Federal Lands Highway

Road Inventory Program

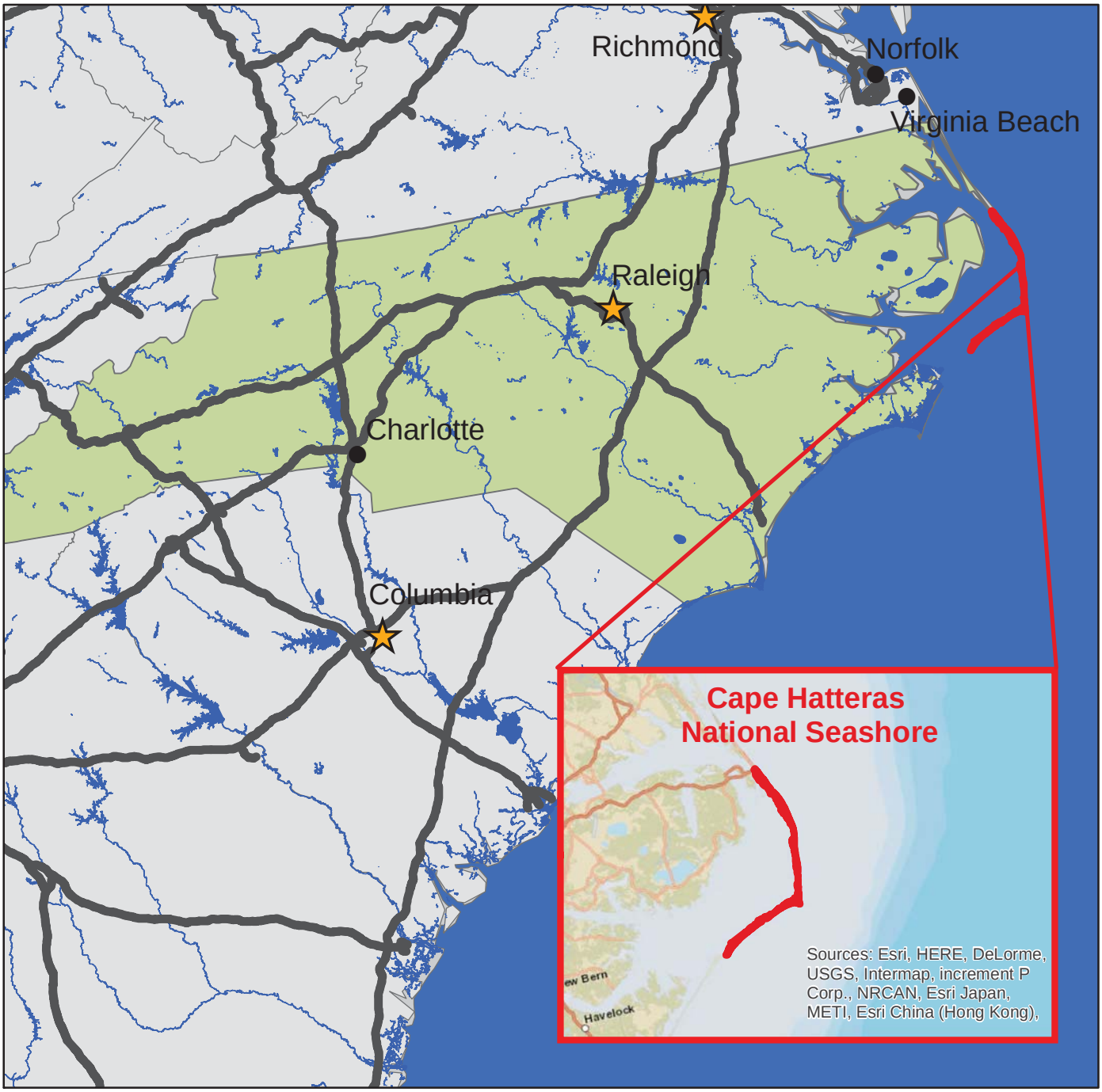
Road Inventory and Condition Assessment

Cape Hatteras National Seashore
CAHA

Cycle 5 Report

Prepared By: Federal Highway Administration
Road Inventory Program (RIP)
Data Collected: 01/2014
Report Date: 09/2014

Cape Hatteras National Seashore
in
North Carolina



DCV = Data Collection Vehicle

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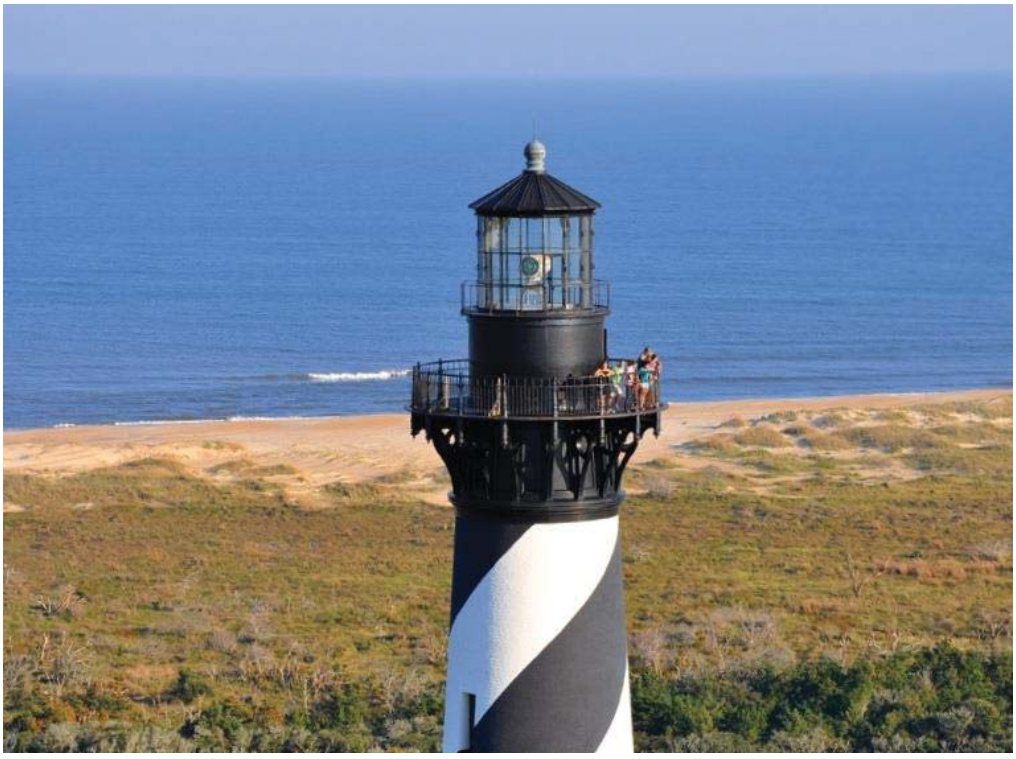
Introduction



Cape Hatteras National Seashore

Federal Lands Highway
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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

Cape Hatteras National Seashore

Federal Lands Highway
Road Inventory Program

Cycle 5 NPS/RIP Route ID Report

Shading Color Key:
Red text denotes approx. mileage

White = Paved Routes, DCV Driven
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= 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

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CAHA

CAPE HATTERAS NATIONAL SEASHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0010	**5**	**28946**		**BI RD HIGHWAY 12**	**FROM NORTH PARK ENTRANCE (SR 64)**	**TO BEGINNING OF ROUTE 5012H (HI RD STATE ROUTE 12) AND BI RD SOUTH OLD OREGON INLET ROAD**	**BODIE ISLAND**	**4.63**	**0.00**	**4.63**	**1**		**AS**	**1**
0012	**5**	**28675**		**HI RD LIGHTHOUSE ROAD**	**FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT**	**TO END AT ROUTE 0921 (HI RD RAMP 43 PARKING)**	**HATTERAS ISLAND**	**2.56**	**0.00**	**2.56**	**1**		**AS**	**2**
0014	**5**	**28827**		**HI RD FRISCO CAMPGROUND ACCESS / BILLY MITCHELL ROAD**	**FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT**	**TO BEGINNING OF ROUTE 0227ZZ (HI RD FRISCO CAMPGROUND ROADS)**	**HATTERAS ISLAND**	**1.06**	**0.00**	**1.06**	**2**		**AS**	**3**
0019	NC	113432		HI RD SOUNDSIDE ACCESS MP 54	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO PAMILICO SOUND	HATTERAS ISLAND	0.00	0.10	0.10	1		SA	
0020	NC	113436		HI RD SOUNDSIDE ACCESS MP 60	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO PAMILICO SOUND	HATTERAS ISLAND	0.00	0.10	0.10	1		SA	
0021	NC	113518		OI RD SCRAGGS CEDAR ROUTE	FROM ROUTE 5012O (OI RD HIGHWAY 12)	TO PAMILICO SOUND	OCRACOKE ISLAND	0.00	0.30	0.30	1		SA	
0022	NC	113514		OI RD SHIRLEYS LANE	FROM ROUTE 0274 (OI RD SOUTH POINT ROAD (RAMP 72))	TO PAMILICO SOUND	OCRACOKE ISLAND	0.00	0.18	0.18	1		SA	
0202	**5**	**28930**		**BI RD BAY DRIVE**	**FROM ROUTE 5012H (HI RD HIGHWAY 12) ON RIGHT AND ROUTE 0944 (BI RD COQUINA BEACH PARKING AREA)**	**TO END OF LOOP**	**BODIE ISLAND**	**1.21**	**0.00**	**1.21**	**2**		**AS**	**1**
0204ZZ	4	28951		BI RD OREGON INLET CAMPGROUND ROADS	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	THRU CAMPGROUND	BODIE ISLAND	0.85	0.00	0.85	3		AS	1
0210	4	28952		BI RD LIFEBOAT STATION ROAD	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO END	BODIE ISLAND	0.23	0.00	0.23	3		AS	1
0215	4	28958		BI RD SALVO DAY USE ACCESS	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON RIGHT	TO END OF LOOP	BODIE ISLAND	0.75	0.00	0.75	3		AS	2
0225ZZ	4	28787		HI RD CAPE POINT CAMPGROUND ROADS	FROM ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 2.34 ON RIGHT	THRU CAMPGROUND	HATTERAS ISLAND	2.82	0.00	2.82	3		AS	2
0227ZZ	4	28695		HI RD FRISCO CAMPGROUND ROADS	FROM END OF ROUTE 0014 (HI RD FRISCO CAMPGROUND ACCESS / BILLY MITCHELL ROAD)	TO END OF LOOP	HATTERAS ISLAND	2.13	0.00	2.13	3		AS	3

Cycle 5 NPS/RIP Route ID Report

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CAPE HATTERAS NATIONAL SEASHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0234ZZ	4	29715		OI RD OCRACOKE CAMPGROUND ROADS	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON LEFT	THRU CAMPGROUND	OCRACOKE ISLAND	0.93	0.00	0.93	3		AS	4
0237	4	29716		OI RD AIRPORT ACCESS / RAMP 70	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON LEFT	TO END AT RAMP 70 AT MP 0.16	OCRACOKE ISLAND	0.06	0.10	0.16	3		AS	4
0240	4	35798		HI RD LIGHTHOUSE ACCESS ROAD	FROM ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 1.03 ON LEFT	TO ROUTE 0936 (HI RD LH VISITOR PARKING)	HATTERAS ISLAND	0.07	0.00	0.07	3		AS	2
0241	4	29668		OI RD OCRACOKE RESIDENCE ROAD	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON RIGHT	TO END	OCRACOKE ISLAND	0.24	0.00	0.24	5		AS	4
0250	4	111018		HI RD OLD LIGHTHOUSE SITE ROAD	FROM ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 0.80 ON LEFT	TO ROUTE 0935 (HI RD OLD LIGHTHOUSE FOUNDATION PROTECTED BEACH PARKING) AHEAD AND ROUTE 0916 (HI RD OLD LIGHTHOUSE FOUNDATION PARKING) ON LEFT	HATTERAS ISLAND	0.08	0.00	0.08	3		AS	2
0251	NC	28790		HI RD CAPE POINT INTERDUNAL ROAD	FROM ROUTE 0259 (HI RMP RAMP 45)	TO ROUTE 0258 (HI RMP RAMP 44)	HATTERAS ISLAND	0.00	1.40	1.40	4		GR	
0252	NC	28792		HI RD CAPE POINT OPEN PONDS ROAD	FROM ROUTE 0258 (HI RMP RAMP 44)	TO DEAD END	HATTERAS ISLAND	0.00	4.20	4.20	4		GR	
0253	NC	28856		HI RD RAMP 27	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	HATTERAS ISLAND	0.00	0.10	0.10	4		GR	
0254	NC	28858		HI RD RAMP 30	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	HATTERAS ISLAND	0.00	0.10	0.10	4		GR	
0255	NC	28860		HI RD RAMP 34	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	HATTERAS ISLAND	0.00	0.10	0.10	4		GR	
0256	NC	28861		HI RD RAMP 38	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	HATTERAS ISLAND	0.00	0.10	0.10	4		GR	
0257	NC	28862		HI RD RAMP 43	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	HATTERAS ISLAND	0.00	0.10	0.10	4		GR	
0258	NC	28863		HI RD RAMP 44	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	HATTERAS ISLAND	0.00	0.30	0.30	4		GR	
0259	NC	28864		HI RD RAMP 45	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	HATTERAS ISLAND	0.00	0.10	0.10	4		GR	
0260	NC	28866		HI RD RAMP 49	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	HATTERAS ISLAND	0.00	0.30	0.30	4		GR	
0261	NC	104938		HI RD RAMP 55	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	HATTERAS ISLAND	0.00	0.10	0.10	4		GR	

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0263	NC	28975		BI RD RAMP 1	FROM SOUTH OLD OREGON INLET ROAD	TO BEACH	BODIE ISLAND	0.00	0.10	0.10	4		GR	
0264	NC	28977		BI RD COQUINA BEACH RAMP 2	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	BODIE ISLAND	0.00	0.02	0.02	4		GR	
0265	NC	28978		BI RD OREGON INLET RAMP 4	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	BODIE ISLAND	0.00	0.12	0.12	4		GR	
0266	NC	28979		BI RD RAMP 23	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO BEACH	BODIE ISLAND	0.00	0.30	0.30	4		GR	
0267	NC	29760		OI RD FERRY HARBOR ROAD	FROM ROUTE 5012O (OI RD HIGHWAY 12)	TO SOUND	OCRACOKE ISLAND	0.00	0.60	0.60	4		GR	
0268	NC	29761		OI RD BORROW PIT ROAD	FROM ROUTE 5012O (OI RD HIGHWAY 12)	TO SOUND	OCRACOKE ISLAND	0.00	0.30	0.30	4		GR	
0269	NC	29763		OI RD QUOCK HAMMOCK ROAD	FROM ROUTE 5012O (OI RD HIGHWAY 12)	TO SOUND	OCRACOKE ISLAND	0.00	0.50	0.50	4		GR	
0270	NC	29769		OI RD RAMP 59	FROM ROUTE 5012O (OI RD HIGHWAY 12)	TO BEACH	OCRACOKE ISLAND	0.00	0.20	0.20	4		GR	
0271	NC	29770		OI RD RAMP 67	FROM ROUTE 5012O (OI RD HIGHWAY 12)	TO BEACH	OCRACOKE ISLAND	0.00	0.20	0.20	4		GR	
0272	NC	29771		OI RD RAMP 69	FROM ROUTE 5012O (OI RD HIGHWAY 12)	TO BEACH	OCRACOKE ISLAND	0.00	0.10	0.10	4		GR	
0273	NC	29772		OI RD RAMP 70	FROM ROUTE 5012O (OI RD HIGHWAY 12)	TO BEACH	OCRACOKE ISLAND	0.00	0.10	0.10	4		GR	
0274	NC	29773		OI RD SOUTH POINT ROAD (RAMP 72)	FROM ROUTE 5012O (OI RD HIGHWAY 12)	TO BEACH	OCRACOKE ISLAND	0.00	3.60	3.60	4		GR	
0275	NC	35784		HI RD SOUNDSIDE ACCESS MP 46.5	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON RIGHT	TO END	HATTERAS ISLAND	0.00	0.10	0.10	4		GR	
0276	NC	35785		HI RD SOUNDSIDE ACCESS MP 48	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON RIGHT	TO END	HATTERAS ISLAND	0.00	0.10	0.10	4		GR	
0277	NC	35786		HI RD SOUNDSIDE ACCESS MP 52.5	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO SOUND	HATTERAS ISLAND	0.00	0.20	0.20	4		GR	
0278	NC	35787		HI RD SOUNDSIDE ACCESS MP 53	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO SOUND	HATTERAS ISLAND	0.00	0.10	0.10	4		GR	
0279	NC	35790		HI RD BRITISH CEMETERY ACCESS	FROM ROUTE 0012 (HI RD LIGHTHOUSE ROAD)	TO CEMETERY	HATTERAS ISLAND	0.00	0.25	0.25	4		GR	
0400	4	28894		BI RD PARK SERVICE ROAD	FROM SOUTH OLD OREGON INLET ROAD ON RIGHT	TO END OF LOOP	BODIE ISLAND	0.39	0.00	0.39	6		AS	1

