ft)	12	12	11	11	11
Roadway Condition Information					
SCR (Surface Condition Rating)	93	91	91	84	84
PCR (Pavement Condition Rating)	86	84	78	70	74
Distress Index Values					
Structural Crack Index	100	99	98	96	97
Transverse Cracking Index	100	100	100	100	100
Patching Index	100	100	100	100	100
Rutting Index	93	91	91	84	84
Roughness Condition Index (RCI)	75	73	59	50	58



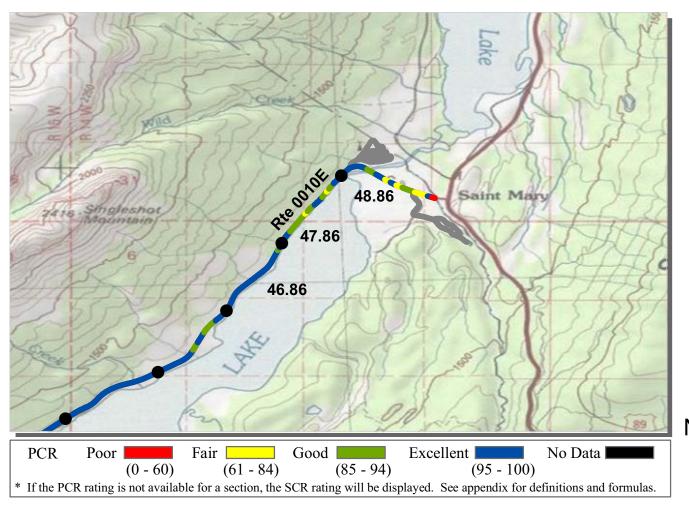
9/11/2010

**ROUTE: 0010E GOING TO THE SUN ROAD EAST** 

**GLAC: GLACIER NATIONAL PARK** 

#### INTERMOUNTAIN RECION

INTERMOUNTAIN REGION			TOTAL	LENGTH:	17.97 Miles
Section Number	41.86	42.86	43.86	44.86	45.86
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	21	22	22	22	23
Lane Width (ft)	10	10	11	11	12
Roadway Condition Information					
SCR (Surface Condition Rating)	84	92	99	97	94
PCR (Pavement Condition Rating)	76	84	99	98	96
Distress Index Values					
Structural Crack Index	98	97	99	100	100
Transverse Cracking Index	100	99	100	100	100
Patching Index	100	98	100	100	100
Rutting Index	84	92	100	97	94
Roughness Condition Index (RCI)	64	72	100	100	100



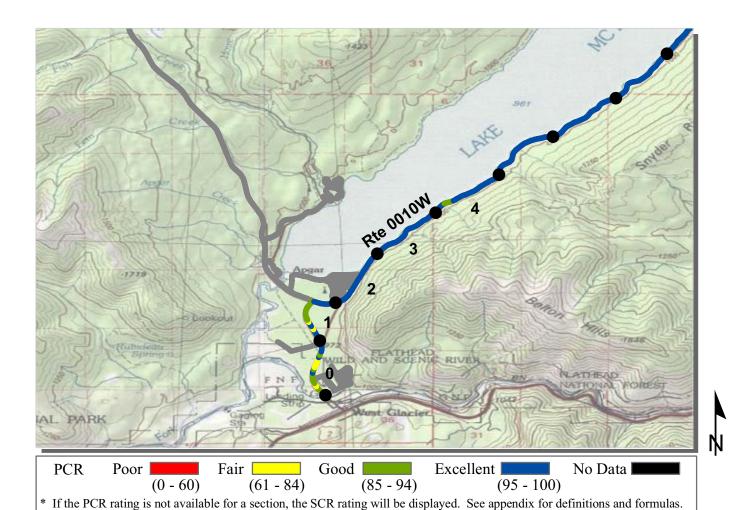
9/11/2010

**ROUTE: 0010E GOING TO THE SUN ROAD EAST** 

**GLAC: GLACIER NATIONAL PARK** 

#### INTERMOUNTAIN RECION

INTERMOUNTAIN REGION			TOT	AL LENGTH:	17.97 Miles
Section Number	46.86	47.86	48.86		
Section Length (mi)	1.00	1.00	0.97		
Cross Section Information					
Number of Lanes	2	2	2		
Paved Width (ft)	23	23	28		
Lane Width (ft)	11	11	13		
Roadway Condition Information					
SCR (Surface Condition Rating)	96	90	93		
PCR (Pavement Condition Rating)	98	94	92		
Distress Index Values					
Structural Crack Index	100	100	93		
Transverse Cracking Index	100	100	98		
Patching Index	100	99	99		
Rutting Index	96	90	96		
Roughness Condition Index (RCI)	100	100	90		

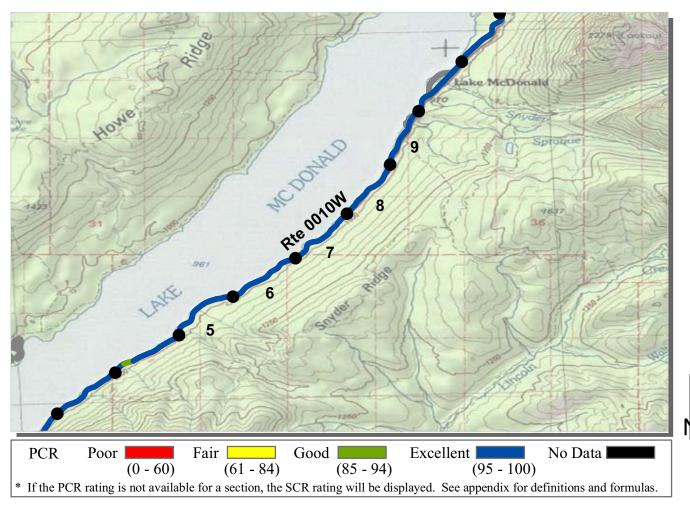


9/11/2010

**ROUTE: 0010W GOING TO THE SUN ROAD WEST** 

**GLAC: GLACIER NATIONAL PARK** 

INTERMOUNTAIN REGION			TOTAL	LENGTH:	31.86 Miles
Section Number	0	1	2	3	4
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	35	31	27	23	23
Lane Width (ft)	14	13	13	12	12
Roadway Condition Information					
SCR (Surface Condition Rating)	94	94	100	100	100
PCR (Pavement Condition Rating)	91	94	100	100	100
Distress Index Values					
Structural Crack Index	96	100	100	100	100
Transverse Cracking Index	97	99	100	100	100
Patching Index	100	100	100	100	100
Rutting Index	94	94	100	100	100
Roughness Condition Index (RCI)	86	94	100	100	100



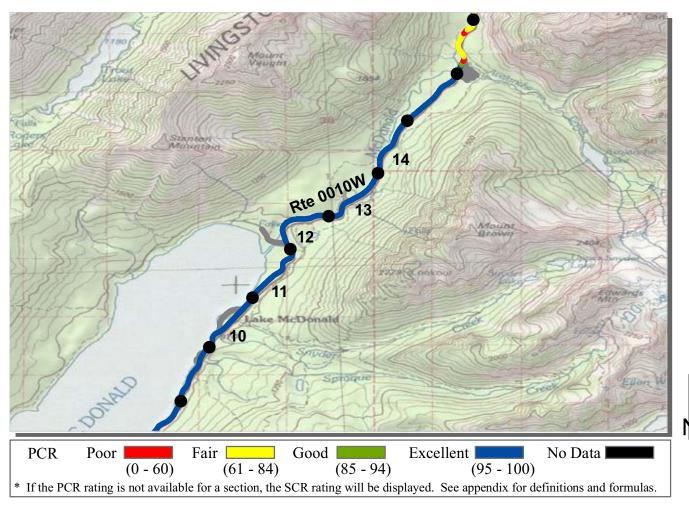
9/11/2010

**ROUTE: 0010W GOING TO THE SUN ROAD WEST** 

**GLAC: GLACIER NATIONAL PARK** 

#### INTERMOUNTAIN RECION

INTERMOUNTAIN REGION			TOTAL	LENGTH:	<b>31.86 Miles</b>
Section Number	5	6	7	8	9
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	23	23	24	23	23
Lane Width (ft)	12	11	11	12	12
Roadway Condition Information					
SCR (Surface Condition Rating)	100	100	100	100	100
PCR (Pavement Condition Rating)	100	100	100	100	100
Distress Index Values					
Structural Crack Index	100	100	100	100	100
Transverse Cracking Index	100	100	100	100	100
Patching Index	100	100	100	100	100
Rutting Index	100	100	100	100	100
Roughness Condition Index (RCI)	100	100	100	100	100

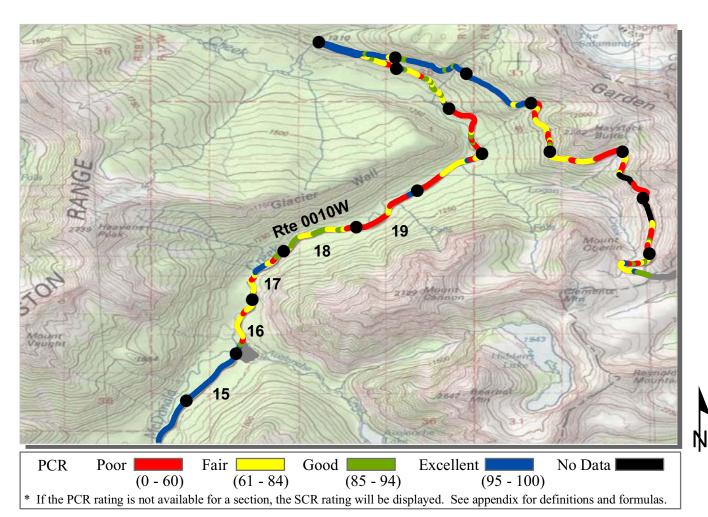


9/11/2010

**ROUTE: 0010W GOING TO THE SUN ROAD WEST** 

**GLAC: GLACIER NATIONAL PARK** 

INTERMOUNTAIN REGION			TOTAL	LENGTH:	ENGTH: 31.86 Miles		
Section Number	10	11	12	13	14		
Section Length (mi)	1.00	1.00	1.00	1.00	1.00		
Cross Section Information							
Number of Lanes	2	2	2	2	2		
Paved Width (ft)	24	24	24	23	23		
Lane Width (ft)	12	12	12	12	11		
Roadway Condition Information							
SCR (Surface Condition Rating)	100	100	100	100	100		
PCR (Pavement Condition Rating)	100	100	100	100	100		
Distress Index Values							
Structural Crack Index	100	100	100	100	100		
Transverse Cracking Index	100	100	100	100	100		
Patching Index	100	100	100	100	100		
Rutting Index	100	100	100	100	100		
Roughness Condition Index (RCI)	100	100	100	100	100		

