



Federal Lands Highway Road Inventory Program

Road Inventory and Condition Assessment

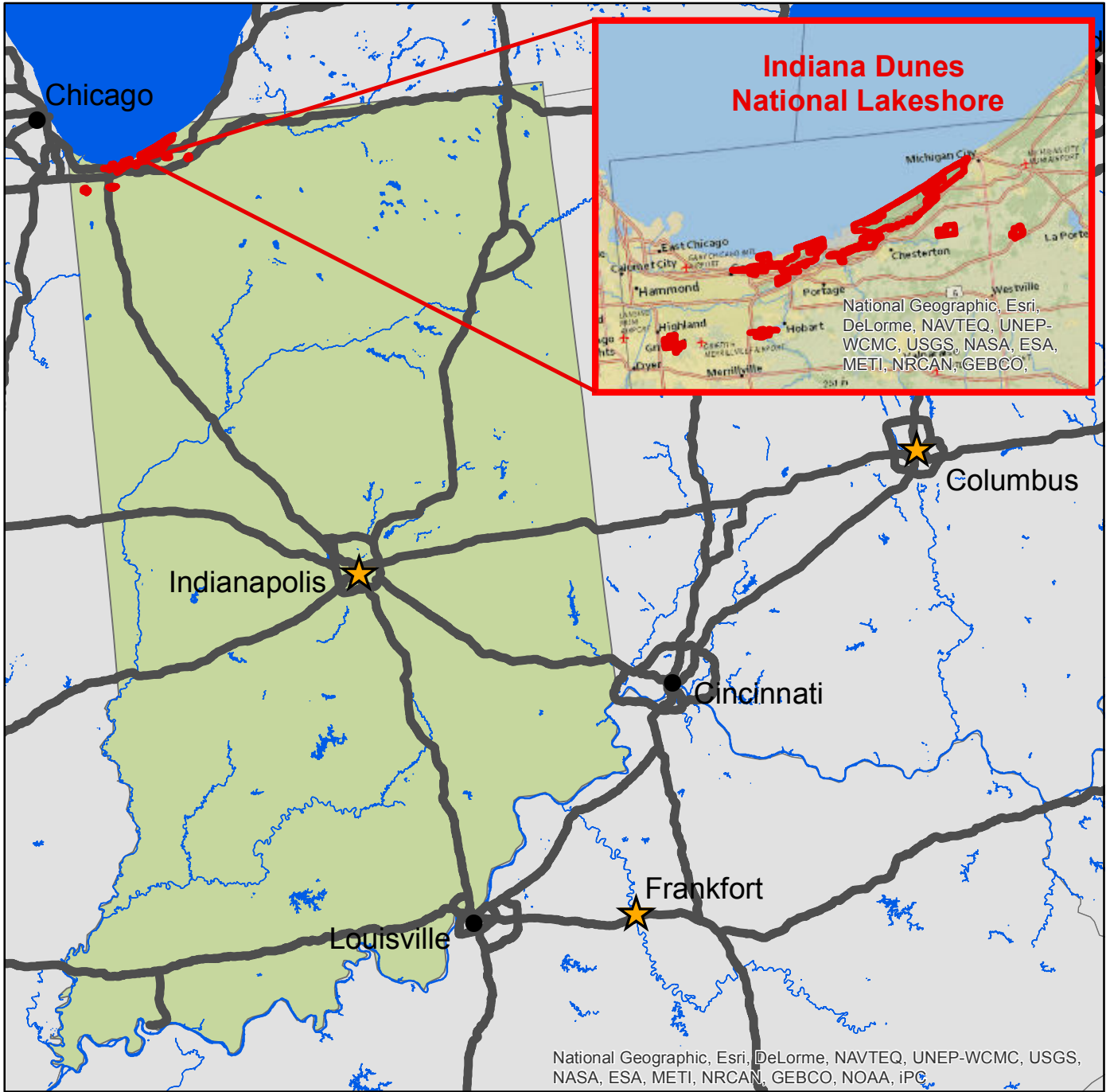


Indiana Dunes National Lakeshore INDU

Cycle 5 Report

**Prepared By: Federal Highway Administration
Road Inventory Program (RIP)
Data Collected: 09/2012
Report Date: 05/2013**

Indiana Dunes National Lakeshore in Indiana





DCV = Data Collection Vehicle

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Section 1 Introduction



Indiana Dunes National Lakeshore



Federal Lands Highway
Road Inventory Program

INTRODUCTION

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

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

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

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

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

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

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

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

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

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

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

Respectfully,

FHWA RIP Team

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Section 2 Park Route Inventory



Indiana Dunes National Lakeshore



Federal Lands Highway
Road Inventory Program

Cycle 5 NPS/RIP Route ID Report

Road Inventory Program 05/28/2013

(Numerical By Route #)

Page 1 of 8

Shading Color Key:
Red text denotes approx. mileage

White = Paved Routes, DCV Driven
Grey = Paved Routes, DCV not Driven

Yellow = Unpaved Routes, DCV not Driven
Black = State, Local or Private non-NPS Routes

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

■ = Concession Route Flag ON

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

** DCV - Data Collection Vehicle NC - Not Collected

INDU

INDIANA DUNES NATIONAL LAKESHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0014ZZ	5	48894		WEST BEACH ACCESS ROADS	FROM ROUTE 5215 (COUNTY LINE ROAD) TO ROUTE 0923 (WEST BEACH VISITOR PARKING)	WEST UNIT	1.55	0.00	1.55	1		AS	1
0016ZZ	5	114280		PORTAGE LAKEFRONT ENTRANCE ROADS	FROM U.S. STEEL COMPANY FRONTAGE ROAD TO END OF LOOP	WEST UNIT	0.69	0.00	0.69	1		AS	2
0206	NC	25903		CHELLBERG FARM ENTRANCE ROAD	FROM ROUTE 5216 (MINERAL SPRINGS ROAD) TO FARM	WEST UNIT	0.00	0.07	0.07	6		GR	
0207ZZ	5	25512		GOOD FELLOW CAMP ROADS IDELC	FROM ROUTE 5218 (HOWE ROAD) TO ROUTE 0411 (GOOD FELLOW GRAVEL SERVICE ROAD)	CENTRAL UNIT	0.58	0.00	0.58	2		AS	2
0208	NC	25904		BAILLY HOMESTEAD ENTRANCE ROAD	FROM ROUTE 5218 (HOWE ROAD) TO HOMESTEAD	CENTRAL UNIT	0.00	0.11	0.11	6		GR	
0210ZZ	5	24757		CENTRAL AVENUE	FROM ROUTE 5209 (BEVERLY DRIVE) TO BEACH ACCESS	EAST UNIT	0.38	0.00	0.38	2		AS	4
0212	5	48911		KEMIL ROAD (300 EAST ROAD)	FROM U.S. HIGHWAY 20 TO U.S. HIGHWAY 12	EAST UNIT	0.81	0.00	0.81	2		AS	3
0213	5	48912		FURNESSVILLE ROAD (1500 NORTH ROAD)	FROM INTERSECTION OF ROUTE 5220 (SCHOOL HOUSE ROAD (275 E)) AND ROUTE 5213 (FURNESSVILLE ROAD / NON NPS) TO U.S. HIGHWAY 12	EAST UNIT	1.30	0.00	1.30	2		AS	3
0214	5	48913		TEALE ROAD	FROM ROUTE 0213 (FURNESSVILLE ROAD (1500 NORTH ROAD)) AT MP 0.75 (ON RIGHT) TO U.S. HIGHWAY 12	EAST UNIT	0.37	0.00	0.37	2	24,029	AS	3
0222ZZ	5	24752		DUNEWOOD CAMPGROUND ACCESS ROADS	FROM ROUTE 5219 (DUNEWOOD AMPHITHEATER ACCESS ROAD / BROADWAY) TO THROUGH CAMPGROUND	EAST UNIT	1.40	0.00	1.40	3		AS	4
0226	5	24761		SOUTH STATE PARK ROAD (1500 NORTH ROAD)	FROM NORTH TREMONT ROAD TO WAVERLY ROAD	EAST UNIT	0.95	0.00	0.95	2	68,929	AS	2
0240	5	114938		WAHL FARM ACCESS ROAD	FROM ROUTE 5218 (HOWE ROAD) AT MP 0.6 ON RIGHT TO ROUTE 5218 (HOWE ROAD) AT MP 0.7	CENTRAL UNIT	0.12	0.00	0.12	3		AS	2
0400	NC	25902		GUN RANGE ROAD	FROM ROUTE 0212 (KEMIL ROAD (300 EAST ROAD)) AT MP 0.37 (ON LEFT) TO END	EAST UNIT	0.00	0.14	0.14	6		GR	

Cycle 5 NPS/RIP Route ID Report

Road Inventory Program 05/28/2013

(Numerical By Route #)

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Shading Color Key:

White = Paved Routes, DCV Driven

Yellow = Unpaved Routes, DCV not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Red text denotes approx. mileage

Grey = Paved Routes, DCV not Driven

Black = State, Local or Private non-NPS Routes

■ = Concession Route Flag ON

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INDIANA DUNES NATIONAL LAKESHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0404	5	56012		WEST BEACH SERVICE ACCESS ROAD	FROM ROUTE 0014ZZ (WEST BEACH ACCESS ROADS) ON RIGHT AND ROUTE 0923 (WEST BEACH VISITOR PARKING) TO END OF LOOP	WEST UNIT	0.32	0.00	0.32	6		AS	1
0406	5	25797		WEST BEACH SERVICE ROAD	FROM ROUTE 0014ZZ (WEST BEACH ACCESS ROADS) TO ROUTE 0925 (WEST BEACH MAINTENANCE BUILDING PARKING)	WEST UNIT	0.12	0.00	0.12	6		AS	1
0409	NC	24753		DUNEWOOD WATER STORAGE ROAD	FROM ROUTE 0410 (DUNEWOOD SERVICE ROAD) AT MP 0.01 (ON RIGHT) TO END	EAST UNIT	0.00	0.04	0.04	6		GR	
0410	5	25514		DUNEWOOD SERVICE ROAD	FROM ROUTE 0222ZZ (DUNEWOOD CAMPGROUND ACCESS ROADS) TO END OF PAVEMENT	EAST UNIT	0.10	0.00	0.10	6	8,237	AS	4
0411	NC	25905		GOOD FELLOW GRAVEL SERVICE ROAD	FROM END OF ROUTE 0207ZZ (GOOD FELLOW CAMP ROADS IDELC) TO END	CENTRAL UNIT	0.00	0.30	0.30	6		GR	
0900ZZ	5	56393		DUNEWOOD CAMPGROUND PARKINGS	FROM ROUTE 0222ZZ (DUNEWOOD CAMPGROUND ACCESS ROADS) TO PARKING	EAST UNIT	0.00	0.00	0.00		5,868	AS	4
0904	5	24732		CALUMET DUNES INTERPRETER CENTER PARKING	FROM ROUTE 0212 (KEMIL ROAD (300 EAST ROAD)) AT MP 0.75 (ON LEFT) TO ROUTE 0212 (KEMIL ROAD (300 EAST ROAD)) AT MP 0.78 (ON LEFT)	EAST UNIT	0.00	0.00	0.00		17,824	AS	3
0905	5	25516		CALUMET DUNES INTERPRETER CENTER OVERFLOW PARKING	FROM ROUTE 0212 (KEMIL ROAD (300 EAST ROAD)) AT MP 0.78 (ON RIGHT) TO PARKING	EAST UNIT	0.00	0.00	0.00		6,725	AS	3
0906	5	24734		KEMIL BEACH PARKING	FROM ROUTE 5211 (EAST STATE PARK ROAD (300 EAST ROAD)) AT MP 1.00 (ON RIGHT) TO ROUTE 5211 (EAST STATE PARK ROAD (300 EAST ROAD)) AT MP 1.05 (ON RIGHT)	EAST UNIT	0.00	0.00	0.00		37,901	AS	3
0907	5	56219		BAILLY/CHELLBERG VISITOR PARKING	FROM ROUTE 5216 (MINERAL SPRINGS ROAD) AT MP 0.11 (ON LEFT) TO PARKING	CENTRAL UNIT	0.00	0.00	0.00		39,115	AS	2

Cycle 5 NPS/RIP Route ID Report

Road Inventory Program 05/28/2013

(Numerical By Route #)

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Shading Color Key:

White = Paved Routes, DCV Driven

Yellow = Unpaved Routes, DCV not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Red text denotes approx. mileage

Grey = Paved Routes, DCV not Driven

Black = State, Local or Private non-NPS Routes

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INDU

INDIANA DUNES NATIONAL LAKESHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0908	NC	59792		BAILLY/CHELLBERG OVERFLOW PARKING	ADJACENT TO ROUTE 5216 (MINERAL SPRINGS ROAD)	CENTRAL UNIT	0.00	0.00	0.00		216,150	GR	
0913	5	24725		LAKE VIEW BEACH PARKING	ADJACENT TO ROUTE 5224 (LAKE FRONT DRIVE)	EAST UNIT	0.00	0.00	0.00		9,139	AS	3
0914	5	56223		LAKE FRONT DRIVE HANDICAPPED PARKING	ADJACENT TO ROUTE 5224 (LAKE FRONT DRIVE)	EAST UNIT	0.00	0.00	0.00		984	AS	3
0915	5	24727		CENTRAL BEACH PARKING	FROM ROUTE 0210ZZ (CENTRAL AVENUE) ON LEFT TO PARKING	EAST UNIT	0.00	0.00	0.00		31,793	AS	4
0916ZZ	5	24729		MT. BALDY PARKING AREAS	FROM U.S. HIGHWAY 12 TO PARKING	EAST UNIT	0.00	0.00	0.00		74,974	AS	4
0917	5	24726		LY-CO-KI-WE PARKING	FROM ROUTE 5220 (SCHOOL HOUSE ROAD (275 E)) TO PARKING	EAST UNIT	0.00	0.00	0.00		42,231	AS	3
0918ZZ	5	24760		HQ PARKING AREAS	FROM ROUTE 5216 (MINERAL SPRINGS ROAD) TO PARKING	CENTRAL UNIT	0.00	0.00	0.00		129,496	AS	2
0920	5	25510		DOUGLAS CENTER PARKING	FROM LAKE STREET TO PARKING	WEST UNIT	0.00	0.00	0.00		27,907	AS	1
0921	5	52955		TOLLESTON DUNES OVERLOOK PARKING	ADJACENT TO U.S. HIGHWAY 12	WEST UNIT	0.00	0.00	0.00		1,666	AS	1
0922	5	24748		TOLLESTON DUNES TRAILHEAD PARKING	FROM U.S. HIGHWAY 12 TO PARKING	WEST UNIT	0.00	0.00	0.00		23,412	AS	1
0923	5	24754		WEST BEACH VISITOR PARKING	FROM ROUTE 0014ZZ (WEST BEACH ACCESS ROADS) TO ROUTE 0014ZZ (WEST BEACH ACCESS ROADS)	WEST UNIT	0.00	0.00	0.00		305,185	AS	1
0925	5	56225		WEST BEACH MAINTENANCE BUILDING PARKING	FROM ROUTE 5405 (WEST BEACH MAINTENANCE ROAD) TO ROUTE 0406 (WEST BEACH SERVICE ROAD)	WEST UNIT	0.00	0.00	0.00		17,265	AS	1
0927ZZ	5	56228		IDELC (GOOD FELLOW CAMP) PARKING AREAS	FROM ROUTE 0207ZZ (GOOD FELLOW CAMP ROADS IDELC) ON LEFT TO PARKING	CENTRAL UNIT	0.00	0.00	0.00		11,526	AS	2
0928	NC	46987		COWLES BOG TRAIL PARKING	ADJACENT TO ROUTE 5216 (MINERAL SPRINGS ROAD)	CENTRAL UNIT	0.00	0.00	0.00		23,544	GR	
0929	NC	46972		PORTER BEACH SOUTH PARKING	ADJACENT TO WABASH AVENUE	EAST UNIT	0.00	0.00	0.00		15,615	GR	

Cycle 5 NPS/RIP Route ID Report

Road Inventory Program 05/28/2013

(Numerical By Route #)

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Shading Color Key:
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Grey = Paved Routes, DCV not Driven	Black = State, Local or Private non-NPS Routes	■ = Concession Route Flag ON	

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CYCLE 5 SUMMARY TOTALS FOR INDIANA DUNES NATIONAL LAKESHORE

<u>CYCLE 5 ROUTE TOTALS</u>	
DCV Driven Route Miles	7.06
Manually Rated Route Miles	1.63
TOTAL PARK ROUTE MILES COLLECTED IN CYCLE 5	8.69
Manually Rated Routes (SQFT)	4,283
TOTAL UNPAVED PARK ROUTE MILES	0.65

<u>CYCLE 5 CONCESSION TOTALS</u>	
Concession Paved Route Miles	0.00
Concession Unpaved Route Miles	0.00
TOTAL CONCESSION ROUTE MILES	0.00
Concession Paved Parking Area SQFT	0
Concession Unpaved Parking Area SQFT	0
TOTAL CONCESSION PARKING AREA SQFT	0
Concession Manually Rated Routes SQFT	0

<u>* CYCLE 5 PARKING AREA TOTALS</u>	
Paved Parking (SQFT)	896,992
Unpaved Parking (SQFT)	377,570
TOTAL PARKING (SQFT)	1,274,562

<u>CYCLE 5 WEIGHTED AVERAGE PARK VALUES</u>	
DCV Driven PCR	78
**Manually Rated Routes PCR	53
**Parking PCR	81
***Total Equivalent Lane Miles	30.34

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

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

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

Cycle 5 NPS/RIP Route ID Report

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Grey = Paved Routes, DCV not Driven

Yellow = Unpaved Routes, DCV not Driven
Black = State, Local or Private non-NPS Routes

Blue = All Paved Parking Areas
■ = Concession Route Flag ON

Green = All Unpaved Parking Areas

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General Park Road Functional Classification Table

- Class 1** Principal Park Road/Rural Parkway (Public Roads) - Roads which constitute the main access route, circulatory tour, or thoroughfare for park visitors. Route Numbers 1 - 99. Note: Rural parkways (e.g. Natchez Trace) are numbered 1 - 9. State Routes Inventoried for Park. Route Numbers 5000-5999
- Class 2** Connector Park Road (Public Roads) - Roads which provide access within a park to areas of scenic, scientific, recreational or cultural interest, such as overlooks, campgrounds, etc. Route Numbers 100-199.
- Class 3** Special Purpose Park Road (Public Roads) - Roads which provide circulation within public areas, such as campgrounds, picnic areas, visitor center complexes, concessionaire facilities, etc. These roads generally serve low-speed traffic and are often designed for one-way circulation. Route Numbers 200-299.
- Class 4** Primitive Park Roads (Public Roads) - Roads which provide circulation through remote areas and/or access to primitive campgrounds and undeveloped areas. These roads frequently have no minimum design standards and their use may be limited to specially equipped vehicles. Route Numbers 200-299. Note: Functional Classes 3 and 4 have the same route numbers because, historically, they were numbered similarly.
- Class 5** Administrative Access Road (Administrative Roads) - All public roads intended for access to administrative developments or structures such as park offices, employee quarters, or utility areas. Route Numbers 400-499.
- Class 6** Restricted Road (Administrative Roads) - All roads normally closed to the public, including patrol roads, truck trails, and other similar roads. Route Numbers 400-499. Note: Functional Classes 5 and 6 have the same route numbers because historically they were numbered similarly and often there is little distinction between these routes. For example, because utility areas and employee housing are often closed to the public, this restriction would result in classification of FC 6 rather than FC 5.
- Class 7** Urban Parkway (Urban Parkways and City Streets) - These facilities serve high volumes of park and non-park related traffic and are restricted, limited-access facilities in an urban area. This category of roads primarily encompasses the major parkways which serve as gateways to our nation's capital. Other major park roads or portions thereof, however, may be included in this category. Route Numbers 1-9.
- Class 8** City Streets (Urban Parkways and City Streets) - City streets are usually extensions of the adjoining street system that are owned and maintained by the National Park Service. The construction and/or reconstruction should conform with accepted local engineering practice and local conditions. Route Numbers 600-699.

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

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

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

Surface Type Abbreviations:

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

NPS/RIP Subcomponent Details for INDU

Road Inventory Program 05/28/2013

(Numerical By Subcomponent #)

Page 1 of 5

Shading Color Key:

White = Paved Routes, DCV Driven

Yellow = Unpaved Routes, DCV not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Red text denotes approx. mileage

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INDU

INDIANA DUNES NATIONAL LAKESHORE

Rte. No.	FMSS No.	Cycle Collected	Route Name	From	To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0014ZZ	48894	5	WEST BEACH ACCESS ROADS	FROM ROUTE 5215 (COUNTY LINE ROAD)	TO ROUTE 0923 (WEST BEACH VISITOR PARKING)		1	1.55	0.00	1.55	
0016ZZ	114280	5	PORTAGE LAKEFRONT ENTRANCE ROADS	FROM U.S. STEEL COMPANY FRONTAGE ROAD	TO END OF LOOP		1	0.69	0.00	0.69	
0207ZZ	25512	5	GOOD FELLOW CAMP ROADS IDELC	FROM ROUTE 5218 (HOWE ROAD)	TO ROUTE 0411 (GOOD FELLOW GRAVEL SERVICE ROAD)		2	0.58	0.00	0.58	
0210ZZ	24757	5	CENTRAL AVENUE	FROM ROUTE 5209 (BEVERLY DRIVE)	TO BEACH ACCESS		2	0.38	0.00	0.38	
0222ZZ	24752	5	DUNEWOOD CAMPGROUND ACCESS ROADS	FROM ROUTE 5219 (DUNEWOOD AMPHITHEATER ACCESS ROAD / BROADWAY)	TO THROUGH CAMPGROUND		3	1.40	0.00	1.40	
0900ZZ	56393	5	DUNEWOOD CAMPGROUND PARKINGS	FROM ROUTE 0222ZZ (DUNEWOOD CAMPGROUND ACCESS ROADS)	TO PARKING			0.00	0.00	0.00	5,868
0916ZZ	24729	5	MT. BALDY PARKING AREAS	FROM U.S. HIGHWAY 12	TO PARKING			0.00	0.00	0.00	74,974
0918ZZ	24760	5	HQ PARKING AREAS	FROM ROUTE 5216 (MINERAL SPRINGS ROAD)	TO PARKING			0.00	0.00	0.00	129,496
0927ZZ	56228	5	IDELC (GOOD FELLOW CAMP) PARKING AREAS	FROM ROUTE 0207ZZ (GOOD FELLOW CAMP ROADS IDELC) ON LEFT	TO PARKING			0.00	0.00	0.00	11,526

INDU-0014ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	From	To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0014Z	48894	5	WEST BEACH ACCESS ROAD	FROM ROUTE 5215 (COUNTY LINE ROAD) AT MP 0.8 ON LEFT	TO ROUTE 0923 (WEST BEACH VISITOR PARKING)		1	1.37	0.00	1.37	
0015Z	48894	5	WEST BEACH ENTRY ROAD	FROM ROUTE 5215 (COUNTY LINE ROAD) AT MP 0.5 ON RIGHT	TO ROUTE 0014Z (WEST BEACH ACCESS ROAD)		1	0.19	0.00	0.19	

NPS/RIP Subcomponent Details for INDU

Road Inventory Program 05/28/2013

(Numerical By Subcomponent #)

Page 2 of 5

Shading Color Key:

White = Paved Routes, DCV Driven

Yellow = Unpaved Routes, DCV not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Red text denotes approx. mileage

Grey = Paved Routes, DCV not Driven

Black = State, Local or Private non-NPS Routes

■ = Concession Route Flag ON

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

INDU

INDIANA DUNES NATIONAL LAKESHORE

INDU-0016ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description		Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
				From	To						
0016AZ	114280	5	PORTAGE LAKEFRONT ENTRANCE ROAD A	FROM U.S. STEEL COMPANY FRONTAGE ROAD	TO BEGINNING OF ROUTE 0016BZ (PORTAGE LAKEFRONT ENTRANCE ROAD B)		1	0.63	0.00	0.63	
0016BZ	114280	5	PORTAGE LAKEFRONT ENTRANCE ROAD B	FROM END OF ROUTE 0016AZ (PORTAGE LAKEFRONT ENTRANCE ROAD A)	TO END OF LOOP		1	0.06	0.00	0.06	7,651

INDU-0207ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description		Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
				From	To						
0207AZ	25512	5	GOOD FELLOW CAMP ROAD IDELC	FROM ROUTE 5218 (HOWE ROAD)	TO ROUTE 0411 (GOOD FELLOW GRAVEL SERVICE ROAD)		2	0.44	0.00	0.44	
0207BZ	25512	5	GOOD FELLOW CAMP EXIT ROAD IDELC	FROM ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)	TO ROUTE 5218 (HOWE ROAD)		2	0.05	0.00	0.05	
0207CZ	25512	5	GOOD FELLOW CAMP ROAD TURNAROUND IDELC	ADJACENT TO ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC) ON LEFT			2	0.00	0.00	0.00	4,283
0207DZ	25512	5	GOOD FELLOW CAMP LOOP IDELC	FROM ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)	TO ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)		2	0.10	0.00	0.10	

INDU-0210ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description		Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
				From	To						
0210AZ	24757	5	CENTRAL AVENUE A	FROM ROUTE 5209 (BEVERLY DRIVE)	TO BEGINNING OF ROUTE 0210BZ (CENTRAL AVENUE B)		2	0.23	0.00	0.23	
0210BZ	24757	5	CENTRAL AVENUE B	FROM END OF ROUTE 0210AZ (CENTRAL AVENUE A)	TO BEACH ACCESS		2	0.15	0.00	0.15	9,900

NPS/RIP Subcomponent Details for INDU

Road Inventory Program 05/28/2013

(Numerical By Subcomponent #)

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Shading Color Key:

White = Paved Routes, DCV Driven

Yellow = Unpaved Routes, DCV not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Red text denotes approx. mileage

Grey = Paved Routes, DCV not Driven

Black = State, Local or Private non-NPS Routes

■ = Concession Route Flag ON

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

INDU

INDIANA DUNES NATIONAL LAKESHORE

INDU-0222ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	From	To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0222AZ	24752	5	DUNEWOOD CAMPGROUND ACCESS ROAD LOOP AZ	FROM ROUTE 5219 (DUNEWOOD AMPHITHEATER ACCESS ROAD / BROADWAY)	TO ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)		3	0.06	0.00	0.06	
0222BZ	24752	5	DUNEWOOD CAMPGROUND ACCESS ROAD LOOP BZ	FROM INTERSECTION OF ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A) AND ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)	TO ROUTE 0222AZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP AZ)		3	0.04	0.00	0.04	
0222Z	24752	5	DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A	FROM ROUTE 0222BZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP BZ) AND ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)	TO ROUTE 0238Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP B (MATHER LOOP))		3	0.29	0.00	0.29	
0223Z	24752	5	DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C	FROM ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A) AND ROUTE 0223BZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP BZ)	TO END OF LOOP		3	0.29	0.00	0.29	
0237Z	24752	5	DUNEWOOD CAMPGROUND ACCESS ROAD LOOP D (DOUGLAS LOOP)	FROM ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A)	TO END OF LOOP		3	0.32	0.00	0.32	
0238Z	24752	5	DUNEWOOD CAMPGROUND ACCESS ROAD LOOP B (MATHER LOOP)	FROM END OF ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROADS)	TO END OF LOOP		3	0.41	0.00	0.41	

NPS/RIP Subcomponent Details for INDU

Road Inventory Program 05/28/2013

(Numerical By Subcomponent #)

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Shading Color Key:

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White = Paved Routes, DCV Driven

Yellow = Unpaved Routes, DCV not Driven

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Green = All Unpaved Parking Areas

Grey = Paved Routes, DCV not Driven

Black = State, Local or Private non-NPS Routes

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

INDU

INDIANA DUNES NATIONAL LAKESHORE

INDU-0900ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	From	To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0900Z	56393	5	DUNEWOOD CAMPGROUND ACCESS PARKING	ADJACENT TO ROUTE 0222AZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP AZ) ON RIGHT AT MP 0.028				0.00	0.00	0.00	1,484
0903Z	56393	5	DUNEWOOD WALK-IN PARKING	ADJACENT TO ROUTE 0237Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP D (DOUGLAS LOOP)) AT MP 0.18 (ON RIGHT)				0.00	0.00	0.00	4,384

INDU-0916ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	From	To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0916Z	24729	5	MT. BALDY PARKING	FROM U.S. HIGHWAY 12	TO PARKING			0.00	0.00	0.00	64,783
0937Z	24729	5	MT. BALDY BUS PARKING	FROM ROUTE 0916Z (MT. BALDY PARKING)	TO ROUTE 0916Z (MT. BALDY PARKING)			0.00	0.00	0.00	10,191

INDU-0918ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	From	To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0918Z	24760	5	HQ ADMINISTRATIVE PARKING A	FROM ROUTE 5216 (MINERAL SPRINGS ROAD)	TO PARKING			0.00	0.00	0.00	82,237
0919Z	24760	5	HQ ADMINISTRATIVE PARKING B	FROM ROUTE 5216 (MINERAL SPRINGS ROAD)	TO PARKING			0.00	0.00	0.00	47,259

NPS/RIP Subcomponent Details for INDU

Road Inventory Program 05/28/2013

(Numerical By Subcomponent #)

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Shading Color Key:

Red text denotes approx. mileage

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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

Black = State, Local or Private non-NPS Routes

■ = Concession Route Flag ON

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

INDU

INDIANA DUNES NATIONAL LAKESHORE

INDU-0927ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	From	To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0927AZ	56228	5	IDELC (GOOD FELLOW CAMP) PARKING A	ADJACENT TO ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC) ON LEFT				0.00	0.00	0.00	6,725
0927CZ	56228	5	IDELC (GOOD FELLOW CAMP) PARKING C	FROM ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)	TO PARKING			0.00	0.00	0.00	4,801

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - INDU

ROUTES ADDED FROM PREVIOUS INVENTORY:

Route #	Route Name	Reason for Addition	Comments
0958	HAWLEYWOOD BUILDING #504 DRIVEWAY / PARKING	OTHER	NEW PAVED PARKING AREA ADDED IN CYCLE 5.
0960	U.S. 12 DORM DRIVE/PARKING	OTHER	NEW PAVED PARKING AREA ADDED IN CYCLE 5.
0961	RM ANNEX DRIVEWAY	OTHER	NEW PAVED PARKING AREA ADDED IN CYCLE 5.

