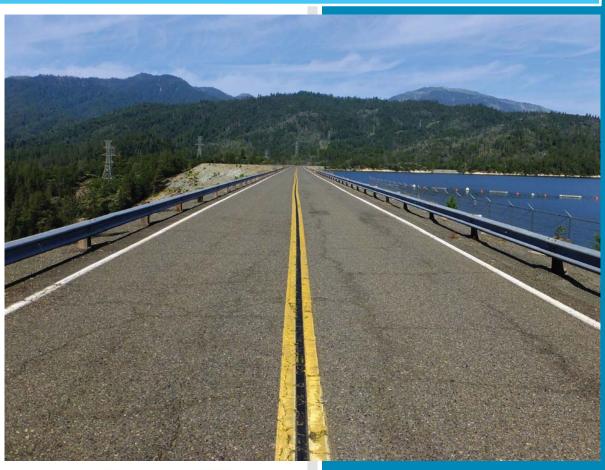
WHIS Cycle 6

Final Report

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







Federal Lands Highway
Road Inventory Program

Prepared By:

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

Report Date: November 2015

Whiskeytown National Recreation Area in California





Table of Contents

SEC	CTION	PAGE NO.
1.	INTRODUCTION	1-1
2.	PARK ROUTE INVENTORY	
	Route ID Report, Subcomponent Report, and Changes Report (As Applicable)	2 - 1
3.	PARK SUMMARY INFORMATION	
	Parkwide Paved Route Condition Summary	3 - 1
	Explanation of Condition Descriptions	3 - 2
	Route-Level Condition Summary Reports for Data Collection Vehicle, Manually Rated, and Parking Area Routes (As Applicable)	3 - 3
4.	PARK ROUTE LOCATION MAPS	
	Route Location Key Map	4 - 1
	Route Location Area Map(s)	4 - 2
	Route Condition Key Map – PCR Mile by Mile	4 - 8 4 - 9
	Route Condition Area Map(s) – PCR Mile by Mile	4 - 9
5.	PAVED ROAD CONDITION RATING SHEETS	
	Paved Road Pages	5 - 1
6.	PAVED PARKING AREA CONDITION RATING SHEETS	
	Paved Parking Area Pages	6 - 1
7.	ROAD MILEPOST INFORMATION	
	Road Milepost Information and Logs	7 - 1
8.	APPENDIX	
	Improvements to the RIP Index Equations and Determination of PCR	8 - 1
	Description of the Rating System	8 - 2
	Explanation of the Condition Descriptions	8 - 3
	Description of Pavement Treatment Types	8 - 4
	Appendix A: Methodology for Determining Condition Ratings with the Data Collection Vehicle (DCV)	8 - 5
	Appendix B: Methodology for Determining Condition Ratings Using Manual Rating Procedures	8 - 20
	Appendix C: Description of Cycle 6 Deliverables	8 - 29
	Appendix D: Glossary of Terms and Abbreviations	8 - 33

Section 1 Introduction





Introduction

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

A History of the Road Inventory Program:

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

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

Cycle	Years	Parks Collected
Cycle 1	1994 - 1997	° 44 Large Parks
Cycle 2	1997 - 2001	79 Large Parks5 Small Parks
Cycle 3	2001 - 2004	All Large ParksAll Small Parks
Cycle 4	2006 - 2010	86 Large ParksSeveral Small Parks
Cycle 5	2010 - 2014	 All Large Parks (Only functional class 1, 2, 7, and new/modified routes collected) All Small Parks (all roads and parking areas collected)
Cycle 6	2014 – 2020 (±)	 All roads and parking areas collected at all Parks Additional partial collections of functional class 1, 2, and 7 roads at Large Parks Cycle 6 is expected to last 6 years

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

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

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

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

A History of the Pavement Management System:

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

Overview of Cycle 6:

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

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

Respectfully,

FHWA RIP Team

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

Section 2 Park Route Inventory





Page 1 of 12

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



Shading Color Key

Report Date: 11/21/2015

White = Paved Routes, DCV Driven

Grey = Paved Routes, DCV not Driven

Black = Non-NPS Routes

= Concession Route

Yellow = Unpaved Routes, DCV not Driven

Blue = Paved Parking Areas

Green = Unpaved Parking Areas

Red text denotes:

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

DCV = Data Collection Vehicle

MRL = Manually Rated Line MRP = Manually Rated Polygon

PKG = Parking Areas

NC = Not Collected

WHIS

				E C		ROAD INVENTORY (1	100 SERIES FMSS I	LOCATIONS)				٦			
Route No.	Cycle Collected	ration	FMSS	ncessio	_	Route Desc	·	Maintenance District	Paved	Unpaved Miles	Total	ınctior ass	Area (SQ FT)	Surf.	Area Map
NO.	<i>ΰ</i> ὔ	≗ ວັ	Number	ပိ	Route Name	From	То	DISTRICT	Miles	Miles	Mileage	교	(SQ FI)	Туре	мар
0010	6	1	23349		SOUTH SHORE DRIVE EAST	FROM END OF ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	TO BEGINNING OF ROUTE 0206 (DRY CREEK CAMPGROUND)		1.04	0.00	1.04	1		AS	2
0100	6	1	23352		BRANDY CREEK BEACH ROAD	FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	to route 0920 (brandy Creek parking lot b)		0.38	0.00	0.38	2		AS	2
0101	6	1	23353		BRANDY CREEK MARINA ROAD	FROM ROUTE 0010 (SOUTH SHORE DRIVE EAST)	to route 0922 (Brandy Creek Marina Parking)		0.46	0.00	0.46	2		AS	2
0103	6	1	99468		OAK BOTTOM BEACH ROAD	FROM INTERSECTION OF STATE HIGHWAY 299 (EUREKA WAY) AND BEGINNING OF ROUTE 0407 (GRIZZLY GULCH ROAD)	TO ROUTE 0931 (OAK BOTTOM BEACH PARKING)		0.44	0.00	0.44	2		AS	4
0104	6	1	23356		OAK BOTTOM MARINA ROAD	FROM INTERSECTION OF ROUTE 0103 (OAK BOTTOM BEACH ROAD) AND ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)	TO ROUTE 0935 (OAK BOTTOM MARINA PARKING)		0.29	0.00	0.29	2		AS	4
0105	6	1	99366		TOWER HOUSE FOOTBRIDGE ACCESS ROAD	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO END AT BOLLARD AT PEDESTRIAN BRIDGE		0.07	0.00	0.07	2		AS	6
0150	NC		58128		MILL CREEK ROAD	FROM ROUTE 0209 (CARR POWERHOUSE ROAD)	TO END		0.00	5.00	5.00	2		GR	
0151	NC		23360		SHASTA BALLY ROAD	FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	TO END		0.00	8.15	8.1 <i>5</i>	2		GR	
0152	NC		23361		SOUTH SHORE DRIVE WEST	FROM INTERSECTION OF ROUTE 0010 (SOUTH SHORE DRIVE EAST) AND ROUTE 0206 (DRY CREEK CAMPGROUND)	TO ROUTE 0209 (CARR POWERHOUSE ROAD)		0.00	5.09	5.09	2		GR	
0153	NC		99369		LAKESHORE ACCESS ROAD	FROM ROUTE 0209 (CARR POWERHOUSE ROAD)	TO END		0.00	0.50	0.50	2		GR	
0154	NC		99370		SHASTA DIVIDE ROAD	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO POWER TOWER		0.00	1.40	1.40	2		GR	

Page 2 of 12

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



Shading Color Key

Report Date: 11/21/2015

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Grey = Paved Routes, DCV not Driven

Black = Non-NPS Routes

= Concession Route

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WHIS

				Ę		ROAD INVENTORY (1	100 SERIES FMSS I	OCATIONS)				<u> </u>			
Route No.	Cycle	lteration Collected	FMSS Number	Concessio	Route Name	Route Desc	cription To	Maintenance District	Paved Miles	Unpaved Miles	Total Mileage	Function Class	Area (SQ FT)	Surf. Type	Area Map
0155	NC				CRYSTAL CREEK FALLS ROAD	FROM INTERSECTION OF ROUTE 0221 (CRYSTAL CREEK CAMP ACCESS ROAD) AND ROUTE 5221 (CRYSTAL CREEK ROAD NON NPS)	TO ROUTE 0947 (CRYSTAL CREEK ADA PARKING)		0.00	0.09	0.09	2		GR	
0201	6	1	23365		N.E.E.D. CAMP ROAD	FROM INTERSECTION OF ROUTE 0256 (PAIGE BAR ROAD) AND END OF ROUTE 5201 (PAIGE BAR ROAD NON NPS)	TO ROUTE 0914 (N.E.E.D. CAMP PARKING)		0.27	0.00	0.27	3		AS	1
0205	6	1	23367		BRANDY CREEK MARINA R.V. CAMPGROUND	FROM ROUTE 0101 (BRANDY CREEK MARINA ROAD)	TO DEAD END AT CUL-DE-SAC		0.42	0.00	0.42	3		AS	2
0206	NC		23369		DRY CREEK CAMPGROUND	FROM END OF ROUTE 0010 (SOUTH SHORE DRIVE EAST)	TO ROUTE 0938 (DRY CREEK CAMPGROUND PARKING)		0.00	0.20	0.20	3		GR	
0209	6	1	23371		CARR POWERHOUSE ROAD	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO ROUTE 0152 (SOUTH SHORE DRIVE WEST)		1.10	0.00	1.10	3		AS	5
0211	6	1	23373		CARR LAKE ACCESS ROAD	FROM ROUTE 0209 (CARR POWERHOUSE ROAD)	TO OAK BOTTOM WATER DITCH TRAILHEAD		0.51	0.00	0.51	3		AS	5
0214	NC		23375		TURNOUT LAKE SPUR	FROM ROUTE 0408 (DISPOSAL POND ROAD)	TO END		0.00	0.50	0.50	4		GR	
0215	6	1	23376		OAK BOTTOM CAMPGROUND LOOP A	FROM ROUTE 0103 (OAK BOTTOM BEACH ROAD)	TO END OF LOOP		0.50	0.00	0.50	3		AS	4
0216	6	1	99376		OAK BOTTOM CAMPGROUND LOOP B	FROM ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)	TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)		0.05	0.00	0.05	3		AS	4
0220	6	1	23379		WHISKEY CREEK GROUP PICNIC ROAD	FROM ROUTE 5000 (WHISKEY CREEK ROAD)	TO ROUTE 0945 (WHISKEY CREEK GROUP PICNIC AREA PARKING)		1.38	0.00	1.38	3		AS	3
0221	6	1	83008		CRYSTAL CREEK CAMP ACCESS ROAD	FROM END OF ROUTE 5221 (CRYSTAL CREEK ROAD NON NPS) AT COUNTY LINE	TO BEGINNING OF CRYSTAL CREEK CONSERVATION CAMP BRIDGE		1.77	0.00	1. <i>77</i>	3		AS	6

Page 3 of 12

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



Shading Color Key

Report Date: 11/21/2015

White = Paved Routes, DCV Driven

Grey = Paved Routes, DCV not Driven

Black = Non-NPS Routes

= Concession Route

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Green = Unpaved Parking Areas

Red text denotes:

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 $\mathsf{MRP} = \mathsf{Manually} \; \mathsf{Rated} \; \mathsf{Polygon}$

PKG = Parking Areas NC = Not Collected

WHIS

				5		ROAD INVENTORY (100 SERIES FMSS I	LOCATIONS)				<u> </u>			
Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concessio	Route Name	Route Des	cription To	Maintenance District	Paved Miles	Unpaved Miles	Total Mileage	Function Class	Area (SQ FT)	Surf. Type	Area Map
0222	NC		99384		CRYSTAL CREEK CAMPGROUND ROAD	FROM ROUTE 0251 (CRYSTAL CREEK ROAD)	TO ROUTE 0222 (CRYSTAL CREEK CAMPGROUND ROAD)		0.00	0.20	0.20	3		GR	
0251	NC		23382		CRYSTAL CREEK ROAD	FROM ROUTE 0221 (CRYSTAL CREEK CAMP ACCESS ROAD)	TO ROUTE 0252 (COGGINS PARK SPUR)		0.00	7.30	7.30	4		GR	
0252	NC		23398		COGGINS PARK SPUR	FROM ROUTE 0251 (CRYSTAL CREEK ROAD)	TO END		0.00	0.46	0.46	4		GR	
0253	NC		23400		SHASTA BALLY ROAD WEST	FROM ROUTE 0252 (COGGINS PARK SPUR)	TO END		0.00	1.00	1.00	4		GR	
0255	NC		83013		brandy creek road	FROM ROUTE 0151 (SHASTA BALLY ROAD)	TO END		0.00	1.50	1.50	4		GR	
0256	NC		58121		PAIGE BAR ROAD	FROM ROUTE 0151 (SHASTA BALLY ROAD)	TO MULE TOWN ROAD		0.00	4.53	4.53	3		GR	
0258	NC		99385		COUNTY LINE ROAD	FROM PARK BOUNDARY	TO ROUTE 0251 (CRYSTAL CREEK ROAD)		0.00	2.50	2.50	4		GR	
0400	6	1	83011		HEADQUARTERS ROAD	FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	TO BEGINNING OF ROUTE 0415 (GOVERNMENT BOAT LAUNCH LOOP)		0.23	0.00	0.23	5		AS	1
0401	6	1	99386		N.E.E.D. CAMP RESIDENCE ROAD	FROM ROUTE 0914 (N.E.E.D. CAMP PARKING)	TO DEAD END		0.10	0.05	0.15	5		AS	1
0402	NC		99387		N.E.E.D. CAMP SERVICE ROAD	FROM ROUTE 0201 (N.E.E.D. CAMP ROAD)	TO END		0.00	0.19	0.19	6		GR	
0404	6	1	83010		BRANDY CREEK SERVICE ROAD SOUTH	FROM INTERSECTION OF ROUTE 5010 (KENNEDY MEMORIAL DRIVE) AND BEGINNING OF ROUTE 0100 (BRANDY CREEK BEACH ROAD)	TO ROUTE 0917 (BRANDY CREEK STORAGE YARD)		0.17	0.00	0.17	6		AS	2
0405	6	1	99389		CARR POWERHOUSE SERVICE ROAD	FROM ROUTE 0209 (CARR POWERHOUSE ROAD)	TO END		0.14	0.31	0.45	5		AS	5

Page 4 of 12

Cycle 6 NPS / RIP Route ID Report

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WHIS

		_		u o		ROAD INVENTORY (1	100 SERIES FMSS I	LOCATIONS)				<u> </u>			
Route	cle Ilected	Iteration Collected	FMSS	ncessi		Route Des	cription	Maintenance	Paved	Unpaved Miles	Total	nction	Area	Surf.	Area
No.	ပ် ပိ	≗ °	Number	ů	Route Name	From	То	District	Miles	Miles	Mileage	Σŏ	(SQ FT)	Туре	Мар
0406	6	1	37948		QUARTERS 324 ROAD	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO END AT DRIVEWAY AND UNPAVED PARKING		0.28	0.00	0.28	6		AS	5
0407	6	1	83009		GRIZZLY GULCH ROAD	FROM INTERSECTION OF STATE HIGHWAY 299 (EUREKA WAY) AND BEGINNING OF ROUTE 0103 (OAK BOTTOM BEACH ROAD)	TO PARK BOUNDARY		0.33	0.72	1.05	5		AS	4
0408	NC		83012		DISPOSAL POND ROAD	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO END		0.00	0.68	0.68	5		GR	
0409	NC		83014		MERRY MOUNTAIN ROAD	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO ROUTE 0410 (TOWER RESIDENCE ROAD)		0.00	0.62	0.62	5		GR	
0410	6	1	8301 <i>5</i>		TOWER RESIDENCE ROAD	FROM TRINITY MOUNTAIN ROAD	TO END AT GATE		0.05	0.36	0.40	6		AS	6
0411	6	1	99390		BULL GULCH SERVICE ROAD	FROM ROUTE 0406 (QUARTERS 324 ROAD)	TO END		0.47	0.10	0.57	6		AS	5
0413	NC		99391		SOUTH FORK MOUNTAIN LOOKOUT ROAD	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO PARK BOUNDARY		0.00	5.30	5.30	5		GR	
0414	6	1	99392		GRIZZLY GULCH WASTEWATER ACCESS ROAD	FROM ROUTE 0407 (GRIZZLY GULCH ROAD)	TO DEAD END		0.07	0.00	0.07	5		AS	4
0415	6	1	99393		GOVERNMENT BOAT LAUNCH LOOP	FROM END OF ROUTE 0400 (HEADQUARTERS ROAD)	TO ROUTE 0400 (HEADQUARTERS ROAD)		0.11	0.00	0.11	5		AS	1
0416	NC		99398		WATER TANK ACCESS ROAD	FROM ROUTE 5201 (PAIGE BAR ROAD NON NPS)	TO END		0.00	0.10	0.10	6		GR	
0417	NC		99399		BRANDY CREEK PUMPHOUSE ROAD	FROM ROUTE 0920 (BRANDY CREEK PARKING LOT B)	TO END		0.00	0.50	0.50	6		GR	
0418	NC		99400		BRANDY CREEK TREATMENT PLANT ROAD	FROM ROUTE 0404 (BRANDY CREEK SERVICE ROAD SOUTH)	TO END		0.00	0.50	0.50	6		GR	
0419	NC		99401		BRANDY CREEK WATER TANK SERVICE ROAD	FROM ROUTE 0404 (BRANDY CREEK SERVICE ROAD SOUTH)	TO END		0.00	0.20	0.20	6		GR	

Page 5 of 12

Cycle 6 NPS / RIP Route ID Report

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WHIS

				E		ROAD INVENTORY (1100 SERIES FMSS L	OCATIONS)				<u> </u>			
Route No.	Cycle Collected	lteration Collected	FMSS Number	Concession	Route Name	Route Des	cription To	Maintenance District	Paved Miles	Unpaved Miles	Total Mileage	Function Class	Area (SQ FT)	Surf. Type	Area Map
0420	NC		99402		BRANDY CREEK PUMPHOUSE SERVICE ROAD	FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	TO END		0.00	0.10	0.10	6		GR	
0421	NC		99403		EAST BEACH ACCESS ROAD	FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	TO END		0.00	0.10	0.10	6		GR	
0422	NC		99404		ORFINO SERVICE ROAD	FROM ROUTE 5201 (PAIGE BAR ROAD NON NPS)	TO POWER TOWER		0.00	1.80	1.80	6		GR	
0423	6	1			OAK BOTTOM WATER STORAGE TANK SERVICE ROAD	FROM ROUTE 0104 (OAK BOTTOM MARINA ROAD)	TO END AT WATER STORAGE TANK		0.02	0.18	0.20	6		AS	4
				_		NON-NPS	ROADS INVENTOR	Υ				_			
Route	Cycle Collected	ration	FMSS	ncession		Route Des	<u> </u>	Maintenance		Unpaved		nction	Area	Surf.	Area
No.	<i>ბ</i> ა	≗ ଓ	Number	ů	Route Name	From	То	District	Miles	Miles	Mileage	Σğ	(SQ FT)	Туре	Мар
5000	4	1			WHISKEY CREEK ROAD	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO PARK BOUNDARY		2.48	0.00	2.48			AS	3
5010	4	1			KENNEDY MEMORIAL DRIVE	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO BEGINNING OF ROUTE 0010 (SOUTH SHORE DRIVE EAST)		4.72	0.00	4.72			AS	1,2
5201	4	1			PAIGE BAR ROAD NON NPS	FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	TO BEGINNING OF ROUTE 0201 (N.E.E.D. CAMP ROAD)		1.86	0.00	1.86			AS	1
5221	4	1			CRYSTAL CREEK ROAD NON NPS	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO BEGINNING OF ROUTE 0221 (CRYSTAL CREEK CAMP ACCESS ROAD)		2.07	0.00	2.07			AS	6

Page 6 of 12

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



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WHIS

				_	PAR	KING AREA INVENTORY (1	300 SERIES FMSS LOCATIO	NS)				
Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route De	scription To	Maintenance District	Access Level	Area (SQ FT)	Surf. Type	Area Map
0900ZZ	6	1	23363		VISITOR CENTER PARKING AREAS	FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE)		PUBLIC	19,410	AS	1
0901	6	1	99405		PARK HEADQUARTERS VISITOR PARKING	FROM ROUTE 0400 (HEADQUARTERS ROAD) ON RIGHT	TO PARKING		PUBLIC	4,994	AS	1
0902A	6	1	99406		PARK HEADQUARTERS EMPLOYEE PARKING A	ADJACENT TO ROUTE 0400 (HEADQUARTERS ROAD) ON LEFT			NONPUBLIC	5,566	AS	1
0902В	6	1	99408		PARK HEADQUARTERS EMPLOYEE PARKING B	ADJACENT TO ROUTE 0400 (HEADQUARTERS ROAD) ON RIGHT			NONPUBLIC	2,119	AS	1
0903	6	1	99412		PARK HEADQUARTERS EMPLOYEE PARKING	ADJACENT TO ROUTE 0400 (HEADQUARTERS ROAD) ON RIGHT			NONPUBLIC	1,687	AS	1
0904	6	1	99413		MAINTENANCE YARD	FROM ROUTE 0400 (HEADQUARTERS ROAD) ON LEFT	TO ROUTE 0400 (HEADQUARTERS ROAD) ON LEFT		NONPUBLIC	16,087	AS	1
0905	6	1	99414		HEADQUARTERS ADMINISTRATIVE PARKING	FROM ROUTE 0400 (HEADQUARTERS ROAD) ON RIGHT	TO PARKING		NONPUBLIC	4,003	AS	1
0907	6	1	99415		HEADQUARTERS GOVERNMENT CAR PARKING	ADJACENT TO ROUTE 0400 (HEADQUARTERS ROAD) ON RIGHT			NONPUBLIC	1,179	AS	1
0908	NC		99420		DROP BOX	FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	TO DROP BOX		NONPUBLIC	12,118	GR	
0909	6	1	99421		EAST BEACH PARKING	ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE) ON RIGHT			PUBLIC	9,026	AS	1
0910ZZ	6	1	99422		KENNEDY MEMORIAL VISTAS PARKING AREAS	ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE) ON LEFT AND RIGHT			PUBLIC	9,367	AS	1
0911A	6	1	99423		KENNEDY MONUMENT / DAM PARKING A	ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE)			PUBLIC	8,064	AS	1
0911B	6	1	99426		KENNEDY MONUMENT / DAM PARKING B	ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE) AND ROUTE 5201 (PAIGE BAR ROAD NON NPS)			PUBLIC	25,561	AS	1

Page 7 of 12

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



Shading Color Key

Report Date: 11/21/2015

White = Paved Routes, DCV Driven

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Black = Non-NPS Routes

= Concession Route

Yellow = Unpaved Routes, DCV not Driven

Blue = Paved Parking Areas

Green = Unpaved Parking Areas

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WHIS

				_	PAR	KING AREA INVENTORY (1	300 SERIES FMSS LOCATIO	NS)				
Route	Cycle Collected	rtion	FMSS	cession		Route De	scription	Maintenance	Access	Area	Surf.	Area
No.	S S	Coll	Number	S	Route Name	From	То	District	Level	(SQ FT)	Туре	Мар
0912	NC		99427		MOUNT SHASTA MINE LOOP TRAILHEAD PARKING	FROM ROUTE 5201 (PAIGE BAR ROAD NON NPS)	TO PARKING		PUBLIC	49,941	GR	
0913	NC		99428		N.E.E.D. CAMP OVERFLOW PARKING	FROM ROUTE 0201 (N.E.E.D. CAMP ROAD)	TO PARKING		PUBLIC	9,650	GR	
0914	6	1	99429		N.E.E.D. CAMP PARKING	FROM END OF ROUTE 0201 (N.E.E.D. CAMP ROAD)	TO BEGINNING OF ROUTE 0401 (N.E.E.D. CAMP RESIDENCE ROAD)		PUBLIC	13,364	AS	1
0915	6	1	99430		N.E.E.D. CAMP CAFETERIA ACCESS PARKING	FROM ROUTE 0401 (N.E.E.D. CAMP RESIDENCE ROAD) ON RIGHT	TO PARKING		PUBLIC	2,450	AS	1
0916	NC		99431		DAVIS GULCH TRAILHEAD PARKING	FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	TO PARKING		PUBLIC	5,115	GR	
091 <i>7</i>	NC		99450		BRANDY CREEK STORAGE YARD	FROM ROUTE 0404 (BRANDY CREEK SERVICE ROAD SOUTH)	TO STORAGE YARD		NONPUBLIC	10,050	GR	
0918	NC		99451		BRANDY CREEK BEACH RESTROOM PARKING	FROM ROUTE 0100 (BRANDY CREEK BEACH ROAD) ON RIGHT	TO PARKING		PUBLIC	11,870	GR	
0919	6	1	99452		BRANDY CREEK PARKING LOT A	FROM ROUTE 0100 (BRANDY CREEK BEACH ROAD)	TO PARKING		PUBLIC	45,531	AS	2
0920	6	1	99453		BRANDY CREEK PARKING LOT B	FROM END OF ROUTE 0100 (BRANDY CREEK BEACH ROAD)	TO PARKING		PUBLIC	113,423	AS	2
0921	NC		99454		BRANDY CREEK FALLS TRAILHEAD PARKING	FROM ROUTE 0151 (SHASTA BALLY ROAD)	TO PARKING		PUBLIC	3,445	GR	
0922	6	1	99455		BRANDY CREEK MARINA PARKING	FROM END OF ROUTE 0101 (BRANDY CREEK MARINA ROAD)	TO PARKING		PUBLIC	181,050	AS	2
0923	6	1	99456		DRY STORAGE AREA	FROM ROUTE 0101 (BRANDY CREEK MARINA ROAD)	TO ROUTE 0922 (BRANDY CREEK MARINA PARKING)		NONPUBLIC	22,442	AS	2
0924A	6	1	99457		BRANDY CREEK R.V. PARKING A	ADJACENT TO ROUTE 0205 (BRANDY CREEK MARINA R.V. CAMPGROUND) ON LEFT			PUBLIC	3,557	AS	2

Page 8 of 12

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



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= Concession Route

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WHIS

				_	PAR	RKING AREA INVENTORY (1	300 SERIES FMSS LOCATION	ONS)				
Route	le lected	lteration Collected	FMSS	ıcessioı		Route De	scription	Maintenance	Access	Area	Surf.	
No.	ۍ څ	S E	Number	ŝ	Route Name	From	То	District	Level	(SQ FT)	Туре	Мар
0924B	6	1	99458		BRANDY CREEK R.V. PARKING B	ADJACENT TO ROUTE 0205 (BRANDY CREEK MARINA R.V. CAMPGROUND) ON LEFT			PUBLIC	5,963	AS	2
0924C	6	1	99459		BRANDY CREEK R.V. PARKING C	ADJACENT TO ROUTE 0205 (BRANDY CREEK MARINA R.V. CAMPGROUND) ON LEFT			PUBLIC	3,148	AS	2
0924D	6	1	99460		BRANDY CREEK R.V. PARKING D	ADJACENT TO ROUTE 0205 (BRANDY CREEK MARINA R.V. CAMPGROUND) ON RIGHT			PUBLIC	3,962	AS	2
0924E	6	1	99461		BRANDY CREEK R.V. PARKING E	ADJACENT TO ROUTE 0205 (BRANDY CREEK MARINA R.V. CAMPGROUND) ON RIGHT			PUBLIC	5,294	AS	2
0924F	6	1			BRANDY CREEK R.V. PARKING F	ADJACENT TO ROUTE 0205 (BRANDY CREEK MARINA R.V. CAMPGROUND) ON RIGHT			PUBLIC	1,454	AS	2
0924G	6	1			BRANDY CREEK R.V. PARKING G	ADJACENT TO ROUTE 0205 (BRANDY CREEK MARINA R.V. CAMPGROUND) ON LEFT			PUBLIC	559	AS	2
0924H	6	1			BRANDY CREEK R.V. PARKING H	ADJACENT TO ROUTE 0205 (BRANDY CREEK MARINA R.V. CAMPGROUND) ON RIGHT			PUBLIC	515	AS	2
0925	6	1	99462		CARR PICNIC AREA PARKING	FROM ROUTE 0209 (CARR POWERHOUSE ROAD)	TO ROUTE 0209 (CARR POWERHOUSE ROAD)		PUBLIC	21,139	AS	5
0926	NC		99463		CARR STORAGE YARD	FROM ROUTE 0405 (CARR POWERHOUSE SERVICE ROAD)	TO STORAGE YARD		NONPUBLIC	16,186	GR	
0927	NC		99464		ROPE SWING PARKING	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO PARKING		PUBLIC	5,265	GR	
0928	6	1	99465		TOWER HOUSE HISTORIC DISTRICT PARKING	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO PARKING		PUBLIC	29,272	AS	6