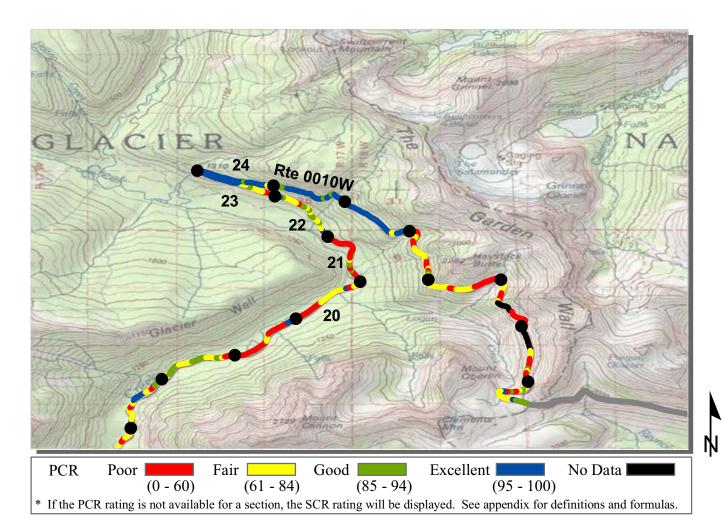


9/11/2010

**ROUTE: 0010W GOING TO THE SUN ROAD WEST** 

**GLAC: GLACIER NATIONAL PARK** 

INTERMOUNTAIN REGION			TOTAL	LENGTH:	31.86 Miles
Section Number	15	16	17	18	19
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	23	23	24	26	22
Lane Width (ft)	12	11	12	12	11
Roadway Condition Information					
SCR (Surface Condition Rating)	100	79	89	85	0
PCR (Pavement Condition Rating)	100	73	79	79	15
Distress Index Values					
Structural Crack Index	100	79	89	85	0
Transverse Cracking Index	100	99	98	98	99
Patching Index	100	97	95	99	92
Rutting Index	100	97	97	98	94
Roughness Condition Index (RCI)	100	63	65	70	37

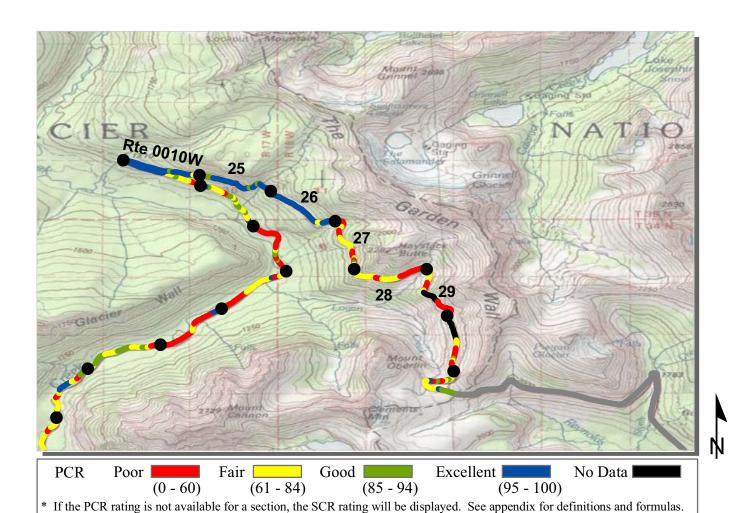


9/11/2010

**ROUTE: 0010W GOING TO THE SUN ROAD WEST** 

**GLAC: GLACIER NATIONAL PARK** 

INTERMOUNTAIN REGION			TOTAL	LENGTH:	31.86 Miles
Section Number	20	21	22	23	24
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	23	23	23	27	24
Lane Width (ft)	12	12	11	11	11
Roadway Condition Information					
SCR (Surface Condition Rating)	0	0	85	90	100
PCR (Pavement Condition Rating)	18	24	77	84	96
Distress Index Values					
Structural Crack Index	0	0	85	90	100
Transverse Cracking Index	95	96	97	98	100
Patching Index	97	97	98	98	100
Rutting Index	91	96	97	98	100
Roughness Condition Index (RCI)	46	60	64	74	90

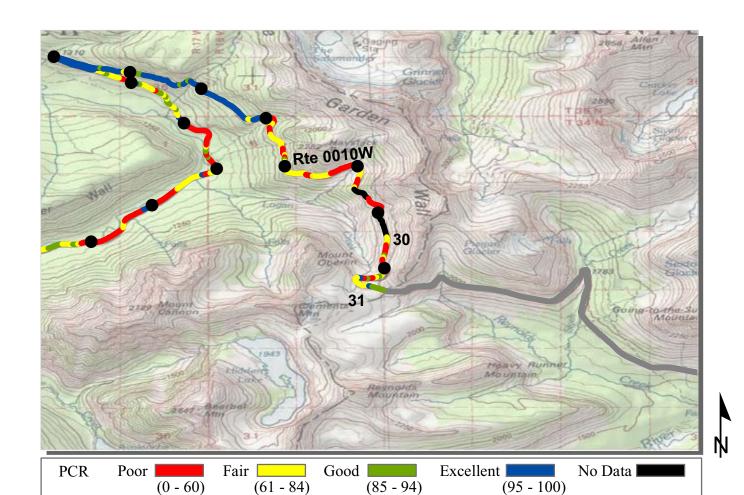


9/11/2010

**ROUTE: 0010W GOING TO THE SUN ROAD WEST** 

**GLAC: GLACIER NATIONAL PARK** 

INTERMOUNTAIN REGION			<b>TOTAL LENGTH: 31.86 Miles</b>		
Section Number	25	26	27	28	29
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	23	23	25	25	26
Lane Width (ft)	12	12	12	11	12
Roadway Condition Information					
SCR (Surface Condition Rating)	99	100	71	61	84
PCR (Pavement Condition Rating)	97	99	61	52	62
Distress Index Values					
Structural Crack Index	100	100	71	61	84
Transverse Cracking Index	100	100	98	82	99
Patching Index	100	100	99	100	95
Rutting Index	99	100	93	90	88
Roughness Condition Index (RCI)	94	98	47	39	28



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

**COLLECTED:** 

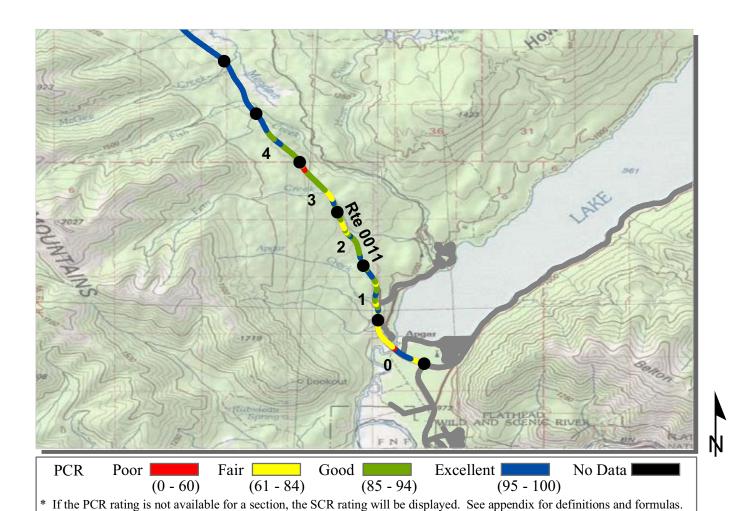
9/11/2010

**ROUTE: 0010W GOING TO THE SUN ROAD WEST** 

**GLAC: GLACIER NATIONAL PARK** 

#### INTERMOUNTAIN REGION

INTERMOUNTAIN REGION			TOTAL LENGTH:	<b>31.86 Miles</b>
Section Number	30	31		
Section Length (mi)	1.00	0.86		
Cross Section Information				
Number of Lanes	2	2		
Paved Width (ft)	22	23		
Lane Width (ft)	11	11		
Roadway Condition Information				
SCR (Surface Condition Rating)	77	95		
PCR (Pavement Condition Rating)	55	74		
Distress Index Values				
Structural Crack Index	91	95		
Transverse Cracking Index	100	99		
Patching Index	99	98		
Rutting Index	77	95		
Roughness Condition Index (RCI)	23	43		

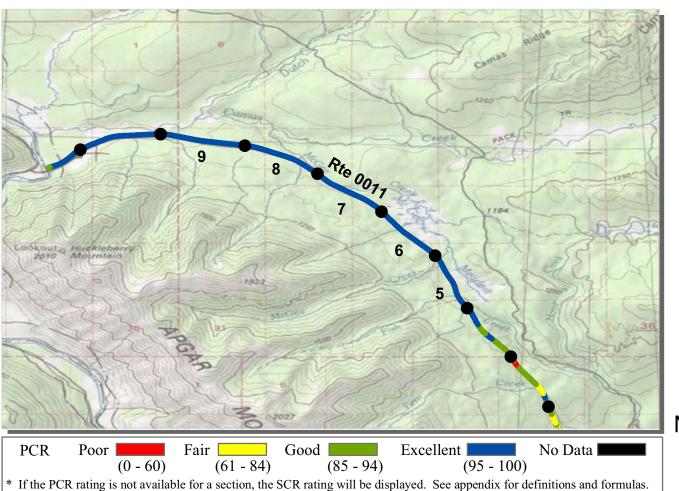


9/11/2010

ROUTE: 0011 CAMAS ROAD

**GLAC: GLACIER NATIONAL PARK** 

INTERMOUNTAIN REGION			TO	TOTAL LENGTH: 11.50 Miles			
Section Number	0	1	2	3	4		
Section Length (mi)	1.00	1.00	1.00	1.00	1.00		
Cross Section Information							
Number of Lanes	2	2	2	2	2		
Paved Width (ft)	27	28	27	27	27		
Lane Width (ft)	12	11	12	11	11		
Roadway Condition Information							
SCR (Surface Condition Rating)	90	89	92	85	92		
PCR (Pavement Condition Rating)	85	87	88	83	95		
Distress Index Values							
Structural Crack Index	96	100	100	100	100		
Transverse Cracking Index	100	100	100	100	100		
Patching Index	99	100	100	100	100		
Rutting Index	90	89	92	85	92		
Roughness Condition Index (RCI)	77	83	81	81	100		

