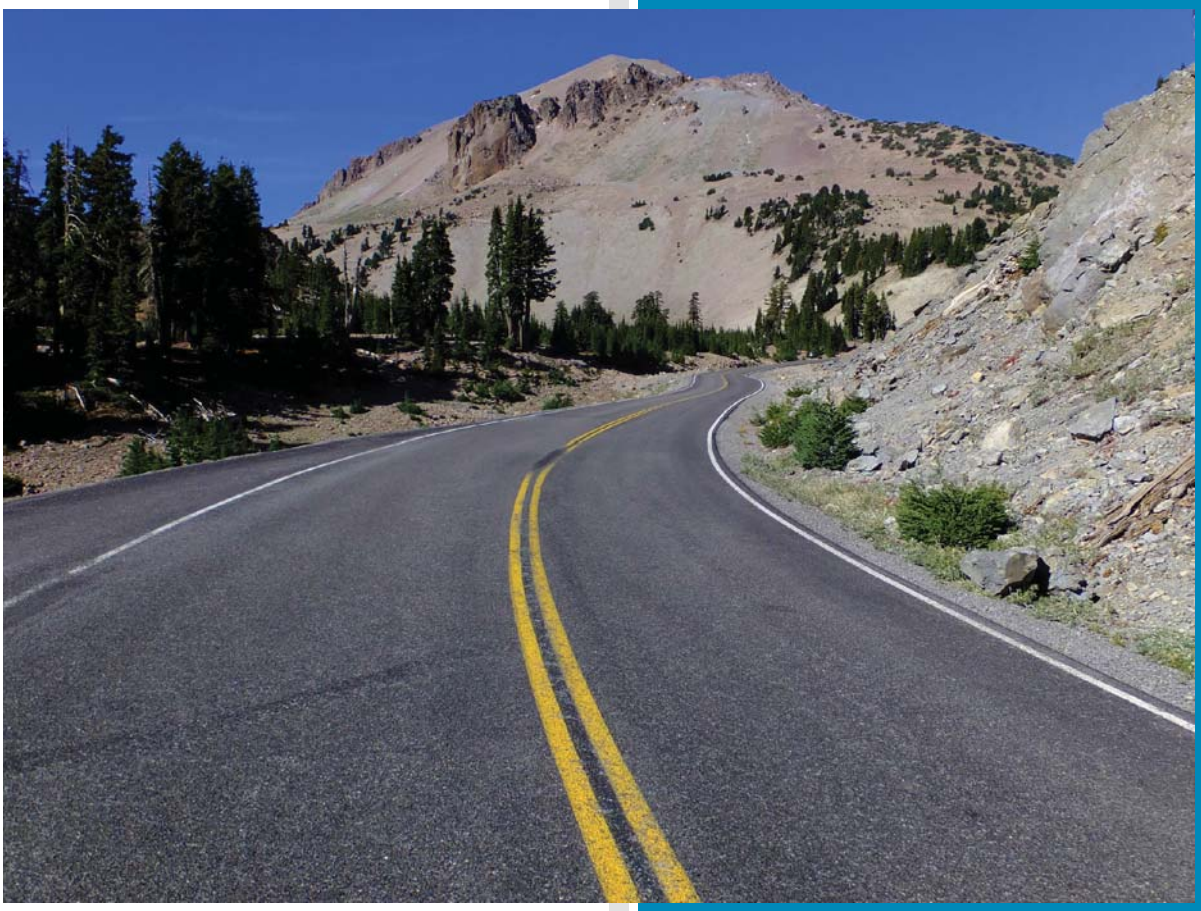
LAVO
Cycle 6

Final Report

Road Inventory and Condition Assessment of Paved Routes
Lassen Volcanic National Park



Federal Lands Highway
Road Inventory Program

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

Report Date: March 2016

Lassen Volcanic National Park
in
California

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
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Introduction

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Federal Lands Highway
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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 Parks ° 5 Small Parks
Cycle 3	2001 - 2004	° All Large Parks ° All Small Parks
Cycle 4	2006 - 2010	° 86 Large Parks ° Several 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

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Section 2
Park Route Inventory

Lassen Volcanic National Park

Federal Lands Highway
Road Inventory Program

Cycle 6 NPS / RIP Route ID Report

Report Date: 03/01/2016

(Numerical By Summary Route and Subcomponent #)

Federal Lands Highway
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LAVO *Lassen Volcanic National Park*

ROAD INVENTORY (1100 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)	Surf. Type	Area Map
0010	6	1	45513		LASSEN PARK ROAD	FROM SOUTH PARK BOUNDARY AND END OF ROUTE 5000 (LASSEN PEAK HIGHWAY (STATE HIGHWAY 89))	TO STATE HIGHWAY 44	MINERAL AND MANZANITA	29.76	0.00	29.76	1		AS	1,2,2A,3
0100	NC		45514		BUTTE LAKE ROAD	FROM NORTH PARK BOUNDARY	TO END OF LOOP	MANZANITA	0.00	2.10	2.10	2		GR	
0101	NC		45515		JUNIPER LAKE ROAD	FROM SOUTH PARK BOUNDARY	TO BEGINING OF ROUTE 0427 (JUNIPER LAKE IN-HOLDER ROAD)	MINERAL	0.00	4.00	4.00	2		GR	
0102	NC		73412		WARNER VALLEY ROAD	FROM SOUTH PARK BOUNDARY	TO DRAKESBAD	MINERAL	0.00	2.77	2.77	2		GR	
0200	NC		73418		JUNIPER LAKE CAMPGROUND	FROM ROUTE 0101 (JUNIPER LAKE ROAD)	TO CAMPGROUND	MINERAL	0.00	0.44	0.44	3		GR	
0201	NC		73421		BUTTE LAKE LAUNCHING RAMP ROAD	FROM ROUTE 0100 (BUTTE LAKE ROAD)	TO ROUTE 0203 (BUTTE LAKE HORSE CORRAL ROAD)	MANZANITA	0.00	0.07	0.07	2		GR	
0202	NC		73426		BUTTE LAKE CAMPGROUND	FROM ROUTE 0100 (BUTTE LAKE ROAD)	TO CAMPGROUND	MANZANITA	0.00	1.00	1.00	3		GR	
0203	NC		73427		BUTTE LAKE HORSE CORRAL ROAD	FROM ROUTE 0201 (BUTTE LAKE LAUNCHING RAMP ROAD)	TO END	MANZANITA	0.00	0.15	0.15	2		GR	
0204	6	1	73431		MANZANITA CAMPGROUND ACCESS ROAD	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 28.57 ON LEFT	TO ROUTE 0205ZZ (MANZANITA CAMPGROUND ROADS)	MANZANITA	0.87	0.00	0.87	2		AS	1
0205ZZ	6	1	73452		MANZANITA CAMPGROUND ROADS	FROM ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)	THROUGH CAMPGROUND LOOPS	MANZANITA	1.53	0.00	1.53	3		AS	1
0206	6	1	73461		MANZANITA LAKE ACCESS ROAD	FROM ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.45 ON RIGHT	TO END OF LOOP	MANZANITA	0.15	0.00	0.15	2		AS	1
0207	6	1	73466		CRAGS CAMPGROUND	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 24.62 ON RIGHT	TO END OF LOOP	MANZANITA	0.30	0.00	0.30	2		AS	2

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0208	6	1	73471		LOST CREEK CAMPGROUND	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 24.42 ON THE RIGHT	TO END OF LOOP	MANZANITA	0.29	0.00	0.29	2		AS	2
0209	6	1	73472		SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 16.62 ON THE RIGHT	TO ROUTE 0214ZZ (SUMMIT LAKE NORTH CAMPGROUND LOOPS)	MANZANITA	0.10	0.00	0.10	2		AS	2A
0211	6	1	73475		SUMMIT LAKE SOUTH CAMPGROUND ENTRANCE ROAD	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 16.48 ON THE RIGHT	TO ROUTE 0215ZZ (SUMMIT LAKE SOUTH CAMPGROUND LOOPS)	MANZANITA	0.10	0.00	0.10	2		AS	2A
0212	6	1	73477		KINGS CREEK PICNIC AREA ROAD	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 12.07 ON THE RIGHT	TO END OF LOOP	MANZANITA	0.39	0.00	0.39	2		AS	3
0213	NC		73478		WARNER VALLEY CAMPGROUND ROAD	FROM ROUTE 0102 (WARNER VALLEY ROAD)	TO END	MINERAL	0.00	0.22	0.22	3		GR	
0214ZZ	6	1	73379		SUMMIT LAKE NORTH CAMPGROUND LOOPS	FROM ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)	THROUGH CAMPGROUND LOOPS	MANZANITA	0.35	0.00	0.35	3		AS	2A
0215ZZ	6	1	73400		SUMMIT LAKE SOUTH CAMPGROUND LOOPS	FROM ROUTE 0211 (SUMMIT LAKE SOUTH CAMPGROUND ENTRANCE ROAD)	THROUGH CAMPGROUND LOOPS	MANZANITA	0.60	0.00	0.60	3		AS	2A
0216	NC		73479		MANZANITA CABINS LOOP	FROM ROUTE 0920C (MANZANITA STORE SPUR PARKING C)	TO END OF LOOP	MANZANITA	0.00	0.46	0.46	3		GR	
0400	NC		73481		HAT CREEK ROAD	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 19.13 ON RIGHT	TO BADGER FLAT	MANZANITA	0.00	6.13	6.13	4		GR	
0401	NC		73484		BUTTE LAKE MAINTENANCE AREA ROAD	FROM ROUTE 0100 (BUTTE LAKE ROAD)	TO END	MANZANITA	0.00	0.14	0.14	5		GR	
0402	NC		73487		BUTTE LAKE WATER RESERVOIR ROAD	FROM ROUTE 0100 (BUTTE LAKE ROAD)	TO END	MANZANITA	0.00	0.21	0.21	5		GR	

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0404	6	1	73488		MANZANITA EMPLOYEE RESIDENCE ROAD	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 29.50 ON LEFT	TO UNPAVED SECTION AT MP 0.18	MANZANITA	0.18	0.00	0.18	5		AS	1
0405	6	1	73493		MANZANITA WATER TANK ROAD	FROM ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.22 ON LEFT	TO UNPAVED SECTION AT MP 0.09	MANZANITA	0.09	0.00	0.09	6		AS	1
0409	NC		73503		SUMMIT LAKE STOCKPILE ROAD	FROM ROUTE 0010 (LASSEN PARK ROAD)	TO END	MANZANITA	0.00	0.19	0.19	3		GR	
0410	6	1	73508		SUMMERTOWN ROAD	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 29.10 ON RIGHT	TO END OF PAVEMENT	MANZANITA	0.32	0.42	0.74	6		AS	1
0411	NC		73511		BUTTE LAKE DUMPSTER ROAD	FROM ROUTE 0100 (BUTTE LAKE ROAD)	TO END	MINERAL	0.00	0.49	0.49	5		GR	
0412ZZ	6	1	73514		LASSEN HEADQUARTERS / RESIDENCE AREA ROADS	FROM STATE HIGHWAY 36	THROUGH HEADQUARTERS AREA	MINERAL	1.36	0.00	1.36	5		AS	4
0417	NC		73589		LOST CREEK HELICOPTER PAD ROAD	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 21.20 ON LEFT	TO HELIPAD	MANZANITA	0.00	0.25	0.25	6		GR	
0418	6	1	73591		REFLECTION LAKE ROAD	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 28.84 ON THE RIGHT	TO END OF LOOP	MANZANITA	0.37	0.00	0.37	6		AS	1
0420	NC		231786		HEADQUARTERS WATER TANK ROAD	FROM ROUTE 0412ZZ (LASSEN HEADQUARTERS / RESIDENCE AREA ROADS)	TO END AT WATER TANK	MINERAL	0.00	0.22	0.22	6		GR	
0421	NC		80159		WATER TREATMENT ROAD SW	FROM ROUTE 0010 (LASSEN PARK ROAD)	TO END	MINERAL	0.00	0.50	0.50	6		GR	
0422	NC		80160		WATER TREATMENT ROAD SUMMIT LAKE	FROM ROUTE 0010 (LASSEN PARK ROAD)	TO END	MANZANITA	0.00	1.00	1.00	6		GR	

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0423	NC		80161		WATER TREATMENT ROAD LOST CREEK	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 24.18 ON RIGHT	TO END	MANZANITA	0.00	2.00	2.00	6		GR	
0424	NC		81691		WATER TREATMENT ROAD DRAKESBAD WARNER VALLEY	FROM ROUTE 0102 (WARNER VALLEY ROAD)	TO END	MINERAL	0.00	0.25	0.25	6		GR	
0425	NC		81693		WATER TREATMENT ROAD WARNER VALLEY RANGER STATION	FROM ROUTE 0102 (WARNER VALLEY ROAD)	TO END	MINERAL	0.00	0.20	0.20	6		GR	
0426	NC				LAKE HELEN QUARRY ROAD	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 7.28	TO END	MINERAL	0.00	0.10	0.10	6		GR	
0427	NC				JUNIPER LAKE IN-HOLDER ROAD	FROM END OF ROUTE 0101 (JUNIPER LAKE ROAD)	TO END	MINERAL	0.00	0.75	0.75	5		GR	

NON-NPS ROADS INVENTORY

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)	Surf. Type	Area Map
5000	4	1			LASSEN PEAK HIGHWAY (STATE HIGHWAY 89)	FROM STATE HIGHWAY 36	TO BEGINNING OF ROUTE 0010 (LASSEN PARK ROAD) AT SOUTHERN PARK BOUNDARY		4.36	0.00	4.36			AS	3

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PARKING AREA INVENTORY (1300 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	Access Level	Area (SQ FT)	Surf. Type	Area Map
0900	6	1	73597		LASSEN HEADQUARTERS PARKING	FROM STATE HIGHWAY 36	TO ROUTE 0412ZZ (LASSEN HEADQUARTERS / RESIDENCE AREA ROADS)	MINERAL	PUBLIC	22,142	AS	4
0901	6	1	73601		NATURALIST DIVISION ANNEX PARKING	FROM ROUTE 0412ZZ (LASSEN HEADQUARTERS / RESIDENCE AREA ROADS)	TO PARKING	MINERAL	PUBLIC	6,236	AS	4
0902ZZ	6	1	73607		PARK HEADQUARTERS RANGER / MAINTENANCE PARKING AREAS	FROM ROUTE 0412ZZ (LASSEN HEADQUARTERS / RESIDENCE AREA ROADS)	TO PARKING	MINERAL	PUBLIC	88,115	AS	4
0903	6	1	73610		CROSSROAD PAVILION PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 29.73 ON RIGHT	TO PARKING	MANZANITA	PUBLIC	29,111	AS	1
0904	6	1	73616		MANZANITA MAINTENANCE PARKING	FROM ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD)	TO PARKING	MANZANITA	PUBLIC	18,112	AS	1
0906ZZ	6	1	73618		SOUTHWEST VISITORS CENTER PARKING AREAS	FROM ROUTE 0010 (LASSEN PARK ROAD)	TO PARKING	MINERAL	PUBLIC	83,506	AS	3
0908	6	1	73621		SULPHUR WORKS PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 1.91 ON LEFT	TO ROUTE 0010 (LASSEN PARK ROAD)	MINERAL	NONPUBLIC	19,608	AS	3
0909	6	1	73623		LAKE HELEN PICNIC AREA LOOP	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MO 7.03 ON LEFT	TO PARKING	MINERAL	PUBLIC	17,129	AS	3
0910ZZ	6	1	73625		KINGS CREEK PICNIC PARKING AREAS	FROM ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD)	TO PARKING	MANZANITA	PUBLIC	12,253	AS	3
0911	6	1	73626		SUMMIT LAKE SOUTH CAMPGROUND PARKING	ADJACENT TO ROUTE 0215ZZ (SUMMIT LAKE SOUTH CAMPGROUND LOOPS)		MANZANITA	PUBLIC	2,778	AS	2A
0912A	6	1	73628		SUMMIT LAKE NORTH CAMPGROUND PARKING A	ADJACENT TO ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)		MANZANITA	PUBLIC	3,097	AS	2A
0912B	6	1	105047		SUMMIT LAKE NORTH CAMPGROUND PARKING B	ADJACENT TO ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)		MANZANITA	PUBLIC	1,352	AS	2A
0913	NC		73629		SUMMIT LAKE RANGER STATION PARKING	FROM ROUTE 0937 (SUMMIT LAKE TRAILHEAD PARKING)	TO PARKING	MANZANITA	PUBLIC	13,636	GR	

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0914	6	1	73633		DEVASTATED AREA INTERPRETIVE TRAIL PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 19.73 ON RIGHT	TO ROUTE 0010 (LASSEN PARK ROAD)	MANZANITA	PUBLIC	22,881	AS	2
0915	6	1	73635		HAT LAKE PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 19.27 ON RIGHT	TO ROUTE 0010 (LASSEN PARK ROAD)	MANZANITA	PUBLIC	7,017	AS	2
0916A	6	1	105048		DERSCH MEADOWS PULLOUT PARKING A	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 16.93 ON RIGHT		MANZANITA	PUBLIC	1,823	AS	2A
0916B	6	1	105049		DERSCH MEADOWS PULLOUT PARKING B	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 16.96 ON LEFT		MANZANITA	PUBLIC	1,534	AS	2A
0917	6	1	73638		HOT ROCK PARKING	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 21.74 ON LEFT		MANZANITA	PUBLIC	5,423	AS	2
0918	6	1	73640		LOST CREEK GROUP CAMP PARKING	ADJACENT TO ROUTE 0208 (LOST CREEK CAMPGROUND)		MANZANITA	PUBLIC	1,513	AS	2
0919	6	1	73642		CRAGS PARKING	ADJACENT TO ROUTE 0207 (CRAGS CAMPGROUND)		MANZANITA	PUBLIC	1,594	AS	2
0920A	6	1	73645		MANZANITA STORE SPUR PARKING A	ADJACENT TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.60 ON LEFT		MANZANITA	PUBLIC	4,357	AS	1
0920B	6	1	105050		MANZANITA STORE SPUR PARKING B	ADJACENT TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.60 ON RIGHT		MANZANITA	PUBLIC	3,229	AS	1
0920C	6	1	105075		MANZANITA STORE SPUR PARKING C	FROM ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.58 ON RIGHT	TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.63 ON RIGHT	MANZANITA	PUBLIC	13,539	AS	1
0921A	6	1	73647		MANZANITA LAKE ACCESS PARKING A	FROM ROUTE 0206 (MANZANITA LAKE ACCESS ROAD)	TO PARKING	MANZANITA	PUBLIC	6,251	AS	1
0921B	6	1	105076		MANZANITA LAKE ACCESS PARKING B	ADJACENT TO ROUTE 0206 (MANZANITA LAKE ACCESS ROAD)		MANZANITA	PUBLIC	3,696	AS	1

Cycle 6 NPS / RIP Route ID Report

Report Date: 03/01/2016

(Numerical By Summary Route and Subcomponent #)

Federal Lands Highway
Road Inventory Program

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= Concession Route

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LAVO *Lassen Volcanic National Park*

PARKING AREA INVENTORY (1300 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	Access Level	Area (SQ FT)	Surf. Type	Area Map
0922	6	1	73648		MANZANITA DUMP STATION PARKING	FROM ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.24 ON LEFT	TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.23 ON LEFT	MANZANITA	PUBLIC	10,149	AS	1
0923	6	1	73649		LASSEN PEAK TRAILHEAD PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 7.86 ON LEFT	TO ROUTE 0010 (LASSEN PARK ROAD)	MINERAL	PUBLIC	97,575	AS	3
0924	6	1	73651		LOOMIS MUSEUM PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 28.65 ON LEFT	TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.02 ON RIGHT	MANZANITA	PUBLIC	24,391	AS	1
0926	6	1	73653		BUMPASS PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 6.72 ON THE RIGHT	TO PARKING	MINERAL	PUBLIC	35,384	AS	3
0928	NC		73655		BALL FIELD PARKING	ADJACENT TO ROUTE 0412ZZ (LASSEN HEADQUARTERS / RESIDENCE AREA ROADS)		MINERAL	PUBLIC	6,500	GR	
0929A	6	1	73657		EMERALD LAKE PICNIC AREA PARKING A	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 6.25 ON RIGHT		MINERAL	PUBLIC	4,665	AS	3
0929B	6	1	105077		EMERALD LAKE PICNIC AREA PARKING B	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 6.39 ON RIGHT		MINERAL	PUBLIC	4,293	AS	3
0931	6	1	73660		MAINTENANCE SERVICE RV PARKING	FROM ROUTE 0412ZZ (LASSEN HEADQUARTERS / RESIDENCE AREA ROADS)	TO PARKING	MINERAL	NONPUBLIC	8,047	AS	4
0932	6	1	73662		LILY POND TRAILHEAD PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 28.61 ON RIGHT	TO PARKING	MANZANITA	PUBLIC	8,021	AS	1
0933	6	1	73663		LITTLE HOT SPRINGS OVERLOOK PARKING	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 4.98 ON RIGHT		MINERAL	PUBLIC	13,647	AS	3
0935	6	1	73665		MANZANITA OLD RESTROOM PARKING	ADJACENT TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.46 ON RIGHT		MANZANITA	PUBLIC	1,324	AS	1
0936	NC		73666		CHAOS CRAGS TRAILHEAD PARKING	ADJACENT TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.13 ON LEFT		MANZANITA	PUBLIC	1,000	GR	

Cycle 6 NPS / RIP Route ID Report

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LAVO *Lassen Volcanic National Park*

PARKING AREA INVENTORY (1300 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	Access Level	Area (SQ FT)	Surf. Type	Area Map
0937	6	1	73667		SUMMIT LAKE TRAILHEAD PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 16.90 ON RIGHT	TO PARKING	MANZANITA	PUBLIC	17,054	AS	2A
0938ZZ	6	1	73668		KINGS CREEK TRAILHEAD PARKING AREAS	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP13.10		MANZANITA	PUBLIC	6,820	AS	3
0939	6	1	73669		KINGS CREEK PARKING	ADJACENT TO ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD) AT LOOP ON RIGHT		MANZANITA	PUBLIC	4,492	AS	3
0940	NC		73670		MANZANITA SERVICE PARKING	ADJACENT TO ROUTE 0410 (SUMMERTOWN ROAD) AT MP 0.06 ON LEFT		MANZANITA	NONPUBLIC	4,000	GR	
0941	6	1	73671		MANZANITA RECYCLE CENTER PARKING	ADJACENT TO ROUTE 0410 (SUMMERTOWN ROAD)		MANZANITA	NONPUBLIC	3,494	AS	1
0942ZZ	6	1	73673		MANZANITA RESIDENCE PARKING AREAS	ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD)		MANZANITA	NONPUBLIC	13,889	AS	1
0943A	6	1	73675		REFLECTION LAKE PARKING A	ADJACENT TO ROUTE 0418 (REFLECTION LAKE ROAD)		MANZANITA	NONPUBLIC	929	AS	1
0943B	6	1	105081		REFLECTION LAKE PARKING B	ADJACENT TO ROUTE 0418 (REFLECTION LAKE ROAD)		MANZANITA	NONPUBLIC	2,523	AS	1
0944	6	1	73677		NORTHWEST MANZANITA FEE STATION PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 29.15 ON LEFT	TO PARKING	MANZANITA	NONPUBLIC	2,975	AS	1
0945	6	1	73678		TERRACE LAKE PARKING	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 9.78 ON LEFT		MANZANITA	PUBLIC	4,502	AS	3
0947	6	1	105037		BROKEOFF TRAILHEAD PARKING	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 0.55 ON RIGHT		MINERAL	PUBLIC	8,192	AS	3

Cycle 6 NPS / RIP Route ID Report

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Cycle 6 Summary Totals for Lassen Volcanic National Park

Cycle 6 Route Totals

	NPS Maintained	Concessionaire Maintained	Park Totals
Paved Roads, Data Collection Vehicle Rated (Miles)	36.39	0	**36.39**
Paved Roads, Manually Rated Length (Miles)	0.37	0	**0.37**
Paved Roads, Manually Rated Area (Sq. Ft.)	0	0	**0**
Unpaved Roads (Miles)	24.06	0	**24.06**
Paved Parking (Sq. Ft.)	648,662	0	**648,662**
Unpaved Parking (Sq. Ft.)	25,136	0	**25,136**

Cycle 6 Lane Miles and Overall Pavement Condition

	Lanes Miles*	Pavement Condition Rating**
Data Collection Vehicle Routes	72.64	98
Manually Rated Roads	0.35	N/A
Parking Areas	11.17	76

* Equivalent Lane Miles are calculated by route using the following equations:
- DCV and MRLs = (PAVE_WIDTH x PAVED_MI) / 11 foot lane
- MRPs and PKGs = SQ_FEET / 5280 / 11 foot lane

**Parking and Manually Rated Routes are assigned the following PCR values based on the type of observed distresses:
-Excellent = 97 -Good = 90 -Fair = 73
-Poor = 53, 30, or 0 -Construction / Not Rated = -1

Cycle 6 NPS / RIP Route ID Report

Report Date: 03/01/2016

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General Park Road Functional Classification (FC) Table

FC	Type	User Access	Description	Route Numbers
1	Principal Park Road Rural Parkway	Public	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 Park Road	Public	Roads which provide circulation within public areas, such as campgrounds, picnic areas, visitor center complexes, concessionaire facilities, etc. These roads generally serve low-speed traffic and are often designed for one-way circulation.	0200 - 0299
4	Primitive Park Road	Public	Roads which provide circulation through remote areas and/or access to primitive campgrounds and undeveloped areas. These roads frequently have no minimum design standards and their use may be limited to specially equipped vehicles. Note: Functional Classes 3 and 4 have the same route numbers because, historically, they were numbered similarly.	0200 - 0299
5	Administrative Park Road	Public	All public roads intended for access to administrative developments or structures such as park offices, employee quarters, or utility areas.	0400 - 0499
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 Street	Public	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
AS - Asphaltic Concrete Pavement
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.