ROUTES MODIFIED FROM PREVIOUS INVENTORY:

Route #	Route Name	Type of Modification	Comments
0904	CALUMET DUNES INTERPRETER CENTER PARKING	SQ FEET CHANGE	MINOR ADJUSTMENT MADE TO SHAPE TO REFLECT PARKING LOT GEOMETRY ACCURATELY.
0914	LAKE FRONT DRIVE HANDICAPPED PARKING	SQ FEET CHANGE	RECOLLECTED A NEW SHAPE, THE PARKING AREA IS MUCH SMALLER NOW.
0918ZZ	HQ PARKING AREAS	SQ FEET CHANGE	SQUARE FOOT INCREASE IN CYCLE 5 BECAUSE A NEW SECTION OF PARKING WAS ADDED.
0938	DUNBAR PARKING AREA	SQ FEET CHANGE	MINOR ADJUSTMENT MADE TO SHAPE TO REFLECT PARKING LOT GEOMETRY ACCURATELY.
0950	PORTER BEACH NORTH PARKING	SQ FEET CHANGE	MINOR ADJUSTMENT MADE TO SHAPE TO REFLECT PARKING LOT GEOMETRY ACCURATELY.
0952	CALUMET RIVER TRAIL PARKING	SQ FEET CHANGE	MINOR ADJUSTMENT MADE TO SHAPE TO REFLECT PARKING LOT GEOMETRY ACCURATELY.
0953	PORTAGE LAKEFRONT NORTH PARKING AREA	SQ FEET CHANGE	MINOR ADJUSTMENT MADE TO SHAPE TO REFLECT PARKING LOT GEOMETRY ACCURATELY.

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - INDU

OTHER CHANGES FROM PREVIOUS INVENTORY:			
Route #	Route Name	Type of Change	Comments
0207ZZ	GOOD FELLOW CAMP ROADS IDELC	OTHER	A SECTION OF THE CYCLE 4 IDELC PARKING (ROUTE 0927ZZ) IS NOW CONSIDERED PART OF THIS ROUTE. THE TURNAROUND AND EXIT ROAD WERE ALSO ADDED.
0210ZZ	CENTRAL AVENUE	LENGTH CHANGE	ROUTE WAS SHORTENED, NPS ONLY OWNS THE PORTION FROM BEVERLY DRIVE.
0213	FURNESSVILLE ROAD (1500 NORTH ROAD)	ROUTE SPLIT	ROUTE 0213 FROM CYCLE 4 WAS SPLIT INTO ROUTES 0213 AND 5213 IN CYCLE 5 BECAUSE THE NPS DOES NOT OWN THE SECTION THAT IS NOW 5213.
0214	TEALE ROAD	COLLECTION METHOD CHANGE	ROAD WAS MANUALLY RATED IN CYCLE 5 DUE TO POOR CONDITION OF ROAD. IT IS SCHEDULE TO BE DEMOLISHED THIS YEAR. PARK STAFF WILL LET US KNOW WHEN THEY REMOVE FROM FMSS.
0222ZZ	DUNEWOOD CAMPGROUND ACCESS ROADS	OTHER	A PORTION OF ROUTE 0900ZZ WAS SPLIT OUT AND COMBINED INTO 0222ZZ.
0226	SOUTH STATE PARK ROAD (1500 NORTH ROAD)	COLLECTION METHOD CHANGE	MAJORITY NOT DRIVABLE FOR VEHICLE COLLECTION BECAUSE ROUTE IS IN VERY POOR CONDITION. ROUTE SCHEDULED TO BE DEMOLISHED IN THE NEAR FEATURE.
0404	WEST BEACH SERVICE ACCESS ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGE FROM 4 TO 6 AND ACCESS LEVEL CHANGED FROM PUBLIC TO NONPUBLIC IN CYCLE 5.
0406	WEST BEACH SERVICE ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGE FROM 4 TO 6 AND ACCESS LEVEL CHANGED FROM PUBLIC TO NONPUBLIC IN CYCLE 5.
0410	DUNEWOOD SERVICE ROAD	COLLECTION METHOD CHANGE	ROAD WAS MANUALLY RATED IN CYCLE 5 BECAUSE IT WAS DIFFICULT FOR THE COLLECTION VEHICLE TO MANEUVER AT END.
0900ZZ	DUNEWOOD CAMPGROUND PARKINGS	ROUTE SPLIT	A PORTION OF THIS PARKING AREA WAS SPLIT OUT AND ADDED TO ROUTE 0222ZZ.
0905	CALUMET DUNES INTERPRETER CENTER OVERFLOW PARKING	OTHER	CHANGED FROM PUBLIC TO NONPUBLIC AT CYCLE 5 WEB MEETING.

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - INDU

OTHER CHANGES FROM PREVIOUS INVENTORY:

Route #	Route Name	Type of Change	Comments
0921	TOLLESTON DUNES OVERLOOK PARKING	OTHER	SHAPE CHANGED AND RECOLLECTED, NAME CHANGED FROM INLAND MARSH OVERLOOK PARKING TO TOLLESTON DUNES OVERLOOK PARKING IN CYCLE 5.
0922	TOLLESTON DUNES TRAILHEAD PARKING	OTHER	NAME CHANGED FROM INLAND MARSH TRAILHEAD PARKING TO TOLLESTON DUNES TRAILHEAD PARKING.
0925	WEST BEACH MAINTENANCE BUILDING PARKING	OTHER	CHANGED FROM PUBLIC TO NONPUBLIC AT CYCLE 5 WEB MEETING.
0927ZZ	IDELC (GOOD FELLOW CAMP) PARKING AREAS	SQ FEET CHANGE	A PORTION OF THIS PARKING AREA WAS REMOVED BECAUSE IT IS NOW CONSIDERED PART OF THE ROAD (ROUTE 0207ZZ).
0944	WEST BEACH SERVICE PARKING	OTHER	USER LEVEL CHANGED FROM PUBLIC TO NONPUBLIC AT CYCLE 5 WEB MEETING.
0956	BEVERLY DRIVE SPRING PARKING AREA	OTHER	PARKING AREA WAS UNDER CONSTRUCTION DURING SITE VISIT, THEREFORE NO CONDITION ASSESSMENT IN CYCLE 5.
5213	FURNESSVILLE ROAD / NON NPS	ROUTE SPLIT	ROUTE 0213 WAS SPLIT INTO 0213 AND 5213 BECAUSE THIS SECTION OF THE ROAD IS NOT OWNED BY THE NPS.
5224	LAKE FRONT DRIVE	LENGTH CHANGE	ROUTE WAS SHORTENED BECAUSE VEHICLE COLLECTION COULD NOT DRIVE ROAD AFTER THE STOP SIGN DUE TO POOR CONDITION OF THE ROAD. ROUTE WAS 3.07 MILES LONG IN CYCLE 4 AND 2.77 MILES IN CYCLE 5.
5225	NORTH TREMONT ROAD	LENGTH CHANGE	ROUTE IS SLIGHTLY LONGER IN CYCLE 5, ROUTE BEGINNING AND ENDING CHANGED IN THIS CYCLE. NAMED CHANGED FROM "TREMONT AVENUE" TO "NORTH TREMONT ROAD".

Section 3

Park Summary Information



Indiana Dunes National Lakeshore



Federal Lands Highway
Road Inventory Program

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

F.C.	Pavement Condition Rating (PCR)								TOTAL MILES
	Poor (0-60)		Fair (61-84)		Good (85-94)		Excellent (95-100)		
	MILES	%	MILES	%	MILES	%	MILES	%	
1	0.23	3.25%	0.88	12.45%	0.35	4.95%	0.72	10.18%	2.18
2	0.83	11.74%	0.99	14.00%	0.49	6.93%	0.62	8.77%	2.93
3			0.08	1.13%	0.10	1.41%	1.34	18.95%	1.52
4									
5									
6	0.24	3.39%	0.10	1.41%	0.06	0.85%	0.04	0.57%	0.44
7									
8									
Totals	1.30	18.39%	2.05	28.99%	1.00	14.14%	2.72	38.47%	7.07

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.

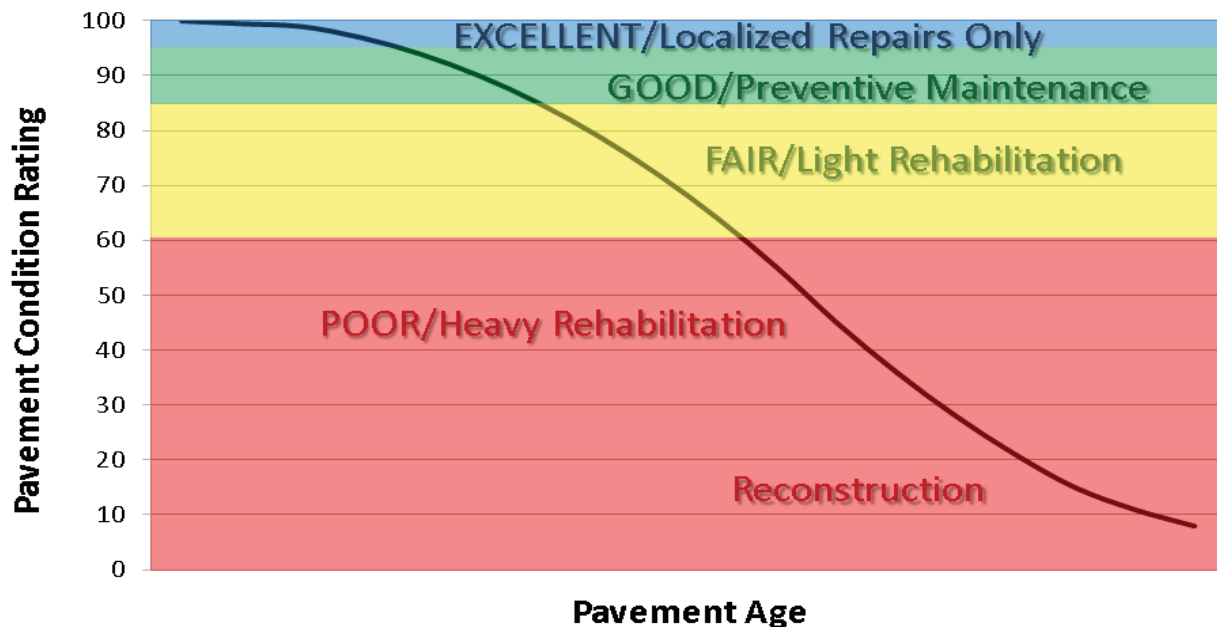
Explanation of the Excellent, Good, Fair and Poor Condition Descriptions

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.

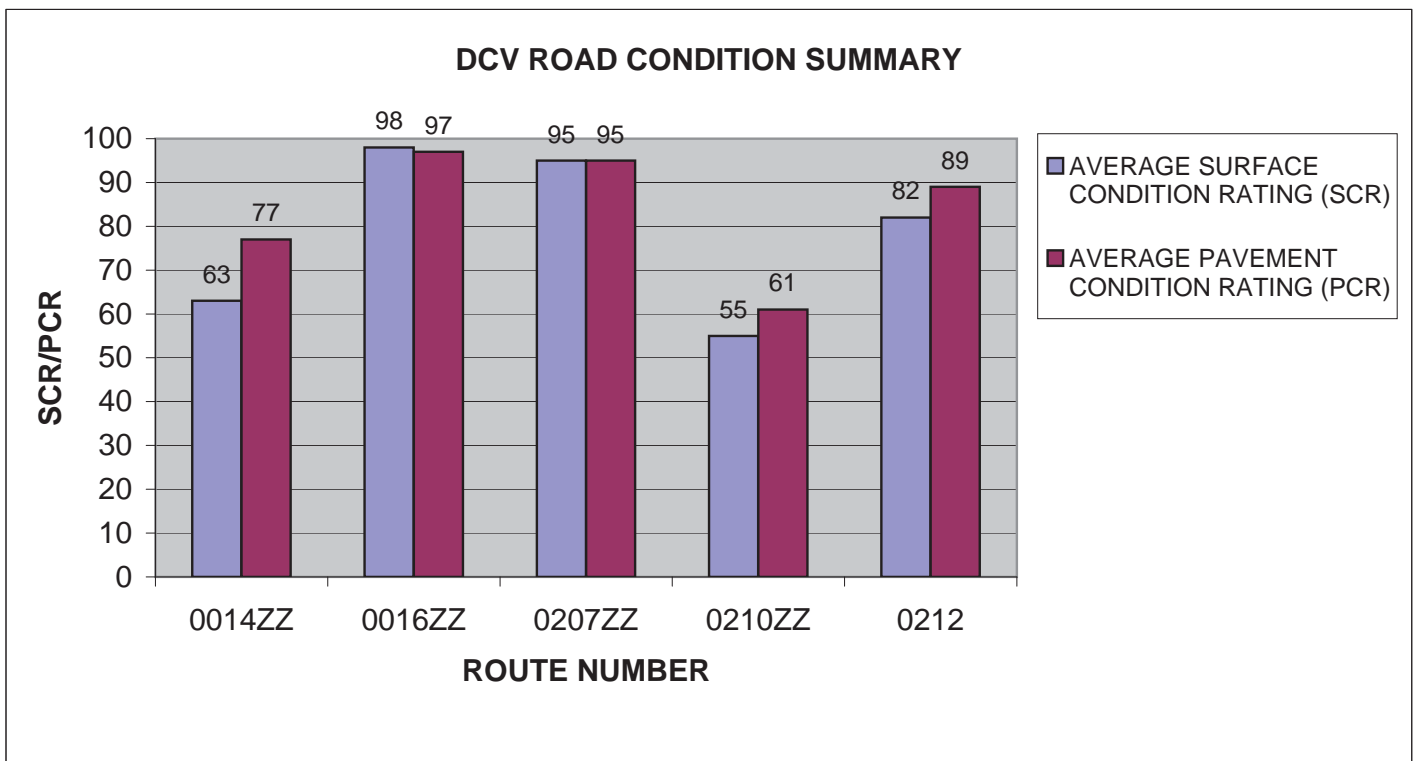
Condition Categories and Treatments



INDU: DCV ROAD CONDITION SUMMARY

DCV - Data Collection Vehicle

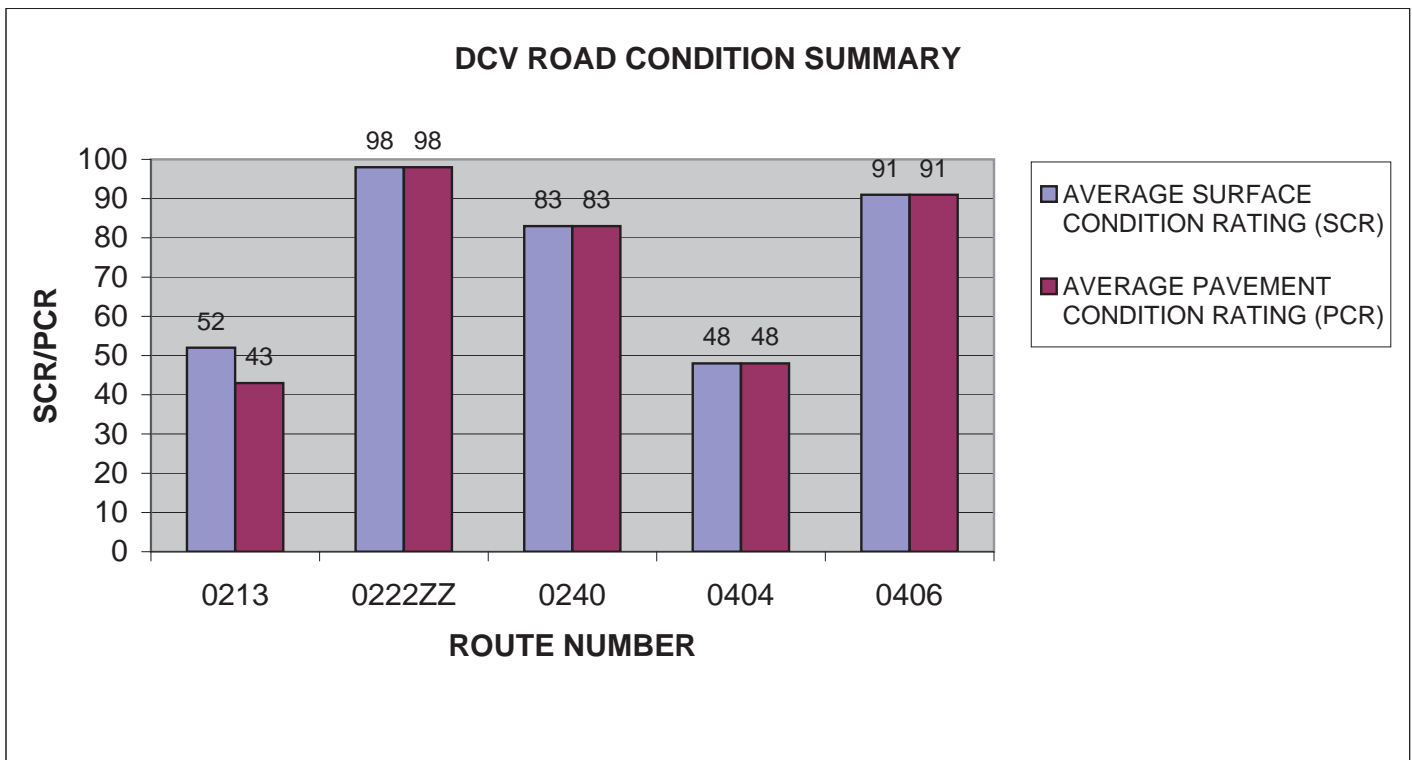
ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	PAVED LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0014ZZ	WEST BEACH ACCESS ROADS	1	1.55	ASPHALT	63	77
0016ZZ	PORTAGE LAKEFRONT ENTRANCE ROADS	1	0.69	ASPHALT	98	97
0207ZZ	GOOD FELLOW CAMP ROADS IDELC	2	0.58	ASPHALT	95	95
0210ZZ	CENTRAL AVENUE	2	0.38	ASPHALT	55	61
0212	KEMIL ROAD (300 EAST ROAD)	2	0.81	ASPHALT	82	89



INDU: DCV ROAD CONDITION SUMMARY

DCV - Data Collection Vehicle

ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	PAVED LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0213	FURNESSVILLE ROAD (1500 NORTH ROAD)	2	1.30	ASPHALT	52	43
0222ZZ	DUNWOOD CAMPGROUND ACCESS ROADS	3	1.40	ASPHALT	98	98
0240	WAHL FARM ACCESS ROAD	3	0.12	ASPHALT	83	83
0404	WEST BEACH SERVICE ACCESS ROAD	6	0.32	ASPHALT	48	48
0406	WEST BEACH SERVICE ROAD	6	0.12	ASPHALT	91	91

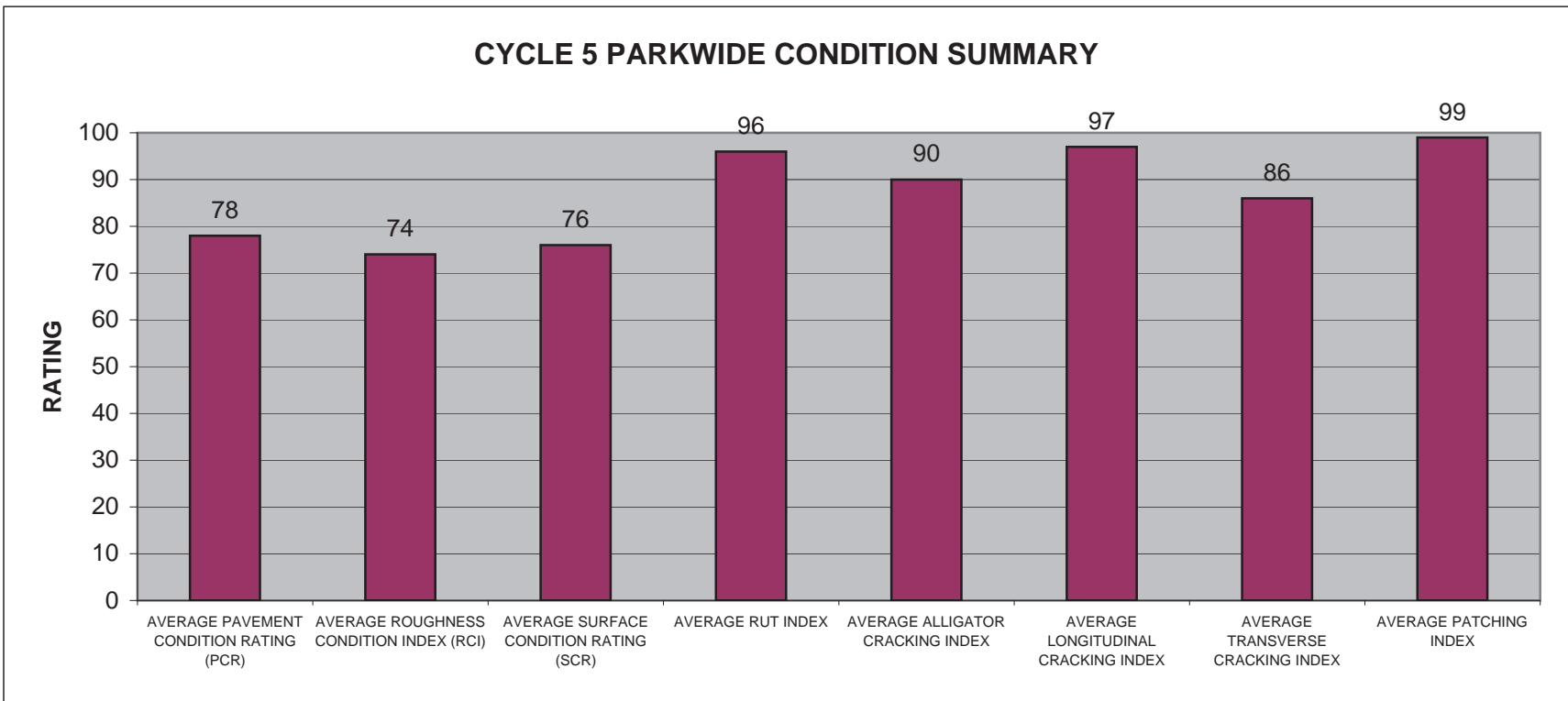


INDU: PARKWIDE DCV CONDITION SUMMARY

AVERAGE PAVEMENT CONDITION RATING (PCR)	AVERAGE ROUGHNESS CONDITION INDEX (RCI)	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE RUT INDEX	AVERAGE ALLIGATOR CRACKING INDEX	AVERAGE LONGITUDINAL CRACKING INDEX	AVERAGE TRANSVERSE CRACKING INDEX	AVERAGE PATCHING INDEX
78	74	76	96	90	97	86	99

All Index values are based on Data Collection Vehicle (DCV) driven roads that were collected in Cycle-5.

Roughness data is only collected on routes with lengths greater than 0.5 miles and a posted speed limit of 25 MPH or greater.



Section 4

Park Route Location Maps

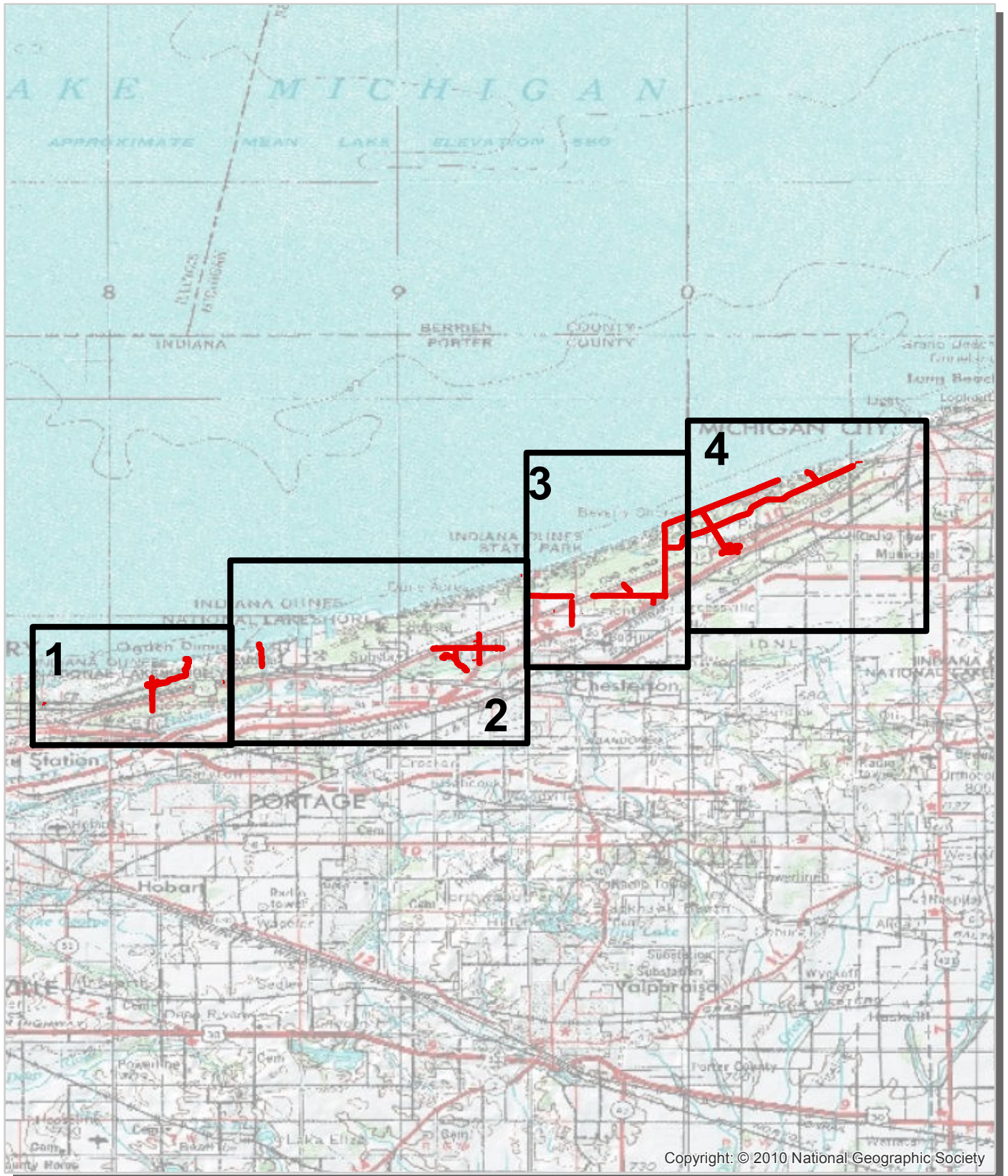


Indiana Dunes National Lakeshore

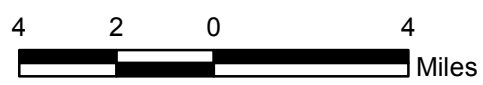


Federal Lands Highway
Road Inventory Program

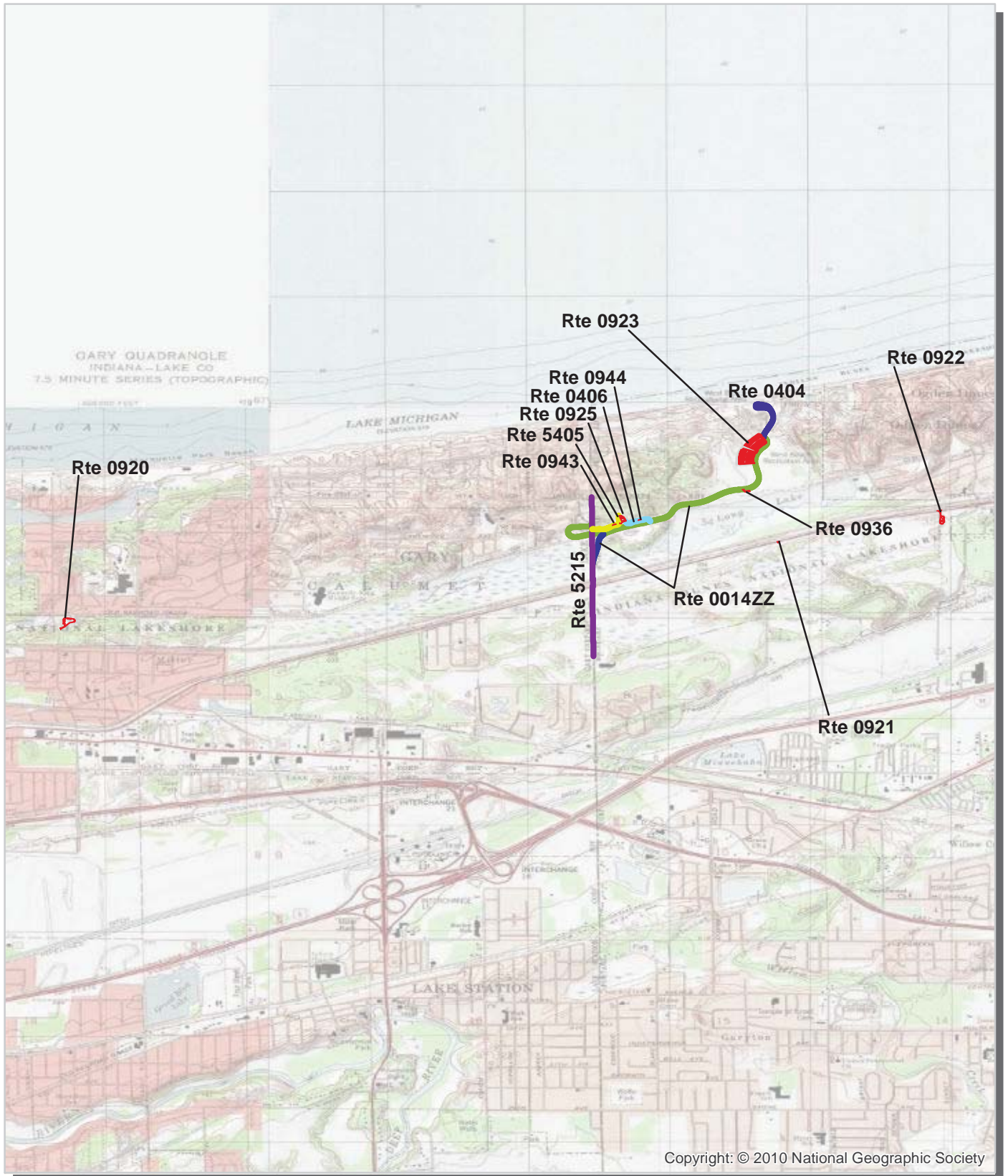
Indiana Dunes National Lakeshore Route Location Map Key Map