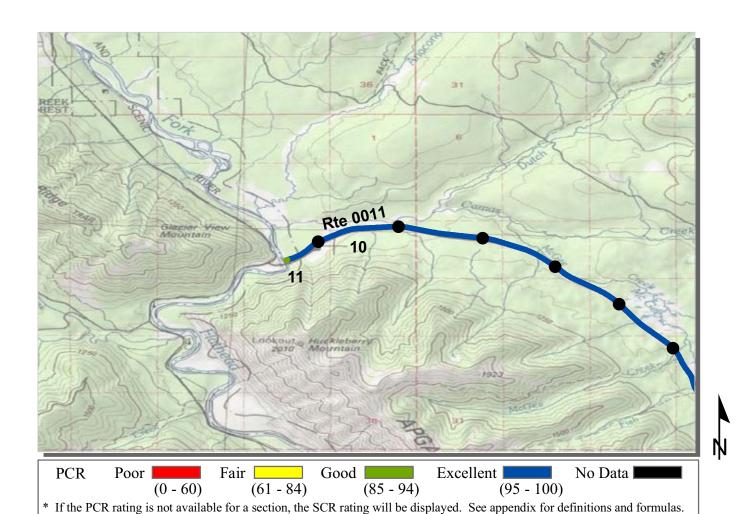


\* If the PCR rating is not available for a section, the SCR rating will be ROUTE: 0011 CAMAS ROAD

**GLAC: GLACIER NATIONAL PARK** 

COLLECTED: 9/11/2010
INTERMOUNTAIN REGION TOTAL LENGTH: 11.50 Miles

INTERMOUNTAIN REGION	TOTAL	LENGTH:	11.50 Miles		
Section Number	5	6	7	8	9
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	28	28	28	28	27
Lane Width (ft)	12	11	11	12	11
Roadway Condition Information					
SCR (Surface Condition Rating)	100	100	100	100	100
PCR (Pavement Condition Rating)	100	100	100	100	100
Distress Index Values					
Structural Crack Index	100	100	100	100	100
Transverse Cracking Index	100	100	100	100	100
Patching Index	100	100	100	100	100
Rutting Index	100	100	100	100	100
Roughness Condition Index (RCI)	100	100	100	100	100

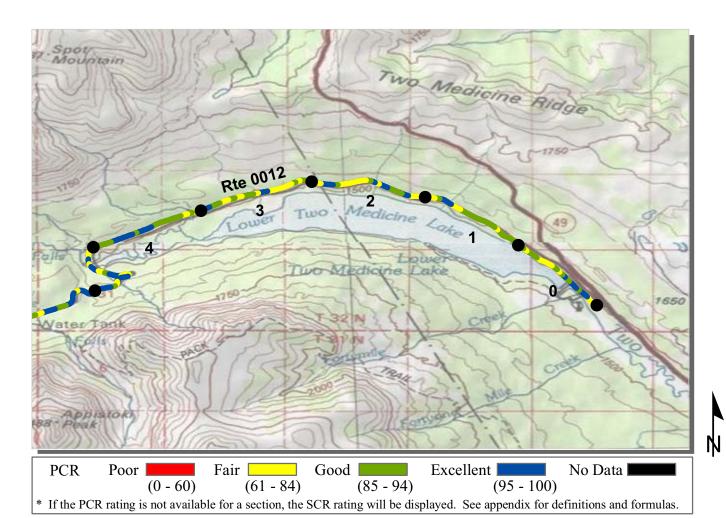


9/11/2010

ROUTE: 0011 CAMAS ROAD

GLAC: GLACIER NATIONAL PARK

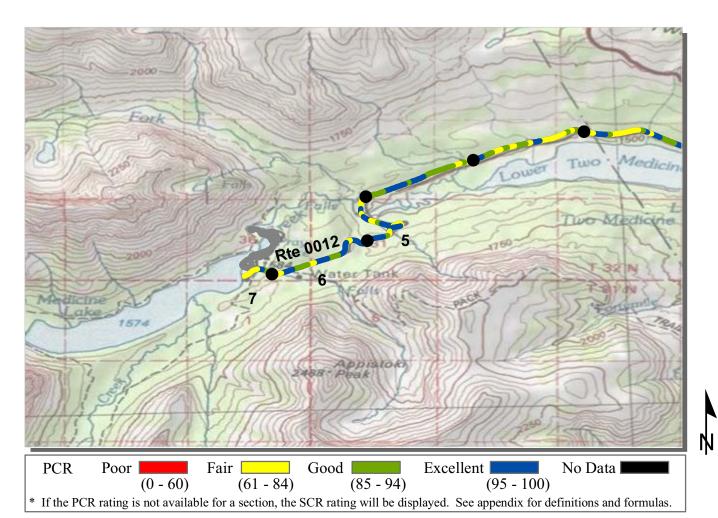
INTERMOUNTAIN REGION			TOTAL	LENGTH:	11.50 Miles
Section Number	10	11			
Section Length (mi)	1.00	0.50			
Cross Section Information					
Number of Lanes	2	2			
Paved Width (ft)	30	29			
Lane Width (ft)	12	12			
Roadway Condition Information					
SCR (Surface Condition Rating)	100	100			
PCR (Pavement Condition Rating)	100	100			
Distress Index Values					
Structural Crack Index	100	100			
Transverse Cracking Index	100	100			
Patching Index	100	100			
Rutting Index	100	100			
Roughness Condition Index (RCI)	100	100			



9/11/2010

**ROUTE: 0012 TWO MEDICINE ROAD GLAC: GLACIER NATIONAL PARK** 

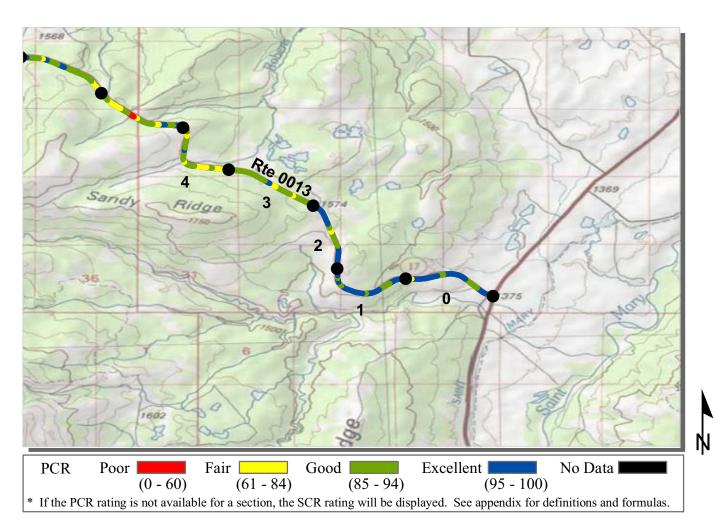
INTERMOUNTAIN REGION			TOTAL	LENGTH:	<b>7.28 Miles</b>
Section Number	0	1	2	3	4
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	26	27	28	28	28
Lane Width (ft)	12	12	12	12	13
Roadway Condition Information					
SCR (Surface Condition Rating)	94	93	91	90	91
PCR (Pavement Condition Rating)	83	86	81	86	89
Distress Index Values					
Structural Crack Index	100	99	100	100	100
Transverse Cracking Index	100	100	100	100	100
Patching Index	100	100	100	100	100
Rutting Index	94	93	91	90	91
Roughness Condition Index (RCI)	67	75	66	81	86



9/11/2010

**ROUTE: 0012 TWO MEDICINE ROAD GLAC: GLACIER NATIONAL PARK** 

INTERMOUNTAIN REGION			TOTAL LENGTH:	<b>7.28 Miles</b>
Section Number	5	6	7	
Section Length (mi)	1.00	1.00	0.28	
Cross Section Information				
Number of Lanes	2	2	2	
Paved Width (ft)	27	28	27	
Lane Width (ft)	12	13	13	
Roadway Condition Information				
SCR (Surface Condition Rating)	96	96	95	
PCR (Pavement Condition Rating)	88	92	82	
Distress Index Values				
Structural Crack Index	100	100	100	
Transverse Cracking Index	100	100	100	
Patching Index	100	100	100	
Rutting Index	96	96	95	
Roughness Condition Index (RCI)	77	86	62	

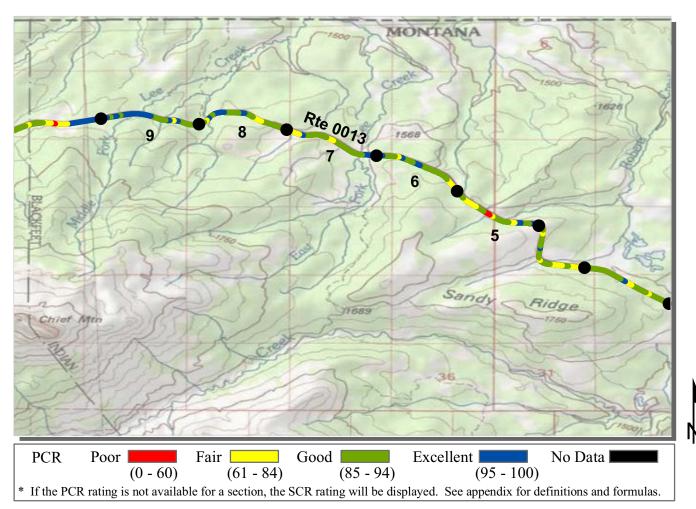


9/10/2010

ROUTE: 0013 CHIEF MOUNTAIN INTERNATIONAL HIGHWAY

## GLAC: GLACIER NATIONAL PARK

INTERMOUNTAIN REGION			TOTAL	LENGTH:	14.25 Miles
Section Number	0	1	2	3	4
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	31	30	30	29	30
Lane Width (ft)	13	13	12	12	13
Roadway Condition Information					
SCR (Surface Condition Rating)	93	94	90	90	88
PCR (Pavement Condition Rating)	92	96	94	90	84
Distress Index Values					
Structural Crack Index	100	100	100	100	100
Transverse Cracking Index	100	100	100	100	100
Patching Index	100	100	100	100	100
Rutting Index	93	94	90	90	88
Roughness Condition Index (RCI)	90	100	100	89	79