Cycle 5 NPS/RIP Route ID Report

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0401	**5**	**28954**		**BI RD OREGON INLET COAST GUARD ACCESS**	**FROM ROUTE 0970 (BI RD OREGON INLET SMALL BOAT ACCESS)**	**TO COAST GUARD FACILITY ENTRANCE GATE**	**BODIE ISLAND**	**0.19**	**0.00**	**0.19**	**6**		**AS**	**1**
0402	NC	28964		BI RD WELL FIELD ACCESS	FROM END OF ROUTE 0010 (BI RD HIGHWAY 12) ON RIGHT	TO END OF LOOP	BODIE ISLAND	0.00	1.18	1.18	5		GR	
0404	**5**	**28911**		**BI RD OLD COQUINA BEACH ACCESS**	**FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT**	**TO BEACH**	**BODIE ISLAND**	**0.02**	**0.12**	**0.14**	**3**	**4,105**	**AS**	**1**
0405	4	28931		BI RD BODIE ISLAND BONE YARD ROAD	FROM ROUTE 0202 (BI RD BAY DRIVE) AT MP 0.73 ON RIGHT	TO END AT MAINTENANCE YARD	BODIE ISLAND	0.30	0.00	0.30	6		AS	1
0408	NC	28651		HI RD LITTLE KINNAKEET STATION ACCESS	FROM ROUTE 5012H (HI RD STATE ROUTE 12) NEAR TOWN OF AVON	TO END	HATTERAS ISLAND	0.00	0.18	0.18	5		GR	
0410	4	28755		HI RD LOGGERHEAD LANE	FROM ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 1.28 ON RIGHT	TO END AT ROUTE 0918 (HI RD BUXTON MAINTENANCE ACCESS)	HATTERAS ISLAND	1.06	0.00	1.06	6		AS	2
0411	4	28751		HI RD CABIN ROAD	FROM ROUTE 0410 (HI RD LOGGERHEAD LANE) AT MP 0.08 ON RIGHT	TO END	HATTERAS ISLAND	0.07	0.00	0.07	6		AS	2
0414	NC	35794		HI RD FRISCO WATER PLANT ACCESS ROAD	FROM ROUTE 0227ZZ (HI RD FRISCO CAMPGROUND ROADS)	TO END OF LOOP	HATTERAS ISLAND	0.00	1.34	1.34	5		GR	
0417	4	29667		OI RD OCRACOKE RESIDENCE ACCESS	FROM ROUTE 0241 (OI RD OCRACOKE RESIDENCE ROAD) AT MP 0.05 ON LEFT	TO END AT BACK OF MAINTENANCE AREA	OCRACOKE ISLAND	0.12	0.00	0.12	6		AS	4
0418	4	111017		HI RD LORAN STATION ROAD	FROM ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 1.91 ON LEFT	TO END AT MARSH	HATTERAS ISLAND	0.12	0.00	0.12	6	6,653	AS	2
0420ZZ	4	111015		HI RD NEWMAN SCHOONER LOOP AND ENTRANCE ROAD	FROM END OF ROUTE 5230 (HI RD OLD LIGHTHOUSE ROAD)	TO END	HATTERAS ISLAND	0.49	0.00	0.49	6		AS	2
0421	NC	28654		HI RD CAHA LIGHTHOUSE EMERGENCY ACCESS RD	FROM ROUTE 0936 (HI RD LH VISITOR PARKING)	TO LIGHTHOUSE	HATTERAS ISLAND	0.00	0.30	0.30	6		GR	
0422	NC	28676		HI RD CAHA LIGHTHOUSE SERVICE ROADS	FROM ROUTE 0936 (HI RD LH VISITOR PARKING)	TO END	HATTERAS ISLAND	0.00	0.10	0.10	6		GR	

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0423	NC	105083		HI RD BUXTON BONEYARD ACCESS	FROM ROUTE 0410 (HI RD LOGGERHEAD LANE) AT BONEYARD	TO END	HATTERAS ISLAND	0.00	0.20	0.20	6		GR	
0424	NC	28932		BI RD OFF ISLAND ROAD	FROM ROUTE 0202 (BI RD BAY DRIVE)	TO END	BODIE ISLAND	0.00	0.30	0.30	6		GR	
0426	NC	35796		HI RD HATTERAS INLET INTERDUNAL ROAD	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO END	HATTERAS ISLAND	0.00	2.50	2.50	6		GR	
0901	4	28885		BI RD WHALEBONE INFORMATION STATION ACCESS	FROM ROUTE 0010 (BI RD HIGHWAY 12) ON RIGHT	TO ROUTE 0010 (BI RD HIGHWAY 12) ON RIGHT	BODIE ISLAND	0.00	0.00	0.00		14,094	AS	1
0902	4	28895		BI RD BODIE ISLAND MAINTENANCE ACCESS AND PARKING	FROM ROUTE 0400 (BI RD PARK SERVICE ROAD) AT MP 0.03 (ON LEFT)	TO PARKING	BODIE ISLAND	0.00	0.00	0.00		46,419	AS	1
0903ZZ	4	28910		BI RD BODIE ISLAND LIGHTHOUSE PARKING AREAS	FROM ROUTE 0202 (BI RD BAY DRIVE) AT MP 1.08 ON RIGHT	TO ROUTE 0202 (BI RD BAY DRIVE) AT MP 1.17 ON RIGHT	BODIE ISLAND	0.00	0.00	0.00		22,269	AS	1
0906	4	28973		BI RD OREGON INLET BRIDGE PARKING ACCESS	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO PARKING	BODIE ISLAND	0.00	0.00	0.00		48,538	AS	1
0908	4	28972		BI RD PEA ISLAND OBSERVATION TURNOUT NO 2	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO ROUTE 5012H (HI RD STATE ROUTE 12) ON LEFT	BODIE ISLAND	0.00	0.00	0.00		13,060	AS	1
0909	4	36792		BI RD RAMP 23 PARKING	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO ROUTE 5012H (HI RD STATE ROUTE 12) ON LEFT	BODIE ISLAND	0.00	0.00	0.00		10,006	AS	2
0910	4	28868		HI RD RAMP 27 PARKING	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO ROUTE 5012H (HI RD STATE ROUTE 12) ON LEFT	HATTERAS ISLAND	0.00	0.00	0.00		14,956	AS	2
0911	4	28870		HI RD RAMP 30 PARKING	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO ROUTE 5012H (HI RD STATE ROUTE 12) ON LEFT	HATTERAS ISLAND	0.00	0.00	0.00		13,929	AS	2
0912	4	28871		HI RD RAMP 34 PARKING	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO ROUTE 5012H (HI RD STATE ROUTE 12) ON LEFT	HATTERAS ISLAND	0.00	0.00	0.00		13,858	AS	2
0913	4	28872		HI RD RAMP 38 PARKING	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO ROUTE 5012H (HI RD STATE ROUTE 12) ON LEFT	HATTERAS ISLAND	0.00	0.00	0.00		13,371	AS	2
0914	4	28656		HI RD HAULOVER PARKING	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON RIGHT	TO PARKING	HATTERAS ISLAND	0.00	0.00	0.00		48,529	AS	2
0916	4	28677		HI RD OLD LIGHTHOUSE FOUNDATION PARKING	FROM ROUTE 0250 (HI RD OLD LIGHTHOUSE SITE ROAD) AT MP 0.08 ON LEFT	TO PARKING	HATTERAS ISLAND	0.00	0.00	0.00		33,587	AS	2

Cycle 5 NPS/RIP Route ID Report

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Yellow = Unpaved Routes, DCV not Driven
Blue = All Paved Parking Areas
Green = All Unpaved Parking Areas
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CAHA

CAPE HATTERAS NATIONAL SEASHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0917	4	28680		HI RD BUXTON WOODS TRAILHEAD PARKING	ADJACENT TO ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 1.07 ON RIGHT		HATTERAS ISLAND	0.00	0.00	0.00		10,290	AS	2
0918	4	28694		HI RD BUXTON MAINTENANCE ACCESS	FROM ROUTE 0410 (HI RD LOGGERHEAD LANE) AT MP 0.14 ON LEFT	TO ROUTE 0410 (HI RD LOGGERHEAD LANE) AT MP 1.06	HATTERAS ISLAND	0.00	0.00	0.00		28,860	AS	2
0919	4	28760		HI RD BUXTON WOODS DUMP STATION	FROM ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 1.47 ON LEFT	TO ROUTE 0012 (HI RD LIGHTHOUSE ROAD) ON LEFT	HATTERAS ISLAND	0.00	0.00	0.00		7,664	AS	2
0920	4	28761		HI RD RANGER STATION ACCESS AND PARKING	FROM ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 1.64 ON RIGHT	TO PARKING	HATTERAS ISLAND	0.00	0.00	0.00		29,814	AS	2
0921	4	28873		HI RD RAMP 43 PARKING	FROM ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 2.56	TO PARKING	HATTERAS ISLAND	0.00	0.00	0.00		18,386	AS	2
0922	4	28876		HI RD RAMP 45 PARKING	FROM ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.87 ON RIGHT	TO PARKING	HATTERAS ISLAND	0.00	0.00	0.00		22,509	AS	2
0923	4	28840		HI RD COMFORT STATION PARKING	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO ROUTE 5012H (HI RD STATE ROUTE 12) ON LEFT	HATTERAS ISLAND	0.00	0.00	0.00		35,283	AS	3
0924	4	28842		HI RD SANDY BAY SOUNDSIDE PARKING	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON RIGHT	TO ROUTE 5012H (HI RD STATE ROUTE 12) ON RIGHT	HATTERAS ISLAND	0.00	0.00	0.00		21,511	AS	3
0926	4	29752		OI RD HATTERAS INLET FERRY COMFORT STATION	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON OCRACOKE ISLAND	TO PARKING	OCRACOKE ISLAND	0.00	0.00	0.00		15,481	AS	4
0927	4	29753		OI RD RAMP 59 PARKING	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON OCRACOKE ISLAND	TO ROUTE 5012O (OI RD STATE ROUTE 12) ON OCRACOKE ISLAND	OCRACOKE ISLAND	0.00	0.00	0.00		12,089	AS	4
0928	4	29755		OI RD TURNOUT AT MP 64	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON OCRACOKE ISLAND	TO ROUTE 5012O (OI RD STATE ROUTE 12) ON OCRACOKE ISLAND	OCRACOKE ISLAND	0.00	0.00	0.00		17,169	AS	4
0929ZZ	4	29745		OI RD PONY PEN ACCESS PARKING AREAS	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON RIGHT AND LEFT SIDES	TO ROUTE 5012O (OI RD STATE ROUTE 12)	OCRACOKE ISLAND	0.00	0.00	0.00		17,316	AS	4
0930	4	29714		OI RD DUMP STATION / HAMMOCK HILL	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON RIGHT	TO ROUTE 5012O (OI RD STATE ROUTE 12) ON RIGHT	OCRACOKE ISLAND	0.00	0.00	0.00		18,986	AS	4

Cycle 5 NPS/RIP Route ID Report

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CAHA

CAPE HATTERAS NATIONAL SEASHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0931	4	29694		OI RD OCRACOKE DAY USE PARKING AREA ACCESS	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON OCRACOKE ISLAND	TO PARKING	OCRACOKE ISLAND	0.00	0.00	0.00		49,378	AS	4
0932	4	29659		OI RD OCRACOKE MAINTENANCE PARKING	ADJACENT TO ROUTE 0241 (OI RD OCRACOKE RESIDENCE ROAD) AT MP 0.08 ON LEFT		OCRACOKE ISLAND	0.00	0.00	0.00		27,347	AS	4
0933	4	29271		OI RD OCRACOKE BOAT RAMP ACCESS AND PARKING	FROM ROUTE 0241 (OI RD OCRACOKE RESIDENCE ROAD) AT MP 0.02 ON LEFT	TO PARKING	OCRACOKE ISLAND	0.00	0.00	0.00		117,726	AS	4
0934	4	29208		OI RD OCRACOKE VISITOR CENTER PARKING ACCESS	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON LEFT	TO ROUTE 5012O (OI RD STATE ROUTE 12) ON LEFT	OCRACOKE ISLAND	0.00	0.00	0.00		11,592	AS	4
0935	4	28678		HI RD OLD LIGHTHOUSE FOUNDATION PROTECTED BEACH PARKING	FROM END OF ROUTE 0250 (HI RD OLD LIGHTHOUSE SITE ROAD)	TO PARKING	HATTERAS ISLAND	0.00	0.00	0.00		73,782	AS	2
0936	**5**	**28674**		**HI RD LH VISITOR PARKING**	**FROM END OF ROUTE 0240 (HI RD LIGHTHOUSE ACCESS ROAD)**	**TO ROUTE 0421 (HI RD CAHA LIGHTHOUSE EMERGENCY ACCESS RD) AND ROUTE 0422 (HI RD CAHA LIGHTHOUSE SERVICE ROADS)**	**HATTERAS ISLAND**	**0.00**	**0.00**	**0.00**		**71,451**	**AS**	**2**
0937	4	28959		BI RD MAINTENANCE OVERFLOW PARKING	ADJACENT TO ROUTE 0400 (BI RD PARK SERVICE ROAD) AT MP 0.07 ON LEFT		BODIE ISLAND	0.00	0.00	0.00		4,211	AS	1
0938	4	28970		BI RD NEW INLET BOAT RAMP PARKING	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON RIGHT	TO PARKING	BODIE ISLAND	0.00	0.00	0.00		13,710	AS	1
0939	4	28789		HI RD FISH CLEANING STATION PARKING	ADJACENT TO ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 2.40 ON LEFT		HATTERAS ISLAND	0.00	0.00	0.00		5,769	AS	2
0940	4	28875		HI RD FRISCO AIRSTRIP REFUELING PARKING	FROM ROUTE 0014 (HI RD FRISCO CAMPGROUND ACCESS / BILLY MITCHELL ROAD) AT MP 0.39 ON	TO ROUTE 0014 (HI RD FRISCO CAMPGROUND ACCESS / BILLY MITCHELL ROAD)	HATTERAS ISLAND	0.00	0.00	0.00		8,817	AS	3

Cycle 5 NPS/RIP Route ID Report

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Green = All Unpaved Parking Areas
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CAHA

CAPE HATTERAS NATIONAL SEASHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0941	4	28877		HI RD FRISCO CAMPGROUND PARKING A	ADJACENT TO ROUTE 0227ZZ (HI RD FRISCO CAMPGROUND ROAD) AT MP 0.18 ON RIGHT		HATTERAS ISLAND	0.00	0.00	0.00		1,998	AS	3
0942	4	28974		HI RD FRISCO CAMPGROUND PARKING B	ADJACENT TO ROUTE 0227ZZ (HI RD FRISCO CAMPGROUND ROAD) AT MP 0.41 ON RIGHT		HATTERAS ISLAND	0.00	0.00	0.00		1,791	AS	3
0943	4	28878		HI RD RAMP 55 PARKING	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO ROUTE 5012H (HI RD STATE ROUTE 12) ON LEFT	HATTERAS ISLAND	0.00	0.00	0.00		15,171	AS	3
0944	**5**	**111013**		**BI RD COQUINA BEACH PARKING AREA**	**FROM BI RD COQUINA BEACH ACCESS ON RIGHT**	**TO PARKING**	**BODIE ISLAND**	**0.00**	**0.00**	**0.00**		**109,453**	**AS**	**1**
0945ZZ	4	110983	■	HI RD HATTERAS FERRY DOCK AND PARKING AREAS	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO PARKING	HATTERAS ISLAND	0.00	0.00	0.00		156,273	AS	3
0946	4	110991		OI RD OCRACOKE ISLAND AIRPORT TERMINAL PARKING	FROM ROUTE 0237 (OI RD AIRPORT ACCESS / RAMP 70) AT MP 0.05 ON RIGHT	TO PARKING	OCRACOKE ISLAND	0.00	0.00	0.00		6,622	AS	4
0947	4	110992		OI RD OCRACOKE CAMPGROUND OVERFLOW PARKING	FROM ROUTE 0234ZZ (OI RD OCRACOKE CAMPGROUND ROAD) AT MP 0.02 ON RIGHT	TO PARKING	OCRACOKE ISLAND	0.00	0.00	0.00		17,905	AS	4
0948	4	35795		HI RD RAMP 49 PARKING	ADJACENT TO ROUTE 0014 (HI RD FRISCO CAMPGROUND ACCESS / BILLY MITCHELL ROAD) AT MP 1.01 ON RIGHT		HATTERAS ISLAND	0.00	0.00	0.00		2,675	AS	3
0949	4	110993		HI RD FRISCO AIRPORT TERMINAL PARKING	FROM ROUTE 0014 (HI RD FRISCO CAMPGROUND ACCESS / BILLY MITCHELL ROAD) AT MP 0.14 ON RIGHT	TO PARKING	HATTERAS ISLAND	0.00	0.00	0.00		9,050	AS	3
0950	4	110994	■	OI RD OCRACOKE TO CEDER ISLAND FERRY PARKING AREA	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON RIGHT	TO ROUTE 5012O (OI RD STATE ROUTE 12) AT END	OCRACOKE ISLAND	0.00	0.00	0.00		63,410	AS	4
0951	4	111003	■	OI RD OCRACOKE TO HATTERAS ISLAND FERRY PARKING AREA	FROM ROUTE 5012O (OI RD HIGHWAY 12)	TO PARKING	OCRACOKE ISLAND	0.00	0.00	0.00		59,539	AS	4

Cycle 5 NPS/RIP Route ID Report

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CAHA

CAPE HATTERAS NATIONAL SEASHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0952ZZ	4	111007		HI RD FRISCO CAMPGROUND COMFORT STATION PARKING AREAS	ADJACENT TO ROUTE 0227ZZ (HI RD FRISCO CAMPGROUND ROAD)		HATTERAS ISLAND	0.00	0.00	0.00		3,439	AS	3
0954ZZ	**5**	**111008**		**HI RD SCHOONER LOOP ROAD PARKING AREAS**	**FROM ROUTE 0420ZZ (HI RD NEWMAN SCHOONER LOOP ROAD)**	**TO PARKING**	**HATTERAS ISLAND**	**0.00**	**0.00**	**0.00**		**40,356**	**AS**	**2**
0956ZZ	4	111010		BI RD PARK SERVICE ROAD PARKING AREAS	ADJACENT TO ROUTE 0400 (BI RD PARK SERVICE ROAD) ON LEFT AND RIGHT		BODIE ISLAND	0.00	0.00	0.00		7,467	AS	1
0957	4	111011		BI RD OREGAN INLET CG FEE PARKING	ADJACENT TO ROUTE 0204Z (BI RD OREGON INLET CAMPGROUND ENTRANCE ROAD) AT MP 0.05 ON RIGHT		BODIE ISLAND	0.00	0.00	0.00		5,148	AS	1
0960	4	111012		BI RD PEA ISLAND COMFORT STATION PARKING	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON RIGHT	TO PARKING	BODIE ISLAND	0.00	0.00	0.00		19,978	AS	1
0961ZZ	4	104929		BI RD SALVO DAY USE PARKING AREAS	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) ON LEFT AND RIGHT		BODIE ISLAND	0.00	0.00	0.00		26,334	AS	2
0963	NC	114771		HI RD WEATHER STATION PARKING	FROM KOHLER ROAD	TO PARKING	HATTERAS ISLAND	0.00	0.00	0.00		6,000	SA	
0965	NC	28969		OI RD OCRACOKE LIGHTHOUSE PARKING	FROM LIGHTHOUSE ROAD	TO LIGHTHOUSE	OCRACOKE ISLAND	0.00	0.00	0.00			GR	
0966	**5**	**228855**		**BI RD LIFESAVING STATION PARKING**	**FROM ROUTE 0202 (BI RD BAY DRIVE)**	**TO PARKING**	**BODIE ISLAND**	**0.00**	**0.00**	**0.00**		**4,242**	**OT**	**1**
0967	NC	231472		BI RD BEACH RAMP 1 PARKING	FROM RAMP ROAD	TO PARKING	BODIE ISLAND	0.00	0.00	0.00			GR	
0968	**5**	**228858**		**BI RD COAST GUARD STATION PARKING**	**FROM ROUTE 0202 (BI RD BAY DRIVE)**	**TO PARKING**	**BODIE ISLAND**	**0.00**	**0.00**	**0.00**		**2,932**	**OT**	**1**
0969	4	28950	■	BI RD OREGON INLET MARINA ACCESS AND PARKING	FROM ROUTE 0970 (BI RD OREGON INLET SMALL BOAT ACCESS)	TO PARKING	BODIE ISLAND	0.00	0.00	0.00		144,404	AS	1