Report Date: 03/01/2016

NPS / RIP Subcomponent Details for LAVO

(Numerical By Summary Route and Subcomponent #)

Federal Lands Highway
Road Inventory Program

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LAVO *Lassen Volcanic National Park*

SUMMARY ROUTE INVENTORY FOR ROADS (1100 SERIES FMSS LOCATIONS)

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)
0205ZZ	73452	6	1		MANZANITA CAMPGROUND ROADS	FROM ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)	THROUGH CAMPGROUND LOOPS	1.53	0.00	1.53	3	
0214ZZ	73379	6	1		SUMMIT LAKE NORTH CAMPGROUND LOOPS	FROM ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)	THROUGH CAMPGROUND LOOPS	0.35	0.00	0.35	3	
0215ZZ	73400	6	1		SUMMIT LAKE SOUTH CAMPGROUND LOOPS	FROM ROUTE 0211 (SUMMIT LAKE SOUTH CAMPGROUND ENTRANCE ROAD)	THROUGH CAMPGROUND LOOPS	0.60	0.00	0.60	3	
0412ZZ	73514	6	1		LASSEN HEADQUARTERS / RESIDENCE AREA ROADS	FROM STATE HIGHWAY 36	THROUGH HEADQUARTERS AREA	1.36	0.00	1.36	5	

SUMMARY ROUTE INVENTORY FOR PARKING AREAS (1300 SERIES FMSS LOCATIONS)

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	User Access	Area (SQ FT)
0902ZZ	73607	6	1		PARK HEADQUARTERS RANGER / MAINTENANCE PARKING AREAS	FROM ROUTE 0412ZZ (LASSEN HEADQUARTERS / RESIDENCE AREA ROADS)	TO PARKING	PUBLIC	88,115
0906ZZ	73618	6	1		SOUTHWEST VISITORS CENTER PARKING AREAS	FROM ROUTE 0010 (LASSEN PARK ROAD)	TO PARKING	PUBLIC	83,506
0910ZZ	73625	6	1		KINGS CREEK PICNIC PARKING AREAS	FROM ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD)	TO PARKING	PUBLIC	12,253
0938ZZ	73668	6	1		KINGS CREEK TRAILHEAD PARKING AREAS	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP13.10		PUBLIC	6,820
0942ZZ	73673	6	1		MANZANITA RESIDENCE PARKING AREAS	ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD)		NONPUBLIC	13,889

NPS / RIP Subcomponent Details for LAVO

Report Date: 03/01/2016

(Numerical By Summary Route and Subcomponent #)

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LAVO *Lassen Volcanic National Park*

LAVO-0205ZZ Subcomponent Breakdown

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)
0205AAZ	73452	6	1		MANZANITA CAMPGROUND LOOP A CUT-THRU	FROM ROUTE 0205AZ (MANZANITA CAMPGROUND LOOP A) AT MP 0.10 ON LEFT	TO ROUTE 0205AZ (MANZANITA CAMPGROUND LOOP A) AT MP 0.30 ON LEFT	0.03	0.00	0.03	3	
0205AZ	73452	6	1		MANZANITA CAMPGROUND LOOP A	FROM ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.68 ON RIGHT	TO END OF LOOP	0.43	0.00	0.43	3	
0205BAZ	73452	6	1		MANZANITA CAMPGROUND LOOP B CUT-THRU	FROM ROUTE 0205BZ (MANZANITA CAMPGROUND LOOP B) AT MP 0.09 ON LEFT	TO ROUTE 0205BZ (MANZANITA CAMPGROUND LOOP B) AT MP 0.342 ON LEFT	0.04	0.00	0.04	3	
0205BZ	73452	6	1		MANZANITA CAMPGROUND LOOP B	FROM ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.75 ON RIGHT	TO END OF LOOP	0.43	0.00	0.43	3	
0205CZ	73452	6	1		MANZANITA CAMPGROUND LOOP C	FROM ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.81 ON RIGHT	TO END OF LOOP	0.36	0.00	0.36	3	
0205DZ	73452	6	1		MANZANITA CAMPGROUND LOOP D	FROM END OF ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.87 ON LEFT	TO END OF LOOP	0.24	0.00	0.24	3	

Report Date: 03/01/2016

NPS / RIP Subcomponent Details for LAVO

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LAVO *Lassen Volcanic National Park*

LAVO-0214ZZ Subcomponent Breakdown

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)
0214AZ	73379	6	1		SUMMIT LAKE NORTH CAMPGROUND LOOP A	FROM ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD) AT MP 0.03 ON LEFT	TO ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD) AT MP 0.06	0.16	0.00	0.16	3	
0214BZ	73379	6	1		SUMMIT LAKE NORTH CAMPGROUND LOOP B	FROM END OF ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD) AT MP 0.09	TO END OF LOOP	0.19	0.00	0.19	3	

LAVO-0215ZZ Subcomponent Breakdown

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)
0215CZ	73400	6	1		SUMMIT LAKE SOUTH CAMPGROUND LOOP C	FROM ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E) AT MP 0.051 ON LEFT	TO INTERSECTION OF ROUTE 0211 (SUMMIT LAKE SOUTH CAMPGROUND ENTRANCE ROAD) AND ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E) AT MP 0.1 ON LEFT	0.11	0.00	0.11	3	
0215DZ	73400	6	1		SUMMIT LAKE SOUTH CAMPGROUND LOOP D	FROM ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E) AT MP 0.082 ON LEFT	TO ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E) AT MP 0.122 ON LEFT	0.18	0.00	0.18	3	
0215EZ	73400	6	1		SUMMIT LAKE SOUTH CAMPGROUND LOOP E	FROM INTERSECTION OF ROUTE 0211 (SUMMIT LAKE SOUTH CAMPGROUND ENTRANCE ROAD) AND ROUTE 0215CZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP C) AT MP 0.10 ON RIGHT	TO END OF LOOP	0.31	0.00	0.31	3	

NPS / RIP Subcomponent Details for LAVO

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Grey = Paved Routes, DCV not Driven

Black = Paved Routes, Non-NPS

= Concession Route

Yellow = Unpaved Routes, DCV not Driven

Blue = Paved Parking Areas

Green = Unpaved Parking Areas

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LAVO *Lassen Volcanic National Park*

LAVO-0412ZZ Subcomponent Breakdown

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)
0412Z	73514	6	1		LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST	FROM ROUTE 0900 (LASSEN HEADQUARTERS PARKING)	TO ROUTE 0900 (LASSEN HEADQUARTERS PARKING)	0.35	0.00	0.35	5	
0413Z	73514	6	1		LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD CUL DE SAC	FROM ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST) AT MP 0.13 ON RIGHT	TO END OF LOOP	0.17	0.00	0.17	5	
0414Z	73514	6	1		LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST	FROM END OF ROUTE 0415Z (MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD)) AT MP 0.07	TO ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST) AT MP 0.134 ON RIGHT	0.35	0.00	0.35	5	
0415Z	73514	6	1		MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD)	FROM STATE HIGHWAY 36	TO START OF ROUTE 0414Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST)	0.18	0.00	0.18	5	
0416Z	73514	6	1		MAINTENANCE SERVICE ROAD	FROM STATE HIGHWAY 36	TO END OF PAVEMENT	0.23	0.00	0.23	5	
0419Z	73514	6	1		LASSEN FIRE ROAD	FROM ROUTE 0414Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST)	TO ROUTE 0415Z (MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD))	0.08	0.00	0.08	5	

NPS / RIP Subcomponent Details for LAVO

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Blue = Paved Parking Areas

Green = Unpaved Parking Areas

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LAVO *Lassen Volcanic National Park*

LAVO-0902ZZ Subcomponent Breakdown

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	User Access	Area (SQ FT)
0902AZ	73607	6	1		PARK HEADQUARTERS / RANGER AND MAINTENANCE PARKING A	FROM ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST)	TO ROUTE 0415Z (MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD))	PUBLIC	77,419
0902BZ	73607	6	1		PARK HEADQUARTERS / FIRE STATION PARKING B	ADJACENT TO ROUTE 0419Z (LASSEN FIRE ROAD) ON RIGHT		PUBLIC	2,602
0902CZ	73607	6	1		PARK HEADQUARTERS / FIRE STATION PARKING C	ADJACENT TO ROUTE 0419Z (LASSEN FIRE ROAD) ON LEFT		PUBLIC	2,223
0902DZ	73607	6	1		PARK HEADQUARTERS / RANGER OPERATIONS PARKING	FROM ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST)	TO PARKING	PUBLIC	2,881
0902EZ	73607	6	1		PARK HEADQUARTERS / INTERPRETATION AND EDUCATION BUILDING PARKING	FROM ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST)	TO PARKING	PUBLIC	2,990

LAVO-0906ZZ Subcomponent Breakdown

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	User Access	Area (SQ FT)
0906AZ	73618	6	1		SOUTHWEST VISITORS CENTER PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 0.99 ON RIGHT	TO PARKING	PUBLIC	79,053
0906BZ	73618	6	1		SERVICE ENTRY PARKING	FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 1.12 ON RIGHT	TO PARKING	NONPUBLIC	4,453

NPS / RIP Subcomponent Details for LAVO

(Numerical By Summary Route and Subcomponent #)

Federal Lands Highway
Road Inventory Program

Shading Color Key

White = Paved Routes, DCV Driven
Grey = Paved Routes, DCV not Driven
Black = Paved Routes, Non-NPS
= 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

LAVO *Lassen Volcanic National Park*

LAVO-0910ZZ Subcomponent Breakdown

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	User Access	Area (SQ FT)
0910AZ	73625	6	1		KINGS CREEK PICNIC AREA TURNOUT PARKING A	FROM ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD)	TO ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD)	PUBLIC	3,440
0910BZ	73625	6	1		KINGS CREEK PICNIC AREA TURNOUT PARKING B	ADJACENT TO ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD) ON LEFT		PUBLIC	3,332
0910CZ	73625	6	1		KINGS CREEK PICNIC AREA TURNOUT PARKING C	ADJACENT TO ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD) ON LEFT		PUBLIC	5,481

LAVO-0938ZZ Subcomponent Breakdown

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	User Access	Area (SQ FT)
0938AZ	73668	6	1		KINGS CREEK TRAILHEAD PARKING A	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 13.1 ON RIGHT		PUBLIC	3,117
0938BZ	73668	6	1		KINGS CREEK TRAILHEAD PARKING B	ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 13.1 ON LEFT		PUBLIC	3,703

Report Date: 03/01/2016

NPS / RIP Subcomponent Details for LAVO

(Numerical By Summary Route and Subcomponent #)

Federal Lands Highway
Road Inventory Program

Shading Color Key

White = Paved Routes, DCV Driven

Grey = Paved Routes, DCV not Driven

Black = Paved Routes, Non-NPS

= 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

LAVO *Lassen Volcanic National Park*

LAVO-0942ZZ Subcomponent Breakdown

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	User Access	Area (SQ FT)
0942AZ	73673	6	1		MANZANITA RESIDENCE BUILDINGS 1-3 PARKING	ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON RIGHT		NONPUBLIC	1,634
0942BZ	73673	6	1		MANZANITA RESIDENCE BUILDINGS 8-11 PARKING	ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON RIGHT		NONPUBLIC	2,095
0942CZ	73673	6	1		MANZANITA RESIDENCE BUILDINGS 12-14 PARKING	ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON LEFT		NONPUBLIC	3,878
0942DZ	73673	6	1		MANZANITA RESIDENCE BUILDING 653 PARKING	ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON LEFT		NONPUBLIC	1,824
0942EZ	73673	6	1		MANZANITA RESIDENCE BUILDING 7 PARKING	ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON RIGHT		NONPUBLIC	1,325
0942FZ	73673	6	1		MANZANITA RESIDENCE BUILDING 6 PARKING	ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON RIGHT		NONPUBLIC	718
0942GZ	73673	6	1		MANZANITA RESIDENCE BUILDINGS 4-5 PARKING	ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON RIGHT		NONPUBLIC	2,415

Route Identification Changes to Paved Routes from Previous Cycle
Lassen Volcanic National Park

ROUTES ADDED FROM PREVIOUS INVENTORY:			
Route No.	**Route Name**	**Type of Change**	**Comments**
0902ZZ	PARK HEADQUARTERS RANGER / MAINTENANCE PARKING AREAS	OTHER	TWO NEW PARKING LOCATIONS (THE RANGER OPERATIONS PARKING AND THE INTERPRETATION AND EDUCATION BUILDING PARKING) WERE ADDED TO ROUTE 0902ZZ IN CYCLE 6.
0910ZZ	KINGS CREEK PICNIC PARKING AREAS	OTHER	TWO NEW PARKING LOCATIONS (KINGS CREEK PICNIC AREA TURNOUT PARKING B AND KINGS CREEK PICNIC AREA TURNOUT PARKING C) WERE ADDED TO ROUTE 0910ZZ IN CYCLE 6.
0942ZZ	MANZANITA RESIDENCE PARKING AREAS	OTHER	THREE NEW PARKING SECTIONS WERE ADDED TO ROUTE 0942ZZ, AND THE ACCESS LEVEL WAS CHANGED FROM PUBLIC TO NONPUBLIC BECAUSE PARKING IS FOR RESIDENTS ONLY.

ROUTES MODIFIED FROM PREVIOUS INVENTORY:			
Route No.	**Route Name**	**Type of Change**	**Comments**
0404	MANZANITA EMPLOYEE RESIDENCE ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS WAS CHANGED FROM 4 TO 5 BECAUSE IT IS AN ADMINISTRATIVE ACCESS ROAD.
0410	SUMMERTOWN ROAD	LENGTH CHANGE	THE PAVED SECTION OF ROUTE 0410 DECREASED FROM 0.63 MILES TO 0.32 MILES IN CYCLE 6.
0412ZZ	LASSEN HEADQUARTERS / RESIDENCE AREA ROADS	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS WAS CHANGED FROM 4 TO 5 BECAUSE IT IS AN ADMINISTRATIVE ACCESS ROAD.
0901	NATURALIST DIVISION ANNEX PARKING	SQ FEET CHANGE	UPDATED GPS WAS COLLECTED IN CYCLE 6 TO IMPROVE THE ACCURACY OF THE SHAPE AND SQUARE FOOTAGE.
0906ZZ	SOUTHWEST VISITORS CENTER PARKING AREAS	OTHER	ACCESS LEVEL WAS CHANGED FROM PUBLIC TO NONPUBLIC.
0912B	SUMMIT LAKE NORTH CAMPGROUND PARKING B	SQ FEET CHANGE	UPDATED GPS WAS COLLECTED IN CYCLE 6 TO IMPROVE THE ACCURACY OF THE SHAPE AND SQUARE FOOTAGE.
0921B	MANZANITA LAKE ACCESS PARKING B	SQ FEET CHANGE	UPDATED GPS WAS COLLECTED IN CYCLE 6 TO IMPROVE THE ACCURACY OF THE SHAPE AND SQUARE FOOTAGE.
0937	SUMMIT LAKE TRAILHEAD PARKING	SQ FEET CHANGE	UPDATED GPS WAS COLLECTED IN CYCLE 6 TO IMPROVE THE ACCURACY OF THE SHAPE AND SQUARE FOOTAGE.

Route Identification Changes to Paved Routes from Previous Cycle
Lassen Volcanic National Park

ROUTES MODIFIED FROM PREVIOUS INVENTORY:			
Route No.	**Route Name**	**Type of Change**	**Comments**
0939	KINGS CREEK PARKING	SURFACE TYPE CHANGE	PARKING AREA WAS CHANGED FROM UNPAVED TO PAVED IN CYCLE 6.
0943A	REFLECTION LAKE PARKING A	OTHER	ACCESS LEVEL WAS CHANGED FROM PUBLIC TO NONPUBLIC BECAUSE THE PARKING AREA IS FOR STAFF USE ONLY.
0943B	REFLECTION LAKE PARKING B	OTHER	ACCESS LEVEL WAS CHANGED FROM PUBLIC TO NONPUBLIC BECAUSE THE PARKING AREA IS FOR STAFF USE ONLY. UPDATED GPS WAS COLLECTED IN CYCLE 6 TO IMPROVE THE ACCURACY OF THE SHAPE AND SQUARE FOOTAGE.
0944	NORTHWEST MANZANITA FEE STATION PARKING	OTHER	ACCESS LEVEL WAS CHANGED FROM PUBLIC TO NONPUBLIC BECAUSE THE PARKING AREA IS FOR STAFF USE ONLY.

Section 3
Park Summary Information

Lassen Volcanic National Park

Federal Lands Highway
Road Inventory Program

Parkwide Paved Route Condition Summary
Lassen Volcanic National Park

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

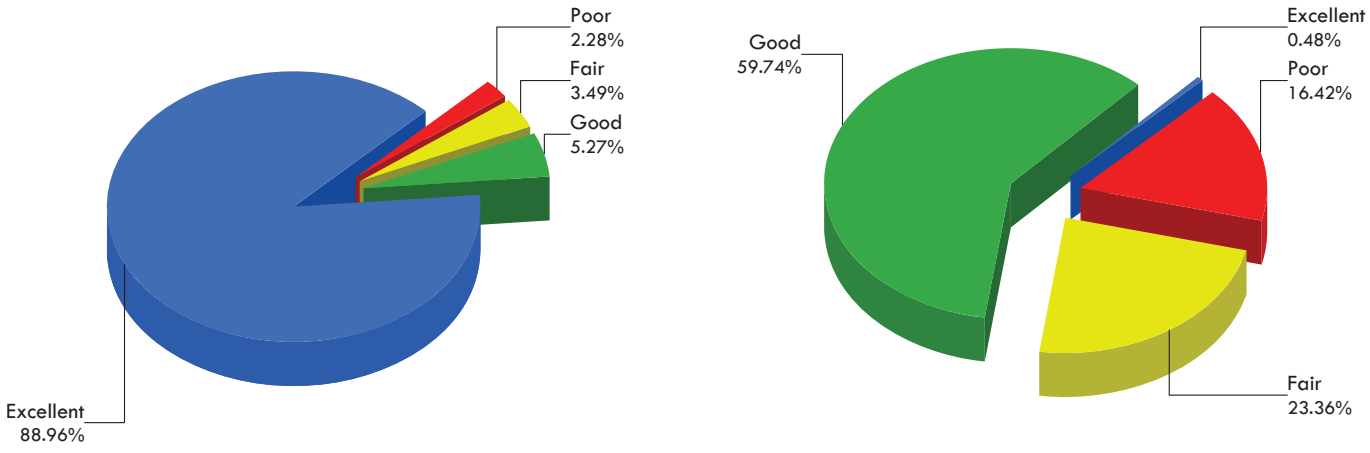
Breakdown of Pavement Condition Rating (PCR) Based on Access Level

	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		0.12	0.60	29.04	29.76
2		0.04	0.62	1.54	2.20
3	0.16	0.46	0.37	1.49	2.48
4					
5	0.57	0.40	0.27	0.30	1.54
6	0.10	0.25	0.06		0.41
7					
8					
Total Mileage by PCR	**0.83**	**1.27**	**1.92**	**32.37**	**36.39**
PAVED PARKING					
Access Level	**Area (sq. ft.)**	**Area (sq. ft.)**	**Area (sq. ft.)**	**Area (sq. ft.)**	**Total Area**
PUBLIC	102,442	150,741	336,454	3,107	592,744
NONPUBLIC	3,494		48,972		52,466
Total Area by PCR	**105,936**	**150,741**	**385,426**	**3,107**	**645,210**

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

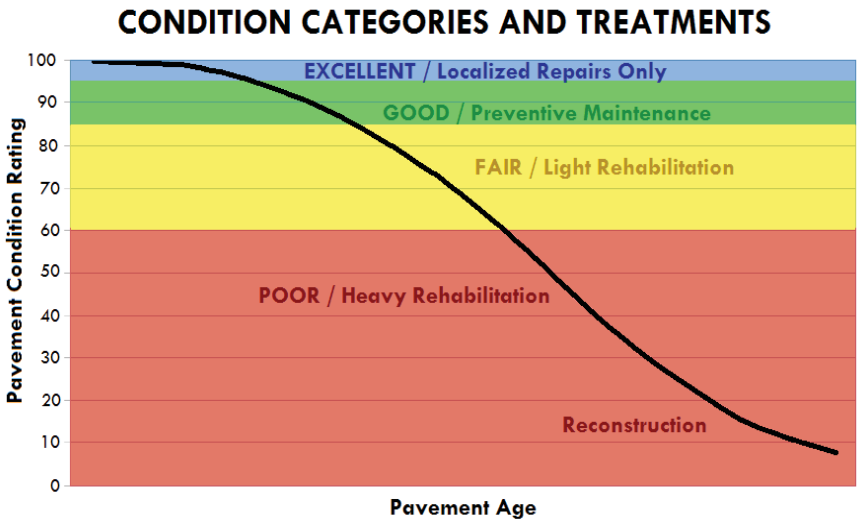
The Road Inventory Program aims to provide assistance in translating the excellent / good / fair / poor rating categories into pavement needs categories. The PCR can be used to indicate the place in the Pavement Life Cycle and the type of treatments that should be considered now and into the future.

- Excellent / New: PCR of 95-100
  - 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 singlelift overlays up to 2.5 inches in total thickness, milling and overlays.

- Poor: PCR of 0-60
  - Pavements in this range will likely be candidates of Heavy Rehabilitation or Reconstruction (H3R or 4R). Examples include Pulverization, Multiple Lift Overlays, and Reconstruction.



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

Federal Lands Highway
Road Inventory Program

Cycle 6 - Road Inventory Program
Road Condition Summary Report for Data Collection Vehicle (DCV) Rated Roads
Lassen Volcanic National Park

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-Level Condition for Roads Rated with the Data Collection Vehicle (DCV)

Route No.	FMSS No.	Route Name	Functional Class	Surf. Type	Paved Length (Miles)	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
LAVO-0010	45513	LASSEN PARK ROAD	1	AS	29.76	100	100	100	100	100	100	100	100	100
LAVO-0204	73431	MANZANITA CAMPGROUND ACCESS ROAD	2	AS	0.87	91	78	99	100	100	100	100	100	99
LAVO-0205AAZ	73452	MANZANITA CAMPGROUND LOOP A CUT-THRU	3	AS	0.03	99	NR	99	100	100	100	100	100	99
LAVO-0205AZ	73452	MANZANITA CAMPGROUND LOOP A	3	AS	0.43	98	NR	98	100	100	100	100	100	98
LAVO-0205BAZ	73452	MANZANITA CAMPGROUND LOOP B CUT-THRU	3	AS	0.04	99	NR	99	100	100	100	100	100	99
LAVO-0205BZ	73452	MANZANITA CAMPGROUND LOOP B	3	AS	0.43	97	NR	97	100	100	100	100	100	97
LAVO-0205CZ	73452	MANZANITA CAMPGROUND LOOP C	3	AS	0.36	98	NR	98	100	100	100	100	100	98
LAVO-0205DZ	73452	MANZANITA CAMPGROUND LOOP D	3	AS	0.24	97	NR	97	100	100	100	100	100	97
LAVO-0206	73461	MANZANITA LAKE ACCESS ROAD	2	AS	0.15	92	NR	92	100	100	100	99	100	92
LAVO-0207	73466	CRAGS CAMPGROUND	2	AS	0.30	96	NR	96	100	100	100	98	100	96
LAVO-0208	73471	LOST CREEK CAMPGROUND	2	AS	0.29	97	NR	97	100	100	100	100	100	97
LAVO-0209	73472	SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD	2	AS	0.10	98	NR	98	100	100	100	100	100	98
LAVO-0211	73475	SUMMIT LAKE SOUTH CAMPGROUND ENTRANCE ROAD	2	AS	0.10	98	NR	98	100	100	100	100	100	98
LAVO-0212	73477	KINGS CREEK PICNIC AREA ROAD	2	AS	0.39	96	NR	96	99	100	99	100	100	96
LAVO-0214AZ	73379	SUMMIT LAKE NORTH CAMPGROUND LOOP A	3	AS	0.16	84	NR	84	84	97	87	88	98	87
LAVO-0214BZ	73379	SUMMIT LAKE NORTH CAMPGROUND LOOP B	3	AS	0.19	75	NR	75	75	95	80	92	100	86
LAVO-0215CZ	73400	SUMMIT LAKE SOUTH CAMPGROUND LOOP C	3	AS	0.11	69	NR	69	69	89	80	92	98	85
LAVO-0215DZ	73400	SUMMIT LAKE SOUTH CAMPGROUND LOOP D	3	AS	0.18	77	NR	77	77	94	83	97	98	85
LAVO-0215EZ	73400	SUMMIT LAKE SOUTH CAMPGROUND LOOP E	3	AS	0.31	76	NR	76	76	93	83	91	98	82

Data Collection Date: 07/2015

Federal Lands Highway
Road Inventory Program

Cycle 6 - Road Inventory Program
Road Condition Summary Report for Data Collection Vehicle (DCV) Rated Roads

Lassen Volcanic National Park

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-Level Condition for Roads Rated with the Data Collection Vehicle (DCV)

Route No.	FMSS No.	Route Name	Functional Class	Surf. Type	Paved Length (Miles)	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
LAVO-0404	73488	MANZANITA EMPLOYEE RESIDENCE ROAD	5	AS	0.18	97	NR	97	98	100	98	100	100	97
LAVO-0405	73493	MANZANITA WATER TANK ROAD	6	AS	0.09	81	NR	81	81	99	82	89	99	83
LAVO-0410	73508	SUMMERTOWN ROAD	6	AS	0.32	68	NR	68	68	99	69	77	99	87
LAVO-0412Z	73514	LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST	5	AS	0.35	30	NR	30	30	70	60	64	99	94
LAVO-0413Z	73514	LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD CUL DE SAC	5	AS	0.17	0	NR	0	0	47	43	71	96	93
LAVO-0414Z	73514	LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST	5	AS	0.35	62	NR	62	77	94	83	62	97	94
LAVO-0415Z	73514	MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD)	5	AS	0.18	82	NR	82	82	98	84	89	100	96
LAVO-0416Z	73514	MAINTENANCE SERVICE ROAD	5	AS	0.23	96	NR	96	100	100	100	99	100	96
LAVO-0419Z	73514	LASSEN FIRE ROAD	5	AS	0.08	84	NR	84	84	86	98	88	97	95

Data Collection Date: 07/2015

Federal Lands Highway
Road Inventory Program

Cycle 6 - Road Inventory Program
Road Condition Summary Report for Manually Rated Roads

Lassen Volcanic National Park

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 that were manually rated.
  - 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

Route No.	FMSS No.	Route Name	Functional Class	Surf. Type	Paved Length (Miles)	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
LAVO-0418	73591	REFLECTION LAKE ROAD	6	AS	0.37	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note: Route 0418 was not rated in cycle 6 because the pavement was covered with gravel and the road was blocked by fallen trees.