Page 9 of 12

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



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Report Date: 11/21/2015

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= Concession Route

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Blue = Paved Parking Areas

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MRL = Manually Rated Line

 $\mathsf{MRP} = \mathsf{Manually} \; \mathsf{Rated} \; \mathsf{Polygon}$

PKG = Parking Areas NC = Not Collected

WHIS

				_	PAR	KING AREA INVENTORY (1	300 SERIES FMSS LOCATIO	NS)				
Route	e ected	Iteration Collected	FMSS	cessio		Route De	scription	Maintenance	Access	Area	Surf.	Area
No.	ς Σ Ξ	Coll	Number	S	Route Name	From	То	District	Level	(SQ FT)	Туре	Мар
0929	6	1	99466		OAK BOTTOM WATER DITCH TRAIL PARKING	ADJACENT TO ROUTE 0103 (OAK BOTTOM BEACH ROAD)			PUBLIC	4,878	AS	4
0930	6	1	99467		OAK BOTTOM CAMPGROUND STORE PARKING	FROM ROUTE 0103 (OAK BOTTOM BEACH ROAD)	TO ROUTE 0104 (OAK BOTTOM MARINA ROAD)		PUBLIC	9,413	AS	4
0931	6	1	23354		OAK BOTTOM BEACH PARKING	FROM END OF ROUTE 0103 (OAK BOTTOM BEACH ROAD)	TO PARKING		PUBLIC	38,253	AS	4
0932	6	1	99469		OAK BOTTOM R.V. CAMP PARKING	FROM ROUTE 0104 (OAK BOTTOM MARINA ROAD)	TO ROUTE 0104 (OAK BOTTOM MARINA ROAD) AND ROUTE 0933 (OAK BOTTOM LAUNCH RAMP)		PUBLIC	39,575	AS	4
0933	6	1	99470		OAK BOTTOM LAUNCH RAMP	FROM ROUTE 0104 (OAK BOTTOM MARINA ROAD)	TO ROUTE 0103 (OAK BOTTOM BEACH ROAD)		PUBLIC	130,249	AS	4
0934	6	1	99471		OAK BOTTOM R.V. DUMP STATION PARKING	ADJACENT TO ROUTE 0103 (OAK BOTTOM BEACH ROAD) ON RIGHT			PUBLIC	6,785	AS	4
0935	6	1	99472		OAK BOTTOM MARINA PARKING	FROM END OF ROUTE 0104 (OAK BOTTOM MARINA ROAD)	TO PARKING		PUBLIC	56,842	AS	4
0936A	6	1	99474		OAK BOTTOM CAMPGROUND PARKING A	ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON RIGHT			PUBLIC	2,744	AS	4
0936В	6	1	99473		OAK BOTTOM CAMPGROUND PARKING B	ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT			PUBLIC	2,474	AS	4
0936C	6	1	99475		OAK BOTTOM CAMPGROUND PARKING C	ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT			PUBLIC	3,659	AS	4
0936D	6	1	99476		OAK BOTTOM CAMPGROUND PARKING D	ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON RIGHT			PUBLIC	3,371	AS	4
0936E	6	1	99477		OAK BOTTOM CAMPGROUND PARKING E	FROM ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT	TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT		PUBLIC	4,155	AS	4

Page 10 of 12

Report Date: 11/21/2015

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



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WHIS

				_	PAR	KING AREA INVENTORY (1	300 SERIES FMSS LOCATIO	NS)				
Route	le lected	Iteration Collected	FMSS	cession		Route De	scription	Maintenance	Access	Area	Surf.	Area
No.	<u>ۍ څ</u>	Col	Number	ទ	Route Name	From	То	District	Level	(SQ FT)	Туре	Мар
0936F	6	1	99478		OAK BOTTOM CAMPGROUND PARKING F	ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT			PUBLIC	3,338	AS	4
0936G	6	1	99479		OAK BOTTOM CAMPGROUND PARKING G	ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT			PUBLIC	3,113	AS	4
0936Н	6	1			OAK BOTTOM CAMPGROUND HANDICAP RESTROOM PARKING A	ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON RIGHT			PUBLIC	985	AS	4
09361	6	1			OAK BOTTOM CAMPGROUND HANDICAP RESTROOM PARKING B	FROM ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT	TO PARKING		PUBLIC	1,049	AS	4
0937	6	1	99480		WHISKEY CREEK BOAT LAUNCH PARKING	FROM ROUTE 5000 (WHISKEY CREEK ROAD)	TO PARKING		PUBLIC	66,397	AS	3
0938	NC		99481		DRY CREEK CAMPGROUND PARKING	FROM ROUTE 0206 (DRY CREEK CAMPGROUND)	TO PARKING		PUBLIC	22,480	GR	
0941	6	1	99483		OAK BOTTOM FIRE CACHE PARKING	FROM ROUTE 0423 (OAK BOTTOM WATER STORAGE TANK SERVICE ROAD)	TO ROUTE 0930 (OAK BOTTOM CAMPGROUND STORE PARKING)		NONPUBLIC	10,115	AS	4
0943	6	1	99485		MILL CREEK TRAILHEAD PARKING	ADJACENT TO ROUTE 0221 (CRYSTAL CREEK CAMP ACCESS ROAD)			PUBLIC	4,286	AS	6
0944	6	1	23033		GUARDIAN ROCK TRAILHEAD PARKING	ADJACENT TO ROUTE 0201 (N.E.E.D. CAMP ROAD)			PUBLIC	1,690	AS	1
0945	NC		99833		WHISKEY CREEK GROUP PICNIC AREA PARKING	FROM END OF ROUTE 0220 (WHISKEY CREEK GROUP PICNIC ROAD)	TO PARKING		PUBLIC		GR	
0946	6	1	109597		EAST ENTRANCE SIGN PARKING AREA	FROM STATE HIGHWAY 299 (EUREKA WAY)	TO STATE HIGHWAY 299 (EUREKA WAY)		PUBLIC	6,292	AS	1
0947	6	1			CRYSTAL CREEK ADA PARKING	FROM ROUTE 0155 (CRYSTAL CREEK FALLS ROAD)	TO PARKING		PUBLIC	4,219	AS	6

Page 11 of 12

Cycle 6 NPS / RIP Route ID Report

Report Date: 11/21/2015 (Numerical By Summary Route and Subcomponent #)



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Cycle 6 Summary Totals for Whiskeytown National Recreation Area

Cycle 6 Route Totals NPS Concessionaire Park

	Maintained	Maintained	Park Totals
Paved Roads, Data Collection Vehicle Rated (Miles)	10.57	0	10.57
Paved Roads, Manually Rated Length (Miles)	0.06	0	0.06
Paved Roads, Manually Rated Area (Sq. Ft.)	0	0	0
Unpaved Roads (Miles)	50.23	0	50.23
Paved Parking (Sq. Ft.)	941,626	22,442	964,068
Unpaved Parking (Sq. Ft.)	146,120	0	146,120

Cycle 6 Lane Miles and Overall Pavement Condition

	Lanes Miles*	Pavement Condition Rating**
Data Collection Vehicle Routes	19.17	83
Manually Rated Roads	0.08	69
Parking Areas	16.60	67

^{*} Equivalent Lane Miles are calculated by route using the following equations:

- DCV and MRLs = $(PAVE_WIDTH \times PAVED_MI) / 11$ foot lane

- MRPs and PKGs = $SQ_FEET / 5280 / 11$ foot lane

-Excellent = 97

-Good = 90

-Fair = 73

-Poor = 53, 30, or 0

-Construction / Not Rated = -1

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

Page 12 of 12

Report Date: 11/21/2015

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)



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General Park Road Functional Classification (FC) Table

FC	Туре	User Access	Description	Route Numbers	
1	Principal Park Road Public Rural Parkway		Roads which constitute the main access route, circulatory tour, or thoroughfare for park visitors. Rural Parkways (e.g. Natchez Trace) are numbered 0001 - 0009.	0001 - 0009 0010 - 0099	
2	Connector Park Road	Public	Roads which provide access within a park to areas of scenic, scientific, recreational or cultural interest, such as overlooks, campgrounds, etc.	0100 - 0199	
3	Special Purpose Public Park Road				0200 - 0299
4	4 Primitive Park Road		, , , , , , , , , , , , , , , , , , ,		
5	Administrative Public Park Road		Public All public roads intended for access to administrative developments or structures such as park offices, employee quarters, or utility areas.		
6	Administrative Park Road (Restricted Access)	Nonpublic	All roads normally closed to the public, including patrol roads, truck trails, and other similar roads. Note: Functional Classes 5 and 6 have the same route numbers because historically they were numbered similarly and often there is little distinction between these routes. For example, because utility areas and employee housing are often closed to the public, this restriction would result in classification of FC 6 rather than FC 5.	0400 - 0499	
7	Urban Parkway	Public	These facilities serve high volumes of park and non-park related traffic and are restricted, limited-access facilities in an urban area. This category of roads primarily encompasses the major parkways which serve as gateways to our nation's capital. Other major park roads or portions thereof, however, may be included in this category.	0001 - 0009	
8			City streets are usually extensions of the adjoining street system that are owned and maintained by the National Park Service. The construction and/or reconstruction should conform with accepted local engineering practice and local conditions.	0600 - 0699	
N/A	Non-NPS Roads	Public	State, County, or City owned roads which border, traverse, or provide access to Park Facilities or Locations. Non-NPS roads are not assigned functional classes and are driven for GPS and Video Log only.	5000 - 5999	

Surface
Types
- Asphaltic Concrete Paven

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

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

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

Page 1 of 1

NPS / RIP Subcomponent Details for WHIS

Report Date: 11/21/2015

(Numerical By Summary Route and Subcomponent #)



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= Concession Route

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Blue = Paved Parking Areas Green = Unpaved Parking Areas

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WHIS

	SUMMARY ROUTE INVENTORY FOR PARKING AREAS (1300 SERIES FMSS LOCATIONS)								
Route							Area		
Number	Number	C S S	Coll	Con	Route Name	From	То	Access	(SQ FT)
0900ZZ	23363	6	1		VISITOR CENTER PARKING AREAS	FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	PUBLIC	19,410
0910ZZ	99422	6	1		KENNEDY MEMORIAL VISTAS PARKING AREAS	ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE) ON LEFT AND RIGHT		PUBLIC	9,367

WHI	VHIS-0900ZZ Subcomponent Breakdown									
	Route FMSS = 15 = 15 = 15 = 15 = 15 = 15 = 15 =					User	Area			
Num	oer N	lumber	٥٥	를 증	ŝ	Route Name	From	То	Access	(SQ FT)
0900	AZ 2	23363	6	1		VISITOR CENTER PARKING A	ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE)		PUBLIC	1,523
0900	BZ 2	23363	6	1		VISITOR CENTER PARKING B	FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE)	PUBLIC	1 <i>7,</i> 88 <i>7</i>

WHIS-C	WHIS-0910ZZ Subcomponent Breakdown								
Route	FMSS	le ected	ation	cession		Route D	escription	User	Area
Number	Number	Ç 0 0	Coll	S	Route Name	From	То	Access	(SQ FT)
0910AZ	99422	6	1		KENNEDY MEMORIAL VISTAS PARKING A	ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE) ON RIGHT		PUBLIC	5,823
0910BZ	99422	6	1		KENNEDY MEMORIAL VISTAS PARKING B	ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE) ON LEFT		PUBLIC	3,544

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

ROUTES REMOVED FROM PREVIOUS INVENTORY:						
Route No.	Route Name	Type of Change	Comments			
0940	GRIZZLY GULCH WASTEWATER ACCESS PARKING		PARKING AREA REMOVED FROM THE INVENTORY BECAUSE A BUILDING HAS BEEN CONSTRUCTED IN ITS PLACE.			

	ROUTES ADDED FROM PREVIOUS INVENTORY:							
Route No.	Route Name	Type of Change	Comments					
0423	OAK BOTTOM WATER STORAGE TANK SERVICE ROAD	OTHER	ROUTE ADDED TO INVENTORY IN CYCLE 6.					
0936Н	OAK BOTTOM CAMPGROUND HANDICAP RESTROOM PARKING A	OTHER	PARKING AREA ADDED TO THE INVENTORY IN CYCLE 6.					
0936I	OAK BOTTOM CAMPGROUND HANDICAP RESTROOM PARKING B	OTHER	PARKING AREA ADDED TO THE INVENTORY IN CYCLE 6.					
0947	CRYSTAL CREEK ADA PARKING	RECENTLY CONSTRUCTED ROUTE	RECENTLY CONSTRUCTED PARKING AREA ADDED TO THE INVENTORY IN CYCLE 6.					

	ROUTES MODIFIED FROM PREVIOUS INVENTORY:							
Route No.	Route Name	Type of Change	Comments					
0206	DRY CREEK CAMPGROUND	SURFACE TYPE CHANGE	ROUTE WAS PAVED AND COLLECTED IN CYCLE 5. IN CYCLE 6 THE SURFACE TYPE CHANGED TO UNPAVED BECAUSE THE PARK HAS PULVERIZED THE SECTIONS OF ASPHALT THAT PREVIOUSLY EXISTED. ROUTE IS NOW ENTIRELY GRAVEL.					
0405	CARR POWERHOUSE SERVICE ROAD	LENGTH CHANGE	A SHORT CONCRETE SECTION AT THE END OF THE ROAD WAS REMOVED IN CYCLE 6 AND IS NOW CONSIDERED TO BE A DRIVEWAY RATHER THAN A ROAD.					
0410	TOWER RESIDENCE ROAD	SURFACE TYPE CHANGE	PREVIOUSLY COLLECTED AS ALL PAVED, IN POOR CONDITION. HOWEVER, THE NPS CONFIRMED THAT ONLY THE FIRST .05 MILES IS CONSIDERED PAVED, AND THE REST IS UNPAVED.					
0414	GRIZZLY GULCH WASTEWATER ACCESS ROAD	ROUTE NAME	ROUTE NAME CHANGED FROM "GRIZZLY GULCH WATER TANK ACCESS ROAD" TO "GRIZZLY GULCH WASTEWATER ACCESS ROAD".					

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

	ROUTES MODIFIED FROM PREVIOUS INVENTORY:							
Route No.	Route Name	Type of Change	Comments					
0904	MAINTENANCE YARD	SQ FEET CHANGE	GPS WAS UPDATED TO BETTER REFLECT THE PARKING AREA GEOMETRY.					
0936A	OAK BOTTOM CAMPGROUND PARKING A	SQ FEET CHANGE	GPS WAS UPDATED TO BETTER REFLECT THE PARKING AREA GEOMETRY.					
0936C	OAK BOTTOM CAMPGROUND PARKING C	SQ FEET CHANGE	GPS WAS UPDATED TO BETTER REFLECT THE PARKING AREA GEOMETRY.					
0936D	OAK BOTTOM CAMPGROUND PARKING D	SQ FEET CHANGE	GPS WAS UPDATED TO BETTER REFLECT THE PARKING AREA GEOMETRY.					
0936E	OAK BOTTOM CAMPGROUND PARKING E	SQ FEET CHANGE	GPS WAS UPDATED TO BETTER REFLECT THE PARKING AREA GEOMETRY.					
0941	OAK BOTTOM FIRE CACHE PARKING	SQ FEET CHANGE	PARKING AREA GPS AND SQUARE FOOTAGE WERE UPDATED IN CYCLE 6 TO INCLUDE ADDITIONAL SECTIONS OF ASPHALT AND CONCRETE.					

Section 3 Park Summary Information





Parkwide Paved Route Condition Summary Whiskeytown National Recreation Area

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

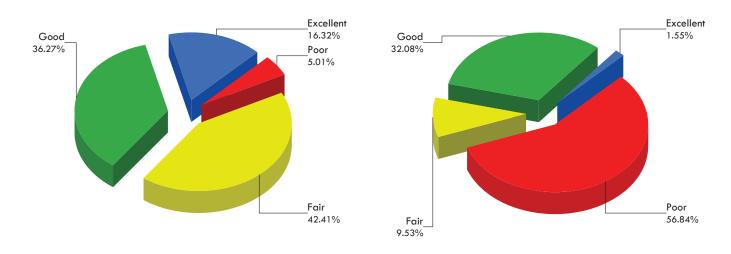
Breakdown of Pavement Condition Rating (PCR) Based on Access Level

	POOR (PCR of 0 - 60)	FAIR (PCR of 61 - 84)	GOOD (PCR of 85 - 94)	EXCELLENT (PCR of 95 -100)					
PAVED ROADS									
Functional Class	Length (miles)	Length (miles)	Length (miles)	Length (miles)	Total Mileage by FC				
1	0.06	0.76	0.22		1.04				
2	0.01	0.46	0.76	0.41	1.64				
3	0.20	2.57	2.07	1.04	5.87				
4									
5	0.19	0.24	0.32	0.19	0.94				
6	0.07	0.41	0.43	0.08	0.98				
7									
8									
Total Mileage by PCR	0.52	4.44	3.80	1.71	10.47				
		PAVED P	ARKING						
Access Level	Area (sq. ft.)	Area (sq. ft.)	Area (sq. ft.)	Area (sq. ft.)	Total Area				
PUBLIC	499,362	83,019	303,554	14,935	900,870				
NONPUBLIC	48,644	8,864	5,690		63,198				
Total Area by PCR	548,006	91,883	309,244	14,935	964,068				

NOTES:

- 1. Data are reported in the table only for paved roads and parking lots that received a condition rating.
- 2. Non-linear roads (MRP collected routes) are measured by area and converted to equivalent route miles based on a 22-ft pavement width in order to be included in the mileage totals for paved roads shown above.
- 3. Quantities in the table above are derived from the route condition data within the PMS_20, PMS_MRL, PMS_MRP, and PMS_PKG tables in the Park geodatabase.

Parkwide Condition Percentages



Road Condition Percentages

Parking Area Condition Percentages

Figure 1: Pavement Condition Rating Breakdown for Paved Roads and Parking Areas

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

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

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

CONDITION CATEGORIES AND TREATMENTS EXCELLENT / Localized Repairs Only GOOD / Preventive Maintenance FAIR / Light Rehabilitation POOR / Heavy Rehabilitation Reconstruction Pavement Age

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



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

Whiskeytown National Recreation Area

Condition (Rating / Index) Legend

EXCELLENT (95 - 100)

GOOD (85 - 94)

FAIR (61 - 84)

NR = NOT RATED

Notes:

- This condition summary report contains only the roads rated with the Data Collection Vehicle (DCV).
- Condition on roads that were manually rated and parking areas are shown in separate reports.
- Additional details on individual road ratings can be found in Section 5 of the Cycle 6 RIP Report.
- Refer to the RIP Report Appendix for an explanation of the rating system and rating methods.

Route No.	Route-	Level Condition for Roads Rated with the Data College Route Name	ction Vehicle (DCV) Functiona Class	l Surf. Type	Paved Length (Miles)	Pavement Condition Rating (PCR)	Roughness Condition Index (RCI)	Surface Condition Rating (SCR)	Structural Crack Index	r Crack I	Longitudinal Cracking Index	Transverse Cracking Index	Patch / Pothole Index	Rutting Index
WHIS-0010	23349	SOUTH SHORE DRIVE EAST	1	AS	1.04	77	64	85	92	100	92	85	100	94
WHIS-0100	23352	BRANDY CREEK BEACH ROAD	2	AS	0.38	90	NR	90	96	100	96	90	99	97
WHIS-0101	23353	Brandy Creek Marina Road	2	AS	0.46	89	NR	89	97	100	97	89	100	98
WHIS-0103	99468	OAK BOTTOM BEACH ROAD	2	AS	0.44	90	NR	90	97	100	97	93	100	90
WHIS-0104	23356	OAK BOTTOM MARINA ROAD	2	AS	0.29	89	NR	89	96	100	96	89	98	95
WHIS-0105	99366	TOWER HOUSE FOOTBRIDGE ACCESS ROAD	2	AS	0.07	95	NR	95	98	100	98	96	100	95
WHIS-0201	23365	N.E.E.D. CAMP ROAD	3	AS	0.27	97	NR	97	100	100	100	97	100	97
WHIS-0205	23367	BRANDY CREEK MARINA R.V. CAMPGROUND	3	AS	0.42	89	NR	89	99	100	99	96	89	97
WHIS-0209	23371	CARR POWERHOUSE ROAD	3	AS	1.10	73	42	94	99	100	99	97	100	93
WHIS-0211	23373	CARR LAKE ACCESS ROAD	3	AS	0.51	92	NR	92	100	100	100	98	100	92
WHIS-0215	23376	OAK BOTTOM CAMPGROUND LOOP A	3	AS	0.50	88	NR	88	92	100	92	88	100	91
WHIS-0216	99376	OAK BOTTOM CAMPGROUND LOOP B	3	AS	0.05	75	NR	75	94	100	94	91	100	75
WHIS-0220	23379	WHISKEY CREEK GROUP PICNIC ROAD	3	AS	1.38	72	40	93	98	100	98	98	100	93
WHIS-0221	83008	CRYSTAL CREEK CAMP ACCESS ROAD	3	AS	1.77	89	87	91	99	100	99	91	100	97
WHIS-0400	83011	HEADQUARTERS ROAD	5	AS	0.23	77	NR	77	77	98	79	89	98	89
WHIS-0401	99386	N.E.E.D. CAMP RESIDENCE ROAD	5	AS	0.10	96	NR	96	100	100	100	97	100	96
WHIS-0404	83010	BRANDY CREEK SERVICE ROAD SOUTH	6	AS	0.17	92	NR	92	92	100	92	96	100	94
WHIS-0405	99389	CARR POWERHOUSE SERVICE ROAD	5	AS	0.14	89	NR	89	99	100	99	98	100	89
WHIS-0406	37948	QUARTERS 324 ROAD	6	AS	0.28	86	NR	86	93	100	93	86	100	86

Data Collection Date: 05/2015



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

Whiskeytown National Recreation Area

Condition (Rating / Index) Legend

EXCELLENT (95 - 100)

GOOD (85 - 94) FAIR (61 - 84)

POOR (0 - 60)

NR = NOT RATED

Notes:

- This condition summary report contains only the roads rated with the Data Collection Vehicle (DCV).
- Condition on roads that were manually rated and parking areas are shown in separate reports.
- Additional details on individual road ratings can be found in Section 5 of the Cycle 6 RIP Report.
- Refer to the RIP Report Appendix for an explanation of the rating system and rating methods.

Route No.	Route-	Level Condition for Roads Rated with the Data Collecti Route Name	on Vehicle (DCV) Functional Suiclass Tyl	=09	Pavement Condition Rating (PCR)	Roughness Condition Index (RCI)	Surface Condition Rating (SCR)	Structural Crack Index	Alligator Crack Index	Longitudinal Cracking Index	Transverse Cracking Index	Patch / Pothole Index	Rutting Index
WHIS-0407	83009	GRIZZLY GULCH ROAD	5 A:	0.33	80	NR	80	82	99	83	80	96	87
WHIS-0411	99390	BULL GULCH SERVICE ROAD	6 A:	S 0.47	82	NR	82	93	100	93	82	100	93
WHIS-0414	99392	GRIZZLY GULCH WASTEWATER ACCESS ROAD	5 A:	0.07	82	NR	82	100	100	100	100	100	82
WHIS-0415	99393	GOVERNMENT BOAT LAUNCH LOOP	5 A	S 0.11	77	NR	77	77	100	77	77	100	84

Data Collection Date: 05/2015



Road Condition Summary Report for Manually Rated Roads

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

Condition (Rating / Index) Legend

Whiskeytown National Recreation Area

Notes:

- This condition summary report contains only the roads that were manually rated.
 - o MRL = Manually Rated Line (a linear road)
 - MRP = Manually Rated Polygon (a non-linear road)
- Condition on roads that were rated with the Data Collection Vehicle (DCV) are shown in a separate report.
- A road is manually rated when it is determined to be unsuitable for the DCV to drive.
- Additional details on individual road ratings can be found in Section 5 of the Cycle 6 RIP Report.
- Refer to the RIP Report Appendix for an explanation of the rating system and rating methods.

		Route-Level Condition for Manually Rated Line (MRL) Roads	F 45	l 6f	Paved	ement Condition og (PCR)	yhness Condition × (RCI)	ace Condition ng (SCR)	tural Crack Index	ator Crack Index	itudinal Cracking x	sverse Cracking x	h / Pothole Index	ng Index
B . M	EMCC N	D. J. M.	Function	_		1 ≥ ±) S	it it	5	<u>:</u>	lg å	ge	tcl	₹
Route No.	FMSS No.	Route Name	Class	Туре	(Miles)	2 %	~ 드	S &	Ş	⋖	고 드	F 드	P	~
WHIS-0410	83015	TOWER RESIDENCE ROAD	6	AS	0.05	53	NR	53	NR	90	53	53	97	97
WHIS-0423	N/A	OAK BOTTOM WATER STORAGE TANK SERVICE ROAD	6	AS	0.02	97	NR	97	NR	97	97	97	97	97



Data Collection Date: 11/2014

Cycle 6 - Road Inventory Program

Parking Area Condition Summary Report

Whiskeytown National Recreation Area

Notes:

- A PCR of 0 indicates a paved parking area in very poor condition. Individual distresses could not be identified.
- Additional details on individual parking areas can be found in Section 6 of the Cycle 6 RIP Report.
- Refer to the RIP Report Appendix for an explanation of the rating system and rating methods.