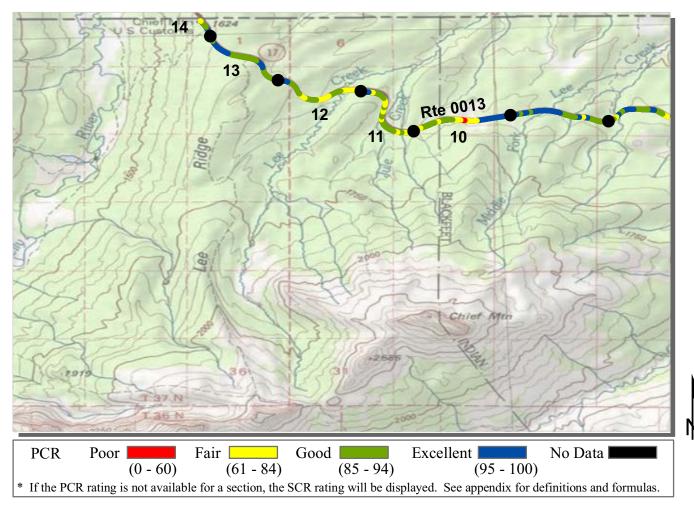


ROUTE: 0013 CHIEF MOUNTAIN INTERNATIONAL HIGHWAY

**GLAC: GLACIER NATIONAL PARK** 

	<b>COLLECTED:</b>	9/10/2010
INTERMOUNTAIN REGION	TOTAL LENGTH:	<b>14.25 Miles</b>

				1112 221 (01	110 1 1020 101110
Section Number	5	6	7	8	9
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	29	31	30	30	29
Lane Width (ft)	13	13	13	13	12
Roadway Condition Information					
SCR (Surface Condition Rating)	82	88	88	91	93
PCR (Pavement Condition Rating)	81	86	88	91	93
Distress Index Values					
Structural Crack Index	100	100	100	99	100
Transverse Cracking Index	100	100	100	100	100
Patching Index	100	100	100	100	100
Rutting Index	82	88	88	91	93
Roughness Condition Index (RCI)	80	83	87	92	93



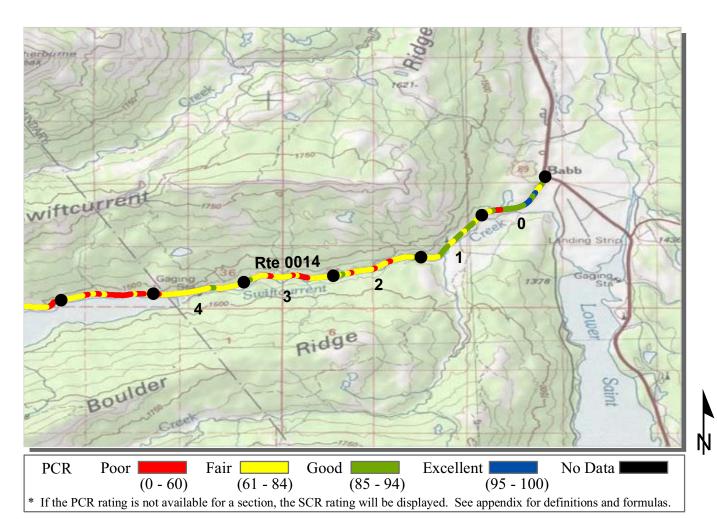
9/10/2010

ROUTE: 0013 CHIEF MOUNTAIN INTERNATIONAL HIGHWAY

**GLAC: GLACIER NATIONAL PARK** 

INTERN	JOHNTA	IN REGION

INTERMOUNTAIN REGION			TOTAL	L LENGTH:	<b>14.25 Miles</b>
Section Number	10	11	12	13	14
Section Length (mi)	1.00	1.00	1.00	1.00	0.25
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	30	30	28	31	43
Lane Width (ft)	13	12	12	12	13
Roadway Condition Information					
SCR (Surface Condition Rating)	86	87	91	96	94
PCR (Pavement Condition Rating)	85	83	82	92	87
Distress Index Values					
Structural Crack Index	100	100	100	100	98
Transverse Cracking Index	100	100	100	100	100
Patching Index	100	100	100	100	100
Rutting Index	86	87	91	96	94
Roughness Condition Index (RCI)	83	76	69	86	77

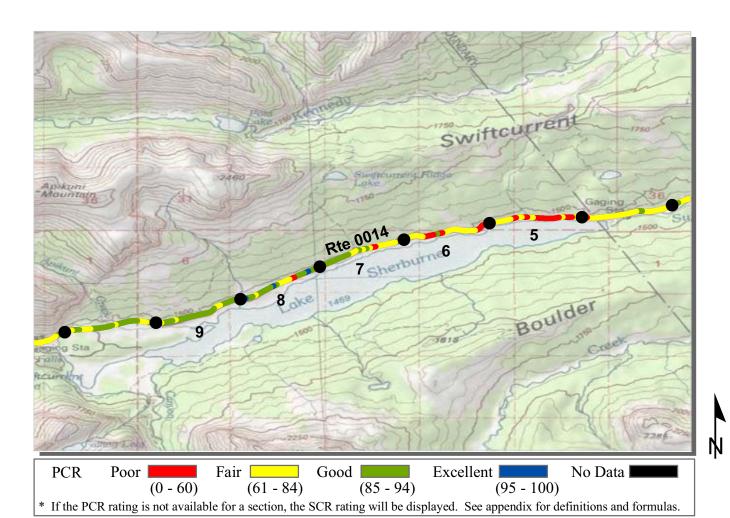


9/11/2010

ROUTE: 0014 MANY GLACIER ROAD GLAC: GLACIER NATIONAL PARK

#### INTERMOUNTAIN REGION

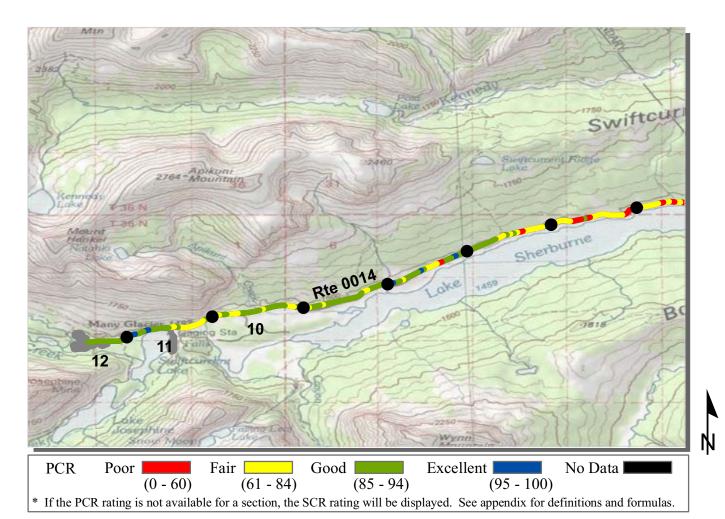
INTERMOUNTAIN REGION			TOTAL	LENGTH:	<b>12.44 Miles</b>
Section Number	0	1	2	3	4
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	24	24	25	24	24
Lane Width (ft)	11	11	11	11	10
Roadway Condition Information					
SCR (Surface Condition Rating)	84	87	77	75	82
PCR (Pavement Condition Rating)	81	81	67	67	70
Distress Index Values					
Structural Crack Index	99	100	100	100	99
Transverse Cracking Index	100	100	100	100	100
Patching Index	100	100	100	100	98
Rutting Index	84	87	77	75	82
Roughness Condition Index (RCI)	76	73	52	56	51



9/11/2010

**ROUTE: 0014 MANY GLACIER ROAD GLAC: GLACIER NATIONAL PARK** 

INTERMOUNTAIN REGION			TOTAL	LENGTH:	<b>12.44 Miles</b>
Section Number	5	6	7	8	9
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	25	23	26	23	24
Lane Width (ft)	10	10	11	11	11
Roadway Condition Information					
SCR (Surface Condition Rating)	73	75	85	84	84
PCR (Pavement Condition Rating)	55	64	79	86	84
Distress Index Values					
Structural Crack Index	90	94	100	100	100
Transverse Cracking Index	100	100	100	99	100
Patching Index	94	100	100	100	100
Rutting Index	73	75	85	84	84
Roughness Condition Index (RCI)	29	48	71	90	85

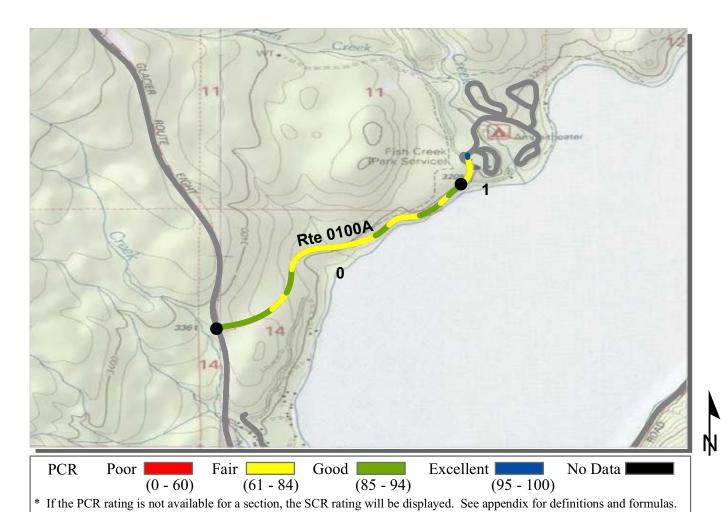


9/11/2010

ROUTE: 0014 MANY GLACIER ROAD GLAC: GLACIER NATIONAL PARK

#### INTERMOUNTAIN REGION

INTERMOUNTAIN REGION			TOTAL	LENGTH:	<b>12.44 Miles</b>
Section Number	10	11	12		
Section Length (mi)	1.00	1.00	0.44		
Cross Section Information					
Number of Lanes	2	2	2		
Paved Width (ft)	23	22	22		
Lane Width (ft)	10	10	10		
Roadway Condition Information					
SCR (Surface Condition Rating)	86	90	89		
PCR (Pavement Condition Rating)	83	83	86		
Distress Index Values					
Structural Crack Index	100	100	100		
Transverse Cracking Index	100	100	100		
Patching Index	100	100	100		
Rutting Index	86	90	89		
Roughness Condition Index (RCI)	79	73	82		