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CAHA

CAPE HATTERAS NATIONAL SEASHORE

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From	Route Description To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0970	**5**	**28953**		**BI RD OREGON INLET SMALL BOAT ACCESS**	**FROM ROUTE 5012H (HI RD STATE ROUTE 12)**	**TO ROUTE 0969 (BI RD OREGON INLET MARINA ACCESS AND PARKING) AND ROUTE 0401 (BI RD OREGON INLET COAST GUARD ACCESS)**	**BODIE ISLAND**	**0.00**	**0.00**	**0.00**		**145,091**	**AS**	**1**
5012H	**5**	**110978**		**HI RD STATE ROUTE 12**	**FROM END OF ROUTE 0010 (BI RD HIGHWAY 12) AT SOUTH OLD OREGON INLET ROAD**	**TO SECOND ENTRANCE OF ROUTE 0943 (HI RD RAMP 55 PARKING) ON LEFT**	**HATTERAS ISLAND**	**53.97**	**0.00**	**53.97**			**AS**	**1,2,3**
5012O	4	110980		OI RD STATE ROUTE 12	FROM ROUTE 0951 (OI RD OCRACOKE TO HATTERAS ISLAND FERRY PARKING AREA)	TO ROUTE 0950 (OI RD OCRACOKE TO CEDER ISLAND FERRY PARKING AREA) AT STOP SIGN	OCRACOKE ISLAND	13.79	0.00	13.79			AS	4
5230	4	35797		HI RD OLD LIGHTHOUSE ROAD	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO ROUTE 0419 (HI RD NEWMAN SCHOONER ENTRANCE ROAD) AT NEWMAN SCHOONER FACILITY ENTRANCE GATE	HATTERAS ISLAND	0.46	0.00	0.46			AS	2

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CYCLE 5 COLLECTED SUMMARY TOTALS FOR CAPE HATTERAS NATIONAL SEASHORE

CYCLE 5 COLLECTED ROUTE TOTALS

DCV Driven Route Miles	9.66
Manually Rated Route Miles	0.02
TOTAL PARK ROUTE MILES COLLECTED IN CYCLE 5	9.68
Manually Rated Routes (SQFT)	0.00

* CYCLE 5 COLLECTED PARKING AREA TOTALS

Paved Parking (SQFT)	340,897

CYCLE 5 COLLECTED CONCESSION TOTALS

Concession Paved Route Miles	0.00
Concession Paved Parking Area SQFT	0
Concession Manually Rated Routes SQFT	0

CYCLE 5 COLLECTED WEIGHTED AVERAGE PARK VALUES

DCV Driven PCR	97
**Manually Rated Routes PCR	45
**Parking PCR	77
***Total Equivalent Lane Miles	30.74

TOTAL PARK SUMMARY FOR CAPE HATTERAS NATIONAL SEASHORE

ROUTE TOTALS

TOTAL PAVED PARK ROUTE MILES	20.39
TOTAL PAVED PARKING (SQFT)	1,775,035

* - 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.

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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.

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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 CAHA

Shading Color Key:
Red text denotes approx. mileage

White = Paved Routes, DCV Driven
Yellow = Unpaved Routes, DCV not Driven
Blue = All Paved Parking Areas
Green = All Unpaved Parking Areas
Grey = Paved Routes, DCV not Driven
Black = State, Local or Private non-NPS Routes
= Concession Route Flag ON

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

CAHA

CAPE HATTERAS NATIONAL SEASHORE

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0204ZZ	28951	4	BI RD OREGON INLET CAMPGROUND ROADS	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	THRU CAMPGROUND		3	0.85	0.00	0.85	
0225ZZ	28787	4	HI RD CAPE POINT CAMPGROUND ROADS	FROM ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 2.34 ON RIGHT	THRU CAMPGROUND		3	2.82	0.00	2.82	
0227ZZ	28695	4	HI RD FRISCO CAMPGROUND ROADS	FROM END OF ROUTE 0014 (HI RD FRISCO CAMPGROUND ACCESS / BILLY MITCHELL ROAD)	TO END OF LOOP		3	2.13	0.00	2.13	
0234ZZ	29715	4	OI RD OCRACOKE CAMPGROUND ROADS	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON LEFT	THRU CAMPGROUND		3	0.93	0.00	0.93	
0420ZZ	111015	4	HI RD NEWMAN SCHOONER LOOP AND ENTRANCE ROAD	FROM END OF ROUTE 5230 (HI RD OLD LIGHTHOUSE ROAD)	TO END		6	0.49	0.00	0.49	
0903ZZ	28910	4	BI RD BODIE ISLAND LIGHTHOUSE PARKING AREAS	FROM ROUTE 0202 (BI RD BAY DRIVE) AT MP 1.08 ON RIGHT	TO ROUTE 0202 (BI RD BAY DRIVE) AT MP 1.17 ON RIGHT			0.00	0.00	0.00	22,269
0929ZZ	29745	4	OI RD PONY PEN ACCESS PARKING AREAS	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON RIGHT AND LEFT SIDES	TO ROUTE 5012O (OI RD STATE ROUTE 12)			0.00	0.00	0.00	17,316
0945ZZ	110983	4	HI RD HATTERAS FERRY DOCK AND PARKING AREAS	FROM ROUTE 5012H (HI RD HIGHWAY 12)	TO PARKING	■		0.00	0.00	0.00	156,273
0952ZZ	111007	4	HI RD FRISCO CAMPGROUND COMFORT STATION PARKING AREAS	ADJACENT TO ROUTE 0227ZZ (HI RD FRISCO CAMPGROUND ROAD)				0.00	0.00	0.00	3,439
0954ZZ	**111008**	**5**	**HI RD SCHOONER LOOP ROAD PARKING AREAS**	**FROM ROUTE 0420ZZ (HI RD NEWMAN SCHOONER LOOP ROAD)**	**TO PARKING**			**0.00**	**0.00**	**0.00**	**40,356**
0956ZZ	111010	4	BI RD PARK SERVICE ROAD PARKING AREAS	ADJACENT TO ROUTE 0400 (BI RD PARK SERVICE ROAD) ON LEFT AND RIGHT				0.00	0.00	0.00	7,467
0961ZZ	104929	4	BI RD SALVO DAY USE PARKING AREAS	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) ON LEFT AND RIGHT				0.00	0.00	0.00	26,334

NPS/RIP Subcomponent Details for CAHA

Shading Color Key:
Red text denotes approx. mileage

White = Paved Routes, DCV Driven | Yellow = Unpaved Routes, DCV not Driven | Blue = All Paved Parking Areas | Green = All Unpaved Parking Areas

Grey = Paved Routes, DCV not Driven | Black = State, Local or Private non-NPS Routes | = Concession Route Flag ON

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CAHA

CAPE HATTERAS NATIONAL SEASHORE

CAHA-0204ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0204AZ	28951	4	BI RD OREGON INLET CAMPGROUND LOOP A	FROM ROUTE 0204BZ (BI RD OREGON INLET CAMPGROUND LOOP B)	TO ROUTE 0204Z (BI RD OREGON INLET CAMPGROUND ENTRANCE ROAD)		3	0.22	0.00	0.22	
0204BZ	28951	4	BI RD OREGON INLET CAMPGROUND LOOP B	FROM END OF ROUTE 0204Z (BI RD OREGON INLET CAMPGROUND ENTRANCE ROAD) AND ROUTE 0204AZ (BI RD OREGON INLET CAMPGROUND LOOP A)	TO END OF ROUTE 0204Z (BI RD OREGON INLET CAMPGROUND ENTRANCE ROAD)		3	0.31	0.00	0.31	
0204CZ	28951	4	BI RD OREGON INLET CAMPGROUND LOOP C	FROM ROUTE 0204BZ (BI RD OREGON INLET CAMPGROUND LOOP B)	TO ROUTE 0204BZ (BI RD OREGON INLET CAMPGROUND LOOP B)		3	0.24	0.00	0.24	
0204Z	28951	4	BI RD OREGON INLET CAMPGROUND ENTRANCE ROAD	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT	TO ROUTE 0204AZ (BI RD OREGON INLET CAMPGROUND LOOP A) ON LEFT AND ROUTE 0204BZ (BI RD OREGON INLET CAMPGROUND LOOP B)		3	0.08	0.00	0.08	

NPS/RIP Subcomponent Details for CAHA

Shading Color Key:
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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).

CAHA

CAPE HATTERAS NATIONAL SEASHORE

CAHA-0225ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0225AZ	28787	4	HI RD CAPE POINT CAMPGROUND CROSSOVER A	FROM ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.23 ON LEFT	TO ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 1.32 ON LEFT		3	0.09	0.00	0.09	
0225BZ	28787	4	HI RD CAPE POINT CAMPGROUND CROSSOVER B	FROM ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.26 ON LEFT	TO ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 1.27 ON LEFT		3	0.11	0.00	0.11	
0225CZ	28787	4	HI RD CAPE POINT CAMPGROUND CROSSOVER C	FROM ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.31 ON LEFT	TO ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 1.23 ON LEFT		3	0.13	0.00	0.13	
0225DZ	28787	4	HI RD CAPE POINT CAMPGROUND CROSSOVER D	FROM ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.35 ON LEFT	TO ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 1.19 ON LEFT		3	0.14	0.00	0.14	
0225EZ	28787	4	HI RD CAPE POINT CAMPGROUND CROSSOVER E	FROM ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.40 ON LEFT	TO ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 1.14 ON LEFT		3	0.15	0.00	0.15	
0225FZ	28787	4	HI RD CAPE POINT CAMPGROUND CROSSOVER F	FROM ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.45 ON LEFT	TO ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 1.11 ON LEFT		3	0.14	0.00	0.14	
0225GZ	28787	4	HI RD CAPE POINT CAMPGROUND CROSSOVER G	FROM ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.50 ON LEFT	TO ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 1.04 ON LEFT		3	0.12	0.00	0.12	
0225HZ	28787	4	HI RD CAPE POINT CAMPGROUND CROSSOVER H	FROM ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP .54 ON LEFT	TO ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP .10 ON LEFT		3	0.16	0.00	0.16	
0225IZ	28787	4	HI RD CAPE POINT CAMPGROUND CROSSOVER I	FROM ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.59 ON LEFT	TO ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.94 ON LEFT		3	0.19	0.00	0.19	
0225JZ	28787	4	HI RD CAPE POINT CAMPGROUND CROSSOVER J	FROM ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.64 ON LEFT	TO ROUTE 0225Z (HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD) AT MP 0.89 ON LEFT		3	0.19	0.00	0.19	
0225Z	28787	4	HI RD CAPE POINT CAMPGROUND PERIMETER LOOP ROAD	FROM ROUTE 0012 (HI RD LIGHTHOUSE ROAD) AT MP 2.34 ON RIGHT	TO END OF LOOP		3	1.40	0.00	1.40	

NPS/RIP Subcomponent Details for CAHA

Shading Color Key:
Red text denotes approx. mileage

White = Paved Routes, DCV Driven | Yellow = Unpaved Routes, DCV not Driven | Blue = All Paved Parking Areas | Green = All Unpaved Parking Areas

Grey = Paved Routes, DCV not Driven | Black = State, Local or Private non-NPS Routes | = Concession Route Flag ON

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CAHA

CAPE HATTERAS NATIONAL SEASHORE

CAHA-0227ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0227AZ	28695	4	HI RD FRISCO CAMPGROUND CROSSOVER A	FROM ROUTE 0227Z (HI RD FRISCO CAMPGROUND CROSSOVER) AT MP 0.15 ON LEFT	TO ROUTE 0227BZ (HI RD FRISCO CAMPGROUND CROSSOVER B) AT MP 0.21 ON LEFT		3	0.27	0.00	0.27	
0227BZ	28695	4	HI RD FRISCO CAMPGROUND CROSSOVER B	FROM ROUTE 0227Z (HI RD FRISCO CAMPGROUND CROSSOVER) AT MP 0.18 ON LEFT	TO ROUTE 0227Z (HI RD FRISCO CAMPGROUND CROSSOVER) AT MP 0.90 ON LEFT		3	0.23	0.00	0.23	
0227CZ	28695	4	HI RD FRISCO CAMPGROUND CROSSOVER C	FROM ROUTE 0227Z (HI RD FRISCO CAMPGROUND CROSSOVER) AT MP 0.40 ON LEFT	TO ROUTE 0227Z (HI RD FRISCO CAMPGROUND CROSSOVER) AT MP 0.86 ON LEFT		3	0.10	0.00	0.10	
0227DZ	28695	4	HI RD FRISCO CAMPGROUND CROSSOVER D	FROM ROUTE 0227Z (HI RD FRISCO CAMPGROUND CROSSOVER) AT MP 0.45 ON LEFT	TO ROUTE 0227Z (HI RD FRISCO CAMPGROUND CROSSOVER) AT MP 0.81 ON LEFT		3	0.09	0.00	0.09	
0227EZ	28695	4	HI RD FRISCO CAMPGROUND CROSSOVER E	FROM ROUTE 0227Z (HI RD FRISCO CAMPGROUND CROSSOVER) AT MP 0.49 ON LEFT	TO ROUTE 0227Z (HI RD FRISCO CAMPGROUND CROSSOVER) AT MP 0.76 ON LEFT		3	0.08	0.00	0.08	
0227FZ	28695	4	HI RD FRISCO CAMPGROUND CROSSOVER F	FROM ROUTE 0227Z (HI RD FRISCO CAMPGROUND CROSSOVER) AT MP 0.52 ON LEFT	TO ROUTE 0227Z (HI RD FRISCO CAMPGROUND CROSSOVER) AT MP 0.72 ON LEFT		3	0.11	0.00	0.11	
0227Z	28695	4	HI RD FRISCO CAMPGROUND CROSSOVER	FROM ROUTE 0014 (HI RD FRISCO CAMPGROUND ACCESS / BILLY MITCHELL ROAD)	TO END OF LOOP		3	1.25	0.00	1.25	

NPS/RIP Subcomponent Details for CAHA

Shading Color Key:
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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

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CAHA

CAPE HATTERAS NATIONAL SEASHORE

CAHA-0234ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0234AZ	29715	4	OI RD OCRACOKE CAMPGROUND CROSSOVER A	FROM ROUTE 0234Z (OI RD OCRACOKE CAMPGROUND ROAD) AT MP 0.16 ON LEFT	TO ROUTE 0234Z (OI RD OCRACOKE CAMPGROUND ROAD) AT MP 0.67 ON LEFT		3	0.06	0.00	0.06	
0234BZ	29715	4	OI RD OCRACOKE CAMPGROUND CROSSOVER B	FROM ROUTE 0234Z (OI RD OCRACOKE CAMPGROUND ROAD) AT MP 0.25 ON LEFT	TO ROUTE 0234Z (OI RD OCRACOKE CAMPGROUND ROAD) AT MP 0.58 ON LEFT		3	0.07	0.00	0.07	
0234CZ	29715	4	OI RD OCRACOKE CAMPGROUND CROSSOVER C	FROM ROUTE 0234Z (OI RD OCRACOKE CAMPGROUND ROAD) AT MP 0.30 ON LEFT	TO ROUTE 0234Z (OI RD OCRACOKE CAMPGROUND ROAD) AT MP 0.52 ON LEFT		3	0.06	0.00	0.06	
0234Z	29715	4	OI RD OCRACOKE CAMPGROUND ROAD	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON LEFT	TO END OF LOOP		3	0.74	0.00	0.74	

CAHA-0420ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0419Z	111015	4	HI RD NEWMAN SCHOONER ENTRANCE ROAD	FROM ENTRANCE GATE AT END OF ROUTE 5230 (HI RD OLD LIGHTHOUSE ROAD)	TO ROUTE 0420Z (HI RD NEWMAN SCHOONER LOOP ROAD) AT MP 0.32 (ON RIGHT)		6	0.14	0.00	0.14	
0420Z	111015	4	HI RD NEWMAN SCHOONER LOOP ROAD	FROM ROUTE 0419Z (HI RD NEWMAN SCHOONER ENTRANCE ROAD) AT MP 0.03 ON RIGHT	TO END OF LOOP		6	0.35	0.00	0.35	

CAHA-0903ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0903AZ	28910	4	BI RD BODIE ISLAND LIGHTHOUSE PARKING AREA A	FROM ROUTE 0202 (BI RD BAY DRIVE) AT MP 1.08 ON RIGHT	TO ROUTE 0202 (BI RD BAY DRIVE) AT MP 1.11 ON RIGHT			0.00	0.00	0.00	11,259
0903BZ	28910	4	BI RD BODIE ISLAND LIGHTHOUSE PARKING AREA B	FROM ROUTE 0202 (BI RD BAY DRIVE) AT MP 1.13 ON RIGHT	TO ROUTE 0202 (BI RD BAY DRIVE) AT MP 1.17 ON RIGHT			0.00	0.00	0.00	11,010

NPS/RIP Subcomponent Details for CAHA

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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).