Condition (Rating / Index) Legend

EXCELLENT (97)

GOOD (90)

FAIR (73)

POOR* (0, 30, 53)

NR = NOT RATED

	Asphalt Surface Distresses					Conc	rete Su	Surface Distresses									
Route No.	FMSS No.	Condition Rating Details for Parking Areas Route Name	User Access	Surf. Type	Area (Sq. Ft.)	Pavement Condition Rating (PCR)	Alligator Cracking	Longitudinal / Tranverse Cracking	/ Diste	Potholes / Patching	HMA Patching	Surface Raveling / Bleeding	Joint Faulting	Slab Cracking	Joint Distresses	Delamination / Pop-Outs	Potholes / Patching
WHIS-0900AZ	23363	VISITOR CENTER PARKING A	PUBLIC	AS	1,523	53	90	53	97	97	97	90					
WHIS-0900BZ	23363	VISITOR CENTER PARKING B	PUBLIC	AS	17 , 887	53	53	53	97	97	97	90					
WHIS-0901	99405	PARK HEADQUARTERS VISITOR PARKING	PUBLIC	AS	4,994	53	90	53	90	97	97	90					
WHIS-0902A	99406	PARK HEADQUARTERS EMPLOYEE PARKING A	NONPUBLIC	C AS	5,566	73	90	90	90	90	97	73					
WHIS-0902B	99408	PARK HEADQUARTERS EMPLOYEE PARKING B	NONPUBLIC	C AS	2,119	73	97	90	90	97	97	73					
WHIS-0903	99412	PARK HEADQUARTERS EMPLOYEE PARKING	NONPUBLIC	C AS	1,687	90	97	97	97	97	97	90					
WHIS-0904	99413	MAINTENANCE YARD	NONPUBLIC	C AS	16,087	53	53	53	90	90	90	90					
WHIS-0905	99414	HEADQUARTERS ADMINISTRATIVE PARKING	NONPUBLIC	C AS	4,003	90	97	90	90	97	97	90					
WHIS-0907	99415	HEADQUARTERS GOVERNMENT CAR PARKING	NONPUBLIC	C AS	1,179	73	97	90	90	97	97	73					
WHIS-0909	99421	EAST BEACH PARKING	PUBLIC	AS	9,026	97	97	97	97	97	97	97					
WHIS-0910AZ	99422	KENNEDY MEMORIAL VISTAS PARKING A	PUBLIC	AS	5,823	53	53	53	90	90	97	73					
WHIS-0910BZ	99422	KENNEDY MEMORIAL VISTAS PARKING B	PUBLIC	AS	3,544	53	90	53	90	90	97	73					
WHIS-0911A	99423	KENNEDY MONUMENT / DAM PARKING A	PUBLIC	AS	8,064	53	97	53	97	97	97	73					
WHIS-0911B	99426	KENNEDY MONUMENT / DAM PARKING B	PUBLIC	AS	25,561	53	97	53	97	97	97	73					
WHIS-0914	99429	N.E.E.D. CAMP PARKING	PUBLIC	AS	13,364	90	97	90	90	97	97	90					
WHIS-0915	99430	N.E.E.D. CAMP CAFETERIA ACCESS PARKING	PUBLIC	AS	2,450	90	97	90	97	97	97	90					
WHIS-0919	99452	BRANDY CREEK PARKING LOT A	PUBLIC	AS	45,531	90	90	90	97	97	97	90					
WHIS-0920	99453	BRANDY CREEK PARKING LOT B	PUBLIC	AS	113,423	53	73	53	90	90	97	73					
WHIS-0922	99455	BRANDY CREEK MARINA PARKING	PUBLIC	AS	181,050	53	90	53	90	97	97	73					
WHIS-0923	99456	DRY STORAGE AREA	NONPUBLIC	C AS	22,442	53	97	53	90	97	97	73					
WHIS-0924A	99457	BRANDY CREEK R.V. PARKING A	PUBLIC	AS	3,557	90	97	90	97	97	97	90					
WHIS-0924B	99458	BRANDY CREEK R.V. PARKING B	PUBLIC	AS	5,963	90	97	90	97	97	97	90					
WHIS-0924C	99459	BRANDY CREEK R.V. PARKING C	PUBLIC	AS	3,148	90	97	90	97	97	97	90					
WHIS-0924D	99460	BRANDY CREEK R.V. PARKING D	PUBLIC	AS	3,962	53	97	53	97	97	97	90					
WHIS-0924E	99461	BRANDY CREEK R.V. PARKING E	PUBLIC	AS	5,294	53	97	53	97	97	97	90					
WHIS-0924F	N/A	BRANDY CREEK R.V. PARKING F	PUBLIC	AS	1,454	90	97	90	97	90	97	90					



Parking Area Condition Summary Report

Whiskeytown National Recreation Area

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

Condition (Rating / Index) Legend

Notes:

- A PCR of 0 indicates a paved parking area in very poor condition. Individual distresses could not be identified.
- Additional details on individual parking areas can be found in Section 6 of the Cycle 6 RIP Report.
- Refer to the RIP Report Appendix for an explanation of the rating system and rating methods.

					Asphalt Surface Distresses Concrete Surface Distre						<u>Distresse</u>	<u> </u>					
Route No.	FMSS No.	Condition Rating Details for Parking Areas Route Name	User Access	Surf. Type	Area (Sq. Ft.)	Pavement Condition Rating (PCR)	Alligator Cracking	Longitudinal / Tranverse Cracking	Rutting / Distortions	Potholes / Patching	HMA Patching	Surface Raveling / Bleeding	Joint Faulting	Slab Cracking	Joint Distresses	Delamination / Pop-Outs Potholes / Patchina	_
WHIS-0924G	N/A	BRANDY CREEK R.V. PARKING G	PUBLIC	AS	559	73	97	90	97	97	97	73					_
WHIS-0924H	N/A	BRANDY CREEK R.V. PARKING H	PUBLIC	AS	515	90	97	90	97	97	97	90					_
WHIS-0925	99462	CARR PICNIC AREA PARKING	PUBLIC	AS	21,139	53	73	53	97	97	97	97					_
WHIS-0928	99465	TOWER HOUSE HISTORIC DISTRICT PARKING	PUBLIC	AS	29,272	90	97	90	97	97	97	90					_
WHIS-0929	99466	OAK BOTTOM WATER DITCH TRAIL PARKING	PUBLIC	AS	4,878	73	90	90	73	73	97	73					_
WHIS-0930	99467	OAK BOTTOM CAMPGROUND STORE PARKING	PUBLIC	AS	9,413	90	90	90	90	97	97	90					_
WHIS-0931	23354	OAK BOTTOM BEACH PARKING	PUBLIC	AS	38,253	53	73	53	90	97	97	90					_
WHIS-0932	99469	OAK BOTTOM R.V. CAMP PARKING	PUBLIC	AS	39,575	90	90	90	90	97	97	90					_
WHIS-0933	99470	OAK BOTTOM LAUNCH RAMP	PUBLIC	AS	130,249	90	90	90	90	97	97	90					_
WHIS-0934	99471	OAK BOTTOM R.V. DUMP STATION PARKING	PUBLIC	AS	6,785	53	90	53	90	97	97	73					_
WHIS-0935	99472	OAK BOTTOM MARINA PARKING	PUBLIC	AS	56,842	53	90	53	90	97	97	90					_
WHIS-0936A	99474	OAK BOTTOM CAMPGROUND PARKING A	PUBLIC	AS	2,744	53	97	53	73	97	97	73					_
WHIS-0936B	99473	OAK BOTTOM CAMPGROUND PARKING B	PUBLIC	AS	2,474	53	97	53	90	97	97	73					_
WHIS-0936C	99475	OAK BOTTOM CAMPGROUND PARKING C	PUBLIC	AS	3,659	73	97	90	90	97	97	73					_
WHIS-0936D	99476	OAK BOTTOM CAMPGROUND PARKING D	PUBLIC	AS	3,371	73	97	90	90	97	97	73					_
WHIS-0936E	99477	OAK BOTTOM CAMPGROUND PARKING E	PUBLIC	AS	4,155	73	90	90	90	97	97	73					_
WHIS-0936F	99478	OAK BOTTOM CAMPGROUND PARKING F	PUBLIC	AS	3,338	90	97	90	90	97	97	97					_
WHIS-0936G	99479	OAK BOTTOM CAMPGROUND PARKING G	PUBLIC	AS	3,113	90	97	90	90	97	97	90					_
WHIS-0936H	N/A	OAK BOTTOM CAMPGROUND HANDICAP RESTROOM PARKING A	PUBLIC	AS	985	90	97	97	97	97	97	90					_
WHIS-0936I	N/A	OAK BOTTOM CAMPGROUND HANDICAP RESTROOM PARKING B	PUBLIC	AS	1,049	90	97	90	97	97	97	97					_
WHIS-0937	99480	WHISKEY CREEK BOAT LAUNCH PARKING	PUBLIC	AS	66,397	73	90	90	90	97	97	73					_
WHIS-0941	99483	OAK BOTTOM FIRE CACHE PARKING	NONPUBLIC	. AS	10,115	53	97	53	90	97	73	73					_
WHIS-0943	99485	MILL CREEK TRAILHEAD PARKING	PUBLIC	AS	4,286	90	97	97	97	97	97	90					_
WHIS-0944	23033	GUARDIAN ROCK TRAILHEAD PARKING	PUBLIC	AS	1,690	97	97	97	97	97	97	97					_
WHIS-0946	109597	EAST ENTRANCE SIGN PARKING AREA	PUBLIC	AS	6,292	90	97	90	97	97	97	97					_
WHIS-0947	N/A	CRYSTAL CREEK ADA PARKING	PUBLIC	AS	4,219	97	97	97	97	97	97	97					_

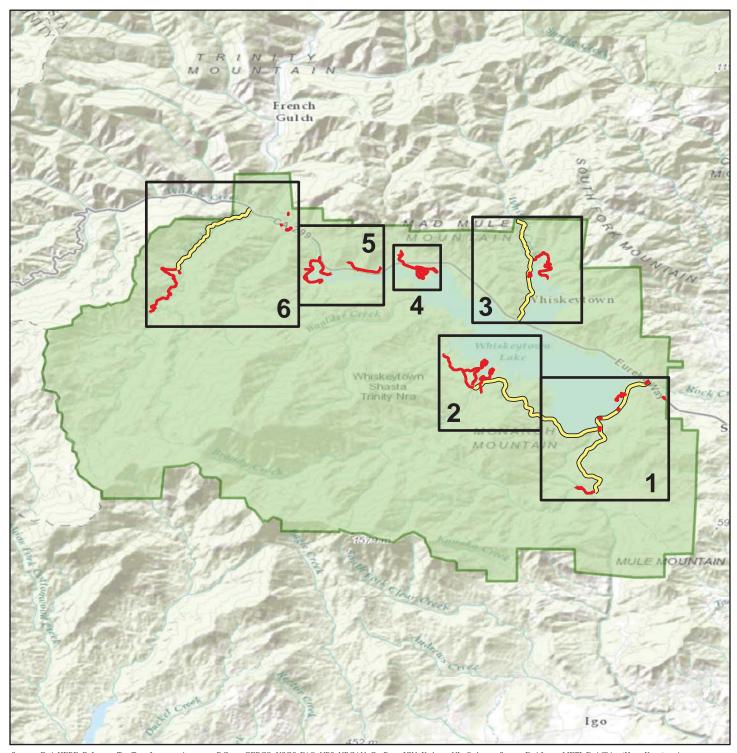
Data Collection Date: 11/2014

Section 4 Park Route Location Maps





ROUTE LOCATION MAP Key Map



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



ROUTE LOCATION MAP Map 1



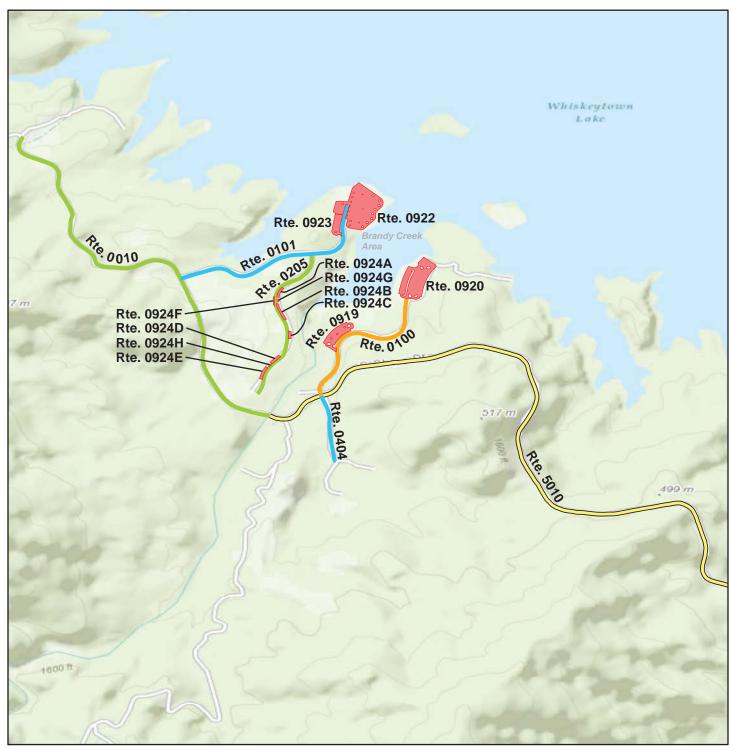
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Note: Unique colors are used to differentiate roads.

Non-NPS Collected Routes

0 1 2

ROUTE LOCATION MAP Map 2



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

Note: Unique colors are used to differentiate roads.

Non-NPS Collected Routes

	Miles	
0	0.5	1

ROUTE LOCATION MAP Map 3



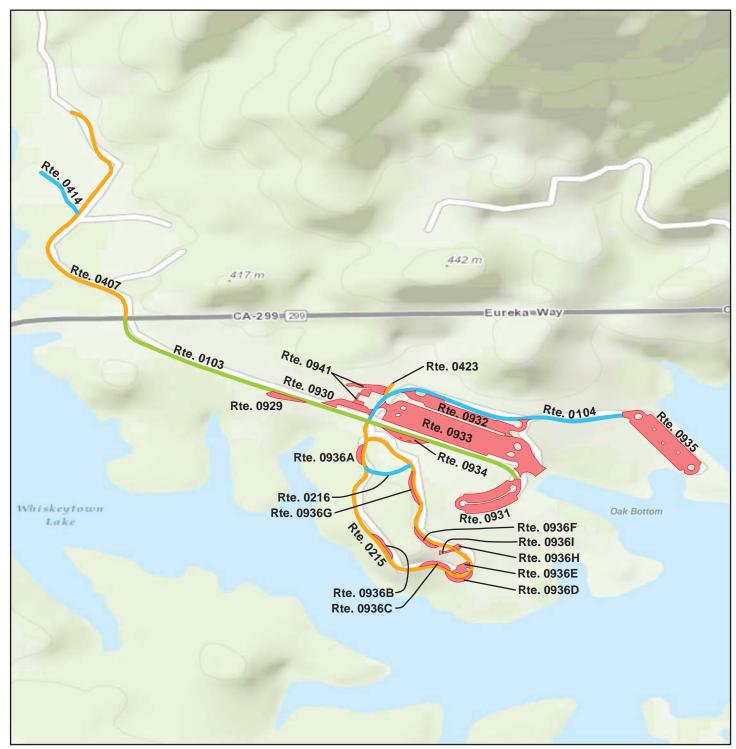
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Note: Unique colors are used to differentiate roads.

Non-NPS Collected Routes

	Miles	
0	0.5	1

ROUTE LOCATION MAP Map 4



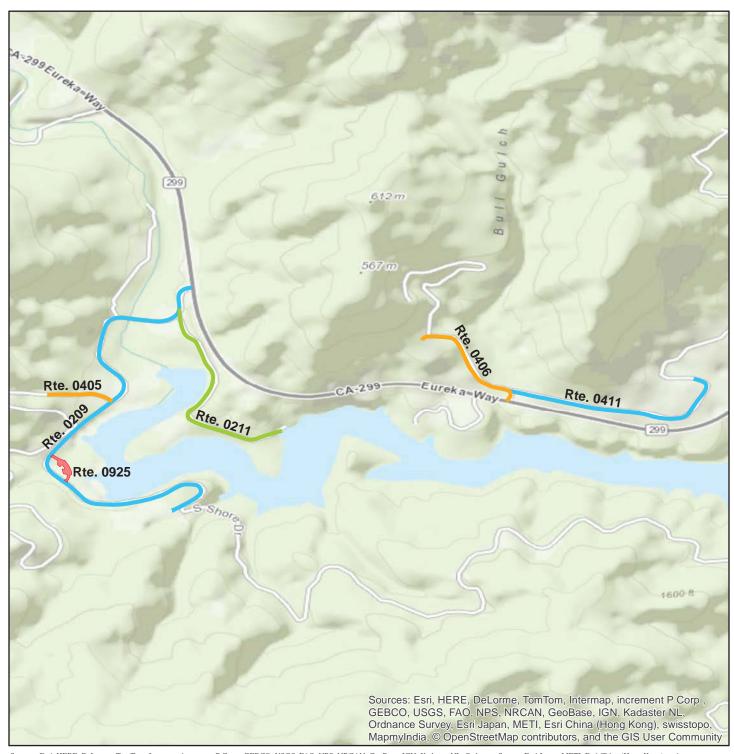
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Note: Unique colors are used to differentiate roads.

Non-NPS Collected Routes

	Miles	
0	0.25	0.5

ROUTE LOCATION MAP Map 5



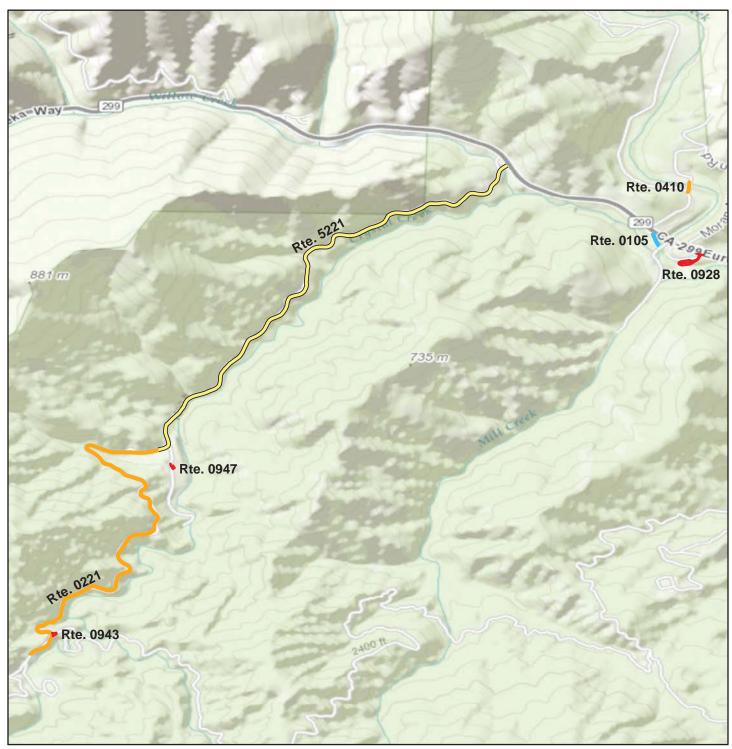
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Note: Unique colors are used to differentiate roads.

Non-NPS Collected Routes

	Miles	
0	0.5	1

ROUTE LOCATION MAP Map 6



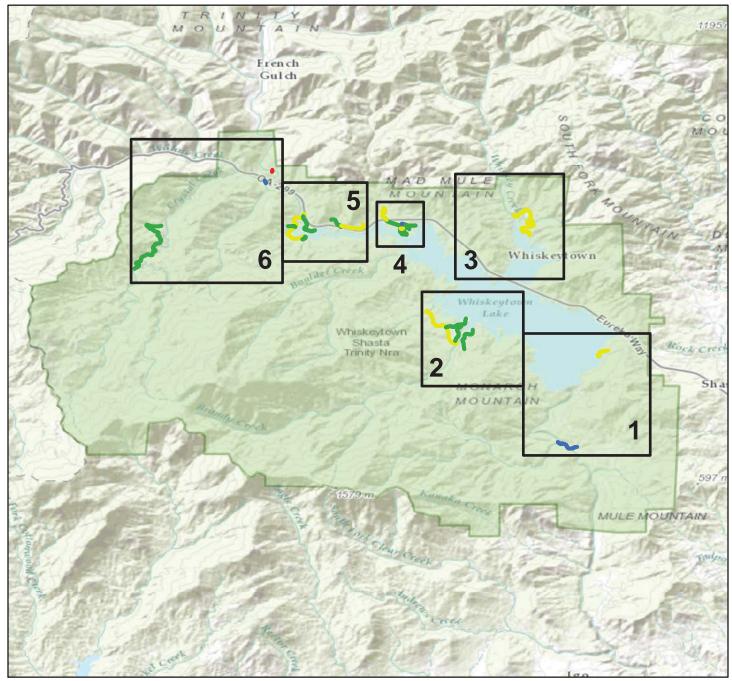
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Note: Unique colors are used to differentiate roads.

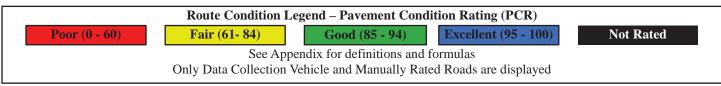
Non-NPS Collected Routes



ROUTE CONDITION MAP PCR - MILE BY MILE Key Map



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



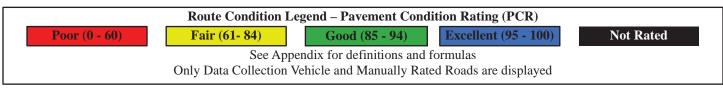
Miles 5 10



ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 1



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



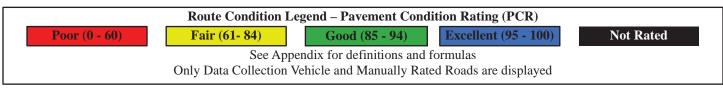
Miles

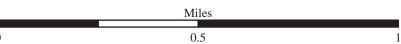
1

ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 2

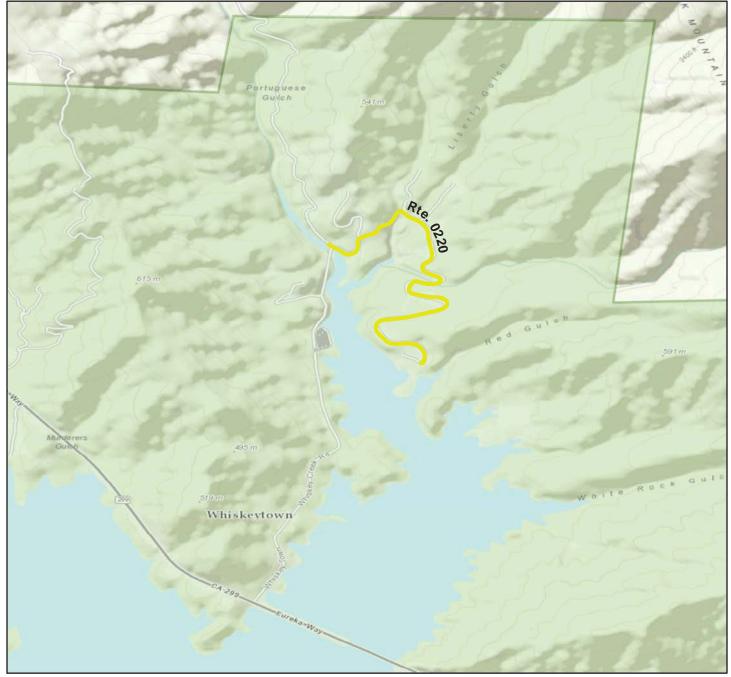


Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

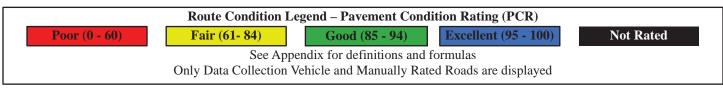




ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 3



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

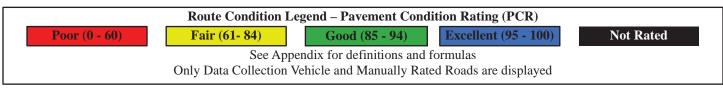


	Miles	
0	0.5	1

ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 4



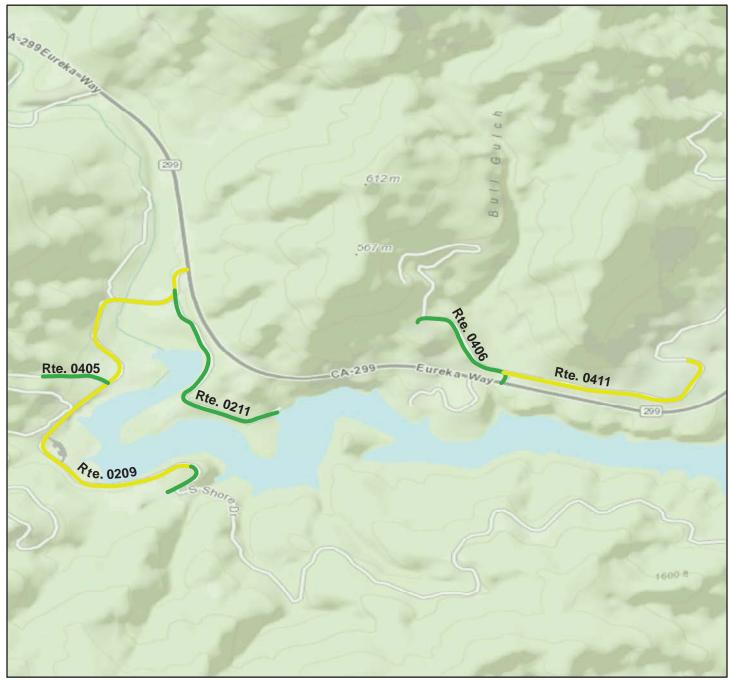
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



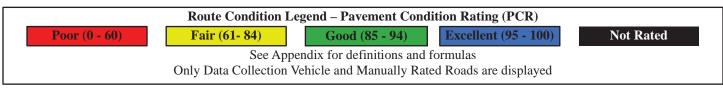
Miles 0 0.25 0.5



ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 5

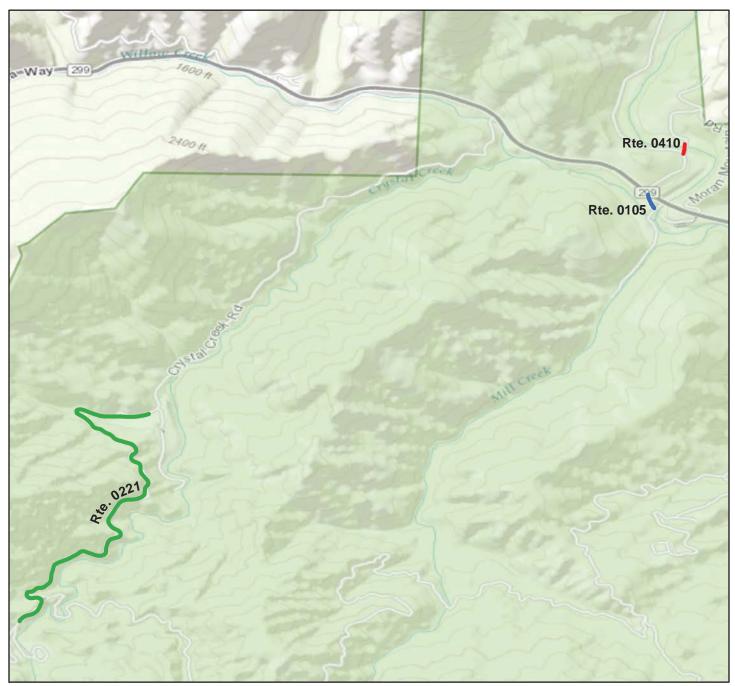


Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

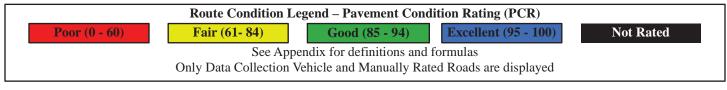




ROUTE CONDITION MAP PCR - MILE BY MILE Area Map 6



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



Miles

Section 5 Paved Road Condition Rating Sheets



Whiskeytown National Recreation Area



ROUTE 0010: SOUTH SHORE DRIVE EAST

Data Collection Vehicle (DCV) Rating



	Poute (Condition Legend – Pav	romant Candi	tion Poting (PCP)		
Poor (0 - 60)	Fair (6		(85 - 94)	Excellent (Not Rat	ed
	17 (1	See Appendix for det	· ·				
Inspection Date:	5/22/2015	Beginning Section MP	0	1			
Paved Length (Miles):	1.04	Section Length (MI)	1	0.04			
Surface Type:	ASPHALT	Route Summary					
Roadway Condition In	formation						
Pavement Condition R	ating (PCR)	77	77	72			
Surface Condition Ratin	ig (SCR)	85	85	89			
Roughness Condition In	dex (RCI)	64	65	46			
Distress Index Values							
Structural Crack Index		92	92	99			
Alligator Crack Index		100	100	100			
Longitudinal Crack Inc	dex	92	92	99			
Transverse Cracking Ir	ndex	85	85	91			
Patching Index		100	100	100			
Rutting Index		94	94	89			
International Roughness Index (IRI)		222	220	302			
Lane & Width Informa	ation						
Number of Lanes		2	2	2			
Paved Width (ft)		25.2	25.4	20			
Lane Width (ft)		11.6	11.7	9.1			

ROUTE 0100: BRANDY CREEK BEACH ROAD

Data Collection Vehicle (DCV) Rating



	Route Cond	lition Legend – Pa	vement Condi	tion Rating (PCR)		
Poor (0 - 60)	Fair (61- 84		(85 - 94)	Excellent (-	Not Rat	ted
	S	See Appendix for de	efinitions and f	ormulas			
Inspection Date: 5/22/2	015 Beg	ginning Section MI	P 0				
Paved Length (Miles): 0.38	Sec	tion Length (MI)	0.38				
Surface Type: ASPH	ALT Ro	ıte Summary					
Roadway Condition Informa	tion						
Pavement Condition Rating (PCR)	90	90				
Surface Condition Rating (SCI	(3)	90	90				
Roughness Condition Index (R	CI)	N/A	N/A				
Distress Index Values							
Structural Crack Index		96	96				
Alligator Crack Index		100	100				
Longitudinal Crack Index		96	96				
Transverse Cracking Index		90	90				
Patching Index		99	99				
Rutting Index		97	97				
International Roughness Index (IRI)		N/A	N/A				
Lane & Width Information							
Number of Lanes		2	2				
Paved Width (ft)		22.8	22.8				
Lane Width (ft)		10.8	10.8				

