



**national park service**

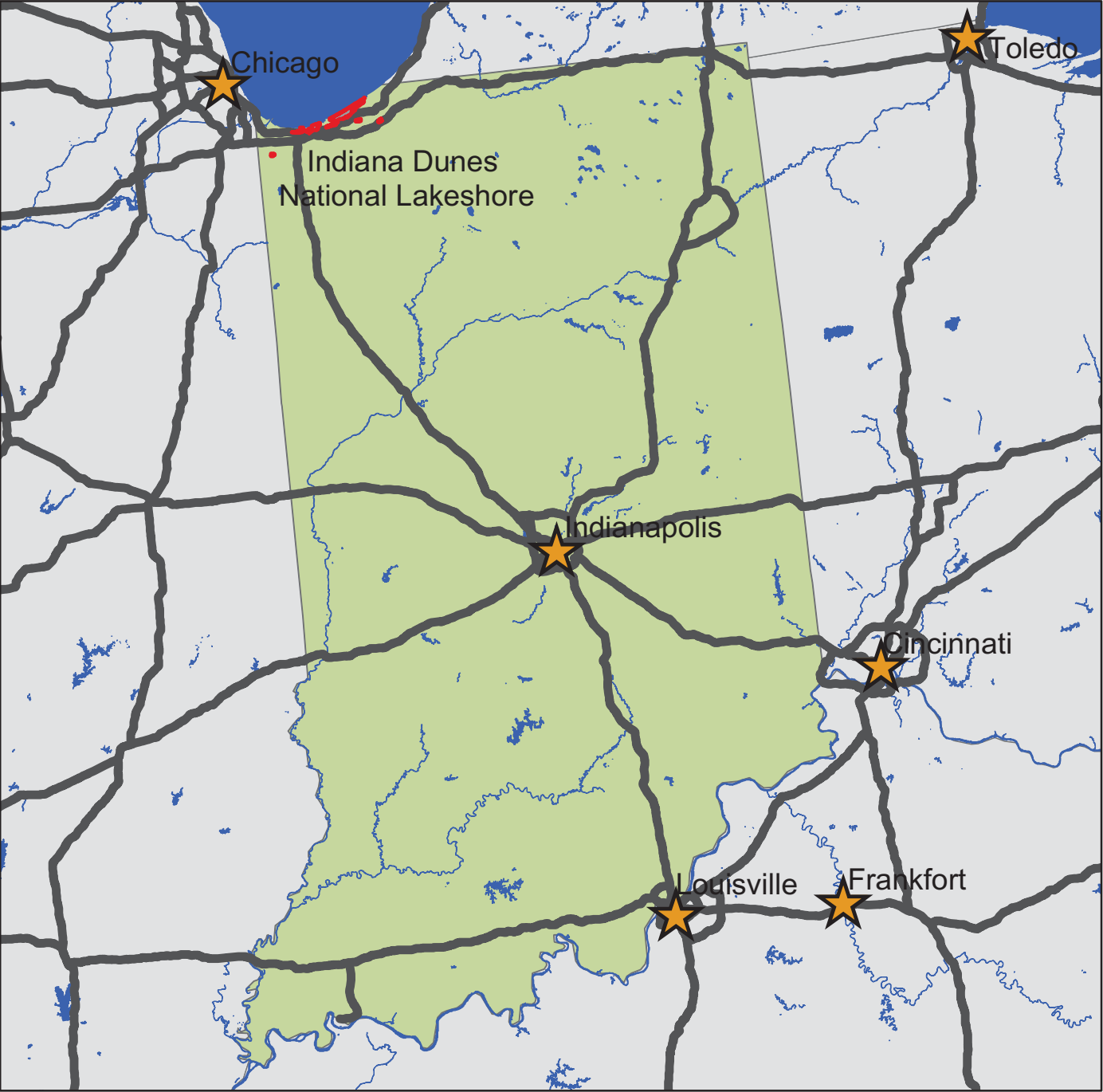
**The Road Inventory  
of  
Indiana Dunes National Lakeshore  
INDU – 6300  
Cycle 4**



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



# Indiana Dunes National Lakeshore in Indiana





## TABLE OF CONTENTS

	<b><u>SECTION</u></b>	<b><u>PAGE</u></b>
1.	<b>INTRODUCTION</b>	<b>1 - 1</b>
2.	<b>PARK SUMMARY INFORMATION</b>	
	Paved Route Miles and Percentages by Functional Class and PCR	2 - 1
	ARAN Road Condition Summary	2 - 2
	Parkwide Condition Summary	2 - 5
	Cycle 2 vs Cycle 3 vs Cycle 4 Condition Comparisons	2 - 6
3.	<b>PARK ROUTE LOCATION / CONDITION MAPS</b>	
	Route Location Key Map	3 - 1
	Route Location Area Map	3 - 2
	Route Condition Key Map – PCR Mile by Mile	3 - 6
	Route Condition Area Map – PCR Mile by Mile	3 - 7
4.	<b>PARK ROUTE INVENTORY</b>	
	Route Identification Report	4 - 1
5.	<b>PAVED ROUTE CONDITION RATING SHEETS (CRS)</b>	
	CRS Pages	5 - 1
6.	<b>MANUALLY RATED PAVED ROUTE CONDITION RATING SHEETS (MRR)</b>	
	MRR Pages	6 - 1
7.	<b>PARKING AREA CONDITION RATING SHEETS</b>	
	Paved Parking Area Pages	7 - 1
8.	<b>PARKWIDE / ROUTE MAINTENANCE FEATURES SUMMARIES</b>	
	Parkwide Maintenance Features Summary	8 - 1
	Route Maintenance Features Summary	8 - 2
	Structure List	8 - 5
9.	<b>PARK ROUTE MAINTENANCE FEATURES ROAD LOGS</b>	
	Route Maintenance Features Road Logs	9 - 1
10.	<b>APPENDIX</b>	
	A. Glossary of Terms and Abbreviations	10 - 1
	B. Description of Rating System	10 - 2
	C. General Information on RIP Systems	10 - 8
	D. Metadata	10 - 11

# Indiana Dunes National Lakeshore



## **Section 1** **Introduction**

## INTRODUCTION

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

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

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

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

Since 1984, the RIP Program has been funded through the Federal Lands Highway Program's Park Roads and Parkways (PRP) Program. Currently, the NPS Washington Headquarters' Park Facility Management Division is responsible for coordinating the RIP program with the FLH. The FLH Washington office coordinates policy and prepares national reports and needs assessment studies for congress.