Federal Lands Highway
Road Inventory Program

Cycle 6 - Road Inventory Program
Parking Area Condition Summary Report

Lassen Volcanic National Park

Condition (Rating / Index) Legend

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

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 Details for Parking Areas

Route No.	FMSS No.	Route Name	User Access	Surf. Type	Area (Sq. Ft.)	Pavement Condition Rating (PCR)	Asphalt Surface Distresses: Alligator Cracking	Asphalt Surface Distresses: Longitudinal / Tranverse Cracking	Asphalt Surface Distresses: Rutting / Distortions	Asphalt Surface Distresses: Potholes / Patching	Asphalt Surface Distresses: HMA Patching	Asphalt Surface Distresses: Surface Raveling / Bleeding	Concrete Surface Distresses: Joint Faulting	Concrete Surface Distresses: Slab Cracking	Concrete Surface Distresses: Joint Distresses	Concrete Surface Distresses: Delamination / Pop-Outs	Concrete Surface Distresses: Potholes / Patching
LAVO-0900	73597	LASSEN HEADQUARTERS PARKING	PUBLIC	AS	22,142	30	30	53	73	30	73	73					
LAVO-0901	73601	NATURALIST DIVISION ANNEX PARKING	PUBLIC	AS	6,236	90	90	90	90	97	97	90					
LAVO-0902AZ	73607	PARK HEADQUARTERS / RANGER AND MAINTENANCE PARKING A	PUBLIC	AS	77,419	30	30	53	73	53	73	90					
LAVO-0902BZ	73607	PARK HEADQUARTERS / FIRE STATION PARKING B	PUBLIC	AS	2,602	73	73	90	90	90	97	73					
LAVO-0902CZ	73607	PARK HEADQUARTERS / FIRE STATION PARKING C	PUBLIC	AS	2,223	90	97	90	90	90	97	90					
LAVO-0902DZ	73607	PARK HEADQUARTERS / RANGER OPERATIONS PARKING	PUBLIC	AS	2,881	30	30	53	73	90	97	73					
LAVO-0902EZ	73607	PARK HEADQUARTERS / INTERPRETATION AND EDUCATION BUILDING PARKING	PUBLIC	AS	2,990	90	97	90	90	97	97	90					
LAVO-0903	73610	CROSSROAD PAVILION PARKING	PUBLIC	AS	29,111	90	97	90	90	97	97	90					
LAVO-0904	73616	MANZANITA MAINTENANCE PARKING	PUBLIC	AS	18,112	73	97	90	73	97	97	90					
LAVO-0906AZ	73618	SOUTHWEST VISITORS CENTER PARKING	PUBLIC	AS	79,053	73	97	90	90	97	97	73					
LAVO-0906BZ	73618	SERVICE ENTRY PARKING	NONPUBLIC	AS	4,453	90	97	97	97	97	97	90					
LAVO-0908	73621	SULPHUR WORKS PARKING	NONPUBLIC	AS	19,608	90	97	97	90	97	97	90					
LAVO-0909	73623	LAKE HELEN PICNIC AREA LOOP	PUBLIC	AS	17,129	90	97	97	90	97	97	90					
LAVO-0910AZ	73625	KINGS CREEK PICNIC AREA TURNOUT PARKING A	PUBLIC	AS	3,440	90	97	97	90	97	97	90					
LAVO-0910BZ	73625	KINGS CREEK PICNIC AREA TURNOUT PARKING B	PUBLIC	AS	3,332	90	97	97	90	97	97	90					
LAVO-0910CZ	73625	KINGS CREEK PICNIC AREA TURNOUT PARKING C	PUBLIC	AS	5,481	90	97	97	90	97	97	90					
LAVO-0911	73626	SUMMIT LAKE SOUTH CAMPGROUND PARKING	PUBLIC	AS	2,778	90	97	97	90	97	97	90					
LAVO-0912A	73628	SUMMIT LAKE NORTH CAMPGROUND PARKING A	PUBLIC	AS	3,097	73	73	97	90	97	97	90					
LAVO-0912B	105047	SUMMIT LAKE NORTH CAMPGROUND PARKING B	PUBLIC	AS	1,352	90	97	97	90	97	97	90					
LAVO-0914	73633	DEVASTATED AREA INTERPRETIVE TRAIL PARKING	PUBLIC	AS	22,881	90	97	97	90	97	97	90					
LAVO-0915	73635	HAT LAKE PARKING	PUBLIC	AS	7,017	90	97	97	97	97	97	90					
LAVO-0916A	105048	DERSCH MEADOWS PULLOUT PARKING A	PUBLIC	AS	1,823	90	97	97	97	97	97	90					
LAVO-0916B	105049	DERSCH MEADOWS PULLOUT PARKING B	PUBLIC	AS	1,534	90	97	97	97	97	97	90					
LAVO-0917	73638	HOT ROCK PARKING	PUBLIC	AS	5,423	90	97	97	97	97	97	90					
LAVO-0918	73640	LOST CREEK GROUP CAMP PARKING	PUBLIC	AS	1,513	97	97	97	97	97	97	97					
LAVO-0919	73642	CRAGS PARKING	PUBLIC	AS	1,594	97	97	97	97	97	97	97					

Data Collection Date: 10/2014

Federal Lands Highway
Road Inventory Program

Cycle 6 - Road Inventory Program
Parking Area Condition Summary Report
Lassen Volcanic National Park

Condition (Rating / Index) Legend

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

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 Details for Parking Areas

Route No.	FMSS No.	Route Name	User Access	Surf. Type	Area (Sq. Ft.)	Pavement Condition Rating (PCR)	Asphalt Surface Distresses: Alligator Cracking	Asphalt Surface Distresses: Longitudinal / Tranverse Cracking	Asphalt Surface Distresses: Rutting / Distortions	Asphalt Surface Distresses: Potholes / Patching	Asphalt Surface Distresses: HMA Patching	Asphalt Surface Distresses: Surface Raveling / Bleeding	Concrete Surface Distresses: Joint Faulting	Concrete Surface Distresses: Slab Cracking	Concrete Surface Distresses: Joint Distresses	Concrete Surface Distresses: Delamination / Pop-Outs	Concrete Surface Distresses: Potholes / Patching
LAVO-0920A	73645	MANZANITA STORE SPUR PARKING A	PUBLIC	AS	4,357	90	97	97	97	97	97	90					
LAVO-0920B	105050	MANZANITA STORE SPUR PARKING B	PUBLIC	AS	3,229	90	97	97	90	97	97	90					
LAVO-0920C	105075	MANZANITA STORE SPUR PARKING C	PUBLIC	AS	13,539	73	97	90	73	97	97	73					
LAVO-0921A	73647	MANZANITA LAKE ACCESS PARKING A	PUBLIC	AS	6,251	73	97	97	73	97	97	73					
LAVO-0921B	105076	MANZANITA LAKE ACCESS PARKING B	PUBLIC	AS	3,696	73	97	97	73	97	97	73					
LAVO-0922	73648	MANZANITA DUMP STATION PARKING	PUBLIC	AS	10,149	90	97	90	90	97	97	90					
LAVO-0923	73649	LASSEN PEAK TRAILHEAD PARKING	PUBLIC	AS	97,575	90	97	90	90	97	97	90					
LAVO-0924	73651	LOOMIS MUSEUM PARKING	PUBLIC	AS	24,391	73	97	90	90	97	97	73					
LAVO-0926	73653	BUMPASS PARKING	PUBLIC	AS	35,384	90	97	97	97	97	97	90					
LAVO-0929A	73657	EMERALD LAKE PICNIC AREA PARKING A	PUBLIC	AS	4,665	90	97	97	97	97	97	90					
LAVO-0929B	105077	EMERALD LAKE PICNIC AREA PARKING B	PUBLIC	AS	4,293	90	97	97	97	97	97	90					
LAVO-0931	73660	MAINTENANCE SERVICE RV PARKING	NONPUBLIC	AS	8,047	90	97	90	97	97	97	90					
LAVO-0932	73662	LILY POND TRAILHEAD PARKING	PUBLIC	AS	8,021	90	97	97	90	97	97	90					
LAVO-0933	73663	LITTLE HOT SPRINGS OVERLOOK PARKING	PUBLIC	AS	13,647	90	90	97	97	97	97	90					
LAVO-0935	73665	MANZANITA OLD RESTROOM PARKING	PUBLIC	AS	1,324	90	97	97	97	97	97	90					
LAVO-0937	73667	SUMMIT LAKE TRAILHEAD PARKING	PUBLIC	AS	17,054	90	97	97	90	97	97	90					
LAVO-0938AZ	73668	KINGS CREEK TRAILHEAD PARKING A	PUBLIC	AS	3,117	90	97	97	97	97	97	90					
LAVO-0938BZ	73668	KINGS CREEK TRAILHEAD PARKING B	PUBLIC	AS	3,703	90	97	97	90	97	97	90					
LAVO-0939	73669	KINGS CREEK PARKING	PUBLIC	AS	4,492	90	97	97	90	97	97	90					
LAVO-0941	73671	MANZANITA RECYCLE CENTER PARKING	NONPUBLIC	AS	3,494	0											
LAVO-0942AZ	73673	MANZANITA RESIDENCE BUILDINGS 1-3 PARKING	NONPUBLIC	AS	1,634	90	97	97	90	97	97	90					
LAVO-0942BZ	73673	MANZANITA RESIDENCE BUILDINGS 8-11 PARKING	NONPUBLIC	AS	2,095	90	97	97	90	97	97	90					
LAVO-0942CZ	73673	MANZANITA RESIDENCE BUILDINGS 12-14 PARKING	NONPUBLIC	AS	3,878	90	97	97	90	97	97	90					
LAVO-0942DZ	73673	MANZANITA RESIDENCE BUILDING 653 PARKING	NONPUBLIC	AS	1,824	90	97	97	90	97	97	90					
LAVO-0942EZ	73673	MANZANITA RESIDENCE BUILDING 7 PARKING	NONPUBLIC	AS	1,325	90	97	97	90	97	97	90					
LAVO-0942FZ	73673	MANZANITA RESIDENCE BUILDING 6 PARKING	NONPUBLIC	AS	718	90	97	97	90	97	97	90					

Data Collection Date: 10/2014

Federal Lands Highway
Road Inventory Program

Cycle 6 - Road Inventory Program
Parking Area Condition Summary Report

Lassen Volcanic National Park

Condition (Rating / Index) Legend

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

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 Details for Parking Areas

Route No.	FMSS No.	Route Name	User Access	Surf. Type	Area (Sq. Ft.)	Pavement Condition Rating (PCR)	Asphalt Surface Distresses: Alligator Cracking	Asphalt Surface Distresses: Longitudinal / Tranverse Cracking	Asphalt Surface Distresses: Rutting / Distortions	Asphalt Surface Distresses: Potholes / Patching	Asphalt Surface Distresses: HMA Patching	Asphalt Surface Distresses: Surface Raveling / Bleeding	Concrete Surface Distresses: Joint Faulting	Concrete Surface Distresses: Slab Cracking	Concrete Surface Distresses: Joint Distresses	Concrete Surface Distresses: Delamination / Pop-Outs	Concrete Surface Distresses: Potholes / Patching
LAVO-0942GZ	73673	MANZANITA RESIDENCE BUILDINGS 4-5 PARKING	NONPUBLIC	AS	2,415	90	97	97	90	97	97	90					
LAVO-0943A	73675	REFLECTION LAKE PARKING A	NONPUBLIC	AS	929	NR											
LAVO-0943B	105081	REFLECTION LAKE PARKING B	NONPUBLIC	AS	2,523	NR											
LAVO-0944	73677	NORTHWEST MANZANITA FEE STATION PARKING	NONPUBLIC	AS	2,975	90	97	97	90	97	97	97					
LAVO-0945	73678	TERRACE LAKE PARKING	PUBLIC	AS	4,502	90	97	97	97	97	97	90					
LAVO-0947	105037	BROKEOFF TRAILHEAD PARKING	PUBLIC	AS	8,192	90	97	97	90	97	97	90					

Note: Parking Areas 0943A and 0943B were covered with gravel and debris, therefore, the pavement condition could not be assessed.

Data Collection Date: 10/2014

Section 4
Park Route Location Maps

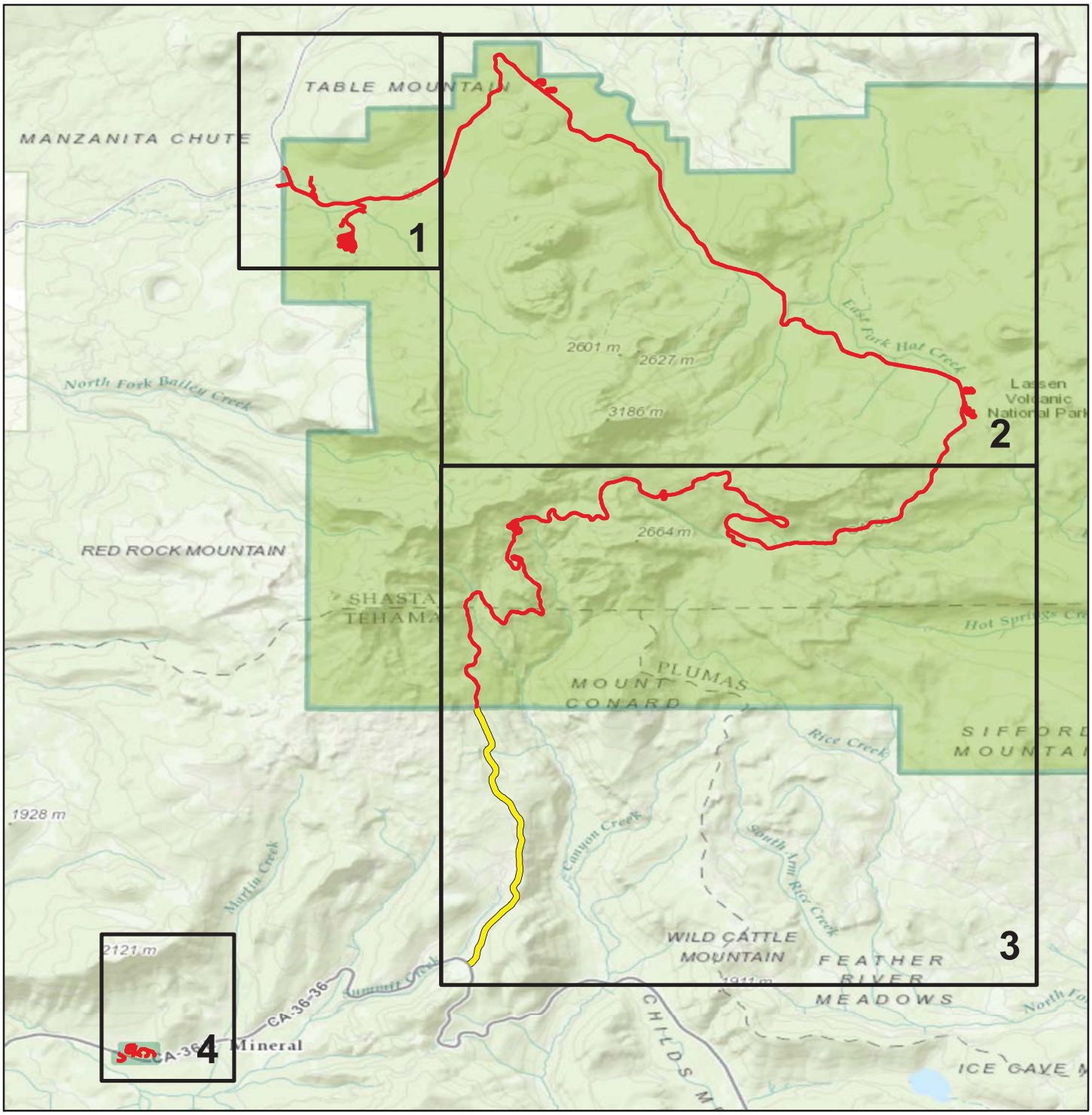
Lassen Volcanic National Park

Federal Lands Highway
Road Inventory Program

Lassen Volcanic National Park

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

NPS Collected Routes **Non-NPS Collected Routes**

Miles

0 7 14

N

Lassen Volcanic National Park

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

Miles

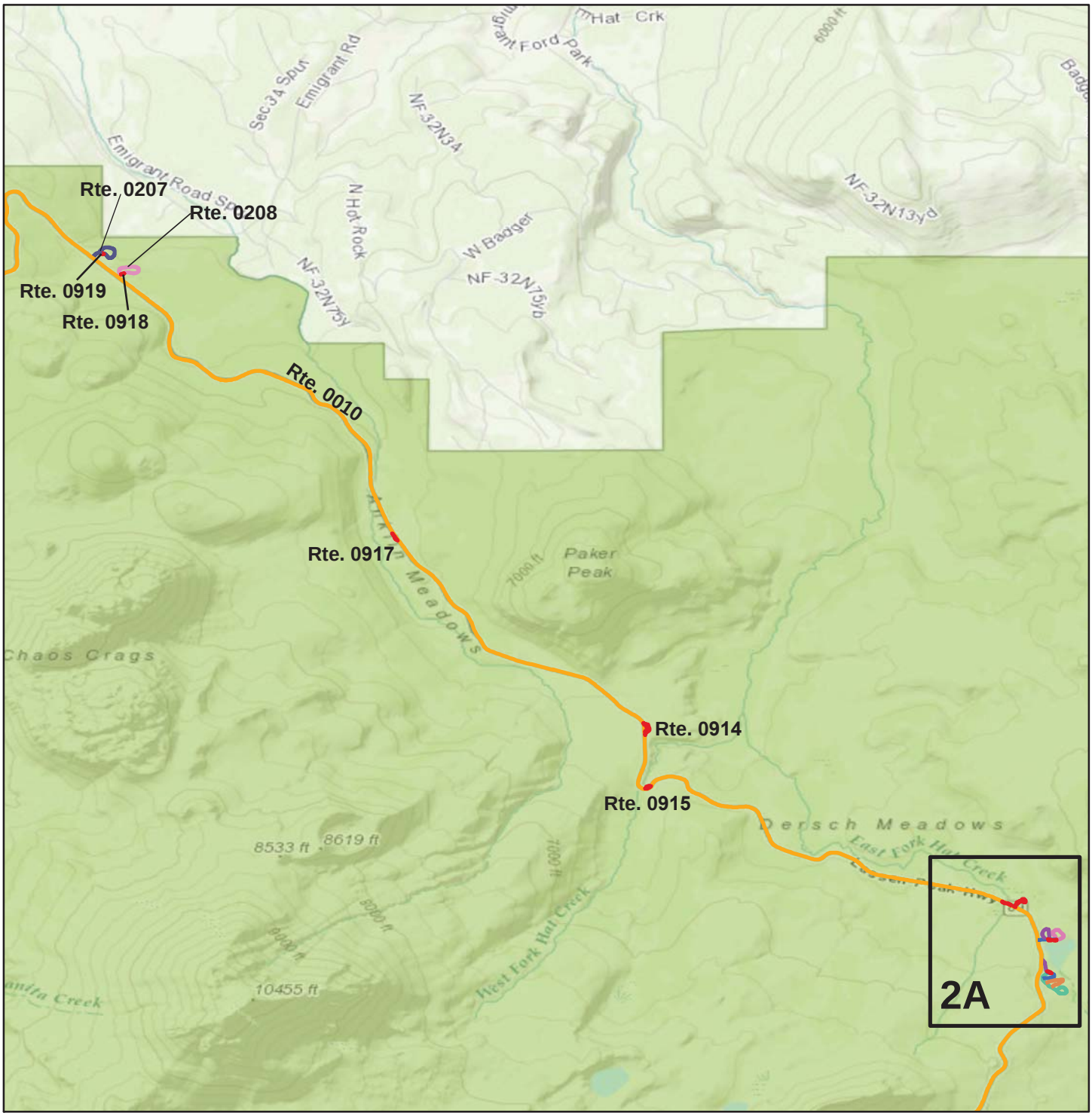
0 0.25 0.5

N

Lassen Volcanic National Park

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

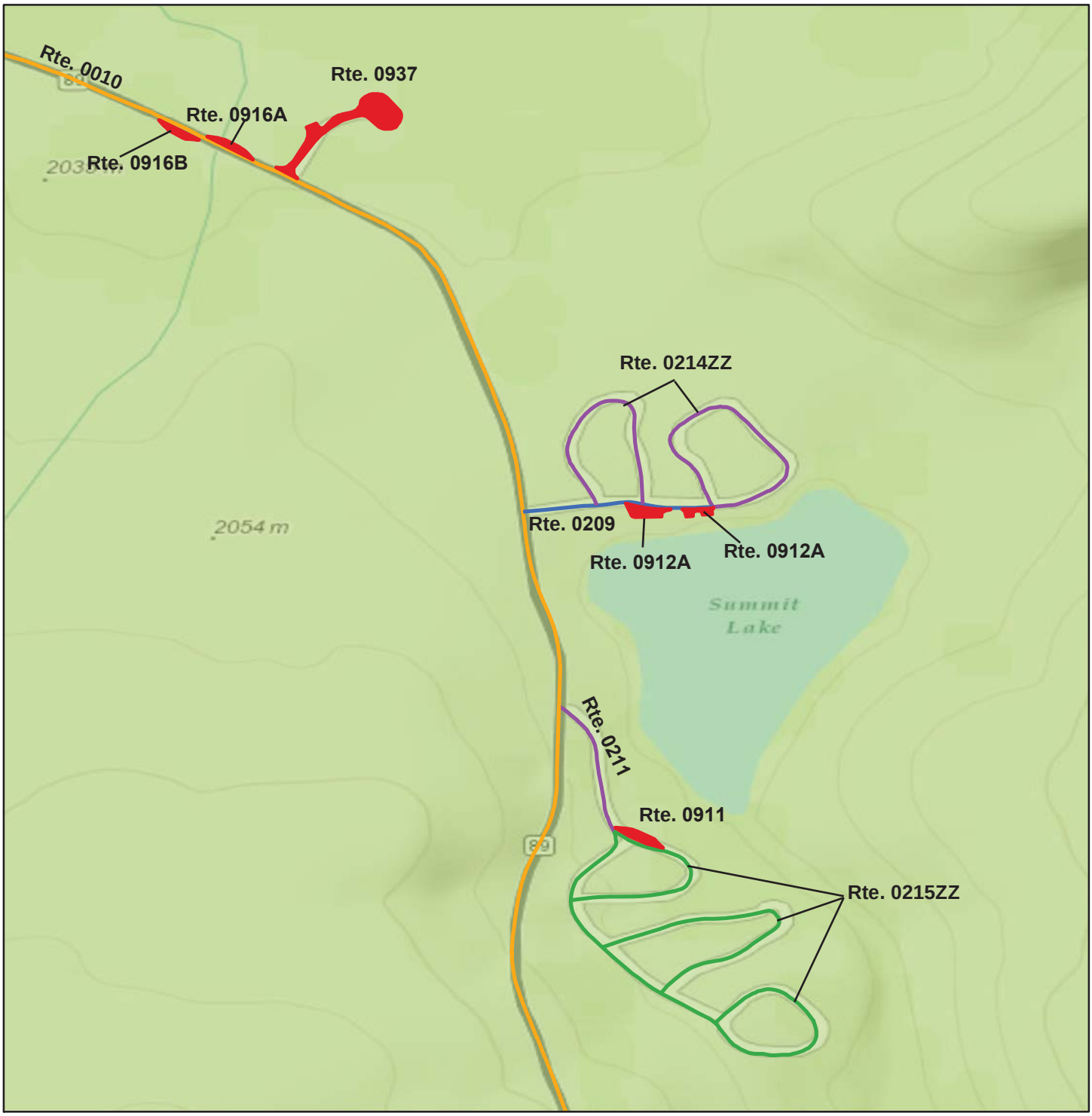
0 1.5 3

N

Lassen Volcanic National Park

ROUTE LOCATION MAP

Map 2A



Note: Unique colors are used to differentiate roads.

Non-NPS Collected Routes

Miles

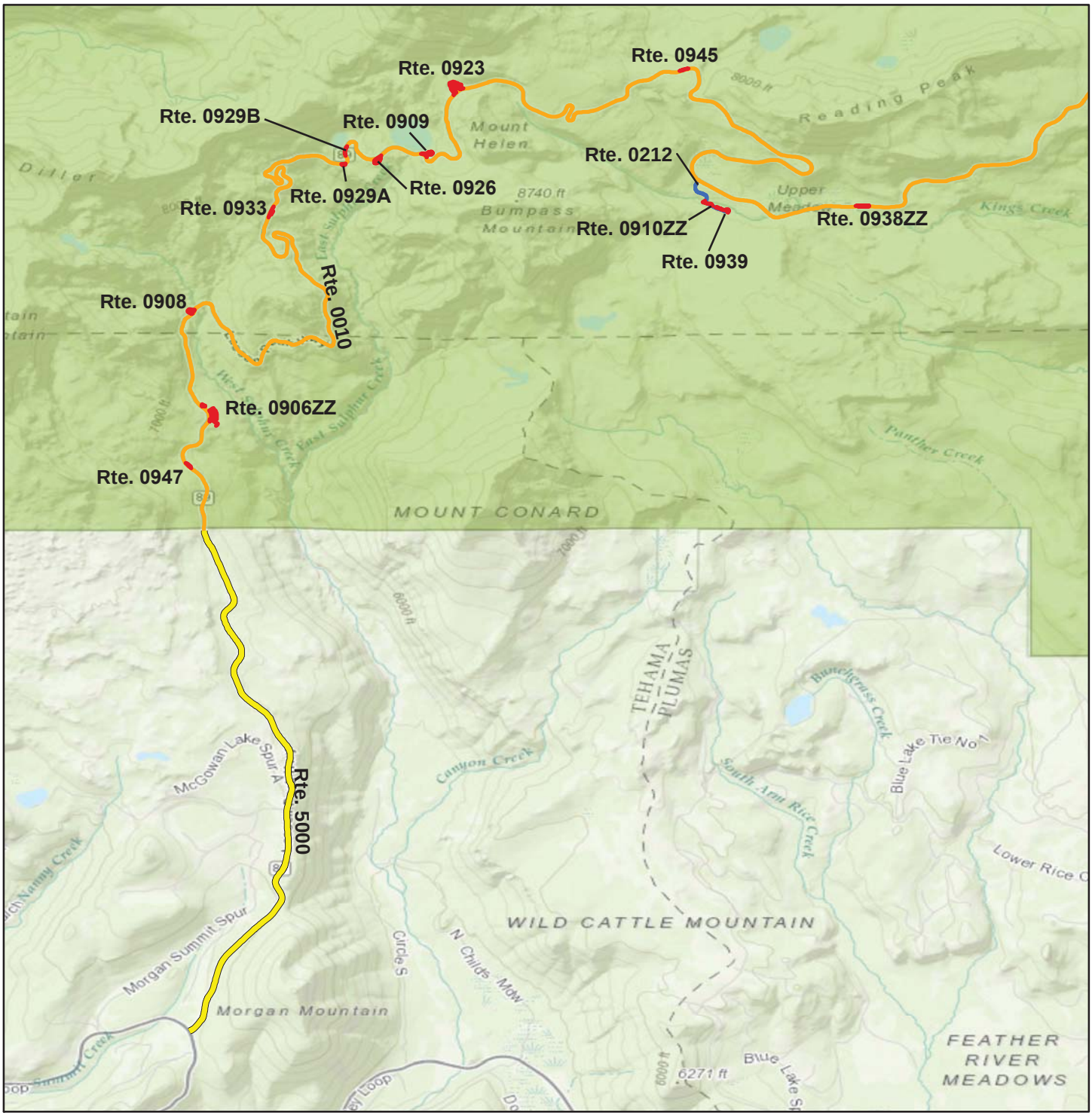
0 0.1 0.2

N

Lassen Volcanic National Park

ROUTE LOCATION MAP

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

Note: Unique colors are used to differentiate roads.