CAHA

CAPE HATTERAS NATIONAL SEASHORE

CAHA-0929ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0929AZ	29745	4	OI RD PONY PEN ACCESS PARKING A	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON RIGHT	TO ROUTE 5012O (OI RD STATE ROUTE 12) ON RIGHT			0.00	0.00	0.00	10,817
0929BZ	29745	4	OI RD PONY PEN ACCESS PARKING B	FROM ROUTE 5012O (OI RD HIGHWAY 12) ON LEFT	TO ROUTE 5012O (OI RD STATE ROUTE 12) ON LEFT			0.00	0.00	0.00	6,499

CAHA-0945ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0945AZ	110983	4	HI RD HATTERAS TO OCRACOKE ISLAND FERRY AND DOCK PARKING A	FROM NC-12	TO COAST GUARD ROAD			0.00	0.00	0.00	41,685
0945BZ	110983	4	HI RD HATTERAS TO OCRACOKE ISLAND FERRY AND DOCK PARKING B	FROM ROUTE 5012H (HI RD HIGHWAY 12) ON RIGHT	TO NC-12			0.00	0.00	0.00	81,764
0945CZ	110983	4	HI RD HATTERAS TO OCRACOKE ISLAND FERRY AND DOCK PARKING C	FROM NC-12	TO ROUTE 0954DZ (HI RD SCHOONER LOOP ROAD PARKING D)			0.00	0.00	0.00	22,840
0945DZ	110983	4	HI RD HATTERAS TO OCRACOKE ISLAND FERRY AND DOCK PARKING D	FROM ROUTE 0954CZ (HI RD SCHOONER LOOP ROAD PARKING C)	TO COAST GUARD ROAD			0.00	0.00	0.00	9,984

NPS/RIP Subcomponent Details for CAHA

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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

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CAHA

CAPE HATTERAS NATIONAL SEASHORE

CAHA-0952ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0952AZ	111007	4	HI RD FRISCO CAMPGROUND COMFORT STATION PARKING A	ADJACENT TO ROUTE 0227AZ (HI RD FRISCO CAMPGROUND CROSSOVER A)AT MP 0.10 ON RIGHT				0.00	0.00	0.00	639
0952BZ	111007	4	HI RD FRISCO CAMPGROUND COMFORT STATION PARKING B	ADJACENT TO ROUTE 0227BZ (HI RD FRISCO CAMPGROUND CROSSOVER B)AT MP 0.15 ON RIGHT				0.00	0.00	0.00	938
0952CZ	111007	4	HI RD FRISCO CAMPGROUND COMFORT STATION PARKING C	ADJACENT TO ROUTE 0227CZ (HI RD FRISCO CAMPGROUND CROSSOVER C)AT MP 0.04 ON RIGHT				0.00	0.00	0.00	777
0952EZ	111007	4	HI RD FRISCO CAMPGROUND COMFORT STATION PARKING E	ADJACENT TO ROUTE 0227EZ (HI RD FRISCO CAMPGROUND CROSSOVER E)AT MP 0.04 ON RIGHT				0.00	0.00	0.00	1,085

NPS/RIP Subcomponent Details for CAHA

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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

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CAHA

CAPE HATTERAS NATIONAL SEASHORE

CAHA-0954ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0954AZ	111008	4	HI RD SCHOONER LOOP ROAD PARKING A	ADJACENT TO ROUTE 0420Z (HI RD NEWMAN SCHOONER LOOP ROAD) AT MP 0.03 ON RIGHT				0.00	0.00	0.00	4,268
0954BZ	111008	4	HI RD SCHOONER LOOP ROAD PARKING B	ADJACENT TO ROUTE 0420Z (HI RD NEWMAN SCHOONER LOOP ROAD) AT MP 0.10 ON LEFT				0.00	0.00	0.00	11,706
0954CZ	111008	4	HI RD SCHOONER LOOP ROAD PARKING C	ADJACENT TO ROUTE 0420Z (HI RD NEWMAN SCHOONER LOOP ROAD) AT MP 0.18 ON RIGHT				0.00	0.00	0.00	4,727
0954DZ	111008	4	HI RD SCHOONER LOOP ROAD PARKING D	ADJACENT TO ROUTE 0420Z (HI RD NEWMAN SCHOONER LOOP ROAD) AT MP 0.21 ON RIGHT				0.00	0.00	0.00	6,153
0954EZ	111008	4	HI RD SCHOONER LOOP ROAD PARKING E	ADJACENT TO ROUTE 0420Z (HI RD NEWMAN SCHOONER LOOP ROAD) AT MP 0.21 ON LEFT				0.00	0.00	0.00	1,951
0954FZ	111008	4	HI RD SCHOONER LOOP ROAD PARKING F	ADJACENT TO ROUTE 0420Z (HI RD NEWMAN SCHOONER LOOP ROAD) AT MP 0.26 ON LEFT				0.00	0.00	0.00	2,660
0954GZ	**111008**	**5**	**HI RD SCHOONER LOOP ROAD PARKING G**	**ADJACENT TO ROUTE 0420Z (HI RD NEWMAN SCHOONER LOOP ROAD) AT MP 0.29 ON RIGHT**				**0.00**	**0.00**	**0.00**	**7,728**
0954HZ	111008	4	HI RD SCHOONER LOOP ROAD PARKING H	ADJACENT TO ROUTE 0420Z (HI RD NEWMAN SCHOONER LOOP ROAD) AT MP 0.32 ON RIGHT				0.00	0.00	0.00	1,163

NPS/RIP Subcomponent Details for CAHA

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Green = All Unpaved Parking Areas
Grey = Paved Routes, DCV not Driven
Black = State, Local or Private non-NPS Routes
= Concession Route Flag ON

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CAHA

CAPE HATTERAS NATIONAL SEASHORE

CAHA-0956ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0956AZ	111010	4	BI RD PARK SERVICE ROAD PARKING A	FROM ROUTE 0400 (BI RD PARK SERVICE ROAD) AT MP 0.19 ON RIGHT	TO ROUTE 0400 (BI RD PARK SERVICE ROAD) AT MP 0.21 ON RIGHT			0.00	0.00	0.00	3,028
0956BZ	111010	4	BI RD PARK SERVICE ROAD PARKING B	ADJACENT TO ROUTE 0400 (BI RD PARK SERVICE ROAD) AT MP 0.28 ON LEFT				0.00	0.00	0.00	1,001
0956CZ	111010	4	BI RD PARK SERVICE ROAD PARKING C	ADJACENT TO ROUTE 0400 (BI RD PARK SERVICE ROAD) AT MP 0.31 ON LEFT				0.00	0.00	0.00	1,099
0956DZ	111010	4	BI RD PARK SERVICE ROAD PARKING D	ADJACENT TO ROUTE 0400 (BI RD PARK SERVICE ROAD) AT MP 0.37 ON RIGHT				0.00	0.00	0.00	1,350
0956EZ	111010	4	BI RD PARK SERVICE ROAD PARKING E	ADJACENT TO ROUTE 0400 (BI RD PARK SERVICE ROAD) AT MP 0.39 ON RIGHT				0.00	0.00	0.00	989

NPS/RIP Subcomponent Details for CAHA

Shading Color Key:
Red text denotes approx. mileage

White = Paved Routes, DCV Driven
Yellow = Unpaved Routes, DCV not Driven
Blue = All Paved Parking Areas
Green = All Unpaved Parking Areas
Grey = Paved Routes, DCV not Driven
Black = State, Local or Private non-NPS Routes
= Concession Route Flag ON

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

CAHA

CAPE HATTERAS NATIONAL SEASHORE

CAHA-0961ZZ Subcomponent Breakdown

Rte. No.	FMSS No.	Cycle Collected	Route Name	Route Description From	Route Description To	Concess Route	Func. Class	Paved Miles	Un-Paved Miles	Total Route Length	Manual Rated SQ/FT
0961AZ	104929	4	BI RD SALVO DAY USE PARKING A	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.05 ON LEFT				0.00	0.00	0.00	2,320
0961BZ	104929	4	BI RD SALVO DAY USE PARKING B	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.36 ON RIGHT				0.00	0.00	0.00	1,742
0961CZ	104929	4	BI RD SALVO DAY USE PARKING C	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.38 ON LEFT				0.00	0.00	0.00	1,549
0961DZ	104929	4	BI RD SALVO DAY USE PARKING D	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.40 ON RIGHT				0.00	0.00	0.00	1,636
0961EZ	104929	4	BI RD SALVO DAY USE PARKING E	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.46 ON LEFT				0.00	0.00	0.00	1,571
0961FZ	104929	4	BI RD SALVO DAY USE PARKING F	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.46 ON RIGHT				0.00	0.00	0.00	1,690
0961GZ	104929	4	BI RD SALVO DAY USE PARKING G	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.49 ON RIGHT				0.00	0.00	0.00	1,863
0961HZ	104929	4	BI RD SALVO DAY USE PARKING H	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.54 ON RIGHT				0.00	0.00	0.00	1,911
0961IZ	104929	4	BI RD SALVO DAY USE PARKING I	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.58 ON LEFT				0.00	0.00	0.00	1,551
0961JZ	104929	4	BI RD SALVO DAY USE PARKING J	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.59 ON RIGHT				0.00	0.00	0.00	7,402
0961KZ	104929	4	BI RD SALVO DAY USE PARKING K	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.65 ON LEFT				0.00	0.00	0.00	1,423
0961LZ	104929	4	BI RD SALVO DAY USE PARKING L	ADJACENT TO ROUTE 0215 (BI RD SALVO DAY USE ACCESS) AT MP 0.69 ON RIGHT				0.00	0.00	0.00	1,676

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - CAHA

ROUTES ADDED FROM PREVIOUS INVENTORY:

Route #	Route Name	Reason for Addition	Comments
0966	BI RD LIFESAVING STATION PARKING	OTHER	NEW PARKING AREA ADDED IN CYCLE 5.
0968	BI RD COAST GUARD STATION PARKING	OTHER	NEW PARKING AREA ADDED IN CYCLE 5.

ROUTES MODIFIED FROM PREVIOUS INVENTORY:

Route #	Route Name	Type of Modification	Comments
0936	HI RD LH VISITOR PARKING	SQ FEET CHANGE	SHAPE RECOLLECTED IN CYCLE 5 TO REFLECT CHANGES MADE TO THE ISLANDS.

OTHER CHANGES FROM PREVIOUS INVENTORY:

Route #	Route Name	Type of Change	Comments
0010	BI RD HIGHWAY 12	LENGTH CHANGE	ROUTE WAS SHORTENED SLIGHTLY TO END AT S. OLD OREGON INLET ROAD BECAUSE OF OWNERSHIP IN CYCLE 5. ROUTE NAME UPDATED FROM “BI RD BODIE ISLAND ENTRANCE ROAD” TO “BI RD HIGHWAY 12” AS PER NPS.
0202	BI RD BAY DRIVE	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 3 TO 2 IN CYCLE 5.
0204ZZ	BI RD OREGON INLET CAMPGROUND ROADS	ROUTES COMBINED	ROUTES 0204, 0204A, 0204B, AND 0204C WERE COMBINED INTO ROUTE 0204ZZ IN CYCLE 5.
0210	BI RD LIFEBOAT STATION ROAD	ROUTE NAME	ROUTE NAME CHANGED FROM “BI RD PEA ISLAND DAY USE ROAD” TO “BI RD LIFEBOAT STATION ROAD”.
0225ZZ	HI RD CAPE POINT CAMPGROUND ROADS	ROUTES COMBINED	ROUTES 0225 AND 0225A THROUGH J WERE COMBINED INTO ROUTE 0225ZZ IN CYCLE 5.

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - CAHA

OTHER CHANGES FROM PREVIOUS INVENTORY:			
Route #	**Route Name**	**Type of Change**	**Comments**
0227ZZ	HI RD FRISCO CAMPGROUND ROADS	ROUTES COMBINED	ROUTES 0234 AND 0234A THROUGH C WERE COMBINED INTO ROUTE 0234ZZ IN CYCLE 5
0234ZZ	OI RD OCRACOKE CAMPGROUND ROADS	ROUTES COMBINED	ROUTES 0227 AND 0227A THROUGH F WERE SPLIT AS SUBCOMPONENTS IN CYCLE 4 BUT WERE NOT NUMBERED ACCORDINGLY. SUMMARY RECORD 0227ZZ WAS ADDED IN CYCLE 5 AND A "Z" WAS ADDED TO THE END OF THE SUBCOMPONENT ROUTE NUMBERS.
0237	OI RD AIRPORT ACCESS / RAMP 70	ROUTE NAME	UPDATED ROUTE NAME TO SAY “RAMP 70” (WAS “52” IN CYCLE 4) IN CYCLE 5 .
0250	HI RD OLD LIGHTHOUSE SITE ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 5 TO 3 BECAUSE IT IS A PUBLIC ROAD. ROUTE NAME CHANGED FROM “HI RD OLD SITE ROAD” IN CYCLE 4 TO “HI RD OLD LIGHTHOUSE SITE ROAD” IN CYCLE 5.
0400	BI RD PARK SERVICE ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 5 TO 6 BECAUSE IT IS A RESTRICTED ACCESS ROAD.
0401	BI RD OREGON INLET COAST GUARD ACCESS	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 5 TO 6 BECAUSE IT IS RESTRICTED ACCESS. THE LENGTH IS SHORTER IN CYCLE 5 BECAUSE THE BEGINNING SECTION OF ROAD WAS SPLIT OFF AND COMBINED INTO THE PARKING AREA, ROUTE 0970.
0404	BI RD OLD COQUINA BEACH ACCESS	ROUTE NAME	ROUTE NAME CHANGED FROM “BI RD COAST GUARD STATION AT COQUINA BEACH ACCESS” TO “BI RD OLD COQUINA BEACH ACCESS”.
0405	BI RD BODIE ISLAND BONE YARD ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 5 TO 6 BECAUSE IT IS RESTRICTED.
0410	HI RD LOGGERHEAD LANE	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 5 TO 6 BECAUSE IT IS RESTRICTED.
0411	HI RD CABIN ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 5 TO 6 BECAUSE IT IS RESTRICTED.

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - CAHA

OTHER CHANGES FROM PREVIOUS INVENTORY:			
Route #	**Route Name**	**Type of Change**	**Comments**
0417	OI RD OCRACOKE RESIDENCE ACCESS	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 5 TO 6 BECAUSE IT IS RESTRICTED.
0420ZZ	HI RD NEWMAN SCHOONER LOOP AND ENTRANCE ROAD	ROUTES COMBINED	ROUTE 0419 AND 0420 WERE COMBINED INTO ROUTE 0420ZZ IN CYCLE 5
0923	HI RD COMFORT STATION PARKING	ROUTE NAME	ROUTE NAME CHANGED FROM “HI RD FRISCO DAY USE AREA PARKING” TO “HI RD COMFORT STATION PARKING” IN CY5.
0935	HI RD OLD LIGHTHOUSE FOUNDATION PROTECTED BEACH PARKING	ROUTE NAME	ROUTE NAME CHANGED FROM “HI RD OLD LIGHTHOUSE SITE OVERFLOW PARKING” TO “HI RD OLD LIGHTHOUSE FOUNDATION PROTECTED BEACH PARKING”.
0943	HI RD RAMP 55 PARKING	OTHER	FMSS CHANGED TO 28878.
0944	BI RD COQUINA BEACH PARKING AREA	ROUTES COMBINED	ROUTE 0201 WAS COMBINED INTO ROUTE 0944 IN CYCLE 5.
0969	BI RD OREGON INLET MARINA ACCESS AND PARKING	OTHER	ROUTE 0208 CHANGED FROM A ROAD TO A PARKING AREA (ROUTE 0969) IN CYCLE 5.
0970	BI RD OREGON INLET SMALL BOAT ACCESS	OTHER	ROUTE 0209 CHANGED FROM A ROAD TO A PARKING AREA (ROUTE 0970) IN CYCLE 5. A PORTION PREVIOUSLY COLLECTED AS ROUTE 0401 IN CYCLE 4 WAS ADDED TO THE SHAPE.
5012H	HI RD STATE ROUTE 12	LENGTH CHANGE	ROUTE 0010 WAS SHORTENED TO END AT THE INTERSECTION OF SOUTH OLD OREGON INLET ROAD; BECAUSE ROUTE 5012H BEGINS AT THE END OF ROUTE 0010, THE LENGTH OF ROUTE 5012H ALSO CHANGED IN CYCLE 5.
5012O	OI RD STATE ROUTE 12	LENGTH CHANGE	LENGTH SHORTENED .06 MILES TO ELIMINATE OVERLAP WITH ROUTE 0951.

ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - CAHA

ROUTES REMOVED FROM PREVIOUS INVENTORY:			
Route #	**Route Name**	**Reason for Removal**	**Comments**
0011	BI RD S OLD OREGON INLET ROAD	OTHER	PARK CONFIRMED THAT THEY DO NOT OWN THIS ROAD.
0215A	BI RD SALVO DAY USE ACCESS ROAD A	OTHER	REMOVED IN CYCLE 5 THROUGH ALIGNMENT.
0215AA	BI RD SALVO DAY USE ACCESS ROAD CROSSOVER	OTHER	REMOVED IN CYCLE 5 THROUGH ALIGNMENT.
0242	BI RD SALVO CAMPGROUND RESIDENCE ROAD	OTHER	REMOVED IN CYCLE 5 THROUGH ALIGNMENT.
0403	BI RD BODIE ISLAND RANGER STATION ACCESS	OTHER	ROUTE WAS REMOVED THROUGH ALIGNMENT IN CYCLE 5.
0953ZZ	HI RD SCHOONER ENTRANCE ROAD PARKING AREAS	OTHER	REMOVED IN CYCLE 5 BECAUSE THEY NO LONGER EXIST.
0955	HI RD SCHOONER LOOP ROAD FUEL STATION	OTHER	REMOVED IN CYCLE 5.
0962ZZ	BI RD SALVO RESIDENCE PARKING AREAS	OTHER	REMOVED IN CYCLE 5 THROUGH ALIGNMENT.