In 1998, the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) amended Title 23 U.S.C., and inserted Section 204(a)(6) which requires the Federal Highway Administration and the National Park Service, to develop, by rule, a Pavement Management System (PMS) for the park roads and parkways serving the National Park System. As a result of the requirements in TEA-21, the NPS and FHWA are in the process of developing a PMS. The PMS will assist the decision-makers in effectively spending limited PRP Program funds. The PMS

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

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

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

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

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

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

The FHWA RIP Team

FHWA/EFLHD  
21400 Ridgetop Circle  
Sterling, VA 20166  
(703) 404-6371

FHWA/CFLHD  
12300 West Dakota Ave.  
Lakewood, CO 80228  
(720) 963-3560

# Indiana Dunes National Lakeshore



## **Section 2**

### **Park Summary Information**

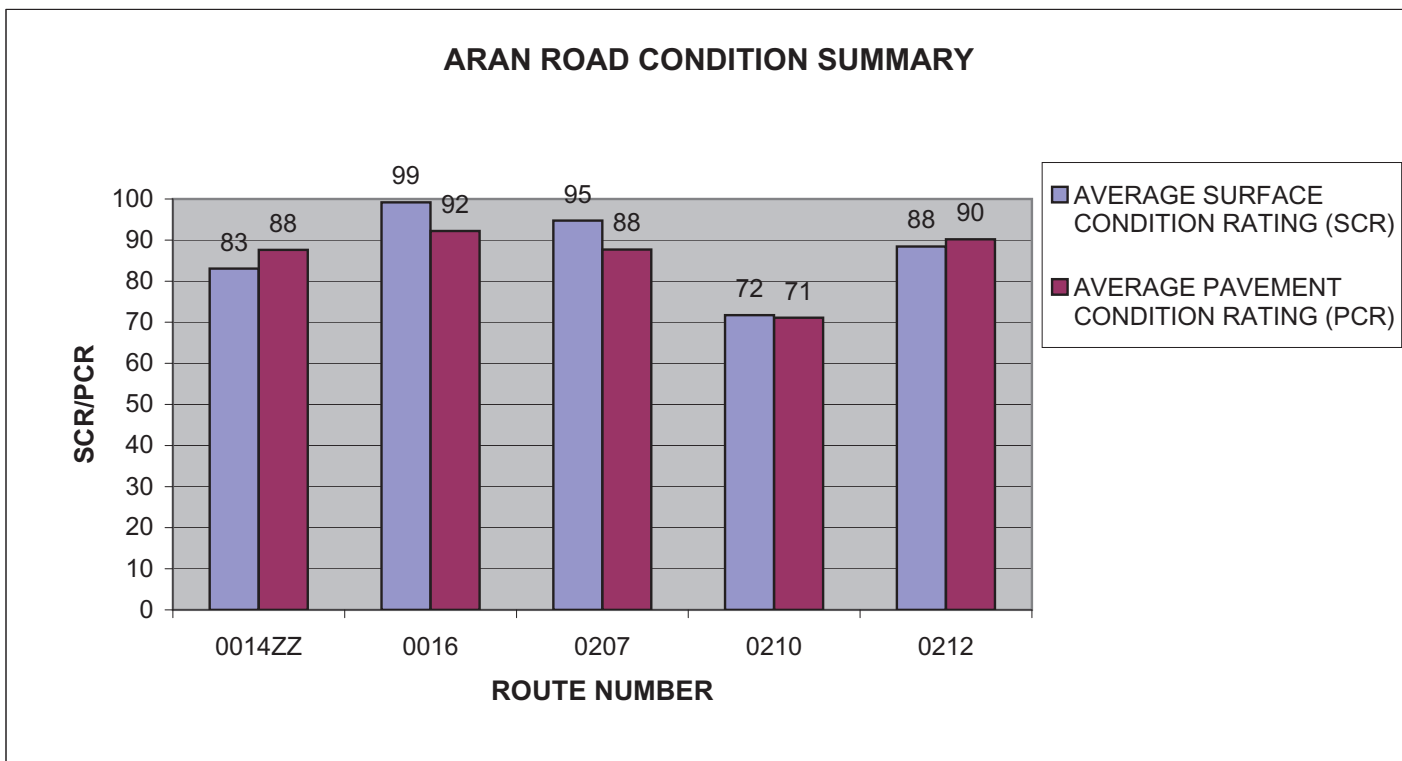
**INDU: PAVED ROUTE MILES AND PERCENTAGES  
BY FUNCTIONAL CLASS AND PCR**

F.C.	Pavement Condition Rating (PCR)								TOTAL MILES
	Poor (<=60)		Fair (61-84)		Good (85-94)		Excellent (95-100)		
	MILES	%	MILES	%	MILES	%	MILES	%	
1	0.02	0.22%	0.60	6.49%	1.04	11.26%	0.49	5.30%	2.15
2	2.96	32.03%	0.77	8.33%	0.84	9.09%	0.51	5.52%	5.08
3	0.44	4.76%	0.55	5.95%	0.32	3.46%	0.16	1.73%	1.47
4	0.06	0.65%	0.32	3.46%	0.04	0.43%	0.02	0.22%	0.44
5	0.06	0.65%	0.02	0.22%	0.02	0.22%			0.10
6									
7									
8									
<b>Totals</b>	<b>3.54</b>	<b>38.31%</b>	<b>2.26</b>	<b>24.46%</b>	<b>2.26</b>	<b>24.46%</b>	<b>1.18</b>	<b>12.77%</b>	<b>9.24</b>