Non-NPS Collected Routes

Miles

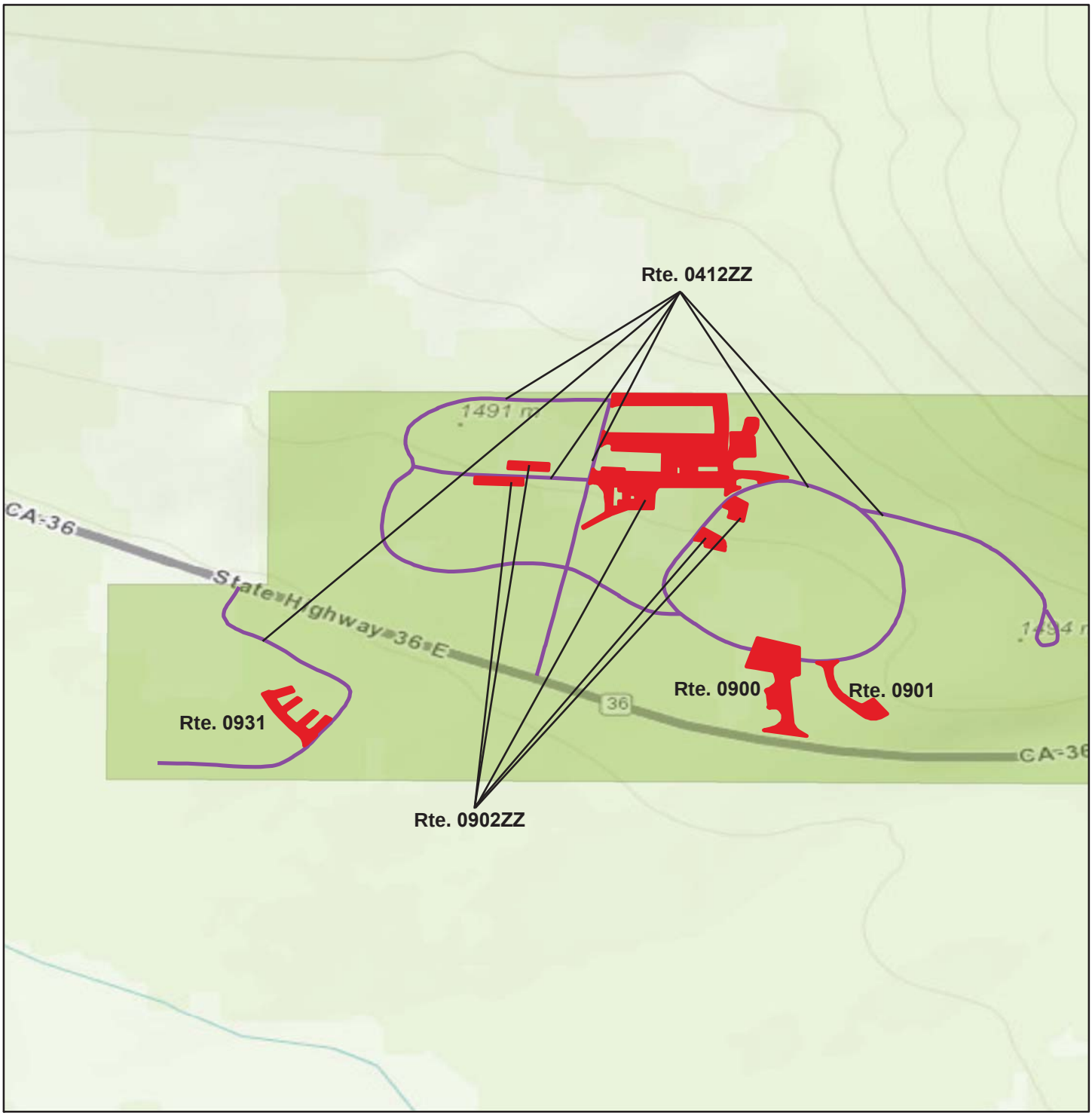
0 1 2

N

Lassen Volcanic National Park

ROUTE LOCATION MAP

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

Note: Unique colors are used to differentiate roads.

Non-NPS Collected Routes

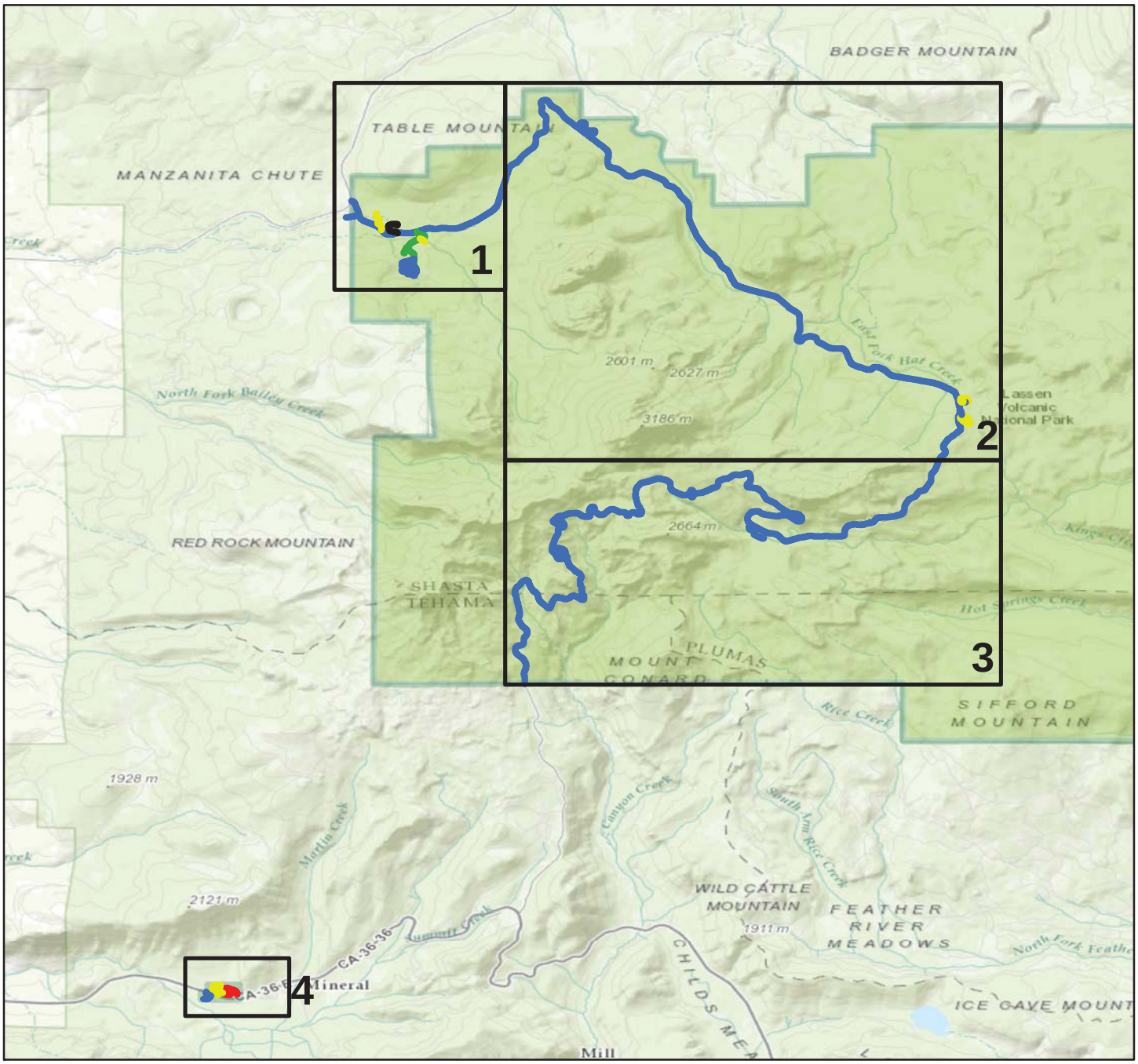
Miles

0 0.1 0.2

N

Lassen Volcanic National Park

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

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)	Fair (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

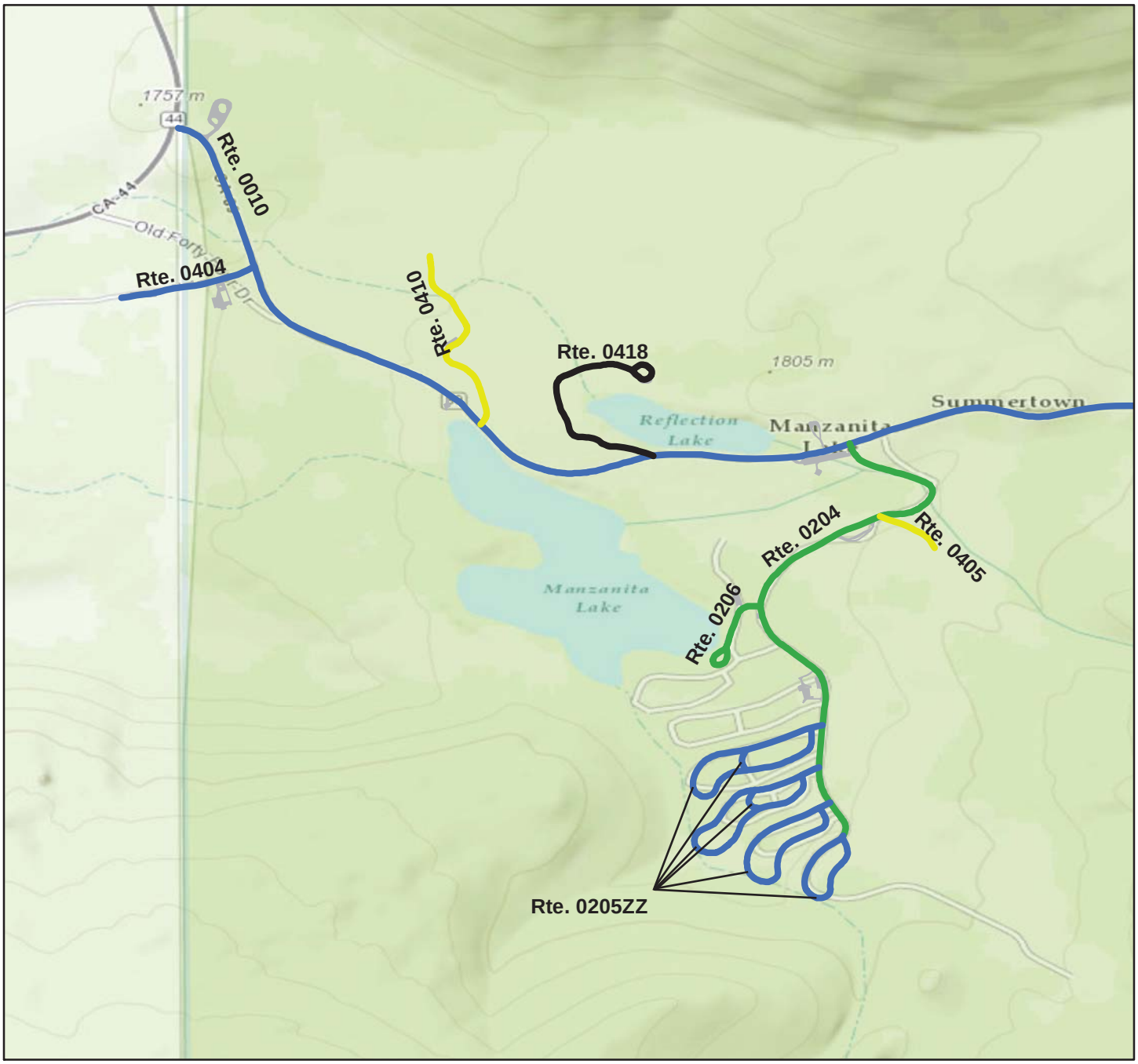
See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 2.5 5

N

Lassen Volcanic National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
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

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)	Fair (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

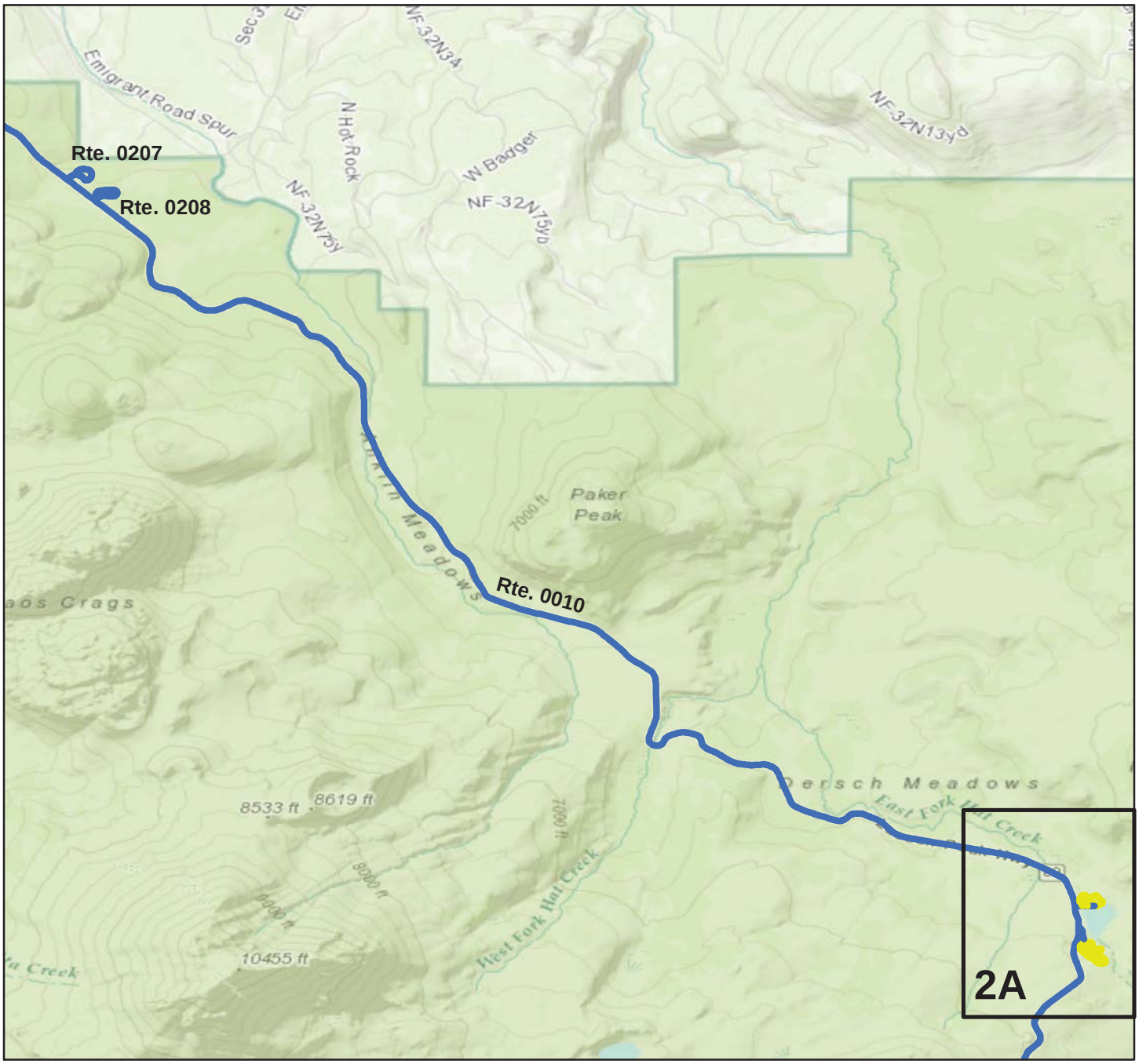
See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 0.25 0.5

N

Lassen Volcanic National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
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 Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)	Fair (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

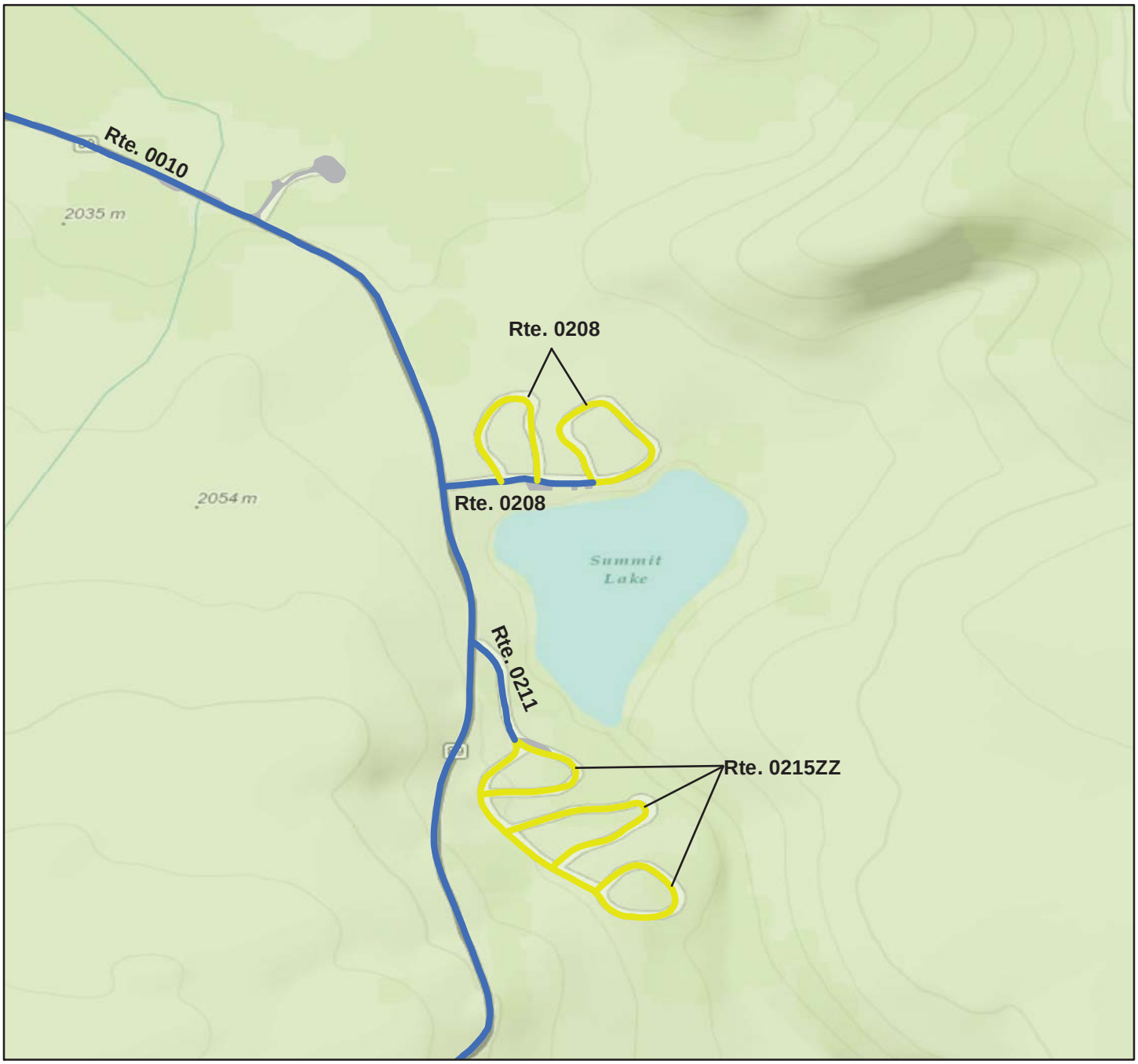
See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 1 2

N

Lassen Volcanic National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
Map 2A



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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

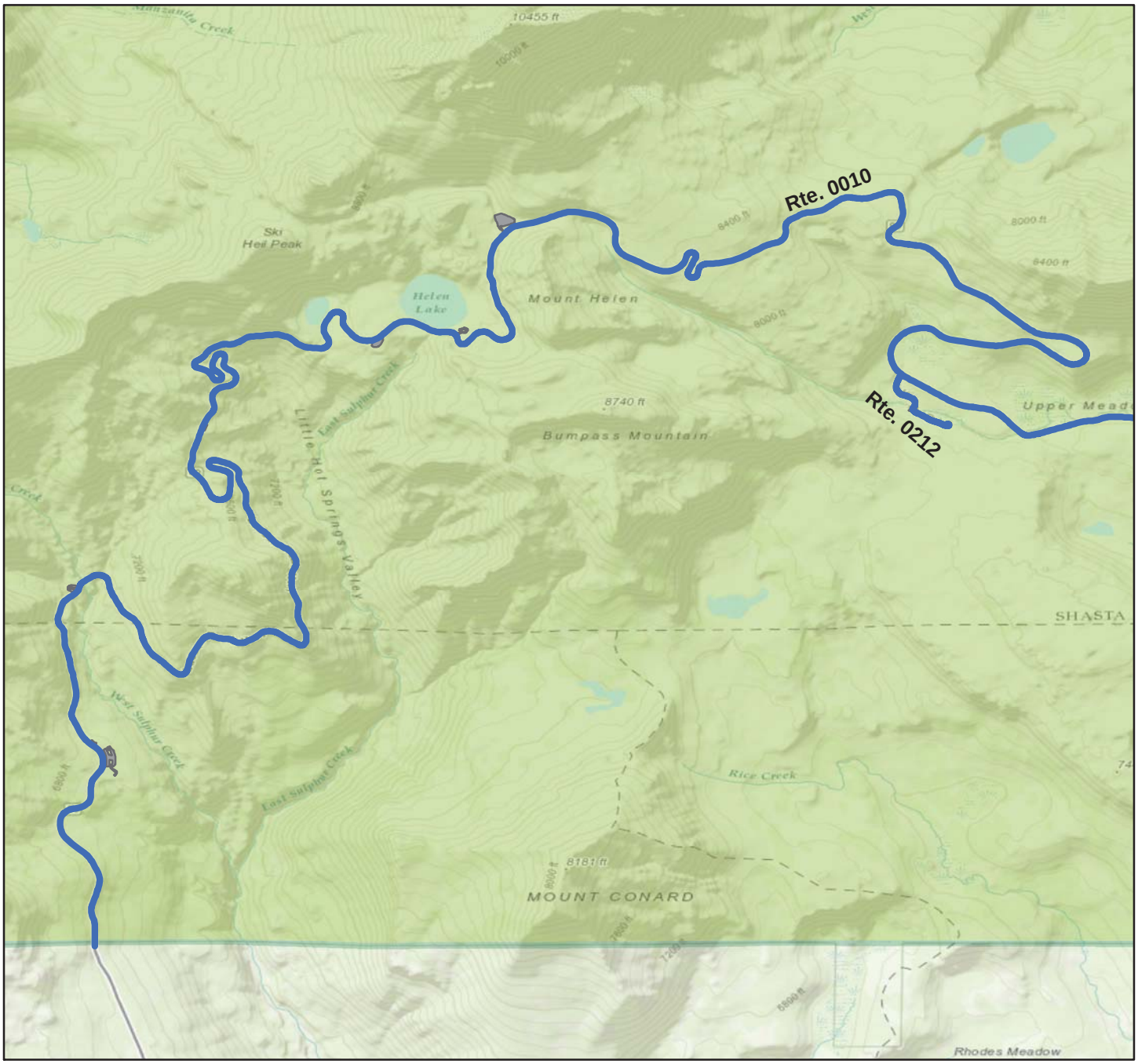
See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 0.1 0.2

N

Lassen Volcanic National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
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

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)	Fair (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

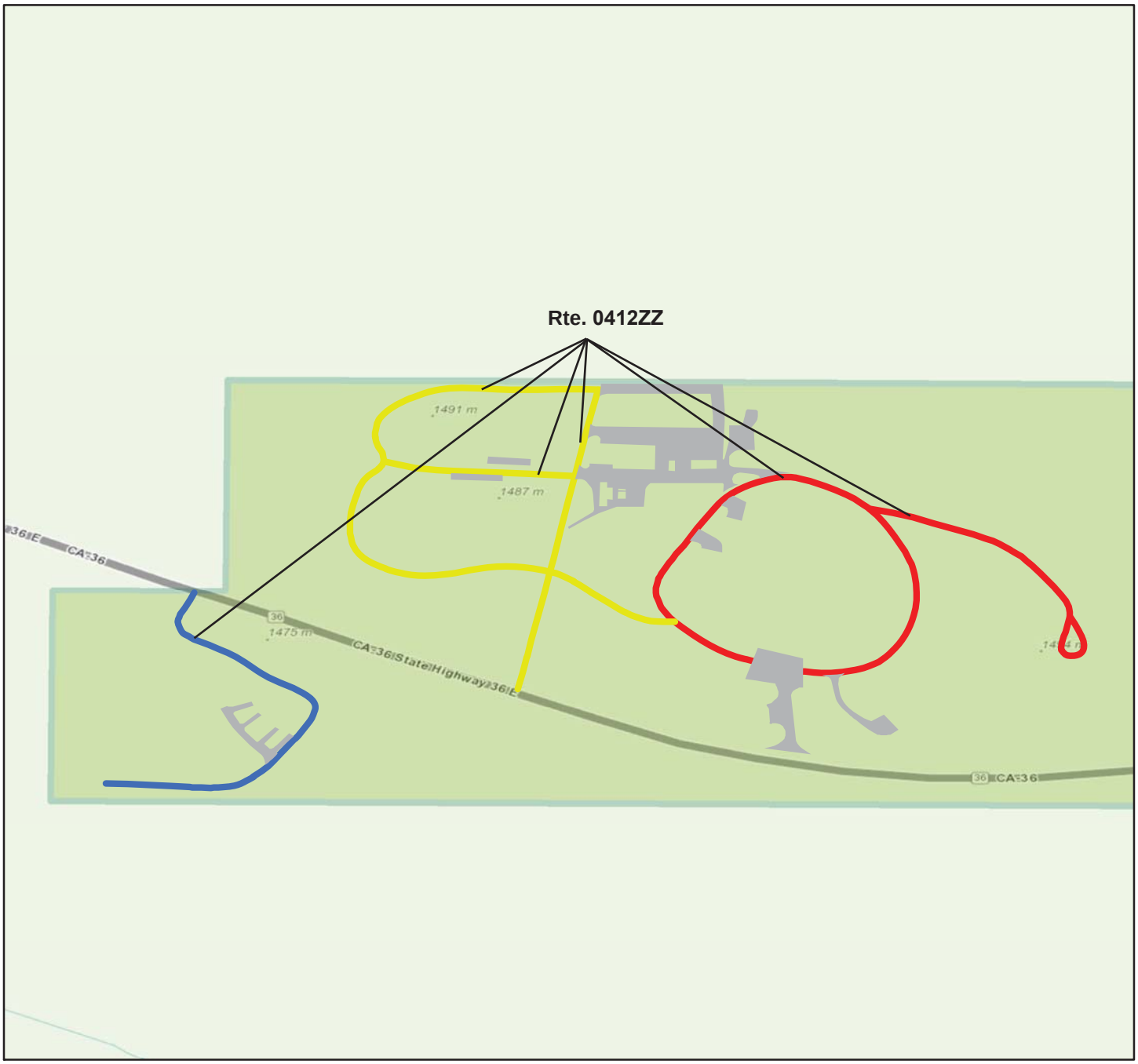
See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 0.75 1.5