Section 3
Park Summary Information

Cape Hatteras National Seashore

Federal Lands Highway
Road Inventory Program

CAHA: 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			0.36	3.73%	0.82	8.50%	6.01	62.28%	**7.19**
2			0.38	3.94%	0.65	6.74%	1.24	12.85%	**2.27**
3									
4									
5									
6							0.19	1.97%	**0.19**
7									
8									
Totals	**0.00**	**0.00%**	**0.74**	**7.67%**	**1.47**	**15.23%**	**7.44**	**77.10%**	**9.65**

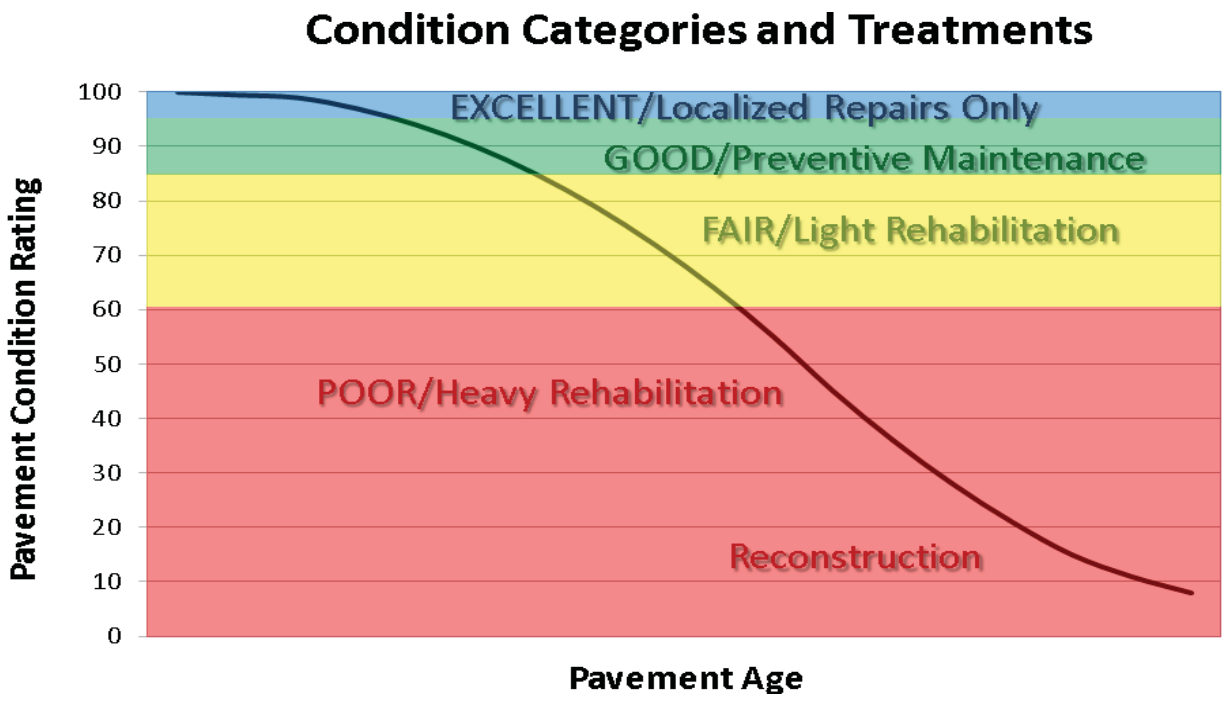
Note: **The information in this table is derived from the PMS_20 table in the Park database, which only contains processed data from routes collected with the Data Collection Vehicle (DCV). Information for Manually Rated Routes (MRR) and Parking Areas is not reported in this table. Only Functional Class 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.

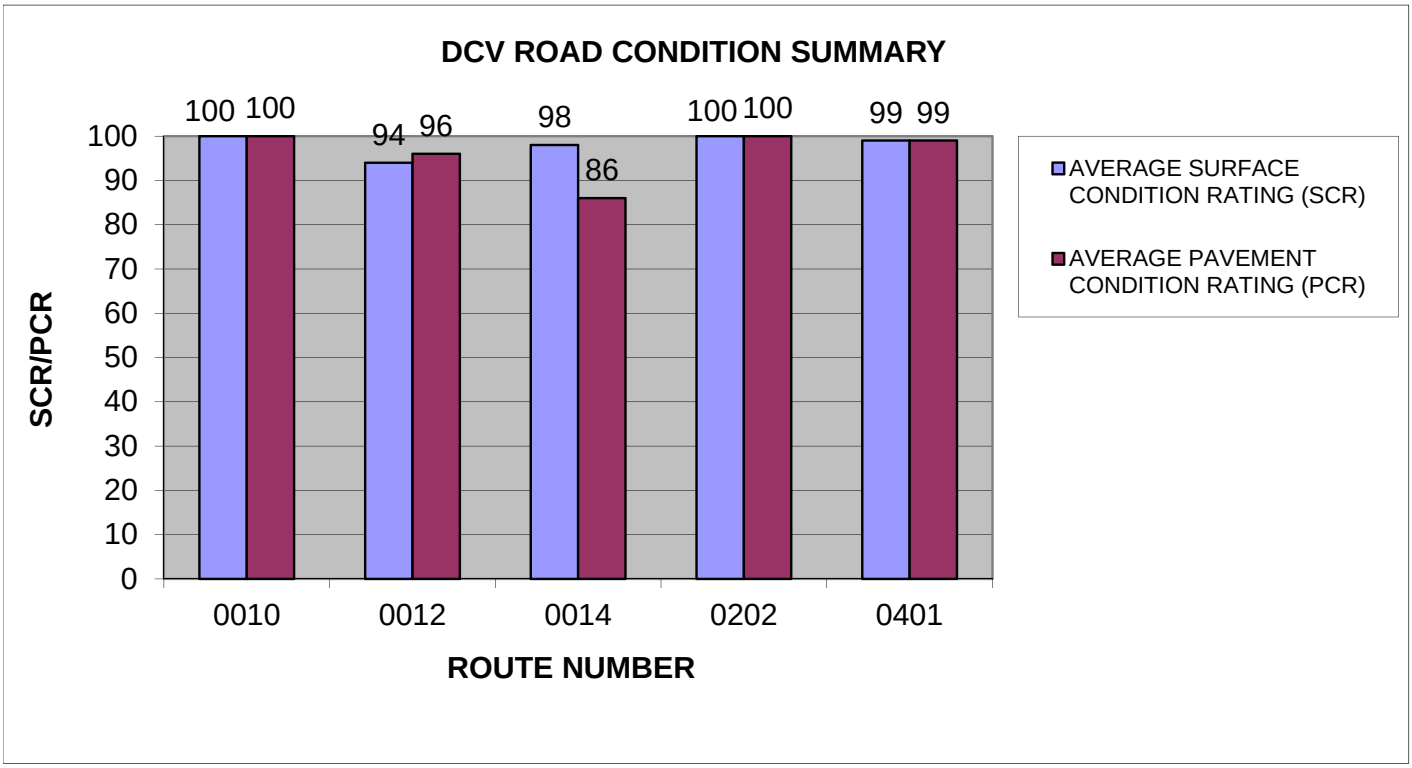
At this time, specific Maintenance and Rehabilitation activities should be evaluated and recommended at the project level. Site-specific conditions that influence treatment type should be determined based on performing a subsurface investigation and/or pavement condition survey, and not be based solely 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.



CAHA: 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)
0010	BI RD HIGHWAY 12	1	4.63	ASPHALT	100	100
0012	HI RD LIGHTHOUSE ROAD	1	2.56	ASPHALT	94	96
0014	HI RD FRISCO CAMPGROUND ACCESS / BILLY MITCHELL ROAD	2	1.06	ASPHALT	98	86
0202	BI RD BAY DRIVE	2	1.21	ASPHALT	100	100
0401	BI RD OREGON INLET COAST GUARD ACCESS	6	0.19	ASPHALT	99	99