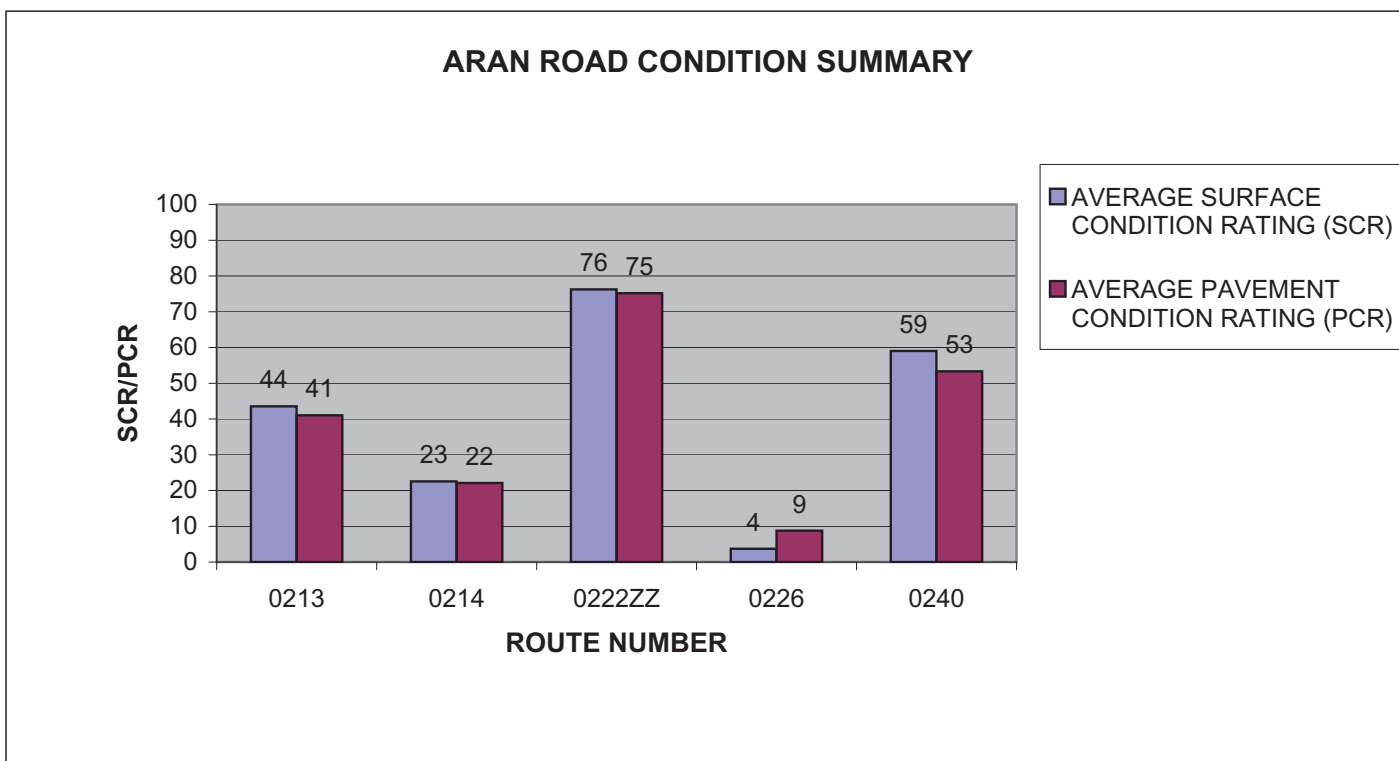
# INDU: ARAN ROAD CONDITION SUMMARY

ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	ROUTE LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0014ZZ	WEST BEACH ACCESS ROADS	1	1.55	ASPHALT	83	88
0016	PORTAGE LAKEFRONT ENTRANCE ROAD	1	0.70	ASPHALT	99	92
0207	GOOD FELLOW CAMP ROAD IDELC	2	0.44	ASPHALT	95	88
0210	CENTRAL AVENUE	2	0.92	ASPHALT	72	71
0212	KEMIL ROAD (300 EAST ROAD)	2	0.81	ASPHALT	88	90



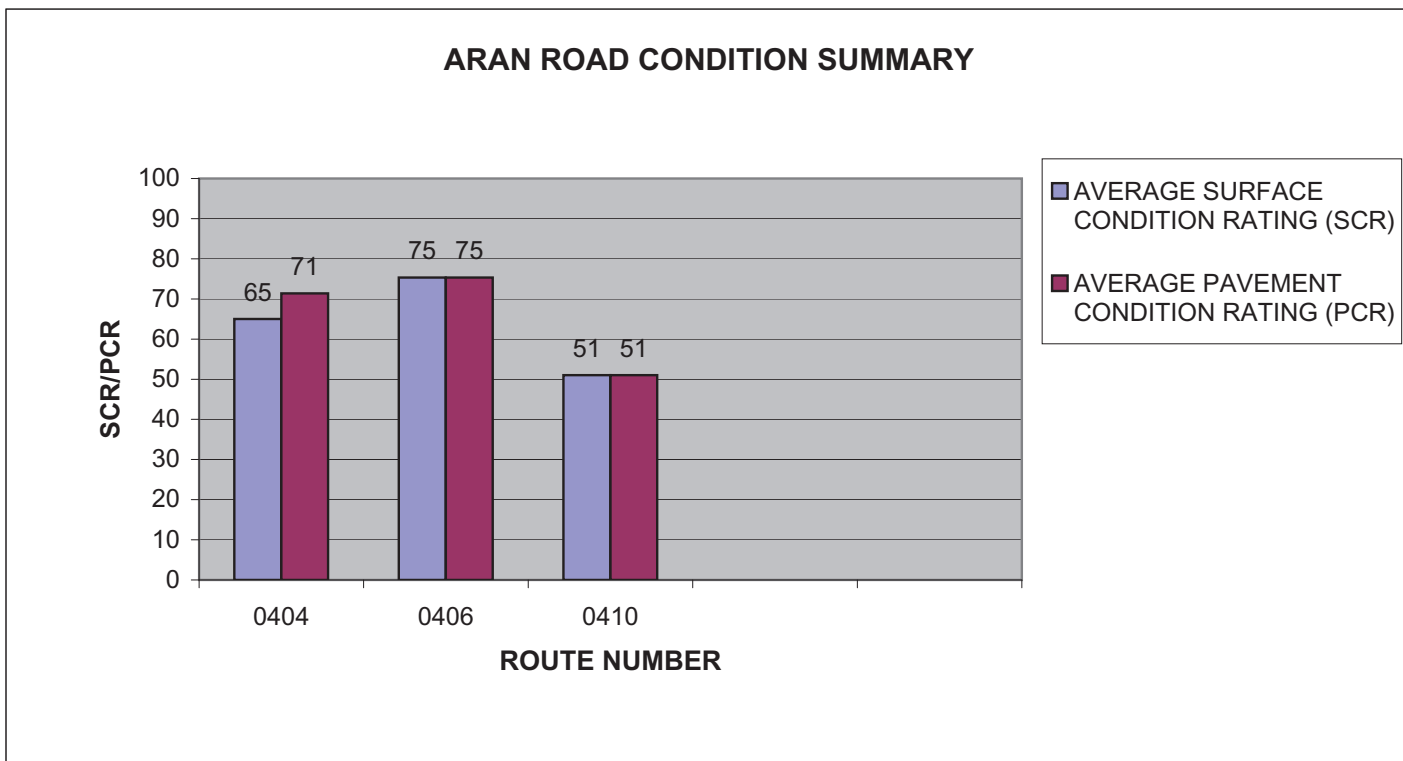
# INDU: ARAN ROAD CONDITION SUMMARY

ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	ROUTE LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0213	FURNESSVILLE ROAD (1500 NORTH ROAD)	2	1.55	ASPHALT	44	41
0214	TEALE ROAD	2	0.37	ASPHALT	23	22
0222ZZ	DUNEWOOD CAMPGROUND ACCESS ROADS	3	1.35	ASPHALT	76	75
0226	SOUTH STATE PARK ROAD (1500 NORTH ROAD)	2	0.99	ASPHALT	4	9
0240	WAHL FARM ACCESS ROAD	3	0.12	ASPHALT	59	53