ROUTE 0101: BRANDY CREEK MARINA ROAD

Data Collection Vehicle (DCV) Rating



	Route Condition	Legend – Pav	ement Condi	tion Rating (PCR)		
Poor (0 - 60)	Fair (61- 84)		(85 - 94)	Excellent (-	Not Rat	ted
	See Ap	pendix for det	finitions and f	ormulas			
Inspection Date: 5/22/201	5 Beginnin	g Section MP	0				
Paved Length (Miles): 0.46	Section I	ength (MI)	0.46				
Surface Type: ASPHAI	T Route Su	mmary					
Roadway Condition Information	on						
Pavement Condition Rating (PC	CR)	89	89				
Surface Condition Rating (SCR)		89	89				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values							
Structural Crack Index		97	97				
Alligator Crack Index		100	100				
Longitudinal Crack Index		97	97				
Transverse Cracking Index		89	89				
Patching Index		100	100				
Rutting Index		98	98				
International Roughness Index	(IRI)	N/A	N/A				
Lane & Width Information							
Number of Lanes		2	2				
Paved Width (ft)		30.8	30.8				
Lane Width (ft)		12.3	12.3				

ROUTE 0103: OAK BOTTOM BEACH ROAD

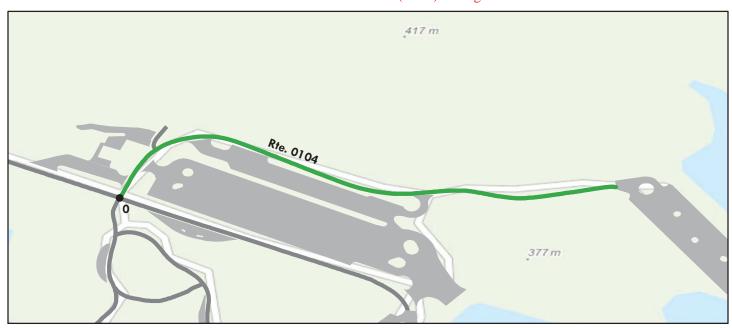
Data Collection Vehicle (DCV) Rating



Pout	e Condition Legend – Pav	oment Cond	ition Dating (DCD)	
		(85 - 94)	Excellent (95 - 100)	Not Rated
1 001 (0 00)	See Appendix for def	1		1100 214004
T D 5/22/2015			T I	
Inspection Date: 5/22/2015	Beginning Section MP	0		
Paved Length (Miles): 0.44	Section Length (MI)	0.44		
Surface Type: ASPHALT	Route Summary		•	•
Roadway Condition Information				
Pavement Condition Rating (PCR)	90	90		
Surface Condition Rating (SCR)	90	90		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	97	97		
Alligator Crack Index	100	100		
Longitudinal Crack Index	97	97		
Transverse Cracking Index	93	93		
Patching Index	100	100		
Rutting Index	90	90		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	2	2		
Paved Width (ft)	25.8	25.8		
Lane Width (ft)	10.8	10.8		

ROUTE 0104: OAK BOTTOM MARINA ROAD

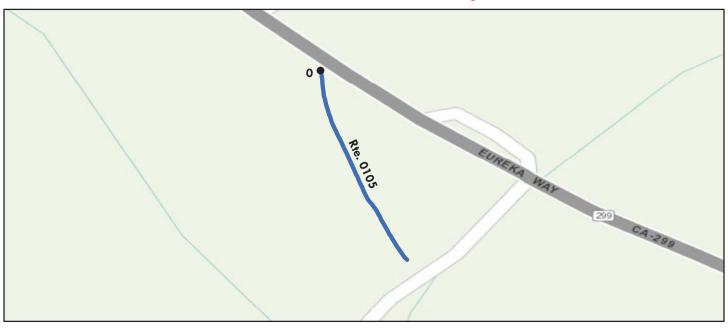
Data Collection Vehicle (DCV) Rating



	Route (Condition Legend – Pav	ement Condi	ition Rating (PCR)		
Poor (0 - 60)	Fair (6		(85 - 94)	Excellent (Not Ra	ted
, , ,	· ·	See Appendix for de					
Inspection Date:	5/22/2015	Beginning Section MP	0				
Paved Length (Miles):	0.29	Section Length (MI)	0.29				
Surface Type:	ASPHALT	Route Summary					
Roadway Condition In	formation						
Pavement Condition R	ating (PCR)	89	89				
Surface Condition Ratin	ig (SCR)	89	89				
Roughness Condition In	dex (RCI)	N/A	N/A				
Distress Index Values							
Structural Crack Index		96	96				
Alligator Crack Index		100	100				
Longitudinal Crack Inc	dex	96	96				
Transverse Cracking Ir	ndex	89	89				
Patching Index		98	98				
Rutting Index		95	95				
International Roughness Index (IRI)		N/A	N/A				
Lane & Width Informa	ation						
Number of Lanes		2	2				
Paved Width (ft)		22.5	22.5				
Lane Width (ft)		10.5	10.5				

ROUTE 0105: TOWER HOUSE FOOTBRIDGE ACCESS ROAD

Data Collection Vehicle (DCV) Rating



	Route (Condition Legend – Pav	ement Condi	tion Rating (PCR)		
Poor (0 - 60			(85 - 94)	Excellent (Not Ra	ted
		See Appendix for def	initions and f	ormulas			
Inspection Date:	5/22/2015	Beginning Section MP	0				
Paved Length (Mile	es): 0.07	Section Length (MI)	0.07				
Surface Type:	ASPHALT	Route Summary					
Roadway Condition	n Information						
Pavement Conditio	on Rating (PCR)	95	95				
Surface Condition R	Rating (SCR)	95	95				
Roughness Conditio	on Index (RCI)	N/A	N/A				
Distress Index Valu	es						
Structural Crack In	dex	98	98				
Alligator Crack Inc	lex	100	100				
Longitudinal Crack	Index	98	98				
Transverse Crackin	ng Index	96	96				
Patching Index		100	100				
Rutting Index		95	95				
International Rough	hness Index (IRI)	N/A	N/A				
Lane & Width Info	rmation						
Number of Lanes		1	1				
Paved Width (ft)		13.2	13.2				
Lane Width (ft)		13.2	13.2				

ROUTE 0201: N.E.E.D. CAMP ROAD

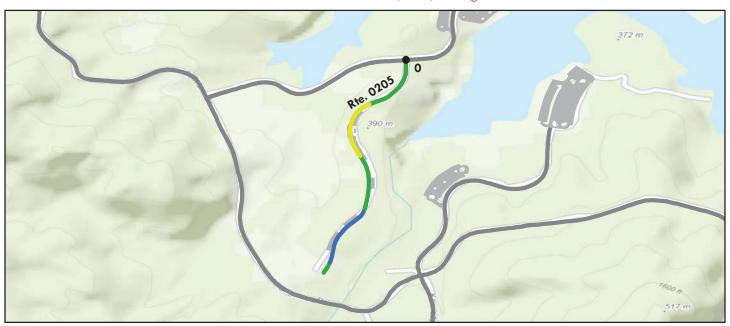
Data Collection Vehicle (DCV) Rating



	Route (Condition Leg	end – Pave	ment Condi	tion Rating (PCR)		
Poor (0 - 60)	Fair (6			85 - 94)	Excellent (-	Not Rat	ted
		See Appen	dix for defi	nitions and f	ormulas			
Inspection Date: 5/22	/2015	Beginning Se	ection MP	0				
Paved Length (Miles): 0.27		Section Leng	gth (MI)	0.27				
Surface Type: ASF	HALT	Route Summ	nary		•			
Roadway Condition Inforn	nation							
Pavement Condition Rating	g (PCR)	97		97				
Surface Condition Rating (S	CR)	97		97				
Roughness Condition Index	(RCI)	N/A	1	N/A				
Distress Index Values								
Structural Crack Index		100)	100				
Alligator Crack Index		100)	100				
Longitudinal Crack Index		100)	100				
Transverse Cracking Index		97		97				
Patching Index		100)	100				
Rutting Index		97		97				
International Roughness Index (IRI)		N/A	Λ	N/A				
Lane & Width Information	ı							
Number of Lanes		2		2				
Paved Width (ft)		20.1	1	20.1				
Lane Width (ft)		10.9)	10.9				

ROUTE 0205: BRANDY CREEK MARINA R.V. CAMPGROUND

Data Collection Vehicle (DCV) Rating



Rout	e Condition Legend – Pav	ement Cond	ition Rating (PCR)	
		(85 - 94)	Excellent (95 - 100)	Not Rated
2 333 (3 22)	See Appendix for def	1		
Inspection Date: 5/22/2015	Beginning Section MP			
Paved Length (Miles): 0.42	Section Length (MI)	0.42		
Surface Type: ASPHALT	Route Summary			l l
Roadway Condition Information				
Pavement Condition Rating (PCR)	89	89		
Surface Condition Rating (SCR)	89	89		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	99	99		
Alligator Crack Index	100	100		
Longitudinal Crack Index	99	99		
Transverse Cracking Index	96	96		
Patching Index	89	89		
Rutting Index	97	97		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	2	2		
Paved Width (ft)	24.3	24.3		
Lane Width (ft)	10.7	10.7		

ROUTE 0209: CARR POWERHOUSE ROAD

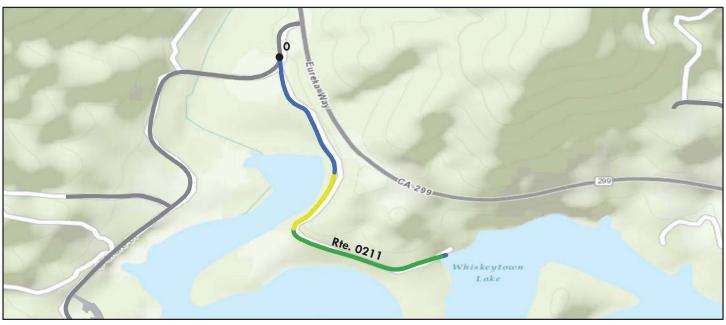
Data Collection Vehicle (DCV) Rating



	Poute (Condition Legend – Pav	ement Condi	tion Poting (PCP)		
Poor (0 - 60)	Fair (6		(85 - 94)	Excellent (Not Rated	
1 301 (0 30)	1 442 (0	See Appendix for det			200)	1,0021	
Inspection Date:	5/22/2015	Beginning Section MP		1			
Paved Length (Miles):	1.1	Section Length (MI)	1	0.1			
	ASPHALT	Route Summary					
Roadway Condition In	formation						
Pavement Condition R	ating (PCR)	73	73	91			
Surface Condition Ratin	ng (SCR)	94	94	91			
Roughness Condition In	ndex (RCI)	42	42	N/A			
Distress Index Values							
Structural Crack Index		99	99	100			
Alligator Crack Index		100	100	100			
Longitudinal Crack Inc	dex	99	99	100			
Transverse Cracking Ir	ndex	97	96	100			
Patching Index		100	100	100			
Rutting Index		93	94	91			
International Roughnes	International Roughness Index (IRI)		328	N/A			
Lane & Width Informa	ation						
Number of Lanes		2	2	1			
Paved Width (ft)		20.9	21.8	13.8			
Lane Width (ft)		10.8	10.5	13.8			

ROUTE 0211: CARR LAKE ACCESS ROAD

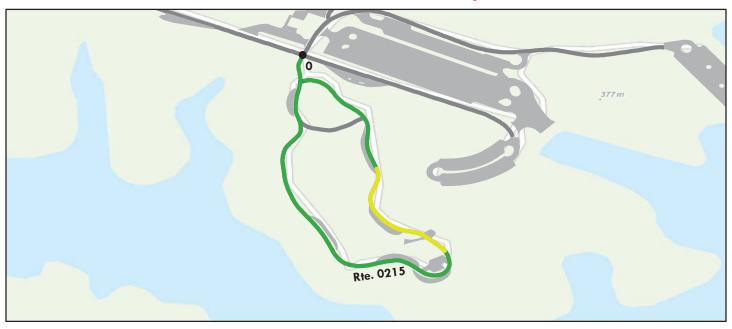
Data Collection Vehicle (DCV) Rating



Route	Condition Legend – Pav	ement Condi	ition Rating (PCR)	
		(85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def			
Inspection Date: 5/22/2015	Beginning Section MP			
Paved Length (Miles): 0.51	Section Length (MI)	0.51		
Surface Type: ASPHALT	Route Summary			
Roadway Condition Information				
Pavement Condition Rating (PCR)	92	92		
Surface Condition Rating (SCR)	92	92		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	100	100		
Alligator Crack Index	100	100		
Longitudinal Crack Index	100	100		
Transverse Cracking Index	98	98		
Patching Index	100	100		
Rutting Index	92	92		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	2	2		
Paved Width (ft)	21.9	21.9		
Lane Width (ft)	11.5	11.5		

ROUTE 0215: OAK BOTTOM CAMPGROUND LOOPA

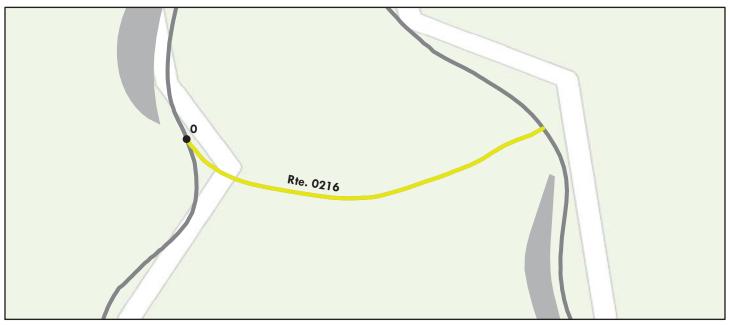
Data Collection Vehicle (DCV) Rating



	Route (Condition Legend – Pay	ement Cond	ition Rating (PCR)		
Poor (0 - 60)	Fair (6				Not Rated		
		See Appendix for de					
Inspection Date:	5/22/2015	Beginning Section MP	0				
Paved Length (Miles)	: 0.5	Section Length (MI)	0.5				
Surface Type:	ASPHALT	Route Summary					
Roadway Condition I	nformation						
Pavement Condition 1	Rating (PCR)	88	88				
Surface Condition Rati	ng (SCR)	88	88				
Roughness Condition I	index (RCI)	N/A	N/A				
Distress Index Values							
Structural Crack Inde	X	92	92				
Alligator Crack Index		100	100				
Longitudinal Crack Ir	ndex	92	92				
Transverse Cracking	Index	88	88				
Patching Index		100	100				
Rutting Index		91	91				
International Roughn	ess Index (IRI)	N/A	N/A				
Lane & Width Inform	nation						
Number of Lanes		1	1				
Paved Width (ft)		15.3	15.3				
Lane Width (ft)		15.3	15.3				

ROUTE 0216: OAK BOTTOM CAMPGROUND LOOP B

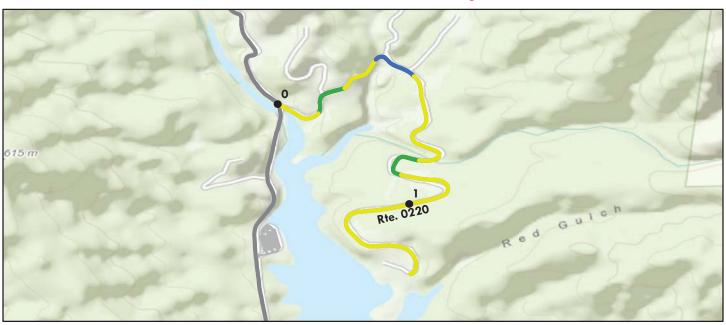
Data Collection Vehicle (DCV) Rating



	Route (Condition Legend – Pav	ement Condi	tion Rating (PCR)		
Poor (0 - 60)	_				95 - 100)	Not Rated	
,		See Appendix for def	1				
Inspection Date:	5/22/2015	Beginning Section MP	0				
Paved Length (Miles): 0.05	Section Length (MI)	0.05				
Surface Type:	ASPHALT	Route Summary					
Roadway Condition	Information						
Pavement Condition	Rating (PCR)	75	75				
Surface Condition Ra	ting (SCR)	75	75				
Roughness Condition	Index (RCI)	N/A	N/A				
Distress Index Values	s						
Structural Crack Ind	ex	94	94				
Alligator Crack Inde	ex	100	100				
Longitudinal Crack l	Index	94	94				
Transverse Cracking	Index	91	91				
Patching Index		100	100				
Rutting Index		75	75				
International Roughi	ness Index (IRI)	N/A	N/A				
Lane & Width Inform	mation						
Number of Lanes		1	1				
Paved Width (ft)		9.8	9.8				
Lane Width (ft)		9.8	9.8				

ROUTE 0220: WHISKEY CREEK GROUP PICNIC ROAD

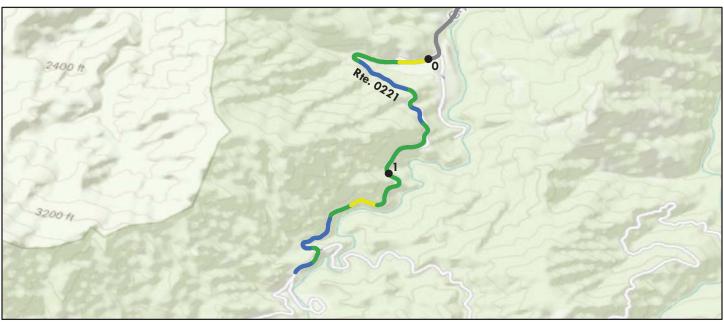
Data Collection Vehicle (DCV) Rating



	Route (Condition Legend – Pav	ement Condi	tion Rating (PCR)		
Poor (0 - 60)	Fair (6		(85 - 94)	Excellent (Not Rate	ed
		See Appendix for def					
Inspection Date:	5/22/2015	Beginning Section MP	0	1			
Paved Length (Miles):	: 1.38	Section Length (MI)	1	0.38			
Surface Type:	ASPHALT	Route Summary					
Roadway Condition In	nformation						
Pavement Condition I	Rating (PCR)	72	71	71			
Surface Condition Rati	ng (SCR)	93	93	91			
Roughness Condition I	ndex (RCI)	40	39	41			
Distress Index Values							
Structural Crack Index	X	98	97	99			
Alligator Crack Index		100	100	100			
Longitudinal Crack In	ndex	98	97	99			
Transverse Cracking 1	Index	98	98	98			
Patching Index		100	100	100			
Rutting Index		93	93	91			
International Roughne	ess Index (IRI)	340	344	334			
Lane & Width Inform	ation						
Number of Lanes		2	2	2			
Paved Width (ft)		19.2	19.2	19.2			
Lane Width (ft)		9.2	9	9.6			

ROUTE 0221: CRYSTAL CREEK CAMPACCESS ROAD

Data Collection Vehicle (DCV) Rating



Route	Condition Legend – Pav	ement Condi	ition Rating (F	PCR)	
		(85 - 94)	Excellent (95 - 100)		Not Rated
	See Appendix for def	1	ormulas		
Inspection Date: 5/22/2015	Beginning Section MP	0	1		
Paved Length (Miles): 1.77	Section Length (MI)	1	0.77		
Surface Type: ASPHALT	Route Summary				•
Roadway Condition Information					
Pavement Condition Rating (PCR)	89	89	90		
Surface Condition Rating (SCR)	91	91	91		
Roughness Condition Index (RCI)	87	86	88		
Distress Index Values					
Structural Crack Index	99	100	99		
Alligator Crack Index	100	100	100		
Longitudinal Crack Index	99	100	99		
Transverse Cracking Index	91	91	91		
Patching Index	100	100	100		
Rutting Index	97	96	97		
International Roughness Index (IRI)	150	152	147		
Lane & Width Information					
Number of Lanes	2	2	2		
Paved Width (ft)	16.8	16.8	16.8		
Lane Width (ft)	8.3	8.2	8.3		

ROUTE 0400: HEADQUARTERS ROAD

Data Collection Vehicle (DCV) Rating



Route	Condition Legend – Pav	ement Condi	ition Rating (PCR)	
		(85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def			
Inspection Date: 5/22/2015	Beginning Section MP	0		
Paved Length (Miles): 0.23	Section Length (MI)	0.23		
Surface Type: ASPHALT	Route Summary		'	'
Roadway Condition Information				
Pavement Condition Rating (PCR)	77	77		
Surface Condition Rating (SCR)	77	77		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	77	77		
Alligator Crack Index	98	98		
Longitudinal Crack Index	79	79		
Transverse Cracking Index	89	89		
Patching Index	98	98		
Rutting Index	89	89		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	2	2		
Paved Width (ft)	25.8	25.8		
Lane Width (ft)	11	11		

ROUTE 0401: N.E.E.D. CAMP RESIDENCE ROAD

Data Collection Vehicle (DCV) Rating



	Route (Condition Legend – Pay	zement Condi	tion Rating (PCR)			
Poor (0 - 60)	Fair (6		(85 - 94)	Excellent (9		Not Rated		
		See Appendix for de						
Inspection Date:	5/22/2015	Beginning Section MP	0					
Paved Length (Miles):	0.1	Section Length (MI)	0.1					
Surface Type:	ASPHALT	Route Summary						
Roadway Condition Ir	nformation							
Pavement Condition F	Rating (PCR)	96	96					
Surface Condition Ration	ng (SCR)	96	96					
Roughness Condition In	ndex (RCI)	N/A	N/A					
Distress Index Values								
Structural Crack Index	ζ	100	100					
Alligator Crack Index		100	100					
Longitudinal Crack In	dex	100	100					
Transverse Cracking I	ndex	97	97					
Patching Index		100	100					
Rutting Index		96	96					
International Roughne	ess Index (IRI)	N/A	N/A					
Lane & Width Inform	ation							
Number of Lanes		1	1					
Paved Width (ft)		12	12					
Lane Width (ft)		12	12					

ROUTE 0404: BRANDY CREEK SERVICE ROAD SOUTH

Data Collection Vehicle (DCV) Rating



D	C 1'4' I 1 . D		'A' D -A' (DCD)	
	Condition Legend – Pav			
Poor (0 - 60) Fair	61- 84) Good	(85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	initions and f	Formulas	
Inspection Date: 5/22/2015	Beginning Section MP	0		
Paved Length (Miles): 0.17	Section Length (MI)	0.17		
Surface Type: ASPHALT	Route Summary			
Roadway Condition Information				
Pavement Condition Rating (PCR)	92	92		
Surface Condition Rating (SCR)	92	92		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	92	92		
Alligator Crack Index	100	100		
Longitudinal Crack Index	92	92		
Transverse Cracking Index	96	96		
Patching Index	100	100		
Rutting Index	94	94		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	1	1		
Paved Width (ft)	10.1	10.1		
Lane Width (ft)	10.1	10.1		

ROUTE 0405: CARR POWERHOUSE SERVICE ROAD

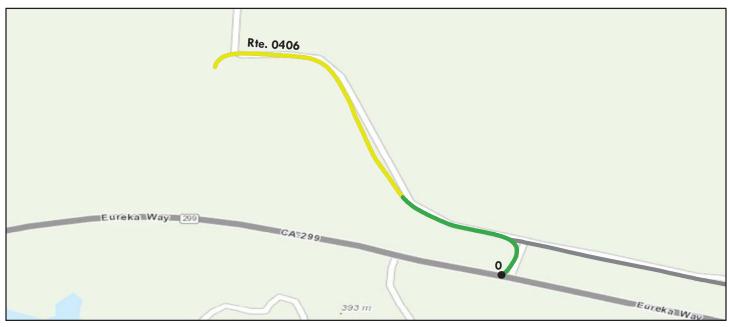
Data Collection Vehicle (DCV) Rating



	Route (Condition Legend – Pay	ement Condi	ition Rating ()	PCR)		
Poor (0 - 60)	Fair (6						
		See Appendix for de					
Inspection Date:	5/22/2015	Beginning Section MP	0				
Paved Length (Miles):	0.14	Section Length (MI)	0.14				
Surface Type:	ASPHALT	Route Summary					
Roadway Condition In	formation						
Pavement Condition R	ating (PCR)	89	89				
Surface Condition Ratin	ng (SCR)	89	89				
Roughness Condition In	ndex (RCI)	N/A	N/A				
Distress Index Values							
Structural Crack Index		99	99				
Alligator Crack Index		100	100				
Longitudinal Crack Inc	dex	99	99				
Transverse Cracking In	ndex	98	98				
Patching Index		100	100				
Rutting Index		89	89				
International Roughne	ss Index (IRI)	N/A	N/A				
Lane & Width Informa	ation						
Number of Lanes		1	1				
Paved Width (ft)		11.2	11.2				
Lane Width (ft)		11.2	11.2				

ROUTE 0406: QUARTERS 324 ROAD

Data Collection Vehicle (DCV) Rating



	Route (Condition Legend – Pav	ement Condi	tion Rating (PCR)		
Poor (0 - 60)	Fair (6						
	· ·	See Appendix for det					
Inspection Date:	5/22/2015	Beginning Section MP	0				
Paved Length (Miles)	: 0.28	Section Length (MI)	0.28				
Surface Type:	ASPHALT	Route Summary					
Roadway Condition I	nformation						
Pavement Condition	Rating (PCR)	86	86				
Surface Condition Rati	ing (SCR)	86	86				
Roughness Condition	Index (RCI)	N/A	N/A				
Distress Index Values							
Structural Crack Inde	ex	93	93				
Alligator Crack Index	ζ	100	100				
Longitudinal Crack In	ndex	93	93				
Transverse Cracking	Index	86	86				
Patching Index		100	100				
Rutting Index		86	86				
International Roughn	ess Index (IRI)	N/A	N/A				
Lane & Width Inforn	nation						
Number of Lanes		2	2				
Paved Width (ft)		14.2	14.2				
Lane Width (ft)		7.1	7.1				

ROUTE 0407: GRIZZLY GULCH ROAD

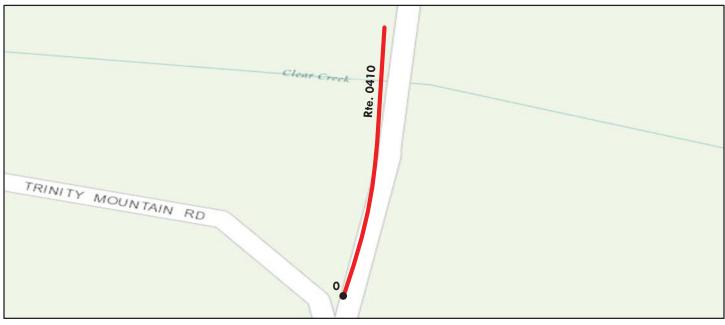
Data Collection Vehicle (DCV) Rating



	Route Condition	Legend – Pav	ement Condi	tion Rating (PCR)			
Poor (0 - 60)	Fair (61- 84)		(85 - 94)	Excellent (Not Rated		
	See Ap	pendix for def	finitions and f	ormulas				
Inspection Date: 5/22/201	5 Beginnin	g Section MP	0					
Paved Length (Miles): 0.33	Section L	ength (MI)	0.33					
Surface Type: ASPHA	Route Su	mmary			•			
Roadway Condition Information	on							
Pavement Condition Rating (PC	CR)	80	80					
Surface Condition Rating (SCR)		80	80					
Roughness Condition Index (RCI		N/A	N/A					
Distress Index Values								
Structural Crack Index		82	82					
Alligator Crack Index		99	99					
Longitudinal Crack Index		83	83					
Transverse Cracking Index		80	80					
Patching Index		96	96					
Rutting Index		87	87					
International Roughness Index	(IRI)	N/A	N/A					
Lane & Width Information								
Number of Lanes		1	1					
Paved Width (ft)		12.6	12.6					
Lane Width (ft)		12.6	12.6					

ROUTE 0410: TOWER RESIDENCE ROAD

Manual Rating



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

Route (Condition Legend – Pav	ement Condi	tion Rating (PCR)	
Poor (0 - 60) Fair (6	1- 84) Good ((85 - 94)	Excellent (95 - 100)	Not Rated
	See Appendix for def	initions and f	ormulas	
Inspection Date: 11/3/2014	Beginning Section MP	0.00		
Paved Length (Miles): 0.05	Section Length (MI)	0.05		
Surface Type: ASPHALT	Route Summary			
Roadway Condition Information				
Pavement Condition Rating (PCR)	53	53		
Surface Condition Rating (SCR)	53	53		
Roughness Condition Index (RCI)	N/A	N/A		
Distress Index Values				
Structural Crack Index	N/A	N/A		
Alligator Crack Index	90	90		
Longitudinal Crack Index	53	53		
Transverse Cracking Index	53	53		
Patching Index	97	97		
Rutting Index	97	97		
International Roughness Index (IRI)	N/A	N/A		
Lane & Width Information				
Number of Lanes	1	1		
Paved Width (ft)	12	12		
Lane Width (ft)	12	12		

Route 0410 is made up of both a paved and unpaved section.