— Cycle 5 Collected Routes



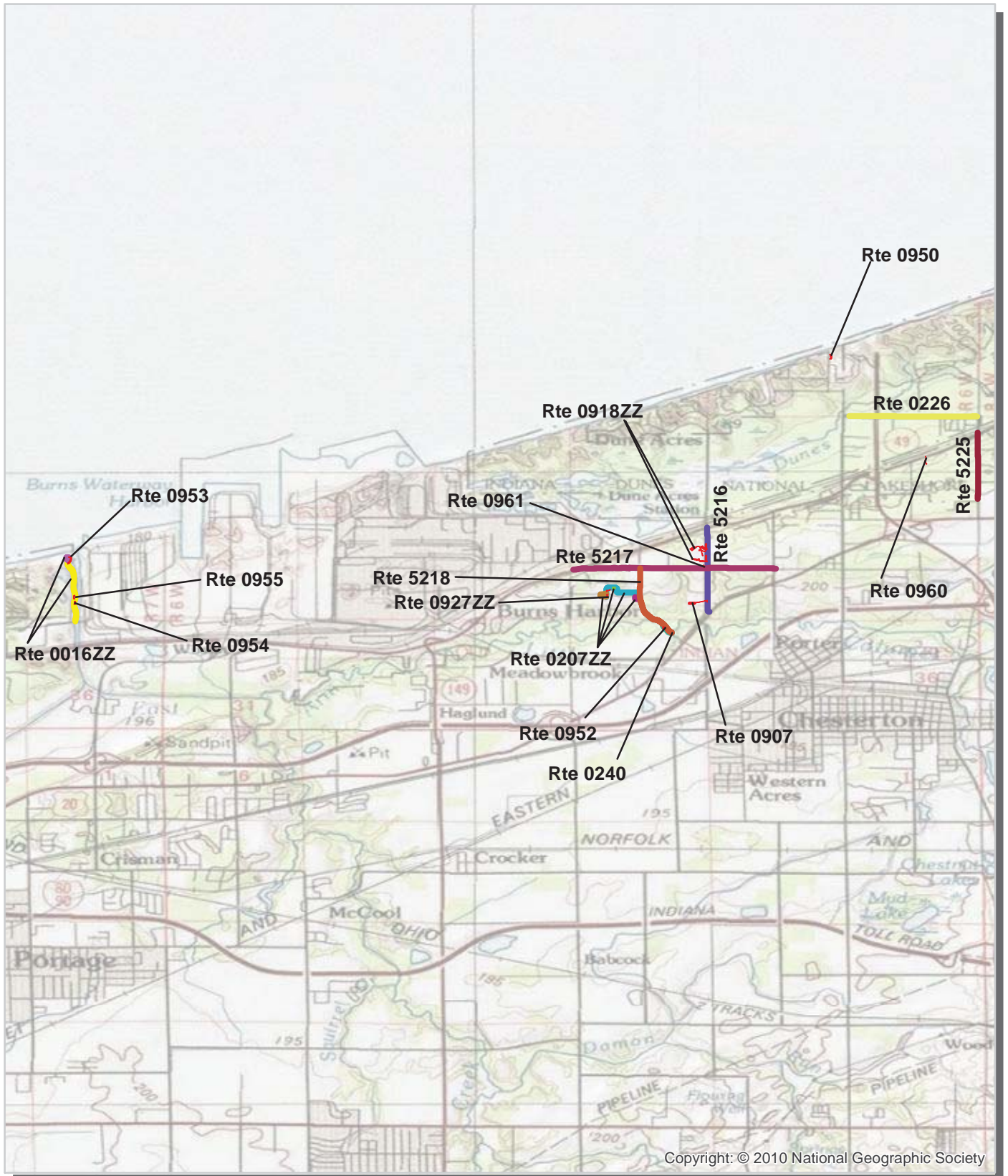
Indiana Dunes National Lakeshore Route Location Map Area 1



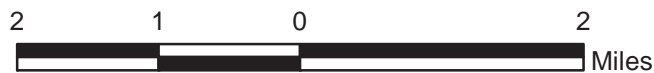
Unique colors used to differentiate routes



Indiana Dunes National Lakeshore Route Location Map Area 2



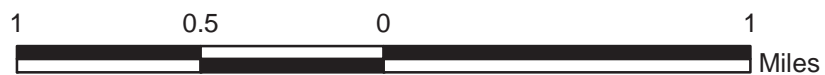
Unique colors used to differentiate routes



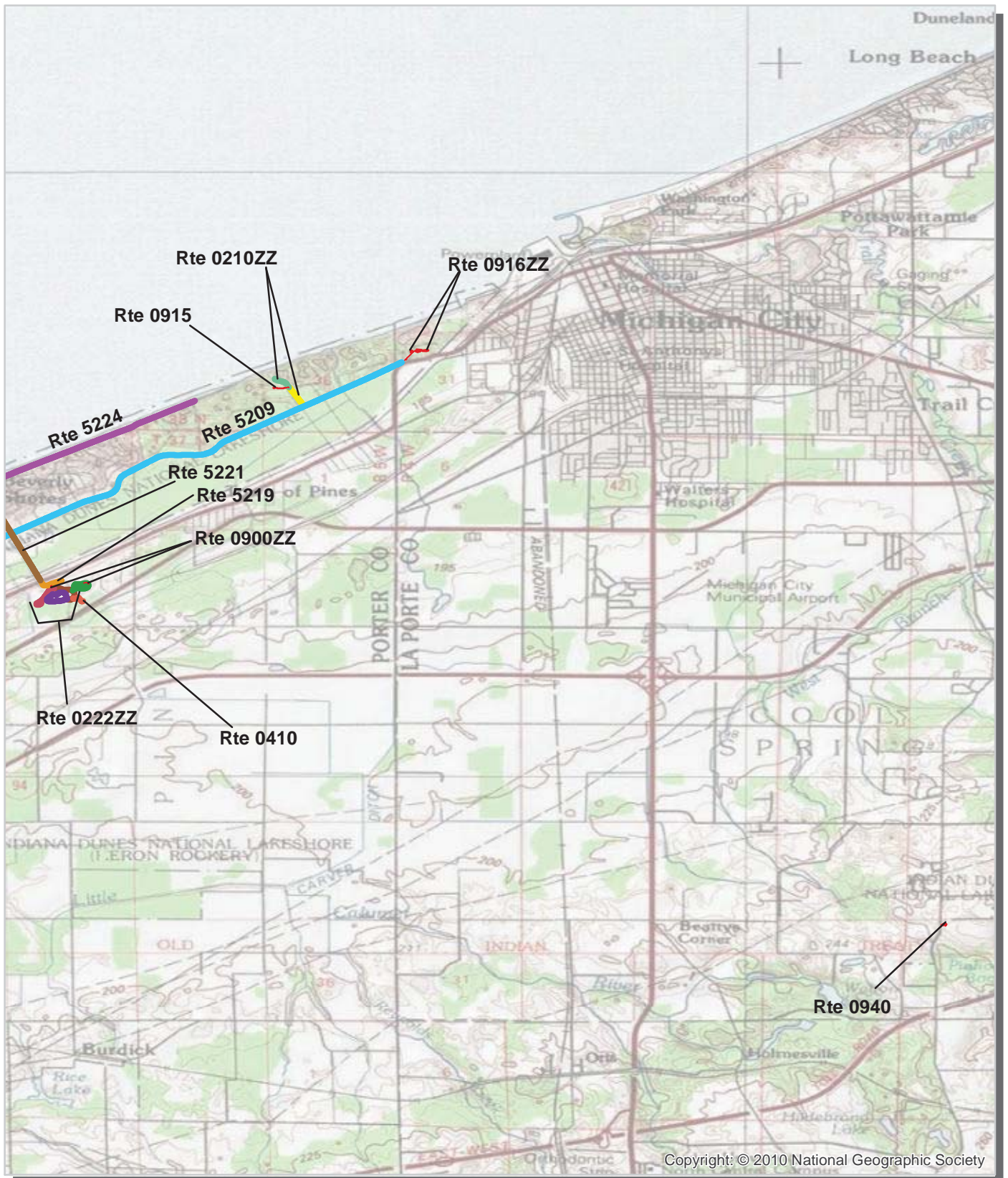
Indiana Dunes National Lakeshore Route Location Map Area 3



Unique colors used to differentiate routes



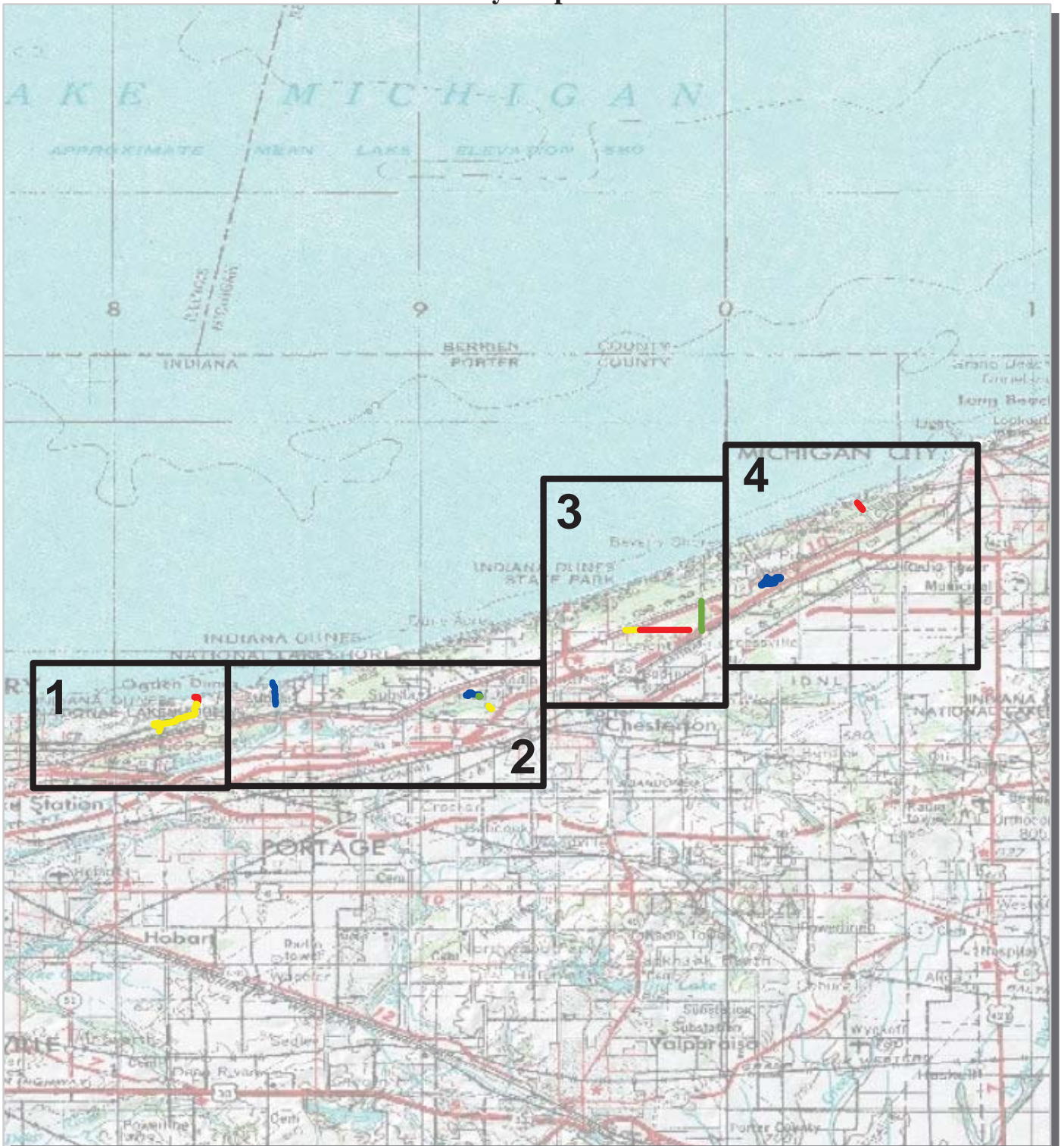
Indiana Dunes National Lakeshore Route Location Map Area 4



Unique colors used to differentiate routes



Indiana Dunes National Lakeshore Route Condition Map PCR - Mile by Mile Key Map



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

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

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

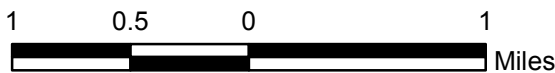


Indiana Dunes National Lakeshore Route Condition Map PCR - Mile by Mile Area 1

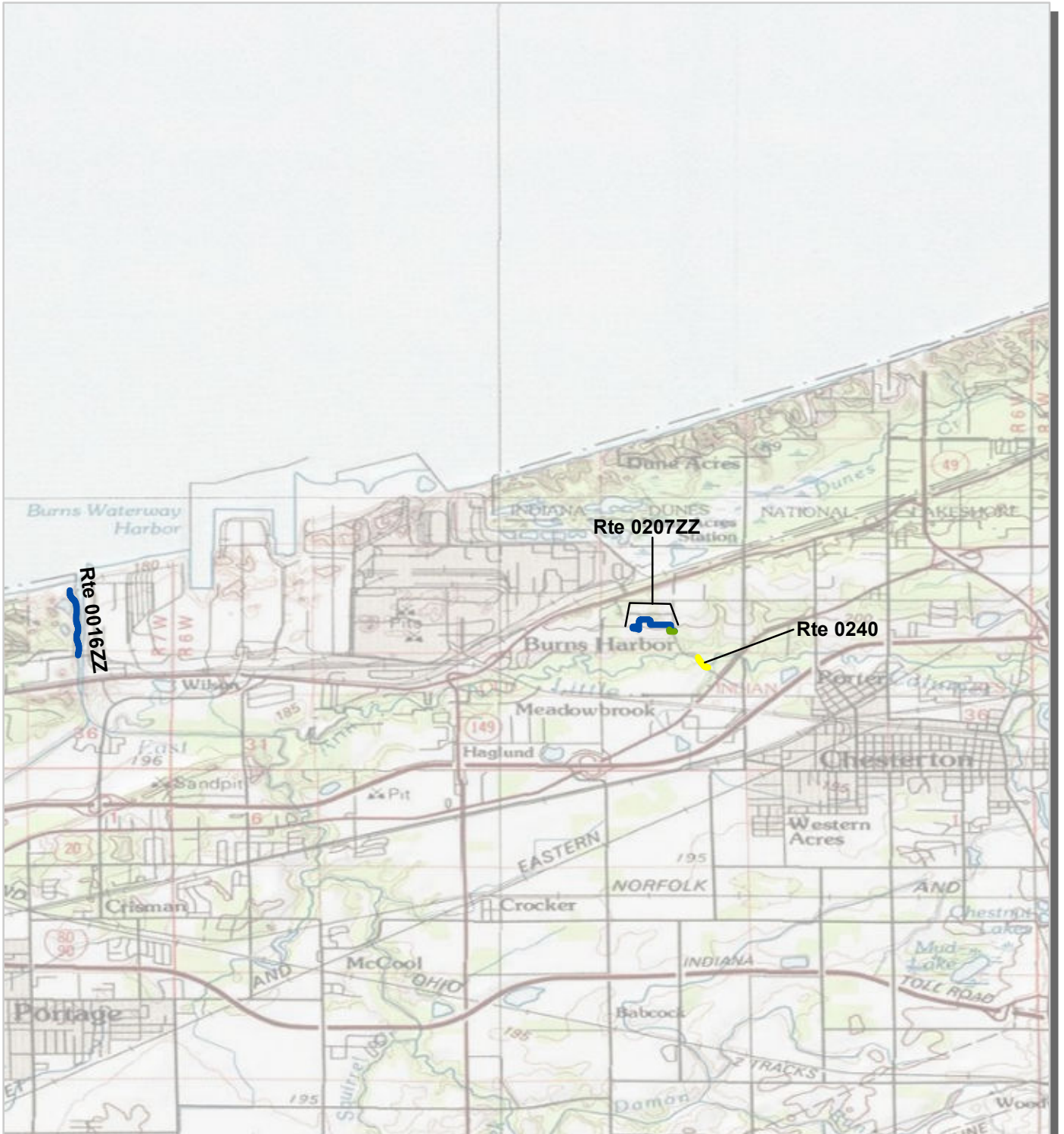


PCR	Poor	■	Fair	■	Good	■	Excellent	■	No Data	■
	(0 - 60)		(61 - 84)		(85 - 94)		(95 - 100)			

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



Indiana Dunes National Lakeshore Route Condition Map PCR - Mile by Mile Area 2



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

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



Indiana Dunes National Lakeshore Route Condition Map PCR - Mile by Mile Area 3



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.



Indiana Dunes National Lakeshore Route Condition Map PCR - Mile by Mile Area 4



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.



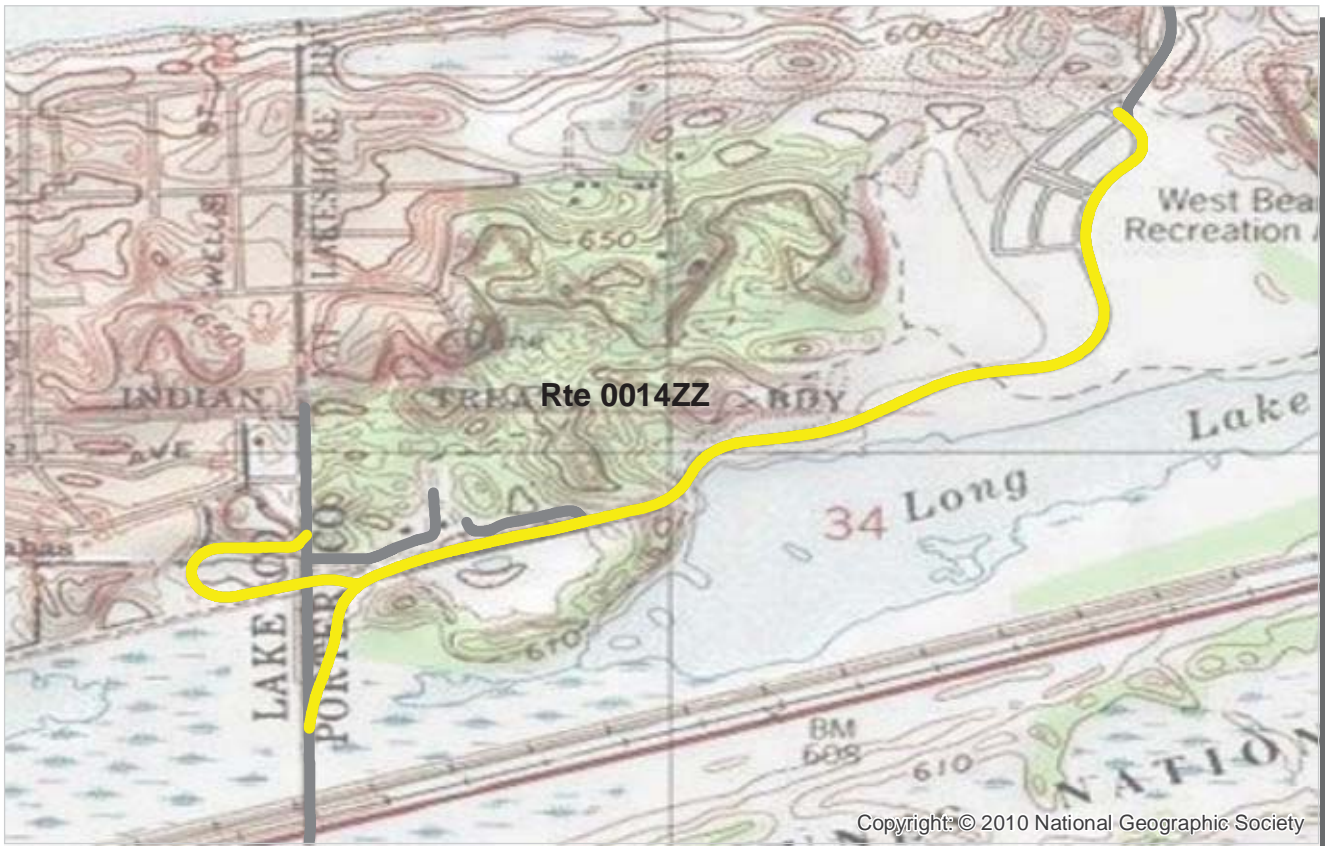
Section 5
Paved Route
Condition Rating Sheets



Indiana Dunes National Lakeshore



Federal Lands Highway
Road Inventory Program



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: 0014ZZ WEST BEACH ACCESS ROADS
INDU : INDIANA DUNES NATIONAL LAKESHORE

Summary Record
 MIDWEST REGION

COLLECTED: 9/11/2012
 TOTAL LENGTH: 1.55 Miles

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)	63				
PCR (Pavement Condition Rating)	77				
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				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.
 See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

ROUTE: 0014ZZ WEST BEACH ACCESS ROADS



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: 0015Z WEST BEACH ENTRY ROAD
INDU : INDIANA DUNES NATIONAL LAKESHORE

Subcomponent Record
 MIDWEST REGION

COLLECTED: 9/11/2012
TOTAL LENGTH: 0.19 Miles

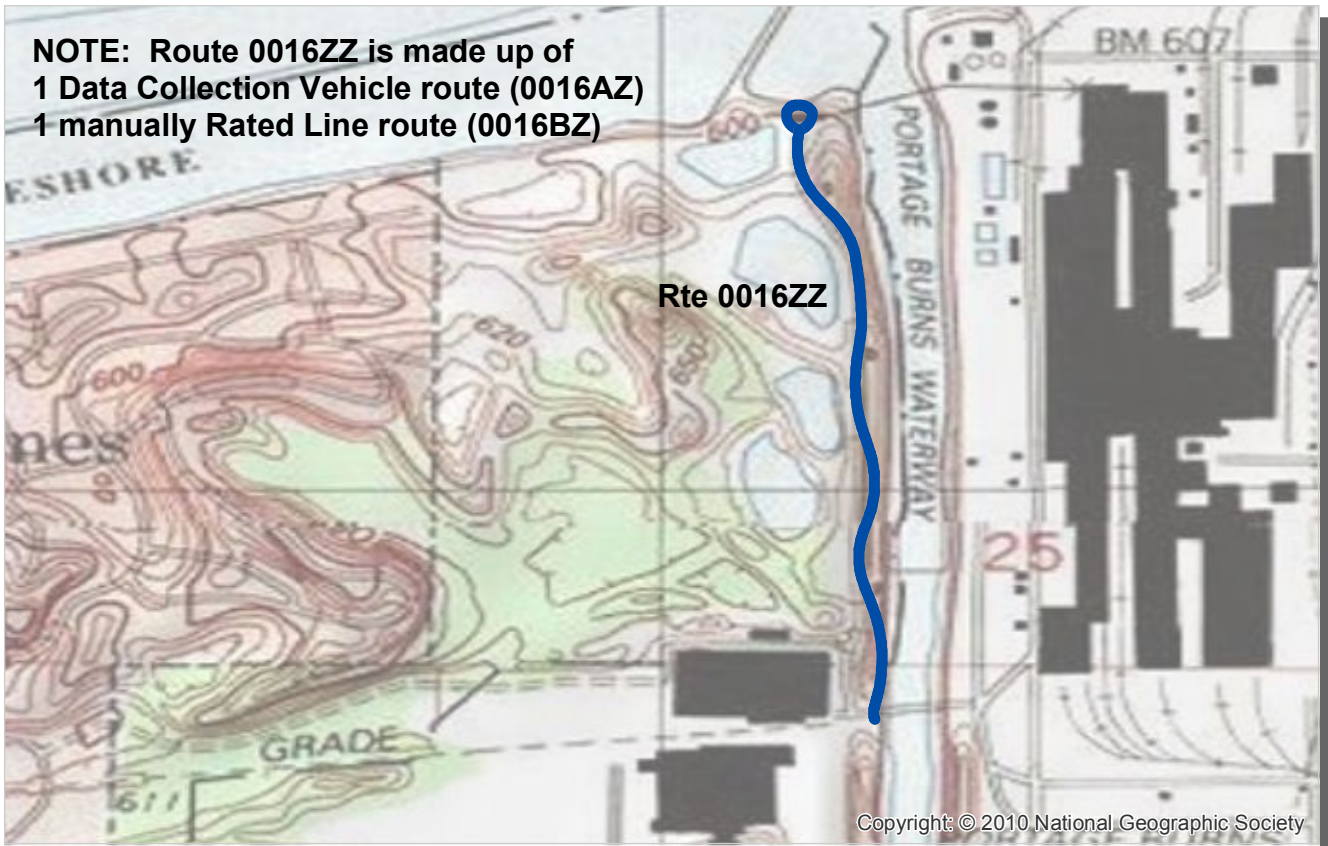
Section Number	0				
Section Length (mi)	0.19				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	20				
Lane Width (ft)	13				
Roadway Condition Information					
SCR (Surface Condition Rating)	68				
PCR (Pavement Condition Rating)	68				
Distress Index Values					
Structural Crack Index	68				
Transverse Cracking Index	73				
Patching Index	100				
Rutting Index	98				
Roughness Condition Index (RCI)	NC				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.
 See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable

ROUTE: 0015Z WEST BEACH ENTRY ROAD



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: 0016ZZ PORTAGE LAKEFRONT ENTRANCE ROADS
INDU : INDIANA DUNES NATIONAL LAKESHORE**

Summary Record COLLECTED: 9/13/2012
MIDWEST REGION TOTAL LENGTH: 0.69 Miles

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)	98				
PCR (Pavement Condition Rating)	97				
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				

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



ROUTE: 0016ZZ PORTAGE LAKEFRONT ENTRANCE ROADS



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: 0016AZ PORTAGE LAKEFRONT ENTRANCE ROAD A
INDU : INDIANA DUNES NATIONAL LAKESHORE**

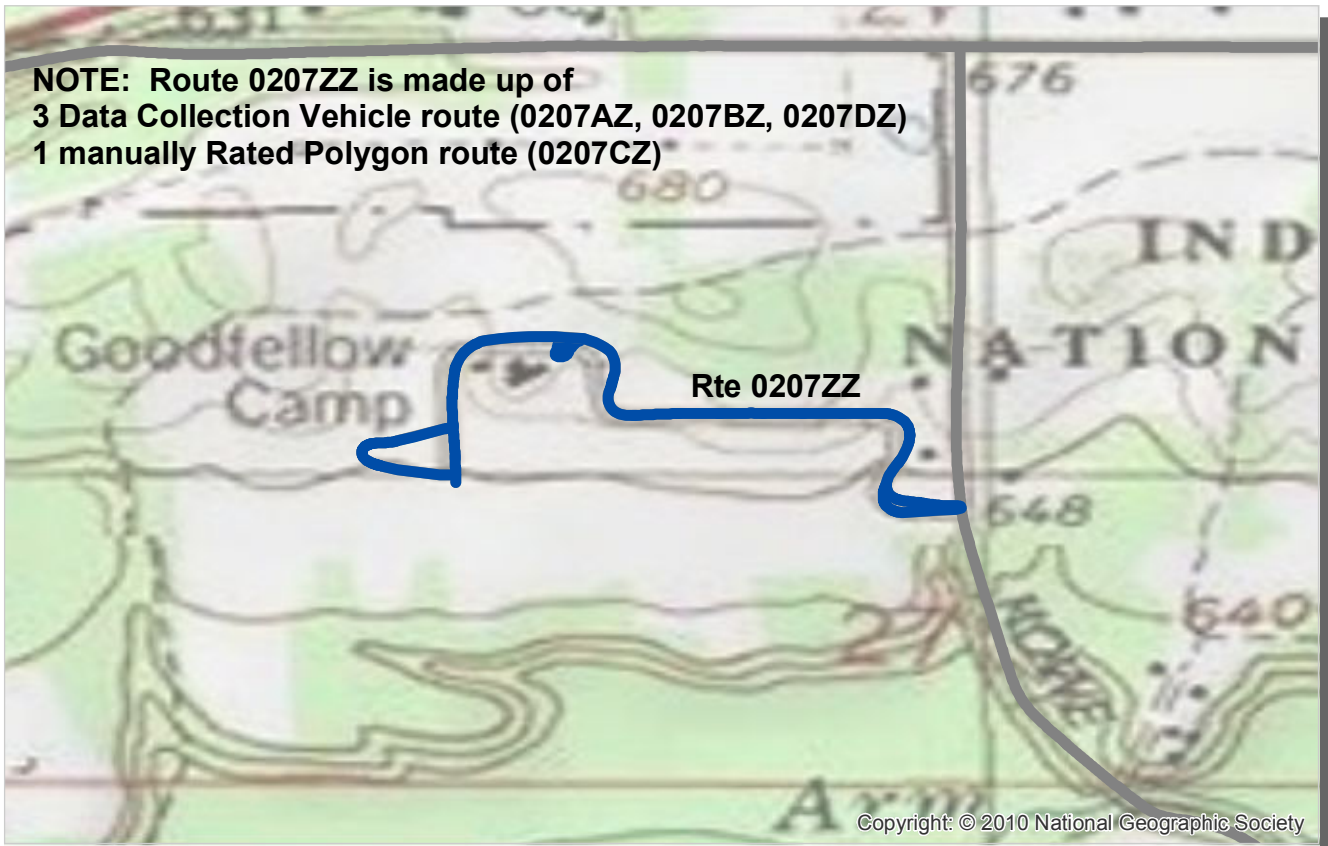
Subcomponent Record **MIDWEST REGION** **COLLECTED: 9/13/2012**
TOTAL LENGTH: 0.63 Miles

Section Number	0				
Section Length (mi)	0.63				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	25				
Lane Width (ft)	11				
Roadway Condition Information					
SCR (Surface Condition Rating)	98				
PCR (Pavement Condition Rating)	98				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	98				
Patching Index	100				
Rutting Index	100				
Roughness Condition Index (RCI)	NC				

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



ROUTE: 0016AZ PORTAGE LAKEFRONT ENTRANCE ROAD 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: 0207ZZ GOOD FELLOW CAMP ROADS IDELC
INDU : INDIANA DUNES NATIONAL LAKESHORE**

Summary Record COLLECTED: 9/13/2012
MIDWEST REGION TOTAL LENGTH: 0.58 Miles

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)	95				
PCR (Pavement Condition Rating)	95				
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				

NOTES:

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

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

NC - Not Collected N/A - Not Applicable

ROUTE: 0207ZZ GOOD FELLOW CAMP ROADS IDELC



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: 0207AZ GOOD FELLOW CAMP ROAD IDELC
INDU : INDIANA DUNES NATIONAL LAKESHORE

Subcomponent Record
MIDWEST REGION

COLLECTED: 9/13/2012
TOTAL LENGTH: 0.44 Miles

Section Number	0				
Section Length (mi)	0.44				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	20				
Lane Width (ft)	11				
Roadway Condition Information					
SCR (Surface Condition Rating)	95				
PCR (Pavement Condition Rating)	95				
Distress Index Values					
Structural Crack Index	99				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	95				
Roughness Condition Index (RCI)	NC				

NOTES:

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

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

NC - Not Collected N/A - Not Applicable

ROUTE: 0207AZ GOOD FELLOW CAMP ROAD IDELC



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: 0207BZ GOOD FELLOW CAMP EXIT ROAD IDELC
INDU : INDIANA DUNES NATIONAL LAKESHORE