# INDU: ARAN ROAD CONDITION SUMMARY

ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	ROUTE LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0404	WEST BEACH SERVICE ACCESS ROAD	4	0.32	ASPHALT	65	71
0406	WEST BEACH SERVICE ROAD	4	0.12	ASPHALT	75	75
0410	DUNEWOOD SERVICE ROAD	5	0.1	ASPHALT	51	51

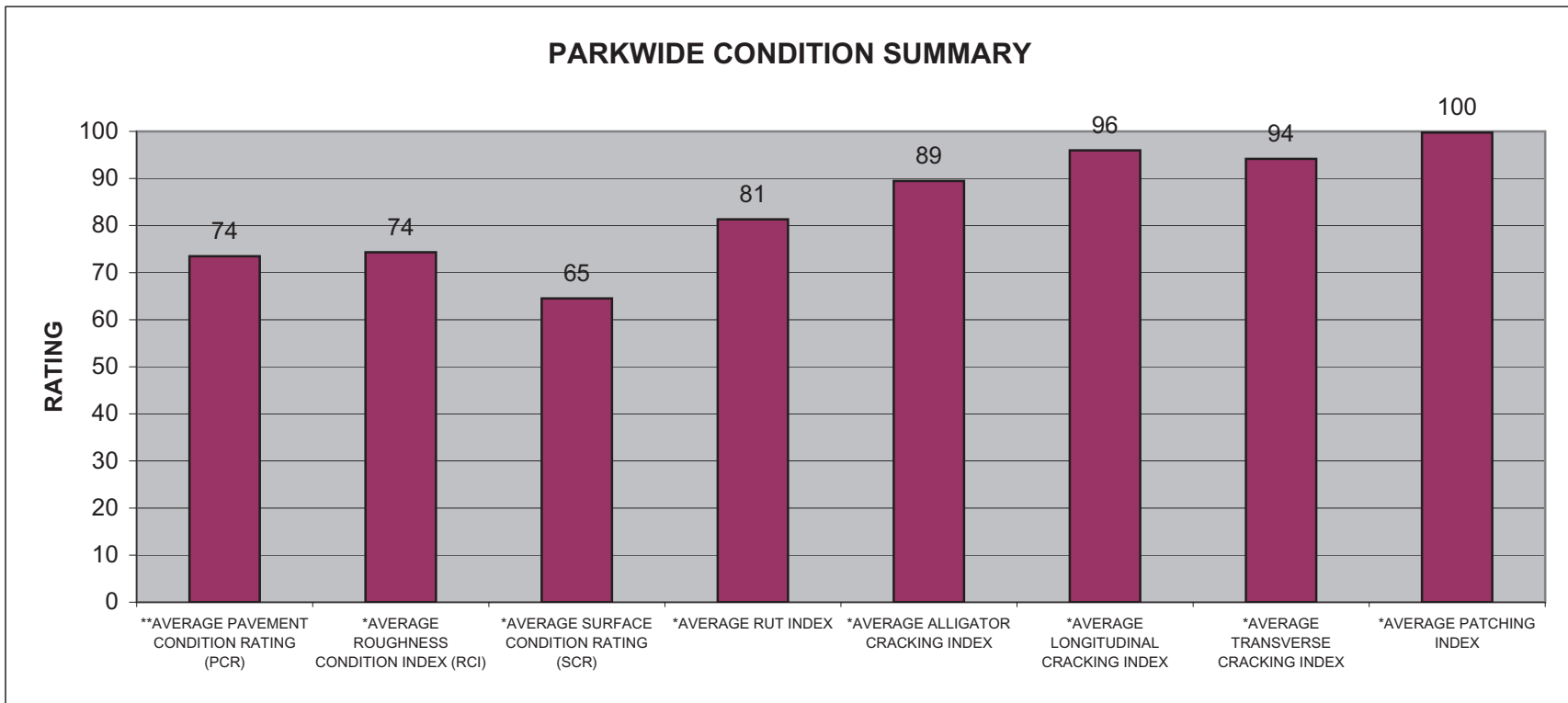


# INDU: PARKWIDE CONDITION SUMMARY

**AVERAGE PAVEMENT CONDITION RATING (PCR)	*AVERAGE ROUGHNESS CONDITION INDEX (RCI)	*AVERAGE SURFACE CONDITION RATING (SCR)	*AVERAGE RUT INDEX	*AVERAGE ALLIGATOR CRACKING INDEX	*AVERAGE LONGITUDINAL CRACKING INDEX	*AVERAGE TRANSVERSE CRACKING INDEX	*AVERAGE PATCHING INDEX
74	74	65	81	89	96	94	100

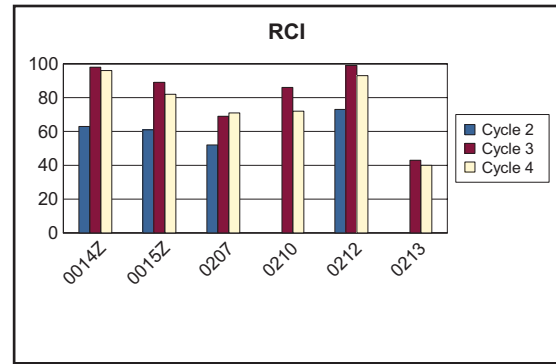
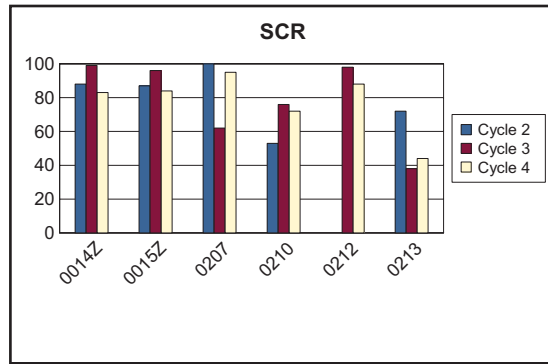
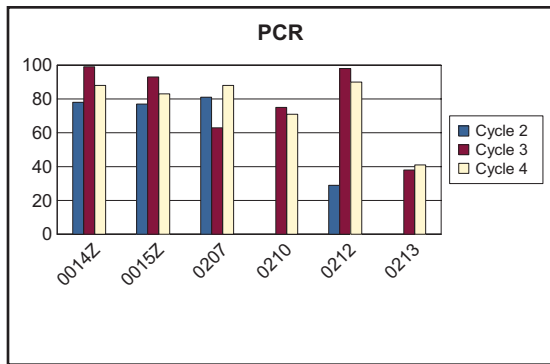
\*\* PCR Index is based on all ARAN-driven roads, parking areas, and manually rated routes.