ROUTE 0410: TOWER RESIDENCE ROAD

Condition Photos

Condition photos are shown only for manually rated roads. Use the PathView program to see images of DCV rated roads.



WHIS_0410_9617.JPG



WHIS_0410_9618.JPG



WHIS_0410_9619.JPG



WHIS_0410_9620.JPG



WHIS_0410_9621.JPG



WHIS_0410_9622.JPG

ROUTE 0411: BULL GULCH SERVICE ROAD

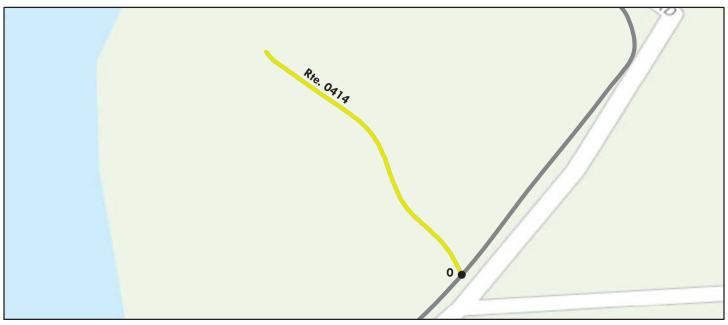
Data Collection Vehicle (DCV) Rating



	Route (Condition Legend – Pav	ement Condi	tion Rating (PCR)		
Poor (0 - 60			(85 - 94)	Excellent (95 - 100)		Not Rated	
		See Appendix for def	finitions and f	ormulas			
Inspection Date:	5/22/2015	Beginning Section MP	0				
Paved Length (Mile	es): 0.47	Section Length (MI)	0.47				
Surface Type:	ASPHALT	Route Summary					
Roadway Condition	n Information						
Pavement Condition	on Rating (PCR)	82	82				
Surface Condition Rating (SCR)		82	82				
Roughness Condition	on Index (RCI)	N/A	N/A				
Distress Index Valu	es						
Structural Crack In	dex	93	93				
Alligator Crack Inc	lex	100	100				
Longitudinal Crack	Index	93	93				
Transverse Crackin	ng Index	82	82				
Patching Index		100	100				
Rutting Index		93	93				
International Roug	hness Index (IRI)	N/A	N/A				
Lane & Width Info	rmation						
Number of Lanes		2	2				
Paved Width (ft)		17.2	17.2				
Lane Width (ft)		8.6	8.6				

ROUTE 0414: GRIZZLY GULCH WASTEWATER ACCESS ROAD

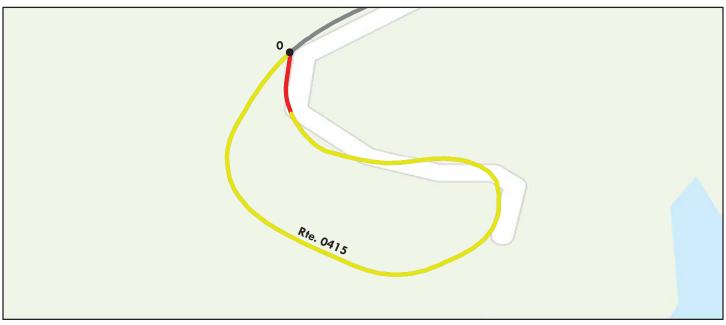
Data Collection Vehicle (DCV) Rating



	Route (Condition Legend – Pay	ement Cond	ition Rating (PCR)		
Poor (0 - 60) Fair (61				Excellent (95 - 100)		Not Rated	
See Appendix for definitions and formulas							
Inspection Date:	5/22/2015	Beginning Section MP	0				
Paved Length (Miles): 0.07		Section Length (MI)	0.07				
Surface Type:	ASPHALT	Route Summary					
Roadway Condition Information							
Pavement Condition Ra	ating (PCR)	82	82				
Surface Condition Rating (SCR)		82	82				
Roughness Condition Index (RCI)		N/A	N/A				
Distress Index Values							
Structural Crack Index		100	100				
Alligator Crack Index		100	100				
Longitudinal Crack Index		100	100				
Transverse Cracking Index		100	100				
Patching Index		100	100				
Rutting Index		82	82				
International Roughness Index (IRI)		N/A	N/A				
Lane & Width Information							
Number of Lanes		1	1				
Paved Width (ft)		11.3	11.3				
Lane Width (ft)		10.3	10.3				

ROUTE 0415: GOVERNMENT BOAT LAUNCH LOOP

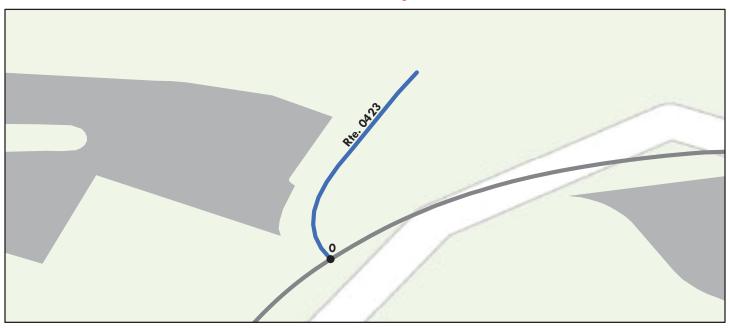
Data Collection Vehicle (DCV) Rating



Route	Condition Legend – Pav	ement Condi	ition Rating (PCR)			
Poor (0 - 60) Fair (Excellent (95 - 100)	Not Rated		
See Appendix for definitions and formulas						
Inspection Date: 5/22/2015	Beginning Section MP	0				
Paved Length (Miles): 0.11	Section Length (MI)	0.11				
Surface Type: ASPHALT	Route Summary		'			
Roadway Condition Information						
Pavement Condition Rating (PCR)	77	77				
Surface Condition Rating (SCR)	77	77				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	77	77				
Alligator Crack Index	100	100				
Longitudinal Crack Index	77	77				
Transverse Cracking Index	77	77				
Patching Index	100	100				
Rutting Index	84	84				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	14.7	14.7				
Lane Width (ft)	14.7	14.7				

ROUTE 0423: OAK BOTTOM WATER STORAGE TANK SERVICE ROAD

Manual Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)								
Poor (0 - 60) Fair (6	Good (85 - 94)		Excellent (95 - 100)	Not Rated				
See Appendix for definitions and formulas								
Inspection Date: 11/4/2014	Beginning Section MP	0.00						
Paved Length (Miles): 0.02	Section Length (MI)	0.02						
Surface Type: ASPHALT	Route Summary							
Roadway Condition Information								
Pavement Condition Rating (PCR)	97	97						
Surface Condition Rating (SCR)	97	97						
Roughness Condition Index (RCI)	N/A	N/A						
Distress Index Values								
Structural Crack Index	N/A	N/A						
Alligator Crack Index	97	97						
Longitudinal Crack Index	97	97						
Transverse Cracking Index	97	97						
Patching Index	97	97						
Rutting Index	97	97						
International Roughness Index (IRI)	N/A	N/A						
Lane & Width Information								
Number of Lanes	1	1						
Paved Width (ft)	19	19						
Lane Width (ft)	19	19						

Route 0423 is made up of both a paved and unpaved section.

ROUTE 0423: OAK BOTTOM WATER STORAGE TANK SERVICE ROAD

Condition Photos

Condition photos are shown only for manually rated roads. Use the PathView program to see images of DCV rated roads.



WHIS_0423_9666.JPG

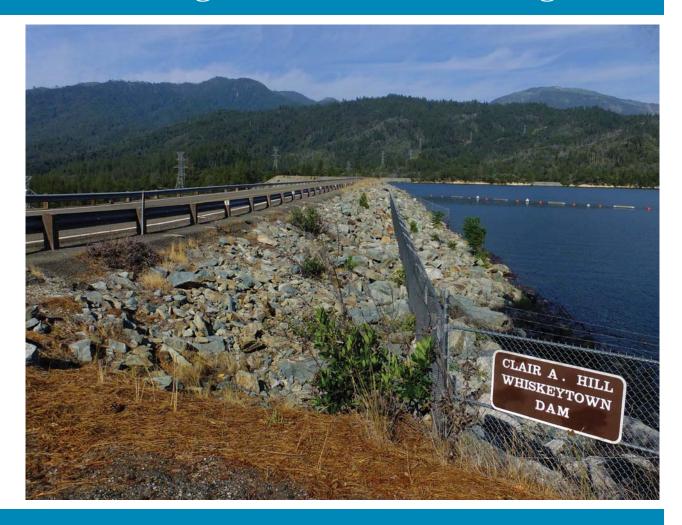


WHIS_0423_9668.JPG



WHIS_0423_9669.JPG

Section 6 Paved Parking Area Condition Rating Sheets



Whiskeytown National Recreation Area



ROUTE 0900ZZ: VISITOR CENTER PARKING AREAS

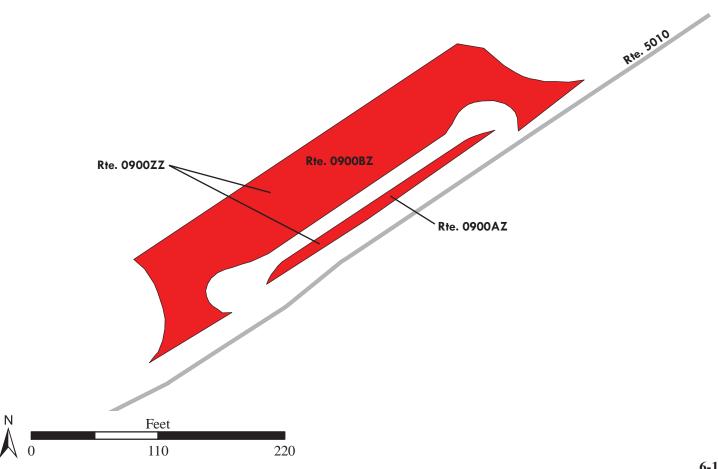
Summary Route Manual Rating

FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)

TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE)

Inspection Date	FMSS Number	User Access	Surface Type
11/5/2014	23363	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	es (11' Widths) Condition Rating / PCR	
19,410	0.334	SUMMA	RY / 53
Route Condition Legend – Pavement Condition Rating (PCR)			
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated
See Appendix for definitions and formulas			

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



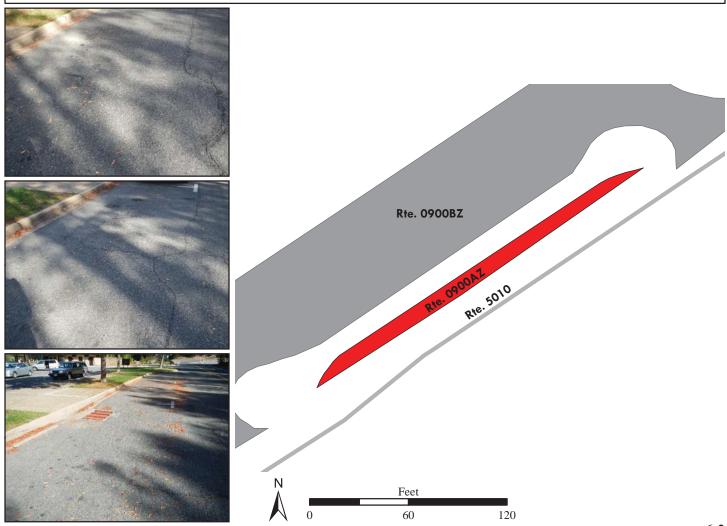
ROUTE 0900AZ: VISITOR CENTER PARKING A

Subcomponent of Route WHIS-0900ZZ

Manual Rating

ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE)

Inspection Date	FMSS Number	User Access	Surface Type	
11/5/2014	23363	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
1,523	0.026	NOT APPLICABLE	DO NOTHING	
Curb	Curb Type Curb & Gutter Type		utter Type	
NO C	NO CURB CONCRETE		CRETE	
Pavement Rec	Pavement Recommendation		Rating / PCR	
HEAVY 3R TREATMENTS		POOR / 53		
Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)				
See Appendix for definitions and formulas				



ROUTE 0900BZ: VISITOR CENTER PARKING B

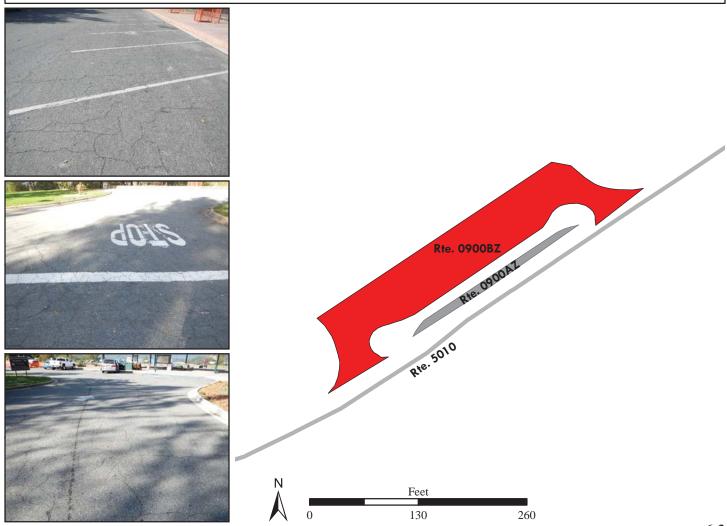
Subcomponent of Route WHIS-0900ZZ

Manual Rating

FROM ROUTE 5010 (KENNEDY MEMORIAL DRIVE)

TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE)

Inspection Date	FMSS Number	User Access	Surface Type	
11/5/2014	23363	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
17,887	0.308	NOT APPLICABLE	DO NOTHING	
Curb Type		Curb & Gutter Type		
NO CURB		CONCRETE		
Pavement Rec	Pavement Recommendation Condition Rating / PCR		ating / PCR	
HEAVY 3R TREATMENTS		POOR	2 / 53	
	Route Condition Legend – Pavement Condition Rating (PCR)			
Poor (0 - 60) Fair (61- 84) Good (85 - 94) Excellent (95 - 100) Not Rated See Appendix for definitions and formulas				



ROUTE 0901: PARK HEADQUARTERS VISITOR PARKING

Manual Rating

FROM ROUTE 0400 (HEADQUARTERS ROAD) ON RIGHT

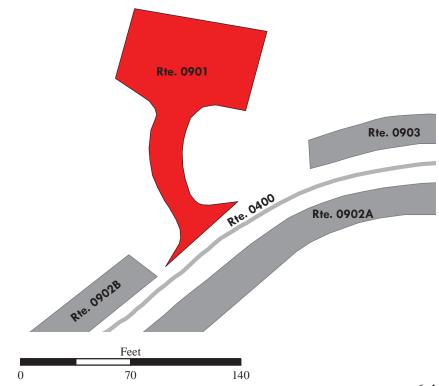
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type		
11/5/2014	99405	PUBLIC	ASPHALT		
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation		
4,994	0.086	NOT APPLICABLE	DO NOTHING		
Curb	Curb Type		utter Type		
NO CURB		CONCRETE			
Pavement Rec	commendation	Condition Rating / PCR			
HEAVY 3R TREATMENTS		POOR / 53			
	Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)			0) Not Rated		
See Appendix for definitions and formulas					









ROUTE 0902A: PARK HEADQUARTERS EMPLOYEE PARKING A

Manual Rating

ADJACENT TO ROUTE 0400 (HEADQUARTERS ROAD) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
11/5/2014	99406	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
5,566	0.096	7	DO NOTHING
	Туре		utter Type
	HALT	NO CURB A	
	commendation		Rating / PCR
LIGHT 3R T	REATMENTS		/ 73
		ement Condition Rating (PCR)	
Poor (0 - 60)		(85 - 94) Excellent (95 - 10	0) Not Rated
	See Appendix for def	initions and formulas	
	Rte. 0904 N 0	Rie	Rte. 0903

ROUTE 0902B: PARK HEADQUARTERS EMPLOYEE PARKING B

Manual Rating

ADJACENT TO ROUTE 0400 (HEADQUARTERS ROAD) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type	
11/5/2014	99408	NONPUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
2,119	0.036	6	DO NOTHING	
Curb	Curb Type		Curb & Gutter Type	
ASPHALT		NO CURB AI	ND GUTTER	
Pavement Rec	Pavement Recommendation Condition Rating / PCR		ating / PCR	
LIGHT 3R TI	REATMENTS	FAIR / 73		
Route Condition Legend – Pavement Condition Rating (PCR)				

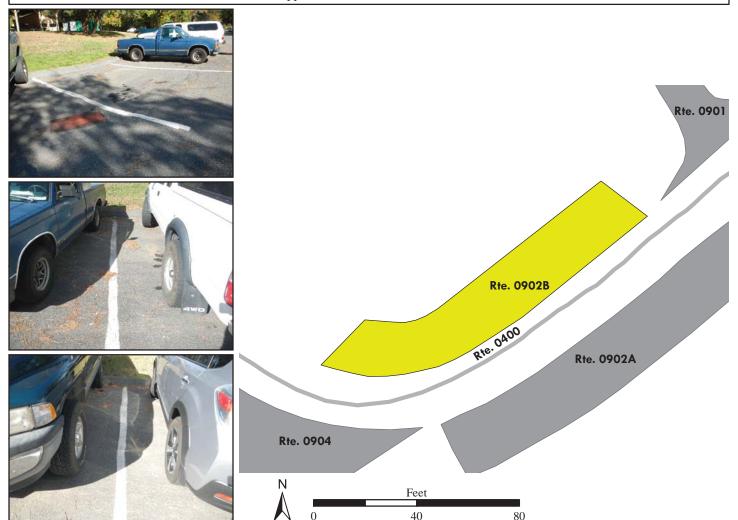
Poor (0 - 60)

Fair (61- 84)

Good (85 - 94)

Excellent (95 - 100)

Not Rated



ROUTE 0903: PARK HEADQUARTERS EMPLOYEE PARKING

Manual Rating

ADJACENT TO ROUTE 0400 (HEADQUARTERS ROAD) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
11/5/2014	99412	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
1,687	0.029	7	DO NOTHING
Curb	Curb Type Curb & Gutter Type		utter Type
ASPI	ASPHALT		ND GUTTER
Pavement Recommendation		Condition Rating / PCR	
PREVENTIVE N	PREVENTIVE MAINTENANCE) / 90
Route Condition Legend – Pavement Condition Rating (PCR)			

Poor (0 - 60)

Fair (61- 84)

Good (85 - 94)

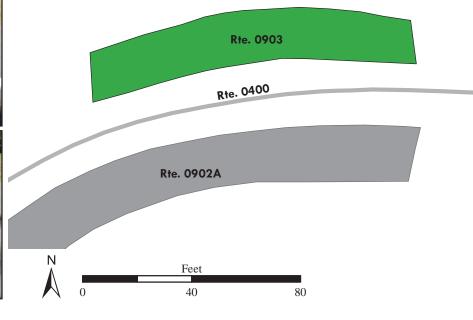
Excellent (95 - 100)

Not Rated









ROUTE 0904: MAINTENANCE YARD

Manual Rating

FROM ROUTE 0400 (HEADQUARTERS ROAD) ON LEFT

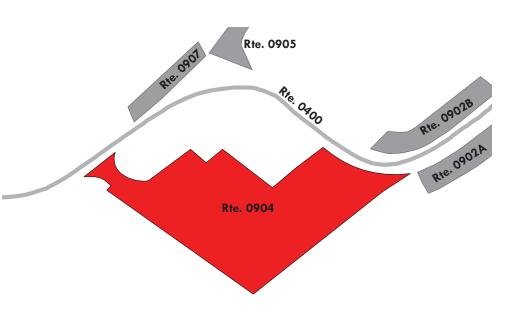
TO ROUTE 0400 (HEADQUARTERS ROAD) ON LEFT

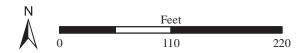
Inspection Date	FMSS Number	User Access	Surface Type	
11/5/2014	99413	NONPUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
16,087	0.277	NOT APPLICABLE	NOT APPLICABLE	
Curb	Туре	Curb & G	utter Type	
NO CURB		NO CURB AND GUTTER		
Pavement Recommendation		Condition Rating / PCR		
HEAVY 3R T	HEAVY 3R TREATMENTS POOR / 53		2 / 53	
Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated	











ROUTE 0905: HEADQUARTERS ADMINISTRATIVE PARKING

Manual Rating

FROM ROUTE 0400 (HEADQUARTERS ROAD) ON RIGHT

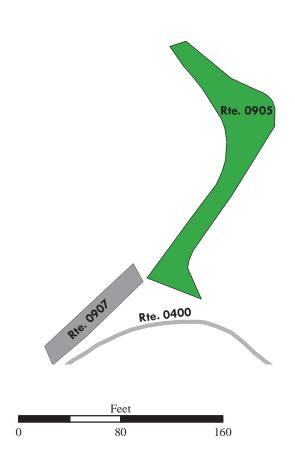
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type	
11/5/2014	99414	NONPUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
4,003	0.069	6	DO NOTHING	
Curb	Curb Type		Curb & Gutter Type	
ASPHALT		NO CURB AND GUTTER		
Pavement Rec	commendation	Condition Rating / PCR		
PREVENTIVE MAINTENANCE		GOOD / 90		
	Route Condition Legend – Pavement Condition Rating (PCR)			
Poor (0 - 60)				
See Appendix for definitions and formulas				









ROUTE 0907: HEADQUARTERS GOVERNMENT CAR PARKING

Manual Rating

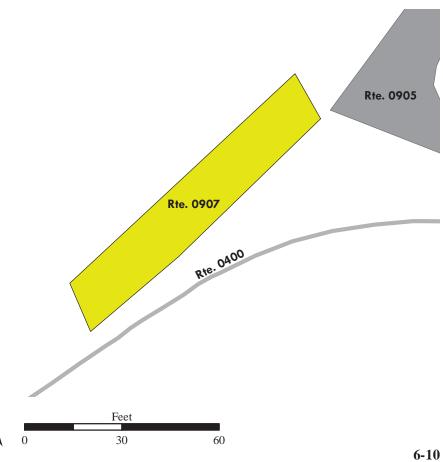
ADJACENT TO ROUTE 0400 (HEADQUARTERS ROAD) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type	
11/5/2014	99415	NONPUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
1,179	0.02	6	DO NOTHING	
Curb Type		Curb & G	Curb & Gutter Type	
ASPI	ASPHALT		NO CURB AND GUTTER	
Pavement Rec	commendation	Condition Rating / PCR		
LIGHT 3R TREATMENTS		FAIR	/ 73	
	Route Condition Legend – Pavement Condition Rating (PCR)			
Poor (0 - 60) Fair (61- 84) Good (85 - 94) Excellent (95 - 100) Not Rated				
See Appendix for definitions and formulas				









ROUTE 0909: EAST BEACH PARKING

Manual Rating

ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
11/5/2014	99421	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
9,026	0.155	NOT APPLICABLE	NOT APPLICABLE
Curb	Curb Type Curb & Gutter Type		utter Type
NO C	CURB	NO CURB AND GUTTER	
Pavement Rec	Pavement Recommendation		Rating / PCR
DO NO	O NOTHING EXCELLENT / 97		ENT / 97
Route Condition Legend – Pavement Condition Rating (PCR)			

Poor (0 - 60)

Fair (61- 84)

Good (85 - 94)

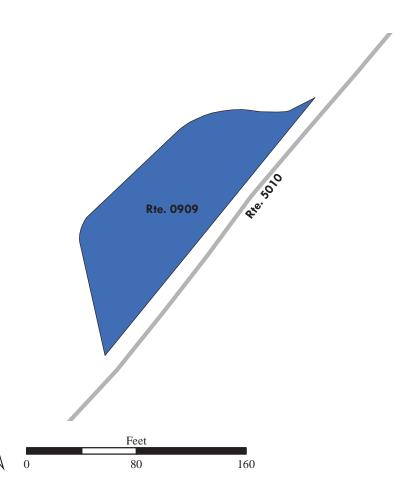
Excellent (95 - 100)

Not Rated









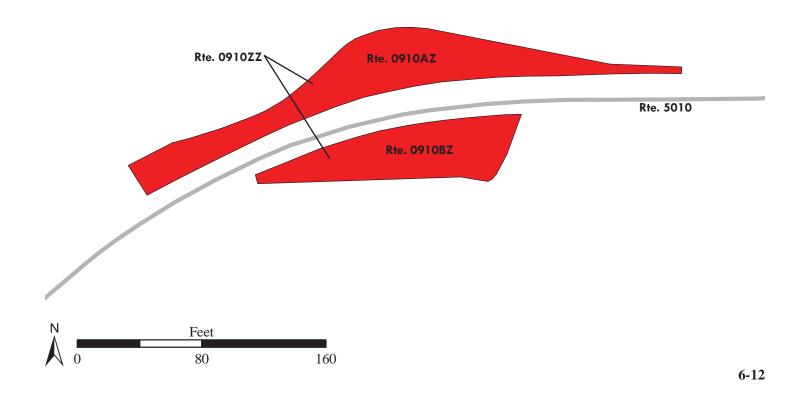
ROUTE 0910ZZ: KENNEDY MEMORIAL VISTAS PARKING AREAS

Summary Route Manual Rating

ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE) ON LEFT AND RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
11/5/2014	99422	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Condition Rating / PCR	
9,367	0.161 SUMMARY / 53		RY / 53
Route Condition Legend – Pavement Condition Rating (PCR)			
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated
See Appendix for definitions and formulas			

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



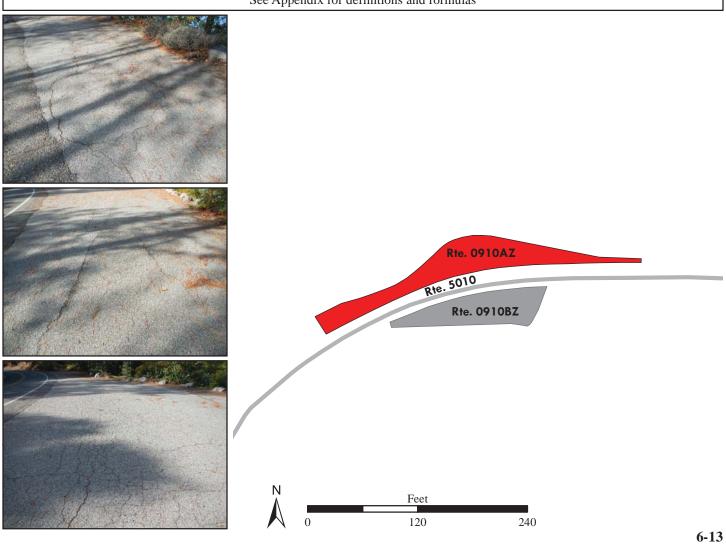
ROUTE 0910AZ: KENNEDY MEMORIAL VISTAS PARKING A