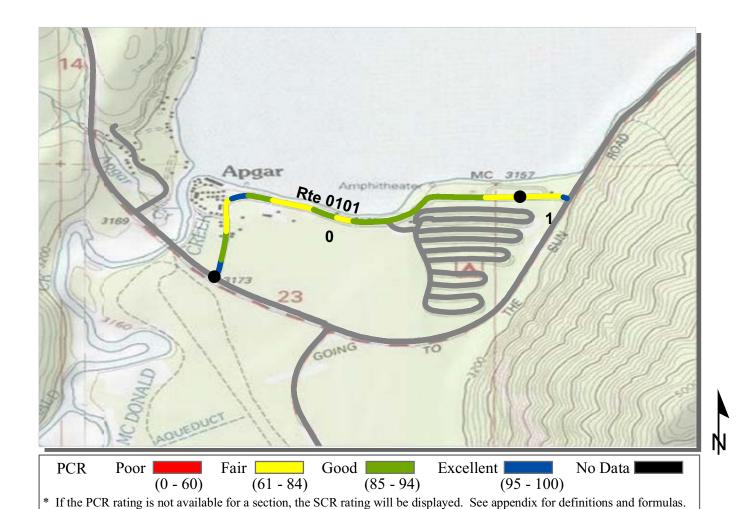


ROUTE: 0100A FISH CREEK ACCESS ROAD

**GLAC: GLACIER NATIONAL PARK** 

## COLLECTED: 9/12/2010 INTERMOUNTAIN REGION TOTAL LENGTH: 1.13 Miles

INTERMOUNTAIN REGION			TOTAL LENGTH.	1.13 Willes
Section Number	0	1		
Section Length (mi)	1.00	0.13		
Cross Section Information				
Number of Lanes	2	2		
Paved Width (ft)	24	22		
Lane Width (ft)	12	10		
Roadway Condition Information				
SCR (Surface Condition Rating)	89	95		
PCR (Pavement Condition Rating)	81	76		
Distress Index Values				
Structural Crack Index	100	100		
Transverse Cracking Index	100	100		
Patching Index	100	100		
Rutting Index	89	95		
Roughness Condition Index (RCI)	70	47		

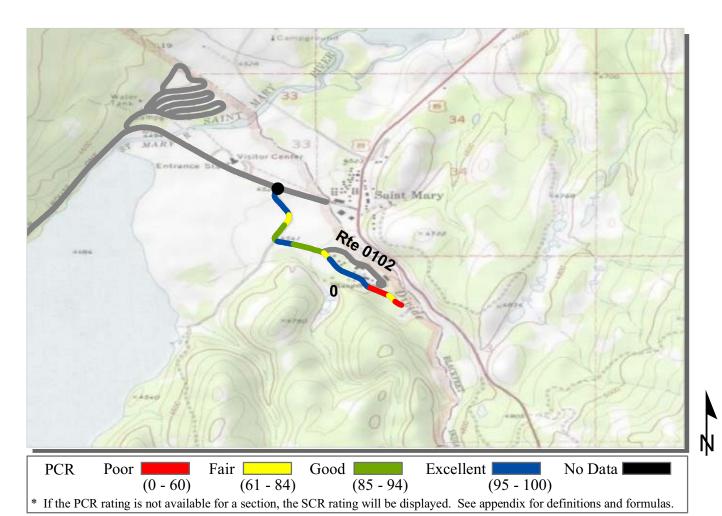


9/12/2010

ROUTE: 0101 APGAR LOOP ROAD GLAC: GLACIER NATIONAL PARK

### INTERMOUNTAIN DECION

INTERMOUNTAIN REGION			TOTAL LENGTH:	<b>1.11 Miles</b>
Section Number	0	1		
Section Length (mi)	1.00	0.11		
Cross Section Information				
Number of Lanes	2	2		
Paved Width (ft)	22	22		
Lane Width (ft)	11	11		
Roadway Condition Information				
SCR (Surface Condition Rating)	96	94		
PCR (Pavement Condition Rating)	85	76		
Distress Index Values				
Structural Crack Index	100	100		
Transverse Cracking Index	100	100		
Patching Index	100	100		
Rutting Index	96	94		
Roughness Condition Index (RCI)	68	49		

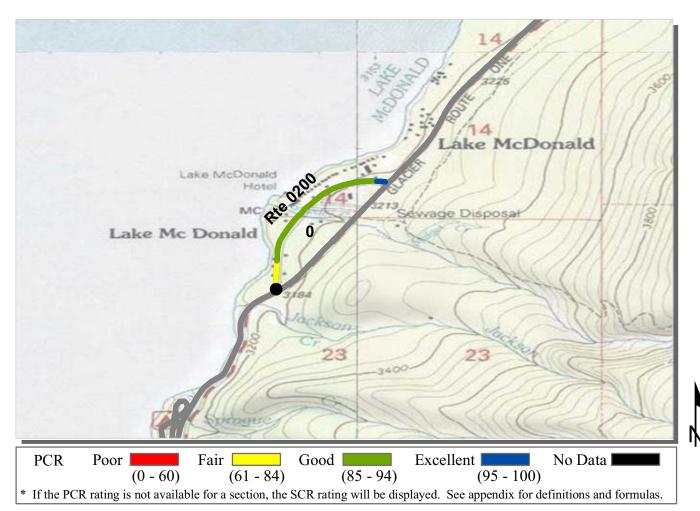


ROUTE: 0102 ST. MARY RANGER STATION ROAD

**GLAC: GLACIER NATIONAL PARK** 

# INTERMOUNTAIN REGION COLLECTED: 9/11/2010 TOTAL LENGTH: 0.91 Miles

11 (1221) 01 (1121) 122 0101 (			 000 1 1,11100
Section Number	0		
Section Length (mi)	0.91		
Cross Section Information			
Number of Lanes	2		
Paved Width (ft)	19		
Lane Width (ft)	10		
Roadway Condition Information			
SCR (Surface Condition Rating)	88		
PCR (Pavement Condition Rating)	88		
Distress Index Values			
Structural Crack Index	88		
Transverse Cracking Index	100		
Patching Index	100		
Rutting Index	90		
Roughness Condition Index (RCI)	NC		

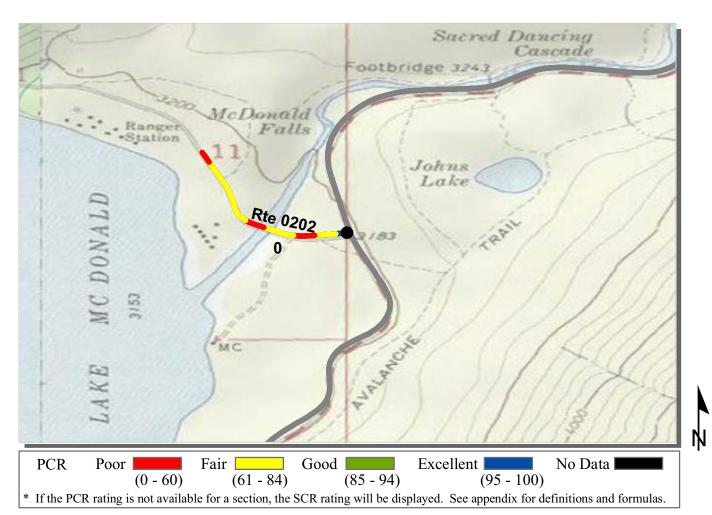


ROUTE: 0200 LAKE MCDONALD LODGE LOOP ROAD

**GLAC: GLACIER NATIONAL PARK** 

# COLLECTED: 9/12/2010 INTERMOUNTAIN REGION TOTAL LENGTH: 0.52 Miles

Section Number	0		
Section Length (mi)	0.52		
Cross Section Information			
Number of Lanes	2		
Paved Width (ft)	21		
Lane Width (ft)	10		
Roadway Condition Information			
SCR (Surface Condition Rating)	90		
PCR (Pavement Condition Rating)	90		
Distress Index Values			
Structural Crack Index	90		
Transverse Cracking Index	96		
Patching Index	100		
Rutting Index	95		
Roughness Condition Index (RCI)	NC		



9/12/2010

ROUTE: 0202 KELLY CAMP ROAD GLAC: GLACIER NATIONAL PARK

#### INTERMOUNTAIN REGION

INTERMOUNTAIN REGION	TOT		TOTAI	L LENGTH:	<b>0.41 Miles</b>
Section Number	0				
Section Length (mi)	0.41				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	27				
Lane Width (ft)	14				
Roadway Condition Information					
SCR (Surface Condition Rating)	60				
PCR (Pavement Condition Rating)	60				
Distress Index Values					
Structural Crack Index	60				
Transverse Cracking Index	77				
Patching Index	100				
Rutting Index	96				
Roughness Condition Index (RCI)	NC				



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

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

**ROUTE: 0211ZZ SUN POINT ROADS GLAC: GLACIER NATIONAL PARK** 

Summary Record COLLECTED: 9/11/2010
INTERMOUNTAIN REGION TOTAL LENGTH: 0.32 Miles

INTERMOUNTAIN REGION		IOTAL LENGTH:	0.32 Milles
Section Number			
Section Length (mi)			
Cross Section Information			
Number of Lanes	N/A		
Paved Width (ft)	N/A		
Lane Width (ft)	N/A		
Roadway Condition Information			
SCR (Surface Condition Rating)	96		
PCR (Pavement Condition Rating)	96		
Distress Index Values			
Structural Crack Index	N/A		
Transverse Cracking Index	N/A		
Patching Index	N/A		
Rutting Index	N/A		
Roughness Condition Index (RCI)	N/A		



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

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

ROUTE: 0211AZ SUN POINT ROAD CUT THROUGH

**GLAC: GLACIER NATIONAL PARK** 

Subcomponent Record COLLECTED: 9/11/2010
INTERMOUNTAIN REGION TOTAL LENGTH: 0.08 Miles