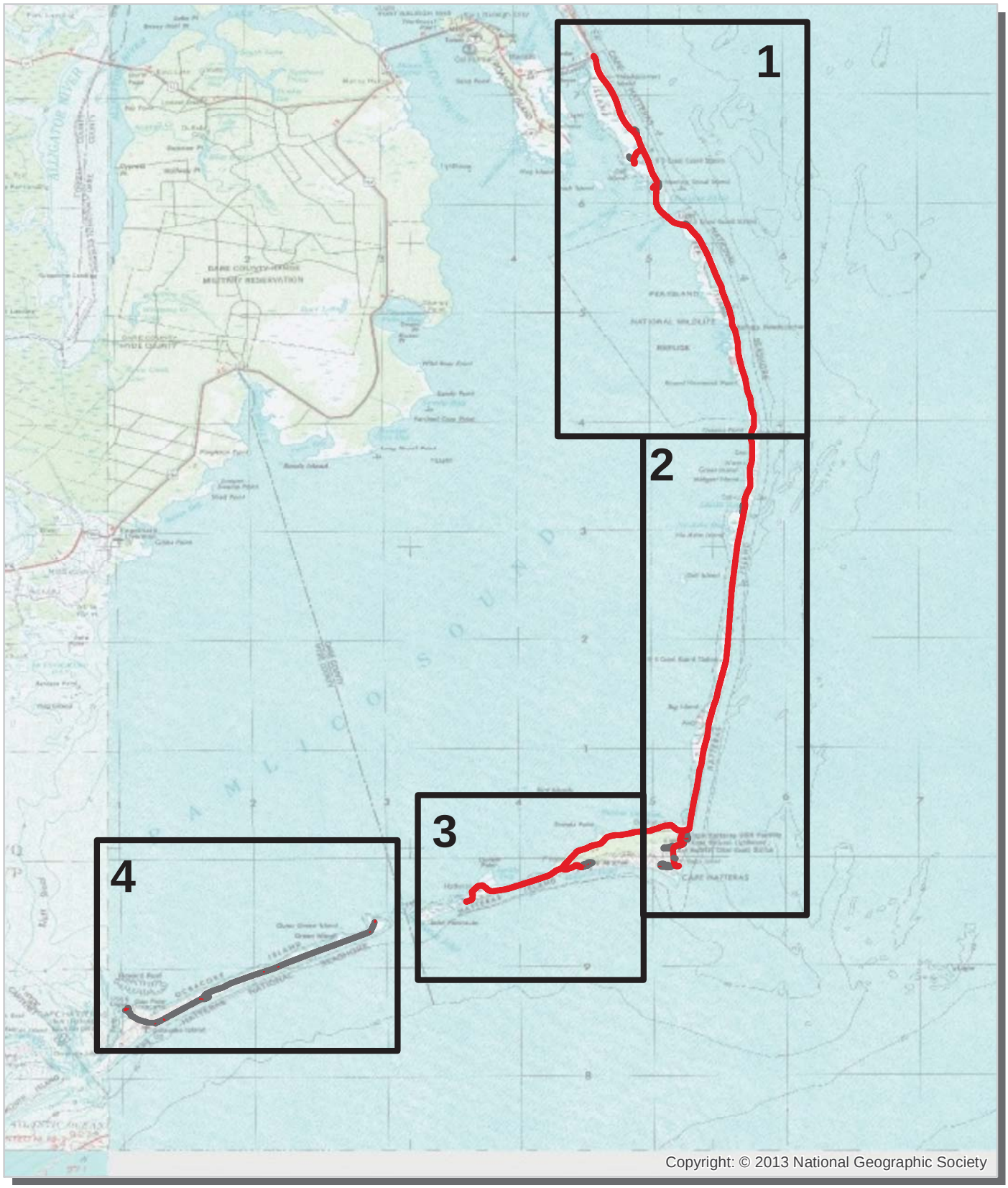


Section 4
Park Route Location Maps

Cape Hatteras National Seashore

Federal Lands Highway
Road Inventory Program

Cape Hatteras National Seashore
Route Location Map
Key Map



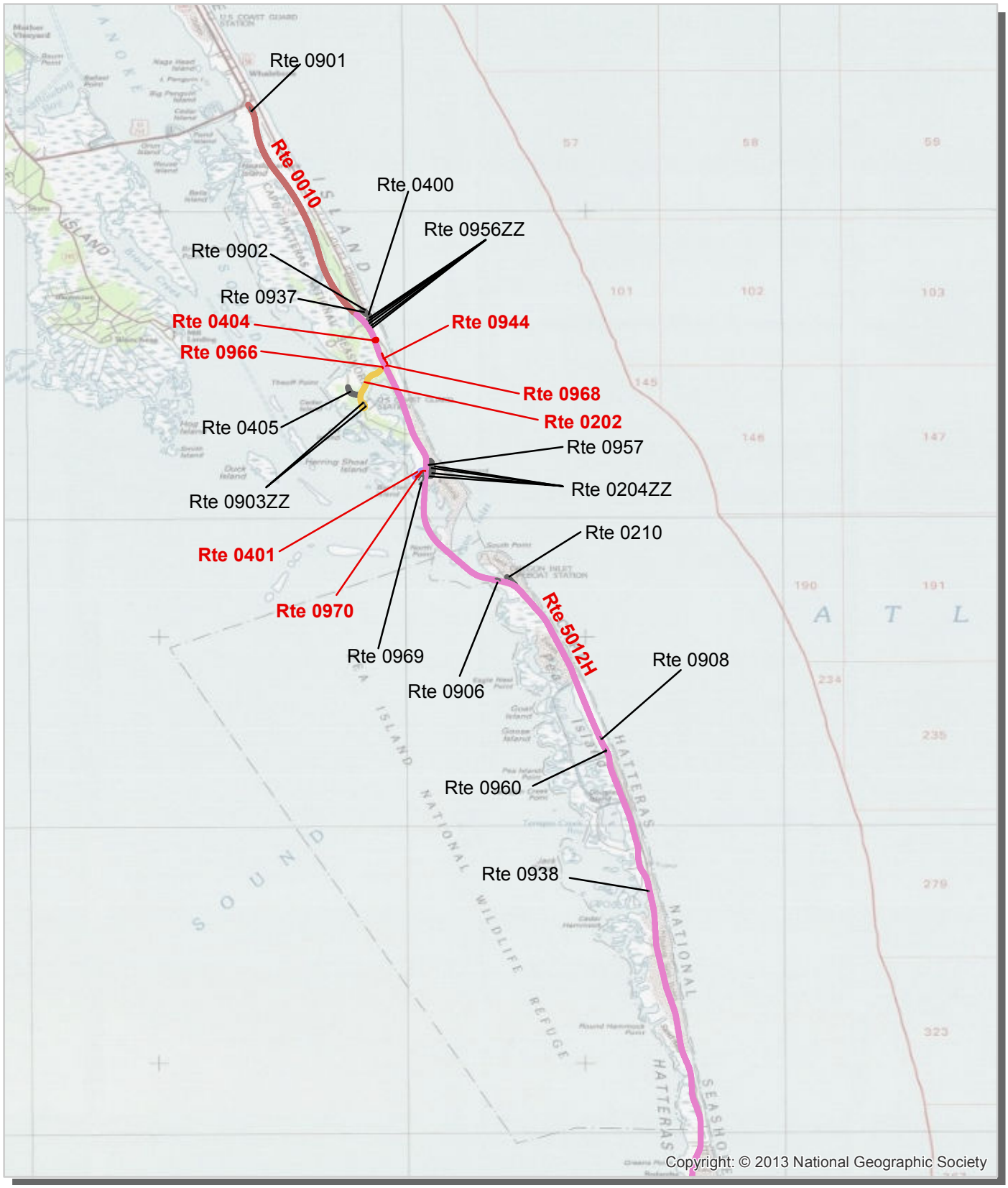
Cycle 5 Collected Routes

Routes Collected in Previous Cycle

7 3.5 0 7 Miles

N

Cape Hatteras National Seashore
Route Location Map
Area 1



Unique colors used to differentiate routes

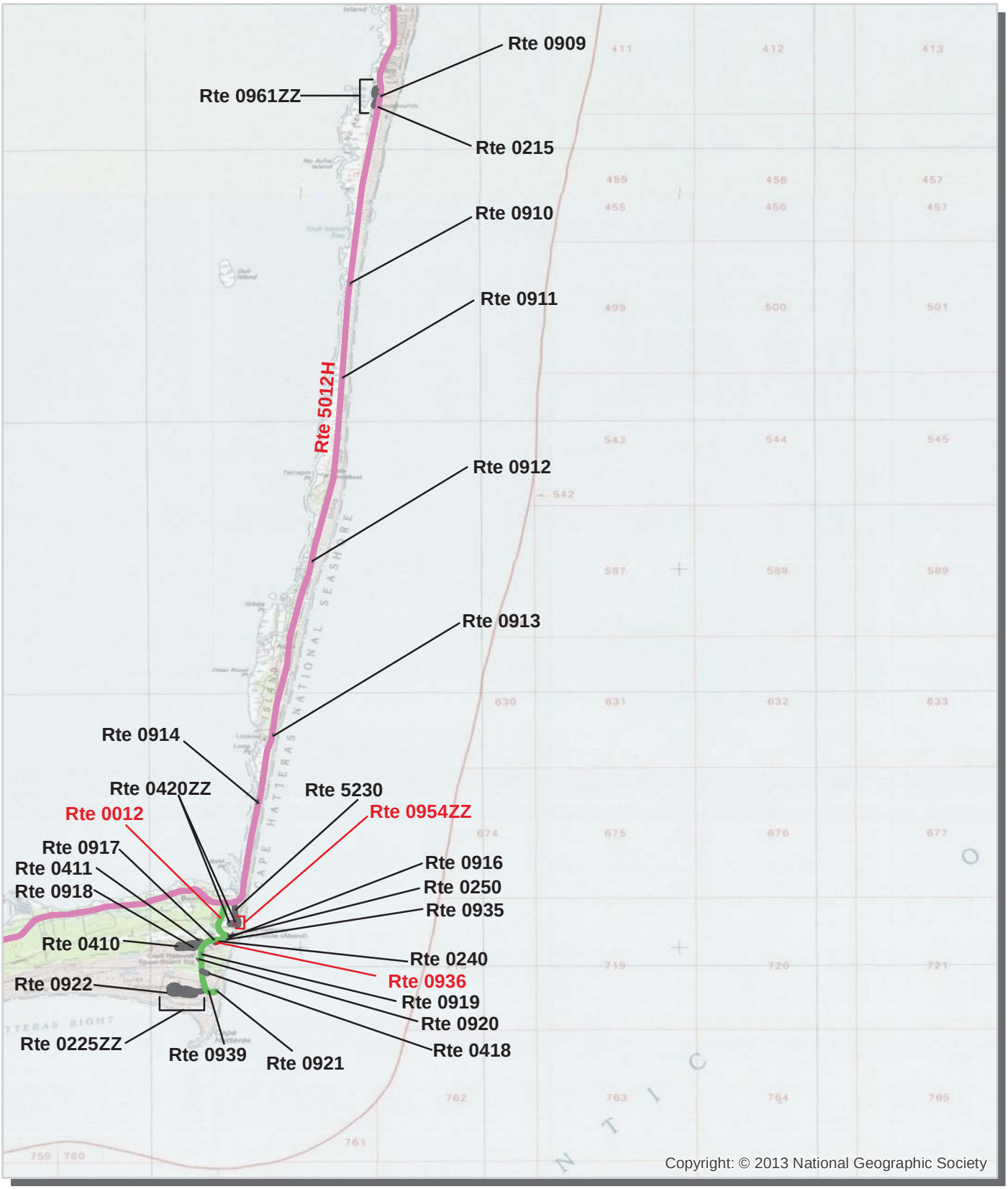
Routes Collected in Previous Cycle

2.5 1.25 0 2.5

Miles

N

Cape Hatteras National Seashore
Route Location Map
Area 2



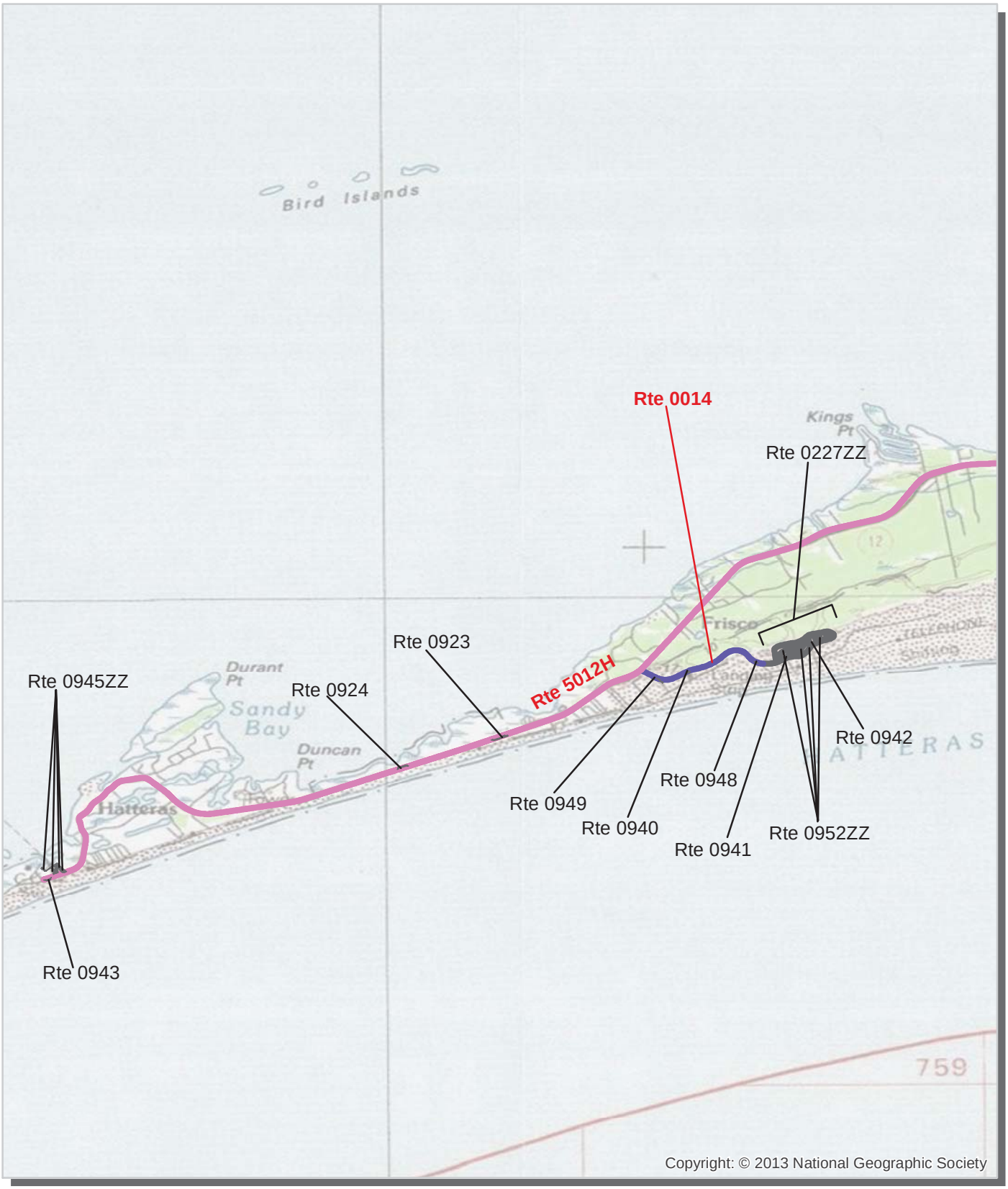
Unique colors used to differentiate routes

Routes Collected in Previous Cycle

2.5 1.25 0 2.5
Miles

N

Cape Hatteras National Seashore
Route Location Map
Area 3



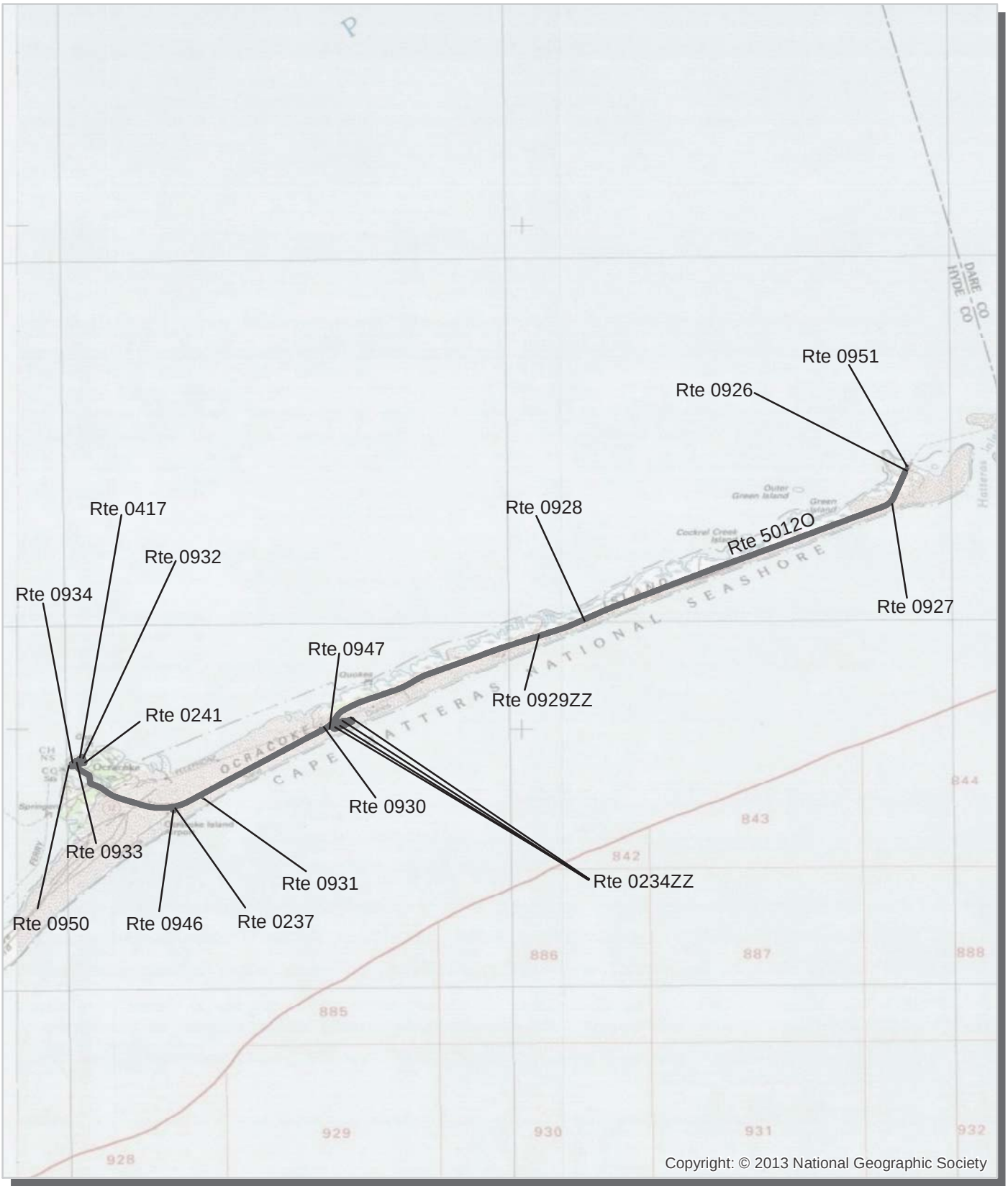
Unique colors used to differentiate routes

Routes Collected in Previous Cycle

1 0.5 0 1 Miles

N

Cape Hatteras National Seashore
Route Location Map
Area 4



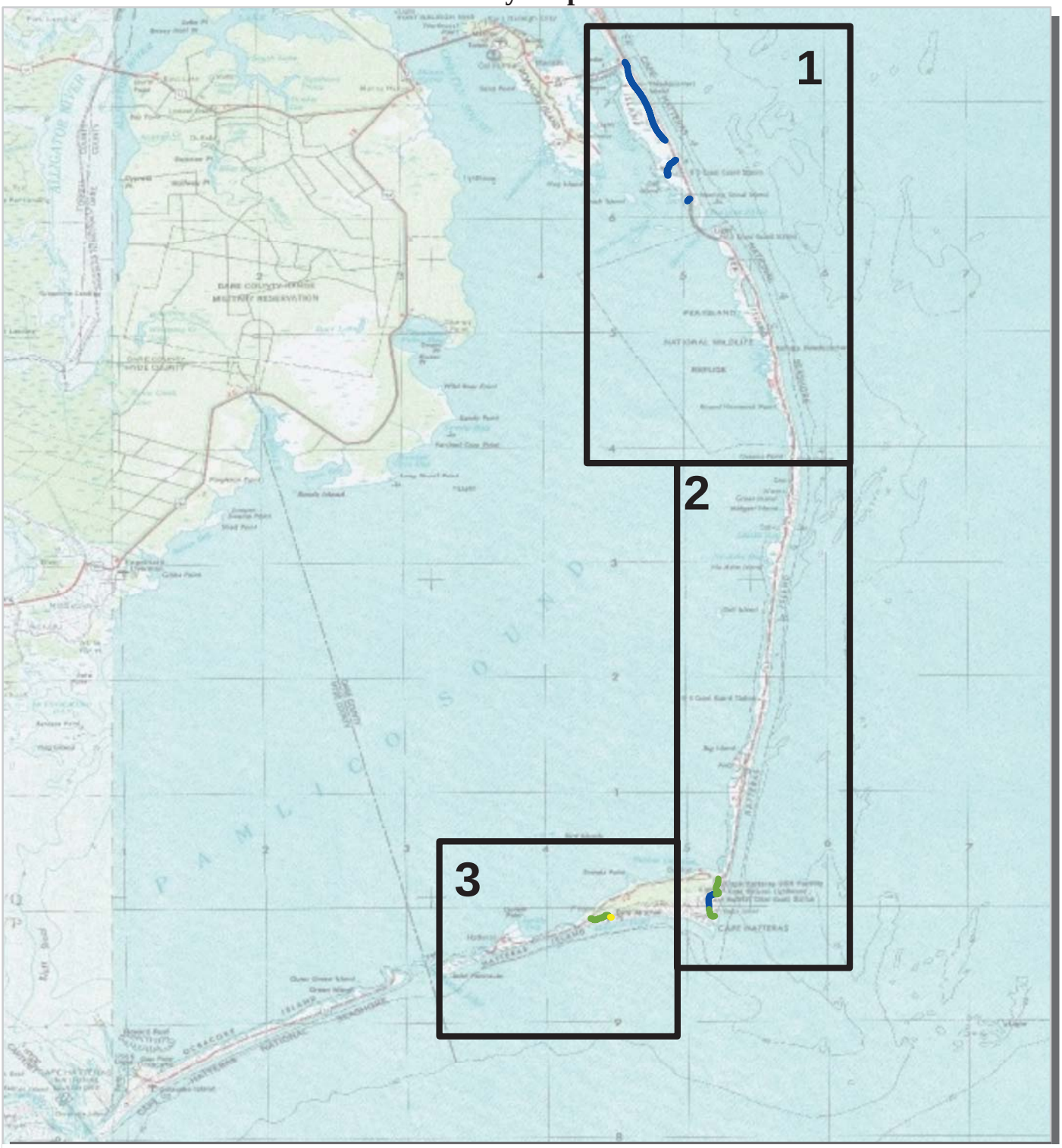
Unique colors used to differentiate routes

Routes Collected in Previous Cycle

2 1 0 2 Miles

N

Cape Hatteras National Seashore
Route Condition Map
PCR - Mile by Mile
Key Map



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

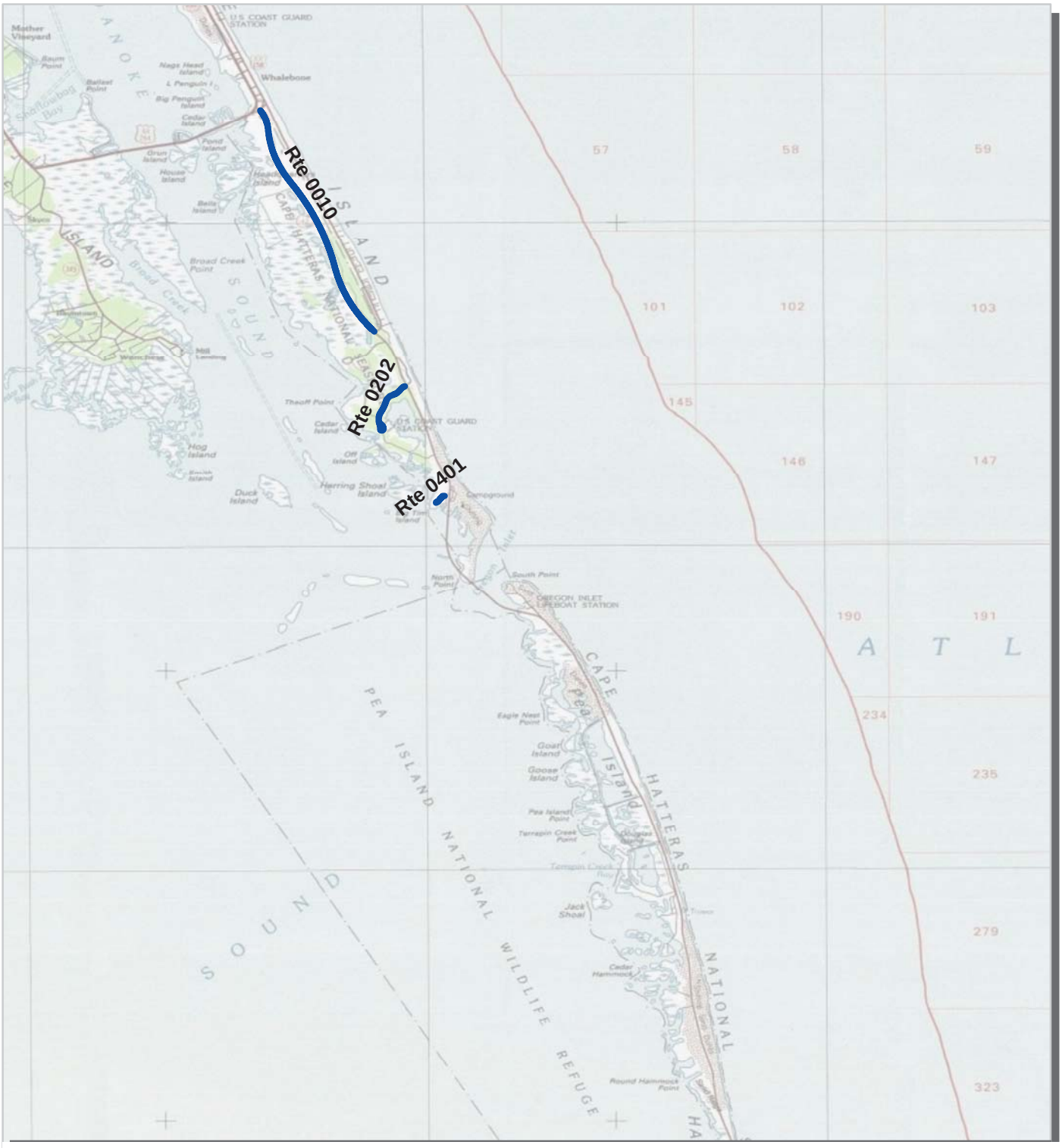
* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

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

7 3.5 0 7 Miles

N

Cape Hatteras National Seashore
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.

2.5 1.25 0 2.5 Miles

N

Cape Hatteras National Seashore
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.

1.5 0.75 0 1.5
Miles

N

Cape Hatteras National Seashore
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.