Subcomponent of Route WHIS-0910ZZ

Manual Rating

ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type		
11/5/2014	99422	PUBLIC	ASPHALT		
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation		
5,823	0.1	NOT APPLICABLE	NOT APPLICABLE		
Curb	Туре	Curb & Gutter Type			
NO C	CURB	NO CURB AND GUTTER			
Pavement Rec	commendation	Condition Rating / PCR			
HEAVY 3R TREATMENTS		POOR / 53			
	Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated		
See Appendix for definitions and formulas					

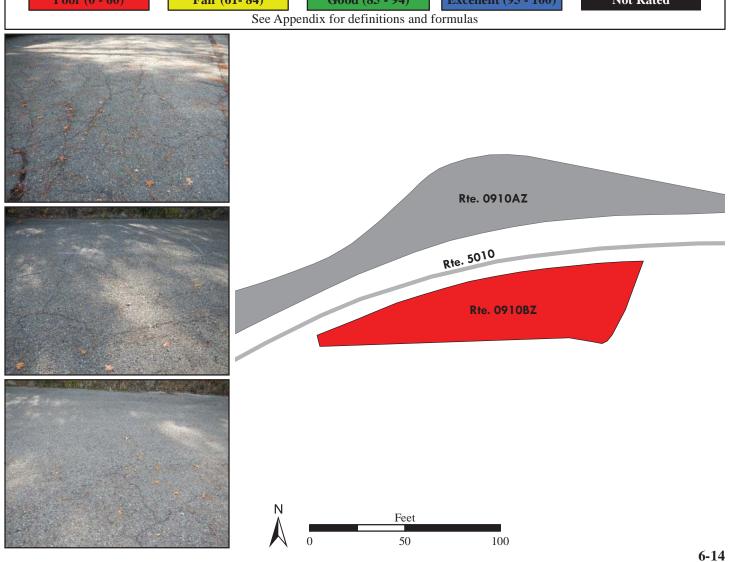


ROUTE 0910BZ: KENNEDY MEMORIAL VISTAS PARKING B

Subcomponent of Route WHIS-0910ZZ **Manual Rating**

ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type	
11/5/2014	99422	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
3,544	0.061	NOT APPLICABLE	NOT APPLICABLE	
Curb	Curb Type		Curb & Gutter Type	
NO C	NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		Condition Rating / PCR		
HEAVY 3R TREATMENTS		POOR / 53		
	Route Condition Legend - Pav	ement Condition Rating (PCR)		
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated	
See Appendix for definitions and formulas				



ROUTE 0911A: KENNEDY MONUMENT / DAM PARKING A

Manual Rating

ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE)

Inspection Date	FMSS Number	User Access	Surface Type
11/5/2014	99423	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
8,064	0.139	NOT APPLICABLE	NOT APPLICABLE
Curb Type		Curb & Gutter Type	
NO C	CURB	NO CURB AND GUTTER	
Pavement Rec	commendation	on Condition Rating / PCR	
HEAVY 3R TREATMENTS		POOR / 53	
Pouts Condition Logand Poyament Condition Poting (PCP)			

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)

Fair (61- 84)

Good (85 - 94)

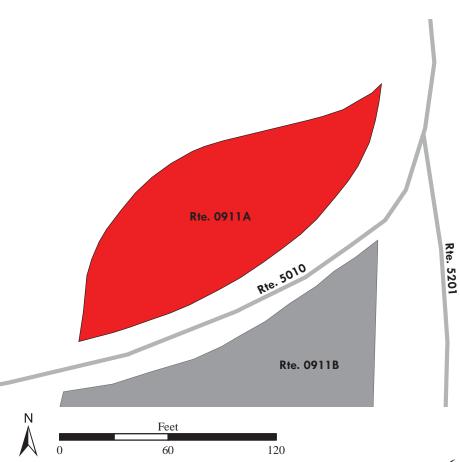
Excellent (95 - 100)

Not Rated







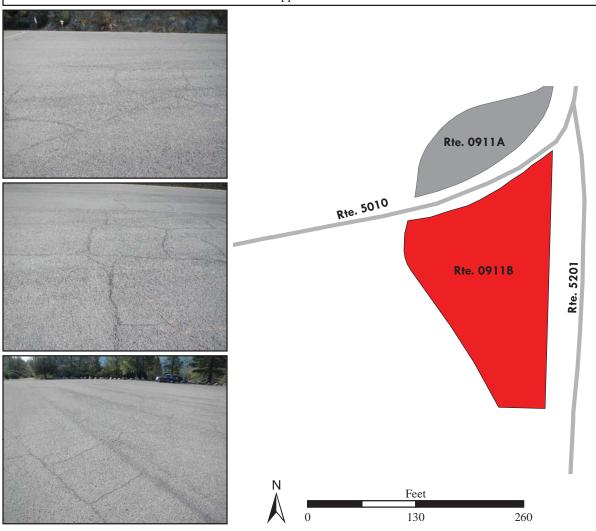


ROUTE 0911B: KENNEDY MONUMENT / DAM PARKING B

Manual Rating

ADJACENT TO ROUTE 5010 (KENNEDY MEMORIAL DRIVE) AND ROUTE 5201 (PAIGE BAR ROAD NON NPS)

Inspection Date	FMSS Number	User Access	Surface Type	
11/5/2014	99426	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
25,561	0.44	NOT APPLICABLE	NOT APPLICABLE	
Curb	Curb Type Curb & Gutter Type		utter Type	
NO C	NO CURB AND GUTTER		ND GUTTER	
Pavement Rec	commendation	Condition Rating / PCR		
HEAVY 3R TREATMENTS		POOR / 53		
Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	, ,	(85 - 94) Excellent (95 - 10	0) Not Rated	
See Appendix for definitions and formulas				



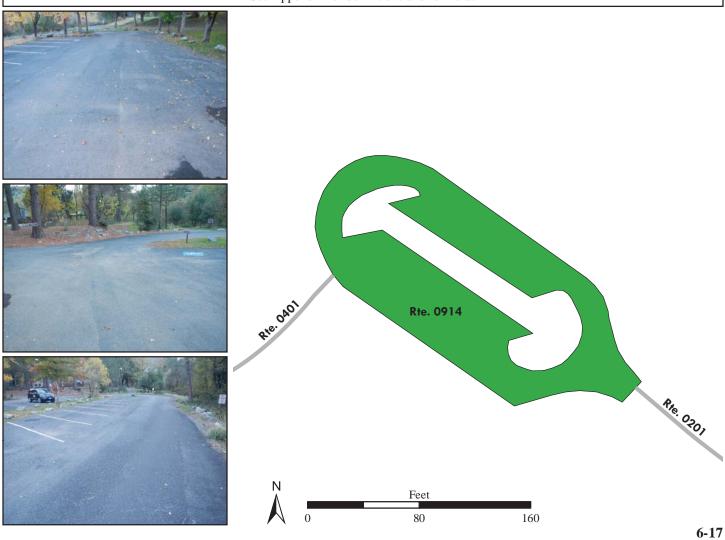
ROUTE 0914: N.E.E.D. CAMP PARKING

Manual Rating

FROM END OF ROUTE 0201 (N.E.E.D. CAMP ROAD)

TO BEGINNING OF ROUTE 0401 (N.E.E.D. CAMP RESIDENCE ROAD)

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	99429	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
13,364	0.23	NOT APPLICABLE	NOT APPLICABLE	
Curb Type		Curb & Gutter Type		
NO CURB		NO CURB AND GUTTER		
Pavement Recommendation		Condition R	ating / PCR	
PREVENTIVE MAINTENANCE		GOOD / 90		
	Route Condition Legend – Pavement Condition Rating (PCR)			
Poor (0 - 60)	Fair (61- 84) Good (85 - 94) Excellent (95 - 100) Not Rat		0) Not Rated	
See Appendix for definitions and formulas				



ROUTE 0915: N.E.E.D. CAMP CAFETERIA ACCESS PARKING

Manual Rating

FROM ROUTE 0401 (N.E.E.D. CAMP RESIDENCE ROAD) ON RIGHT

TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
11/4/2014	99430	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
2,450	0.042	NOT APPLICABLE	NOT APPLICABLE
Curb Type		Curb & Gutter Type	
NO C	NO CURB AND GUTTER		ND GUTTER
Pavement Recommendation		Condition Rating / PCR	
PREVENTIVE N	/E MAINTENANCE GOOD / 90		0 / 90
Route Condition Legend – Pavement Condition Rating (PCR)			

Poor (0 - 60)

Fair (61- 84)

Good (85 - 94)

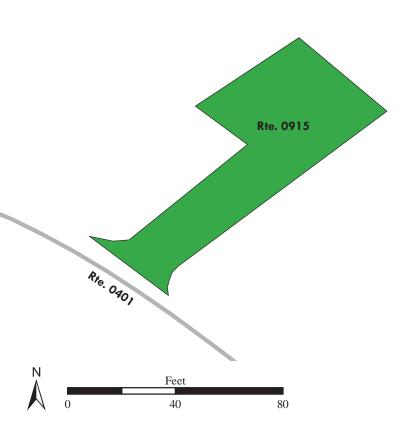
Excellent (95 - 100)

Not Rated









ROUTE 0919: BRANDY CREEK PARKING LOT A

Manual Rating

FROM ROUTE 0100 (BRANDY CREEK BEACH ROAD)

TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
11/5/2014	99452	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
45,531	0.784	NOT APPLICABLE	DO NOTHING
Curb Type		Curb & Gutter Type	
NO 0	CURB	CONCRETE	
Pavement Recommendation Condition Rating / I		ating / PCR	
PREVENTIVE MAINTENANCE		GOOI) / 90
Doute Condition Legand Devement Condition Deting (DCD)			

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)

Fair (61-84)

Good (85 - 94)

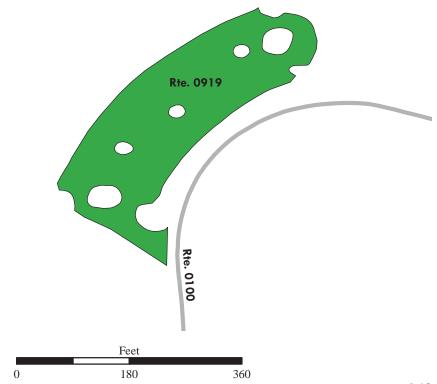
Excellent (95 - 100)

Not Rated









ROUTE 0920: BRANDY CREEK PARKING LOT B

Manual Rating

FROM END OF ROUTE 0100 (BRANDY CREEK BEACH ROAD)

TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
11/5/2014	99453	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
113,423	1.953	NOT APPLICABLE	DO NOTHING
Curb Type		Curb & Gutter Type	
NO	NO CURB CONCRETE		CRETE
Pavement Recommendation Condition Rating / PCR		Rating / PCR	
HEAVY 3R TREATMENTS POOR / 53		R / 53	
Route Condition Legend – Payement Condition Rating (PCR)			

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)

Fair (61- 84)

Good (85 - 94)

Excellent (95 - 100)

Not Rated









ROUTE 0922: BRANDY CREEK MARINA PARKING

Manual Rating

FROM END OF ROUTE 0101 (BRANDY CREEK MARINA ROAD)

TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
11/4/2014	99455	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
181,050	3.117	6	DO NOTHING
Curb Type Curb & Gu		Gutter Type	
CONCRETE		CONCRETE	
Pavement Rec	Pavement Recommendation		ating / PCR
HEAVY 3R T	HEAVY 3R TREATMENTS		2 / 53
D (C 1111 T 1 D		A CO THAT DO AT (DCD)	

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)

Fair (61- 84)

Good (85 - 94)

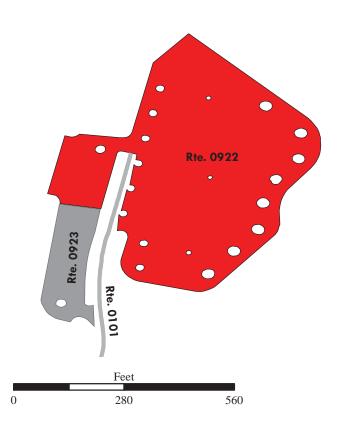
Excellent (95 - 100)

Not Rated









ROUTE 0923: DRY STORAGE AREA

Manual Rating

FROM ROUTE 0101 (BRANDY CREEK MARINA ROAD)

TO ROUTE 0922 (BRANDY CREEK MARINA PARKING)

Inspection Date	FMSS Number	User Access	Surface Type
11/4/2014	99456	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
22,442	0.386	7	DO NOTHING
Curb Type		Curb & Gutter Type	
ASPI	HALT	CONCRETE	
Pavement Rec	Pavement Recommendation		ating / PCR
HEAVY 3R T	HEAVY 3R TREATMENTS POOR / 53		2 / 53
Route Condition Legend – Pavement Condition Rating (PCR)			

Poor (0 - 60)

Fair (61-84)

Good (85 - 94)

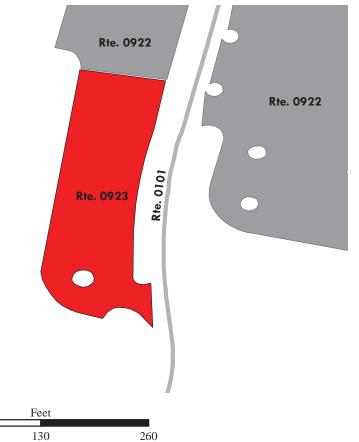
Excellent (95 - 100)

Not Rated







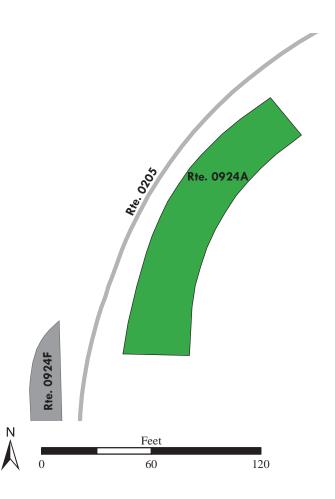


ROUTE 0924A: BRANDY CREEK R.V. PARKING A

Manual Rating

Inspection Date	FMSS Number	User Access	Surface Type
11/5/2014	99457	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
3,557	0.061	NOT APPLICABLE	DO NOTHING
Curb	Туре	Curb & Gutter Type	
NO C	NO CURB CONCRETE		RETE
Pavement Rec	commendation	Condition Rating / PCR	
PREVENTIVE MAINTENANCE		GOOD / 90	
	Route Condition Legend - Pav	ement Condition Rating (PCR)	
Poor (0 - 60)	Fair (61- 84) Good	(85 - 94) Excellent (95 - 10	0) Not Rated
See Appendix for definitions and formulas			



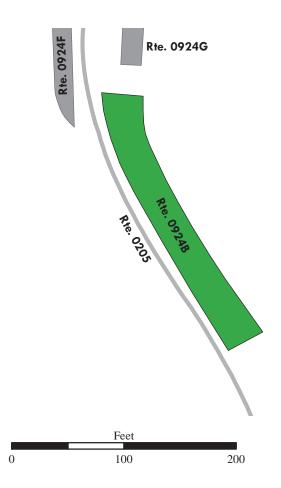


ROUTE 0924B: BRANDY CREEK R.V. PARKING B

Manual Rating

Inspection Date	FMSS Number	User Access	Surface Type		
11/4/2014	99458	PUBLIC	ASPHALT		
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation		
5,963	0.103	NOT APPLICABLE	DO NOTHING		
Curb Type		Curb & Gutter Type			
NO	NO CURB		CONCRETE		
Pavement Re	Pavement Recommendation Condition Rating / PCR		ating / PCR		
PREVENTIVE	PREVENTIVE MAINTENANCE GOOD / 90		0 / 90		
	Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	` '	(85 - 94) Excellent (95 - 10	0) Not Rated		
See Appendix for definitions and formulas					





ROUTE 0924C: BRANDY CREEK R.V. PARKING C

Manual Rating

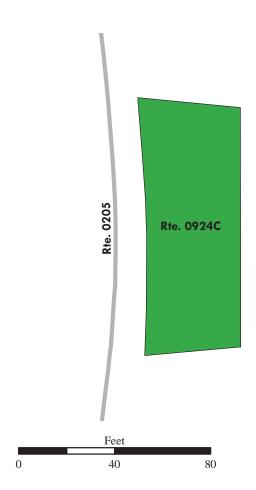
ADJACENT TO ROUTE 0205 (BRANDY CREEK MARINA R.V. CAMPGROUND) ON LEFT

Inspection Date	FMSS Numb	oer	User Access	Surface Type	
11/5/2014	99459		PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' V	Vidths)	Curb Reveal (Inches)	Curb Recommendation	
3,148	0.054		NOT APPLICABLE	DO NOTHING	
Curb Type			Curb & Gutter Type		
NO CURB			CONCRETE		
Pavement Recommendation			Condition Rating / PCR		
PREVENTIVE MAINTENANCE			GOOD / 90		
Route Condition Legend – Pav			Condition Rating (PCF	R)	
Poor (0 - 60)	Fair (61- 84)	Good (85 - 9	4) Excellent (95 -	100) Not Rated	









ROUTE 0924D: BRANDY CREEK R.V. PARKING D

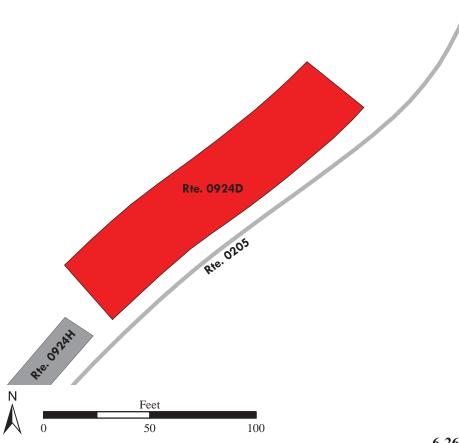
Manual Rating

Inspection Date	FMSS Number	User Access	Surface Type	
11/5/2014	99460	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
3,962	0.068	NOT APPLICABLE	DO NOTHING	
Curb Type		Curb & Gutter Type		
NO CURB		CONCRETE		
Pavement Recommendation		Condition R	ating / PCR	
HEAVY 3R TREATMENTS		POOR / 53		
Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	Fair (61- 84) Good	(85 - 94) Excellent (95 - 10	0) Not Rated	
See Appendix for definitions and formulas				









ROUTE 0924E: BRANDY CREEK R.V. PARKING E

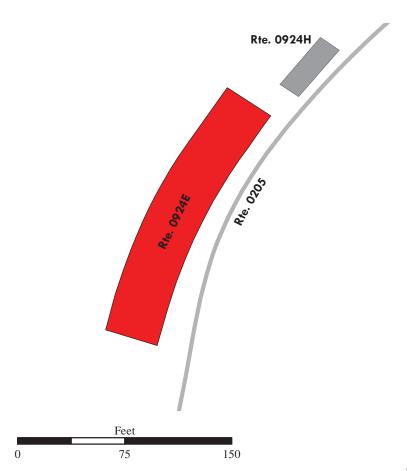
Manual Rating

99461 Lane Miles (11' Widths) 0.091	PUBLIC Curb Reveal (Inches)	ASPHALT Curb Recommendation	
, ,	, ,	Curb Recommendation	
0.091			
0.071	NOT APPLICABLE	DO NOTHING	
Curb Type		Curb & Gutter Type	
NO CURB		CONCRETE	
Pavement Recommendation		ating / PCR	
HEAVY 3R TREATMENTS		POOR / 53	
Route Condition Legend – Pavement Condition Rating (PCR)			
		0) Not Rated	
3	URB commendation REATMENTS Route Condition Legend – Pav Fair (61-84) Good	Type Curb & G URB CONC mmendation Condition R REATMENTS POOR Route Condition Legend – Pavement Condition Rating (PCR)	







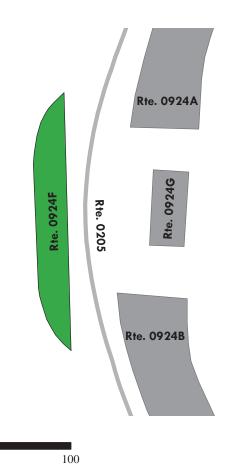


ROUTE 0924F: BRANDY CREEK R.V. PARKING F

Manual Rating

FMSS Number	User Access	Surface Type		
N/A	PUBLIC	ASPHALT		
Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation		
0.025	NOT APPLICABLE	DO NOTHING		
Curb Type		Curb & Gutter Type		
NO CURB		CONCRETE		
Pavement Recommendation		ating / PCR		
PREVENTIVE MAINTENANCE		GOOD / 90		
Route Condition Legend – Pavement Condition Rating (PCR)				
		0) Not Rated		
	Lane Miles (11' Widths) 0.025 Type CURB commendation MAINTENANCE Route Condition Legend – Pav Fair (61- 84) Good (Lane Miles (11' Widths) 0.025 NOT APPLICABLE Type CURB CONC commendation MAINTENANCE Route Condition Legend – Pavement Condition Rating (PCR)		



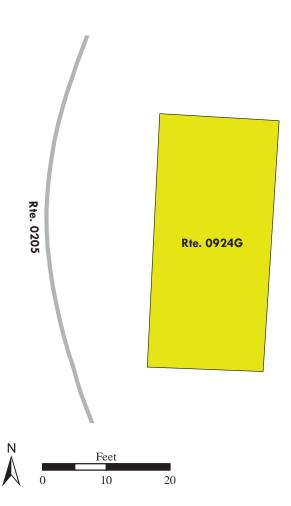


ROUTE 0924G: BRANDY CREEK R.V. PARKING G

Manual Rating

Inspection Date	FMSS Number	User Access	Surface Type	
11/5/2014	N/A	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
559	0.01	NOT APPLICABLE	DO NOTHING	
Curb Type		Curb & Gutter Type		
NO CURB		CONCRETE		
Pavement Recommendation		Condition Rating / PCR		
LIGHT 3R TREATMENTS		FAIR / 73		
Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated	
See Appendix for definitions and formulas				



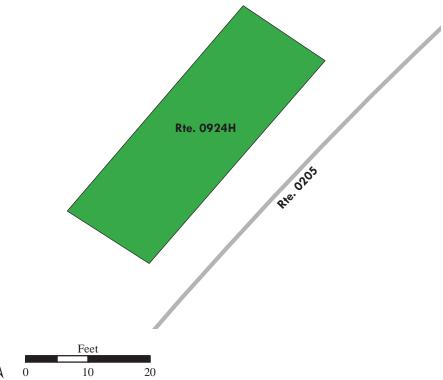


ROUTE 0924H: BRANDY CREEK R.V. PARKING H

Manual Rating

	PUBLIC	ACDITALT		
	TOBLIC	ASPHALT		
Vidths)	Curb Reveal (Inches)	Curb Recommendation		
	NOT APPLICABLE	DO NOTHING		
Curb Type		Curb & Gutter Type		
NO CURB		CONCRETE		
Pavement Recommendation		ating / PCR		
PREVENTIVE MAINTENANCE		GOOD / 90		
Route Condition Legend – Pavement Condition Rating (PCR)				
,		0) Not Rated		
	Good (Curb & G CONC Condition R GOOD		





ROUTE 0925: CARR PICNIC AREA PARKING

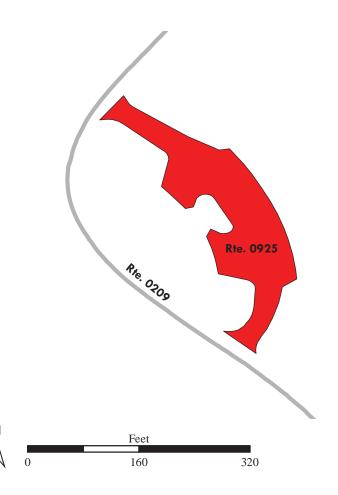
Manual Rating

FROM ROUTE 0209 (CARR POWERHOUSE ROAD)

TO ROUTE 0209 (CARR POWERHOUSE ROAD)

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	99462	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
21,139	0.364	6	LIGHT REPAIR	
Curb Type		Curb & Gutter Type		
ASPHALT		CONCRETE		
Pavement Recommendation		Condition R	ating / PCR	
HEAVY 3R TREATMENTS		POOR / 53		
Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated	
See Appendix for definitions and formulas				





ROUTE 0928: TOWER HOUSE HISTORIC DISTRICT PARKING

Manual Rating

FROM STATE HIGHWAY 299 (EUREKA WAY)

TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
11/4/2014	99465	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
29,272	0.504	6	DO NOTHING
Curb Type		Curb & Gutter Type	
CONCRETE		CONCRETE	
Pavement Recommendation		Condition Rating / PCR	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)

Fair (61- 84)

Good (85 - 94)

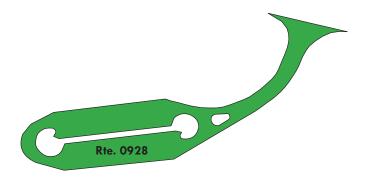
Excellent (95 - 100)

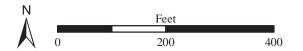
Not Rated











ROUTE 0929: OAK BOTTOM WATER DITCH TRAIL PARKING

Manual Rating

ADJACENT TO ROUTE 0103 (OAK BOTTOM BEACH ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
11/4/2014	99466	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
4,878	0.084	NOT APPLICABLE	NOT APPLICABLE
Curb Type		Curb & Gutter Type	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		Condition Rating / PCR	
LIGHT 3R TREATMENTS		FAIR / 73	
Route Condition Legend – Pavement Condition Rating (PCR)			

Poor (0 - 60)

Fair (61-84)

Good (85 - 94)

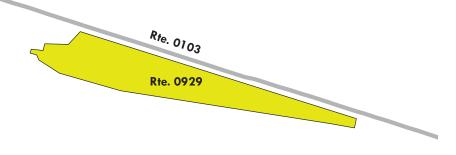
Excellent (95 - 100)

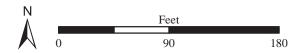
Not Rated











ROUTE 0930: OAK BOTTOM CAMPGROUND STORE PARKING

Manual Rating

FROM ROUTE 0103 (OAK BOTTOM BEACH ROAD)

TO ROUTE 0104 (OAK BOTTOM MARINA ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
11/4/2014	99467	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
9,413	0.162	NOT APPLICABLE	DO NOTHING
Curb Type		Curb & Gutter Type	
NO CURB		CONCRETE	
Pavement Recommendation		Condition Rating / PCR	
PREVENTIVE MAINTENANCE		GOOD / 90	
Route Condition Legend – Pavement Condition Rating (PCR)			

Poor (0 - 60)

Fair (61- 84)

Good (85 - 94)

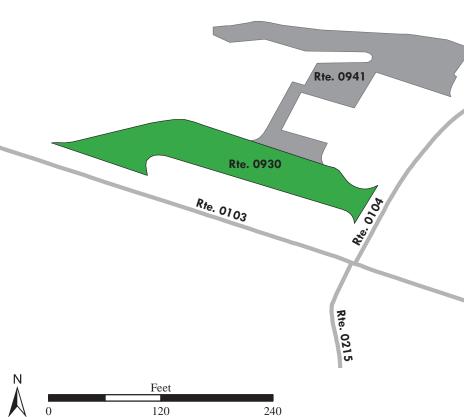
Excellent (95 - 100)

Not Rated









ROUTE 0931: OAK BOTTOM BEACH PARKING

Manual Rating

FROM END OF ROUTE 0103 (OAK BOTTOM BEACH ROAD)

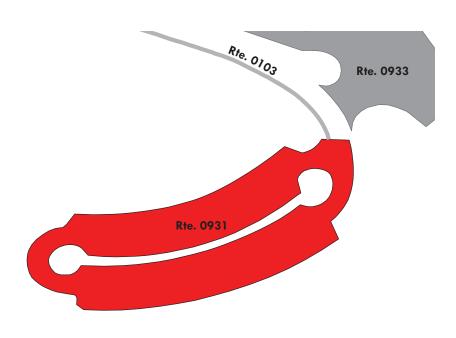
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	23354	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
38,253	0.659	NOT APPLICABLE	DO NOTHING	
Curb Type		Curb & Gutter Type		
NO CURB		CONCRETE		
Pavement Recommendation		Condition Rating / PCR		
HEAVY 3R T	REATMENTS	POOR / 53		
	Route Condition Legend – Pavement Condition Rating (PCR)			
Poor (0 - 60)			0) Not Rated	
See Appendix for definitions and formulas				