INTERMOUNTAIN REGION		TOTAL LENGTH:	0.00 Milles
Section Number	0		
Section Length (mi)	0.08		
Cross Section Information			
Number of Lanes	2		
Paved Width (ft)	15		
Lane Width (ft)	8		
Roadway Condition Information			
SCR (Surface Condition Rating)	94		
PCR (Pavement Condition Rating)	94		
Distress Index Values			
Structural Crack Index	100		
Transverse Cracking Index	99		
Patching Index	99		
Rutting Index	94		
Roughness Condition Index (RCI)	NC		





ROUTE: 0211Z SUN POINT ROAD GLAC: GLACIER NATIONAL PARK

Subcomponent Record COLLECTED: 9/11/2010
INTERMOUNTAIN REGION TOTAL LENGTH: 0.24 Miles

Section Number	0		
Section Length (mi)	0.24		
Cross Section Information			
Number of Lanes	2		
Paved Width (ft)	23		
Lane Width (ft)	11		
Roadway Condition Information			
SCR (Surface Condition Rating)	96		
PCR (Pavement Condition Rating)	96		
Distress Index Values			
Structural Crack Index	98		
Transverse Cracking Index	100		
Patching Index	100		
Rutting Index	96		
Roughness Condition Index (RCI)	NC		



Excellent | No Data **PCR** Fair [ Good | Poor (0 - 60)(61 - 84)(85 - 94)(95 - 100)\* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

**COLLECTED:** 

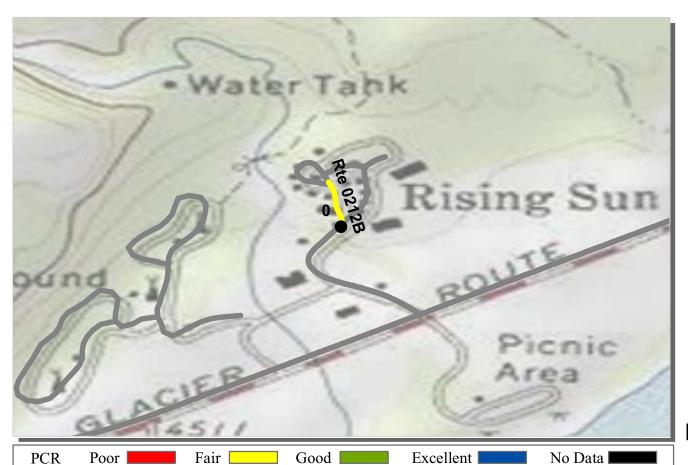
9/11/2010

**ROUTE: 0212A RISING SUN LODGE ROAD A** 

**GLAC: GLACIER NATIONAL PARK** 

INTERMOUNTAIN REGION		TOTAL	LENGTH:	<b>0.19 Miles</b>
Section Number	0			
Section Length (mi)	0.19			
Cross Section Information				
Number of Lanes	2			
Paved Width (ft)	17			
Lane Width (ft)	9			
Roadway Condition Information				
SCR (Surface Condition Rating)	85			
PCR (Pavement Condition Rating)	85			
Distress Index Values				
Structural Crack Index	99			
Transverse Cracking Index	99			
Patching Index	96			
Rutting Index	85			
Roughness Condition Index (RCI)	NC			

9/11/2010



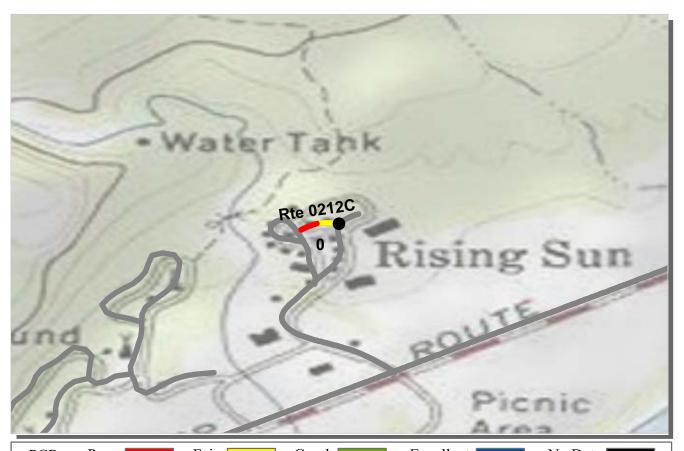
**PCR** Poor | (61 - 84)(0 - 60)(85 - 94)(95 - 100)\* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

**ROUTE: 0212B RISING SUN LODGE ROAD B** 

**GLAC: GLACIER NATIONAL PARK** 

#### **COLLECTED:** INTERMOUNTAIN REGION TOTAL LENGTH:

INTERMOUNTAIN REGION		TOTAL LENGTH		<b>0.06 Miles</b>
Section Number	0			
Section Length (mi)	0.06			
Cross Section Information				
Number of Lanes	1			
Paved Width (ft)	12			
Lane Width (ft)	12			
Roadway Condition Information				
SCR (Surface Condition Rating)	74			
PCR (Pavement Condition Rating)	74			
Distress Index Values				
Structural Crack Index	89			
Transverse Cracking Index	93			
Patching Index	99			
Rutting Index	74			
Roughness Condition Index (RCI)	NC			



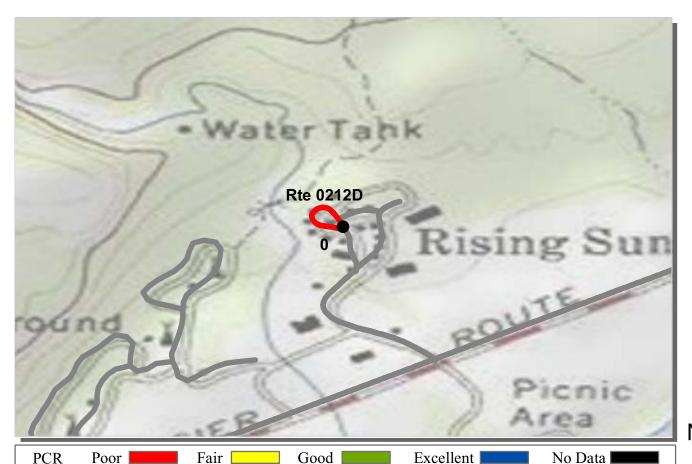


9/11/2010

**ROUTE: 0212C RISING SUN LODGE ROAD C** 

**GLAC: GLACIER NATIONAL PARK** 

INTERMOUNTAIN REGION		TOTAL LENGTH:		0.04 Miles	
Section Number	0				
Section Length (mi)	0.04				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	12				
Lane Width (ft)	12				
Roadway Condition Information					
SCR (Surface Condition Rating)	69				
PCR (Pavement Condition Rating)	69				
Distress Index Values					
Structural Crack Index	98				
Transverse Cracking Index	98				
Patching Index	98				
Rutting Index	69				
Roughness Condition Index (RCI)	NC				



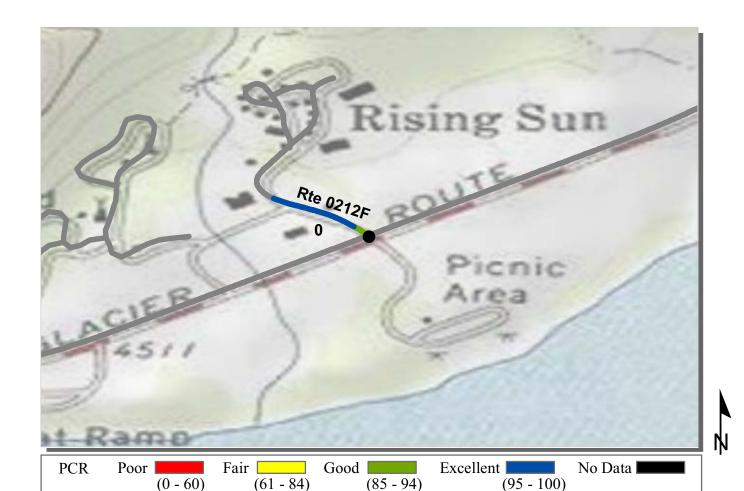


9/11/2010

**ROUTE: 0212D RISING SUN LODGE ROAD D** 

**GLAC: GLACIER NATIONAL PARK** 

INTERMOUNTAIN REGION		TOTAL	LENGTH:	<b>0.08 Miles</b>
Section Number	0			
Section Length (mi)	0.08			
Cross Section Information				
Number of Lanes	2			
Paved Width (ft)	19			
Lane Width (ft)	9			
Roadway Condition Information				
SCR (Surface Condition Rating)	60			
PCR (Pavement Condition Rating)	60			
Distress Index Values				
Structural Crack Index	100			
Transverse Cracking Index	100			
Patching Index	100			
Rutting Index	60			
Roughness Condition Index (RCI)	NC			



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

**COLLECTED:** 

9/11/2010

ROUTE: 0212F RISING SUN LODGE ROAD F

**GLAC: GLACIER NATIONAL PARK** 

#### INTERMOUNTAIN DECION

INTERMOUNTAIN REGION		TOTAL LENGT			<b>0.10 Miles</b>
Section Number	0				
Section Length (mi)	0.10				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	25				
Lane Width (ft)	12				
Roadway Condition Information					
SCR (Surface Condition Rating)	96				
PCR (Pavement Condition Rating)	96				
Distress Index Values					
Structural Crack Index	97				
Transverse Cracking Index	100				
Patching Index	98				
Rutting Index	96				
Roughness Condition Index (RCI)	NC				

# Section 6 Manually Rated Paved Route Condition Rating Sheets



Glacier National Park



## MANUALLY RATED ROUTE CONDITION RATING SHEETS

This park is classified as a Large Park. Therefore, in Cycle 5, no manually rated routes were collected unless the route was modified or previously uncollected by RIP.