1 0.5 0 1 Miles

N

Section 5
Paved Route
Condition Rating Sheets

Cape Hatteras National Seashore

Federal Lands Highway
Road Inventory Program

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

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

ROUTE: 0010 BI RD HIGHWAY 12
CAHA : CAPE HATTERAS NATIONAL SEASHORE

COLLECTED: 1/21/2014

SOUTHEAST REGION **TOTAL LENGTH: 4.63 Miles**

Section Number	0	1	2	3	4
Section Length (mi)	1.00	1.00	1.00	1.00	0.63
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	41	32	32	32	32
Lane Width (ft)	11	11	11	11	11
Roadway Condition Information					
SCR (Surface Condition Rating)	100	100	100	100	100
PCR (Pavement Condition Rating)	100	100	100	100	100
Distress Index Values					
Structural Crack Index	100	100	100	100	100
Transverse Cracking Index	100	100	100	100	100
Patching Index	100	100	100	100	100
Rutting Index	100	100	100	100	100
Roughness Condition Index (RCI)	100	100	100	100	100

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

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

ROUTE: 0012 HI RD LIGHTHOUSE ROAD
CAHA : CAPE HATTERAS NATIONAL SEASHORE

COLLECTED: 1/21/2014

SOUTHEAST REGION **TOTAL LENGTH: 2.56 Miles**

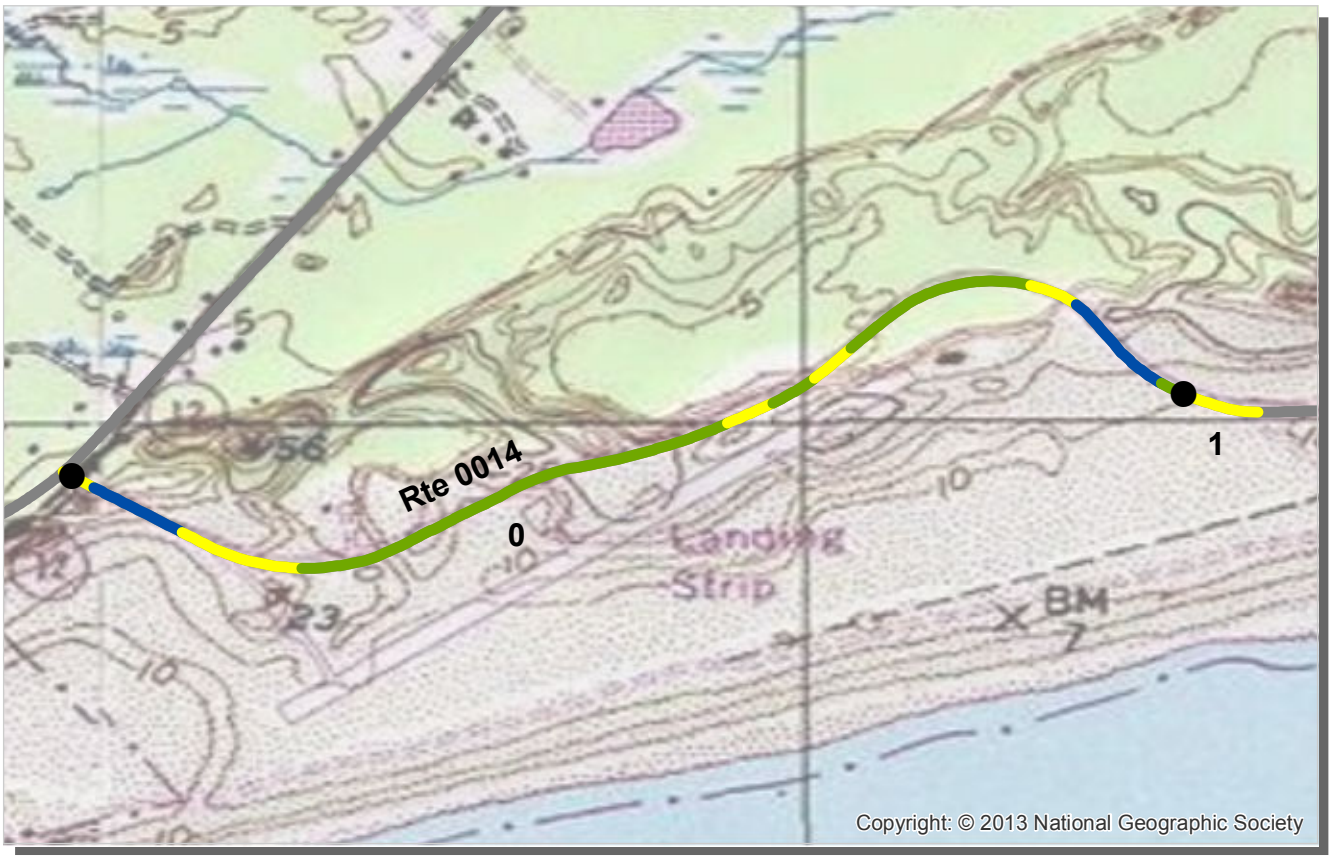
Section Number	0	1	2		
Section Length (mi)	1.00	1.00	0.56		
Cross Section Information					
Number of Lanes	2	2	2		
Paved Width (ft)	28	26	24		
Lane Width (ft)	12	10	11		
Roadway Condition Information					
SCR (Surface Condition Rating)	90	98	96		
PCR (Pavement Condition Rating)	94	99	93		
Distress Index Values					
Structural Crack Index	92	98	96		
Transverse Cracking Index	90	99	98		
Patching Index	100	100	100		
Rutting Index	100	100	98		
Roughness Condition Index (RCI)	100	100	88		

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

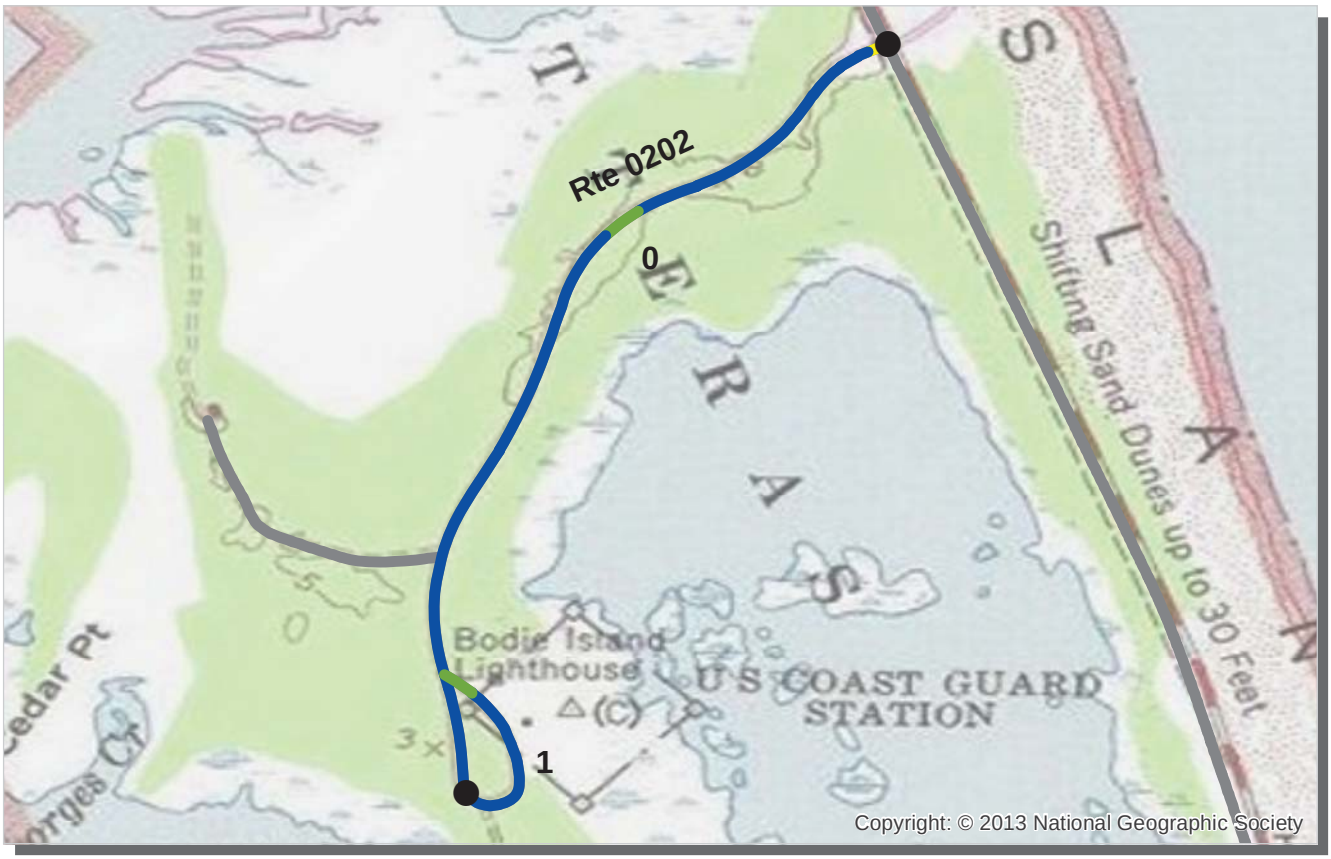
* If the PCR rating is not available for a section, the SCR rating will be displayed. See appendix for definitions and formulas.

ROUTE: 0014 HI RD FRISCO CAMPGROUND ACCESS / BILLY MITCHELL ROAD
CAHA : CAPE HATTERAS NATIONAL SEASHORE

COLLECTED: 1/21/2014
SOUTHEAST REGION **TOTAL LENGTH: 1.06 Miles**

Section Number	0	1			
Section Length (mi)	1.00	0.06			
Cross Section Information					
Number of Lanes	2	2			
Paved Width (ft)	23	19			
Lane Width (ft)	11	10			
Roadway Condition Information					
SCR (Surface Condition Rating)	98	98			
PCR (Pavement Condition Rating)	86	82			
Distress Index Values					
Structural Crack Index	99	100			
Transverse Cracking Index	100	100			
Patching Index	100	100			
Rutting Index	98	98			
Roughness Condition Index (RCI)	68	59			

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

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

ROUTE: 0202 BI RD BAY DRIVE
CAHA : CAPE HATTERAS NATIONAL SEASHORE

COLLECTED: 1/21/2014
SOUTHEAST REGION **TOTAL LENGTH: 1.21 Miles**

Section Number	0	1			
Section Length (mi)	1.00	0.21			
Cross Section Information					
Number of Lanes	2	1			
Paved Width (ft)	18	17			
Lane Width (ft)	10	17			
Roadway Condition Information					
SCR (Surface Condition Rating)	100	99			
PCR (Pavement Condition Rating)	100	99			
Distress Index Values					
Structural Crack Index	100	100			
Transverse Cracking Index	100	99			
Patching Index	100	100			
Rutting Index	100	99			
Roughness Condition Index (RCI)	100	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

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

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

ROUTE: 0401 BI RD OREGON INLET COAST GUARD ACCESS
CAHA : CAPE HATTERAS NATIONAL SEASHORE

COLLECTED: 1/21/2014

SOUTHEAST REGION **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)	10				
Roadway Condition Information					
SCR (Surface Condition Rating)	99				
PCR (Pavement Condition Rating)	99				
Distress Index Values					
Structural Crack Index	100				
Transverse Cracking Index	99				
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

Section 6
Manually Rated Paved Route Condition Rating Sheets

Cape Hatteras National Seashore

Federal Lands Highway
Road Inventory Program

CAPE HATTERAS NATIONAL SEASHORE

Route 0404

BI RD OLD COQUINA BEACH ACCESS

FROM ROUTE 5012H (HI RD HIGHWAY 12) ON LEFT

TO BEACH

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0404	PUBLIC	2/7/2013	4,105	0.07	0.02	33.8
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**	**Surface Type**
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45	AS

* Lane miles are based on 11' lane widths

120 60 0 120 Feet

N

Section 7
Parking Area
Condition Rating Sheets

Cape Hatteras National Seashore

Federal Lands Highway
Road Inventory Program

CAPE HATTERAS NATIONAL SEASHORE

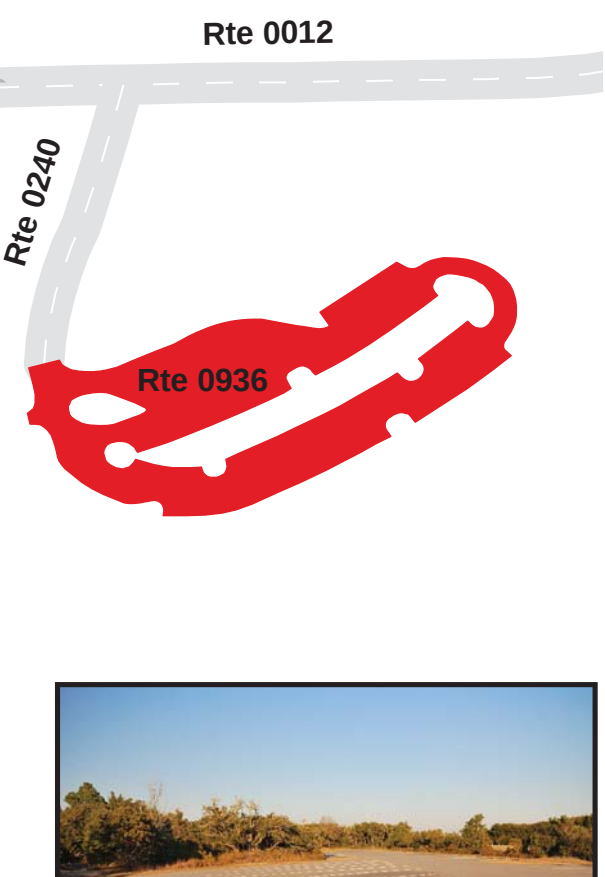
Route 0936

HI RD LH VISITOR PARKING

FROM END OF ROUTE 0240 (HI RD LIGHTHOUSE ACCESS ROAD)
TO ROUTE 0421 (HI RD CAHA LIGHTHOUSE EMERGENCY ACCESS RD)
AND ROUTE 0422 (HI RD CAHA LIGHTHOUSE SERVICE ROADS)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0936	PUBLIC	2/6/2013	71,451	1.23	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	CONCRETE CURB AND GUTTER	NO CURB	GOOD/90

* Lane miles are based on 11' lane widths



540 270 0 540
Feet

N

CAPE HATTERAS NATIONAL SEASHORE

Route 0944

BI RD COQUINA BEACH PARKING AREA

FROM BI RD COQUINA BEACH ACCESS ON RIGHT
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0944	PUBLIC	2/7/2013	109,453	1.89	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

1,400 700 0 1,400 Feet

N

CAPE HATTERAS NATIONAL SEASHORE

Route 0954ZZ

HI RD SCHOONER LOOP ROAD PARKING AREAS

FROM ROUTE 0420ZZ (HI RD NEWMAN SCHOONER LOOP ROAD)

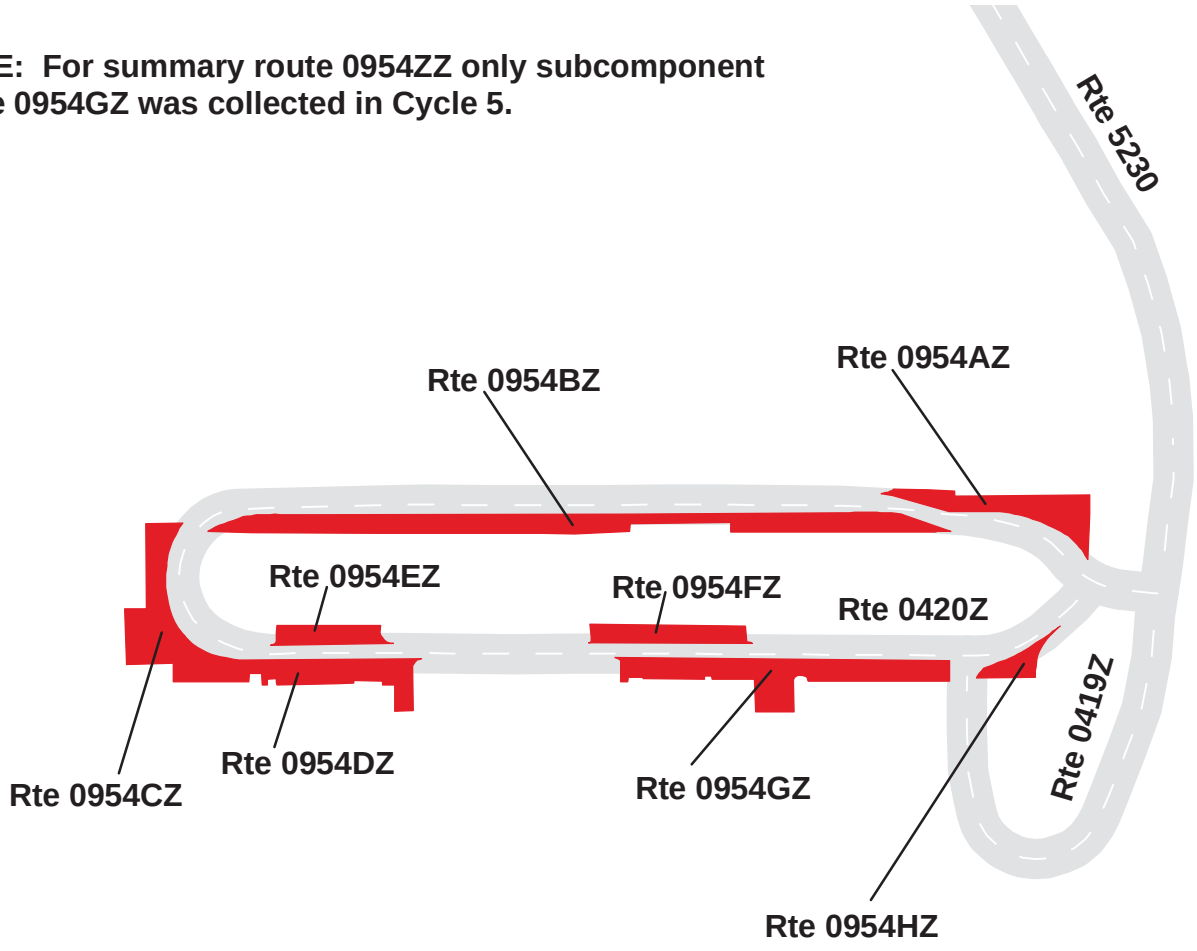
TO PARKING

Summary Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0954ZZ	NONPUBLIC	2/6/2013	40,356	0.70	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	N/A	N/A	SUMMARY/73

* Lane miles are based on 11' lane widths

NOTE: For summary route 0954ZZ only subcomponent route 0954GZ was collected in Cycle 5.