N

Lassen Volcanic National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
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

Route Condition Legend – Pavement Condition Rating (PCR)

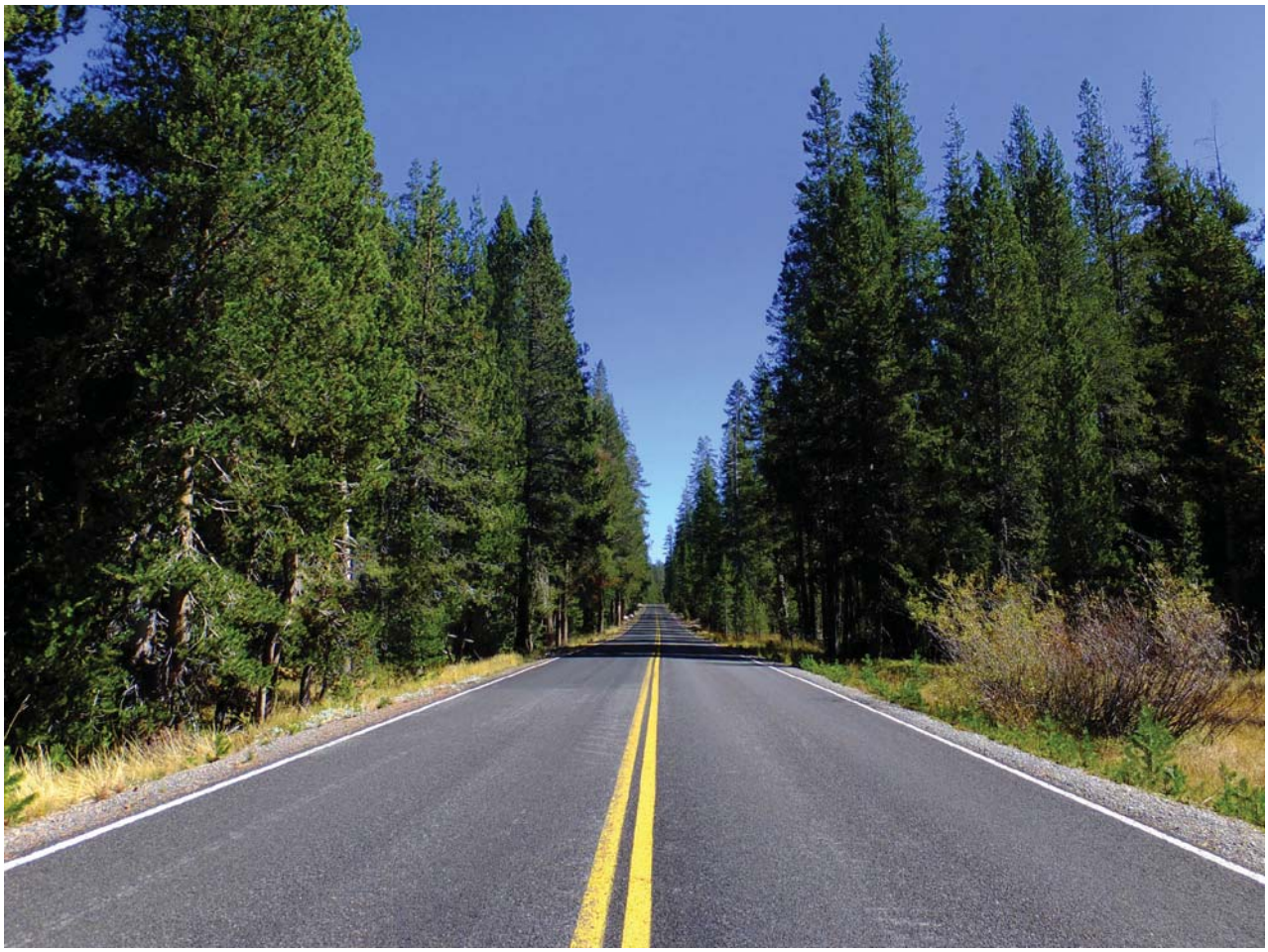
Poor (0 - 60)	Fair (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 0.1 0.2

N

Section 5
Paved Road Condition Rating Sheets



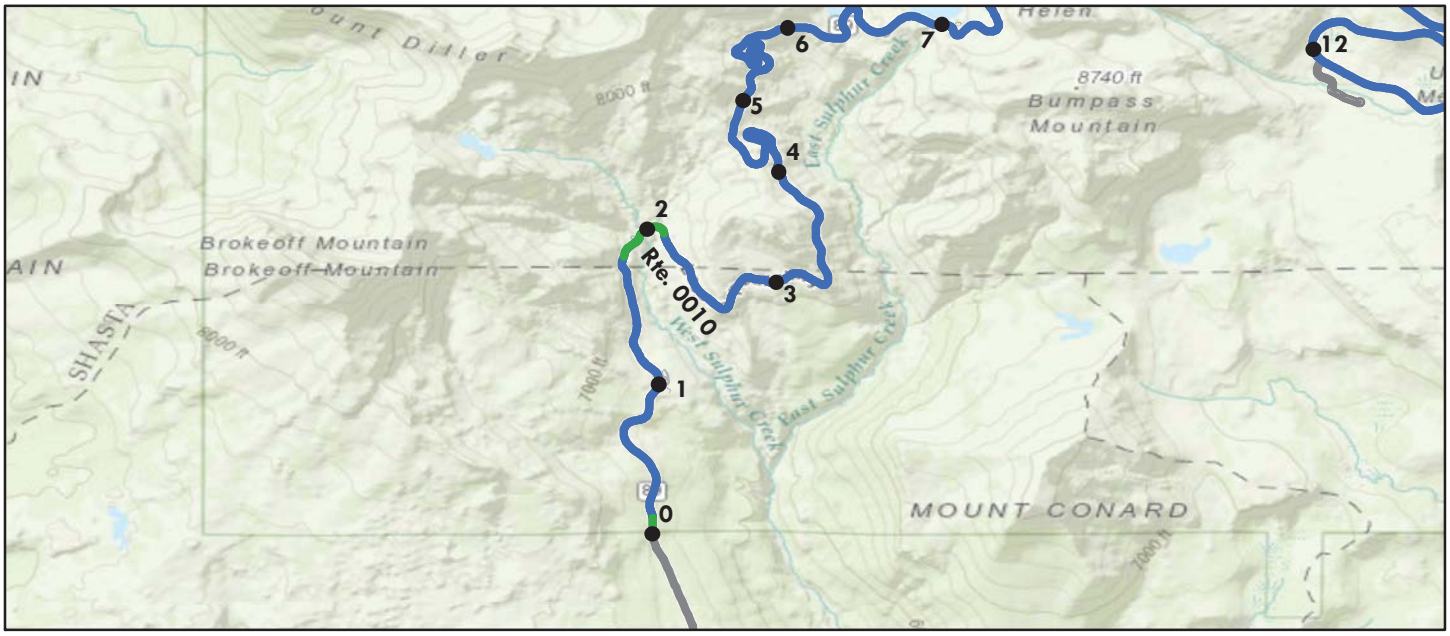
Lassen Volcanic National Park

Federal Lands Highway
Road Inventory Program

Lassen Volcanic National Park

ROUTE 0010: LASSEN PARK ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0	1	2	3	4
Paved Length (Miles): 29.76	**Section Length (MI)**	1	1	1	1	1
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	100	99	100	100	99	99
Surface Condition Rating (SCR)	100	99	100	100	99	99
Roughness Condition Index (RCI)	100	100	100	100	100	100
Distress Index Values						
Structural Crack Index	100	100	100	100	100	100
Alligator Crack Index	100	100	100	100	100	100
Longitudinal Crack Index	100	100	100	100	100	100
Transverse Cracking Index	100	100	100	100	100	100
Patching Index	100	100	100	100	100	100
Rutting Index	100	99	100	100	99	99
International Roughness Index (IRI)	83	105	112	90	92	86
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	23	27.7	25.2	22.8	24.4	23.1
Lane Width (ft)	10.2	11.2	10.6	10	10.3	9.8

Lassen Volcanic National Park

ROUTE 0010: LASSEN PARK ROAD

Data Collection Vehicle (DCV) Rating

Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60) | **Fair (61- 84)** | **Good (85 - 94)** | **Excellent (95 - 100)** | **Not Rated**

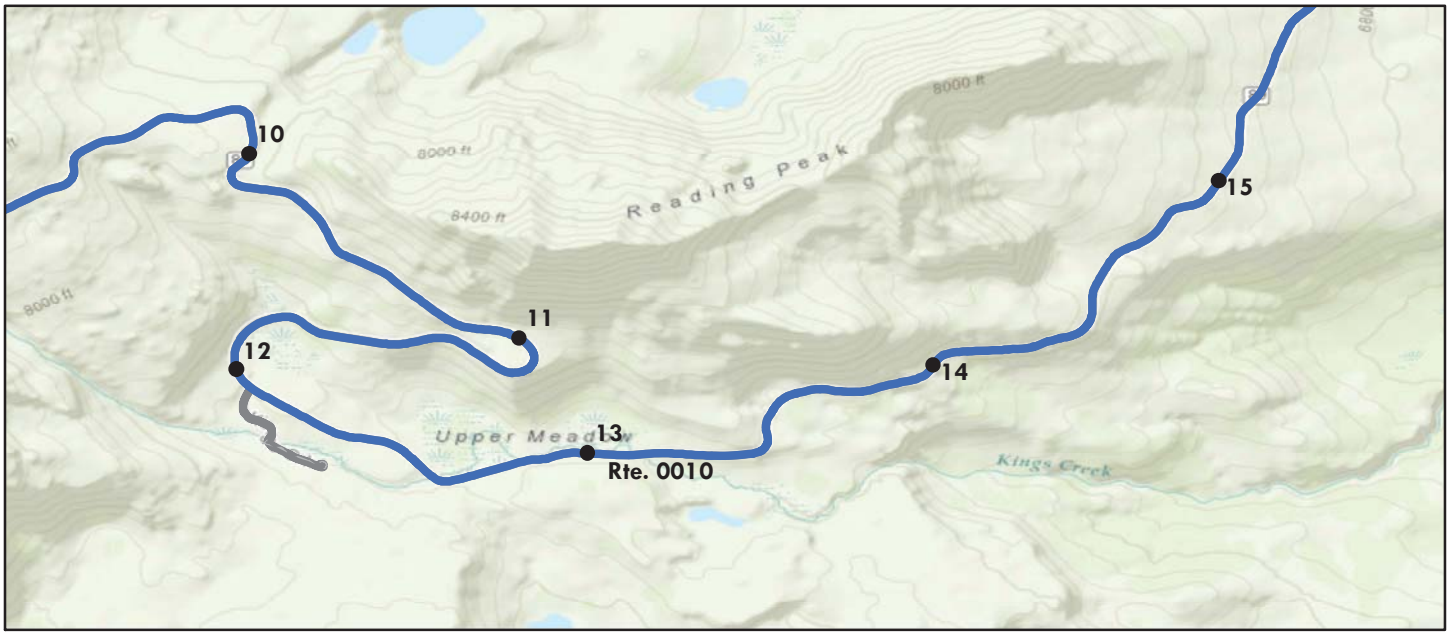
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	5	6	7	8	9
Paved Length (Miles): 29.76	**Section Length (MI)**	1	1	1	1	1
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	100	99	99	99	100	100
Surface Condition Rating (SCR)	100	99	99	99	100	100
Roughness Condition Index (RCI)	100	100	100	100	100	100
Distress Index Values						
Structural Crack Index	100	100	100	100	100	100
Alligator Crack Index	100	100	100	100	100	100
Longitudinal Crack Index	100	100	100	100	100	100
Transverse Cracking Index	100	100	100	100	100	100
Patching Index	100	100	100	100	100	100
Rutting Index	100	99	99	99	100	100
International Roughness Index (IRI)	83	91	86	83	87	91
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	23	22.9	24.6	23.9	23.8	23.5
Lane Width (ft)	10.2	9.7	10.5	11.1	11.3	11.3

Lassen Volcanic National Park

ROUTE 0010: LASSEN PARK ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

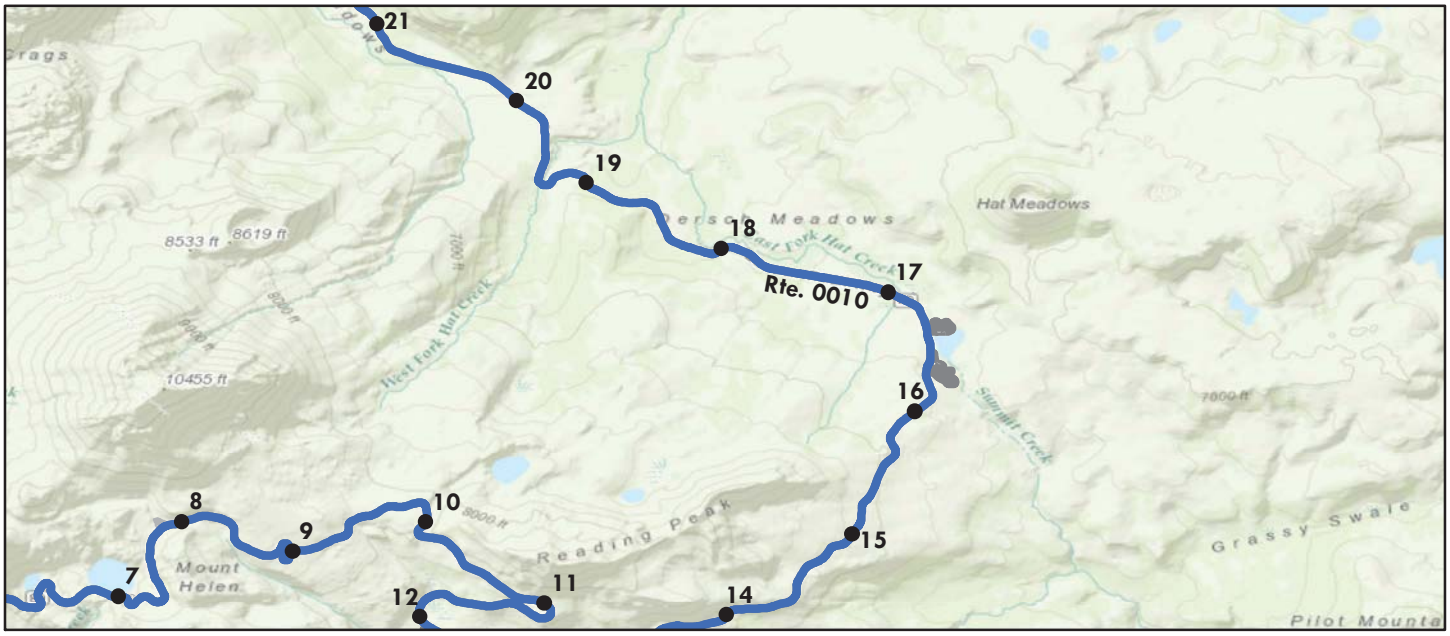
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	10	11	12	13	14
Paved Length (Miles): 29.76	**Section Length (MI)**	1	1	1	1	1
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	100	100	100	100	100	100
Surface Condition Rating (SCR)	100	100	100	100	100	100
Roughness Condition Index (RCI)	100	100	100	100	100	100
Distress Index Values						
Structural Crack Index	100	100	100	100	100	100
Alligator Crack Index	100	100	100	100	100	100
Longitudinal Crack Index	100	100	100	100	100	100
Transverse Cracking Index	100	100	100	100	100	100
Patching Index	100	100	100	100	100	100
Rutting Index	100	100	100	100	100	100
International Roughness Index (IRI)	83	87	81	73	79	74
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	23	23.7	22.9	23.4	23.6	23.5
Lane Width (ft)	10.2	11.3	10.6	11.2	11.2	11.3

Lassen Volcanic National Park

ROUTE 0010: LASSEN PARK ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

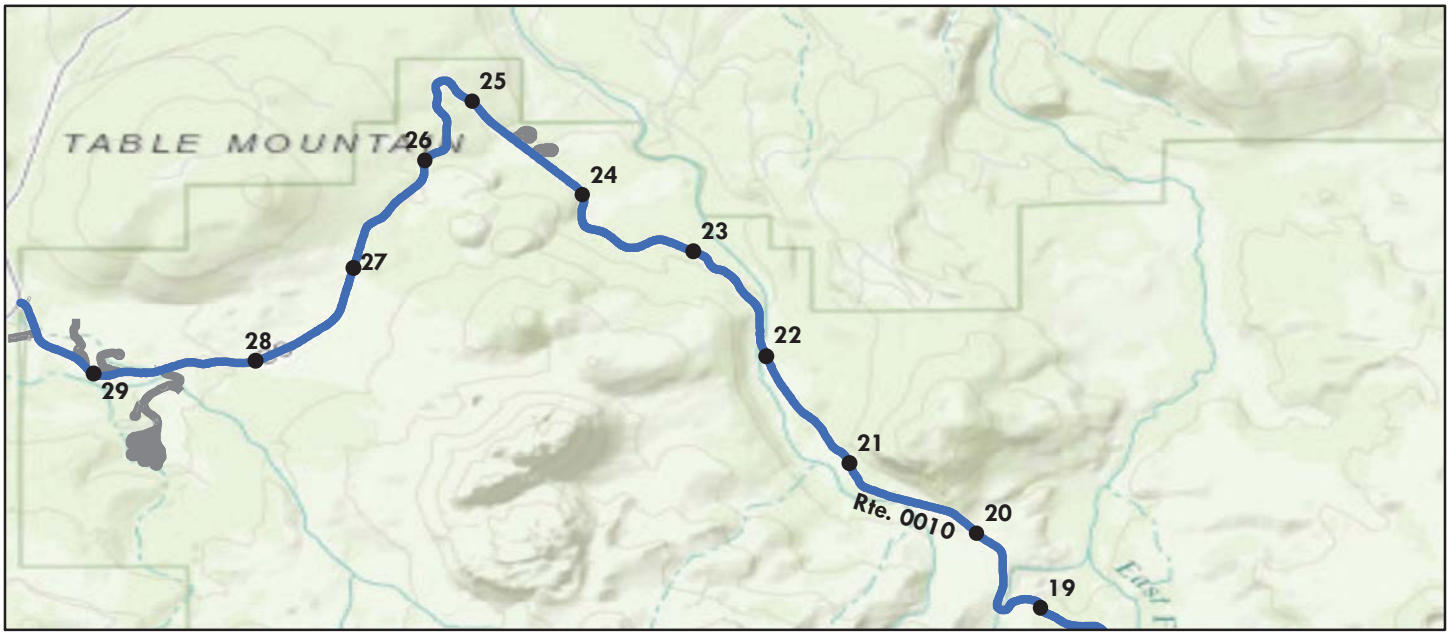
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	15	16	17	18	19
Paved Length (Miles): 29.76	**Section Length (MI)**	1	1	1	1	1
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	100	100	99	99	100	100
Surface Condition Rating (SCR)	100	100	98	99	100	100
Roughness Condition Index (RCI)	100	100	100	100	100	100
Distress Index Values						
Structural Crack Index	100	100	98	99	100	100
Alligator Crack Index	100	100	100	100	100	100
Longitudinal Crack Index	100	100	98	99	100	100
Transverse Cracking Index	100	100	100	100	100	100
Patching Index	100	100	100	100	100	100
Rutting Index	100	100	100	100	100	100
International Roughness Index (IRI)	83	74	81	77	71	86
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	23	23.5	23.4	22	20.9	22.3
Lane Width (ft)	10.2	11.1	11	10.4	8.8	9

Lassen Volcanic National Park

ROUTE 0010: LASSEN PARK ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

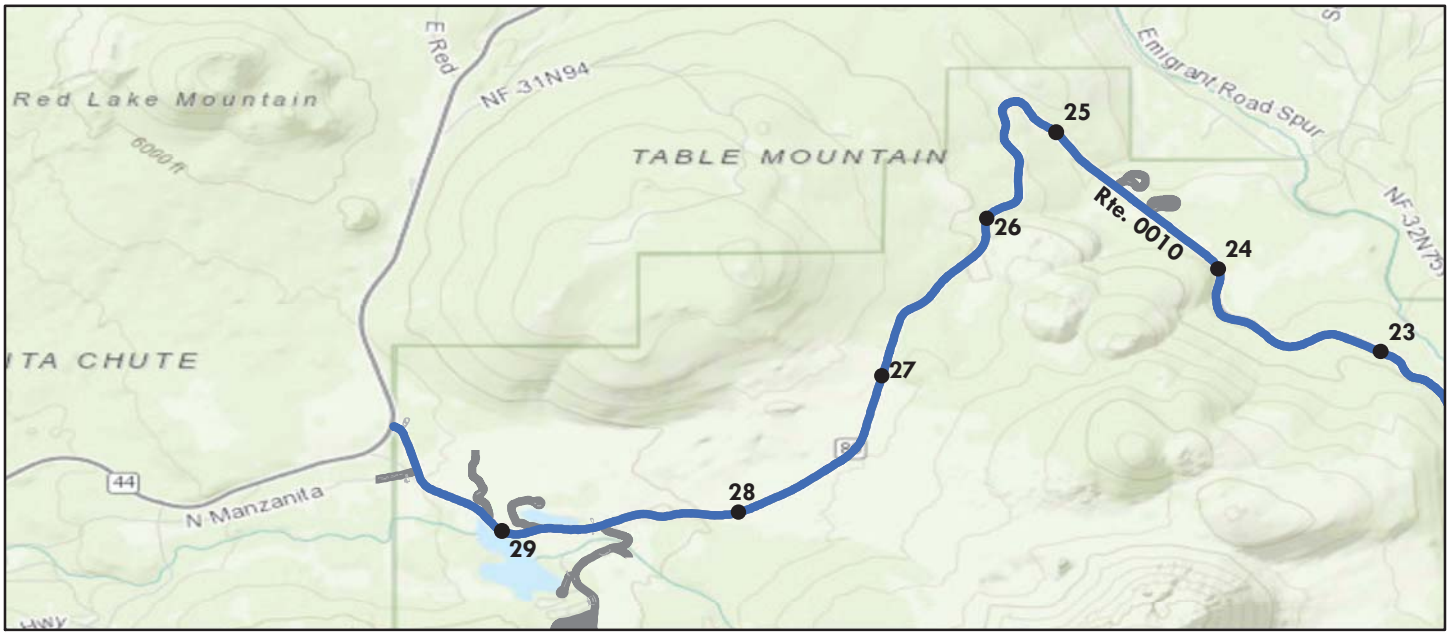
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	20	21	22	23	24
Paved Length (Miles): 29.76	**Section Length (MI)**	1	1	1	1	1
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	100	100	100	100	100	100
Surface Condition Rating (SCR)	100	100	100	100	100	100
Roughness Condition Index (RCI)	100	100	100	100	100	100
Distress Index Values						
Structural Crack Index	100	100	100	100	100	100
Alligator Crack Index	100	100	100	100	100	100
Longitudinal Crack Index	100	100	100	100	100	100
Transverse Cracking Index	100	100	100	100	100	100
Patching Index	100	100	100	100	100	100
Rutting Index	100	100	100	100	100	100
International Roughness Index (IRI)	83	70	71	73	74	82
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	23	20.9	20.8	20.6	20.8	21
Lane Width (ft)	10.2	9	8.8	8.8	8.7	8.9

Lassen Volcanic National Park

ROUTE 0010: LASSEN PARK ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

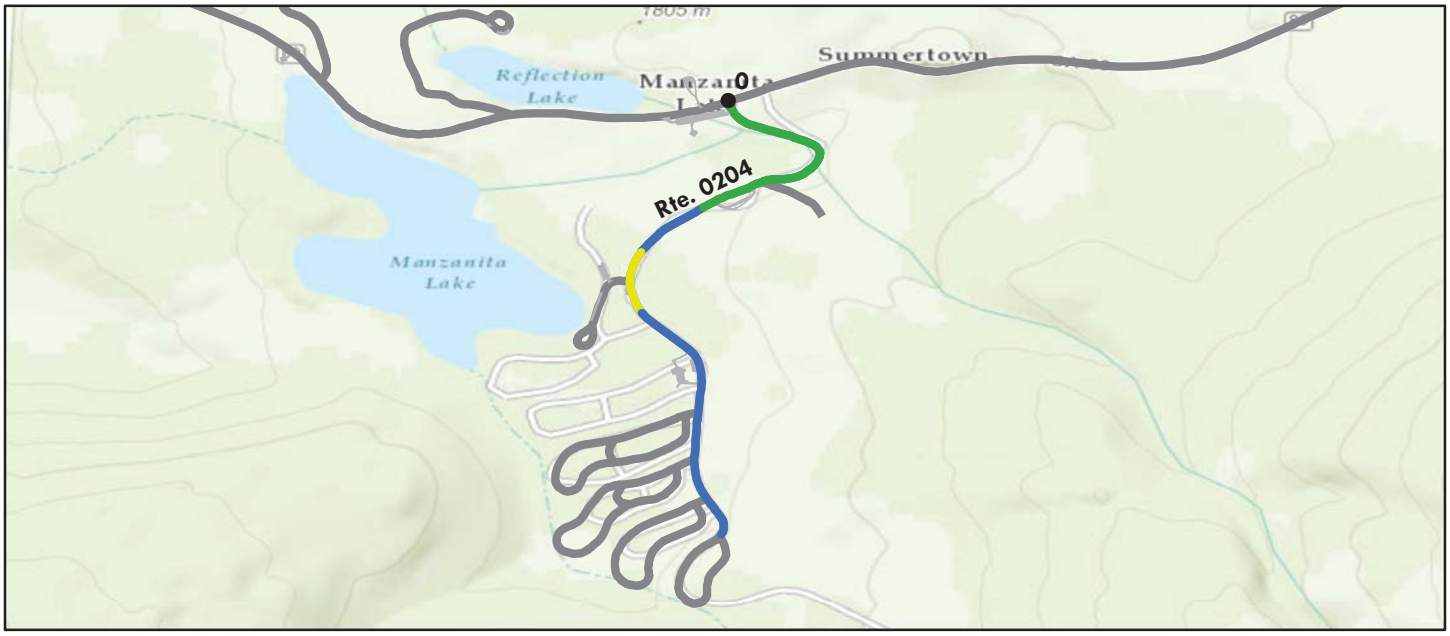
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	25	26	27	28	29
Paved Length (Miles): 29.76	**Section Length (MI)**	1	1	1	1	0.76
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	100	100	100	99	99	99
Surface Condition Rating (SCR)	100	100	100	99	99	99
Roughness Condition Index (RCI)	100	100	100	100	100	100
Distress Index Values						
Structural Crack Index	100	100	100	100	100	100
Alligator Crack Index	100	100	100	100	100	100
Longitudinal Crack Index	100	100	100	100	100	100
Transverse Cracking Index	100	100	100	100	100	100
Patching Index	100	100	100	100	100	100
Rutting Index	100	100	100	99	99	99
International Roughness Index (IRI)	83	80	75	83	90	87
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	23	21.2	21.8	22.5	24	27.1
Lane Width (ft)	10.2	8.9	8.8	8.9	10.5	12.3