# Section 7 Parking Area Condition Rating Sheets



## Glacier National Park

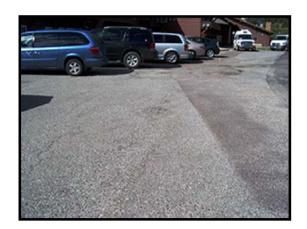


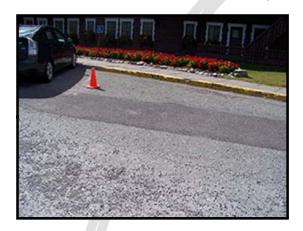
## GLACIER NATIONAL PARK Route 0968B

# MANY GLACIER HOTEL HANDICAP PARKING ADJACENT TO ROUTE 0210 (MANY GLACIER HOTEL ROAD) AT MP 0.3

Route	Public /				
Number	NonPublic	<b>Date Visited</b>	Area (sq ft)	Lane Miles *	Surface Type
0968B	PUBLIC	9/11/2010	4,145	0.07	AS
Culverts	<b>Drop Inlets</b>	Gates	Curb & Gutter	Curb	PCR
			CONCRETE CURB	CONCRETE	
0	1	0	AND GUTTER	CURB	POOR/45

<sup>\*</sup> Lane miles are based on 11' lane widths









Rte 0968E



Rte 0968B

## GLACIER NATIONAL PARK Route 0968E

# MANY GLACIER HOTEL SOUTH PARKING ADJACENT TO ROUTE 0210 (MANY GLACIER HOTEL ROAD)

Route	Public /				
Number	NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0968E	PUBLIC	9/11/2010	2,156	0.04	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
			NO CURB AND	CONCRETE	
0	1	0	GUTTER	CURB	POOR/45

<sup>\*</sup> Lane miles are based on 11' lane widths







Rte 0968B



## **GLACIER NATIONAL PARK**

## **Route 1040**

LAKE MCDONALD LEWIS DORM EMPLOYEE PARKING FROM ROUTE 0200 (LAKE MCDONALD LODGE LOOP ROAD) TO PARKING

Route	Public /				
Number	NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
1040	PUBLIC	9/12/2010	1,128	0.02	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
			NO CURB AND		
0	0	0	GUTTER	NO CURB	EXCELLENT/97

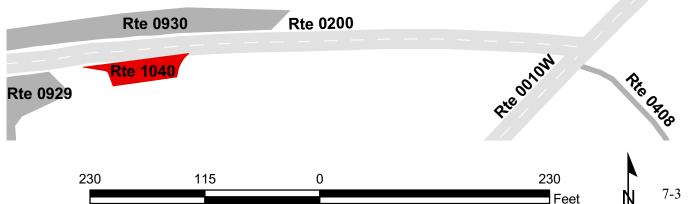
<sup>\*</sup> Lane miles are based on 11' lane widths





Rte 0926C

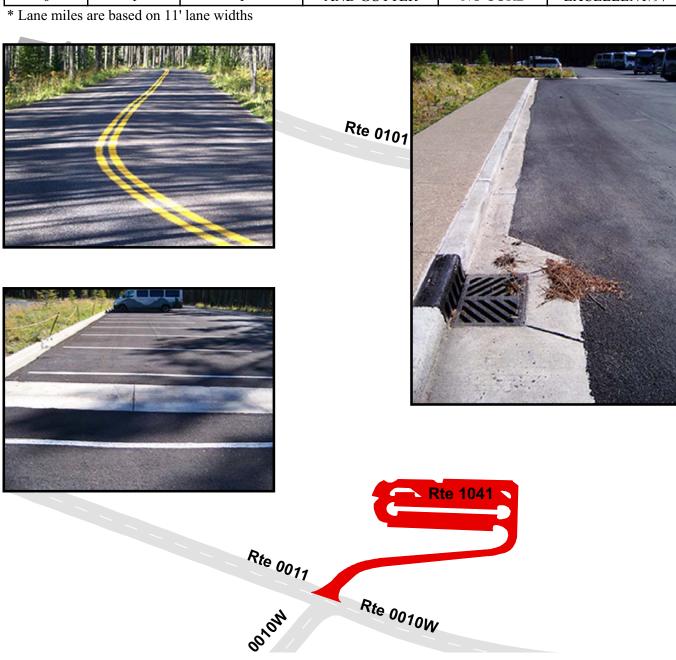




## GLACIER NATIONAL PARK Route 1041

## APGAR TRANSIT CENTER PARKING FROM ROUTE 0010W (GOING TO THE SUN ROAD WEST) TO PARKING

Route	Public /				
Number	NonPublic	Date Visited	Area (sq ft)	<b>Lane Miles *</b>	Surface Type
1041	PUBLIC	9/12/2010	94,459	1.63	AS
Culverts	<b>Drop Inlets</b>	Gates	Curb & Gutter	Curb	PCR
			CONCRETE CURB		
0	1	1	AND GUTTER	NO CURB	EXCELLENT/97



1,000

500

1,000

Feet

# Section 8 Route Maintenance Features Summaries



## Glacier National Park



## GLAC: DCV ROUTE MAINTENANCE FEATURES SUMMARY

Notice: Culverts and drop inlets were NOT marked by NPS in Cycle 5 along new or re-aligned DCV driven routes.

FEATURE	ROUTE 0211ZZ SUN POINT ROADS	ROUTE 0212A RISING SUN LODGE ROAD A	ROUTE 0212B RISING SUN LODGE ROAD B	ROUTE 0212C RISING SUN LODGE ROAD C	ROUTE 0212D RISING SUN LODGE ROAD D	ROUTE 0212F RISING SUN LODGE ROAD F	UNIT
BRIDGE	0	0	0	0	0	0	EACH
CATTLE GUARD	0	0	0	0	0	0	EACH
CULVERT	0	0	0	0	0	0	EACH
CURB	0	106	0	0	0	37	LINEAR FEET
DROP INLET	0	0	0	0	0	0	EACH
GATE	0	0	0	0	0	1	EACH
GUARD/GUIDE RAIL	0	0	0	0	0	0	LINEAR FEET
CABLE	0	0	0	0	0	0	LINEAR FEET
NON-CABLE	0	0	0	0	0	0	LINEAR FEET
GUARD/GUIDE WALL	470	0	0	0	0	0	LINEAR FEET
BOLLARD	0	0	0	0	0	0	LINEAR FEET
TEMPORARY BARRIER	0	0	0	0	0	0	LINEAR FEET
NON TEMP/BOLLARD	470	0	0	0	0	0	LINEAR FEET
INTERSECTION	8	10	5	4	3	8	EACH
LOW WATER CROSSING	0	0	0	0	0	0	EACH
LOW WATER CROSSING	0	0	0	0	0	0	LINEAR FEET
MILE MARKER	0	0	0	0	0	0	EACH
OVERPASS	0	0	0	0	0	0	EACH
PARK BOUNDARY	0	0	0	0	0	0	EACH
PAVED DITCH	0	0	0	0	0	0	LINEAR FEET
PULLOUT	0	0	0	0	0	0	EACH
PULLOUT	0	0	0	0	0	0	LINEAR FEET
RAILROAD CROSSING	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	0	0	LINEAR FEET
SIGN	11	0	0	0	1	4	EACH
STATE BOUNDARY	0	0	0	0	0	0	EACH
TRAFFIC LIGHT	0	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	LINEAR FEET

## STRUCTURE LIST

This park is classified as a large park. Therefore, in Cycle 5, BIP-Structures were inventoried only if they were located along routes that were modified or previously uncollected by RIP, so this report does not provide an all-inclusive listing of all BIP-Structures in this park.

# Section 9 Route Maintenance Features Road Logs



## Glacier National Park



## GLAC: ROUTE MAINTENANCE FEATURES ROAD LOG

### **ROUTE 0211AZ: SUN POINT ROAD CUT THROUGH**

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 8.08
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0010E (GOING TO THE SUN ROAD EAST)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0010E (GOING TO THE SUN ROAD EAST)
0.020	0.020	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.074	0.074	SIGN	RIGHT	REGULATORY, STOP
0.080	0.080	INTERSECTION	LEFT	ROUTE 0211Z (SUN POINT ROAD)
0.080	0.080	INTERSECTION	N/A	ROUTE 0211Z (SUN POINT ROAD)
0.080	0.080	ROUTE END	N/A	TO ROUTE 0211Z (SUN POINT ROAD CUT THROUGH)

Data Collected 09/2010 9-1

## GLAC: ROUTE MAINTENANCE FEATURES ROAD LOG

**ROUTE 0211Z: SUN POINT ROAD** 

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP $8.15$
0.000	0.000	SIGN	N/A	GUIDE, WEST GLACIER ST. MARY
0.000	0.000	INTERSECTION	LEFT	ROUTE 0010E (GOING TO THE SUN ROAD EAST)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0010E (GOING TO THE SUN ROAD EAST)
0.008	0.008	SIGN	LEFT	REGULATORY, STOP
0.018	0.018	SIGN	RIGHT	REGULATORY, GRAPHIC SIGN NO TEXT
0.027	0.027	SIGN	RIGHT	REGULATORY, DO NOT ENTER
0.030	0.030	INTERSECTION	RIGHT	ROUTE 0010E (GOING TO THE SUN ROAD EAST)
0.071	0.071	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.073	0.073	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
0.165	0.235	GUARD/GUIDE WALL	RIGHT	N/A
0.166	0.166	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
0.166	0.166	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
0.184	0.184	SIGN	LEFT	REGULATORY, SPEED LIMIT 25
0.186	0.197	GUARD/GUIDE WALL	LEFT	N/A
0.224	0.232	GUARD/GUIDE WALL	LEFT	N/A
0.235	0.235	INTERSECTION	N/A	ROUTE 0948B (SUN POINT PICNIC AREA B)
0.235	0.235	ROUTE END	N/A	TO ROUTE 0948B (SUN POINT PICNIC AREA B)

Data Collected 09/2010 9-2

# **ROUTE 0212A: RISING SUN LODGE ROAD A**

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM END OF ROUTE 0212F (RISING SUN LODGE ROAD F)
0.000	0.020	CURB-AND-GUTTER	LEFT	N/A
0.000	0.000	INTERSECTION	LEFT	ROUTE 0951B (RISING SUN LODGE AND RESTAURANT PARKING)
0.000	0.000	INTERSECTION	N/A	ROUTE 0212F (RISING SUN LODGE ROAD F)
0.021	0.021	INTERSECTION	LEFT	ROUTE 0951C (RISING SUN LODGE REAR STORE PARKING)
0.045	0.045	INTERSECTION	LEFT	UNPAVED ROUTE
0.076	0.076	INTERSECTION	RIGHT	ROUTE 0951D (RISING SUN LOWER MOTEL PARKING SOUTH)
0.089	0.089	INTERSECTION	LEFT	ROUTE 0212B (RISING SUN LODGE ROAD B)
0.110	0.110	INTERSECTION	RIGHT	ROUTE 0951E (RISING SUN LOWER MOTEL PARKING NORTH)
0.140	0.140	INTERSECTION	RIGHT	ROUTE 0951F (RISING SUN UPPER MOTEL PARKING SOUTH)
0.166	0.166	INTERSECTION	LEFT	ROUTE 0212C (RISING SUN LODGE ROAD C)
0.189	0.189	INTERSECTION	N/A	ROUTE 0951G (RISING SUN UPPER MOTEL PARKING NORTH)
0.189	0.189	ROUTE END	N/A	TO ROUTE 0951G (RISING SUN UPPER MOTEL PARKING NORTH)