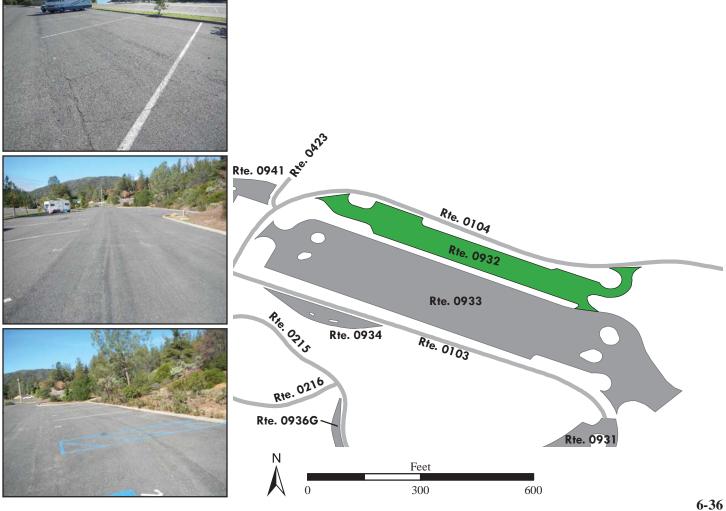
ROUTE 0932: OAK BOTTOM R.V. CAMP PARKING

Manual Rating

FROM ROUTE 0104 (OAK BOTTOM MARINA ROAD)

TO ROUTE 0104 (OAK BOTTOM MARINA ROAD) AND ROUTE 0933 (OAK BOTTOM LAUNCH RAMP)

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	99469	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
39,575	0.681	6	DO NOTHING	
Cui	b Type	Curb & G	utter Type	
CON	CRETE	NO CURB AI	NO CURB AND GUTTER	
Pavement Recommendation		Condition Rating / PCR		
PREVENTIVE MAINTENANCE		GOOD / 90		
Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60) Fair (61- 84) Good		(85 - 94) Excellent (95 - 10	0) Not Rated	
See Appendix for definitions and formulas				



ROUTE 0933: OAK BOTTOM LAUNCH RAMP

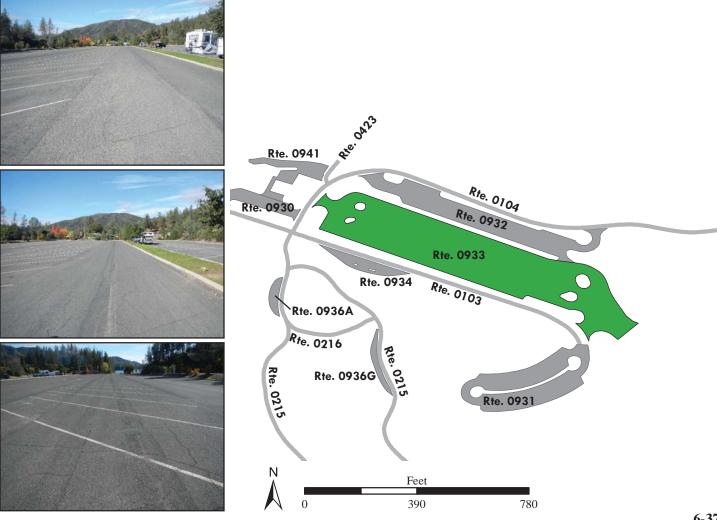
Manual Rating

FROM ROUTE 0104 (OAK BOTTOM MARINA ROAD)

TO ROUTE 0103 (OAK BOTTOM BEACH ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
11/4/2014	99470	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
130,249	2.243	6	DO NOTHING
Curb Type		Curb & Gutter Type	
CONCRETE		NO CURB AND GUTTER	
Pavement Rec	Pavement Recommendation		ating / PCR
PREVENTIVE MAINTENANCE GOOD / 90) / 90	
Route Condition Legend – Pavement Condition Rating (PCR)			
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated

See Appendix for definitions and formulas

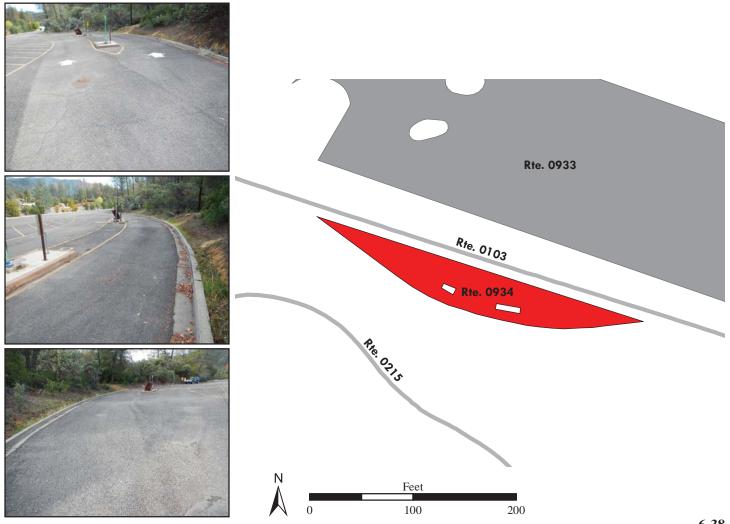


ROUTE 0934: OAK BOTTOM R.V. DUMP STATION PARKING

Manual Rating

ADJACENT TO ROUTE 0103 (OAK BOTTOM BEACH ROAD) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	99471	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
6,785	0.117	NOT APPLICABLE	DO NOTHING	
Curb Type		Curb & Gutter Type		
NO CURB		CONCRETE		
Pavement Recommendation		Condition R	ating / PCR	
HEAVY 3R T	REATMENTS	POOR / 53		
	Route Condition Legend – Pavement Condition Rating (PCR)			
Poor (0 - 60)	` '	(85 - 94) Excellent (95 - 10	0) Not Rated	
See Appendix for definitions and formulas				



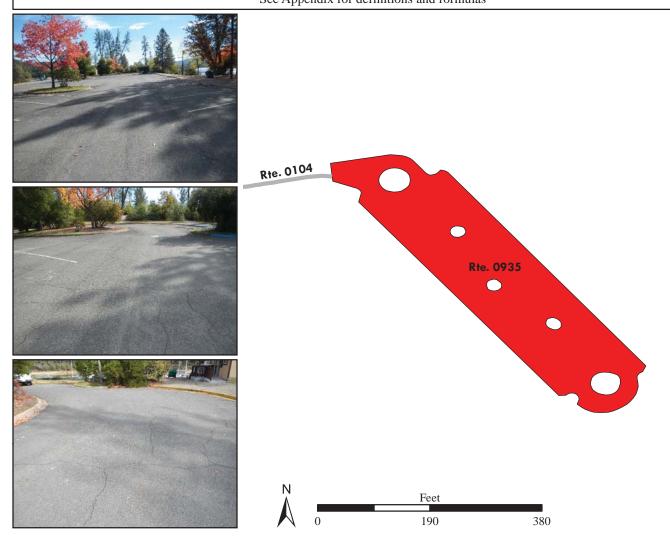
ROUTE 0935: OAK BOTTOM MARINA PARKING

Manual Rating

FROM END OF ROUTE 0104 (OAK BOTTOM MARINA ROAD)

TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	99472	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
56,842	0.979	NOT APPLICABLE	DO NOTHING	
Curb	Curb Type Curb & Gutter Type		utter Type	
NO 0	NO CURB CONCRET		CRETE	
Pavement Rec	commendation	Condition Rating / PCR		
HEAVY 3R TREATMENTS		POOR / 53		
Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated	
See Appendix for definitions and formulas				



ROUTE 0936A: OAK BOTTOM CAMPGROUND PARKING A

Manual Rating

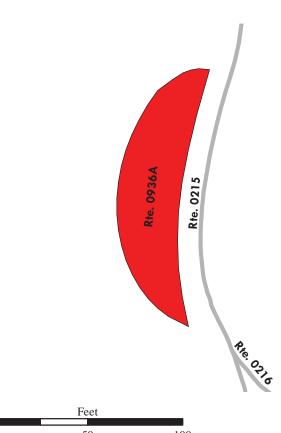
ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON RIGHT

Inspection Date	FMSS Num	ber	Us	ser Access	Surface Type
11/4/2014	99474]	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11'	Widths)	Curb F	Reveal (Inches)	Curb Recommendation
2,744	0.047		NOT A	APPLICABLE	NOT APPLICABLE
Curb	Туре			Curb & G	utter Type
NO CURB			NO CURB AND GUTTER		
Pavement Rec	Pavement Recommendation Condition Rating / PCR		ating / PCR		
HEAVY 3R TREATMENTS		POOR / 53			
Route Condition Legend – Pav			ment Cond	ition Rating (PCR)	
Poor (0 - 60)	Fair (61- 84)	Good (8	35 - 94)	Excellent (95 - 100	Not Rated

Fair (61- 84) See Appendix for definitions and formulas







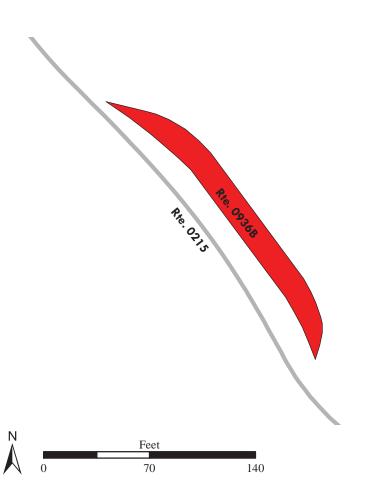
ROUTE 0936B: OAK BOTTOM CAMPGROUND PARKING B

Manual Rating

ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	99473	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
2,474	0.043	NOT APPLICABLE	NOT APPLICABLE	
Curb	Curb Type Curb & Gutter Ty		utter Type	
NO C	NO CURB		NO CURB AND GUTTER	
Pavement Rec	commendation	Condition Rating / PCR		
HEAVY 3R TREATMENTS		POOR / 53		
Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated	
See Appendix for definitions and formulas				





ROUTE 0936C: OAK BOTTOM CAMPGROUND PARKING C

Manual Rating

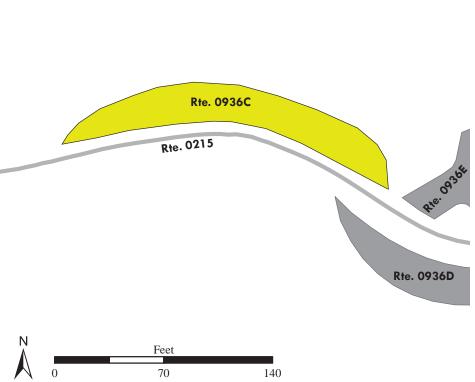
ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	99475	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
3,659	0.063	NOT APPLICABLE	NOT APPLICABLE	
Curb	Curb Type		Curb & Gutter Type	
NO C	NO CURB		NO CURB AND GUTTER	
Pavement Rec	commendation	Condition Rating / PCR		
LIGHT 3R TREATMENTS		FAIR / 73		
	Route Condition Legend – Pavement Condition Rating (PCR)			
Poor (0 - 60)				
See Appendix for definitions and formulas				









ROUTE 0936D: OAK BOTTOM CAMPGROUND PARKING D

Manual Rating

ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	99476	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
3,371	0.058	NOT APPLICABLE	NOT APPLICABLE	
Curb Type		Curb & Gutter Type		
NO CURB		NO CURB AND GUTTER		
Pavement Rec	nmendation Condition Rating / PCR		ating / PCR	
LIGHT 3R TREATMENTS		FAIR / 73		
Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	· · · · ·	(85 - 94) Excellent (95 - 10	0) Not Rated	
See Appendix for definitions and formulas				

Rte. 0936E

Rte. 0936E

Rte. 0936E

Rte. 0936D

60

120

ROUTE 0936E: OAK BOTTOM CAMPGROUND PARKING E

Manual Rating

FROM ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT

TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type		
11/4/2014	99477	PUBLIC	ASPHALT		
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation		
4,155	0.072	NOT APPLICABLE	NOT APPLICABLE		
Curb Type		Curb & Gutter Type			
NO CURB		NO CURB AND GUTTER			
Pavement Recommendation		Condition R	Rating / PCR		
LIGHT 3R TI	REATMENTS	FAIR / 73			
	Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)					
See Appendix for definitions and formulas					



ROUTE 0936F: OAK BOTTOM CAMPGROUND PARKING F

Manual Rating

ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT

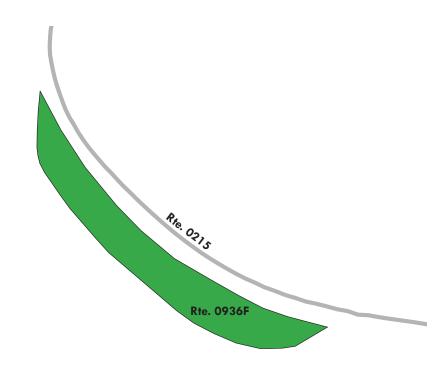
Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	99478	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
3,338	0.057	NOT APPLICABLE	NOT APPLICABLE	
Curb Type		Curb & Gutter Type		
NO CURB		NO CURB AND GUTTER		
Pavement Re	ent Recommendation Condition Rating / PCR		Rating / PCR	
PREVENTIVE I	PREVENTIVE MAINTENANCE GOOD / 90		O / 90	
	Route Condition Legend - Pav	ement Condition Rating (PCR)		
Poor (0 - 60)	Fair (61- 84) Good	(85 - 94) Excellent (95 - 10	0) Not Rated	

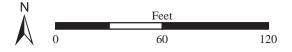
See Appendix for definitions and formulas









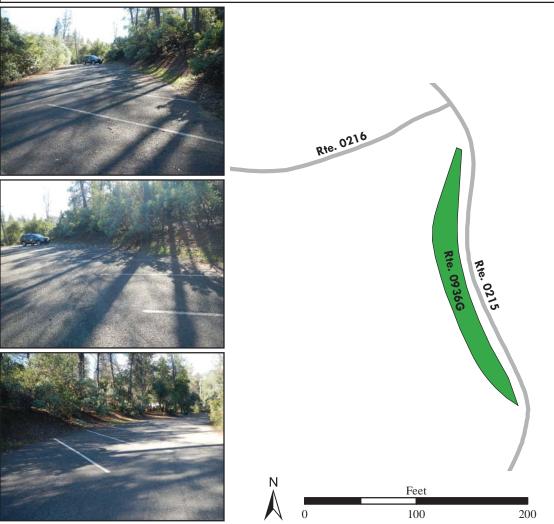


ROUTE 0936G: OAK BOTTOM CAMPGROUND PARKING G

Manual Rating

ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type		
11/4/2014	99479	PUBLIC	ASPHALT		
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation		
3,113	0.054 NOT APPLICABLE		NOT APPLICABLE		
Curb Type		Curb & Gutter Type			
NO CURB		NO CURB AND GUTTER			
Pavement Recommendation		Condition R	ating / PCR		
PREVENTIVE N	NTIVE MAINTENANCE GOOD / 90		0 / 90		
	Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	· /	(85 - 94) Excellent (95 - 10	0) Not Rated		
See Appendix for definitions and formulas					



ROUTE 0936H: OAK BOTTOM CAMPGROUND HANDICAP RESTROOM PARKING A

Manual Rating

ADJACENT TO ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	N/A	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
985	0.017	NOT APPLICABLE	NOT APPLICABLE	
Curb	Туре	Curb & Gutter Type		
NO C	CURB	NO CURB AND GUTTER		
Pavement Rec	commendation	Condition R	ating / PCR	
PREVENTIVE N	MAINTENANCE	GOOL	0 / 90	
	Route Condition Legend - Pav	ement Condition Rating (PCR)		
Poor (0 - 60)	Fair (61- 84) Good ((85 - 94) Excellent (95 - 10	0) Not Rated	
See Appendix for definitions and formulas				



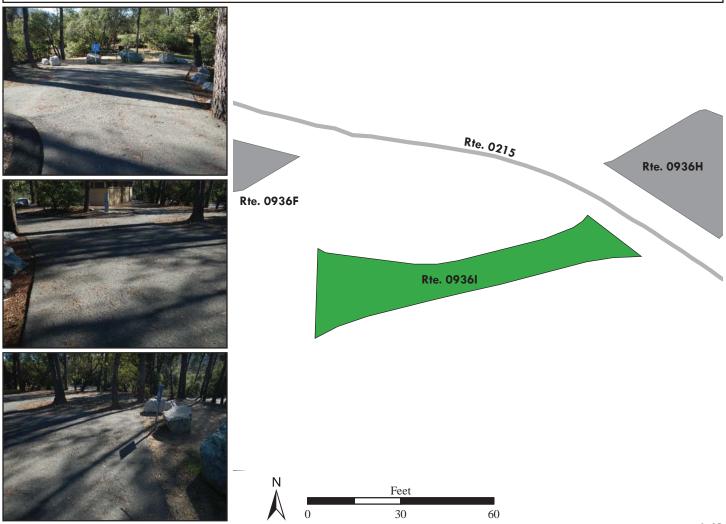
ROUTE 09361: OAK BOTTOM CAMPGROUND HANDICAP RESTROOM PARKING B

Manual Rating

FROM ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A) ON LEFT

TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	N/A	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
1,049	0.018	NOT APPLICABLE	NOT APPLICABLE	
Curb	Туре	Curb & Gutter Type		
NO C	CURB	NO CURB AND GUTTER		
Pavement Rec	commendation	Condition R	ating / PCR	
PREVENTIVE N	MAINTENANCE	GOOD / 90		
	Route Condition Legend - Pav	ement Condition Rating (PCR)		
Poor (0 - 60)	, ,	(85 - 94) Excellent (95 - 10	0) Not Rated	
	See Appendix for def	finitions and formulas		



ROUTE 0937: WHISKEY CREEK BOAT LAUNCH PARKING

Manual Rating

FROM ROUTE 5000 (WHISKEY CREEK ROAD)

TO PARKING

Inspection Date	Inspection Date FMSS Number		Surface Type
11/4/2014	99480	PUBLIC	ASPHALT
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation
66,397	1.143	NOT APPLICABLE	DO NOTHING
Curb	Туре	Curb & Gutter Type	
NO C	CURB	CONC	RETE
Pavement Rec	commendation	Condition R	ating / PCR
LIGHT 3R T	REATMENTS	FAIR	/ 73

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)

Good (85 - 94)

Excellent (95 - 100)

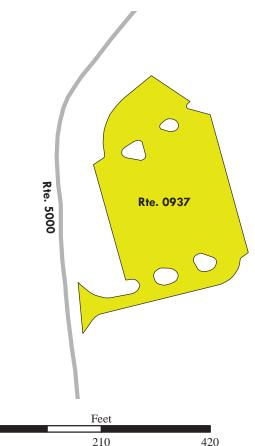
Not Rated

See Appendix for definitions and formulas









ROUTE 0941: OAK BOTTOM FIRE CACHE PARKING

Manual Rating

FROM ROUTE 0423 (OAK BOTTOM WATER STORAGE TANK SERVICE ROAD)

TO ROUTE 0930 (OAK BOTTOM CAMPGROUND STORE PARKING)

Inspection Date	Inspection Date FMSS Number		Surface Type	
11/4/2014	11/4/2014 99483		ASPHALT	
Area (Sq. Ft.)	Area (Sq. Ft.) Lane Miles (11' Widths)		Curb Recommendation	
10,115	0.174	NOT APPLICABLE	NOT APPLICABLE	
Curb Type		Curb & Gutter Type		
NO CURB		NO CURB AND GUTTER		
Pavement Rec	commendation	Condition R	Rating / PCR	
HEAVY 3R T	REATMENTS	POOF	R / 53	
Route Condition Legend _ Pavement Condition Rating (PCR)				

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)

Fair (61-84)

Good (85 - 94)

Excellent (95 - 100)

Not Rated

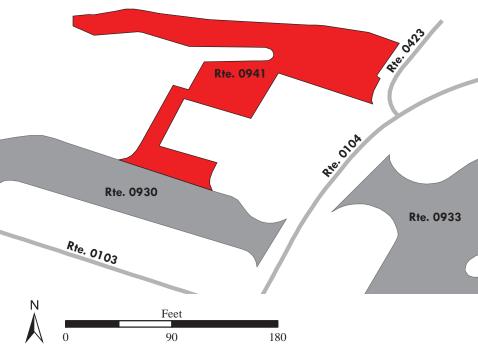
See Appendix for definitions and formulas



Parking area consists of multiple surface types: 1 part Asphalt, 8352 square feet; 1 part Concrete, 1763 square feet.





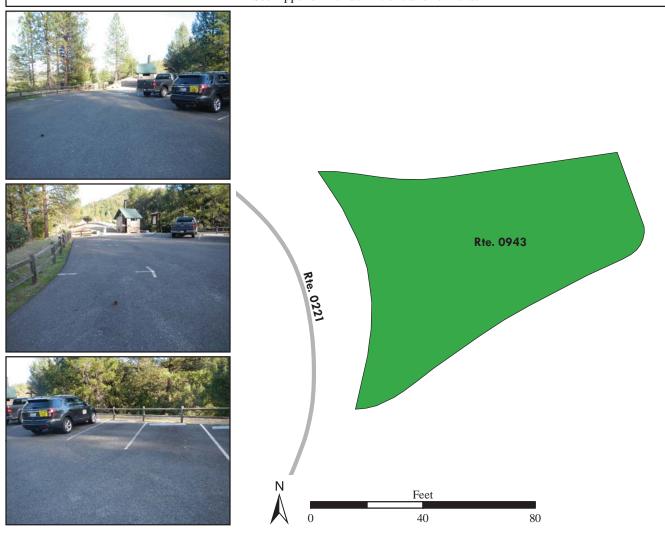


ROUTE 0943: MILL CREEK TRAILHEAD PARKING

Manual Rating

ADJACENT TO ROUTE 0221 (CRYSTAL CREEK CAMP ACCESS ROAD)

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	99485	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
4,286	0.074	NOT APPLICABLE	NOT APPLICABLE	
Curb	Туре	Curb & Gutter Type		
NO C	CURB	NO CURB AND GUTTER		
Pavement Rec	commendation	Condition R	ating / PCR	
PREVENTIVE N	MAINTENANCE	GOOL) / 90	
Route Condition Legend – Pavement Condition Rating (PCR)				
Poor (0 - 60)	<u> </u>	(85 - 94) Excellent (95 - 10	0) Not Rated	
	See Appendix for def	initions and formulas		

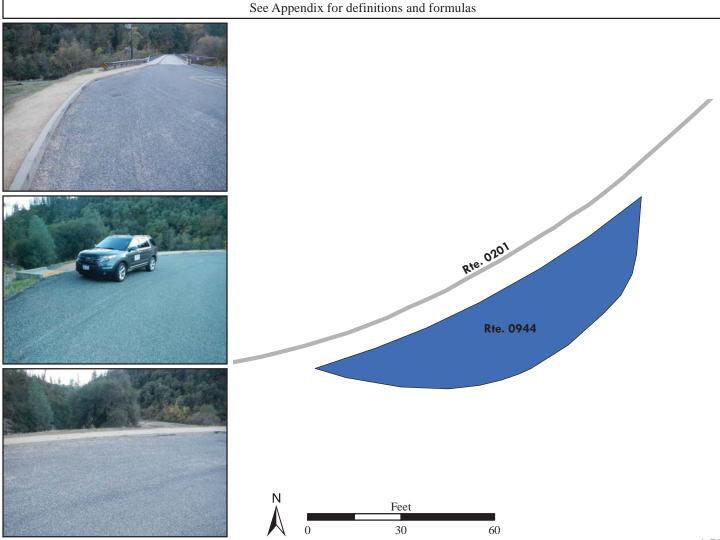


ROUTE 0944: GUARDIAN ROCK TRAILHEAD PARKING

Manual Rating

ADJACENT TO ROUTE 0201 (N.E.E.D. CAMP ROAD)

Inspection Date	FMSS Number	User Access	Surface Type		
11/4/2014	23033	PUBLIC	ASPHALT		
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation		
1,690	0.029	6	DO NOTHING		
Curb	Туре	Curb & Gutter Type			
CONC	CRETE	NO CURB AND GUTTER			
Pavement Rec	commendation	Condition R	Rating / PCR		
DO NO	THING	EXCELL	ENT / 97		
Route Condition Legend – Pavement Condition Rating (PCR)					
Poor (0 - 60)	Fair (61- 84) Good	(85 - 94) Excellent (95 - 10	0) Not Rated		
See Appendix for definitions and formulas					



ROUTE 0946: EAST ENTRANCE SIGN PARKING AREA

Manual Rating

FROM STATE HIGHWAY 299 (EUREKA WAY)

TO STATE HIGHWAY 299 (EUREKA WAY)

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	109597	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
6,292	0.108	6	DO NOTHING	
Curb	Туре	Curb & Gutter Type		
ASPI	HALT	NO CURB A	ND GUTTER	
Pavement Rec	commendation	Condition R	Rating / PCR	
PREVENTIVE N	MAINTENANCE	GOOI	O / 90	
Route Condition Legend – Payement Condition Rating (PCR)				

Poor (0 - 60)

Fair (61-84)

Good (85 - 94)

Excellent (95 - 100)

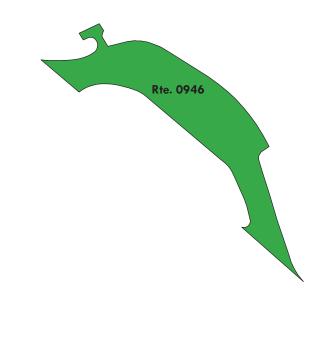
Not Rated

See Appendix for definitions and formulas











ROUTE 0947: CRYSTAL CREEK ADA PARKING

Manual Rating

FROM ROUTE 0155 (CRYSTAL CREEK FALLS ROAD)

TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type	
11/4/2014	N/A	PUBLIC	ASPHALT	
Area (Sq. Ft.)	Lane Miles (11' Widths)	Curb Reveal (Inches)	Curb Recommendation	
4,219	0.073	NOT APPLICABLE	NOT APPLICABLE	
Curb	Туре	Curb & Gutter Type		
NO C	CURB	NO CURB A	ND GUTTER	
Pavement Rec	commendation	Condition R	ating / PCR	
DO NO	THING	EXCELL	ENT / 97	
Pouts Condition Logard Devement Condition Dating (DCD)				

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)

Fair (61- 84)

Good (85 - 94)

Excellent (95 - 100)

Not Rated

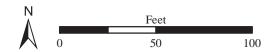
See Appendix for definitions and formulas











Section 7 Road Milepost Information



Whiskeytown National Recreation Area



Road Milepost Information

This report section contains road milepost information for all paved roads in the park that were collected with the Data Collection Vehicle (DCV). The milepost data is obtained from the DCV by using a distance measuring instrument (DMI) that is calibrated to record mileage to the nearest thousandth of a mile. Park roads that were manually rated did not have milepost data collected, and thus are not included in this report section.

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

Where to find the latest Features Inventories for NPS Parks:

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

Milepost Events Verified in Cycle 6

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

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

GPS Mileage Matching

A consistent survey milepost and constant route length as recorded by the Data Collection Vehicle (DCV) is a challenge to maintain from one collection cycle to the next. The challenge is due to many factors such as driver characteristics, DMI calibration, tire pressure etc. After Cycle 4 (~2010), a decision was made to hold constant the length of roads so long as there was no physical change from reconstruction projects or realignments that would result in a change to the length of a road. Consequently, the "GPS Mileage Match" was implemented to specify which cycle the route length is being matched. Route mileages and GPS are matched to a previous collection whenever there is no physical change to a route alignment. The route mileage and GPS is not matched to previous cycles whenever it is determined that a road length and GPS needs to be updated. When this happens the GPS and length is updated to the cycle that displays the change, and that collection cycle is used as the matching cycle in subsequent collections of the road. Thus, the Cycle 6 GIS could be either the survey length collected in Cycle 4, Cycle 5, or Cycle 6 and therefore, may not match the survey milepost displayed in the latest Cycle 6 DCV video which is viewable in *PathView VO*.