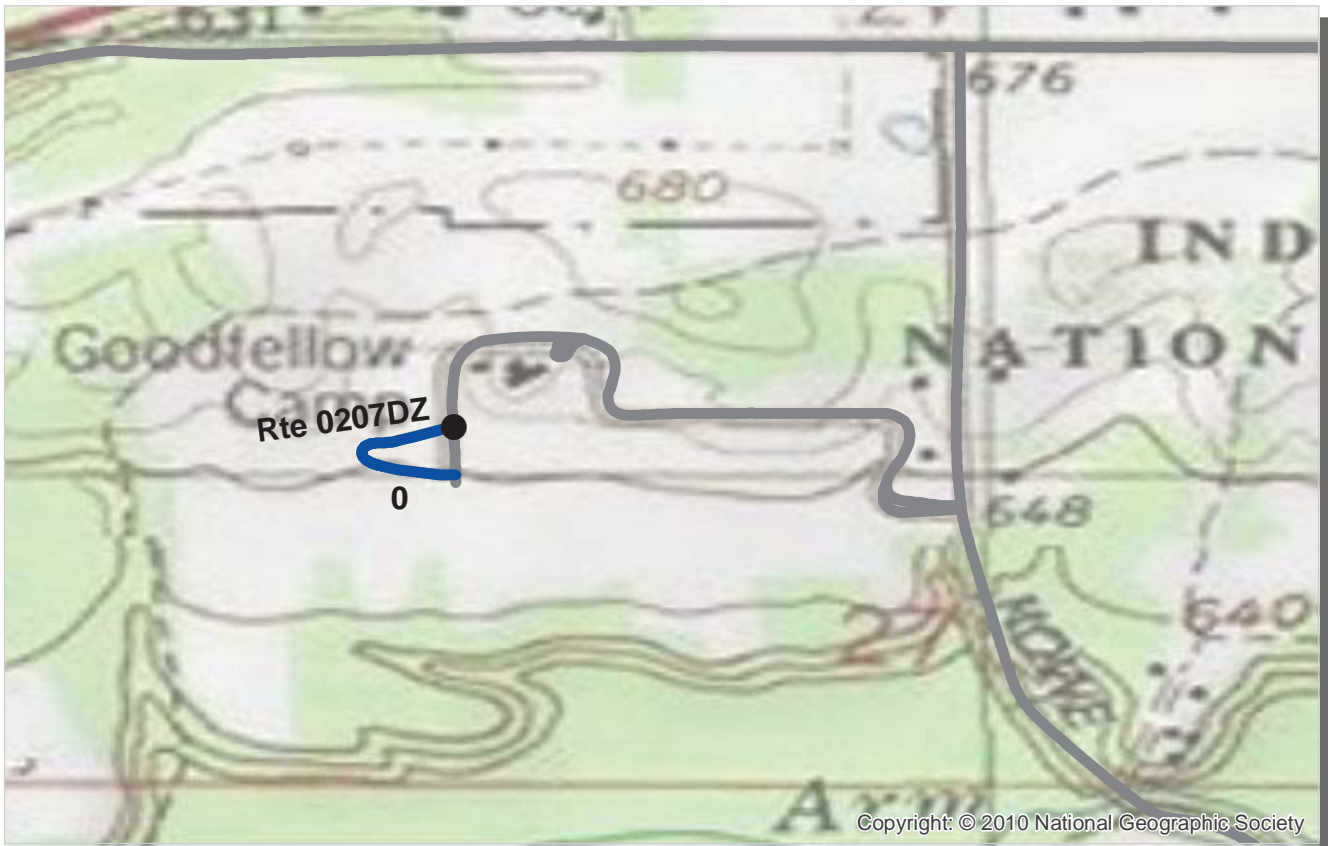
Subcomponent Record **MIDWEST REGION** **COLLECTED: 9/13/2012**
TOTAL LENGTH: 0.05 Miles

Section Number	0				
Section Length (mi)	0.05				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	14				
Lane Width (ft)	11				
Roadway Condition Information					
SCR (Surface Condition Rating)	92				
PCR (Pavement Condition Rating)	92				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	99				
Patching Index	100				
Rutting Index	92				
Roughness Condition Index (RCI)	NC				

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



ROUTE: 0207BZ GOOD FELLOW CAMP EXIT ROAD IDELC



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: 0207DZ GOOD FELLOW CAMP LOOP IDELC
INDU : INDIANA DUNES NATIONAL LAKESHORE

Subcomponent Record
 MIDWEST REGION

COLLECTED: 9/13/2012
TOTAL LENGTH: 0.10 Miles

Section Number	0				
Section Length (mi)	0.10				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	12				
Lane Width (ft)	12				
Roadway Condition Information					
SCR (Surface Condition Rating)	96				
PCR (Pavement Condition Rating)	96				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	96				
Roughness Condition Index (RCI)	NC				

NOTES:

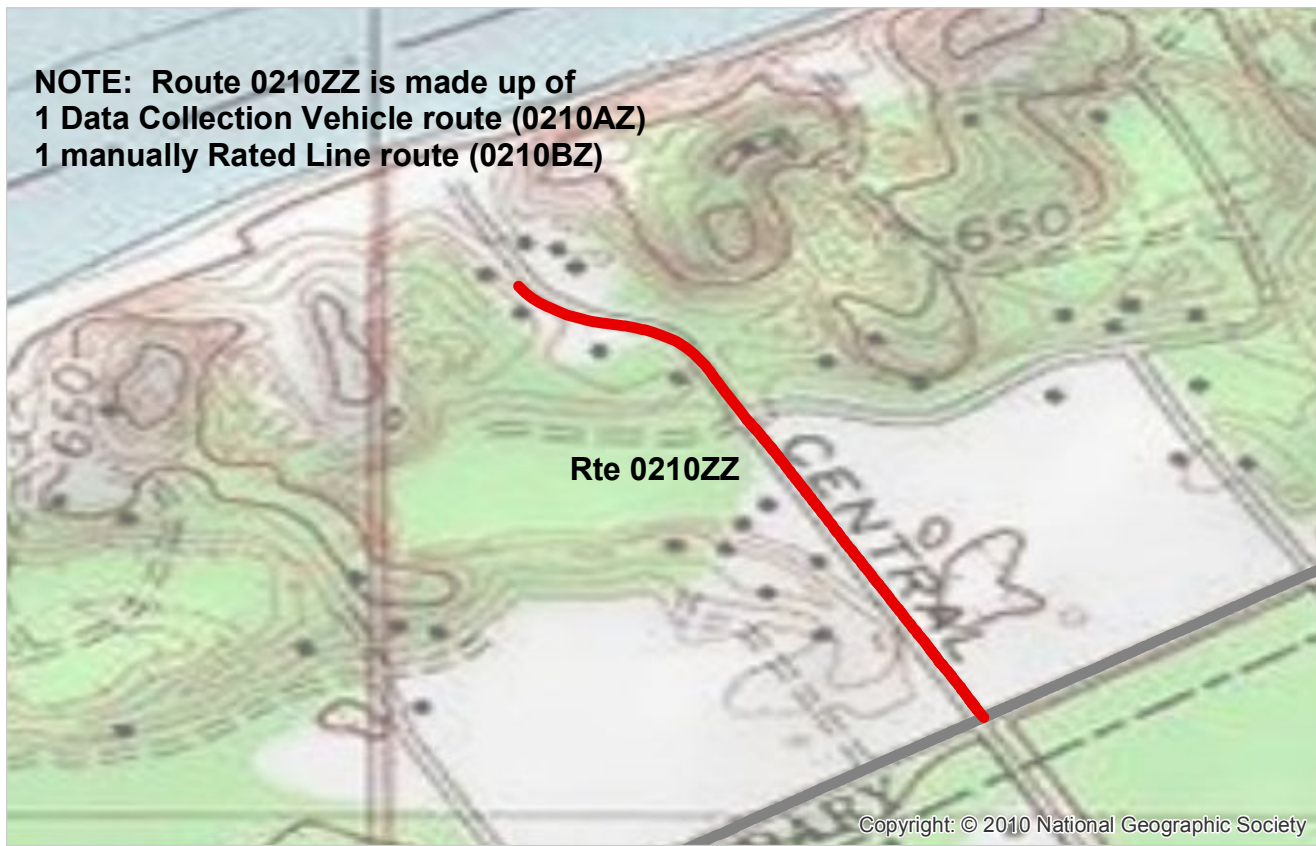
Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.

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

NC - Not Collected N/A - Not Applicable

ROUTE: 0207DZ GOOD FELLOW CAMP LOOP IDELC

**NOTE: Route 0210ZZ is made up of
1 Data Collection Vehicle route (0210AZ)
1 manually Rated Line route (0210BZ)**



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: 0210ZZ CENTRAL AVENUE
INDU : INDIANA DUNES NATIONAL LAKESHORE**

Summary Record **COLLECTED: 9/13/2012**
MIDWEST REGION **TOTAL LENGTH: 0.38 Miles**

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)	55				
PCR (Pavement Condition Rating)	61				
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				

ROUTE: 0210ZZ CENTRAL AVENUE

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.
 See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable



PCR	Poor	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: 0210AZ CENTRAL AVENUE A
INDU : INDIANA DUNES NATIONAL LAKESHORE

Subcomponent Record **COLLECTED: 9/13/2012**
MIDWEST REGION **TOTAL LENGTH: 0.23 Miles**

Section Number	0				
Section Length (mi)	0.23				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	17				
Lane Width (ft)	8				
Roadway Condition Information					
SCR (Surface Condition Rating)	55				
PCR (Pavement Condition Rating)	55				
Distress Index Values					
Structural Crack Index	63				
Transverse Cracking Index	55				
Patching Index	100				
Rutting Index	93				
Roughness Condition Index (RCI)	NC				

NOTES:

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

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

NC - Not Collected N/A - Not Applicable



ROUTE: 0210AZ CENTRAL AVENUE 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: 0212 KEMIL ROAD (300 EAST ROAD)
INDU : INDIANA DUNES NATIONAL LAKESHORE

COLLECTED: 9/13/2012
TOTAL LENGTH: 0.81 Miles

MIDWEST REGION

Section Number	0				
Section Length (mi)	0.81				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	18				
Lane Width (ft)	9				
Roadway Condition Information					
SCR (Surface Condition Rating)	82				
PCR (Pavement Condition Rating)	89				
Distress Index Values					
Structural Crack Index	99				
Transverse Cracking Index	82				
Patching Index	100				
Rutting Index	98				
Roughness Condition Index (RCI)	100				

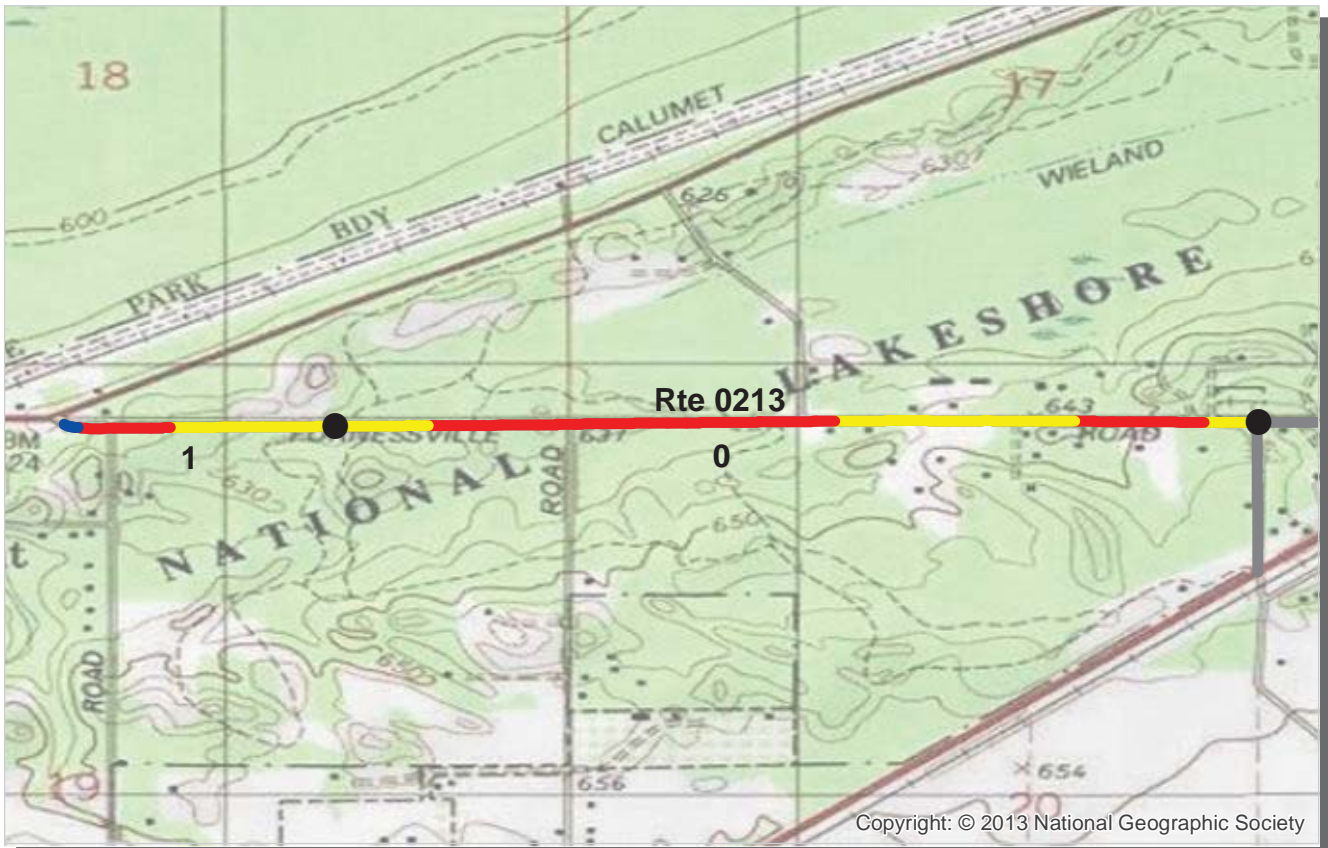
NOTES:

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

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

NC - Not Collected N/A - Not Applicable

ROUTE: 0212 KEMIL ROAD (300 EAST ROAD)



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: 0213 FURNESSVILLE ROAD (1500 NORTH ROAD)
INDU : INDIANA DUNES NATIONAL LAKESHORE

COLLECTED: 9/13/2012
TOTAL LENGTH: 1.30 Miles

MIDWEST REGION

Section Number	0	1			
Section Length (mi)	1.00	0.30			
Cross Section Information					
Number of Lanes	2	2			
Paved Width (ft)	17	17			
Lane Width (ft)	9	9			
Roadway Condition Information					
SCR (Surface Condition Rating)	40	92			
PCR (Pavement Condition Rating)	37	65			
Distress Index Values					
Structural Crack Index	40	94			
Transverse Cracking Index	100	99			
Patching Index	98	94			
Rutting Index	88	92			
Roughness Condition Index (RCI)	33	24			

NOTES:

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

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

NC - Not Collected N/A - Not Applicable

ROUTE: 0213 FURNESSVILLE ROAD (1500 NORTH ROAD)



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: 0222ZZ DUNEWOOD CAMPGROUND ACCESS ROADS
INDU : INDIANA DUNES NATIONAL LAKESHORE

Summary Record COLLECTED: 9/13/2012
 MIDWEST REGION TOTAL LENGTH: 1.40 Miles

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)	98				
PCR (Pavement Condition Rating)	98				
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				

NOTES:

Structural Crack Index is a combination of the Longitudinal Cracking Index and Alligator Cracking Index.
 See Section 10 for explanation of SCR, PCR, & all Distress Index Values.

NC - Not Collected N/A - Not Applicable



ROUTE: 0222ZZ DUNEWOOD CAMPGROUND ACCESS ROADS



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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: 0222AZ DUNEWOOD CAMPGROUND ACCESS ROAD LOOP AZ
INDU : INDIANA DUNES NATIONAL LAKESHORE

Subcomponent Record
MIDWEST REGION

COLLECTED: 9/13/2012
TOTAL LENGTH: 0.06 Miles

Section Number	0				
Section Length (mi)	0.06				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	15				
Lane Width (ft)	14				
Roadway Condition Information					
SCR (Surface Condition Rating)	98				
PCR (Pavement Condition Rating)	98				
Distress Index Values					
Structural Crack Index	98				
Transverse Cracking Index	98				
Patching Index	100				
Rutting Index	98				
Roughness Condition Index (RCI)	NC				

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

ROUTE: 0222AZ DUNEWOOD CAMPGROUND ACCESS ROAD LOOP AZ



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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: 0222BZ DUNEWOOD CAMPGROUND ACCESS ROAD LOOP BZ
INDU : INDIANA DUNES NATIONAL LAKESHORE

Subcomponent Record
 MIDWEST REGION

COLLECTED: 9/13/2012
 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)	97				
PCR (Pavement Condition Rating)	97				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	99				
Patching Index	100				
Rutting Index	97				
Roughness Condition Index (RCI)	NC				

ROUTE: 0222BZ DUNEWOOD CAMPGROUND ACCESS ROAD LOOP BZ

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



PCR	Poor	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: 0222Z DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A
INDU : INDIANA DUNES NATIONAL LAKESHORE

Subcomponent Record **MIDWEST REGION** **COLLECTED: 9/13/2012**
TOTAL LENGTH: 0.29 Miles

Section Number	0				
Section Length (mi)	0.29				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	25				
Lane Width (ft)	12				
Roadway Condition Information					
SCR (Surface Condition Rating)	98				
PCR (Pavement Condition Rating)	98				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	99				
Patching Index	100				
Rutting Index	98				
Roughness Condition Index (RCI)	NC				

NOTES:

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

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

NC - Not Collected N/A - Not Applicable

ROUTE: 0222Z DUNEWOOD CAMPGROUND ACCESS ROAD LOOP 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: 0223Z DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C
INDU : INDIANA DUNES NATIONAL LAKESHORE

Subcomponent Record
 MIDWEST REGION

COLLECTED: 9/13/2012
TOTAL LENGTH: 0.29 Miles

Section Number	0				
Section Length (mi)	0.29				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	23				
Lane Width (ft)	12				
Roadway Condition Information					
SCR (Surface Condition Rating)	98				
PCR (Pavement Condition Rating)	98				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	98				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	NC				

NOTES:

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

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

NC - Not Collected N/A - Not Applicable

ROUTE: 0223Z DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C



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: 0237Z DUNEWOOD CAMPGROUND ACCESS ROAD LOOP D (DOUGLAS LOOP)
INDU : INDIANA DUNES NATIONAL LAKESHORE

Subcomponent Record
 MIDWEST REGION

COLLECTED: 9/13/2012
 TOTAL LENGTH: 0.32 Miles

Section Number	0				
Section Length (mi)	0.32				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	17				
Lane Width (ft)	15				
Roadway Condition Information					
SCR (Surface Condition Rating)	97				
PCR (Pavement Condition Rating)	97				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	97				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	NC				

ROUTE: 0237Z DUNEWOOD CAMPGROUND ACCESS ROAD LOOP D (DOUGLAS LOOP)

NOTES:

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

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

NC - Not Collected N/A - Not Applicable



PCR Poor ■ 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: 0240 WAHL FARM ACCESS ROAD
INDU : INDIANA DUNES NATIONAL LAKESHORE

COLLECTED: 9/13/2012
TOTAL LENGTH: 0.12 Miles

MIDWEST REGION

Section Number	0				
Section Length (mi)	0.12				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	11				
Lane Width (ft)	11				
Roadway Condition Information					
SCR (Surface Condition Rating)	83				
PCR (Pavement Condition Rating)	83				
Distress Index Values					
Structural Crack Index	83				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	87				
Roughness Condition Index (RCI)	NC				

NOTES:

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

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

NC - Not Collected N/A - Not Applicable

ROUTE: 0240 WAHL FARM ACCESS ROAD



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: 0404 WEST BEACH SERVICE ACCESS ROAD
INDU : INDIANA DUNES NATIONAL LAKESHORE

COLLECTED: 9/11/2012
TOTAL LENGTH: 0.32 Miles

MIDWEST REGION

Section Number	0				
Section Length (mi)	0.32				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	20				
Lane Width (ft)	12				
Roadway Condition Information					
SCR (Surface Condition Rating)	48				
PCR (Pavement Condition Rating)	48				
Distress Index Values					
Structural Crack Index	86				
Transverse Cracking Index	48				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	NC				

NOTES:

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

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

NC - Not Collected N/A - Not Applicable



ROUTE: 0404 WEST BEACH SERVICE ACCESS ROAD



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: 0406 WEST BEACH SERVICE ROAD
INDU : INDIANA DUNES NATIONAL LAKESHORE

COLLECTED: 9/11/2012
TOTAL LENGTH: 0.12 Miles

MIDWEST REGION

Section Number	0				
Section Length (mi)	0.12				
Cross Section Information					
Number of Lanes	1				
Paved Width (ft)	12				
Lane Width (ft)	12				
Roadway Condition Information					
SCR (Surface Condition Rating)	91				
PCR (Pavement Condition Rating)	91				
Distress Index Values					
Structural Crack Index	99				
Transverse Cracking Index	97				
Patching Index	100				
Rutting Index	91				
Roughness Condition Index (RCI)	NC				

NOTES:

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

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

NC - Not Collected N/A - Not Applicable

ROUTE: 0406 WEST BEACH SERVICE ROAD

Section 6
Manually Rated Paved Route
Condition Rating Sheets



Indiana Dunes National Lakeshore



Federal Lands Highway
Road Inventory Program

INDIANA DUNES NATIONAL LAKESHORE

Route 0016ZZ

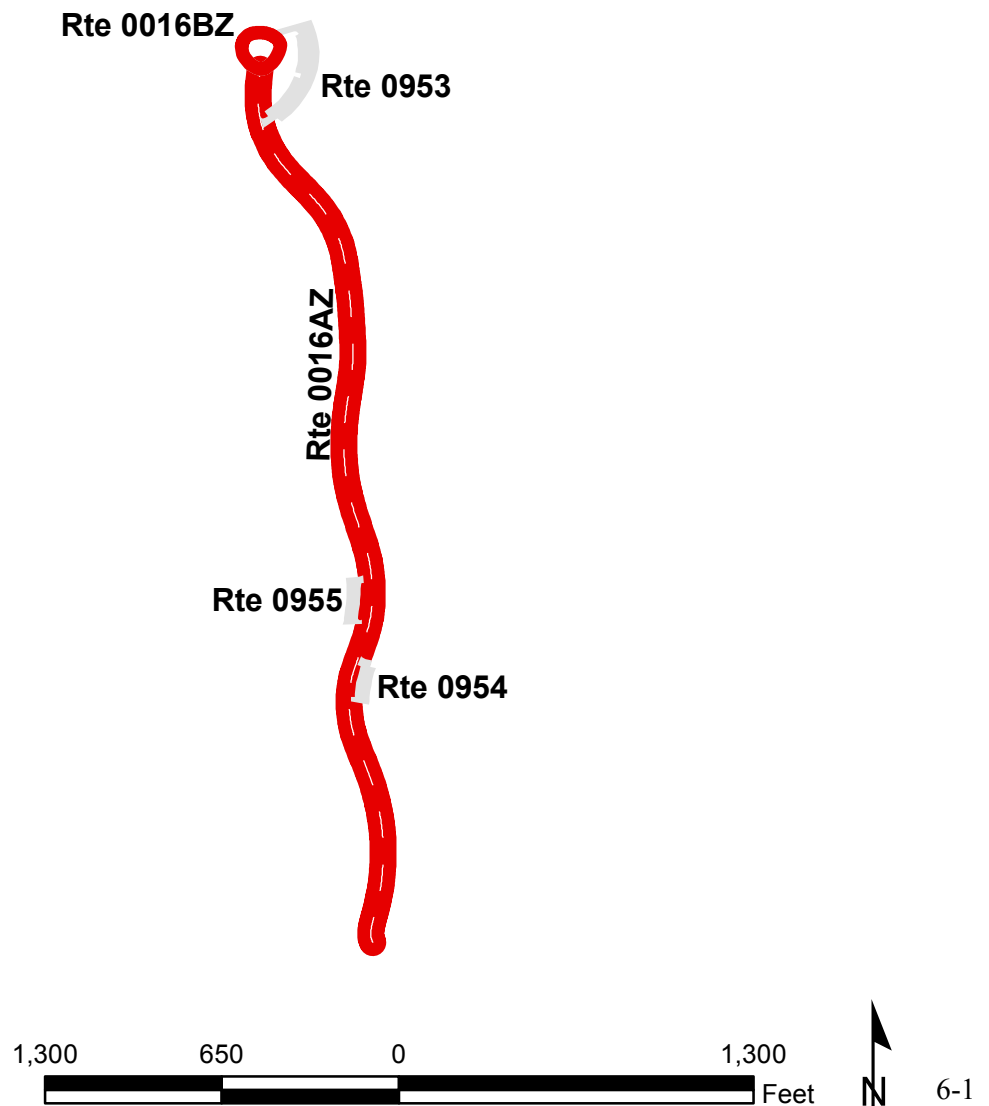
PORTAGE LAKEFRONT ENTRANCE ROADS
FROM U.S. STEEL COMPANY FRONTAGE ROAD
TO END OF LOOP

Summary Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0016ZZ	PUBLIC	9/13/2012	N/A	1.57	0.69	25.1
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR	Surface Type
0	17	1	N/A	N/A	SUMMARY/97	AS

* Lane miles are based on 11' lane widths

NOTE: Route 0016ZZ is made up of
1 Data Collection Vehicle route (0016AZ)
1 manually Rated Line route (0016BZ)



INDIANA DUNES NATIONAL LAKESHORE

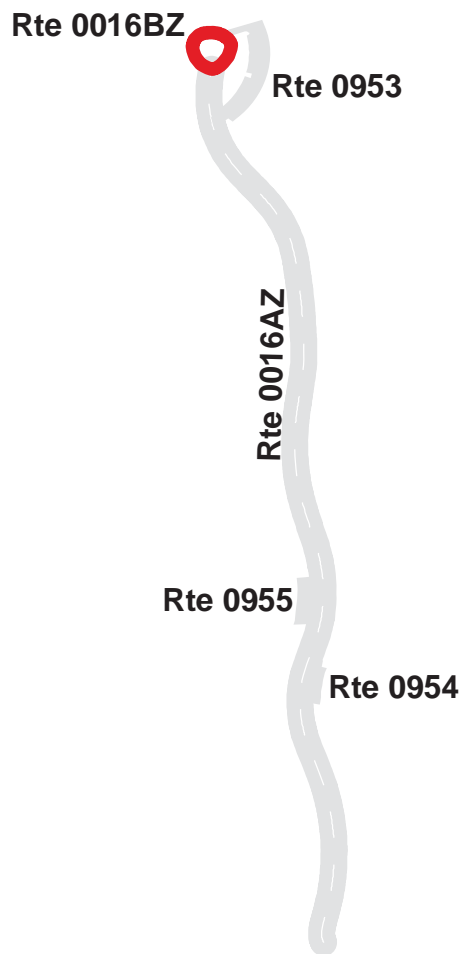
Route 0016BZ

PORTAGE LAKEFRONT ENTRANCE ROAD B
FROM END OF ROUTE 0016AZ (PORTAGE LAKEFRONT ENTRANCE ROAD A)
TO END OF LOOP

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0016BZ	PUBLIC	9/13/2012	7,651	0.13	0.06	23
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR	Surface Type
0	0	0	CURB AND GUTTER	NO CURB	GOOD/90	CO

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0207ZZ

GOOD FELLOW CAMP ROADS IDELC

FROM ROUTE 5218 (HOWE ROAD)

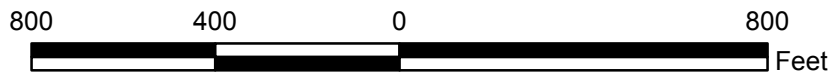
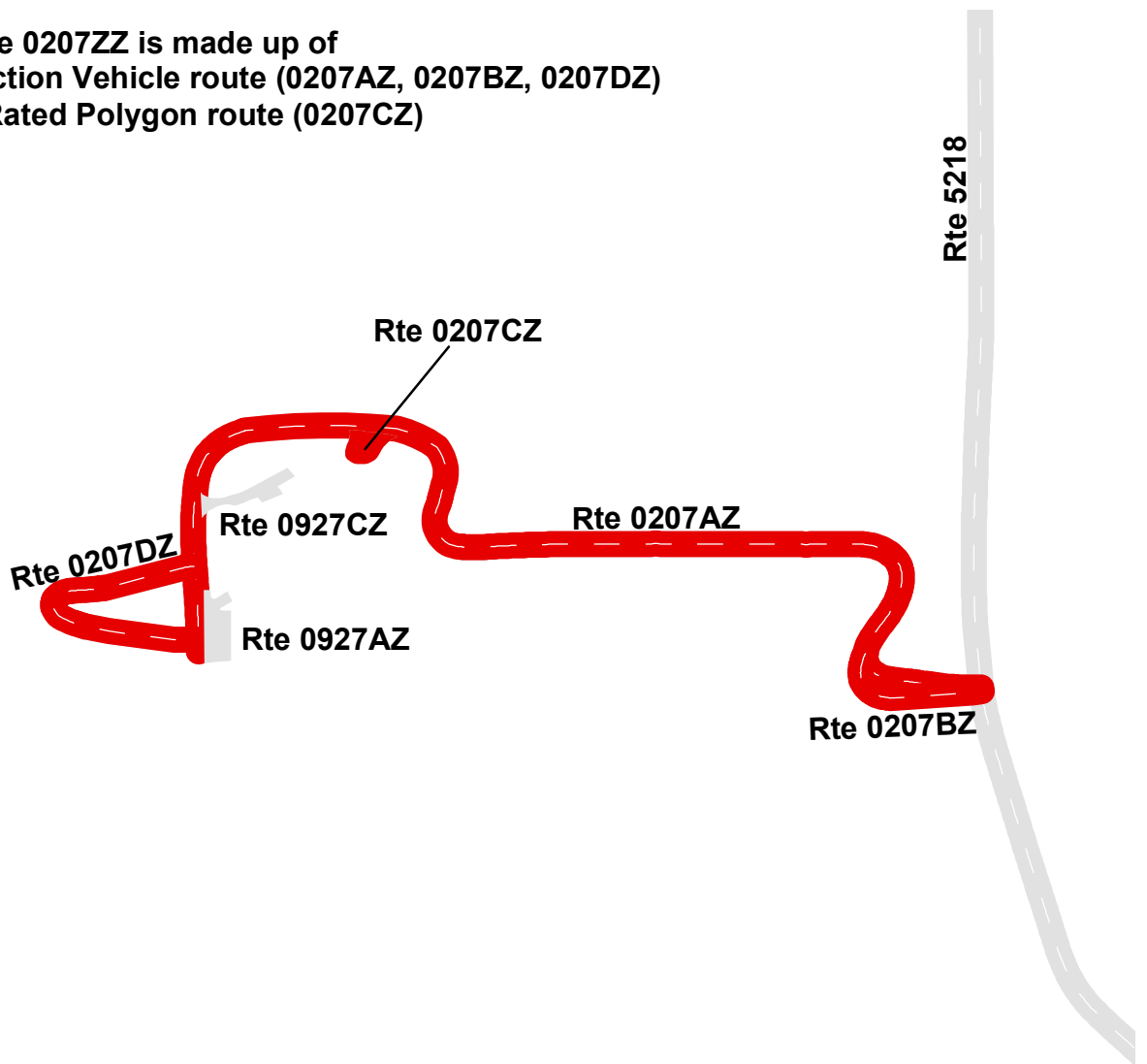
TO ROUTE 0411 (GOOD FELLOW GRAVEL SERVICE ROAD)

Summary Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0207ZZ	PUBLIC	9/13/2012	-1	1.04	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
2	0	0	N/A	N/A	SUMMARY/95

* Lane miles are based on 11' lane widths

NOTE: Route 0207ZZ is made up of
3 Data Collection Vehicle route (0207AZ, 0207BZ, 0207DZ)
1 manually Rated Polygon route (0207CZ)