# **ROUTE 0212B: RISING SUN LODGE ROAD B**

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0212A (RISING SUN LODGE ROAD A) AT MP 0.19
0.000	0.000	INTERSECTION	N/A	ROUTE 0212A (RISING SUN LODGE ROAD A)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0212A (RISING SUN LODGE ROAD A)
0.052	0.052	INTERSECTION	LEFT	ROUTE 0212D (RISING SUN LODGE ROAD D)
0.060	0.060	INTERSECTION	N/A	ROUTE 0212D (RISING SUN LODGE ROAD D)
0.060	0.060	INTERSECTION	RIGHT	ROUTE 0212C (RISING SUN LODGE ROAD C)
0.060	0.060	ROUTE END	N/A	TO ROUTE 0212D (RISING SUN LODGE ROAD D)

# **ROUTE 0212C: RISING SUN LODGE ROAD C**

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0212A (RISING SUN LODGE ROAD A) AT MP 0.26
0.000	0.000	INTERSECTION	LEFT	ROUTE 0212A (RISING SUN LODGE ROAD A)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0212A (RISING SUN LODGE ROAD A)
0.036	0.036	INTERSECTION	LEFT	ROUTE 0212B (RISING SUN LODGE ROAD B)
0.036	0.036	INTERSECTION	RIGHT	ROUTE 0212D (RISING SUN LODGE ROAD D)
0.036	0.036	ROUTE END	N/A	TO ROUTE 0212D (RISING SUN LODGE ROAD D)

# **ROUTE 0212D: RISING SUN LODGE ROAD D**

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM END OF ROUTE 0212B (RISING SUN LODGE ROAD B)
0.000	0.000	INTERSECTION	N/A	ROUTE 0212B (RISING SUN LODGE ROAD B)
0.034	0.034	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.079	0.079	INTERSECTION	RIGHT	ROUTE 0212B (RISING SUN LODGE ROAD B)
0.079	0.079	INTERSECTION	LEFT	ROUTE 0212B (RISING SUN LODGE ROAD B)
0.079	0.079	ROUTE END	N/A	TO ROUTE 0212B (RISING SUN LODGE ROAD B)

# **ROUTE 0212F: RISING SUN LODGE ROAD F**

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0010E (GOING TO THE SUN ROAD EAST) AT MP 43.85
0.000	0.000	INTERSECTION	LEFT	ROUTE 0010E (GOING TO THE SUN ROAD EAST)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0010E (GOING TO THE SUN ROAD EAST)
0.015	0.015	SIGN	LEFT	REGULATORY, STOP
0.020	0.020	GATE	N/A	N/A
0.021	0.021	SIGN	RIGHT	REGULATORY, STOP
0.027	0.027	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.028	0.028	SIGN	LEFT	GUIDE, ST. MARY WEST GLACIER
0.035	0.035	INTERSECTION	LEFT	ROUTE 0951H (RISING SUN RESTAURANT REAR PARKING)
0.041	0.041	INTERSECTION	RIGHT	ROUTE 0951A (RISING SUN LODGE BUS PARKING)
0.063	0.063	INTERSECTION	RIGHT	ROUTE 0951A (RISING SUN LODGE BUS PARKING)
0.072	0.072	INTERSECTION	LEFT	ROUTE 0951B (RISING SUN LODGE AND RESTAURANT PARKING)
0.088	0.095	CURB-AND-GUTTER	LEFT	N/A
0.097	0.097	INTERSECTION	LEFT	ROUTE 0951B (RISING SUN LODGE AND RESTAURANT PARKING)
0.099	0.099	INTERSECTION	N/A	ROUTE 0212A (RISING SUN LODGE ROAD A)
0.099	0.099	ROUTE END	N/A	TO ROUTE 0212A (RISING SUN LODGE ROAD A)

# **Section 10 Appendix**



# Glacier National Park



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

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

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

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

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

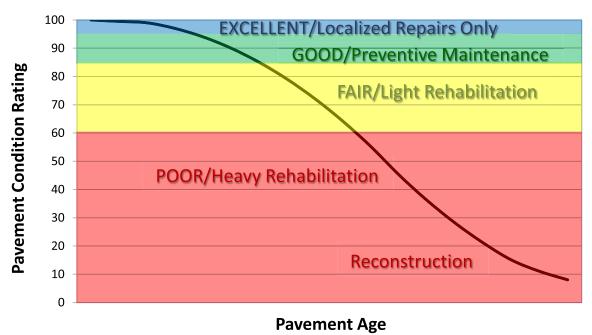
# **Explanation of the Excellent, Good, Fair and Poor Condition Descriptions**

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

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

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

# **Condition Categories and Treatments**



#### DESCRIPTION OF RATING SYSTEM

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

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

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

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

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

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

#### SURFACE DISTRESSES

### **Surface Condition Rating - SCR**

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

## Surface distresses determined from digital images

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

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

Rutting

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

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

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

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

# **Roughness Condition Index - RCI**

# Additional condition data measured by DCV (lasers and accelerometers)

• Roughness (IRI)

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

# **Pavement Condition Rating - PCR**

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

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

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

Each classified surface distress will fall into one or more 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 interval before it reaches MAE and fails.

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

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

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

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

**TABLE 1: Distress Summary** 

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

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

# **ALLIGATOR CRACKING**

# **Description**

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

#### **Severity Levels**

#### LOW

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

#### **MEDIUM**

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

#### HIGH

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

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

**TABLE 2: Alligator Crack Severity Levels** 

ALLICATION CDACKING CEVENITY		Crack Pattern		
ALLIGATOR CRACKING SE LEVELS	LOW	MED	HIGH	
	LOW	L	M	Н
ack	MED	M	M	Н
C <sub>r</sub>	HI	Н	Н	Н

# **LONGITUDINAL CRACKING**

### **Description**

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

# **Severity Levels**

#### LOW

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

#### **MED**

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

#### **HIGH**

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

# TRANSVERSE CRACKING

# **Description**

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

# **Severity Levels**

#### LOW

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

#### **MED**

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

#### HIGH

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

# **PATCHING AND POTHOLES**

# **Description**

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

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

#### **Severity Levels**

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

### **RUTTING**

# **Description**

Rutting is a longitudinal surface depression in the wheelpath.

#### **Severity Levels**

#### LOW

Ruts with a measured depth  $\geq 0.20$ " and  $\leq 0.49$ "

#### **MED**

Ruts with a measured depth  $\geq 0.50$ " and  $\leq 0.99$ "

#### HIGH

Ruts with a measured depth  $\geq 1.00$ "

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

# **ROUGHNESS**

# **Description**

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

# **Severity Levels**

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

**TABLE 3: IRI** 

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

# **INDEX FORMULAS**

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

# **Alligator Crack Index**

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

Where:

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

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

Percent of total area is computed as:

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  $\geq 0$  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 feet)

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

## **Structural Crack Index**

**SC INDEX** = 
$$[100 - ((100 - AC \text{ INDEX}) + (100 - LC \text{ INDEX}))]$$

**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  $\geq 0$ .

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.

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

# **Rutting Index**

**RUT\_INDEX** = 
$$100 - 40 * [(\%LOW / 535) + (\%MED / 205) + (\%HI / 40)]$$

Where:

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

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

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

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

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

# total number of ruts within each severity in both wheelpaths 20 \* 100

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

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

# **Roughness Condition Index (Asphalt)**

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

Where:

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

Average IRI is computed as:

There is no applicable threshold for failure for this index.

# **Roughness Condition Index (Concrete)**

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

For concrete, PCR = RCI

# **Surface Condition Rating Index**

**SCR** = Lowest Index Value Of: [SC\_INDEX, TC\_INDEX, PATCH\_INDEX, RUT INDEX]

**Note:** The modified SCR equation above combines AC\_INDEX and LC\_INDEX, and considers that a single AC/LC index value of the Structural Crack Index (SC\_INDEX). The lowest of the four computed index values (SC\_INDEX, TC\_INDEX, PATCH\_INDEX, or RUT\_INDEX) becomes the SCR.

#### Where:

See above for determinations of SC\_INDEX, TC\_INDEX, PATCH\_INDEX and RUT INDEX.

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

# **Data Collection Vehicle Subsystems**

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

#### **CAMERAS**

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

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

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

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

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

#### **DMI (Distance Measuring Instrument)**

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

### **ROUGHNESS (IRI)**

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

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

#### **RUTTING**

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

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

#### **GPS & INERTIAL SYSTEMS**

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

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

GPS on Manually Rated Roads (MRR)

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

# **Geodatabase - Background and Metadata**

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

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

#### **GLOSSARY OF TERMS AND ABBREVIATIONS**

**TERM OR** 

ABBREVIATION DESCRIPTION OR DEFINITION

AC Alligator Cracking

CRS Condition Rating Sheets (Section 5)

DCV Data Collection Vehicle

Excellent rating with an index value of 95 to 100

Fair Fair rating with an index value from 61 to 84

FUNCT CLASS Functional Classification (see Route ID, Section 2)

Good Good rating with an index value from 85 to 94

IRI International Roughness Index

Lane Width Width from road centerline to fogline, or from centerline to edge-

of-pavement when no fogline exists

LC Longitudinal Cracking

MRR Manually Rated Route

MRL Manually Rated Line

MRP Manually Rated Polygon

N/A Not Applicable

NC Not Collected

PATCH Patching and Potholes

Paved Width Width from edge-of-pavement to edge-of-pavement

PCR Pavement Condition Rating

PKG Parking Area

Poor Poor rating with an index value of 0 to 60

RCI Roughness Condition Index

SC Structural Cracking

SCR Surface Condition Rating

TC Transverse Cracking