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



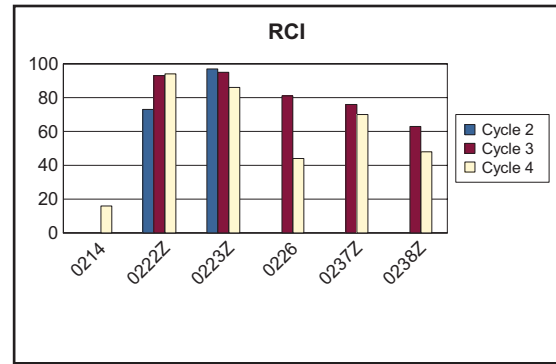
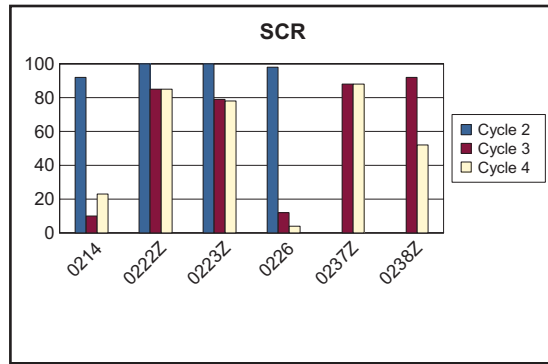
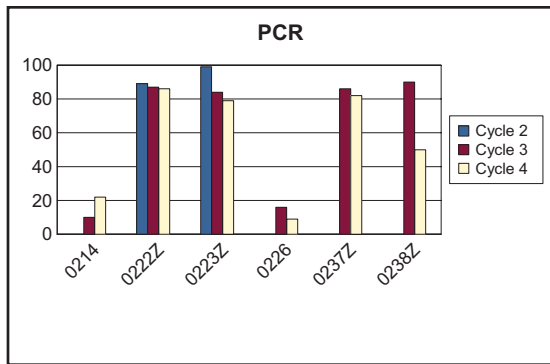
# INDU CYCLE 2 vs CYCLE 3 vs CYCLE 4 CONDITION COMPARISONS

ROUTE NUMBER	PAVED MILES	FROM MILEPOST	TO MILEPOST	PAVEMENT CONDITION RATING (PCR)				SURFACE CONDITION RATING (SCR)				ROUGHNESS CONDITION INDEX (RCI)				COMMENT
				CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	
0014Z	1.36	0.00	1.36	78	99	88	-11%	88	99	83	-16%	63	98	96	-2%	Route 0014Z was Route 0014 in Cycle 3.
0015Z	0.19	0.00	0.19	77	93	83	-11%	87	96	84	-13%	61	89	82	-8%	Route 0015Z was Route 0015 in Cycle 3.
0207	0.44	0.00	0.44	81	63	88	+40%	100	62	95	+53%	52	69	71	+3%	
0210	0.93	0.00	0.93	N/A	75	71	-5%	53	76	72	-5%	N/A	86	72	-16%	
0212	0.82	0.00	0.82	29	98	90	-8%	0	98	88	-10%	73	99	93	-6%	
0213	1.55	0.00	1.55	N/A	38	41	+8%	72	38	44	+16%	N/A	43	40	-7%	



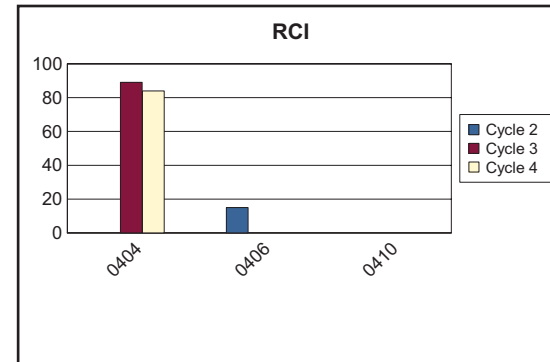
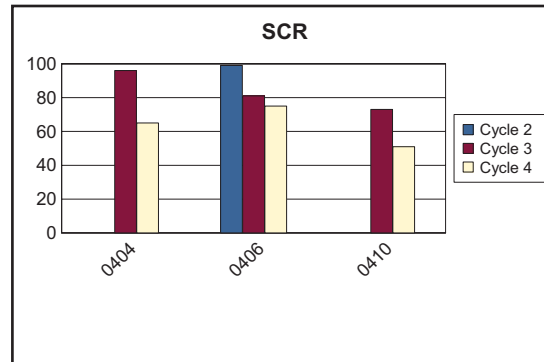
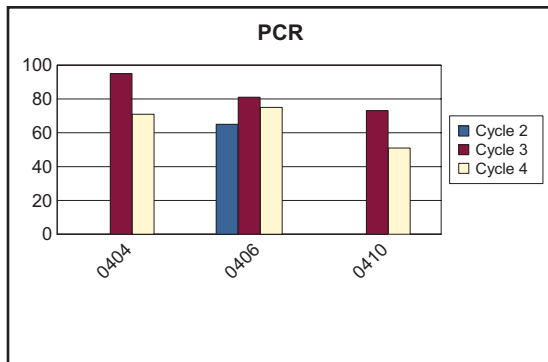
# INDU CYCLE 2 vs CYCLE 3 vs CYCLE 4 CONDITION COMPARISONS

ROUTE NUMBER	PAVED MILES	FROM MILEPOST	TO MILEPOST	PAVEMENT CONDITION RATING (PCR)				SURFACE CONDITION RATING (SCR)				ROUGHNESS CONDITION INDEX (RCI)				COMMENT
				CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	CYCLE 2	CYCLE 3	CYCLE 4	PERCENT CHANGE	
0214	0.38	0.00	0.38	N/A	10	22	+120%	92	10	23	+130%	N/A	N/A	16	N/A	No RCI collected in Cycle 3.
0222Z	0.34	0.00	0.34	89	87	86	-1%	100	85	85	0%	73	93	94	1%	Route 0222Z was Route 0222 in Cycle 3.
0223Z	0.28	0.00	0.28	99	84	79	-6%	100	79	78	-1%	97	95	86	-9%	Route 0223Z was Route 0223 in Cycle 3.
0226	0.99	0.00	0.99	N/A	16	9	-44%	98	12	4	-67%	N/A	81	44	-46%	
0237Z	0.32	0.00	0.32	N/A	86	82	-5%	N/A	88	88	0%	N/A	76	70	-8%	Route 0237Z was Route 0237 in Cycle 3.
0238Z	0.41	0.00	0.41	N/A	90	50	-44%	N/A	92	52	-43%	N/A	63	48	-24%	Route 0238Z was Route 0238 in Cycle 3.