INDIANA DUNES NATIONAL LAKESHORE

Route 0207CZ

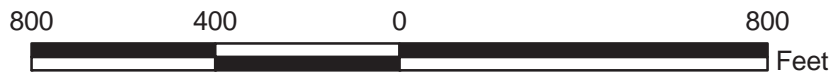
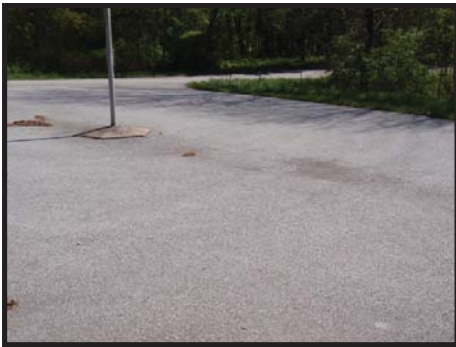
GOOD FELLOW CAMP ROAD TURNAROUND IDELC

ADJACENT TO ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC) ON LEFT

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0207CZ	PUBLIC	4/24/2012	4,283	0.07	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0210ZZ

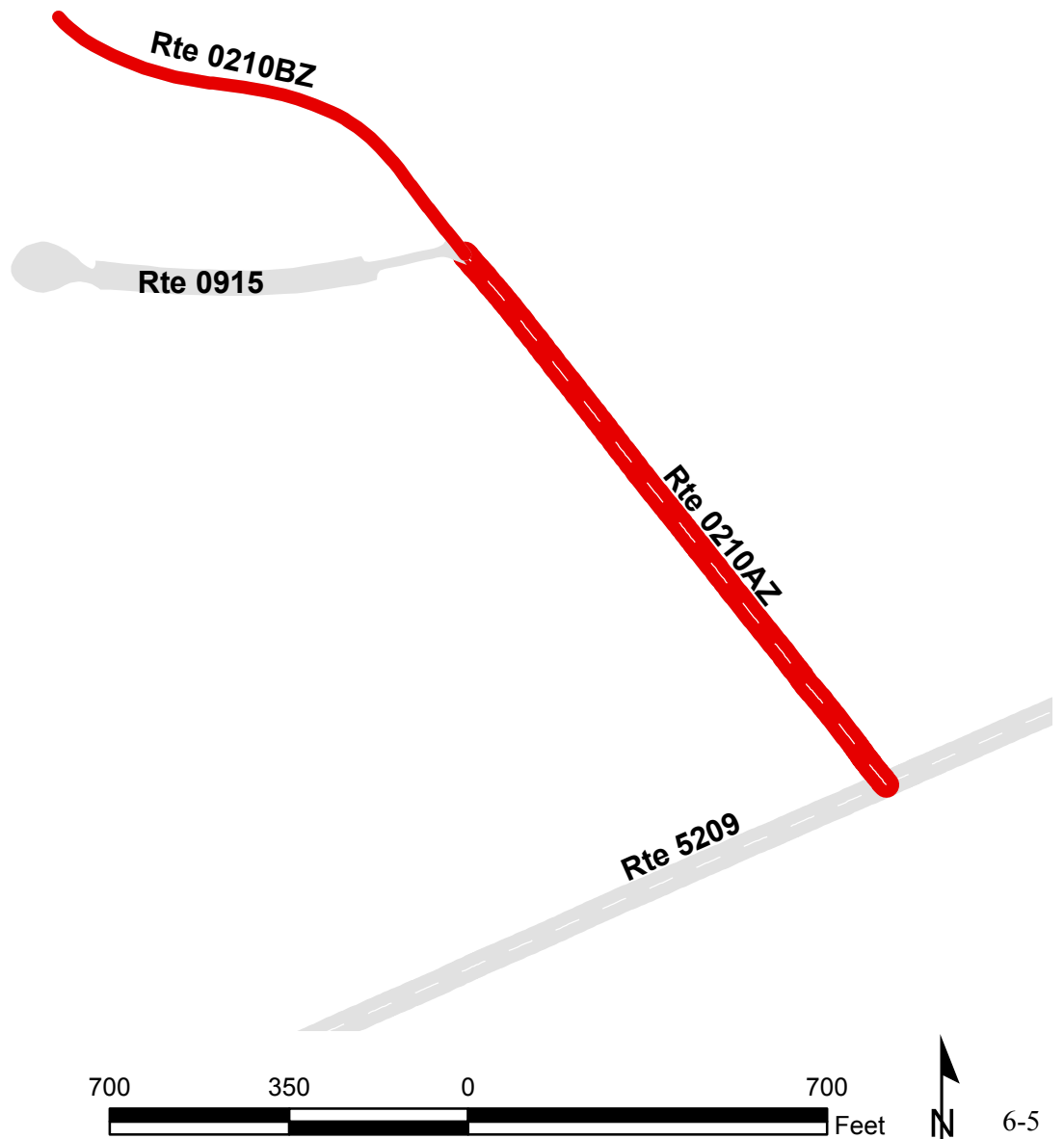
CENTRAL AVENUE
FROM ROUTE 5209 (BEVERLY DRIVE)
TO BEACH ACCESS

Summary Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0210ZZ	PUBLIC	9/13/2012	N/A	0.52	0.38	15.1
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR	Surface Type
0	0	1	N/A	N/A	SUMMARY/61	AS

* Lane miles are based on 11' lane widths

NOTE: Route 0210ZZ is made up of
1 Data Collection Vehicle route (0210AZ)
1 manually Rated Line route (0210BZ)



INDIANA DUNES NATIONAL LAKESHORE

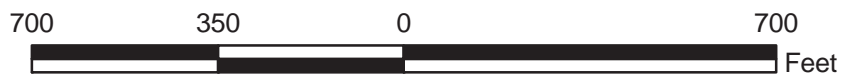
Route 0210BZ

CENTRAL AVENUE B
FROM END OF ROUTE 0210AZ (CENTRAL AVENUE A)
TO BEACH ACCESS

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0210BZ	PUBLIC	9/13/2012	9,900	0.17	0.15	12.5
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR	Surface Type
0	0	1	NO CURB AND GUTTER	NO CURB	FAIR/73	AS

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0214

TEALE ROAD

FROM ROUTE 0213 (FURNESSVILLE ROAD (1500 NORTH ROAD)) AT MP 0.75 (ON RIGHT)
TO U.S. HIGHWAY 12

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0214	PUBLIC	4/23/2012	24,029	0.41	0.37	12.3
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR	Surface Type
0	0	2	NO CURB AND GUTTER	NO CURB	POOR/45	AS

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0226

SOUTH STATE PARK ROAD (1500 NORTH ROAD)

FROM NORTH TREMONT ROAD

TO WAVERLY ROAD

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0226	PUBLIC	9/12/2012	68,929	1.19	0.95	13.8
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR	Surface Type
0	0	1	NO CURB AND GUTTER	NO CURB	POOR/45	AS

* Lane miles are based on 11' lane widths



Rte 0226



Rte 0960

Rte 5225



INDIANA DUNES NATIONAL LAKESHORE

Route 0410

DUNEWOOD SERVICE ROAD

FROM ROUTE 0222ZZ (DUNEWOOD CAMPGROUND ACCESS ROADS)
TO END OF PAVEMENT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0410	NONPUBLIC	4/24/2012	8,237	0.14	0.10	15
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR	Surface Type
0	0	1	NO CURB AND GUTTER	NO CURB	FAIR/73	AS

* Lane miles are based on 11' lane widths



Section 7
Parking Area
Condition Rating Sheets



Indiana Dunes National Lakeshore



**Federal Lands Highway
Road Inventory Program**

INDIANA DUNES NATIONAL LAKESHORE

Route 0900ZZ

DUNEWOOD CAMPGROUND PARKINGS

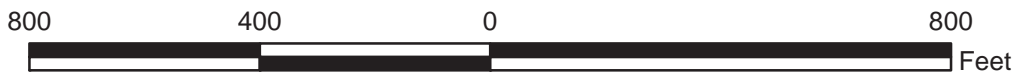
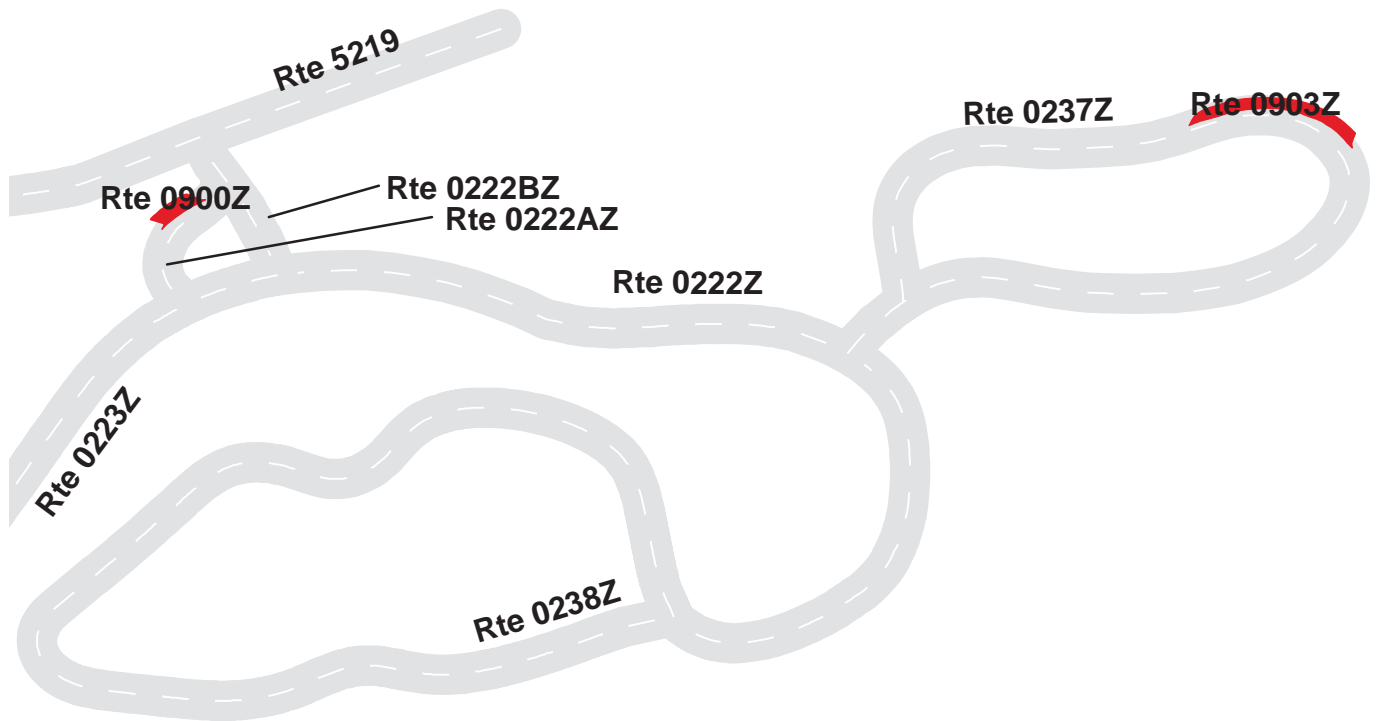
FROM ROUTE 0222ZZ (DUNEWOOD CAMPGROUND ACCESS ROADS)

TO PARKING

Summary Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0900ZZ	PUBLIC	4/23/2012	5,868	0.10	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	SUMMARY/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0900Z

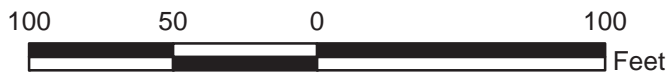
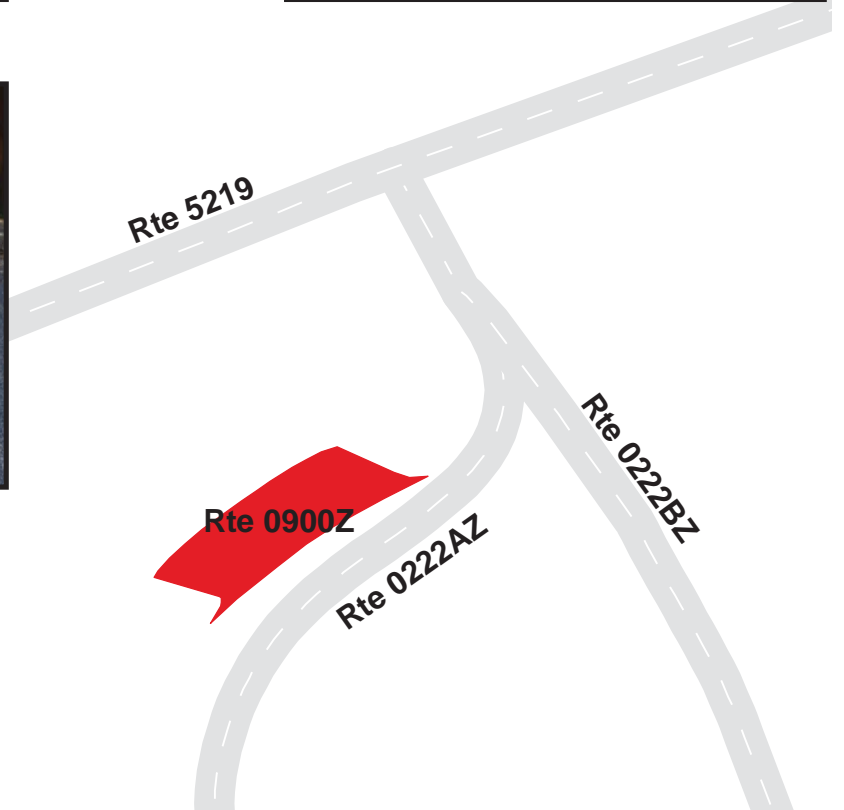
DUNEWOOD CAMPGROUND ACCESS PARKING

ADJACENT TO ROUTE 0222AZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP AZ) ON RIGHT AT MP 0.028

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0900Z	PUBLIC	4/23/2012	1,484	0.03	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0903Z

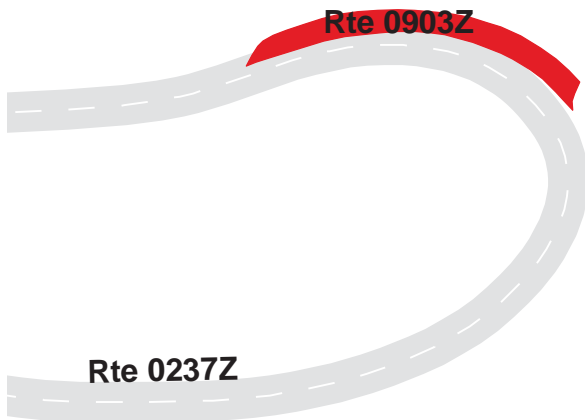
DUNEWOOD WALK-IN PARKING

ADJACENT TO ROUTE 0237Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP D
(DOUGLAS LOOP)) AT MP 0.18 (ON RIGHT)

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0903Z	PUBLIC	4/23/2012	4,384	0.08	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0904

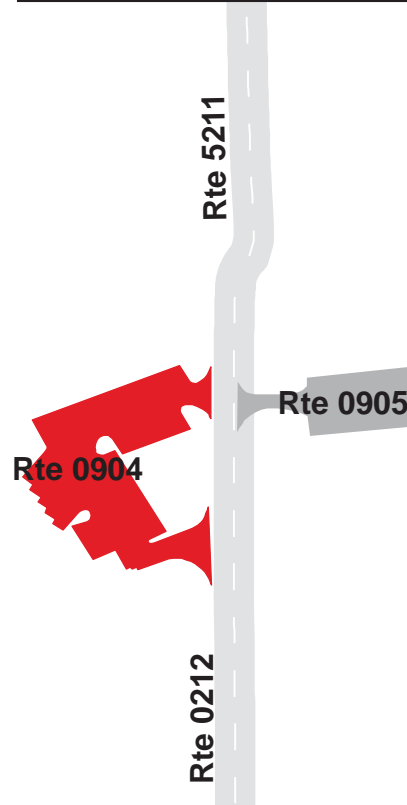
CALUMET DUNES INTERPRETER CENTER PARKING

FROM ROUTE 0212 (KEMIL ROAD (300 EAST ROAD)) AT MP 0.75 (ON LEFT)

TO ROUTE 0212 (KEMIL ROAD (300 EAST ROAD)) AT MP 0.78 (ON LEFT)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0904	PUBLIC	4/23/2012	17,824	0.31	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
2	1	0	NO CURB AND GUTTER	CONCRETE CURB	FAIR/73

* Lane miles are based on 11' lane widths



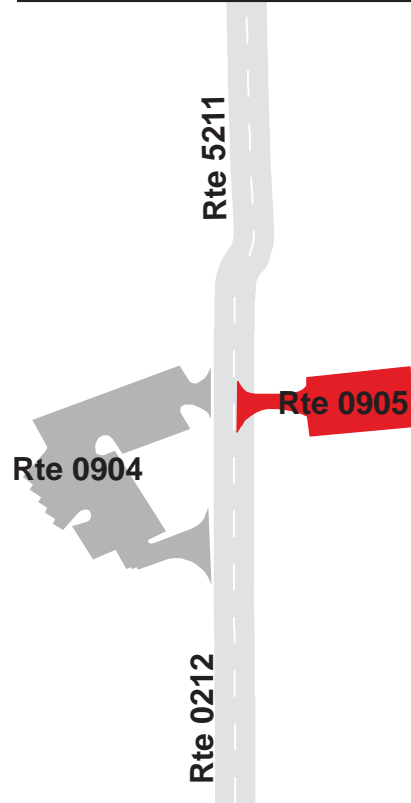
INDIANA DUNES NATIONAL LAKESHORE

Route 0905

CALUMET DUNES INTERPRETER CENTER OVERFLOW PARKING
FROM ROUTE 0212 (KEMIL ROAD (300 EAST ROAD)) AT MP 0.78 (ON RIGHT)
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0905	NONPUBLIC	4/23/2012	6,725	0.12	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	1	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0906

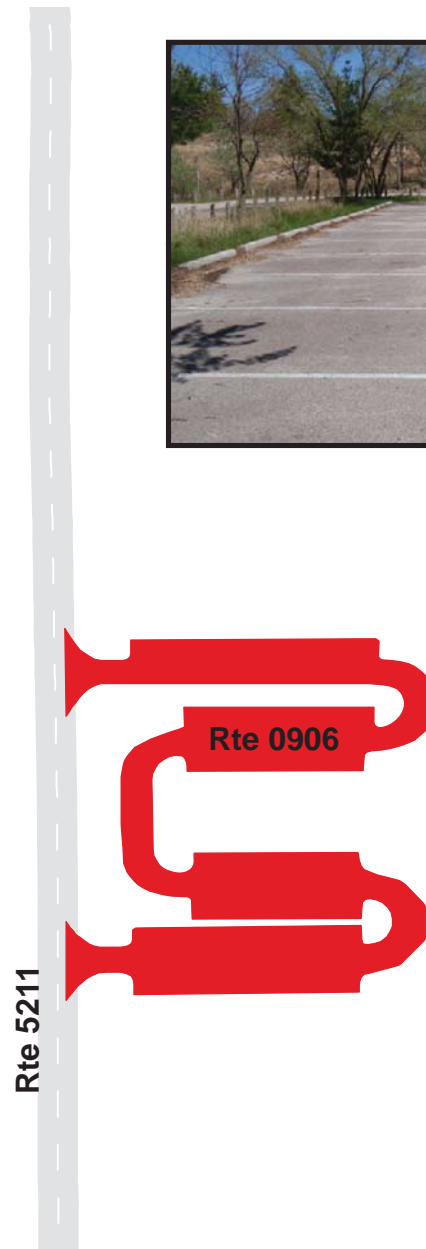
KEMIL BEACH PARKING

FROM ROUTE 5211 (EAST STATE PARK ROAD (300 EAST ROAD)) AT MP 1.00 (ON RIGHT)

TO ROUTE 5211 (EAST STATE PARK ROAD (300 EAST ROAD)) AT MP 1.05 (ON RIGHT)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0906	PUBLIC	4/23/2012	37,901	0.65	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	2	NO CURB AND GUTTER	NO CURB	FAIR/73

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

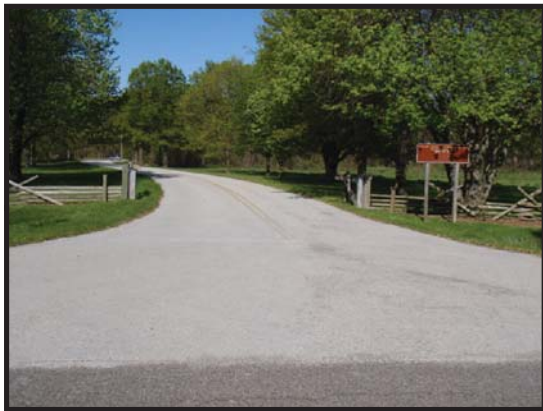
Route 0907

BAILLY/CHELLBERG VISITOR PARKING

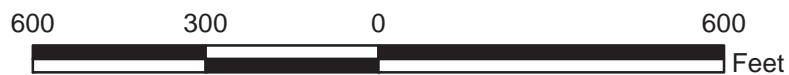
FROM ROUTE 5216 (MINERAL SPRINGS ROAD) AT MP 0.11 (ON LEFT)
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0907	PUBLIC	4/24/2012	39,115	0.67	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
2	0	1	NO CURB AND GUTTER	CONCRETE CURB	GOOD/90

* Lane miles are based on 11' lane widths



Rte 5216



INDIANA DUNES NATIONAL LAKESHORE

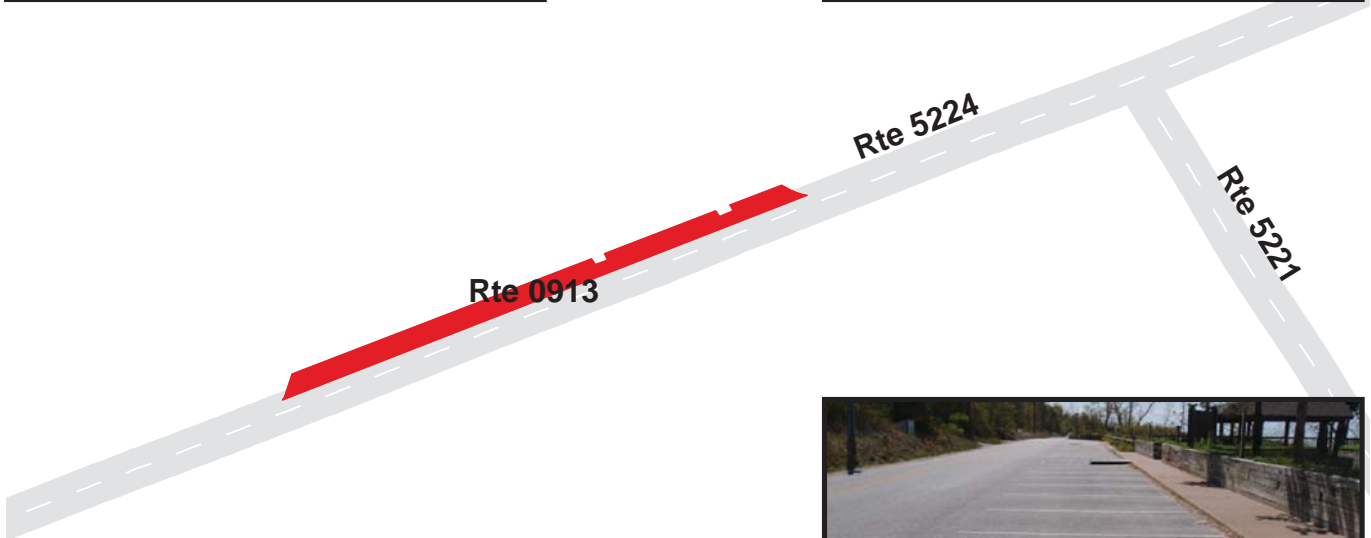
Route 0913

LAKE VIEW BEACH PARKING

ADJACENT TO ROUTE 5224 (LAKE FRONT DRIVE)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0913	PUBLIC	4/23/2012	9,139	0.16	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	CONCRETE & WOOD CURB	GOOD/90

* Lane miles are based on 11' lane widths



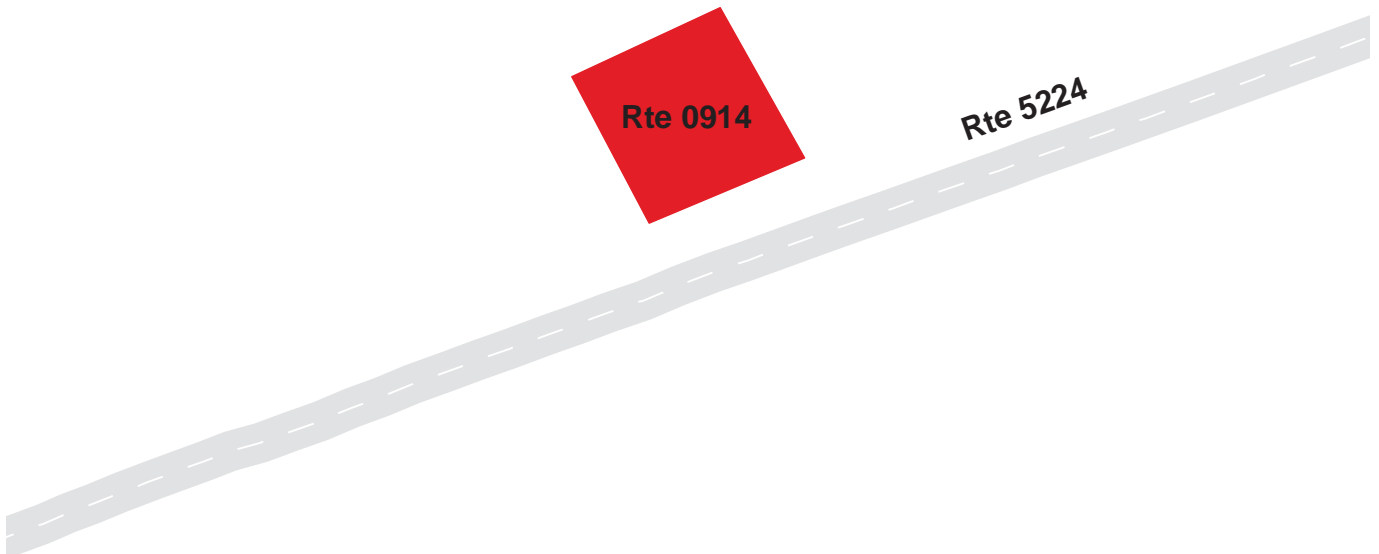
INDIANA DUNES NATIONAL LAKESHORE

Route 0914

LAKE FRONT DRIVE HANDICAPPED PARKING
 ADJACENT TO ROUTE 5224 (LAKE FRONT DRIVE)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0914	PUBLIC	4/23/2012	984	0.02	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

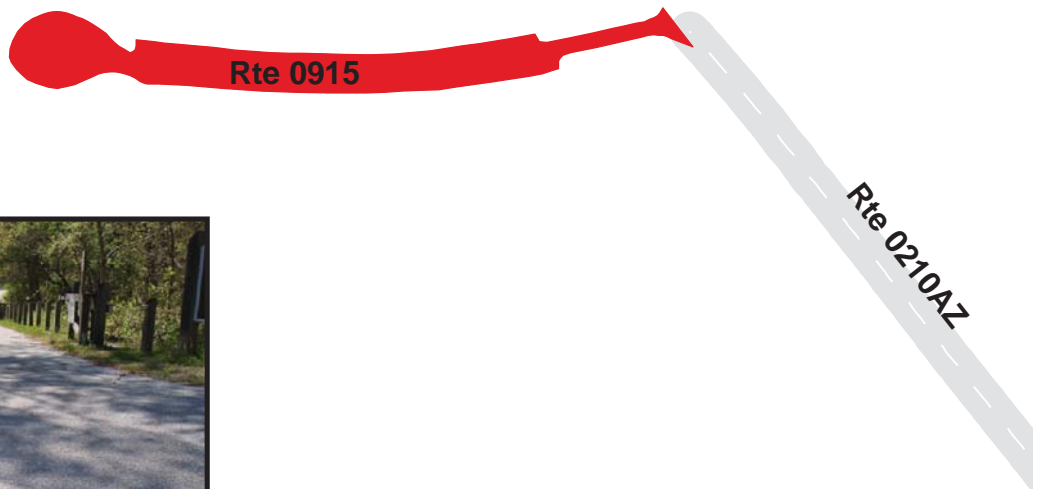
Route 0915

CENTRAL BEACH PARKING

FROM ROUTE 0210ZZ (CENTRAL AVENUE) ON LEFT
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0915	PUBLIC	4/23/2012	31,793	0.55	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	1	NO CURB AND GUTTER	NO CURB	FAIR/73

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0916ZZ

MT. BALDY PARKING AREAS

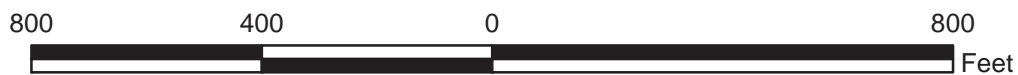
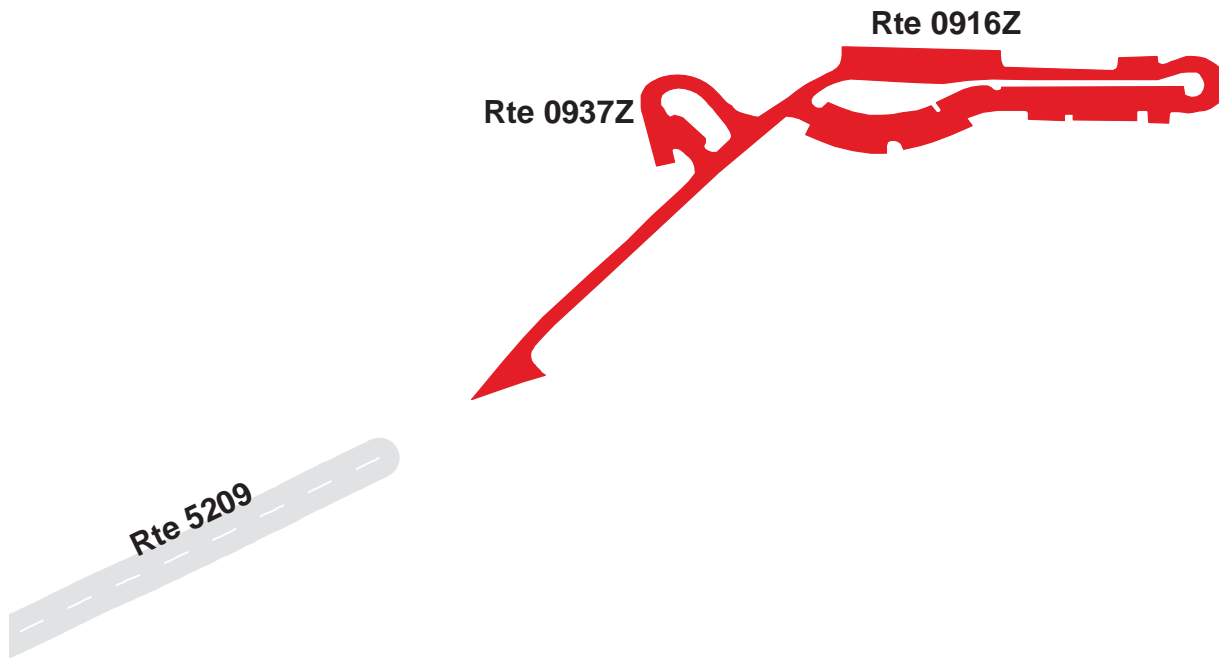
FROM U.S. HIGHWAY 12