Lassen Volcanic National Park

ROUTE 0204: MANZANITA CAMPGROUND ACCESS ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

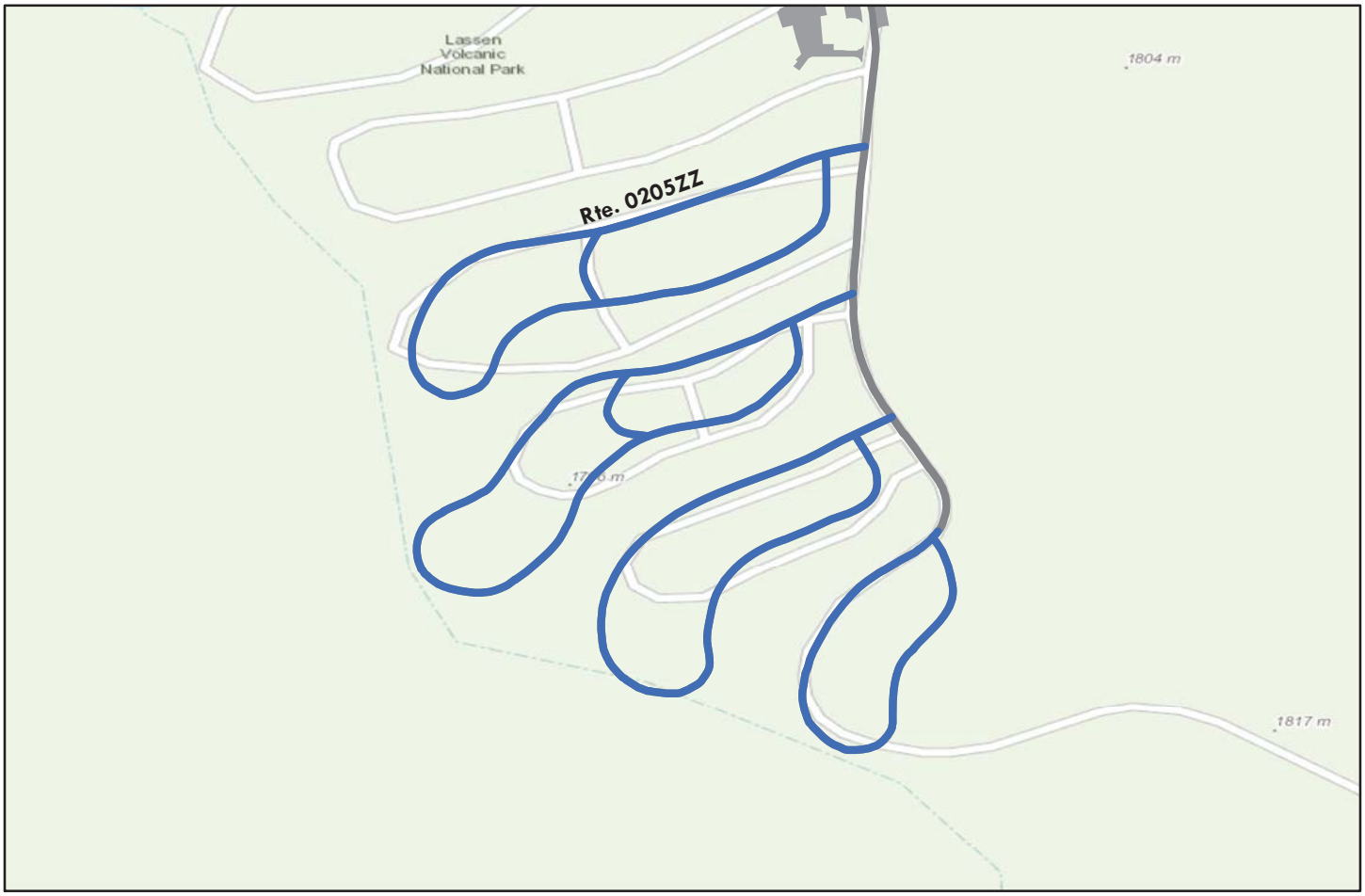
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.87	**Section Length (MI)**	0.87				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	91	91				
Surface Condition Rating (SCR)	99	99				
Roughness Condition Index (RCI)	78	78				
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	99	99				
International Roughness Index (IRI)	176	176				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	24.9	24.9				
Lane Width (ft)	11.7	11.7				

Lassen Volcanic National Park

ROUTE 0205ZZ: MANZANITA CAMPGROUND ROADS

Summary Route



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: The weighted average summary PCR value is calculated from only the sections of road where the PCR was collected. The overall PCR for the summary route may not reflect individual subcomponent ratings.

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

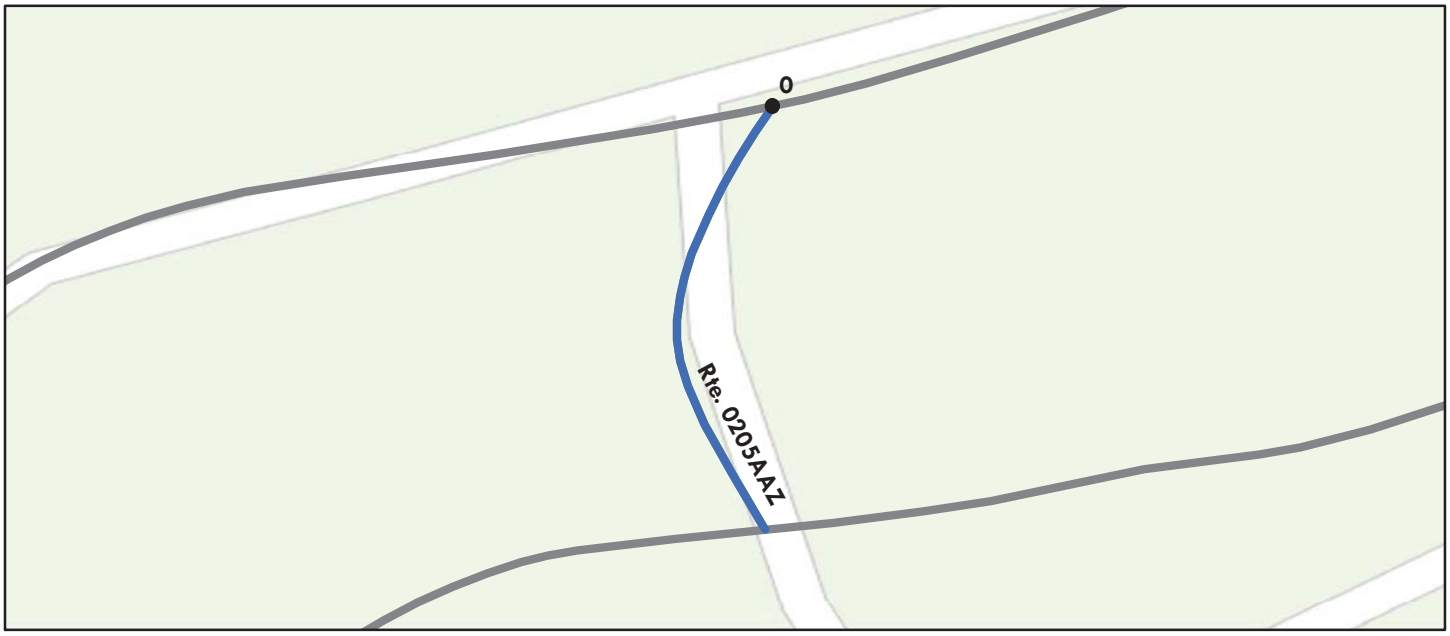
Inspection Date:	7/29/2015						
Paved Length (Miles):	1.53						
Surface Type:	ASPHALT	**Route Summary**					
Roadway Condition Information							
Pavement Condition Rating (PCR)		98					
Lane & Width Information							
Number of Lanes		1					
Paved Width (ft)		13.5					
Lane Width (ft)		13.5					

Lassen Volcanic National Park

ROUTE 0205AAZ: MANZANITA CAMPGROUND LOOP A CUT-THRU

Subcomponent of Route LAVO-0205ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date:	7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles):	0.03	**Section Length (MI)**	0.03				
Surface Type:	ASPHALT	**Route Summary**					
Roadway Condition Information							
Pavement Condition Rating (PCR)		99	99				
Surface Condition Rating (SCR)		99	99				
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		99	99				
International Roughness Index (IRI)		N/A	N/A				
Lane & Width Information							
Number of Lanes		1	1				
Paved Width (ft)		13.4	13.4				
Lane Width (ft)		13.4	13.4				

Lassen Volcanic National Park

ROUTE 0205AZ: MANZANITA CAMPGROUND LOOP A

Subcomponent of Route LAVO-0205ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

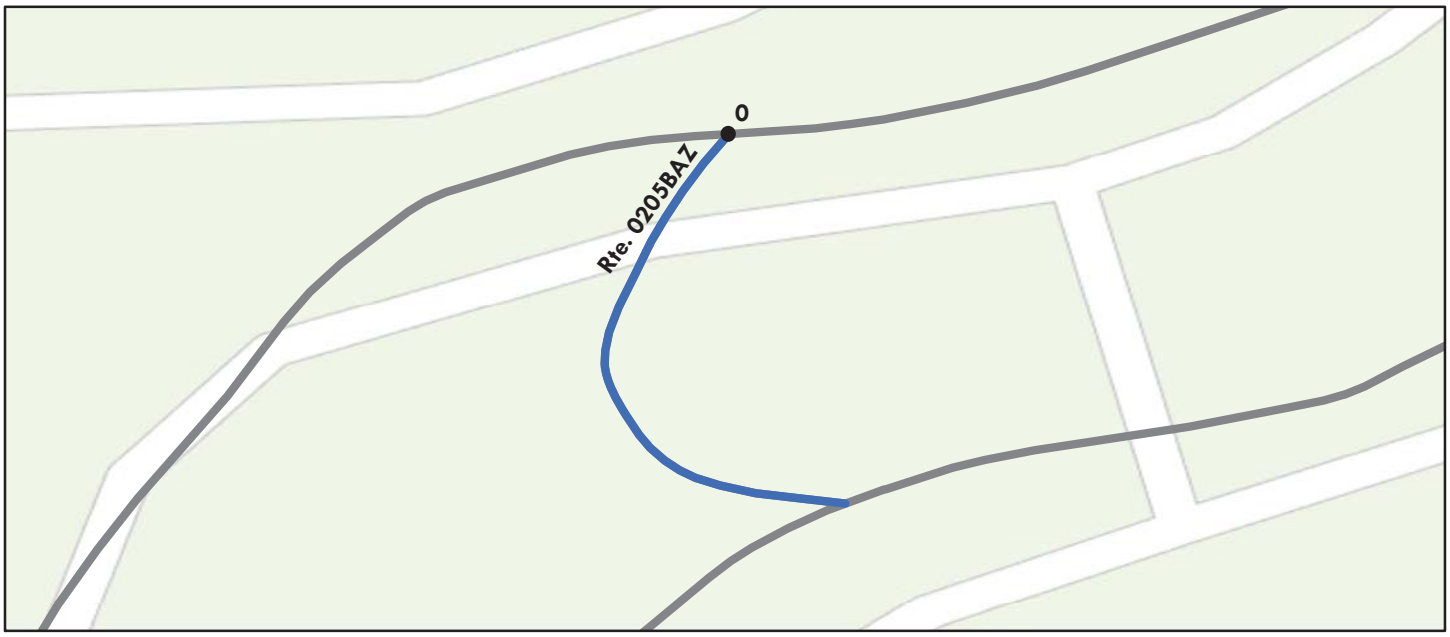
Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.43	**Section Length (MI)**	0.43				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	98	98				
Surface Condition Rating (SCR)	98	98				
Roughness Condition 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	98	98				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	13.1	13.1				
Lane Width (ft)	13.1	13.1				

Lassen Volcanic National Park

ROUTE 0205BAZ: MANZANITA CAMPGROUND LOOP B CUT-THRU

Subcomponent of Route LAVO-0205ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

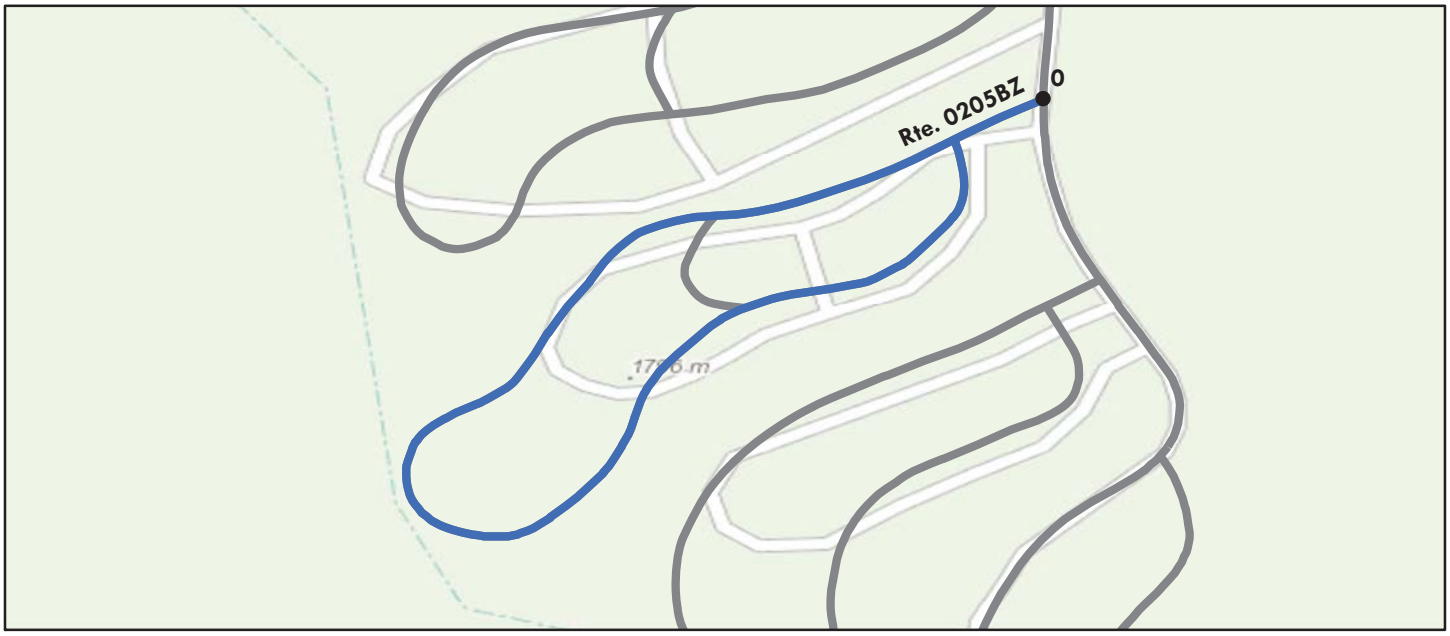
Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.04	**Section Length (MI)**	0.04				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	99	99				
Surface Condition Rating (SCR)	99	99				
Roughness Condition 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	99	99				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	11.8	11.8				
Lane Width (ft)	11.8	11.8				

Lassen Volcanic National Park

ROUTE 0205BZ: MANZANITA CAMPGROUND LOOP B

Subcomponent of Route LAVO-0205ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

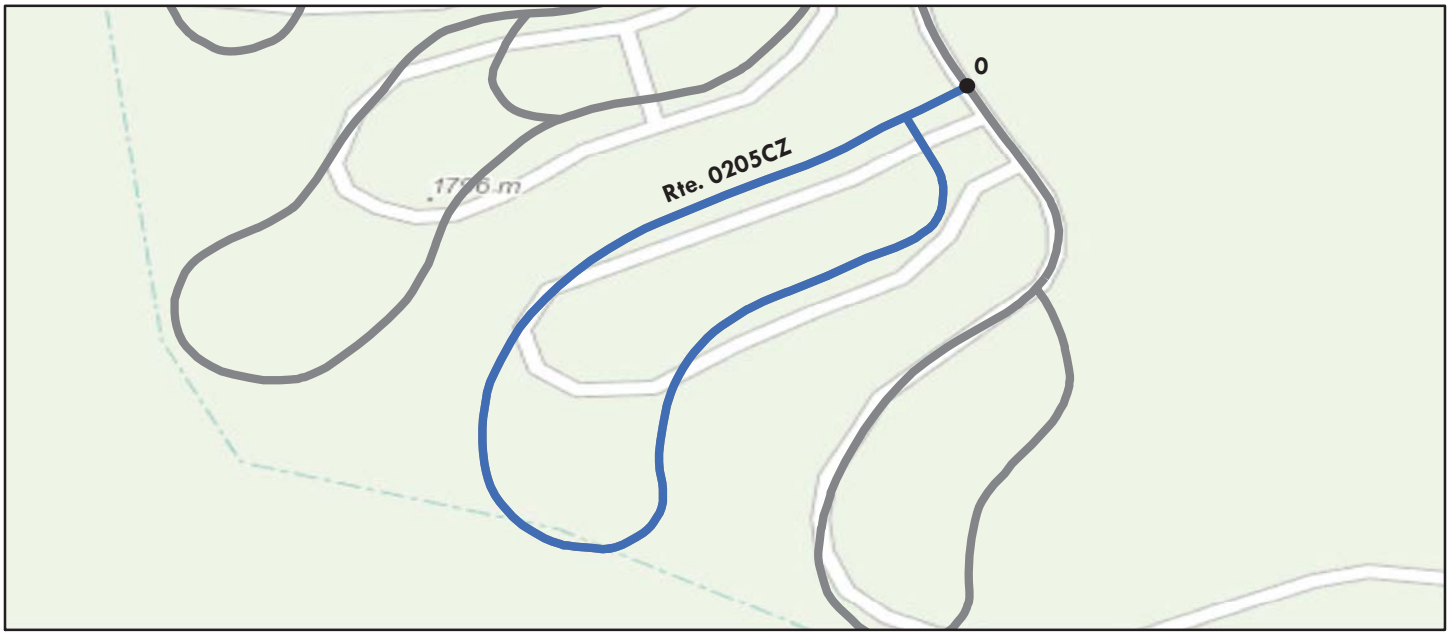
Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.43	**Section Length (MI)**	0.43				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	97	97				
Surface Condition Rating (SCR)	97	97				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	100	100				
Alligator Crack Index	100	100				
Longitudinal Crack Index	100	100				
Transverse Cracking Index	100	100				
Patching Index	100	100				
Rutting Index	97	97				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	13.8	13.8				
Lane Width (ft)	13.8	13.8				

Lassen Volcanic National Park

ROUTE 0205CZ: MANZANITA CAMPGROUND LOOP C

Subcomponent of Route LAVO-0205ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.36	**Section Length (MI)**	0.36				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	98	98				
Surface Condition Rating (SCR)	98	98				
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	98	98				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	13.8	13.8				
Lane Width (ft)	13.8	13.8				

Lassen Volcanic National Park

ROUTE 0205DZ: MANZANITA CAMPGROUND LOOP D

Subcomponent of Route LAVO-0205ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.24	**Section Length (MI)**	0.24				
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	100	100				
Alligator Crack Index	100	100				
Longitudinal Crack Index	100	100				
Transverse Cracking Index	100	100				
Patching Index	100	100				
Rutting Index	97	97				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	13.6	13.6				
Lane Width (ft)	13.6	13.6				

Lassen Volcanic National Park

ROUTE 0206: MANZANITA LAKE ACCESS ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

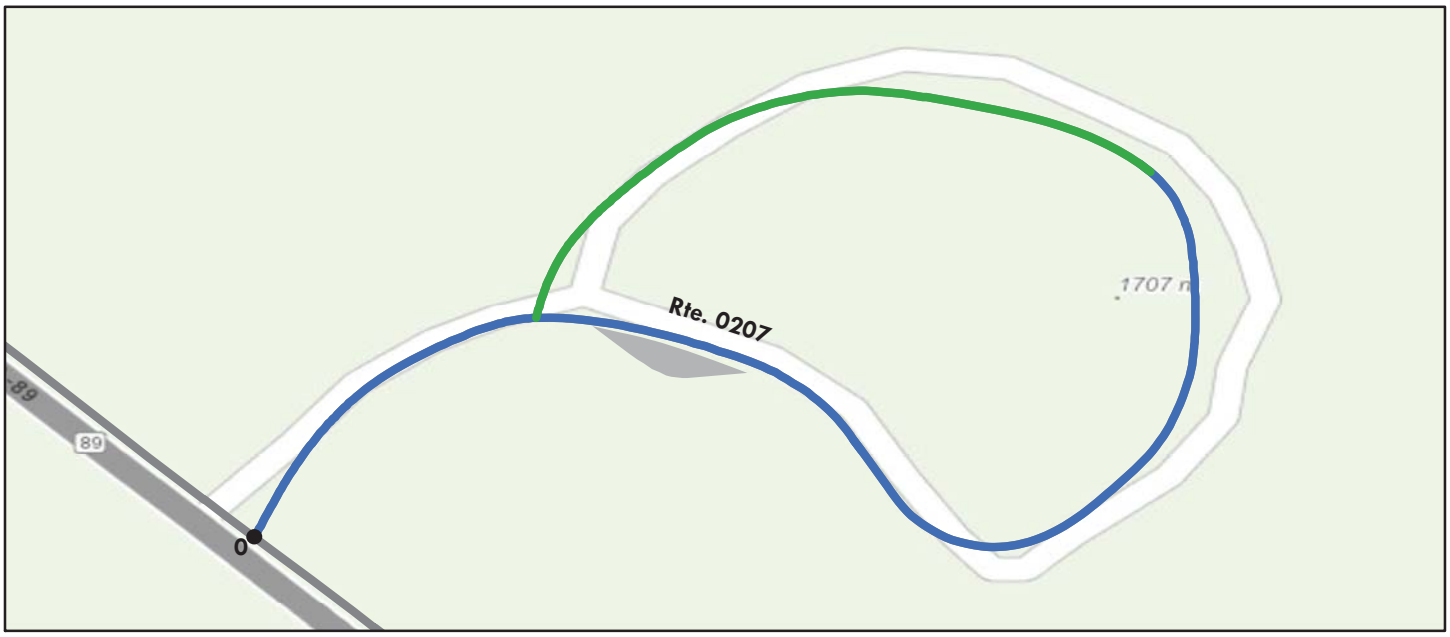
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.15	**Section Length (MI)**	0.15				
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	99	99				
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)	16.4	16.4				
Lane Width (ft)	8.2	8.2				

Lassen Volcanic National Park

ROUTE 0207: CRAGS CAMPGROUND

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

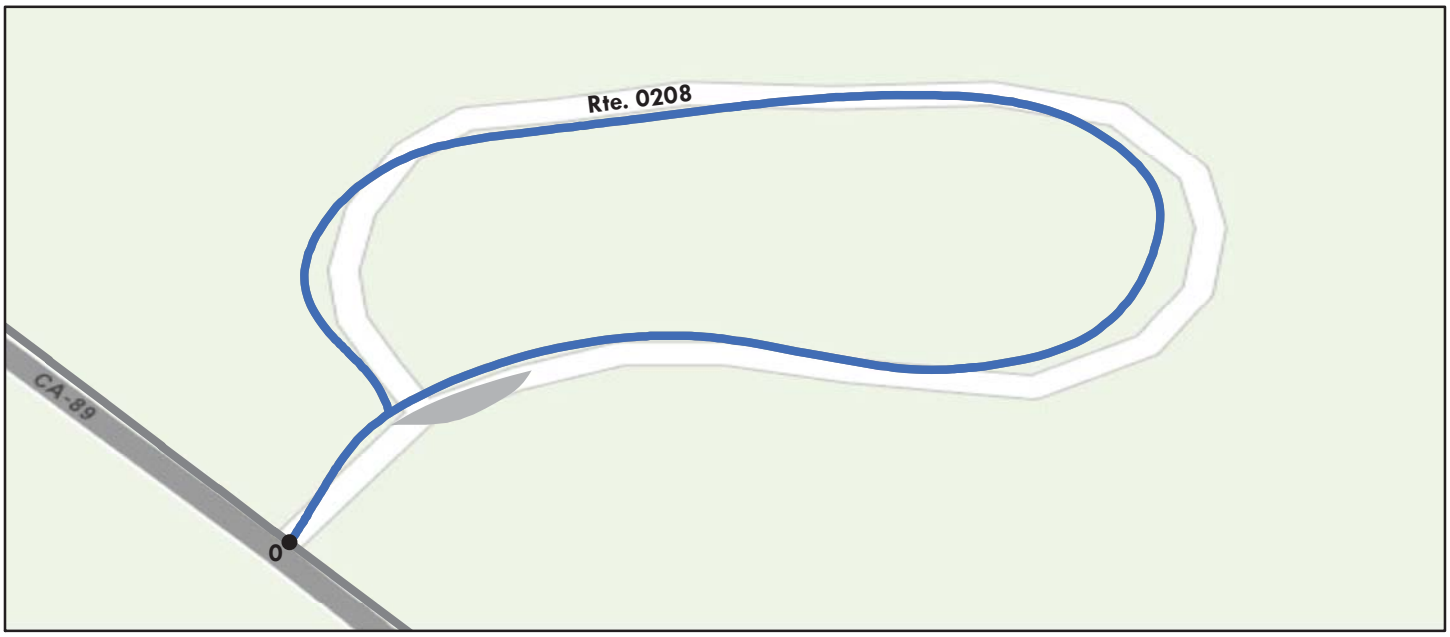
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.3	**Section Length (MI)**	0.3				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	96	96				
Surface Condition Rating (SCR)	96	96				
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	96	96				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	19.2	19.2				
Lane Width (ft)	9.6	9.6				

Lassen Volcanic National Park

ROUTE 0208: LOST CREEK CAMPGROUND

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.29	**Section Length (MI)**	0.29				
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	100	100				
Alligator Crack Index	100	100				
Longitudinal Crack Index	100	100				
Transverse Cracking Index	100	100				
Patching Index	100	100				
Rutting Index	97	97				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	19.2	19.2				
Lane Width (ft)	9.6	9.6				

Lassen Volcanic National Park

ROUTE 0209: SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.1	**Section Length (MI)**	0.1				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	98	98				
Surface Condition Rating (SCR)	98	98				
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	98	98				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	17.7	17.7				
Lane Width (ft)	8.8	8.8				

Lassen Volcanic National Park

ROUTE 0211: SUMMIT LAKE SOUTH CAMPGROUND ENTRANCE ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

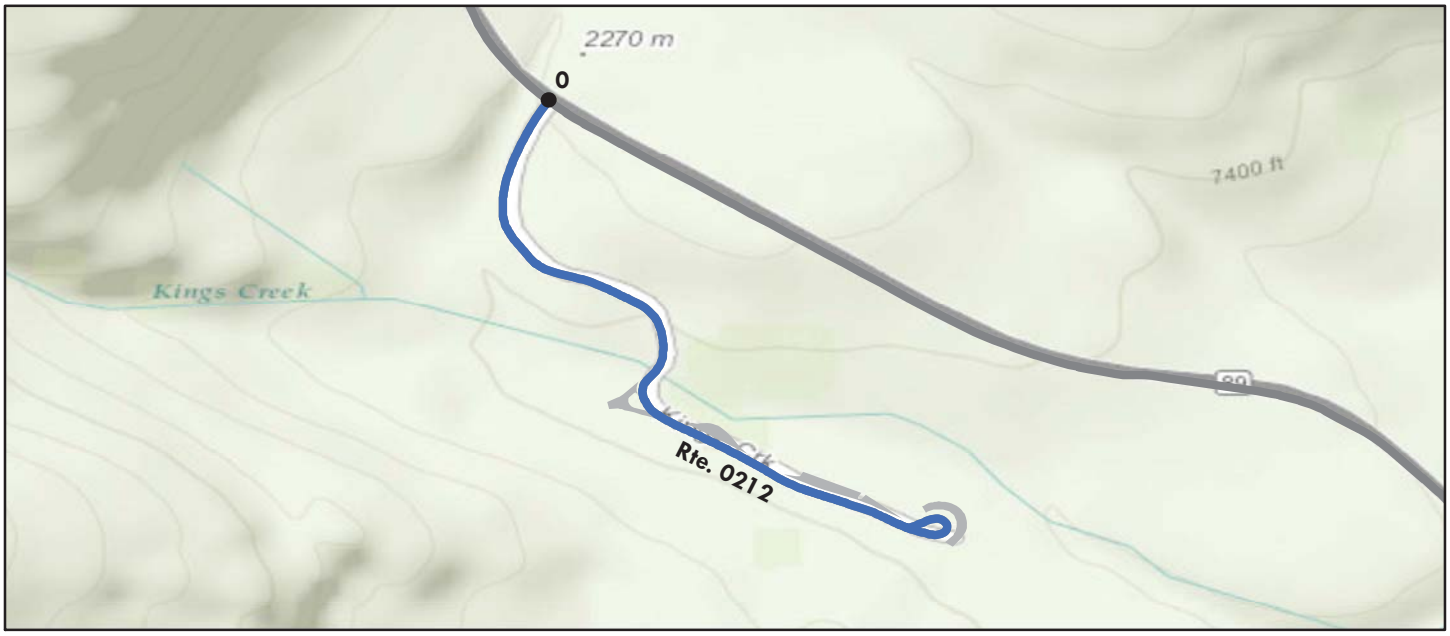
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.1	**Section Length (MI)**	0.1				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	98	98				
Surface Condition Rating (SCR)	98	98				
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	98	98				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	16.4	16.4				
Lane Width (ft)	8.2	8.2				

Lassen Volcanic National Park

ROUTE 0212: KINGS CREEK PICNIC AREA ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.39	**Section Length (MI)**	0.39				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	96	96				
Surface Condition Rating (SCR)	96	96				
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	100	100				
Patching Index	100	100				
Rutting Index	96	96				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	17.5	17.5				
Lane Width (ft)	8.8	8.8				

Lassen Volcanic National Park

ROUTE 0214ZZ: SUMMIT LAKE NORTH CAMPGROUND LOOPS

Summary Route

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: The weighted average summary PCR value is calculated from only the sections of road where the PCR was collected. The overall PCR for the summary route may not reflect individual subcomponent ratings.