# INDU CYCLE 2 vs CYCLE 3 vs CYCLE 4 CONDITION COMPARISONS

ROUTE NUMBER	PAVED MILES	FROM MILEPOST	TO MILEPOST	PAVEMENT CONDITION RATING (PCR)			PERCENT CHANGE	SURFACE CONDITION RATING (SCR)			PERCENT CHANGE	ROUGHNESS CONDITION INDEX (RCI)			COMMENT	
				CYCLE 2	CYCLE 3	CYCLE 4		CYCLE 2	CYCLE 3	CYCLE 4		CYCLE 2	CYCLE 3	CYCLE 4		
0404	0.32	0.00	0.32	N/A	95	71	-25%	N/A	96	65	-32%	N/A	89	84	-6%	
0406	0.12	0.00	0.12	65	81	75	-7%	99	81	75	-7%	15	N/A	N/A	N/A	No RCI collected in Cycle 3 or Cycle 4.
0410	0.10	0.00	0.10	N/A	73	51	-30%	N/A	73	51	-30%	N/A	N/A	N/A	N/A	No RCI collected in Cycle 3 or Cycle 4.



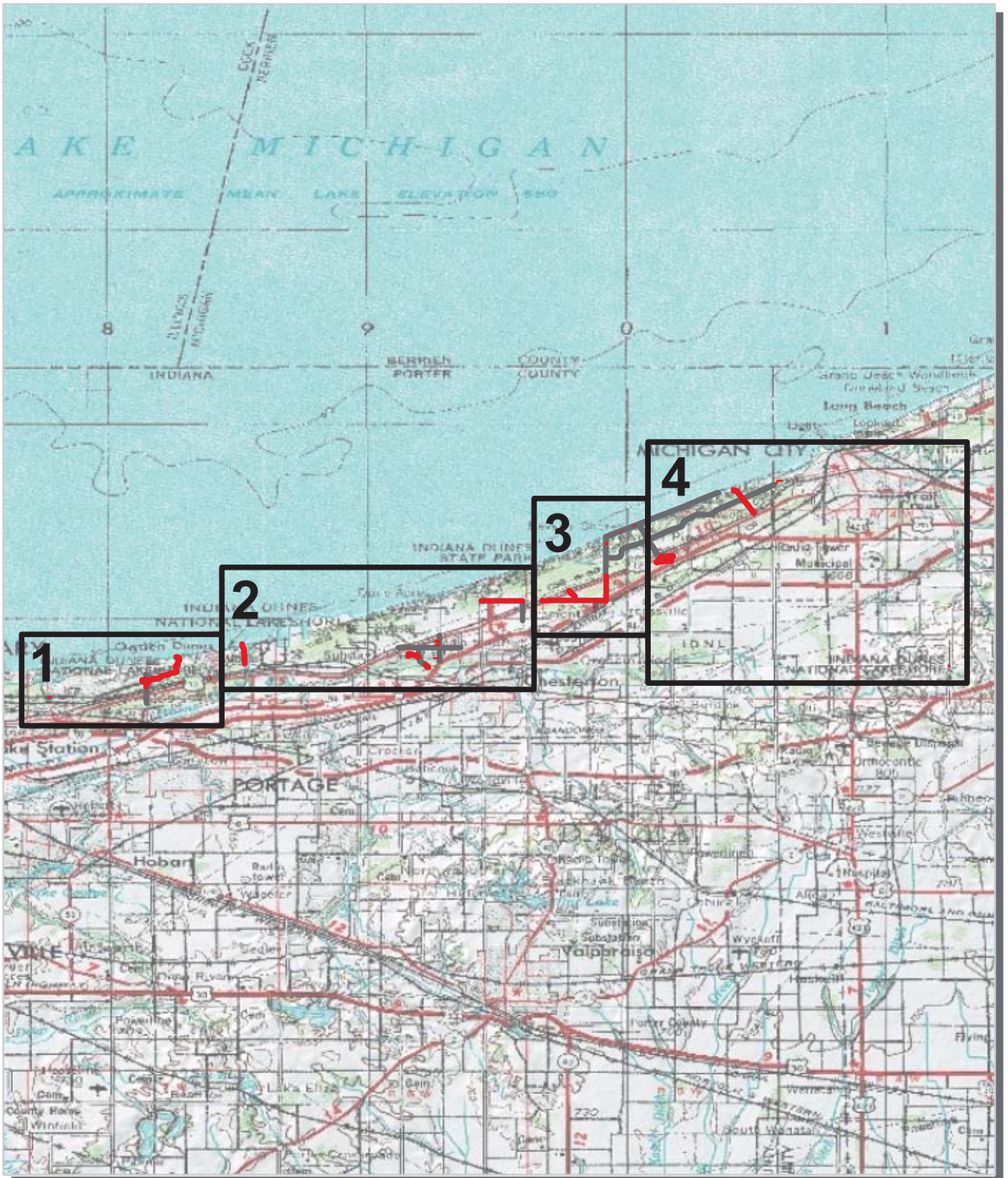
# Indiana Dunes National Lakeshore



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



# Indiana Dunes National Lakeshore Route Location Map Key Map



 Park Owned Routes





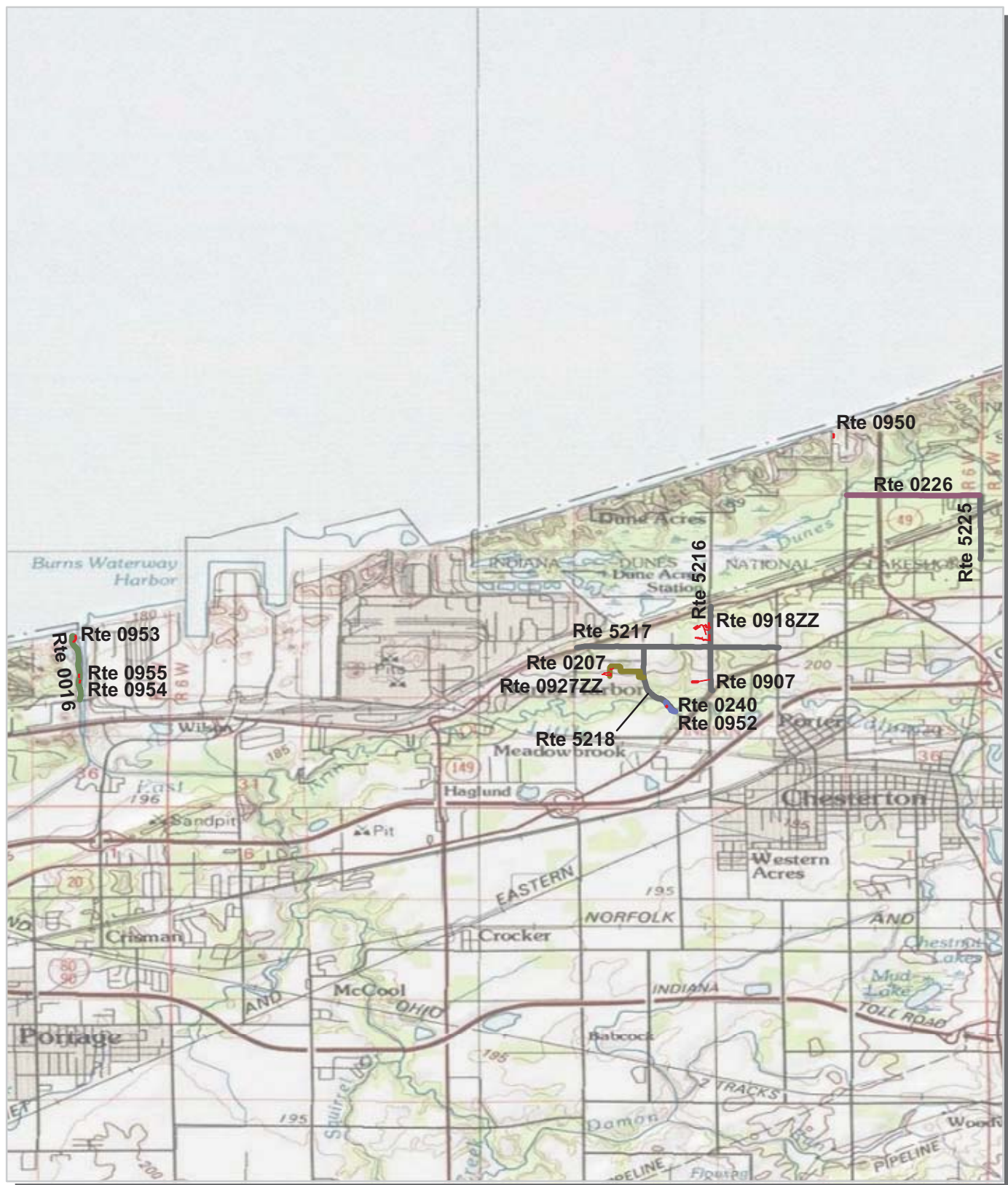
# Indiana Dunes National Lakeshore Route Location Map Area 1