TO PARKING

Summary Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0916ZZ	PUBLIC	4/23/2012	74,974	1.29	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	2	3	NO CURB AND GUTTER	NO CURB	SUMMARY/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0916Z

MT. BALDY PARKING

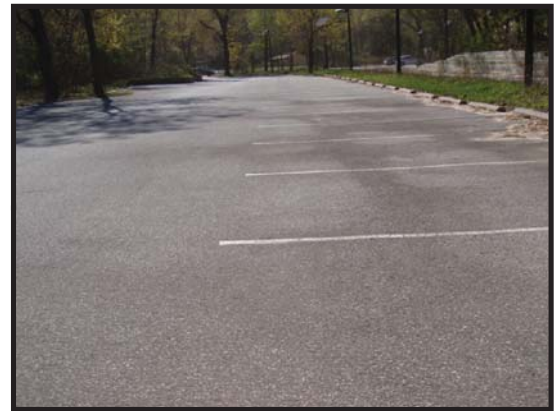
FROM U.S. HIGHWAY 12

TO PARKING

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0916Z	PUBLIC	4/23/2012	64,783	1.12	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	2	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

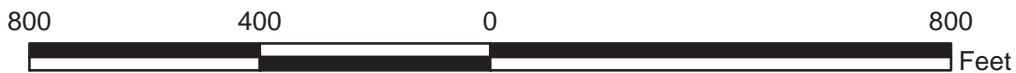
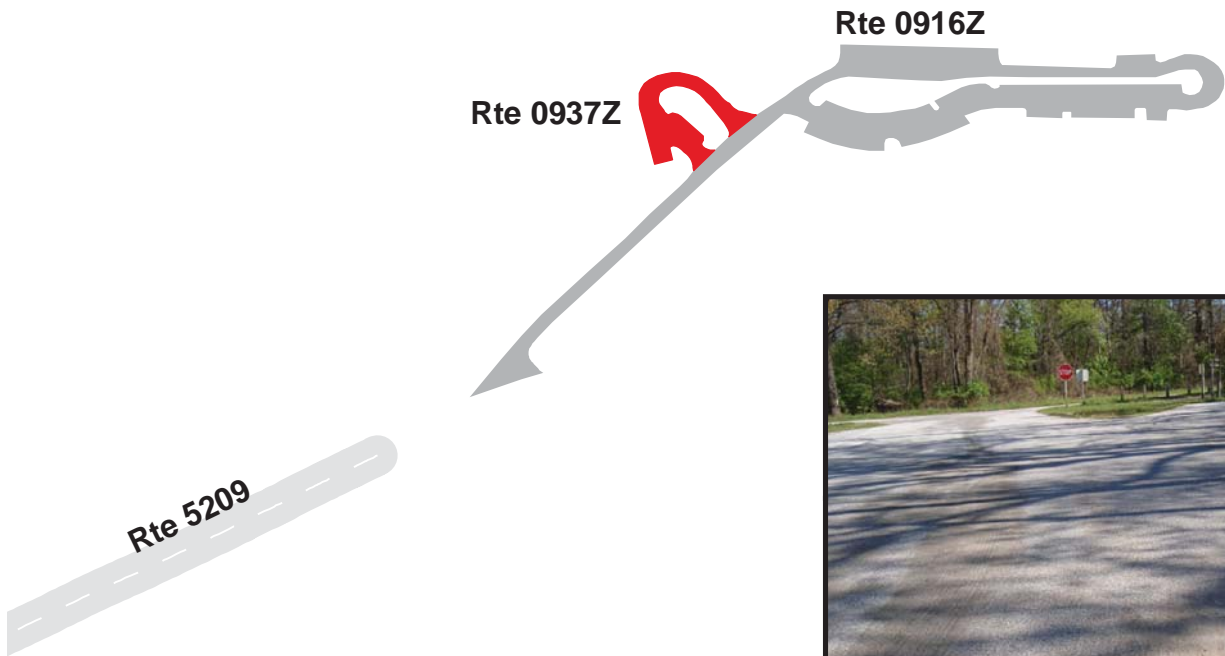
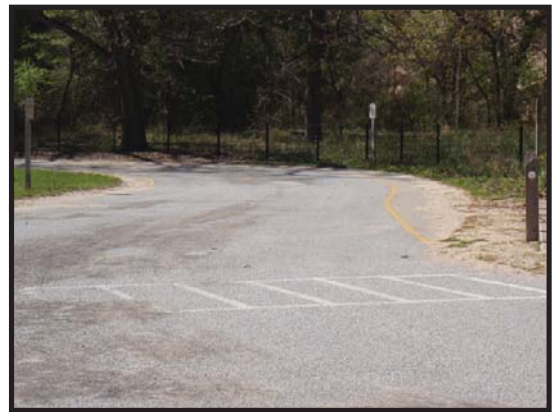
Route 0937Z

MT. BALDY BUS PARKING
 FROM ROUTE 0916Z (MT. BALDY PARKING)
 TO ROUTE 0916Z (MT. BALDY PARKING)

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0937Z	PUBLIC	4/23/2012	10,191	0.18	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	2	1	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0917

LY-CO-KI-WE PARKING
 FROM ROUTE 5220 (SCHOOL HOUSE ROAD (275 E))
 TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0917	PUBLIC	4/23/2012	42,231	0.73	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	1	NO CURB AND GUTTER	NO CURB	FAIR/73

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0918ZZ

HQ PARKING AREAS

FROM ROUTE 5216 (MINERAL SPRINGS ROAD)

TO PARKING

Summary Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0918ZZ	PUBLIC	4/24/2012	129,496	2.23	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
3	4	0	NO CURB AND GUTTER	CONCRETE CURB	SUMMARY/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

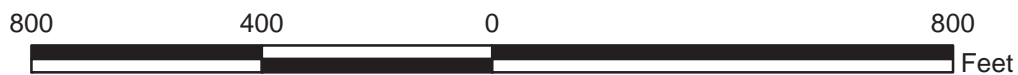
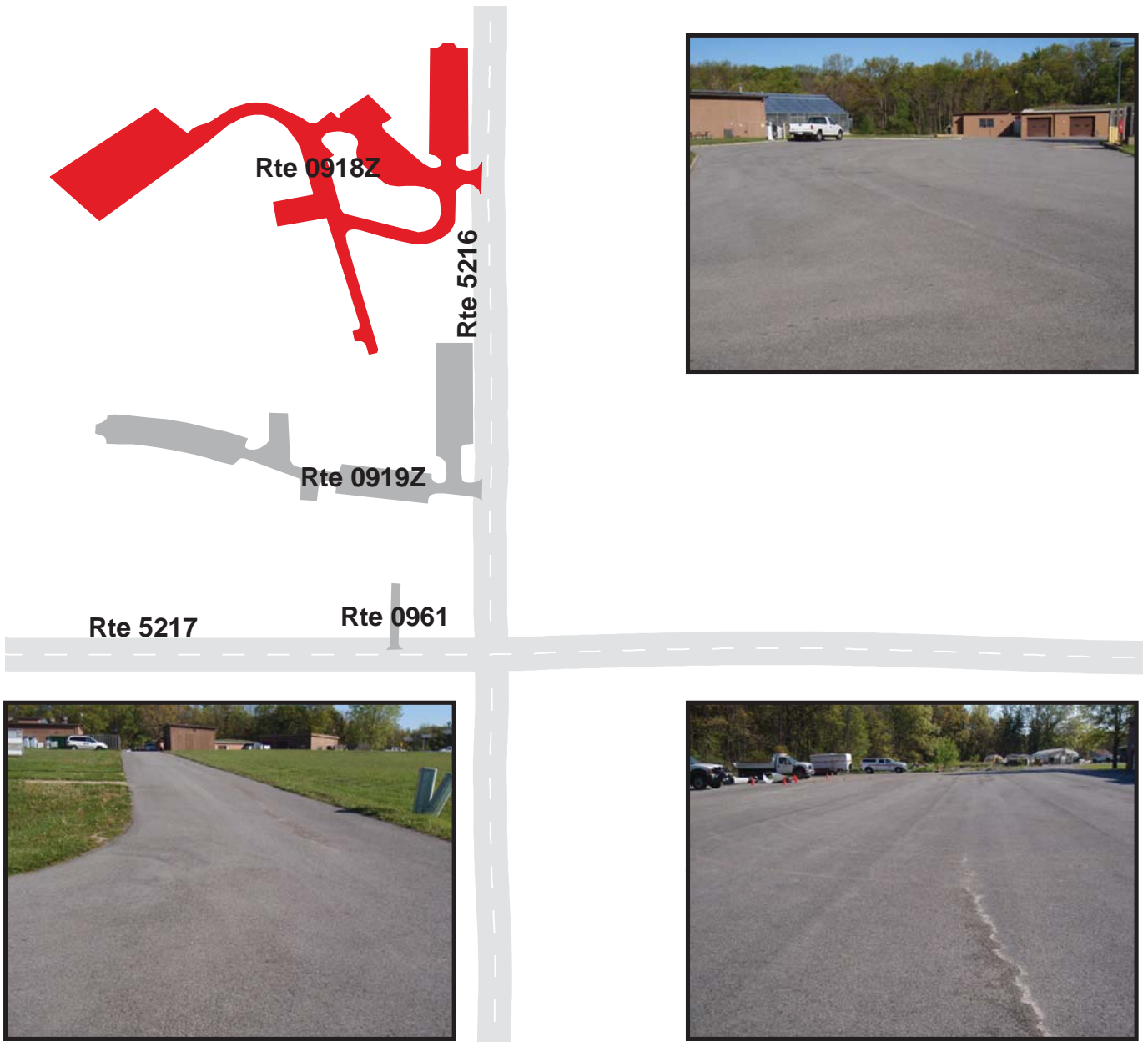
Route 0918Z

HQ ADMINISTRATIVE PARKING A
FROM ROUTE 5216 (MINERAL SPRINGS ROAD)
TO PARKING

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0918Z	PUBLIC	4/24/2012	82,237	1.42	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
2	3	0	NO CURB AND GUTTER	CONCRETE CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0919Z

HQ ADMINISTRATIVE PARKING B
FROM ROUTE 5216 (MINERAL SPRINGS ROAD)
TO PARKING

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0919Z	PUBLIC	4/24/2012	47,259	0.81	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
1	1	0	NO CURB AND GUTTER	CONCRETE CURB	GOOD/90

* Lane miles are based on 11' lane widths



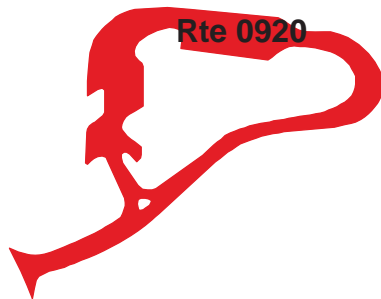
INDIANA DUNES NATIONAL LAKESHORE

Route 0920

DOUGLAS CENTER PARKING
FROM LAKE STREET
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0920	PUBLIC	4/24/2012	27,907	0.48	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	1	1	CONCRETE CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

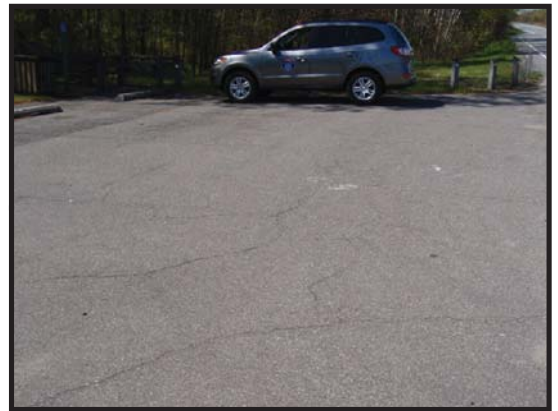
Route 0921

TOLLESTON DUNES OVERLOOK PARKING

ADJACENT TO U.S. HIGHWAY 12

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0921	PUBLIC	4/24/2012	1,666	0.03	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0922

TOLLESTON DUNES TRAILHEAD PARKING

FROM U.S. HIGHWAY 12

TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0922	PUBLIC	4/24/2012	23,412	0.40	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	1	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



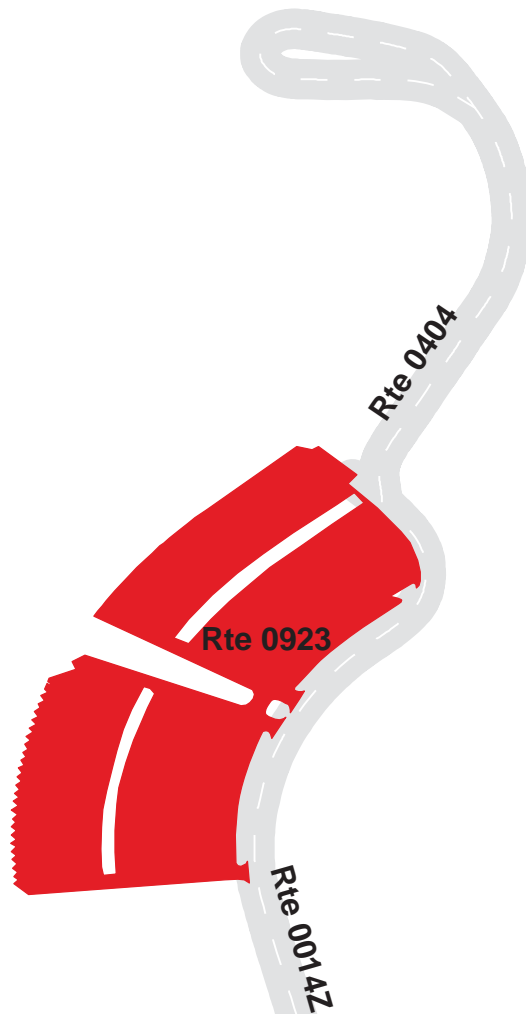
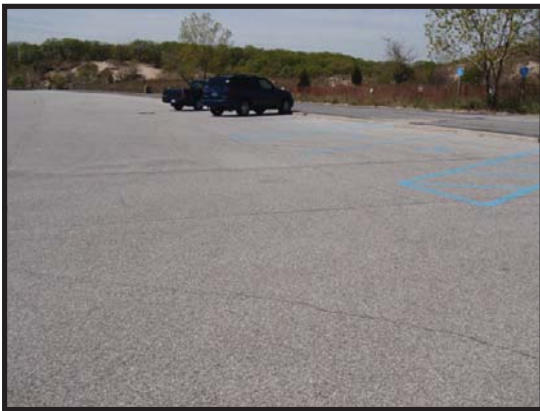
INDIANA DUNES NATIONAL LAKESHORE

Route 0923

WEST BEACH VISITOR PARKING
 FROM ROUTE 0014ZZ (WEST BEACH ACCESS ROADS)
 TO ROUTE 0014ZZ (WEST BEACH ACCESS ROADS)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0923	PUBLIC	4/24/2012	305,185	5.26	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	2	0	NO CURB AND GUTTER	CONCRETE CURB	FAIR/73

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0925

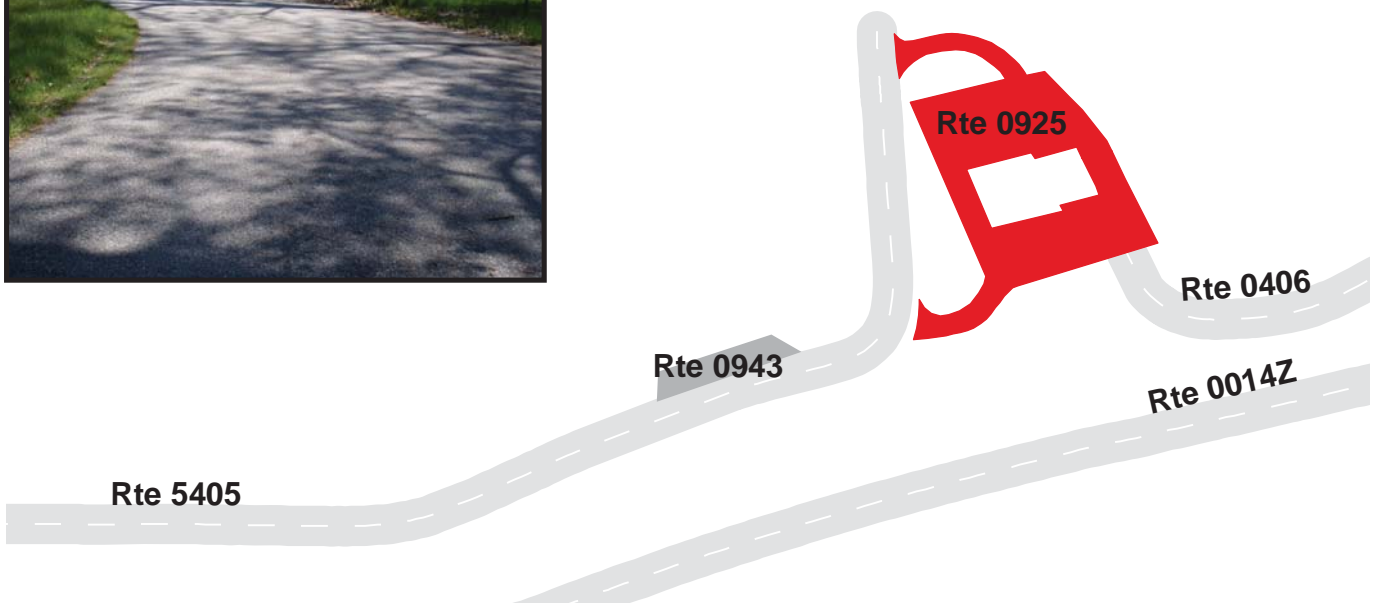
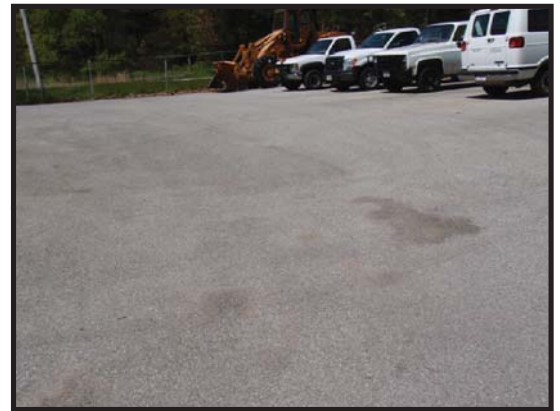
WEST BEACH MAINTENANCE BUILDING PARKING

FROM ROUTE 5405 (WEST BEACH MAINTENANCE ROAD)

TO ROUTE 0406 (WEST BEACH SERVICE ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0925	NONPUBLIC	4/24/2012	17,265	0.30	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	3	NO CURB AND GUTTER	NO CURB	FAIR/73

* Lane miles are based on 11' lane widths



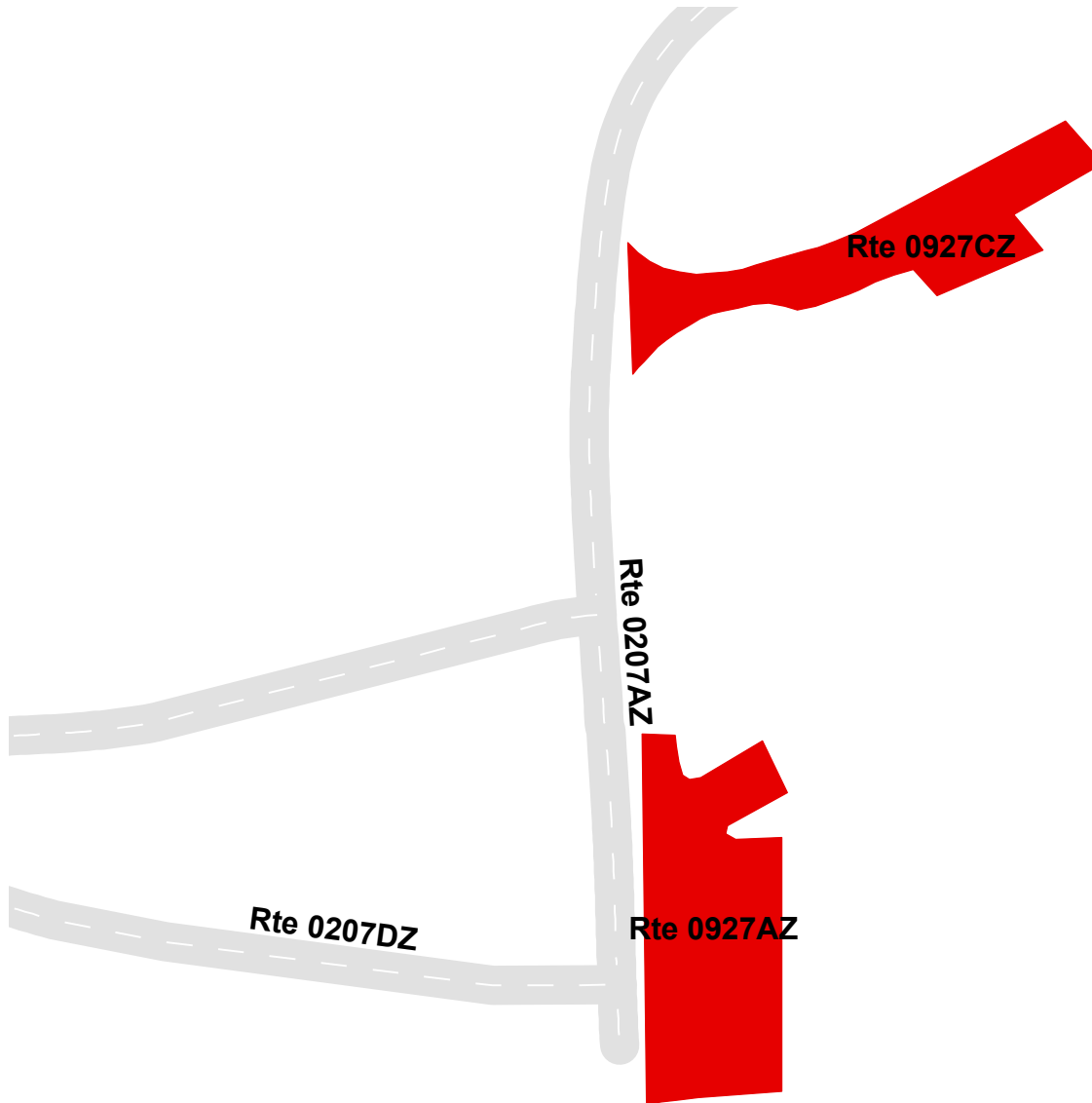
INDIANA DUNES NATIONAL LAKESHORE

Route 0927ZZ

IDELC (GOOD FELLOW CAMP) PARKING AREAS
 FROM ROUTE 0207ZZ (GOOD FELLOW CAMP ROADS IDELC) ON LEFT
 TO PARKING
 Summary Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0927ZZ	PUBLIC	4/24/2012	11,526	0.20	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	SUMMARY/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

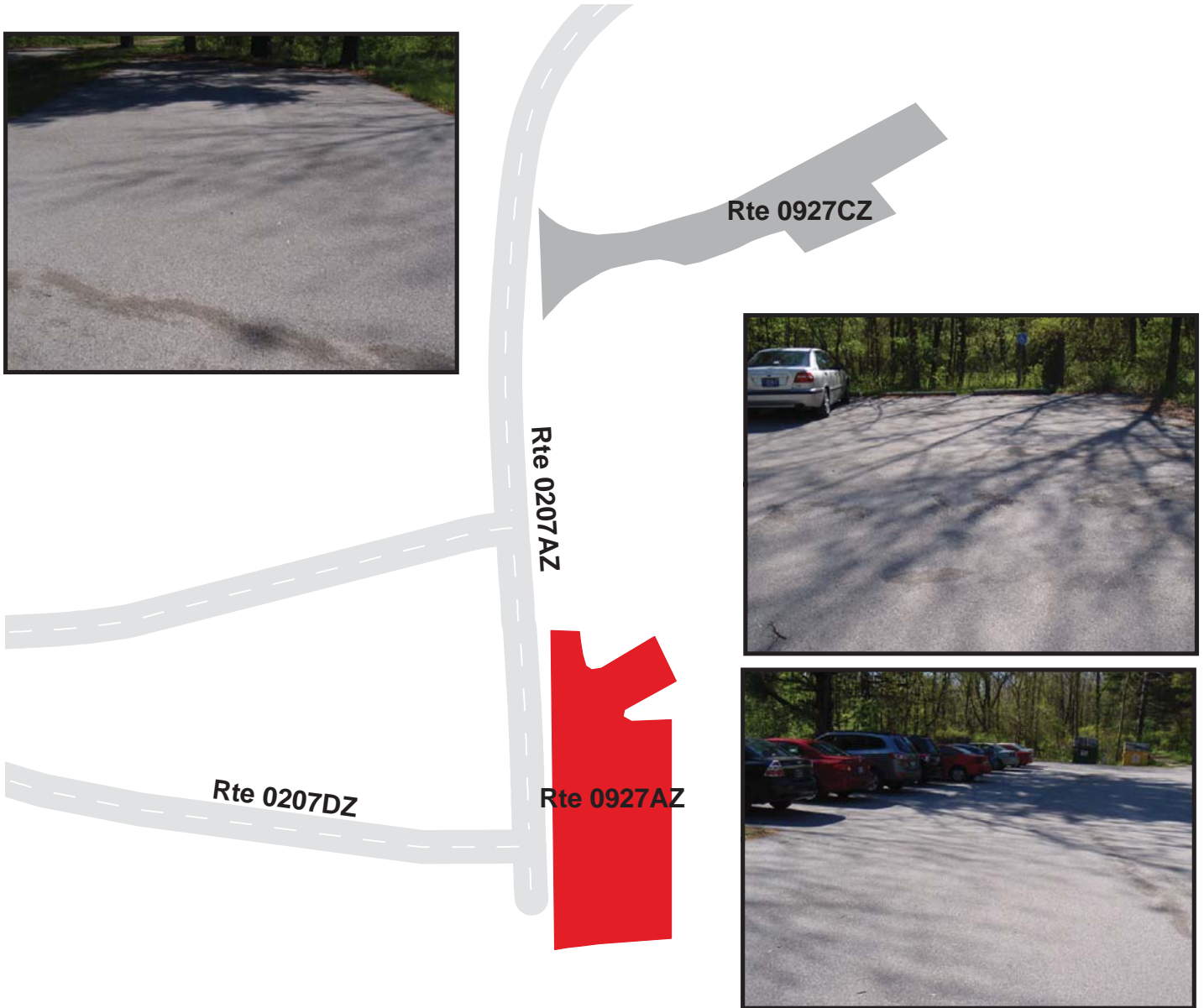
Route 0927AZ

IDELC (GOOD FELLOW CAMP) PARKING A
 ADJACENT TO ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC) ON LEFT

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0927AZ	PUBLIC	4/24/2012	6,725	0.12	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0927CZ

IDELC (GOOD FELLOW CAMP) PARKING C
 FROM ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)
 TO PARKING

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0927CZ	PUBLIC	4/24/2012	4,801	0.08	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



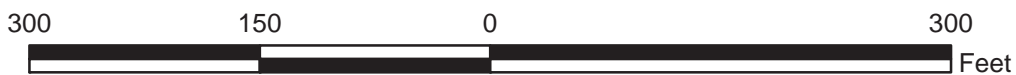
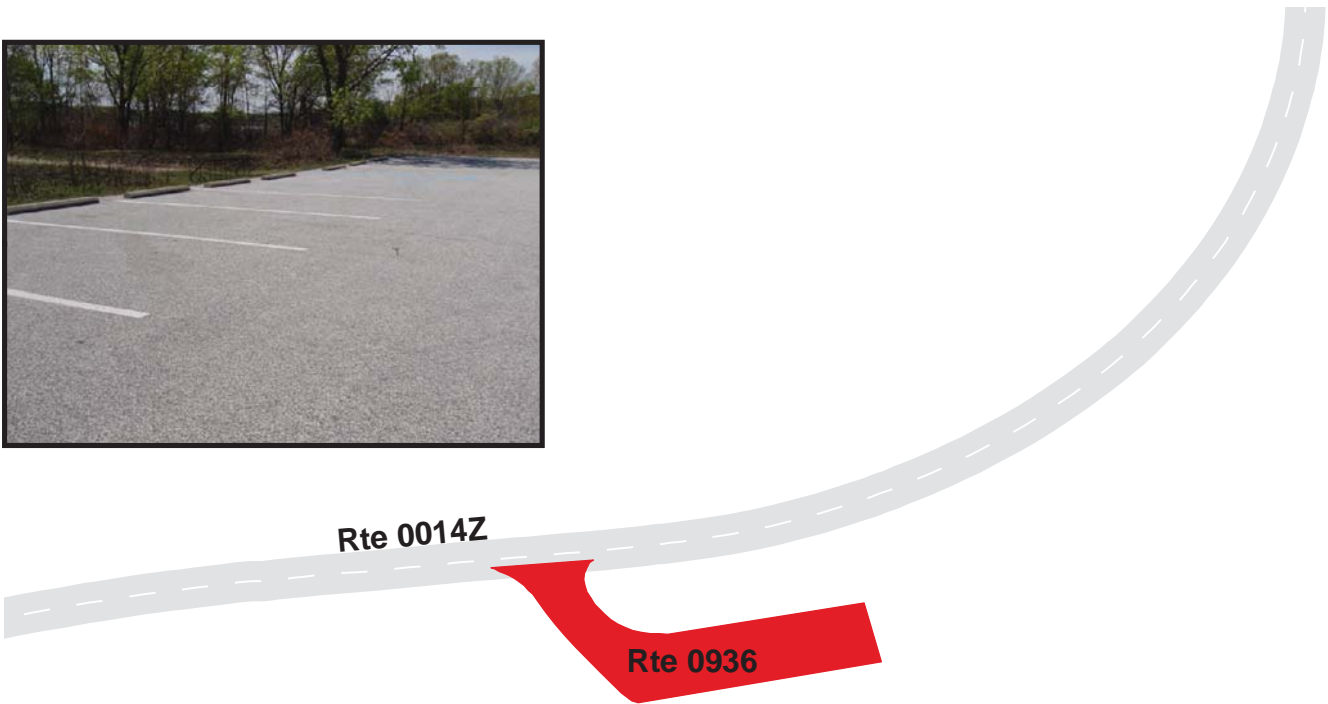
INDIANA DUNES NATIONAL LAKESHORE

Route 0936

LONG LAKE TRAIL PARKING
 FROM ROUTE 0014ZZ (WEST BEACH ACCESS ROADS)
 TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0936	PUBLIC	4/24/2012	7,038	0.12	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