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

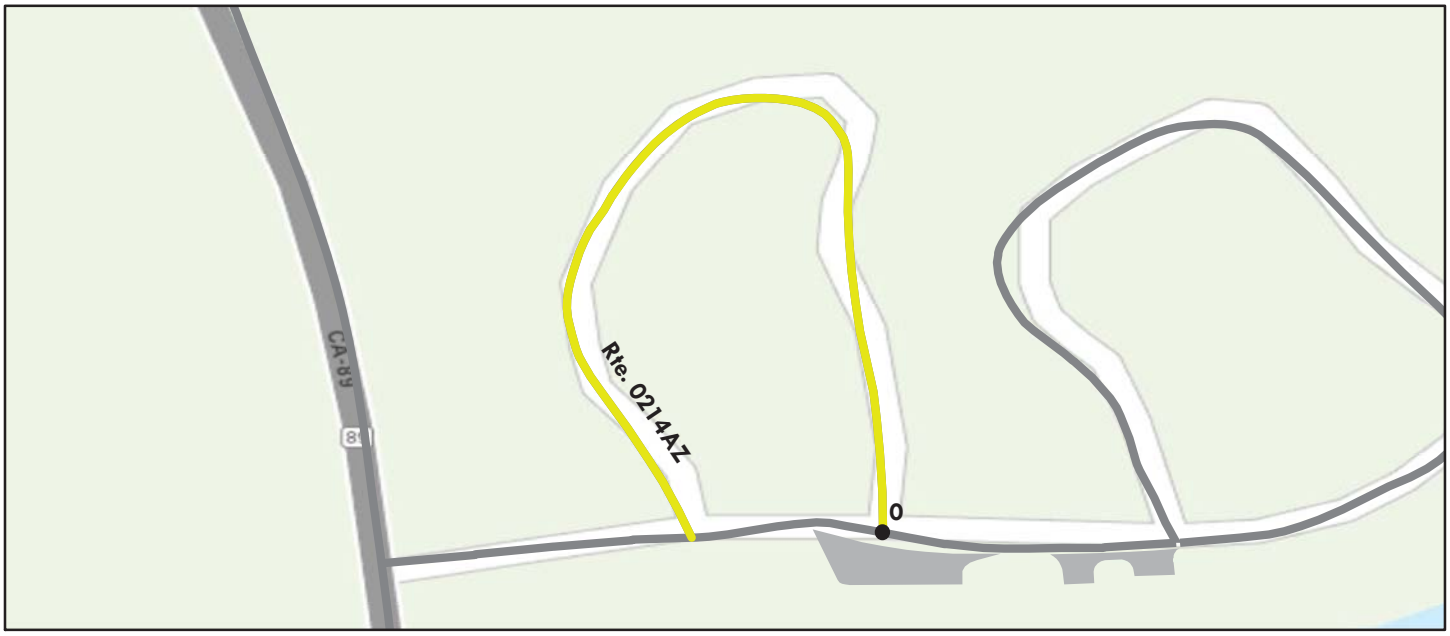
Inspection Date:	7/29/2015						
Paved Length (Miles):	0.35						
Surface Type:	ASPHALT	**Route Summary**					
Roadway Condition Information							
Pavement Condition Rating (PCR)		79					
Lane & Width Information							
Number of Lanes		1					
Paved Width (ft)		13.5					
Lane Width (ft)		13.5					

Lassen Volcanic National Park

ROUTE 0214AZ: SUMMIT LAKE NORTH CAMPGROUND LOOP A

Subcomponent of Route LAVO-0214ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

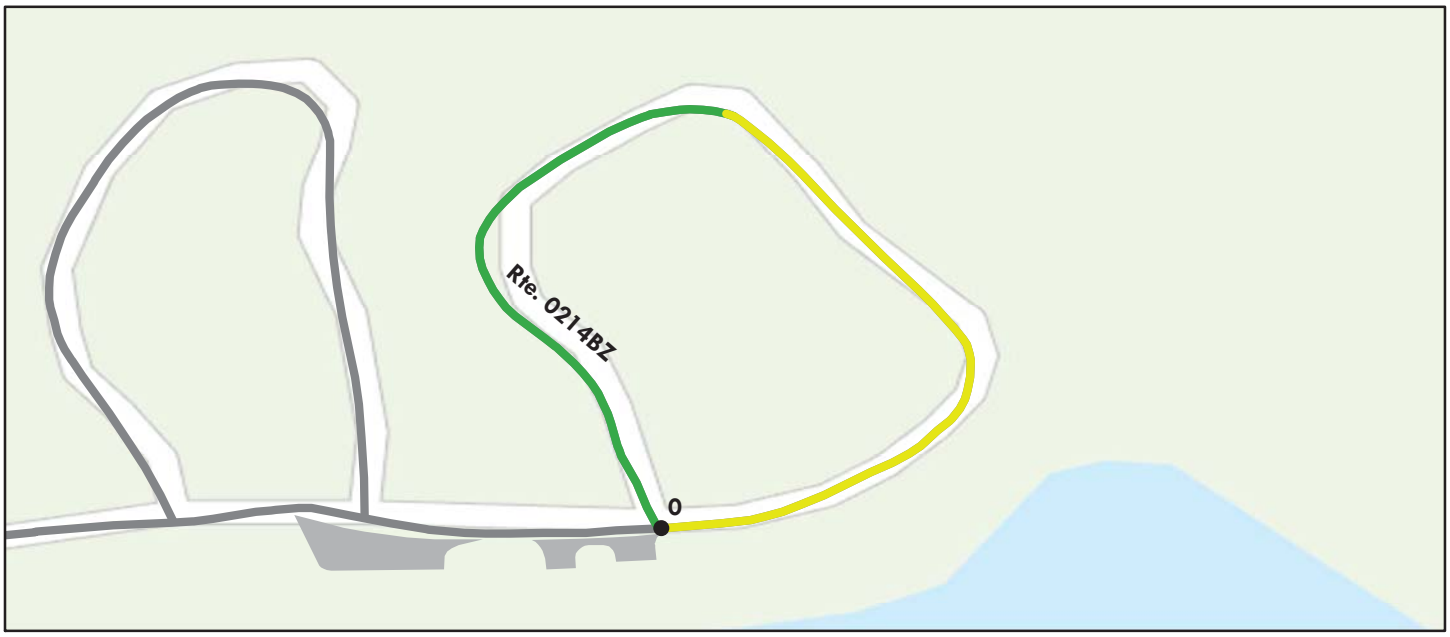
Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.16	**Section Length (MI)**	0.16				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	84	84				
Surface Condition Rating (SCR)	84	84				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	84	84				
Alligator Crack Index	97	97				
Longitudinal Crack Index	87	87				
Transverse Cracking Index	88	88				
Patching Index	98	98				
Rutting Index	87	87				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	12.3	12.3				
Lane Width (ft)	12.3	12.3				

Lassen Volcanic National Park

ROUTE 0214BZ: SUMMIT LAKE NORTH CAMPGROUND LOOP B

Subcomponent of Route LAVO-0214ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

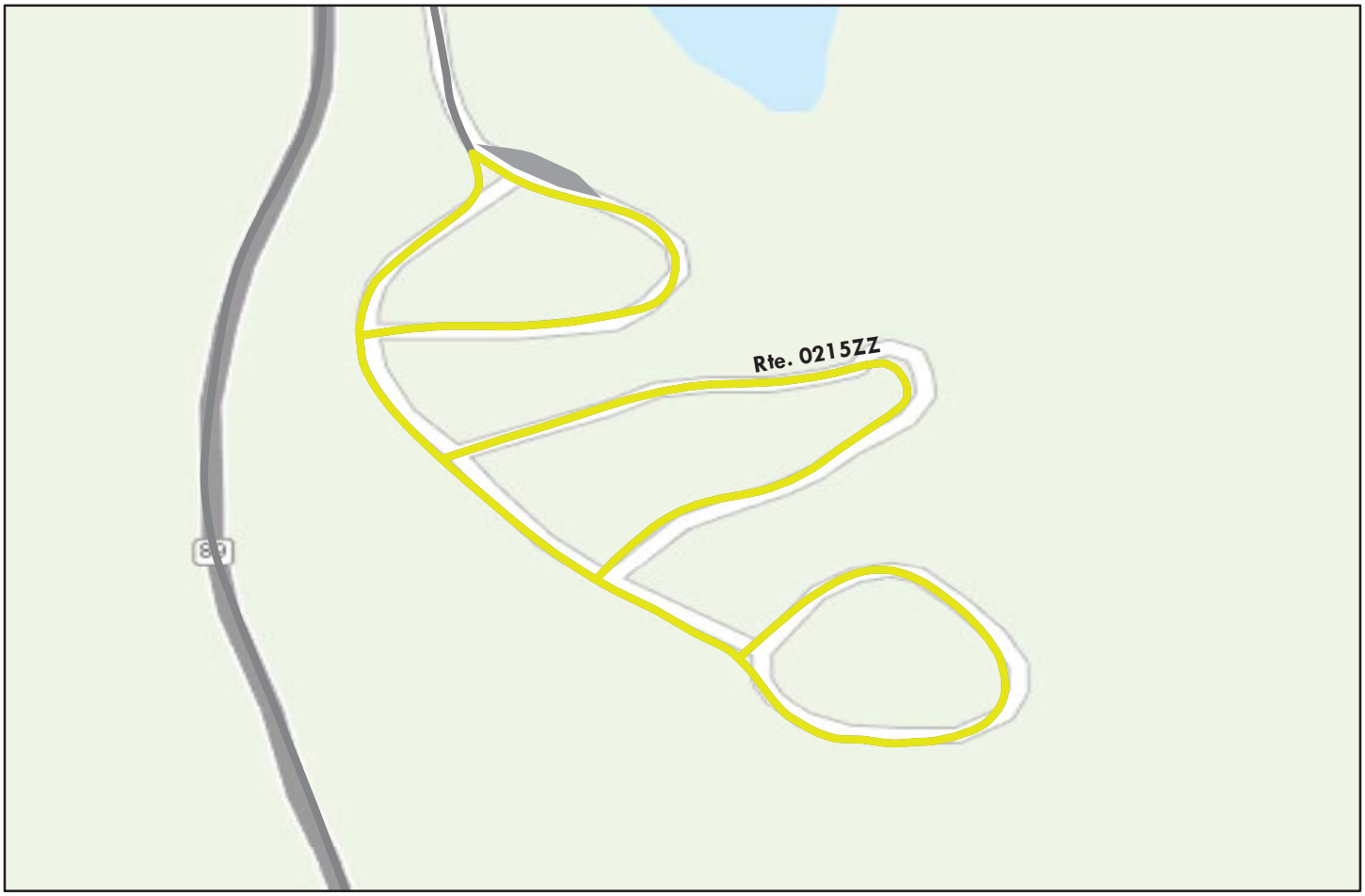
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.19	**Section Length (MI)**	0.19				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	75	75				
Surface Condition Rating (SCR)	75	75				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	75	75				
Alligator Crack Index	95	95				
Longitudinal Crack Index	80	80				
Transverse Cracking Index	92	92				
Patching Index	100	100				
Rutting Index	86	86				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	14.5	14.5				
Lane Width (ft)	14.5	14.5				

Lassen Volcanic National Park

ROUTE 0215ZZ: SUMMIT LAKE SOUTH CAMPGROUND LOOPS

Summary Route



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: The weighted average summary PCR value is calculated from only the sections of road where the PCR was collected. The overall PCR for the summary route may not reflect individual subcomponent ratings.

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

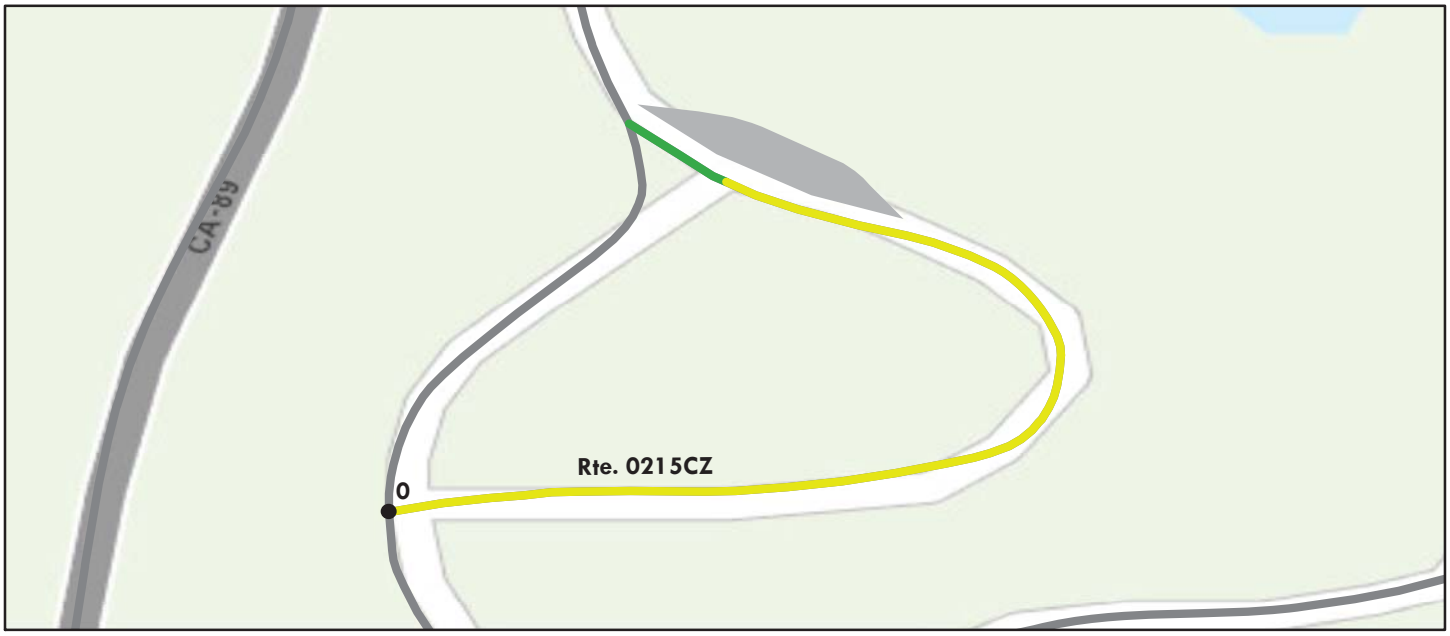
Inspection Date:	7/29/2015						
Paved Length (Miles):	0.6						
Surface Type:	ASPHALT	**Route Summary**					
Roadway Condition Information							
Pavement Condition Rating (PCR)		75					
Lane & Width Information							
Number of Lanes		1					
Paved Width (ft)		14.4					
Lane Width (ft)		12.1					

Lassen Volcanic National Park

ROUTE 0215CZ: SUMMIT LAKE SOUTH CAMPGROUND LOOP C

Subcomponent of Route LAVO-0215ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**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)	69	69				
Surface Condition Rating (SCR)	69	69				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	69	69				
Alligator Crack Index	89	89				
Longitudinal Crack Index	80	80				
Transverse Cracking Index	92	92				
Patching Index	98	98				
Rutting Index	85	85				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	12.7	12.7				
Lane Width (ft)	12.7	12.7				

Lassen Volcanic National Park

ROUTE 0215DZ: SUMMIT LAKE SOUTH CAMPGROUND LOOP D

Subcomponent of Route LAVO-0215ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

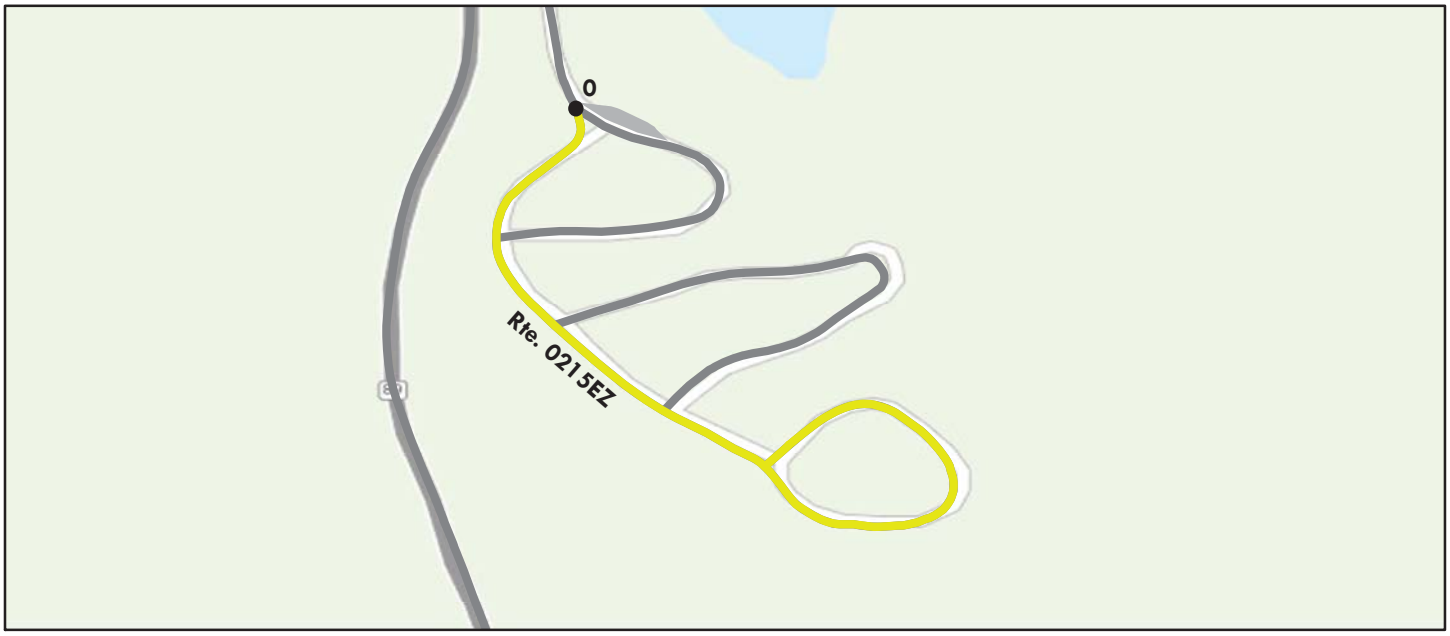
Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.18	**Section Length (MI)**	0.18				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	77	77				
Surface Condition Rating (SCR)	77	77				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	77	77				
Alligator Crack Index	94	94				
Longitudinal Crack Index	83	83				
Transverse Cracking Index	97	97				
Patching Index	98	98				
Rutting Index	85	85				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	14.1	14.1				
Lane Width (ft)	14.1	14.1				

Lassen Volcanic National Park

ROUTE 0215EZ: SUMMIT LAKE SOUTH CAMPGROUND LOOP E

Subcomponent of Route LAVO-0215ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

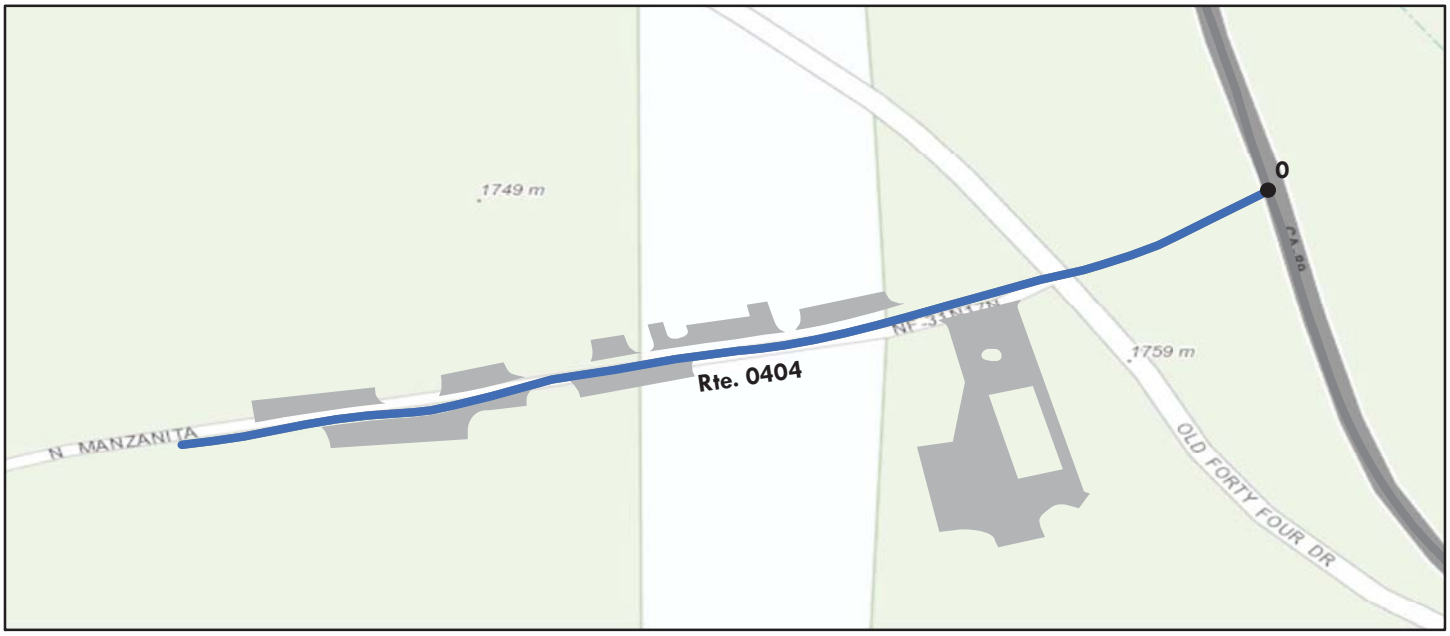
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.31	**Section Length (MI)**	0.31				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	76	76				
Surface Condition Rating (SCR)	76	76				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	76	76				
Alligator Crack Index	93	93				
Longitudinal Crack Index	83	83				
Transverse Cracking Index	91	91				
Patching Index	98	98				
Rutting Index	82	82				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	15.2	15.2				
Lane Width (ft)	10.8	10.8				

Lassen Volcanic National Park

ROUTE 0404: MANZANITA EMPLOYEE RESIDENCE ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.18	**Section Length (MI)**	0.18				
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	98	98				
Alligator Crack Index	100	100				
Longitudinal Crack Index	98	98				
Transverse Cracking Index	100	100				
Patching Index	100	100				
Rutting Index	97	97				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	23.4	23.4				
Lane Width (ft)	11.8	11.8				

Lassen Volcanic National Park

ROUTE 0405: MANZANITA WATER TANK ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.09	**Section Length (MI)**	0.09				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	81	81				
Surface Condition Rating (SCR)	81	81				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	81	81				
Alligator Crack Index	99	99				
Longitudinal Crack Index	82	82				
Transverse Cracking Index	89	89				
Patching Index	99	99				
Rutting Index	83	83				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	10.6	10.6				
Lane Width (ft)	10.6	10.6				