450 225 0 450

Feet

N

CAPE HATTERAS NATIONAL SEASHORE

Route 0954GZ

HI RD SCHOONER LOOP ROAD PARKING G

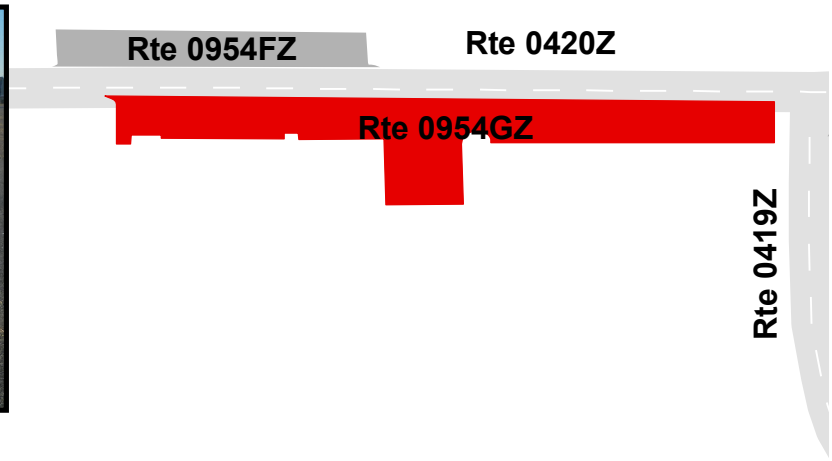
ADJACENT TO ROUTE 0420Z (HI RD NEWMAN SCHOONER LOOP ROAD)

AT MP 0.29 ON RIGHT

Subcomponent Record

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0954GZ	NONPUBLIC	2/6/2013	7,728	0.13	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



225 112.5 0 225

Feet

N

CAPE HATTERAS NATIONAL SEASHORE

Route 0966

BI RD LIFESAVING STATION PARKING

FROM ROUTE 0202 (BI RD BAY DRIVE)

TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0966	PUBLIC	2/7/2013	4,242	0.07	OT
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

* Lane miles are based on 11' lane widths

140 70 0 140 Feet

N

CAPE HATTERAS NATIONAL SEASHORE

Route 0968

BI RD COAST GUARD STATION PARKING

FROM ROUTE 0202 (BI RD BAY DRIVE)

TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0968	PUBLIC	2/7/2013	2,932	0.05	OT
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

* Lane miles are based on 11' lane widths

140 70 0 140 Feet

N

CAPE HATTERAS NATIONAL SEASHORE

Route 0970

BI RD OREGON INLET SMALL BOAT ACCESS

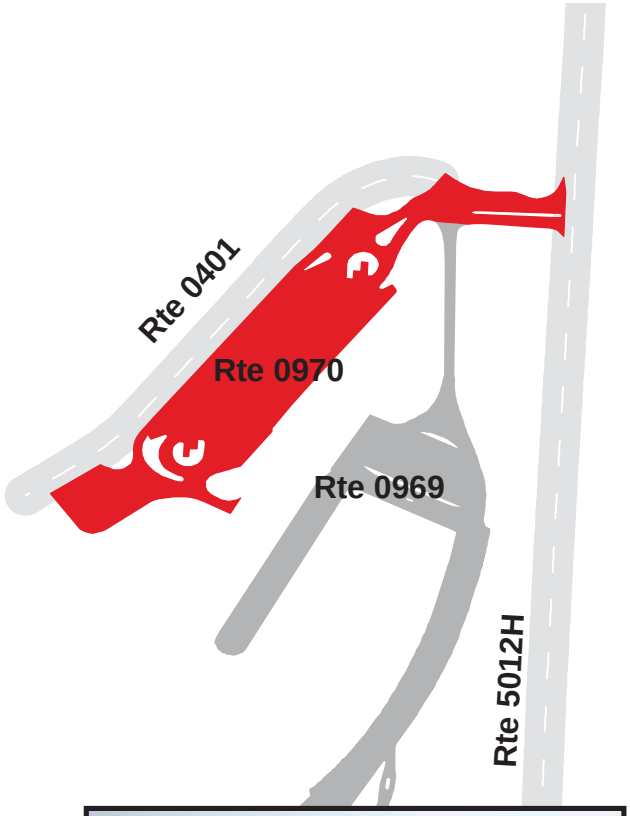
FROM ROUTE 5012H (HI RD STATE ROUTE 12)

TO ROUTE 0969 (BI RD OREGON INLET MARINA ACCESS AND PARKING)

AND ROUTE 0401 (BI RD OREGON INLET COAST GUARD ACCESS)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0970	PUBLIC	2/7/2013	145,091	2.50	AS
Culverts	**Drop Inlets**	**Gates**	**Curb & Gutter**	**Curb**	**PCR**
0	0	0	NO CURB AND GUTTER	CONCRETE CURB	FAIR/73

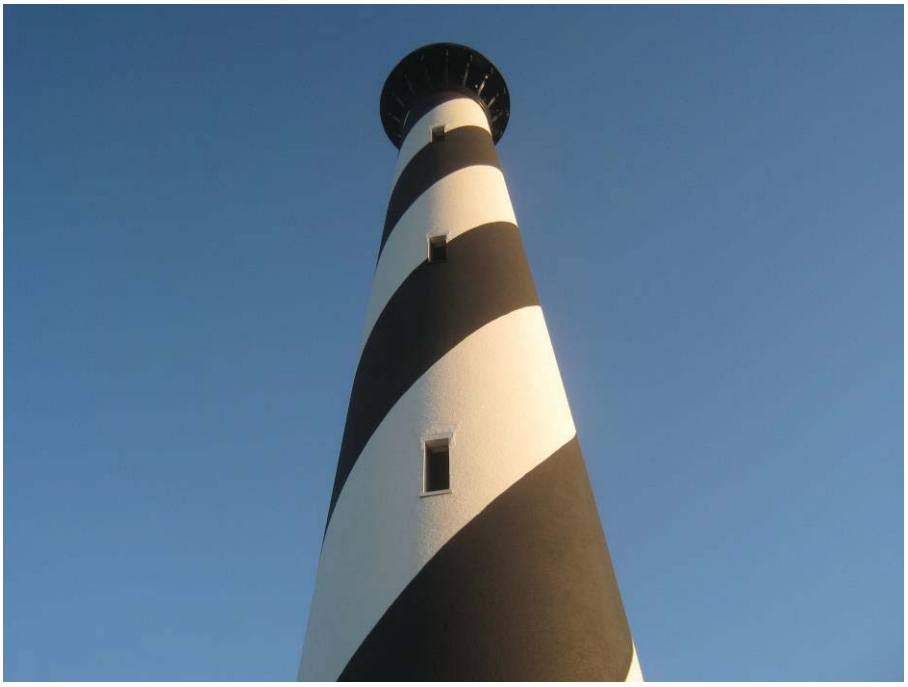
* Lane miles are based on 11' lane widths



900 450 0 900 Feet

N

Section 8
Route Maintenance Features Summaries



Cape Hatteras National Seashore

Federal Lands Highway
Road Inventory Program

CAHA: DCV ROUTE MAINTENANCE FEATURES SUMMARY

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

FEATURE	ROUTE 0010 BI RD HIGHWAY 12	ROUTE 0401 BI RD OREGON INLET COAST GUARD ACCESS					UNIT
BRIDGE	0	0	0	0	0	0	EACH
CATTLE GUARD	0	0	0	0	0	0	EACH
CULVERT	5	3	0	0	0	0	EACH
CURB	0	0	0	0	0	0	LINEAR FEET
DROP INLET	0	0	0	0	0	0	EACH
GATE	0	0	0	0	0	0	EACH
GUARD/GUIDE RAIL	0	0	0	0	0	0	LINEAR FEET
CABLE	0	0	0	0	0	0	LINEAR FEET
NON-CABLE	0	0	0	0	0	0	LINEAR FEET
GUARD/GUIDE WALL	121	908	0	0	0	0	LINEAR FEET
BOLLARD	121	908	0	0	0	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	9	2	0	0	0	0	EACH
LOW WATER CROSSING	0	0	0	0	0	0	EACH
LOW WATER CROSSING	0	0	0	0	0	0	LINEAR FEET
MILE MARKER	0	0	0	0	0	0	EACH
OVERPASS	0	0	0	0	0	0	EACH
PARK BOUNDARY	1	0	0	0	0	0	EACH
PAVED DITCH	0	0	0	0	0	0	LINEAR FEET
PULLOUT	0	0	0	0	0	0	EACH
PULLOUT	0	0	0	0	0	0	LINEAR FEET
RAILROAD CROSSING	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	0	0	LINEAR FEET
SIGN	35	7	0	0	0	0	EACH
STATE BOUNDARY	0	0	0	0	0	0	EACH
TRAFFIC LIGHT	5	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	LINEAR FEET

STRUCTURE LIST

No data available for this section.

Section 9
Route Maintenance Features
Road Logs

Cape Hatteras National Seashore

Federal Lands Highway
Road Inventory Program

CAHA: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: BI RD HIGHWAY 12

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 NORTH PARK ENTRANCE (SR 64)
0.000	0.000	PARK BOUNDARY	N/A	N/A
0.000	0.000	TRAFFIC LIGHT	N/A	X3
0.000	0.000	TRAFFIC LIGHT	N/A	X5
0.000	0.000	TRAFFIC LIGHT	N/A	X5
0.000	0.000	INTERSECTION	N/A	PAVED ROUTE (BI RD HIGHWAY 12 / NON NPS)
0.005	0.028	GUARD/GUIDE WALL	RIGHT	N/A
0.007	0.007	TRAFFIC LIGHT	N/A	X5
0.007	0.007	TRAFFIC LIGHT	N/A	X3
0.008	0.008	SIGN	LEFT	REGULATORY, WEST
0.008	0.008	SIGN	LEFT	REGULATORY, NORTH
0.008	0.008	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
0.008	0.008	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
0.008	0.008	SIGN	LEFT	REGULATORY, 12
0.008	0.008	SIGN	LEFT	REGULATORY, 64
0.010	0.010	SIGN	LEFT	GUIDE, H
0.010	0.010	SIGN	LEFT	GUIDE, ELIZABETH CITY MANTEO
0.010	0.010	SIGN	LEFT	GUIDE, GRAPHIC SIGN NO TEXT
0.023	0.023	SIGN	LEFT	REGULATORY, ALL FIRE WORKS ILLEGAL
0.024	0.024	SIGN	LEFT	GUIDE, WELCOME TO THE TOWN OF NAGS HEAD
0.035	0.035	SIGN	RIGHT	REGULATORY, GRAPHIC SIGN NO TEXT
0.040	0.040	SIGN	RIGHT	GUIDE, CAPE HATTERAS NATIONAL SEASHORE
0.040	0.040	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.062	0.062	INTERSECTION	RIGHT	ROUTE 0901 (BI RD WHALEBONE INFORMATION STATION ACCESS)
0.078	0.078	SIGN	RIGHT	GUIDE, HUNTER CONTACT STATION
0.078	0.078	SIGN	RIGHT	GUIDE, NATIONAL PARK SERVICE INFORMATION CENTER FERRY INFORMATION
0.088	0.088	SIGN	RIGHT	WARNING, LANE ENDS MERGE LEFT
0.150	0.150	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.156	0.156	SIGN	RIGHT	REGULATORY, DO NOT ENTER

CAHA: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: BI RD HIGHWAY 12

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
0.162	0.162	INTERSECTION	RIGHT	ROUTE 0901 (BI RD WHALEBONE INFORMATION STATION ACCESS)
0.182	0.182	SIGN	RIGHT	WARNING, DEER XING
0.182	0.182	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.224	0.224	SIGN	RIGHT	GUIDE, HISTORIC ALBEMARILE HIGHWAY
0.247	0.247	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.275	0.275	SIGN	RIGHT	GUIDE, CAPE HATTERAS LIGHTHOUSE CLIMBING HOURS CLOSED TO CLIMBING
0.306	0.306	SIGN	RIGHT	GUIDE, PLEASE USE WALKOVERS TO PROTECT THE DUNES
0.372	0.372	SIGN	RIGHT	REGULATORY, SPEED LIMIT 55
0.461	0.461	SIGN	RIGHT	GUIDE, RODANTHE 23 SALVO 27 OCRACOKE 71
0.603	0.603	SIGN	RIGHT	REGULATORY, 1-800-BY FERRY
0.603	0.603	SIGN	RIGHT	REGULATORY, HATTERAS FERRY 60 CEDAR ISLAND FERRY 74
1.027	1.027	CULVERT	N/A	N/A
1.317	1.317	CULVERT	N/A	N/A
1.532	1.532	INTERSECTION	RIGHT	PAVED PARKING
1.580	1.580	CULVERT	N/A	N/A
1.820	1.820	SIGN	RIGHT	GUIDE, PARK-1 BLINDS 1-2-3-4
2.393	2.393	CULVERT	N/A	N/A
2.450	2.450	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
2.771	2.771	SIGN	RIGHT	GUIDE, PARK-2 BLINDS 5-6-7
2.842	2.842	CULVERT	N/A	N/A
3.137	3.137	INTERSECTION	RIGHT	UNPAVED PARKING
3.249	3.249	SIGN	RIGHT	GUIDE, PARK-3 BLINDS 9-10-11
3.691	3.691	INTERSECTION	RIGHT	PAVED PARKING
4.348	4.348	INTERSECTION	RIGHT	UNPAVED PARKING
4.481	4.481	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
4.534	4.534	SIGN	RIGHT	GUIDE, BODIE ISLAND MAINTENANCE SOUTH OLD OREGON INLET ROAD
4.634	4.634	INTERSECTION	LEFT	PAVED ROUTE (BI RD S OLD OREGON INLET ROAD) / NON NPS)
4.634	4.634	INTERSECTION	N/A	ROUTE 5012H (HI RD STATE ROUTE 12)

CAHA: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010: BI RD HIGHWAY 12

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
4.634	4.634	ROUTE END	N/A	TO BEGINNING OF ROUTE 5012H (HI RD STATE ROUTE 12) AND BI RD SOUTH OLD OREGON INLET ROAD

CAHA: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0401: BI RD OREGON INLET COAST GUARD ACCESS

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 0970 (BI RD OREGON INLET SMALL BOAT ACCESS)
0.000	0.000	INTERSECTION	N/A	ROUTE 0970 (BI RD OREGON INLET SMALL BOAT ACCESS)
0.006	0.006	SIGN	N/A	GUIDE, UNITED STATES COAST GUARD
0.014	0.186	GUARD/GUIDE WALL	LEFT	N/A
0.074	0.074	SIGN	LEFT	REGULATORY, NO PARKING
0.092	0.092	CULVERT	N/A	N/A
0.131	0.131	CULVERT	N/A	N/A
0.149	0.149	SIGN	LEFT	REGULATORY, SPEED LIMIT 15
0.168	0.168	CULVERT	N/A	N/A
0.175	0.175	SIGN	RIGHT	REGULATORY, NO PARKING
0.175	0.175	SIGN	RIGHT	REGULATORY, U.S. PROPERTY NO TRESPASSING
0.191	0.191	SIGN	LEFT	REGULATORY, U.S. PROPERTY NO TRESPASSING
0.194	0.194	SIGN	LEFT	GUIDE, UNITED STATES COAST GUARD
0.194	0.194	INTERSECTION	N/A	TO COAST GUARD FACILITY ENTRANCE GATE
0.194	0.194	ROUTE END	N/A	TO COAST GUARD FACILITY ENTRANCE GATE

Section 10
Appendix

Cape Hatteras National Seashore

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.

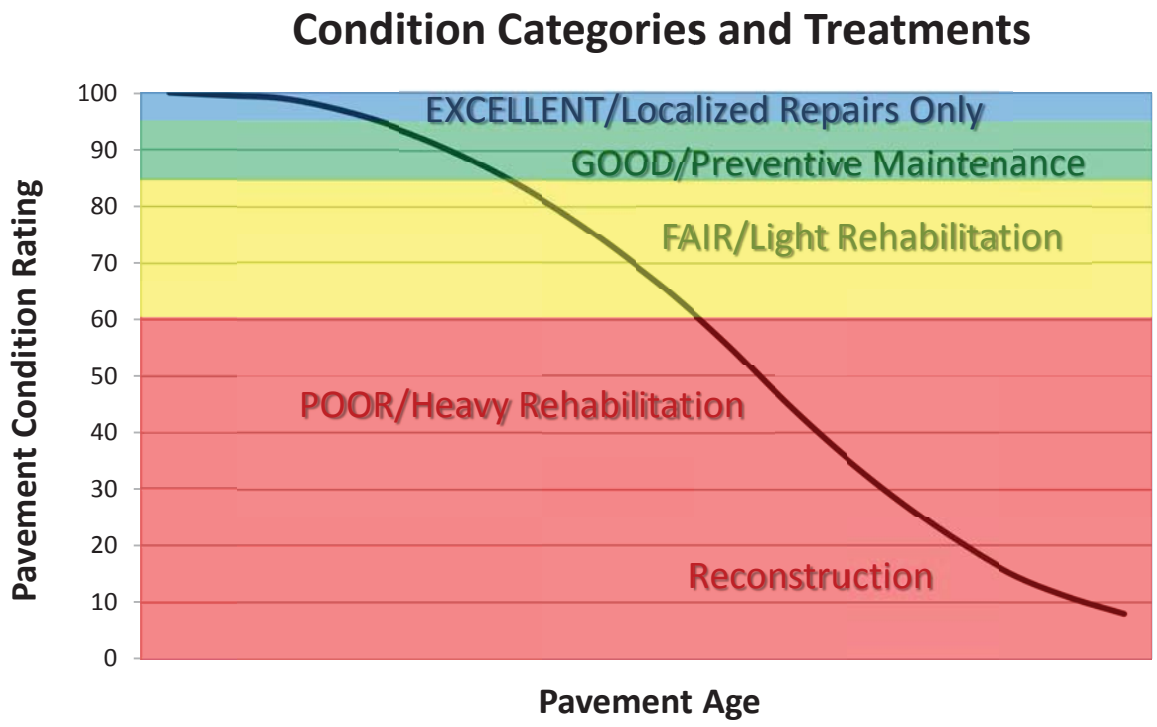
The changes that were implemented were endorsed by management at both the FHWA and NPS. In order to show the effectiveness of these changes, several sites were ground truth tested to ensure that an improvement was achieved between the relationship of PCR and the actual Maintenance and Rehabilitation 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.



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:

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

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

Each classified surface distress will fall into one or more s*everity*…LOW, MEDIUM, or HIGH based on criteria listed. For each severity, an e*xtent* 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:

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

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

Longitudinal Crack Index

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

Where:

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

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

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

Structural Crack Index

SC_INDEX = [100 - ((100 - AC_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

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

Where:

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

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

Percent of total area is computed as:

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

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

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

Rutting Index

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

Where:

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

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

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

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

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:

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

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

TERM OR ABBREVIATION	DESCRIPTION OR DEFINITION
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