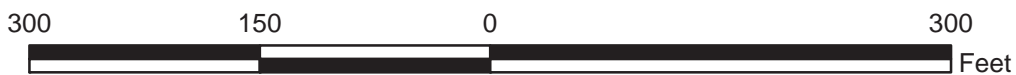
Route 0938

DUNBAR PARKING AREA

ADJACENT TO DUNBAR STREET OFF OF ROUTE 5224 (LAKE FRONT DRIVE)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0938	PUBLIC	4/23/2012	13,945	0.24	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	1	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0940

PINHOOK BOG PARKING

FROM WOZNIAK ROAD

TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0940	PUBLIC	4/23/2012	21,350	0.37	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	1	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

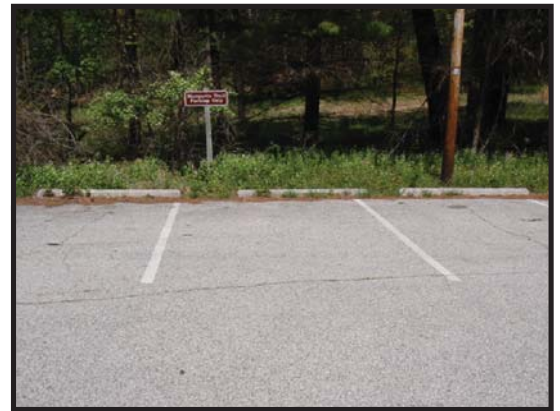
Route 0943

MARQUETTE TRAIL PARKING

ADJACENT TO ROUTE 5405 (WEST BEACH MAINTENANCE ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0943	PUBLIC	4/24/2012	2,091	0.04	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0944

WEST BEACH SERVICE PARKING

ADJACENT TO ROUTE 0406 (WEST BEACH SERVICE ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0944	NONPUBLIC	4/24/2012	1,564	0.03	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0950

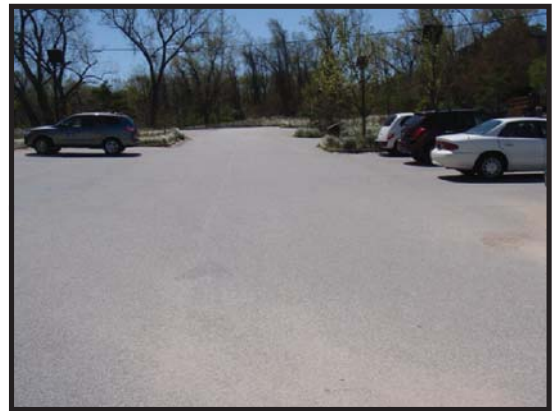
PORTER BEACH NORTH PARKING

FROM WABASH AVENUE

TO WABASH AVENUE

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0950	PUBLIC	4/23/2012	14,067	0.24	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	2	NO CURB AND GUTTER	CONCRETE CURB	GOOD/90

* Lane miles are based on 11' lane widths



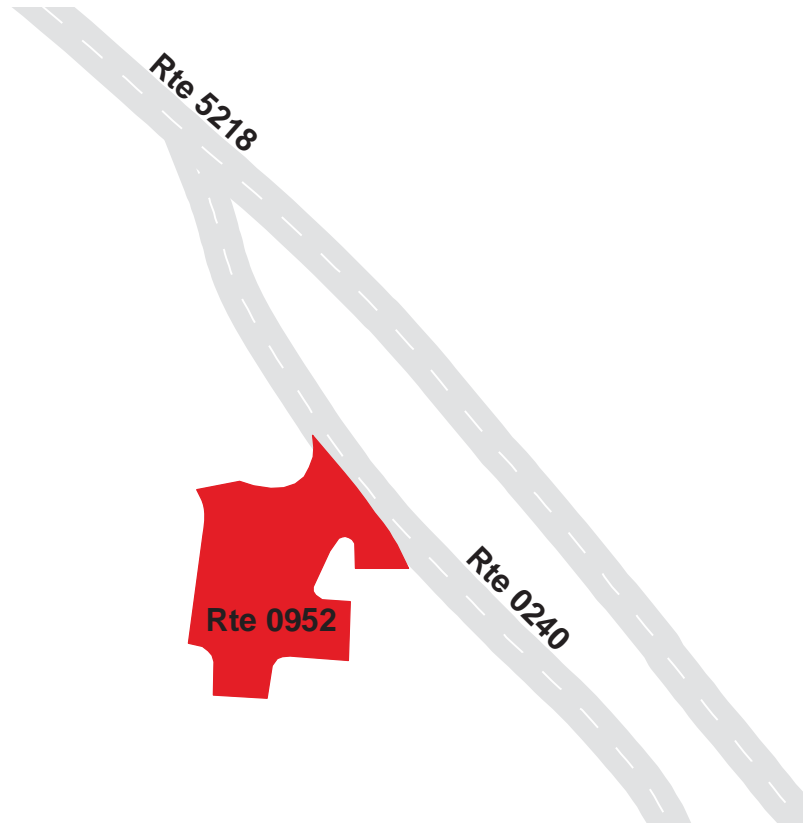
INDIANA DUNES NATIONAL LAKESHORE

Route 0952

CALUMET RIVER TRAIL PARKING
FROM ROUTE 0240 (WAHL FARM ACCESS ROAD)
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0952	PUBLIC	4/24/2012	6,709	0.12	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



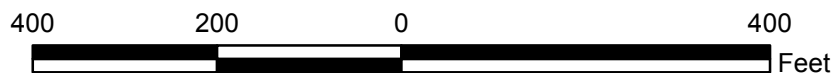
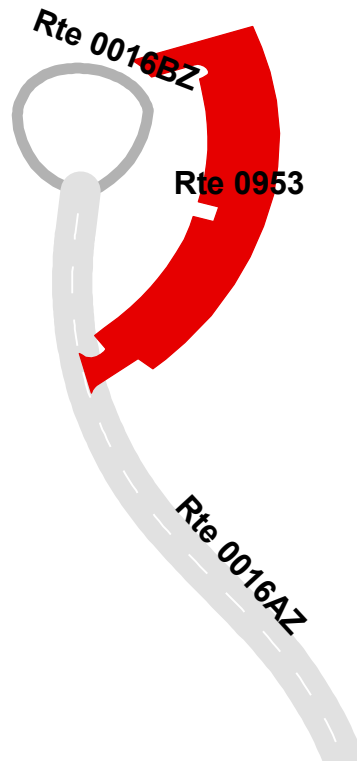
INDIANA DUNES NATIONAL LAKESHORE

Route 0953

PORTAGE LAKEFRONT NORTH PARKING AREA
 FROM ROUTE 0016ZZ (PORTAGE LAKEFRONT ENTRANCE ROADS)
 TO ROUTE 0016ZZ (PORTAGE LAKEFRONT ENTRANCE ROADS)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0953	PUBLIC	4/24/2012	23,078	0.40	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	2	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



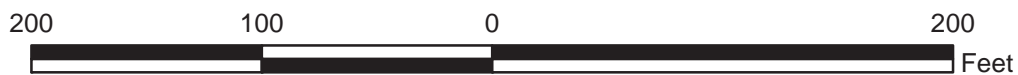
INDIANA DUNES NATIONAL LAKESHORE

Route 0954

PORTAGE LAKEFRONT EAST PARKING AREA
 FROM ROUTE 0016ZZ (PORTAGE LAKEFRONT ENTRANCE ROADS)
 TO ROUTE 0016ZZ (PORTAGE LAKEFRONT ENTRANCE ROADS)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0954	PUBLIC	4/24/2012	6,717	0.12	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	2	0	NO CURB AND GUTTER	CONCRETE CURB	GOOD/90

* Lane miles are based on 11' lane widths



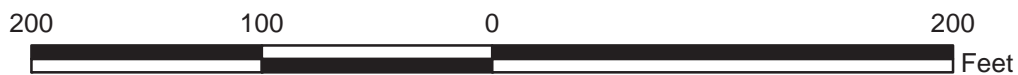
INDIANA DUNES NATIONAL LAKESHORE

Route 0955

PORTAGE LAKEFRONT WEST PARKING AREA
 FROM ROUTE 0016ZZ (PORTAGE LAKEFRONT ENTRANCE ROADS)
 TO ROUTE 0016ZZ (PORTAGE LAKEFRONT ENTRANCE ROADS)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0955	PUBLIC	4/24/2012	7,125	0.12	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	1	0	NO CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

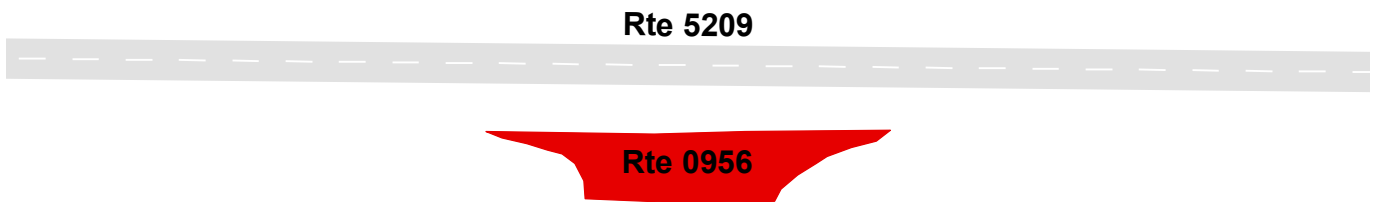
Route 0956

BEVERLY DRIVE SPRING PARKING AREA
ADJACENT TO ROUTE 5209 (BEVERLY DRIVE)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0956	PUBLIC	9/12/2012	1,410	0.02	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
N/A	N/A	N/A	N/A	N/A	CONSTRUCT/N/A

* Lane miles are based on 11' lane widths

NOTE: Data was not collected for Route 0956 in Cycle 5 due to construction.



INDIANA DUNES NATIONAL LAKESHORE

Route 0958

HAWLEYWOOD BUILDING #504 DRIVEWAY / PARKING
FROM HAWLEYWOOD ROAD
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0958	PUBLIC	4/24/2012	1,034	0.02	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45

* Lane miles are based on 11' lane widths



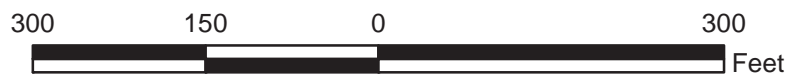
INDIANA DUNES NATIONAL LAKESHORE

Route 0960

U.S. 12 DORM DRIVE/PARKING
FROM U.S. HIGHWAY 12
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0960	PUBLIC	4/24/2012	5,947	0.10	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45

* Lane miles are based on 11' lane widths



INDIANA DUNES NATIONAL LAKESHORE

Route 0961

RM ANNEX DRIVEWAY
FROM ROUTE 5217 (OAK HILL ROAD)
TO END

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0961	PUBLIC	4/24/2012	1,906	0.03	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45

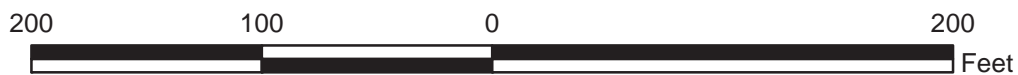
* Lane miles are based on 11' lane widths



Rte 0961

Rte 5217

Rte 5216



Section 8
Parkwide/Route
Maintenance Features Summaries



Indiana Dunes National Lakeshore



Federal Lands Highway
Road Inventory Program

INDU: PARKWIDE MAINTENANCE FEATURES SUMMARY

Includes DCV, MRL, MRP & PKG routes collected in Cycle-5

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all DCV driven routes. Culverts, drop inlets, and gates were also collected on all Manually Rated Routes and Paved Parking areas. Those totals are reflected below.

FEATURE	LINEAR FEET	COUNT
BRIDGE	--	0
CATTLE GUARD	--	0
CULVERT	--	14
CURB	2,752	--
DROP INLET	--	32
GATE	--	29
GUARD/GUIDE RAIL	850	--
CABLE	0	--
NON-CABLE	850	--
GUARD/GUIDE WALL	861	--
BOLLARD	861	--
TEMPORARY BARRIER	0	--
NON TEMP/BOLLARD	0	--
INTERSECTION	--	119
LOW WATER CROSSING	0	0
MILE MARKER	--	0
OVERPASS	--	1
PARK BOUNDARY	--	0
PAVED DITCH	0	--
PULLOUT	581	8
RAILROAD CROSSING	--	0
RETAINING WALL	121	1
SIGN	--	260
STATE BOUNDARY	--	0
TRAFFIC LIGHT	--	1
TUNNEL	0	0

INDU: DCV ROUTE MAINTENANCE FEATURES SUMMARY

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5.

FEATURE	ROUTE 0014ZZ WEST BEACH ACCESS ROADS	ROUTE 0016ZZ PORTAGE LAKEFRONT ENTRANCE ROADS	ROUTE 0207ZZ GOOD FELLOW CAMP ROADS IDELC	ROUTE 0210ZZ CENTRAL AVENUE	ROUTE 0212 KEMIL ROAD (300 EAST ROAD)	ROUTE 0213 FURNESSVILLE ROAD (1500 NORTH ROAD)	UNIT
BRIDGE	0	0	0	0	0	0	EACH
CATTLE GUARD	0	0	0	0	0	0	EACH
CULVERT	1	0	2	0	1	1	EACH
CURB	740	1,938	0	0	0	0	LINEAR FEET
DROP INLET	0	17	0	0	0	0	EACH
GATE	2	1	0	1	0	0	EACH
GUARD/GUIDE RAIL	174	475	0	0	0	201	LINEAR FEET
CABLE	0	0	0	0	0	0	LINEAR FEET
NON-CABLE	174	475	0	0	0	201	LINEAR FEET
GUARD/GUIDE WALL	285	0	116	26	16	0	LINEAR FEET
BOLLARD	285	0	116	26	16	0	LINEAR FEET
TEMPORARY BARRIER	0	0	0	0	0	0	LINEAR FEET
NON TEMP/BOLLARD	0	0	0	0	0	0	LINEAR FEET
INTERSECTION	18	8	21	5	10	9	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	1	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	1	0	0	0	EACH
PULLOUT	0	0	74	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	62	18	17	19	30	25	EACH
STATE BOUNDARY	0	0	0	0	0	0	EACH
TRAFFIC LIGHT	1	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	LINEAR FEET

INDU: DCV ROUTE MAINTENANCE FEATURES SUMMARY

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5.

FEATURE	ROUTE 0222ZZ	DUNWOOD CAMPGROUND ACCESS ROADS	ROUTE 0240	WAHL FARM ACCESS ROAD	ROUTE 0404 WEST BEACH SERVICE ACCESS ROAD	ROUTE 0406 WEST BEACH SERVICE ROAD	UNIT
BRIDGE	0	0	0	0	0		EACH
CATTLE GUARD	0	0	0	0	0		EACH
CULVERT	1	0	0	0	1		EACH
CURB	74	0	0	0	0		LINEAR FEET
DROP INLET	0	0	0	0	0		EACH
GATE	3	0	0	0	0		EACH
GUARD/GUIDE RAIL	0	0	0	0	0		LINEAR FEET
CABLE	0	0	0	0	0		LINEAR FEET
NON-CABLE	0	0	0	0	0		LINEAR FEET
GUARD/GUIDE WALL	402	0	16	0	0		LINEAR FEET
BOLLARD	402	0	16	0	0		LINEAR FEET
TEMPORARY BARRIER	0	0	0	0	0		LINEAR FEET
NON TEMP/BOLLARD	0	0	0	0	0		LINEAR FEET
INTERSECTION	33	5	6	4			EACH
LOW WATER CROSSING	0	0	0	0	0		EACH
LOW WATER CROSSING	0	0	0	0	0		LINEAR FEET
MILE MARKER	0	0	0	0	0		EACH
OVERPASS	0	0	0	0	0		EACH
PARK BOUNDARY	0	0	0	0	0		EACH
PAVED DITCH	0	0	0	0	0		LINEAR FEET
PULLOUT	7	0	0	0	0		EACH
PULLOUT	507	0	0	0	0		LINEAR FEET
RAILROAD CROSSING	0	0	0	0	0		EACH
RETAINING WALL	0	0	1	0	0		EACH
RETAINING WALL	0	0	121	0	0		LINEAR FEET
SIGN	76	11	2	0	0		EACH
STATE BOUNDARY	0	0	0	0	0		EACH
TRAFFIC LIGHT	0	0	0	0	0		EACH
TUNNEL	0	0	0	0	0		EACH
TUNNEL	0	0	0	0	0		LINEAR FEET

INDU: STRUCTURE LIST

ROUTE NUMBER	FUNCTIONAL CLASS	MILEPOST START	MILEPOST END	FEATURE	STRUCTURE NUMBER
0014Z	1	0.247	0.247	OVERPASS	6300-003

Section 9
Route Maintenance Features
Road Logs



Indiana Dunes National Lakeshore



Federal Lands Highway
Road Inventory Program

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0014Z: WEST BEACH ACCESS ROAD

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 5215 (COUNTY LINE ROAD) AT MP 0.8 ON LEFT
0.000	0.000	INTERSECTION	N/A	ROUTE 5215 (COUNTY LINE ROAD)
0.000	0.000	SIGN	LEFT	REGULATORY, YIELD
0.000	0.000	INTERSECTION	LEFT	ROUTE 5215 (COUNTY LINE ROAD)
0.003	0.012	CURB	N/A	N/A
0.005	0.005	SIGN	N/A	REGULATORY, UNABLE TO READ FROM VIDEO
0.006	0.006	SIGN	LEFT	REGULATORY, STOP
0.006	0.006	SIGN	N/A	REGULATORY, AREA CLOSED
0.007	0.007	GATE	N/A	N/A
0.012	0.012	SIGN	RIGHT	REGULATORY, AREA CLOSED
0.014	0.014	INTERSECTION	LEFT	PAVED SPUR
0.015	0.022	GUARD/GUIDE RAIL	LEFT	N/A
0.037	0.037	SIGN	RIGHT	WARNING, 20 M.P.H.
0.037	0.037	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.071	0.071	SIGN	LEFT	REGULATORY, TO
0.071	0.071	SIGN	LEFT	REGULATORY, 12
0.071	0.071	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
0.074	0.074	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.126	0.126	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.146	0.146	CULVERT	N/A	N/A
0.159	0.170	GUARD/GUIDE WALL	RIGHT	N/A
0.165	0.165	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.165	0.165	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.190	0.190	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.217	0.217	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.217	0.217	SIGN	LEFT	WARNING, 20 M.P.H.
0.247	0.247	OVERPASS	N/A	6300-003 (COUNTY LINE ROAD BRIDGE)
0.254	0.254	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.262	0.262	INTERSECTION	LEFT	ROUTE 0014Z (WEST BEACH ACCESS ROAD) OPPOSITE LANE
0.262	0.372	ONE-WAY	N/A	N/A

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0014Z: WEST BEACH ACCESS ROAD

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.270	0.270	SIGN	N/A	REGULATORY, KEEP RIGHT
0.293	0.293	SIGN	RIGHT	REGULATORY, GRAPHIC SIGN NO TEXT
0.293	0.293	SIGN	RIGHT	REGULATORY, STOP
0.298	0.298	INTERSECTION	RIGHT	ROUTE 0015Z (WEST BEACH ENTRY ROAD)
0.300	0.300	SIGN	N/A	REGULATORY, ONE WAY
0.350	0.350	SIGN	N/A	REGULATORY, KEEP RIGHT
0.373	0.373	INTERSECTION	LEFT	ROUTE 0014Z (WEST BEACH ACCESS ROAD) OPPOSITE LANE
0.393	0.393	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.395	0.395	SIGN	RIGHT	REGULATORY, PARKING LOT CLOSSES AT DUSK CARS REMAINING WILL BE TOWED AT OWNERS EXPENSE
0.433	0.433	SIGN	LEFT	REGULATORY, TO
0.433	0.433	SIGN	LEFT	REGULATORY, 12
0.433	0.433	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
0.499	0.516	CURB	N/A	N/A
0.505	0.505	SIGN	RIGHT	REGULATORY, STOP
0.506	0.506	SIGN	N/A	GUIDE, INDIANA DUNES NATIONAL LAKESHORE EXPANDED AMENITY FEE SUPPORTS AND MAINTAINS WEST BRANCH FACILITIES
0.508	0.508	TRAFFIC LIGHT	N/A	X1
0.514	0.514	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.518	0.518	INTERSECTION	LEFT	ROUTE 0406 (WEST BEACH SERVICE ROAD)
0.520	0.520	SIGN	LEFT	REGULATORY, OFFICIAL VEHICLES ONLY
0.523	0.523	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.523	0.523	SIGN	RIGHT	REGULATORY, TOW-AWAY ZONE
0.530	0.530	SIGN	LEFT	REGULATORY, SPEED LIMIT 25
0.531	0.531	SIGN	RIGHT	REGULATORY, YIELD
0.560	0.560	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
0.575	0.575	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.596	0.622	GUARD/GUIDE RAIL	RIGHT	N/A
0.685	0.685	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.829	0.829	SIGN	LEFT	REGULATORY, SPEED LIMIT 25

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0014Z: WEST BEACH ACCESS ROAD

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.904	0.904	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.979	0.979	SIGN	RIGHT	GUIDE, LONG LAKE PARKING
0.990	0.990	INTERSECTION	RIGHT	ROUTE 0936 (LONG LAKE TRAIL PARKING)
0.993	0.993	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
1.005	1.005	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
1.131	1.131	SIGN	LEFT	REGULATORY, SPEED LIMIT 25
1.131	1.131	SIGN	LEFT	REGULATORY, RADAR CONTROLLED
1.175	1.175	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
1.175	1.175	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
1.179	1.179	INTERSECTION	LEFT	ROUTE 0923 (WEST BEACH VISITOR PARKING)
1.187	1.236	CURB	LEFT	N/A
1.234	1.234	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
1.239	1.239	INTERSECTION	LEFT	ROUTE 0923 (WEST BEACH VISITOR PARKING)
1.243	1.249	CURB	LEFT	N/A
1.253	1.253	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
1.254	1.254	INTERSECTION	LEFT	ROUTE 0923 (WEST BEACH VISITOR PARKING)
1.258	1.312	CURB	LEFT	N/A
1.337	1.337	INTERSECTION	LEFT	ROUTE 0923 (WEST BEACH VISITOR PARKING)
1.354	1.359	CURB	LEFT	N/A
1.356	1.356	INTERSECTION	RIGHT	ROUTE 0404 (WEST BEACH SERVICE ACCESS ROAD)
1.361	1.367	GUARD/GUIDE WALL	RIGHT	N/A
1.367	1.367	INTERSECTION	N/A	ROUTE 0923 (WEST BEACH VISITOR PARKING)
1.367	1.367	ROUTE END	N/A	TO ROUTE 0923 (WEST BEACH VISITOR PARKING)

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0015Z: WEST BEACH ENTRY ROAD

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 5215 (COUNTY LINE ROAD) AT MP 0.5 ON RIGHT
0.000	0.187	ONE-WAY	N/A	N/A
0.000	0.000	INTERSECTION	LEFT	ROUTE 5215 (COUNTY LINE ROAD)
0.000	0.000	INTERSECTION	N/A	ROUTE 5215 (COUNTY LINE ROAD)
0.041	0.078	GUARD/GUIDE WALL	LEFT	N/A
0.058	0.058	SIGN	LEFT	GUIDE, INDIANA DUNES NATIONAL LAKESHORE WEST BEACH
0.080	0.080	GATE	N/A	N/A
0.081	0.081	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.082	0.082	SIGN	RIGHT	REGULATORY, AREA CLOSED
0.099	0.099	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
0.099	0.099	SIGN	RIGHT	REGULATORY, RADAR CONTROLLED
0.134	0.134	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.134	0.134	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.172	0.172	SIGN	RIGHT	REGULATORY, DO NOT ENTER
0.173	0.173	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
0.173	0.173	SIGN	RIGHT	REGULATORY, GRAPHIC SIGN NO TEXT
0.174	0.174	SIGN	LEFT	REGULATORY, DO NOT ENTER
0.182	0.182	INTERSECTION	LEFT	ROUTE 0014Z (WEST BEACH ACCESS ROAD)
0.184	0.184	SIGN	LEFT	REGULATORY, DO NOT ENTER
0.187	0.187	INTERSECTION	N/A	ROUTE 0014Z (WEST BEACH ACCESS ROAD)
0.187	0.187	ROUTE END	N/A	TO ROUTE 0014Z (WEST BEACH ACCESS ROAD)

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0016AZ: PORTAGE LAKEFRONT ENTRANCE ROAD A

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM U.S. STEEL COMPANY FRONTAGE ROAD
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (US STEEL COMPANY FRONTAGE ROAD)
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (US STEEL COMPANY FRONTAGE ROAD)
0.006	0.006	SIGN	LEFT	REGULATORY, STOP
0.014	0.014	SIGN	RIGHT	REGULATORY, SPEED LIMIT 20
0.020	0.020	SIGN	RIGHT	REGULATORY, REGULATIONS
0.120	0.120	SIGN	RIGHT	GUIDE, NATIONAL PARK SERVICE
0.120	0.120	SIGN	RIGHT	GUIDE, INDIANA DUNES NATIONAL LAKESHORE
0.159	0.159	SIGN	RIGHT	REGULATORY, PARK IN DESIGNATED SPACES ONLY
0.170	0.170	INTERSECTION	RIGHT	ROUTE 0954 (PORTAGE LAKEFRONT EAST PARKING AREA)
0.200	0.200	INTERSECTION	RIGHT	ROUTE 0954 (PORTAGE LAKEFRONT EAST PARKING AREA)
0.225	0.225	INTERSECTION	LEFT	ROUTE 0955 (PORTAGE LAKEFRONT WEST PARKING AREA)
0.254	0.254	SIGN	RIGHT	REGULATORY, GATES LOCKED AT DUSK VIOLATORS WILL BE TOWED
0.255	0.255	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.259	0.259	INTERSECTION	LEFT	ROUTE 0955 (PORTAGE LAKEFRONT WEST PARKING AREA)
0.267	0.267	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.267	0.267	SIGN	RIGHT	REGULATORY, AREA CLOSED
0.267	0.267	GATE	N/A	N/A
0.269	0.269	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.277	0.461	CURB-AND-GUTTER	RIGHT	N/A
0.278	0.461	CURB-AND-GUTTER	LEFT	N/A
0.283	0.283	DROP INLET	LEFT	N/A
0.283	0.283	DROP INLET	RIGHT	N/A
0.301	0.301	DROP INLET	RIGHT	N/A
0.301	0.301	DROP INLET	LEFT	N/A
0.323	0.323	DROP INLET	LEFT	N/A
0.323	0.323	DROP INLET	RIGHT	N/A
0.344	0.344	DROP INLET	LEFT	N/A
0.344	0.344	DROP INLET	RIGHT	N/A

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0016AZ: PORTAGE LAKEFRONT ENTRANCE ROAD A

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.365	0.365	DROP INLET	LEFT	N/A
0.365	0.365	DROP INLET	RIGHT	N/A
0.414	0.504	GUARD/GUIDE RAIL	LEFT	N/A
0.416	0.416	DROP INLET	LEFT	N/A
0.416	0.416	DROP INLET	RIGHT	N/A
0.441	0.441	DROP INLET	LEFT	N/A
0.441	0.441	DROP INLET	RIGHT	N/A
0.465	0.465	DROP INLET	LEFT	N/A
0.465	0.465	DROP INLET	RIGHT	N/A
0.511	0.511	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.563	0.563	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.575	0.575	SIGN	LEFT	REGULATORY, SPEED LIMIT 20
0.587	0.587	INTERSECTION	RIGHT	ROUTE 0953 (PORTAGE LAKEFRONT NORTH PARKING AREA)
0.612	0.612	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.612	0.612	SIGN	RIGHT	WARNING, NO PARKING IN TRAFFIC CIRCLE
0.621	0.621	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.621	0.621	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.625	0.625	INTERSECTION	N/A	ROUTE 0016BZ (PORTAGE LAKEFRONT ENTRANCE ROAD B)
0.625	0.625	DROP INLET	LEFT	N/A
0.625	0.625	ROUTE END	N/A	TO BEGINNING OF ROUTE 0016BZ (PORTAGE LAKEFRONT ENTRANCE ROAD B)

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0207AZ: GOOD FELLOW CAMP ROAD IDELC

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 5218 (HOWE ROAD)
0.000	0.046	ONE-WAY	N/A	N/A
0.000	0.000	INTERSECTION	LEFT	ROUTE 5218 (HOWE ROAD)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 5218 (HOWE ROAD)
0.002	0.002	CULVERT	N/A	N/A
0.014	0.014	SIGN	RIGHT	GUIDE, RESTRICTED ACCESS SCHEDULED GROUPS ONLY
0.046	0.046	INTERSECTION	LEFT	ROUTE 0207BZ (GOOD FELLOW CAMP EXIT ROAD IDELC)
0.053	0.053	SIGN	LEFT	REGULATORY, KEEP RIGHT
0.067	0.067	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.180	0.180	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.208	0.208	CULVERT	N/A	N/A
0.301	0.301	INTERSECTION	LEFT	ROUTE 0207CZ (GOOD FELLOW CAMP ROAD TURNAROUND IDELC)
0.326	0.326	SIGN	RIGHT	GUIDE, VISITOR PARKING VISITOR DROPOFF
0.328	0.328	SIGN	LEFT	GUIDE, ADMINISTRATION OFFICE
0.335	0.335	INTERSECTION	RIGHT	ROUTE 0951 (IDELC OVERFLOW PARKING)
0.339	0.339	SIGN	RIGHT	GUIDE, LEARNING CENTER KEEP RIGHT
0.381	0.381	INTERSECTION	LEFT	ROUTE 0927CZ (IDELC (GOOD FELLOW CAMP) PARKING C)
0.382	0.382	SIGN	RIGHT	GUIDE, VISITOR DROPOFF
0.390	0.390	SIGN	LEFT	REGULATORY, SPEED LIMIT 15
0.397	0.397	INTERSECTION	RIGHT	ROUTE 0207DZ (GOOD FELLOW CAMP LOOP IDELC)
0.405	0.405	SIGN	LEFT	REGULATORY, DO NOT ENTER SERVICE ROAD
0.413	0.413	INTERSECTION	LEFT	UNPAVED ROUTE (SERVICE ROAD)
0.421	0.421	INTERSECTION	LEFT	ROUTE 0927AZ (IDELC (GOOD FELLOW CAMP) PARKING A)
0.429	0.429	SIGN	RIGHT	REGULATORY, DO NOT ENTER
0.432	0.432	INTERSECTION	RIGHT	ROUTE 0207DZ (GOOD FELLOW CAMP LOOP IDELC)
0.435	0.435	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.437	0.437	SIGN	RIGHT	REGULATORY, AUTHORIZED VEHICLES
0.437	0.437	INTERSECTION	N/A	ROUTE 0411 (GOOD FELLOW GRAVEL SERVICE ROAD)
0.437	0.437	ROUTE END	N/A	TO ROUTE 0411 (GOOD FELLOW GRAVEL SERVICE ROAD)

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0207BZ: GOOD FELLOW CAMP EXIT ROAD IDELC