Unique colors used to differentiate routes



# Indiana Dunes National Lakeshore Route Location Map Area 2



Unique colors used to differentiate routes





# Saratoga National Historical Park Route Location Map Area 3



Unique colors used to differentiate routes





# Indiana Dunes National Lakeshore Route Location Map Area 4

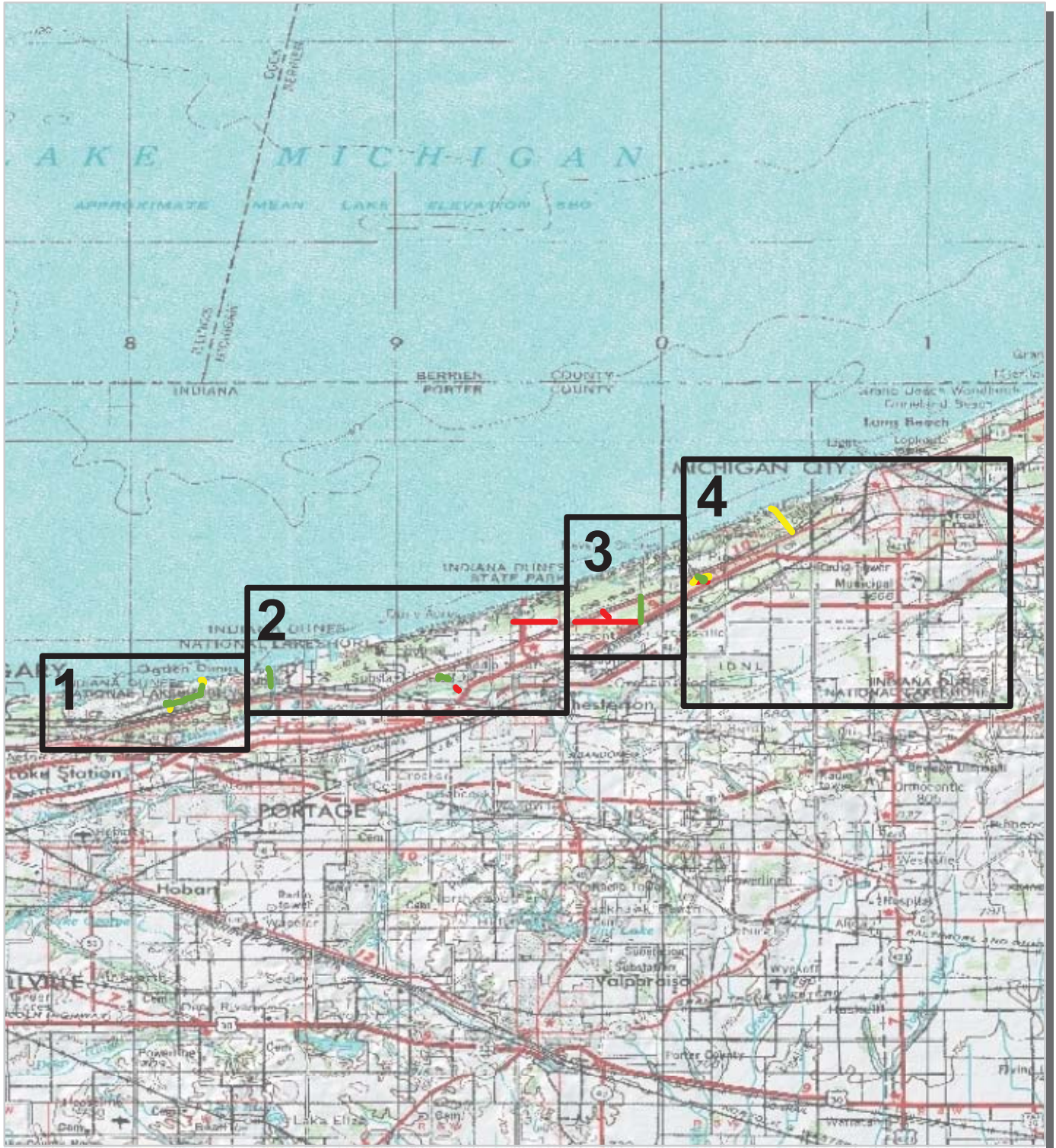


Unique colors used to differentiate routes





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



PCR	Poor	<span style="color: red;">■</span>	Fair	<span style="color: yellow;">■</span>	Good	<span style="color: green;">■</span>	Excellent	<span style="color: blue;">■</span>	No Data	<span style="background-color: black; color: black;">■</span>
	(<=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 1

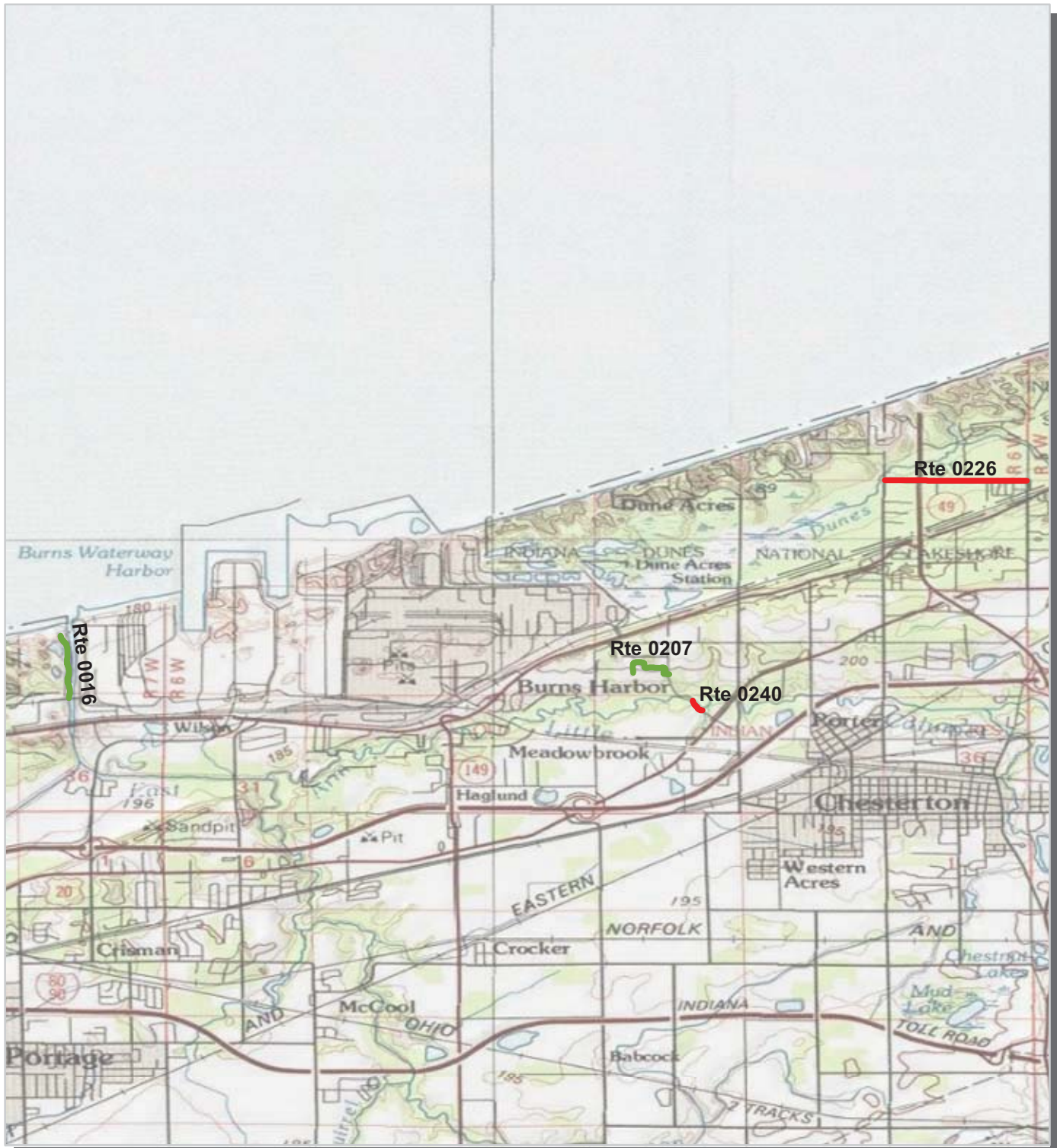


PCR	Poor	Fair	Good	Excellent	No Data
	(≤60)	(61 - 84)	(85 - 94)	(95 - 100)	

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



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



PCR	Poor	<span style="display: inline-block; width: 15px; height: 15px; background-color: red; border: 1px solid black;"></span>	Fair	<span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black;"></span>	Good	<span style="display: inline-block; width: 15px; height: 15px; background-color: green; border: 1px solid black;"></span>	Excellent	<span style="display: inline-block; width: 15px; height: 15px; background-color: blue; border: 1px solid black;"></span>	No Data	<span style="display: inline-block; width: 15px; height: 15px; background-color: black; border: 1px solid black;"></span>
	(<=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 (≤60)	<span style="display: inline-block; width: 15px; height: 15px; background-color: red; border: 1px solid black;"></span>	Fair (61 - 84)	<span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black;"></span>	Good (85 - 94)	<span style="display: inline-block; width: 15px; height: 15px; background-color: green; border: 1px solid black;"></span>	Excellent (95 - 100)	<span style="display: inline-block; width: 15px; height: 15px; background-color: blue; border: 1px solid black;"></span>	No Data	<span style="display: inline-block; width: 15px; height: 15px; background-color: black; border: 1px solid black;"></span>
-----	---------------	---	-------------------	--	-------------------	---	-------------------------	--	---------	---

\* 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



Rte 022ZZ

Rte 0410

Rte 0210

PCR	Poor	Fair	Good	Excellent	No Data
	( $\leq 60$ )	(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



## **Section 4** **Park Route Inventory**