The features inventories and road logs collected on NPS routes contain mileposts that are determined from the corresponding cycle that the GPS is matched to. Therefore, the mileposts contained in the Cycle 4 or 5 features inventories or the Cycle 6 road logs may not exactly match the survey milepost collected in the latest Cycle 6 video of the road.

Locating Mile Marker Signs

For routes that have mile marker signs along them, the milepost reported by RIP will most likely not line up exactly with the sign located in the field. This could be happening for many reasons, most likely due to either the error falling within the acceptable calibration range of the vehicle, or the level of accuracy that the mile marker signs were placed in the field.

Because mile marker signs are important features in many project plans and location descriptions, RIP is reporting locations of mile marker signs in three ways in Cycle 6:

- 1. Mileposts from Cycle 6 GIS: the official RIP milepost taken from the features inventories and the matching GPS/mileage cycle as described above. This is the milepost that should be used on project plans and when finding locations in the field
- 2. Mileposts from Cycle 6 Video: milepost shown to help locate the mile marker sign in the latest *PathView VO* video.
- 3. Latitude / Longitude: a constant way of locating a mile marker sign so long as the park has not moved the sign

The mileposts from Cycle 6 Video and GIS should be nearly the same, but on longer roads it has been observed that the Video milepost deviates more from the official GIS milepost that comes from the matching cycle.

ROUTE 0010: SOUTH SHORE DRIVE EAST

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 5010 (KENNEDY MEMORIAL DRIVE)
0.44	0.44	INTERSECTION	R	ROUTE 0101 (BRANDY CREEK MARINA ROAD)
1.02	1.02	INTERSECTION	L	ROUTE 0152 (SOUTH SHORE DRIVE WEST)
1.04	1.04	INTERSECTION	N/A	ROUTE 0206 (DRY CREEK CAMPGROUND)

ROUTE 0100: BRANDY CREEK BEACH ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 5010 (KENNEDY MEMORIAL DRIVE)
0.00	0.00	INTERSECTION	R	ROUTE 5010 (KENNEDY MEMORIAL DRIVE)
0.00	0.00	INTERSECTION	N/A	ROUTE 0404 (BRANDY CREEK SERVICE ROAD SOUTH)
0.01	0.01	INTERSECTION	L	ROUTE 0918 (BRANDY CREEK BEACH RESTROOM PARKING)
0.13	0.13	INTERSECTION	L	ROUTE 0919 (BRANDY CREEK PARKING LOT A)
0.38	0.38	INTERSECTION	N/A	ROUTE 0920 (BRANDY CREEK PARKING LOT B)

ROUTE 0101: BRANDY CREEK MARINA ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0010 (SOUTH SHORE DRIVE EAST)
0.00	0.00	INTERSECTION	L	ROUTE 0010 (SOUTH SHORE DRIVE EAST)
0.29	0.29	INTERSECTION	R	ROUTE 0205 (BRANDY CREEK MARINA R.V. CAMPGROUND)
0.38	0.38	INTERSECTION	L	ROUTE 0923 (DRY STORAGE AREA)
0.43	0.43	INTERSECTION	R	ROUTE 0922 (BRANDY CREEK MARINA PARKING)
0.44	0.44	INTERSECTION	R	ROUTE 0922 (BRANDY CREEK MARINA PARKING)
0.45	0.45	INTERSECTION	R	ROUTE 0922 (BRANDY CREEK MARINA PARKING)
0.46	0.46	INTERSECTION	N/A	ROUTE 0922 (BRANDY CREEK MARINA PARKING)

ROUTE 0103: OAK BOTTOM BEACH ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	PAVED ROUTE (STATE HIGHWAY 229 (EUREKA WAY) / NON NPS)
0.00	0.00	INTERSECTION	L	PAVED ROUTE (STATE HIGHWAY 229 (EUREKA WAY) / NON NPS)
0.00	0.00	INTERSECTION	N/A	ROUTE 0407 (GRIZZLY GULCH ROAD)
0.07	0.07	INTERSECTION	R	UNPAVED ROUTE
0.19	0.19	INTERSECTION	R	ROUTE 0929 (OAK BOTTOM WATER DITCH TRAIL PARKING)
0.23	0.23	INTERSECTION	L	ROUTE 0930 (OAK BOTTOM CAMPGROUND STORE PARKING)
0.28	0.28	INTERSECTION	R	ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)
0.28	0.28	INTERSECTION	L	ROUTE 0104 (OAK BOTTOM MARINA ROAD)
0.32	0.32	INTERSECTION	R	ROUTE 0934 (OAK BOTTOM R.V. DUMP STATION PARKING)
0.43	0.43	INTERSECTION	L	ROUTE 0933 (OAK BOTTOM LAUNCH RAMP)
0.44	0.44	INTERSECTION	N/A	ROUTE 0931 (OAK BOTTOM BEACH PARKING)

ROUTE 0104: OAK BOTTOM MARINA ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0103 (OAK BOTTOM BEACH ROAD)
0.00	0.00	INTERSECTION	N/A	ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)
0.00	0.00	INTERSECTION	L	ROUTE 0103 (OAK BOTTOM BEACH ROAD)
0.01	0.01	INTERSECTION	L	ROUTE 0930 (OAK BOTTOM CAMPGROUND STORE PARKING)
0.02	0.02	INTERSECTION	R	ROUTE 0933 (OAK BOTTOM LAUNCH RAMP)
0.04	0.04	INTERSECTION	L	ROUTE 0941 (OAK BOTTOM FIRE CACHE PARKING)
0.06	0.06	INTERSECTION	R	ROUTE 0932 (OAK BOTTOM R.V. CAMP PARKING)
0.18	0.18	INTERSECTION	R	ROUTE 0932 (OAK BOTTOM R.V. CAMP PARKING)
0.29	0.29	INTERSECTION	N/A	ROUTE 0935 (OAK BOTTOM MARINA PARKING)

ROUTE 0105: TOWER HOUSE FOOTBRIDGE ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	PAVED ROUTE (STATE HIGHWAY 229 (EUREKA WAY) / NON NPS)
0.00	0.00	INTERSECTION	R	PAVED ROUTE (STATE HIGHWAY 229 (EUREKA WAY) / NON NPS)
0.06	0.06	INTERSECTION	R	UNPAVED ROUTE
0.07	0.07	INTERSECTION	N/A	END OF PAVEMENT

ROUTE 0201: N.E.E.D. CAMP ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 5201 (PAIGE BAR ROAD NON NPS)
0.00	0.00	INTERSECTION	L	ROUTE 0256 (PAIGE BAR ROAD)
0.02	0.02	INTERSECTION	R	UNPAVED ROUTE (GATED)
0.06	0.06	INTERSECTION	L	ROUTE 0944 (GUARDIAN ROCK TRAILHEAD PARKING)
0.08	0.13	BRIDGE	N/A	8750-001 (LOWER CLEAR CREEK BRIDGE)
0.18	0.18	INTERSECTION	L	UNPAVED ROUTE
0.19	0.19	INTERSECTION	L	ROUTE 0913 (N.E.E.D. CAMP OVERFLOW PARKING)
0.27	0.27	INTERSECTION	N/A	ROUTE 0914 (N.E.E.D. CAMP PARKING)

ROUTE 0205: BRANDY CREEK MARINA R.V. CAMPGROUND

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0101 (BRANDY CREEK MARINA ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0101 (BRANDY CREEK MARINA ROAD)
0.13	0.13	INTERSECTION	L	ROUTE 0924A (BRANDY CREEK R.V. PARKING A)
0.16	0.16	INTERSECTION	R	ROUTE 0924F (BRANDY CREEK R.V. PARKING F)
0.16	0.16	INTERSECTION	L	ROUTE 0924G (BRANDY CREEK R.V. PARKING G)
0.19	0.19	INTERSECTION	L	ROUTE 0924B (BRANDY CREEK R.V. PARKING B)
0.25	0.25	INTERSECTION	L	ROUTE 0924C (BRANDY CREEK R.V. PARKING C)
0.32	0.32	INTERSECTION	R	ROUTE 0924D (BRANDY CREEK R.V. PARKING D)
0.34	0.34	INTERSECTION	R	ROUTE 0924H (BRANDY CREEK R.V. PARKING H)
0.36	0.36	INTERSECTION	R	ROUTE 0924E (BRANDY CREEK R.V. PARKING E)
0.42	0.42	INTERSECTION	N/A	DEAD END (CUL-DE-SAC)

ROUTE 0209: CARR POWERHOUSE ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	PAVED ROUTE (STATE HIGHWAY 229 (EUREKA WAY) / NON NPS)
0.00	0.00	INTERSECTION	R	PAVED ROUTE (STATE HIGHWAY 229 (EUREKA WAY) / NON NPS)
0.07	0.07	INTERSECTION	L	ROUTE 0211 (CARR LAKE ACCESS ROAD)
0.16	0.19	BRIDGE	N/A	CLEAR CREEK BRIDGE (A BIP STRUCTURE NUMBER HAS NOT BEEN ASSIGNED TO THIS BRIDGE)
0.20	0.20	INTERSECTION	R	UNPAVED ROUTE (CLEAR CREEK VISTA TRAIL)
0.45	0.45	INTERSECTION	R	ROUTE 0405 (CARR POWERHOUSE SERVICE ROAD)
0.53	0.53	INTERSECTION	L	UNPAVED ROUTE
0.55	0.55	INTERSECTION	R	UNPAVED ROUTE
0.55	0.55	INTERSECTION	L	UNPAVED ROUTE
0.56	0.56	INTERSECTION	L	UNPAVED ROUTE
0.63	0.63	INTERSECTION	L	ROUTE 0925 (CARR PICNIC AREA PARKING)
0.71	0.71	INTERSECTION	L	ROUTE 0925 (CARR PICNIC AREA PARKING)
0.74	0.74	INTERSECTION	L	PAVED ROUTE (POWER PLANT / NON NPS)
0.81	0.81	INTERSECTION	L	PAVED ROUTE (POWER PLANT / NON NPS)
1.09	1.09	INTERSECTION	L	ROUTE 0152 (SOUTH SHORE DRIVE WEST)
1.10	1.10	INTERSECTION	N/A	PAVED ROUTE (WESTERN AREA POWER ADMINISTRATION / NON NPS)

ROUTE 0211: CARR LAKE ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0209 (CARR POWERHOUSE ROAD)
0.00	0.00	INTERSECTION	N/A	ROUTE 0209 (CARR POWERHOUSE ROAD)
0.11	0.11	INTERSECTION	R	UNPAVED ROUTE
0.36	0.36	INTERSECTION	R	UNPAVED ROUTE
0.47	0.47	INTERSECTION	R	UNPAVED ROUTE
0.50	0.50	INTERSECTION	L	UNPAVED PARKING
0.51	0.51	INTERSECTION	N/A	DEAD END

ROUTE 0215: OAK BOTTOM CAMPGROUND LOOP A

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0104 (OAK BOTTOM MARINA ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0103 (OAK BOTTOM BEACH ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0103 (OAK BOTTOM BEACH ROAD)
0.02	0.02	INTERSECTION	L	ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)
0.02	0.02	ONE-WAY START	N/A	N/A
0.04	0.04	INTERSECTION	R	ROUTE 0936A (OAK BOTTOM CAMPGROUND PARKING A)
0.07	0.07	INTERSECTION	L	ROUTE 0216 (OAK BOTTOM CAMPGROUND LOOP B)
0.08	0.08	INTERSECTION	R	UNPAVED PARKING
0.17	0.17	INTERSECTION	L	ROUTE 0936B (OAK BOTTOM CAMPGROUND PARKING B)
0.24	0.24	INTERSECTION	L	ROUTE 0936C (OAK BOTTOM CAMPGROUND PARKING C)
0.26	0.26	INTERSECTION	L	ROUTE 0936E (OAK BOTTOM CAMPGROUND PARKING E)
0.27	0.27	INTERSECTION	R	ROUTE 0936D (OAK BOTTOM CAMPGROUND PARKING D)
0.29	0.29	INTERSECTION	L	ROUTE 0936E (OAK BOTTOM CAMPGROUND PARKING E)
0.32	0.32	INTERSECTION	L	ROUTE 0936I (OAK BOTTOM CAMPGROUND HANDICAP RESTROOM PARKING B)
0.32	0.32	INTERSECTION	R	ROUTE 0936H (OAK BOTTOM CAMPGROUND HANDICAP RESTROOM PARKING A)
0.35	0.35	INTERSECTION	L	ROUTE 0936F (OAK BOTTOM CAMPGROUND PARKING F)
0.42	0.42	INTERSECTION	L	ROUTE 0936G (OAK BOTTOM CAMPGROUND PARKING G)
0.45	0.45	INTERSECTION	L	ROUTE 0216 (OAK BOTTOM CAMPGROUND LOOP B)
0.50	0.50	INTERSECTION	L	ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)
0.50	0.50	ONE-WAY END	N/A	N/A
0.50	0.50	INTERSECTION	R	ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)

ROUTE 0216: OAK BOTTOM CAMPGROUND LOOP B

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)
0.00	0.00	INTERSECTION	L	ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)
0.05	0.05	INTERSECTION	R	ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)
0.05	0.05	INTERSECTION	L	ROUTE 0215 (OAK BOTTOM CAMPGROUND LOOP A)

ROUTE 0220: WHISKEY CREEK GROUP PICNIC ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 5000 (WHISKEY CREEK ROAD)
0.00	0.00	INTERSECTION	N/A	ROUTE 5000 (WHISKEY CREEK ROAD)
0.14	0.14	INTERSECTION	L	UNPAVED ROUTE (GATED)
0.20	0.20	INTERSECTION	R	UNPAVED ROUTE
0.38	0.38	INTERSECTION	L	UNPAVED ROUTE (GATED)
0.78	0.78	INTERSECTION	R	UNPAVED PARKING
0.90	0.90	INTERSECTION	L	UNPAVED ROUTE
1.38	1.38	INTERSECTION	N/A	ROUTE 0945 (WHISKEY CREEK GROUP PICNIC AREA PARKING)

ROUTE 0221: CRYSTAL CREEK CAMP ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 5221 (CRYSTAL CREEK ROAD NON NPS)
0.00	0.00	INTERSECTION	L	UNPAVED ROUTE
0.80	0.80	INTERSECTION	L	UNPAVED ROUTE
0.84	0.84	INTERSECTION	L	UNPAVED ROUTE
1.03	1.03	INTERSECTION	L	ROUTE 0222 (CRYSTAL CREEK CAMPGROUND ROAD)
1.64	1.64	INTERSECTION	L	ROUTE 0943 (MILL CREEK TRAILHEAD PARKING)
1.76	1.76	INTERSECTION	R	ROUTE 0251 (CRYSTAL CREEK ROAD)
1.77	1.77	INTERSECTION	N/A	NON NPS ROUTE (CRYSTAL CREEK CAMP ACCESS ROAD)

ROUTE 0400: HEADQUARTERS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 5010 (KENNEDY MEMORIAL DRIVE)
0.00	0.00	INTERSECTION	L	ROUTE 5010 (KENNEDY MEMORIAL DRIVE)
0.03	0.03	INTERSECTION	R	ROUTE 0903 (PARK HEADQUARTERS EMPLOYEE PARKING)
0.04	0.04	INTERSECTION	L	ROUTE 0902A (PARK HEADQUARTERS EMPLOYEE PARKING A)
0.04	0.04	INTERSECTION	R	ROUTE 0901 (PARK HEADQUARTERS VISITOR PARKING)
0.06	0.06	INTERSECTION	R	ROUTE 0902B (PARK HEADQUARTERS EMPLOYEE PARKING B)
0.08	0.08	INTERSECTION	L	ROUTE 0904 (MAINTENANCE YARD)
0.10	0.10	INTERSECTION	R	ROUTE 0905 (HEADQUARTERS ADMINISTRATIVE PARKING)
0.11	0.11	INTERSECTION	R	ROUTE 0907 (HEADQUARTERS GOVERNMENT CAR PARKING)
0.12	0.12	INTERSECTION	L	ROUTE 0904 (MAINTENANCE YARD)
0.14	0.14	INTERSECTION	R	PAVED PARKING (FUEL STATION)
0.21	0.21	INTERSECTION	L	UNPAVED PARKING
0.23	0.23	INTERSECTION	N/A	ROUTE 0415 (GOVERNMENT BOAT LAUNCH LOOP)
0.23	0.23	INTERSECTION	L	ROUTE 0415 (GOVERNMENT BOAT LAUNCH LOOP)

ROUTE 0401: N.E.E.D. CAMP RESIDENCE ROAD

FROM	TO			
MILEPOST	MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0914 (N.E.E.D. CAMP PARKING)
0.06	0.06	INTERSECTION	R	ROUTE 0915 (N.E.E.D. CAMP CAFETERIA ACCESS PARKING)
0.09	0.10	BRIDGE	N/A	8750-007 (PAIGE BOULDER CREEK BRIDGE)
0.10	0.10	INTERSECTION	N/A	ROUTE 0401 (N.E.E.D. CAMP RESIDENCE ROAD) UNPAVED SECTION

ROUTE 0404: BRANDY CREEK SERVICE ROAD SOUTH

FROM MILEP	TO POST MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 5010 (KENNEDY MEMORIAL DRIVE)
0.00	0.00	INTERSECTION	L	ROUTE 5010 (KENNEDY MEMORIAL DRIVE)
0.00	0.00	INTERSECTION	N/A	ROUTE 0100 (BRANDY CREEK BEACH ROAD)
0.04	0.04	INTERSECTION	L	UNPAVED ROUTE
0.17	0.17	INTERSECTION	N/A	ROUTE 0917 (BRANDY CREEK STORAGE YARD)

ROUTE 0405: CARR POWERHOUSE SERVICE ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0209 (CARR POWERHOUSE ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0209 (CARR POWERHOUSE ROAD)
0.04	0.04	INTERSECTION	R	UNPAVED ROUTE
0.06	0.06	INTERSECTION	L	UNPAVED ROUTE
0.08	0.08	INTERSECTION	L	UNPAVED ROUTE
0.14	0.14	INTERSECTION	N/A	ROUTE 0405 (CARR POWERHOUSE SERVICE ROAD)

ROUTE 0406: QUARTERS 324 ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	PAVED ROUTE (STATE HIGHWAY 229 (EUREKA WAY) / NON NPS)
0.00	0.00	INTERSECTION	L	PAVED ROUTE (STATE HIGHWAY 229 (EUREKA WAY) / NON NPS)
0.03	0.03	INTERSECTION	R	ROUTE 0411 (BULL GULCH SERVICE ROAD)
0.09	0.09	INTERSECTION	L	UNPAVED ROUTE
0.26	0.26	INTERSECTION	R	UNPAVED ROUTE
0.28	0.28	INTERSECTION	N/A	DEAD END (DRIVEWAY)

ROUTE 0407: GRIZZLY GULCH ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0103 (OAK BOTTOM BEACH ROAD)
0.00	0.00	INTERSECTION	L	PAVED ROUTE (STATE HIGHWAY 299 (EUREKA WAY) / NON NPS)
0.00	0.00	INTERSECTION	R	PAVED ROUTE (STATE HIGHWAY 299 (EUREKA WAY) / NON NPS)
0.04	0.04	INTERSECTION	R	PAVED ROUTE
0.18	0.18	INTERSECTION	L	ROUTE 0414 (GRIZZLY GULCH WASTEWATER ACCESS ROAD)
0.19	0.19	INTERSECTION	R	UNPAVED ROUTE
0.25	0.25	INTERSECTION	R	UNPAVED ROUTE
0.33	0.33	INTERSECTION	N/A	ROUTE 0407 (GRIZZLY GULCH ROAD) UNPAVED SECTION

ROUTE 0411: BULL GULCH SERVICE ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0406 (QUARTERS 324 ROAD)
0.00	0.00	INTERSECTION	N/A	ROUTE 0406 (QUARTERS 324 ROAD)
0.47	0.47	INTERSECTION	N/A	ROUTE 0411 (BULL GULCH SERVICE ROAD) UNPAVED SECTION

ROUTE 0414: GRIZZLY GULCH WASTEWATER ACCESS ROAD

FROM	TO MILEPOST	DE ATUDE	SIDE	COMMENT
MILEPOST	MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0407 (GRIZZLY GULCH ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0407 (GRIZZLY GULCH ROAD)
0.02	0.02	INTERSECTION	L	UNPAVED ROUTE
0.04	0.04	INTERSECTION	R	UNPAVED ROUTE
0.07	0.07	INTERSECTION	N/A	DEAD END

ROUTE 0415: GOVERNMENT BOAT LAUNCH LOOP

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0415 (GOVERNMENT BOAT LAUNCH LOOP)
0.00	0.00	INTERSECTION	N/A	ROUTE 0400 (HEADQUARTERS ROAD)
0.11	0.11	INTERSECTION	L	ROUTE 0415 (GOVERNMENT BOAT LAUNCH LOOP)
0.11	0.11	INTERSECTION	N/A	ROUTE 0400 (HEADQUARTERS ROAD)

Section 8 Appendix



Whiskeytown National Recreation Area



Improvements to the RIP Index Equations and Determination of PCR

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

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

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

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

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

Description of the Rating System

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

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

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

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

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

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

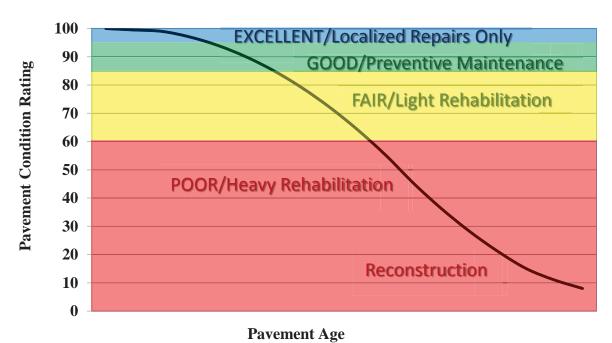
Explanation of the Condition Descriptions

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

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

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

Condition Categories and Treatments



Description of Pavement Treatment Types

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

Appendix A

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

Surface Distresses Identified by the Data Collection Vehicle

Surface Condition Rating – SCR

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

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

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

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

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

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

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

Roughness Condition Index - RCI

Additional condition data measured by DCV (lasers and accelerometers)

• Roughness (IRI)

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

Pavement Condition Rating - PCR

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

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

Concrete PCR = RCI

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

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

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

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

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

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 less than 0 defaults to 0. Index values greater than 100 defaults to 100. For all indices, a higher value indicates a better road condition, and a lower value indicates a poorer road condition.

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

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

^{*}Note: Roughness is measured on concrete roadways, but surface distresses and rutting are not measured.

For concrete, PCR = RCI

Table 1. Distress summary

Alligator Cracking

Description:

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

Severity Levels:

LOW

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

MEDIUM

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

HIGH

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

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

ALLIGATOR CRACKING SEVERITY LEVELS						
	CRACK	CRACK PATTERN				
	SEVERITY	LOW	MED	HIGH		
CD A CIZ	LOW	LOW	MED	HIGH		
CRACK WIDTH	MED	MED	MED	HIGH		
WIDIII	HIGH	HIGH	HIGH	HIGH		

Table 2. Alligator Crack Severity Levels

Longitudinal Cracking

Description:

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

Severity Levels:

LOW

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

MEDIUM

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

HIGH

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

Transverse Cracking

Description:

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

Severity Levels:

LOW

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

MEDIUM

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

HIGH

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

Patching and Potholes

Description:

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

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

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

Speed bumps should not be rated as patches

Severity Levels:

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

RUTTING

Description:

Rutting is a longitudinal surface depression in the wheelpath.

Severity Levels:

LOW

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

MEDIUM

Ruts with a measured depth of 0.50 inches to 0.99 inches

HIGH

Ruts with a measured depth greater than 1.00 inch

ROUGHNESS

Description:

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

Severity Levels:

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

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

Table 3. International Roughness Index

Roughness Collection Parameters

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

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

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

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

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

Index Formulas

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

Alligator Crack Index

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

Where:

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

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

Percent of total area is computed as:

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

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

Longitudinal Crack Index

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

Where:

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

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

Percent of interval length is computed as:

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

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

Structural Crack Index

$$SC_{INDEX} = [100 - ((100 - AC_{INDEX}) + (100 - LC_{INDEX}))]$$

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

Transverse Crack Index

$$TC_{INDEX} = 100 - 40 * [(LOW / 21.1) + (MED / 4.4) + (HI / 2.6)]$$

Where:

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

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

Number of cracks is computed as:

Total length of transverse cracks
Lane width

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

Patching Index

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

Where:

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

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

Percent of total area is computed as:

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

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

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

Rutting Index

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

Where:

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

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

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

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

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

$$\frac{(total\ number\ of\ ruts\ within\ each\ severity\ in\ both\ wheelpaths)}{20} \times 100$$

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

Roughness Condition Index (Asphalt)

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

Where:

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

Average IRI is computed as:

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

Cameras

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

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

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

Pavement Imaging and Rutting

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

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

Distance Measuring Instrument (DMI)

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

Roughness (IRI)

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

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

GPS & Inertial Systems

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

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

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

Appendix B

Methodology for Determining Condition Ratings Using Manual Rating Procedures

Description of Manual Rating Methods

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

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

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

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

Visual Inspection Method for Manually Rating Secondary Roads

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

Rating Section Lengths

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

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

Rating Criteria

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

- Alligator Cracking
 - o Rating based on percentage of road surface affected
- Longitudinal Cracking
 - o Rating based on severity level (crack width) and percentage of road section length of longitudinal cracks
- Transverse Cracking
 - o Rating based on crack width, crack spacing, and percentage of surface affected
- Patching
 - o Rating based on percentage of road surface affected
- Rutting
 - o Rating based on percentage of road section length affected by visible rutting (>1 inch depth) that requires remediation
- Roughness
 - o Manual assessments of roughness are not made due to the subjectivity of the measurement. Therefore, roughness is not incorporated into the PCR calculation of manually rated roads.

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

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

Distress Measurement Method for Manually Rating Primary Roads

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

Rating Section Lengths

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

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

Manual Distress Measurements

Alligator Cracking

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

Longitudinal Cracking

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

Transverse Cracking

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

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

Patching and Potholes

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

Rutting

- Visible rutting is measured by length (ft.) in each wheel path. Only visible ruts are rated, which are ruts greater than 1 inch deep.
- All rutting recorded in a manual rating is considered to be high severity (> 1 inch). Lesser severities are generally not distinguishable in a visual inspection.

Roughness

• Manual assessments of roughness are not made due to the subjectivity of the measurement. Therefore, roughness is not incorporated into the PCR calculation of manually rated roads.

Index Formulas for Distress Measurement Method:

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

Alligator Crack Index for Manual Rating:

AC INDEX =
$$100 - 40 * (\% ALLIGATOR / 15)$$

Where:

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

Longitudinal Crack Index for Manual Rating:

$$LC_{INDEX} = 100 - 40 * [(\%LOW / 175) + (\%MED / 75)]$$

Where:

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

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

Transverse Crack Index for Manual Rating:

$$TC_{INDEX} = (100 - 40) * [(LOW / 21.1) + (MED / 4.4)]$$

Where:

LOW = Count of the total number of transverse cracks within the section length where one transverse crack is equal to the lane width and the crack width ≤ 0.25 inches HIGH = Count of the total number of transverse cracks within the section length where one transverse crack is equal to the lane width and the crack width ≥ 0.25 inches

Number of cracks is computed as:

Total length of transverse cracks/Lane width

Patching Index for Manual Rating:

Where:

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

Rutting Index for Manual Rating:

$$RUT_INDEX = 100 - 40 * (\% RUTTING / 40)$$

Where:

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

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

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

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

Rating Criteria:

Asphalt Parking Distress Types

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

Concrete Parking Distress Types

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

Curb Inspection and Treatments

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

Curb Reveal

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

Curb Recommendations

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

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

GPS for Manually Rated Roads and Parking

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

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

Appendix C Description of Cycle 6 Deliverables

Interim Report Delivery

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

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

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

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

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

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

Final Report Delivery

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

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

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

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

Partial DCV Collections

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

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

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

Appendix D Glossary of Terms and Abbreviations

Glossary of Terms and Abbreviations

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