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)
0.000	0.000	INTERSECTION	N/A	ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)
0.000	0.050	ONE-WAY	N/A	N/A
0.000	0.000	INTERSECTION	LEFT	ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)
0.043	0.043	INTERSECTION	LEFT	ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)
0.050	0.050	INTERSECTION	LEFT	ROUTE 5218 (HOWE ROAD)
0.050	0.050	SIGN	RIGHT	REGULATORY, STOP FASTEN YOUR SEAT BELTS
0.050	0.050	INTERSECTION	RIGHT	ROUTE 5218 (HOWE ROAD)
0.050	0.050	ROUTE END	N/A	TO ROUTE 5218 (HOWE ROAD)

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0207DZ: GOOD FELLOW CAMP LOOP IDELC

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)
0.000	0.097	ONE-WAY	N/A	N/A
0.035	0.035	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.044	0.054	GUARD/GUIDE WALL	RIGHT	N/A
0.047	0.047	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.058	0.066	GUARD/GUIDE WALL	RIGHT	N/A
0.063	0.077	PULLOUT	RIGHT	N/A
0.074	0.078	GUARD/GUIDE WALL	RIGHT	N/A
0.095	0.095	SIGN	RIGHT	REGULATORY, STOP
0.097	0.097	INTERSECTION	N/A	ROUTE 0927AZ (IDELC (GOOD FELLOW CAMP) PARKING A)
0.097	0.097	INTERSECTION	RIGHT	ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)
0.097	0.097	INTERSECTION	LEFT	ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)
0.097	0.097	ROUTE END	N/A	TO ROUTE 0207AZ (GOOD FELLOW CAMP ROAD IDELC)

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0210AZ: CENTRAL AVENUE A

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 5209 (BEVERLY DRIVE)
0.000	0.000	SIGN	LEFT	GUIDE, BEVERLY RD
0.000	0.000	INTERSECTION	LEFT	ROUTE 5209 (BEVERLY DRIVE)
0.000	0.000	INTERSECTION	N/A	PAVED ROUTE (CENTRAL AVE / NON NPS)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 5209 (BEVERLY DRIVE)
0.000	0.000	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.003	0.003	SIGN	LEFT	REGULATORY, STOP
0.003	0.003	SIGN	LEFT	REGULATORY, 4-WAY
0.013	0.013	SIGN	RIGHT	REGULATORY, NO PARKING EITHER SIDE
0.067	0.067	SIGN	RIGHT	REGULATORY, TOW-AWAY ZONE
0.067	0.067	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.101	0.101	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.121	0.121	SIGN	RIGHT	REGULATORY, TOW-AWAY ZONE
0.121	0.121	SIGN	RIGHT	REGULATORY, NO PARKING
0.134	0.134	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.145	0.145	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.145	0.145	SIGN	RIGHT	REGULATORY, TOW-AWAY ZONE
0.176	0.176	SIGN	RIGHT	REGULATORY, NO PARKING
0.200	0.200	SIGN	RIGHT	REGULATORY, TOW-AWAY ZONE
0.200	0.200	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.201	0.201	SIGN	LEFT	REGULATORY, TOW-AWAY ZONE
0.201	0.201	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.219	0.224	GUARD/GUIDE WALL	LEFT	N/A
0.225	0.225	INTERSECTION	LEFT	ROUTE 0915 (CENTRAL BEACH PARKING)
0.226	0.226	INTERSECTION	N/A	ROUTE 0210BZ (CENTRAL AVENUE B)
0.226	0.226	SIGN	LEFT	GUIDE, INDIANA DUNES NATIONAL LAKESHORE CENTRAL BEACH
0.226	0.226	ROUTE END	N/A	TO BEGINNING OF ROUTE 0210BZ (CENTRAL AVENUE B)

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0212: KEMIL ROAD (300 EAST ROAD)

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM U.S. HIGHWAY 20
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (U.S. HIGHWAY 20)
0.000	0.000	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (U.S. HIGHWAY 20)
0.004	0.004	SIGN	LEFT	REGULATORY, STOP
0.004	0.004	SIGN	LEFT	GUIDE, 300 E
0.007	0.007	SIGN	N/A	GUIDE, 300 E
0.021	0.021	CULVERT	N/A	N/A
0.022	0.022	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.029	0.029	INTERSECTION	LEFT	ROUTE 5213 (FURNESSVILLE ROAD / NON NPS)
0.029	0.029	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.029	0.029	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.053	0.053	SIGN	LEFT	GUIDE, BIKE ROUTE
0.060	0.060	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
0.092	0.092	SIGN	RIGHT	GUIDE, ENTERING INDIANA DUNES NATIONAL LAKESHORE
0.093	0.093	SIGN	LEFT	GUIDE, LEAVING INDIANA DUNES NATIONAL LAKESHORE
0.265	0.265	SIGN	RIGHT	REGULATORY, SPEED LIMIT 35
0.265	0.265	SIGN	RIGHT	REGULATORY, RADAR CONTROLLED
0.372	0.372	INTERSECTION	LEFT	ROUTE 0400 (GUN RANGE ROAD)
0.586	0.586	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.679	0.679	SIGN	RIGHT	WARNING, PEDESTRIAN SLOW CROSSING
0.690	0.690	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.700	0.700	SIGN	RIGHT	WARNING, STOP AHEAD
0.711	0.711	SIGN	LEFT	REGULATORY, RADAR CONTROLLED
0.711	0.711	SIGN	LEFT	REGULATORY, SPEED LIMIT 35
0.738	0.741	GUARD/GUIDE WALL	LEFT	N/A
0.748	0.748	INTERSECTION	LEFT	ROUTE 0904 (CALUMET DUNES INTERPRETER CENTER PARKING)
0.753	0.753	SIGN	RIGHT	GUIDE, U.S. 12 U.S. 28
0.756	0.756	SIGN	LEFT	REGULATORY, ONE WAY

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0212: KEMIL ROAD (300 EAST ROAD)

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.757	0.757	SIGN	LEFT	REGULATORY, ONE WAY
0.779	0.779	SIGN	LEFT	REGULATORY, ONE WAY
0.780	0.780	INTERSECTION	RIGHT	ROUTE 0905 (CALUMET DUNES INTERPRETER CENTER OVERFLOW PARKING)
0.781	0.781	SIGN	LEFT	REGULATORY, ONE WAY
0.782	0.782	INTERSECTION	LEFT	ROUTE 0904 (CALUMET DUNES INTERPRETER CENTER PARKING)
0.791	0.791	SIGN	RIGHT	GUIDE, INDIANA DUNES NATIONAL LAKESHORE KEMIL BEACH 1 MI. BAILLEY/CHELLBERG FARM 5 MI. MT. BALDY 5 MI.
0.795	0.795	SIGN	RIGHT	GUIDE, BIKE ROUTE
0.795	0.795	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.801	0.801	SIGN	RIGHT	REGULATORY, CROSS TRAFFIC DOES NOT STOP
0.806	0.806	SIGN	LEFT	GUIDE, 300 E
0.810	0.810	SIGN	RIGHT	REGULATORY, STOP
0.814	0.814	INTERSECTION	N/A	ROUTE 5211 (EAST STATE PARK ROAD (300 EAST ROAD))
0.814	0.814	INTERSECTION	RIGHT	PAVED ROUTE (U.S. HIGHWAY 12)
0.814	0.814	INTERSECTION	LEFT	PAVED ROUTE (U.S. HIGHWAY 12)
0.814	0.814	ROUTE END	N/A	TO U.S. HIGHWAY 12

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0213: FURNESSVILLE ROAD (1500 NORTH ROAD)

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM INTERSECTION OF ROUTE 5220 (SCHOOL HOUSE ROAD (275 E)) AND ROUTE 5213 (FURNESSVILLE ROAD / NON NPS)
0.000	0.000	INTERSECTION	LEFT	ROUTE 5220 (SCHOOL HOUSE ROAD (275 E))
0.000	0.000	INTERSECTION	N/A	ROUTE 5213 (FURNESSVILLE ROAD / NON NPS)
0.022	0.022	SIGN	LEFT	WARNING, SCHOOL BUS STOP AHEAD
0.026	0.026	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.026	0.026	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.057	0.057	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
0.057	0.057	SIGN	RIGHT	REGULATORY, RADAR CONTROLLED
0.169	0.169	CULVERT	N/A	N/A
0.172	0.172	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.293	0.293	INTERSECTION	RIGHT	ROUTE 0939 (ROADS AND TRAILS PARKING)
0.381	0.381	INTERSECTION	LEFT	UNPAVED ROUTE
0.448	0.448	SIGN	LEFT	REGULATORY, SPEED LIMIT 25
0.448	0.448	SIGN	LEFT	REGULATORY, RADAR CONTROLLED
0.501	0.501	INTERSECTION	RIGHT	ROUTE 0214 (TEALE ROAD)
0.520	0.520	SIGN	RIGHT	REGULATORY, RADAR CONTROLLED
0.520	0.520	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
0.553	0.553	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.621	0.621	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.697	0.697	SIGN	LEFT	REGULATORY, SPEED LIMIT 25
0.752	0.752	INTERSECTION	LEFT	PAVED ROUTE (N COUNTY ROAD 200 E STREET / NON NPS)
0.755	0.755	SIGN	LEFT	GUIDE, 1500 N
0.755	0.755	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.784	0.784	SIGN	RIGHT	REGULATORY, SPEED LIMIT 25
0.907	0.907	SIGN	LEFT	WARNING, NO PASSING ZONE
0.938	0.938	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
1.010	1.010	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
1.074	1.112	GUARD/GUIDE RAIL	RIGHT	N/A
1.235	1.235	SIGN	LEFT	REGULATORY, SPEED LIMIT 25

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0213: FURNESSVILLE ROAD (1500 NORTH ROAD)

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
1.252	1.252	INTERSECTION	LEFT	PAVED ROUTE (HADENFELT ROAD / NON NPS)
1.253	1.253	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
1.277	1.277	SIGN	LEFT	GUIDE, ENTERING INDIANA DUNES NATIONAL LAKESHORE
1.287	1.287	SIGN	RIGHT	REGULATORY, STOP
1.290	1.290	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
1.295	1.295	INTERSECTION	LEFT	PAVED ROUTE (U.S. HIGHWAY 12)
1.295	1.295	INTERSECTION	RIGHT	PAVED ROUTE (U.S. HIGHWAY 12)
1.295	1.295	SIGN	LEFT	GUIDE, FORNESSVILLE RD
1.295	1.295	ROUTE END	N/A	TO U.S. HIGHWAY 12

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0222AZ: DUNEWOOD CAMPGROUND ACCESS ROAD LOOP AZ

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 5219 (DUNEWOOD AMPHITHEATER ACCESS ROAD / BROADWAY)
0.000	0.063	ONE-WAY	N/A	N/A
0.000	0.011	GUARD/GUIDE WALL	RIGHT	N/A
0.000	0.000	SIGN	RIGHT	GUIDE, INDIANA DUNES NATIONAL LAKESHORE CAMPGROUNDS
0.000	0.000	INTERSECTION	LEFT	ROUTE 5219 (DUNEWOOD AMPHITHEATER ACCESS ROAD / BROADWAY)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 5219 (DUNEWOOD AMPHITHEATER ACCESS ROAD / BROADWAY)
0.006	0.006	GATE	N/A	N/A
0.007	0.007	SIGN	RIGHT	REGULATORY, KEEP RIGHT
0.008	0.008	SIGN	RIGHT	REGULATORY, CLOSED
0.017	0.019	GUARD/GUIDE WALL	LEFT	N/A
0.020	0.020	INTERSECTION	LEFT	ROUTE 0222BZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP BZ)
0.022	0.022	SIGN	LEFT	GUIDE, REGISTRATION/INFORMATION
0.023	0.023	INTERSECTION	LEFT	PAVED SPUR
0.026	0.026	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.034	0.034	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.035	0.035	INTERSECTION	RIGHT	ROUTE 0900Z (DUNEWOOD CAMPGROUND ACCESS PARKING)
0.039	0.039	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.045	0.045	SIGN	N/A	GUIDE, ALCOHOLIC BEVERAGES PROHIBITED BEBIDAS ALCOHOLICAS PROHIBIDAS
0.055	0.055	SIGN	RIGHT	REGULATORY, STOP
0.063	0.063	INTERSECTION	RIGHT	ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)
0.063	0.063	SIGN	N/A	GUIDE, DOUGLAS LOOP MATHER LOOP WALK-IN CAMP RV DUMP STATION
0.063	0.063	SIGN	N/A	REGULATORY, SPEED LIMIT 15
0.063	0.063	INTERSECTION	LEFT	ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)
0.063	0.063	ROUTE END	N/A	TO ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0222BZ: DUNEWOOD CAMPGROUND ACCESS ROAD LOOP BZ

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM INTERSECTION OF ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A) AND ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)
0.000	0.037	ONE-WAY	N/A	N/A
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)
0.000	0.000	SIGN	N/A	GUIDE, DOUGLAS LOOP WALK-IN LOOP MATHER LOOP R.V. DUMP STATION
0.020	0.020	SIGN	RIGHT	REGULATORY, EXIT
0.023	0.023	INTERSECTION	LEFT	PAVED SPUR
0.023	0.030	GUARD/GUIDE WALL	LEFT	N/A
0.037	0.037	INTERSECTION	N/A	ROUTE 0222AZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP AZ)
0.037	0.037	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.037	0.037	SIGN	RIGHT	REGULATORY, STOP
0.037	0.037	ROUTE END	N/A	TO ROUTE 0222AZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP AZ)

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0222Z: DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0222BZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP BZ) AND ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0222BZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP BZ)
0.000	0.000	INTERSECTION	N/A	ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)
0.014	0.014	SIGN	LEFT	REGULATORY, EXIT
0.026	0.026	SIGN	LEFT	GUIDE, R.V. DUMP STATION
0.036	0.036	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
0.045	0.046	GUARD/GUIDE WALL	LEFT	N/A
0.052	0.052	SIGN	LEFT	GUIDE, GRAPHIC SIGN NO TEXT
0.066	0.066	SIGN	LEFT	REGULATORY, SPEED LIMIT 15
0.098	0.098	SIGN	RIGHT	REGULATORY, CAUTION WINDS MAY CAUSE TREE LIMBS TO FALL CAUSING PROPERTY DAMAGE OR INJURY
0.117	0.117	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.132	0.132	SIGN	RIGHT	GUIDE, DOUGLAS LOOP WALK- IN CAMP
0.133	0.133	SIGN	RIGHT	GUIDE, MATHER LOOP SITED 1-34 DOUGLAS LOOP SITES 35-54 WALK-IN SITES 55-79
0.146	0.146	INTERSECTION	LEFT	ROUTE 0237Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP D (DOUGLAS LOOP))
0.159	0.159	GATE	N/A	N/A
0.160	0.160	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.162	0.162	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.168	0.168	SIGN	LEFT	GUIDE, DOUGLAS LOOP WALK-IN CAMP
0.177	0.177	SIGN	LEFT	REGULATORY, SPEED LIMIT 15
0.188	0.197	GUARD/GUIDE WALL	LEFT	N/A
0.221	0.221	CULVERT	N/A	N/A
0.230	0.230	INTERSECTION	LEFT	ROUTE 0410 (DUNEWOOD SERVICE ROAD)
0.236	0.236	SIGN	LEFT	REGULATORY, DO NOT ENTER SERVICE ROAD
0.246	0.246	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.285	0.285	SIGN	RIGHT	GUIDE, MATHER LOOP
0.288	0.288	SIGN	LEFT	REGULATORY, DO NOT ENTER

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0222Z: DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.288	0.288	SIGN	LEFT	REGULATORY, SPEED LIMIT 15
0.288	0.288	SIGN	LEFT	GUIDE, ALCOHOLIC BEVERAGES PROHIBITED BEBIDAS ALCOHOLICAS PROHIBIDAS
0.288	0.288	INTERSECTION	LEFT	ROUTE 0238Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP B (MATHER LOOP))
0.288	0.288	INTERSECTION	N/A	ROUTE 0238Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP B (MATHER LOOP))
0.288	0.288	SIGN	LEFT	REGULATORY, ONE WAY
0.288	0.288	ROUTE END	N/A	TO ROUTE 0238Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP B (MATHER LOOP))

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0223Z: DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A) AND ROUTE 0223BZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP BZ)
0.000	0.000	INTERSECTION	N/A	ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0222BZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP BZ)
0.019	0.019	SIGN	RIGHT	REGULATORY, DO NOT ENTER
0.022	0.022	INTERSECTION	RIGHT	ROUTE 0222AZ (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP AZ)
0.028	0.028	SIGN	RIGHT	REGULATORY, DO NOT ENTER
0.039	0.039	SIGN	RIGHT	GUIDE, RESERVED FOR CAMP HOST NO FUNDS KEPT BY CAMP HOST
0.084	0.084	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
0.084	0.084	SIGN	RIGHT	GUIDE, TRAILER SANITARY STATION
0.141	0.141	SIGN	RIGHT	WARNING, SLOW
0.167	0.167	SIGN	LEFT	REGULATORY, DO NOT ENTER
0.172	0.172	INTERSECTION	LEFT	ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)
0.180	0.180	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.212	0.223	PULLOUT	RIGHT	N/A
0.216	0.287	ONE-WAY	N/A	N/A
0.220	0.222	GUARD/GUIDE WALL	RIGHT	N/A
0.224	0.224	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
0.243	0.257	CURB	LEFT	N/A
0.253	0.263	PULLOUT	RIGHT	N/A
0.253	0.253	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.255	0.255	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.279	0.279	SIGN	RIGHT	REGULATORY, YIELD
0.287	0.287	INTERSECTION	LEFT	ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)
0.287	0.287	INTERSECTION	RIGHT	ROUTE 0223Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP C)
0.287	0.287	ROUTE END	N/A	TO END OF LOOP

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0237Z: DUNEWOOD CAMPGROUND ACCESS ROAD LOOP D (DOUGLA

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A)
0.000	0.000	SIGN	N/A	REGULATORY, SPEED LIMIT 15
0.000	0.000	SIGN	N/A	REGULATORY, EXIT
0.000	0.000	INTERSECTION	LEFT	ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A)
0.000	0.000	SIGN	N/A	GUIDE, R.V. DUMP STATION MATHER LOOP
0.007	0.007	SIGN	LEFT	REGULATORY, STOP
0.013	0.013	GATE	N/A	N/A
0.014	0.014	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.014	0.014	SIGN	RIGHT	REGULATORY, AREA CLOSED
0.026	0.026	INTERSECTION	LEFT	ROUTE 0237Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP D (DOUGLAS LOOP))
0.026	0.317	ONE-WAY	N/A	N/A
0.030	0.030	SIGN	N/A	REGULATORY, SPEED LIMIT 15
0.030	0.030	SIGN	N/A	REGULATORY, ONE WAY
0.030	0.030	SIGN	N/A	GUIDE, ALCOHOLIC BEVERAGES PROHIBITED BEBIDAS ALCOHOLICAS PROHIBIDAS
0.092	0.092	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.148	0.148	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.168	0.180	PULLOUT	LEFT	N/A
0.178	0.178	SIGN	LEFT	REGULATORY, TOW-AWAY ZONE
0.178	0.178	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.188	0.188	SIGN	LEFT	REGULATORY, TOW-AWAY ZONE
0.188	0.188	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.193	0.193	INTERSECTION	RIGHT	ROUTE 0903Z (DUNEWOOD WALK-IN PARKING)
0.204	0.204	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.204	0.204	SIGN	LEFT	REGULATORY, TOW-AWAY ZONE
0.205	0.226	GUARD/GUIDE WALL	LEFT	N/A
0.205	0.228	PULLOUT	LEFT	N/A

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0237Z: DUNEWOOD CAMPGROUND ACCESS ROAD LOOP D (DOUGLA

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.231	0.231	SIGN	LEFT	GUIDE, RESERVED FOR CAMP HOST NO FUNDS KEPT BY CAMP HOST
0.235	0.235	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.297	0.311	PULLOUT	LEFT	N/A
0.311	0.311	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.313	0.313	SIGN	RIGHT	REGULATORY, DO NOT ENTER
0.313	0.313	SIGN	RIGHT	REGULATORY, YIELD
0.317	0.317	INTERSECTION	LEFT	ROUTE 0237Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP D (DOUGLAS LOOP))
0.317	0.317	INTERSECTION	RIGHT	ROUTE 0237Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP D (DOUGLAS LOOP))
0.317	0.317	ROUTE END	N/A	TO END OF LOOP

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0238Z: DUNEWOOD CAMPGROUND ACCESS ROAD LOOP B (MATHER

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM END OF ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROADS)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0238Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP B (MATHER LOOP))
0.000	0.000	INTERSECTION	N/A	ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A)
0.000	0.407	ONE-WAY	N/A	N/A
0.005	0.005	SIGN	LEFT	REGULATORY, DO NOT ENTER
0.148	0.148	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.265	0.274	PULLOUT	LEFT	N/A
0.273	0.273	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.318	0.335	PULLOUT	LEFT	N/A
0.318	0.336	GUARD/GUIDE WALL	LEFT	N/A
0.333	0.333	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.345	0.350	GUARD/GUIDE WALL	RIGHT	N/A
0.404	0.404	SIGN	RIGHT	REGULATORY, YIELD
0.407	0.407	INTERSECTION	LEFT	ROUTE 0238Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP B (MATHER LOOP))
0.407	0.407	INTERSECTION	RIGHT	ROUTE 0222Z (DUNEWOOD CAMPGROUND ACCESS ROAD LOOP A)
0.407	0.407	SIGN	N/A	REGULATORY, EXIT
0.407	0.407	SIGN	N/A	REGULATORY, SPEED LIMIT 15
0.407	0.407	ROUTE END	N/A	TO END OF LOOP

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0240: WAHL FARM ACCESS ROAD

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 5218 (HOWE ROAD) AT MP 0.6 ON RIGHT
0.000	0.000	INTERSECTION	N/A	ROUTE 5218 (HOWE ROAD)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 5218 (HOWE ROAD)
0.000	0.000	SIGN	N/A	WARNING, GRAPHIC SIGN NO TEXT
0.000	0.000	SIGN	N/A	REGULATORY, NO PARKING ANY TIME
0.000	0.000	SIGN	N/A	WARNING, SLIPPERY WHEN WET
0.000	0.086	ONE-WAY	N/A	N/A
0.027	0.027	SIGN	LEFT	REGULATORY, DO NOT ENTER
0.029	0.029	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.030	0.030	SIGN	LEFT	GUIDE, FIELD STATION COOPERATIVE PRESCHOOL.
0.076	0.076	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.079	0.079	SIGN	N/A	GUIDE, INDIANA DUNES NATIONAL LAKESHORE
0.080	0.080	SIGN	LEFT	REGULATORY, DO NOT ENTER
0.086	0.086	INTERSECTION	LEFT	ROUTE 0952 (CALUMET RIVER TRAIL PARKING)
0.108	0.108	SIGN	RIGHT	REGULATORY, STOP
0.121	0.121	INTERSECTION	LEFT	ROUTE 5218 (HOWE ROAD)
0.121	0.121	INTERSECTION	RIGHT	ROUTE 5218 (HOWE ROAD)
0.121	0.121	SIGN	LEFT	GUIDE, PARKING/TRAILHEADS LITTLE CAMULET RIVER TRAIL
0.121	0.121	ROUTE END	N/A	TO ROUTE 5218 (HOWE ROAD) AT MP 0.7

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0404: WEST BEACH SERVICE ACCESS ROAD

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0014ZZ (WEST BEACH ACCESS ROADS) ON RIGHT AND ROUTE 0923 (WEST BEACH VISITOR PARKING)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0014Z (WEST BEACH ACCESS ROAD)
0.000	0.000	INTERSECTION	N/A	ROUTE 0923 (WEST BEACH VISITOR PARKING)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0014Z (WEST BEACH ACCESS ROAD)
0.009	0.032	RETAINING WALL	LEFT	N/A
0.024	0.027	GUARD/GUIDE WALL	LEFT	N/A
0.037	0.037	SIGN	RIGHT	REGULATORY, REGULATIONS NO GLASSES NO ALCOHOL NO FIRES/GRILLS/FIREWORKS
0.086	0.086	SIGN	RIGHT	REGULATORY, DANGER PELIGRO WHITE WATER KILLS DO NOT SWIM WHEN SURF IS BREAKING
0.176	0.176	INTERSECTION	LEFT	ROUTE 0404 (WEST BEACH SERVICE ACCESS ROAD)
0.176	0.319	ONE-WAY	N/A	N/A
0.319	0.319	INTERSECTION	N/A	ROUTE 0404 (WEST BEACH SERVICE ACCESS ROAD)
0.319	0.319	INTERSECTION	LEFT	ROUTE 0404 (WEST BEACH SERVICE ACCESS ROAD)
0.319	0.319	ROUTE END	N/A	TO END OF LOOP

INDU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0406: WEST BEACH SERVICE ROAD

Notice: Culverts and drop inlets were marked by NPS and inventoried by RIP in Cycle 5 on all paved routes.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0014ZZ (WEST BEACH ACCESS ROADS)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0014Z (WEST BEACH ACCESS ROAD)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0014Z (WEST BEACH ACCESS ROAD)
0.048	0.048	INTERSECTION	RIGHT	ROUTE 0944 (WEST BEACH SERVICE PARKING)
0.063	0.063	CULVERT	N/A	N/A
0.120	0.120	INTERSECTION	N/A	ROUTE 0925 (WEST BEACH MAINTENANCE BUILDING PARKING)
0.120	0.120	ROUTE END	N/A	TO ROUTE 0925 (WEST BEACH MAINTENANCE BUILDING PARKING)

Section 10 Appendix



Indiana Dunes National Lakeshore



Federal Lands Highway
Road Inventory Program

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

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

In an effort to improve the accuracy of treatment recommendations and pavement condition descriptions in relation to the distresses and indexes that comprise the Pavement Condition Rating (PCR), an extensive study was completed throughout 2010 that 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. 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.

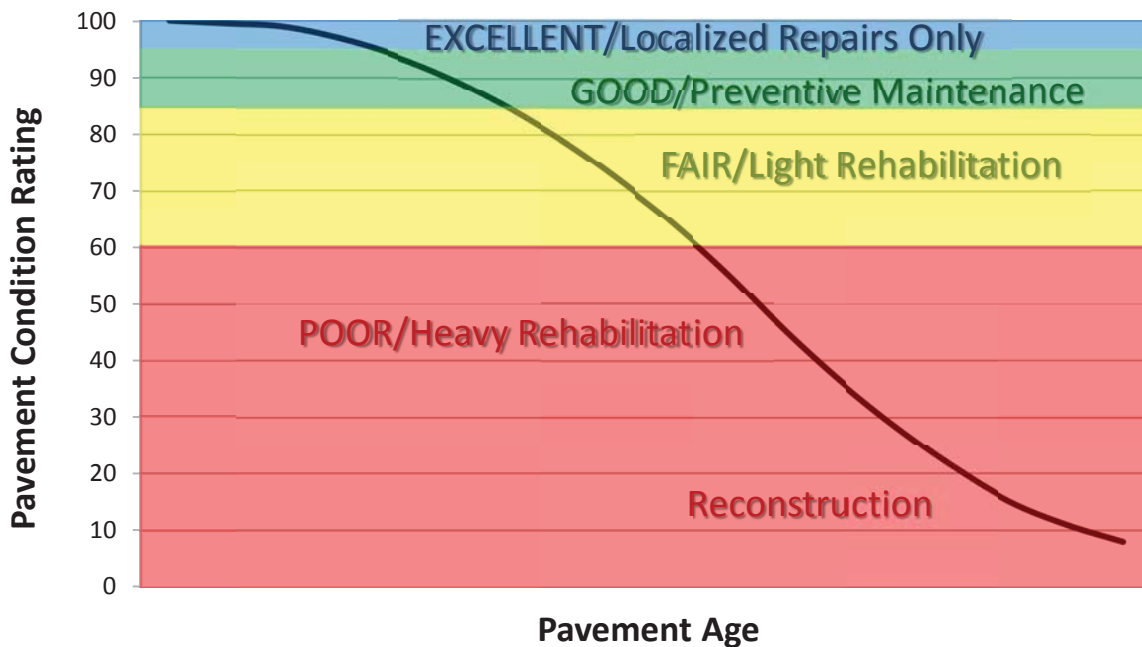
Explanation of the Excellent, Good, Fair and Poor Condition Descriptions

In addition to the RIP Index changes that were implemented in Cycle 5, we will 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.

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), National Park Service Road Inventory Program (NPS-RIP), collects condition data on paved roads, parkways, and parking areas in park units nationwide. Road surface condition data is collected using an automated Data Collection Vehicle (DCV). Roads having brick, cobblestone, or wood surfaces are not normally surveyed with the DCV, but are manually rated for the purpose of assigning a condition rating. Unpaved roads, parkways, and parking areas are not currently being evaluated for condition. Paved campground pads and driveways are also not currently being evaluated for condition.

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 high 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. The FHWA RIP distress types are similar to those described in the LTPP manual with some modifications. The 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 NPS-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, 231 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:

$$\text{Asphalt PCR} = (0.60 * \text{SCR}) + (0.40 * \text{RCI})$$

$$\text{Concrete PCR} = \text{RCI}$$

A detailed description of each distress index formula, roughness index formula, SCR and PCR is provided in this document beginning on page 8.

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:

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

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

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

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

TABLE 1: Distress Summary

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

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

ALLIGATOR CRACKING

Description

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

Severity Levels

LOW

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

MEDIUM

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

HIGH

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

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

TABLE 2: Alligator Crack Severity Levels

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

LONGITUDINAL CRACKING

Description

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

Severity Levels

LOW

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

MED

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

HIGH

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

TRANSVERSE CRACKING

Description

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

Severity Levels

LOW

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

MED

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

HIGH

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

PATCHING AND POTHOLES

Description

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

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

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

Longitudinal Crack Index

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

Where:

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

These values are ≥ 0 and can exceed 100.

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

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

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

Percent of interval length is computed as:

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

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

Structural Crack Index

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

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

Transverse Crack Index

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

Where:

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

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

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

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

Number of cracks is computed as:

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

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

Patching Index

$$\text{PATCH_INDEX} = 100 - 40 * (\% \text{PATCHING} / 80)$$

Where:

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

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

Percent of total area is computed as:

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

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

$$\text{RUT_INDEX} = 100 - 40 * [(\% \text{LOW} / 535) + (\% \text{MED} / 205) + (\% \text{HI} / 40)]$$

Where:

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

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

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

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

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

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

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

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

Roughness Condition Index (Asphalt)

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

Where:

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

Average IRI is computed as:

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

There is no applicable threshold for failure for this index.

Roughness Condition Index (Concrete)

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

For concrete, PCR = RCI

Surface Condition Rating Index

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

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

Where:

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

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

Data Collection Vehicle Subsystems

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

CAMERAS

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

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

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

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

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

DMI (Distance Measuring Instrument)

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

ROUGHNESS (IRI)

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

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

RUTTING

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

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

GPS & INERTIAL SYSTEMS

GPS is collected by an onboard system employing OmniSTAR real-time correction and a gyroscope (spin-type) to provide accurate positioning data (pitch/roll/heading) 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	+ - 0.5 degrees
Grade	+ - 0.5 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. Paved campground pads and driveways are not typically included in the inventory or GPS.

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 tabular 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. The metadata portion of the geodatabase also includes data dictionary report functionality that formats the metadata into an easy to read report.

GLOSSARY OF TERMS AND ABBREVIATIONS

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