Lassen Volcanic National Park

ROUTE 0410: SUMMERTOWN ROAD

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

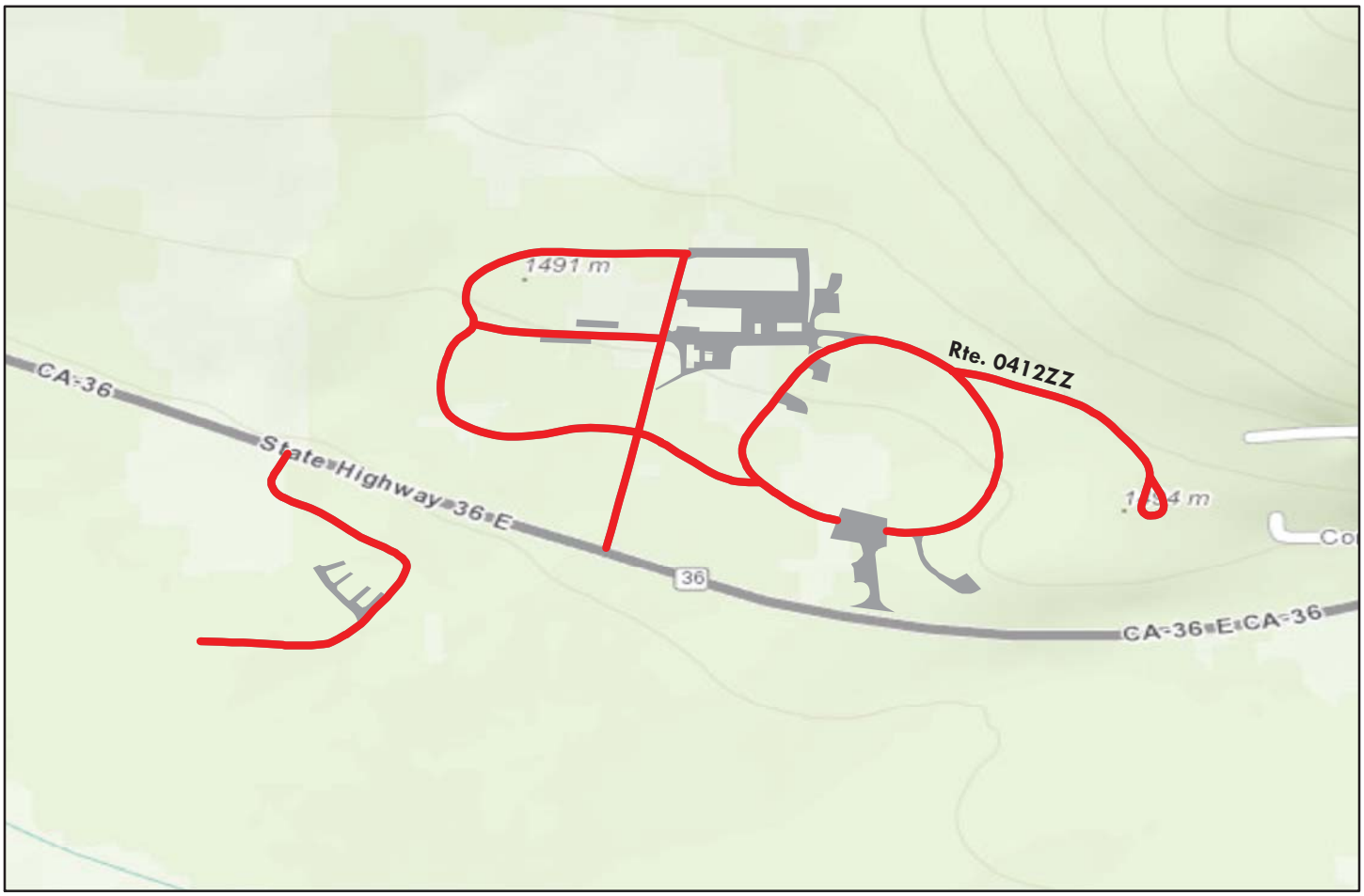
Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.32	**Section Length (MI)**	0.32				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	68	68				
Surface Condition Rating (SCR)	68	68				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	68	68				
Alligator Crack Index	99	99				
Longitudinal Crack Index	69	69				
Transverse Cracking Index	77	77				
Patching Index	99	99				
Rutting Index	87	87				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	13.2	13.2				
Lane Width (ft)	13.2	13.2				

Unpaved section of route begins at MP 0.32 and ends at MP 0.74.

Lassen Volcanic National Park

ROUTE 0412ZZ: LASSEN HEADQUARTERS / RESIDENCE AREA ROADS

Summary Route



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: The weighted average summary PCR value is calculated from only the sections of road where the PCR was collected. The overall PCR for the summary route may not reflect individual subcomponent ratings.

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

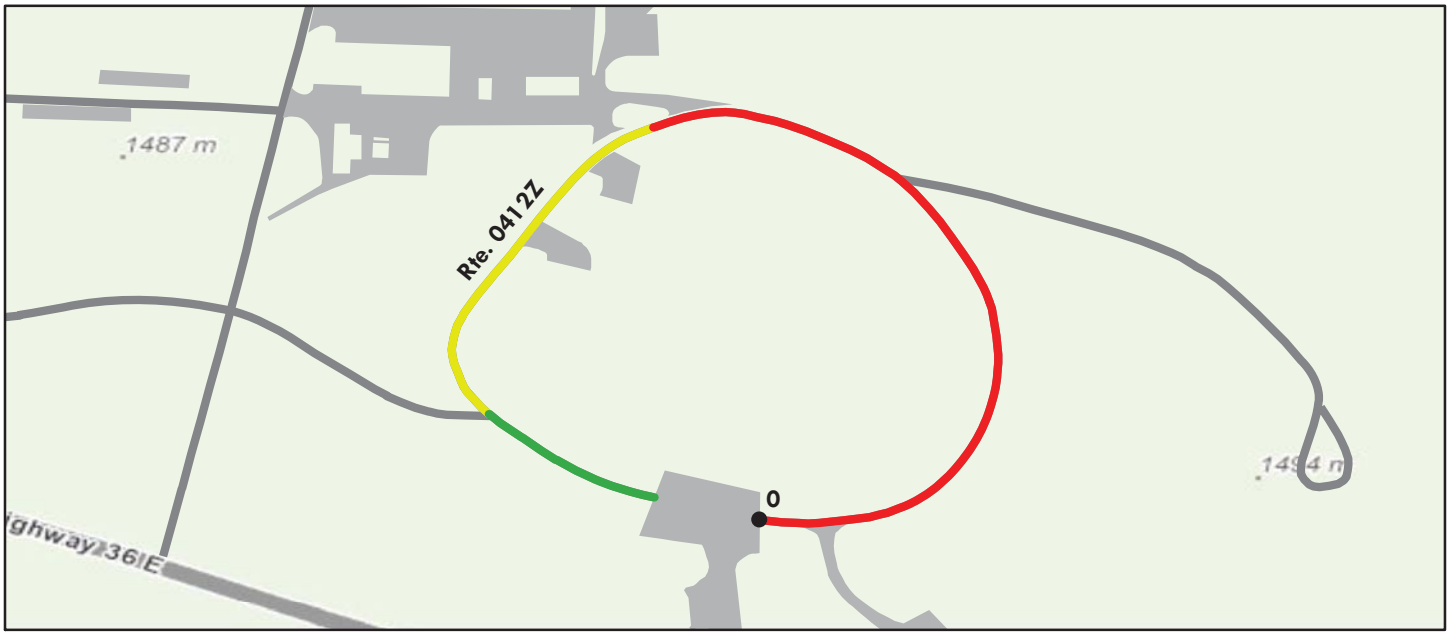
Inspection Date:	7/29/2015						
Paved Length (Miles):	1.36						
Surface Type:	ASPHALT	**Route Summary**					
Roadway Condition Information							
Pavement Condition Rating (PCR)		59					
Lane & Width Information							
Number of Lanes		2					
Paved Width (ft)		18.7					
Lane Width (ft)		9.3					

Lassen Volcanic National Park

ROUTE 0412Z: LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST

Subcomponent of Route LAVO-0412ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

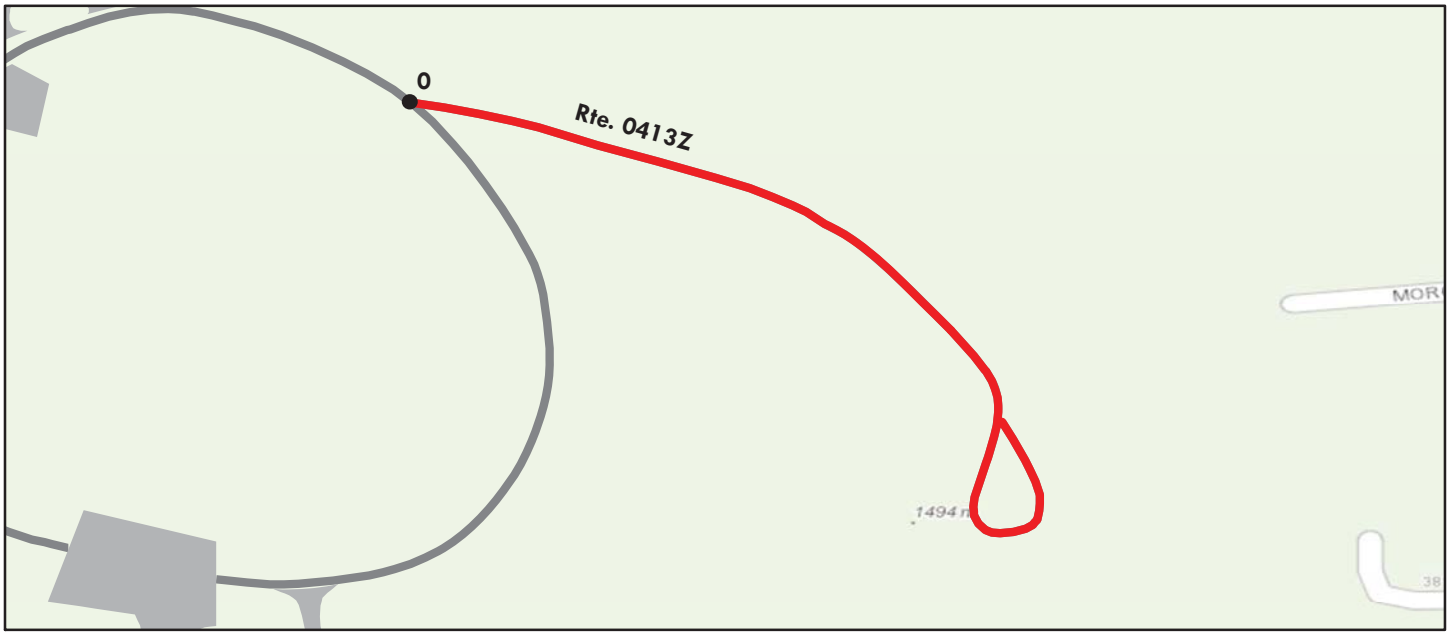
Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.35	**Section Length (MI)**	0.35				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	30	30				
Surface Condition Rating (SCR)	30	30				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	30	30				
Alligator Crack Index	70	70				
Longitudinal Crack Index	60	60				
Transverse Cracking Index	64	64				
Patching Index	99	99				
Rutting Index	94	94				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	16.8	16.8				
Lane Width (ft)	8.4	8.4				

Lassen Volcanic National Park

ROUTE 0413Z: LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD CUL DE SAC

Subcomponent of Route LAVO-0412ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

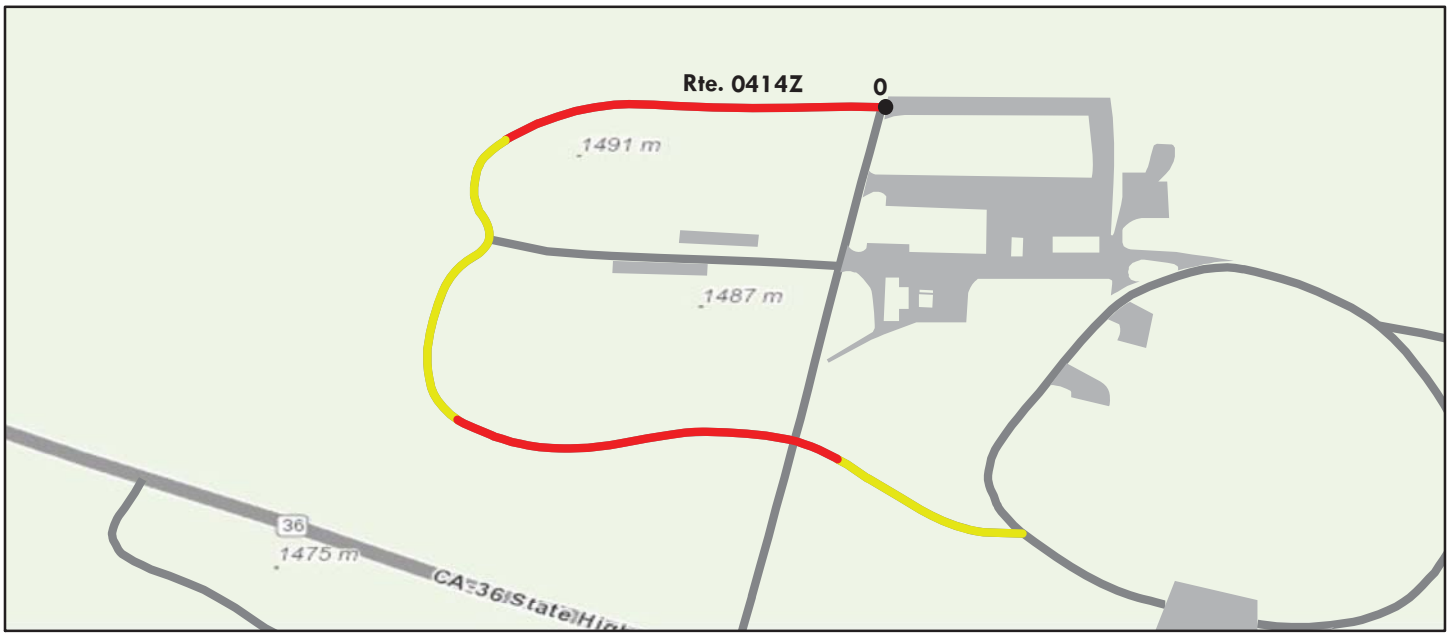
Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.17	**Section Length (MI)**	0.17				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	0	0				
Surface Condition Rating (SCR)	0	0				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	0	0				
Alligator Crack Index	47	47				
Longitudinal Crack Index	43	43				
Transverse Cracking Index	71	71				
Patching Index	96	96				
Rutting Index	93	93				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	15.5	15.5				
Lane Width (ft)	7.7	7.7				

Lassen Volcanic National Park

ROUTE 0414Z: LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST

Subcomponent of Route LAVO-0412ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

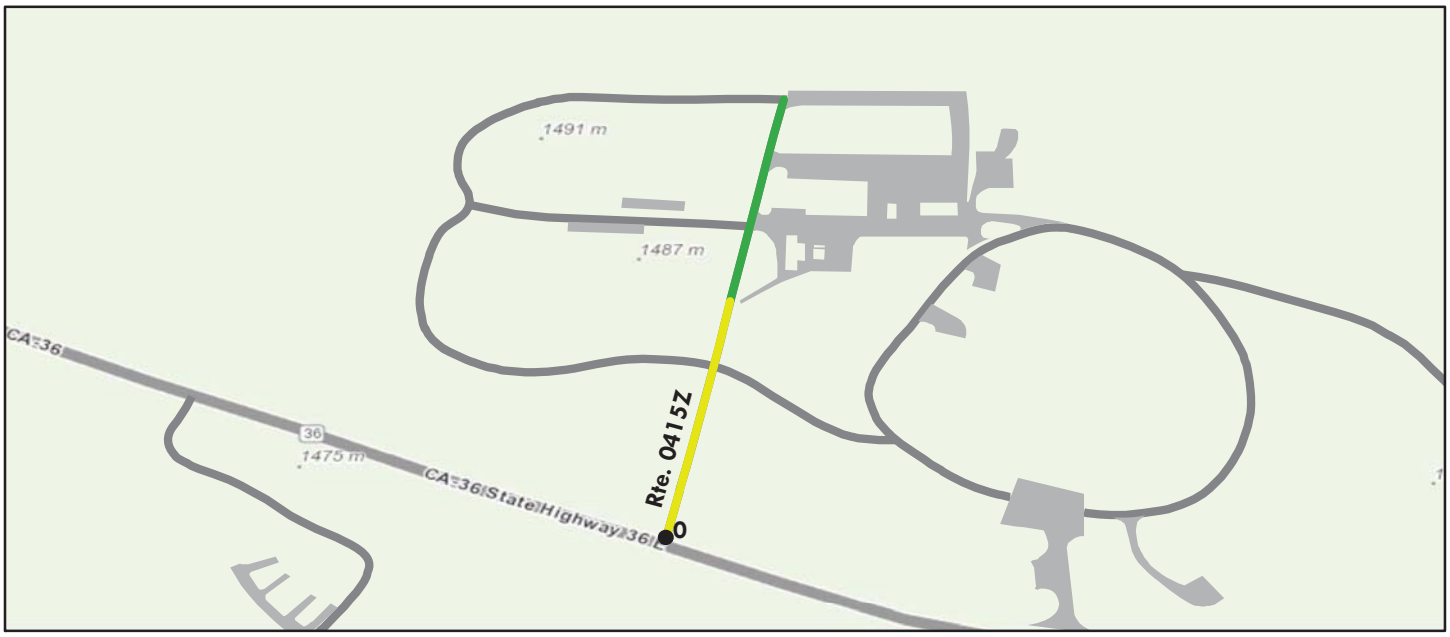
Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.35	**Section Length (MI)**	0.35				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	62	62				
Surface Condition Rating (SCR)	62	62				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	77	77				
Alligator Crack Index	94	94				
Longitudinal Crack Index	83	83				
Transverse Cracking Index	62	62				
Patching Index	97	97				
Rutting Index	94	94				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	20.2	20.2				
Lane Width (ft)	10.1	10.1				

Lassen Volcanic National Park

ROUTE 0415Z: MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD)

Subcomponent of Route LAVO-0412ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.18	**Section Length (MI)**	0.18				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	82	82				
Surface Condition Rating (SCR)	82	82				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	82	82				
Alligator Crack Index	98	98				
Longitudinal Crack Index	84	84				
Transverse Cracking Index	89	89				
Patching Index	100	100				
Rutting Index	96	96				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	18.2	18.2				
Lane Width (ft)	9.1	9.1				

Lassen Volcanic National Park

ROUTE 0416Z: MAINTENANCE SERVICE ROAD

Subcomponent of Route LAVO-0412ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

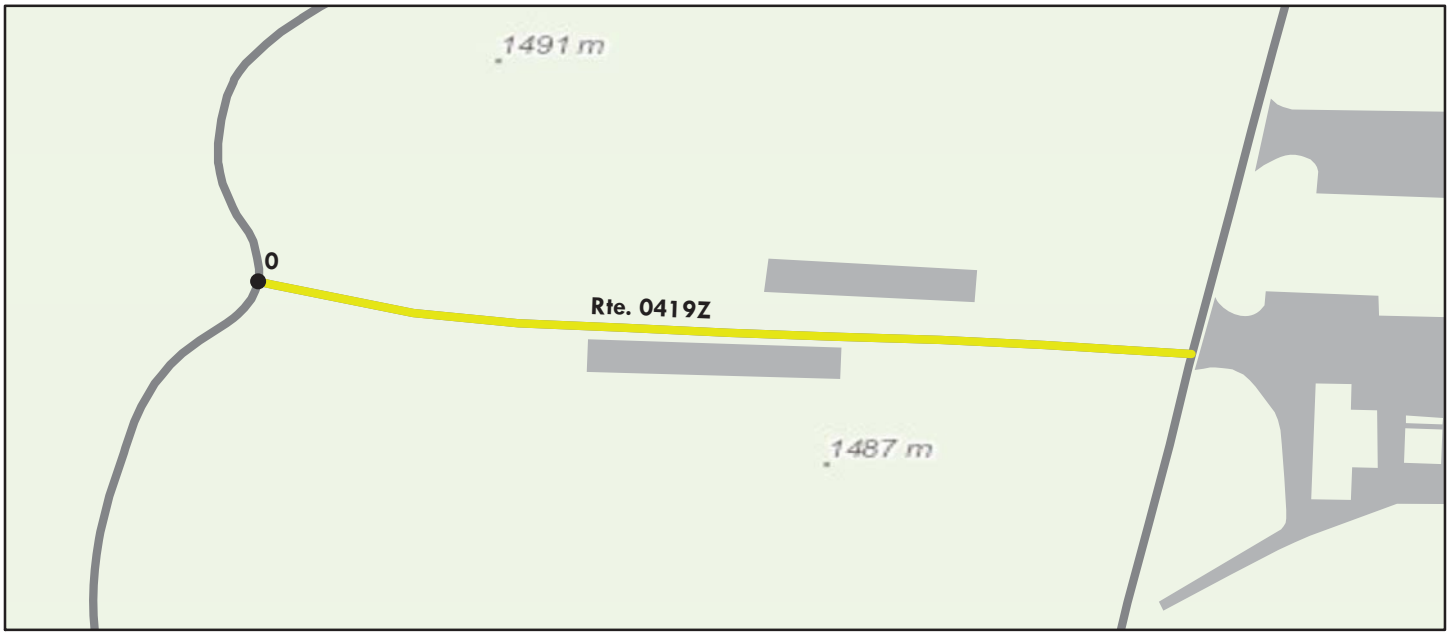
Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.23	**Section Length (MI)**	0.23				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	96	96				
Surface Condition Rating (SCR)	96	96				
Roughness Condition 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	99	99				
Patching Index	100	100				
Rutting Index	96	96				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	21.6	21.6				
Lane Width (ft)	10.8	10.8				

Lassen Volcanic National Park

ROUTE 0419Z: LASSEN FIRE ROAD

Subcomponent of Route LAVO-0412ZZ

Data Collection Vehicle (DCV) 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

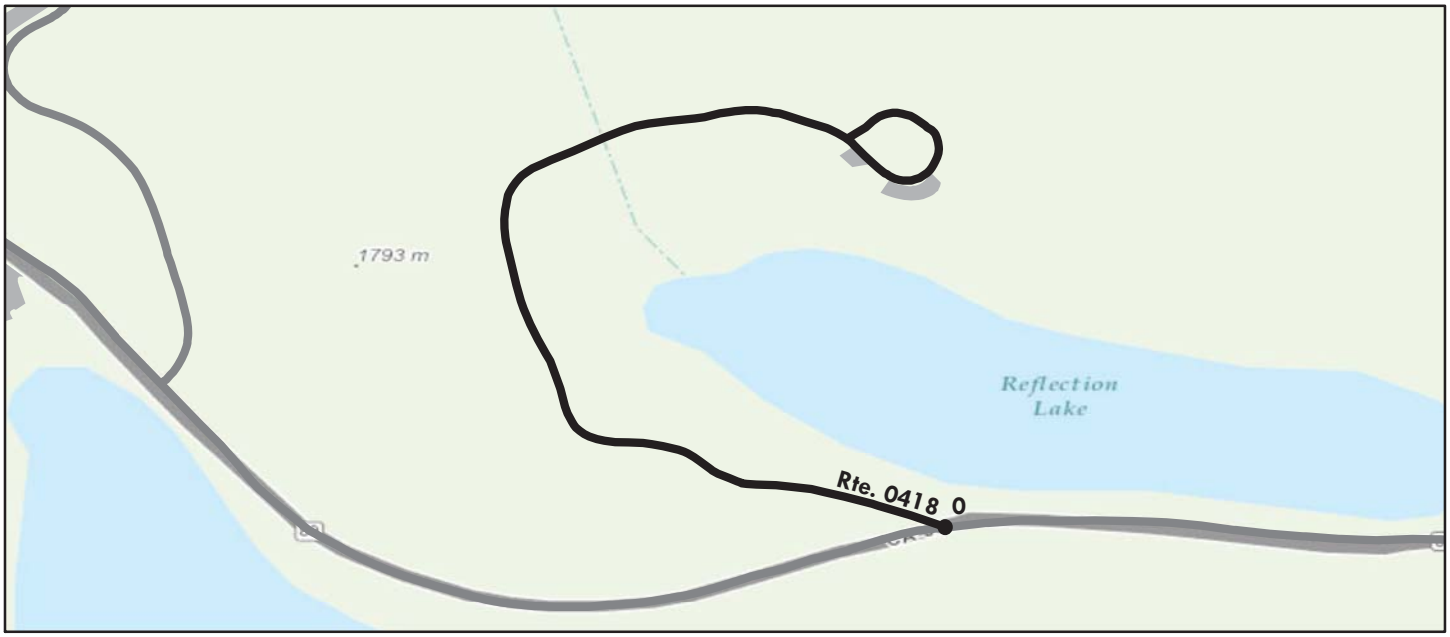
See Appendix for definitions and formulas

Inspection Date: 7/29/2015	**Beginning Section MP**	0				
Paved Length (Miles): 0.08	**Section Length (MI)**	0.08				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	84	84				
Surface Condition Rating (SCR)	84	84				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	84	84				
Alligator Crack Index	86	86				
Longitudinal Crack Index	98	98				
Transverse Cracking Index	88	88				
Patching Index	97	97				
Rutting Index	95	95				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	19.7	19.7				
Lane Width (ft)	9.8	9.8				

Lassen Volcanic National Park

ROUTE 0418: REFLECTION LAKE 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 (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

Inspection Date:	7/29/2015	**Beginning Section MP**	0.00				
Paved Length (Miles):	0.37	**Section Length (MI)**	0.37				
Surface Type:	ASPHALT	**Route Summary**					
Roadway Condition Information							
Pavement Condition Rating (PCR)		N/A	N/A				
Surface Condition Rating (SCR)		N/A	N/A				
Roughness Condition Index (RCI)		N/A	N/A				
Distress Index Values							
Structural Crack Index		N/A	N/A				
Alligator Crack Index		N/A	N/A				
Longitudinal Crack Index		N/A	N/A				
Transverse Cracking Index		N/A	N/A				
Patching Index		N/A	N/A				
Rutting Index		N/A	N/A				
International Roughness Index (IRI)		N/A	N/A				
Lane & Width Information							
Number of Lanes		1	1				
Paved Width (ft)		10.5	10.5				
Lane Width (ft)		10.5	10.5				

Road was not rated in cycle 6 because pavement is covered with gravel and blocked off by fallen trees.

Lassen Volcanic National Park

ROUTE 0418: REFLECTION LAKE ROAD

Condition Photos

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

LAVO_0418_001.jpg

LAVO_0418_9607.JPG

Section 6
Paved Parking Area Condition Rating Sheets

Lassen Volcanic National Park

Federal Lands Highway
Road Inventory Program

Lassen Volcanic National Park

ROUTE 0900: LASSEN HEADQUARTERS PARKING

Manual Rating

FROM STATE HIGHWAY 36

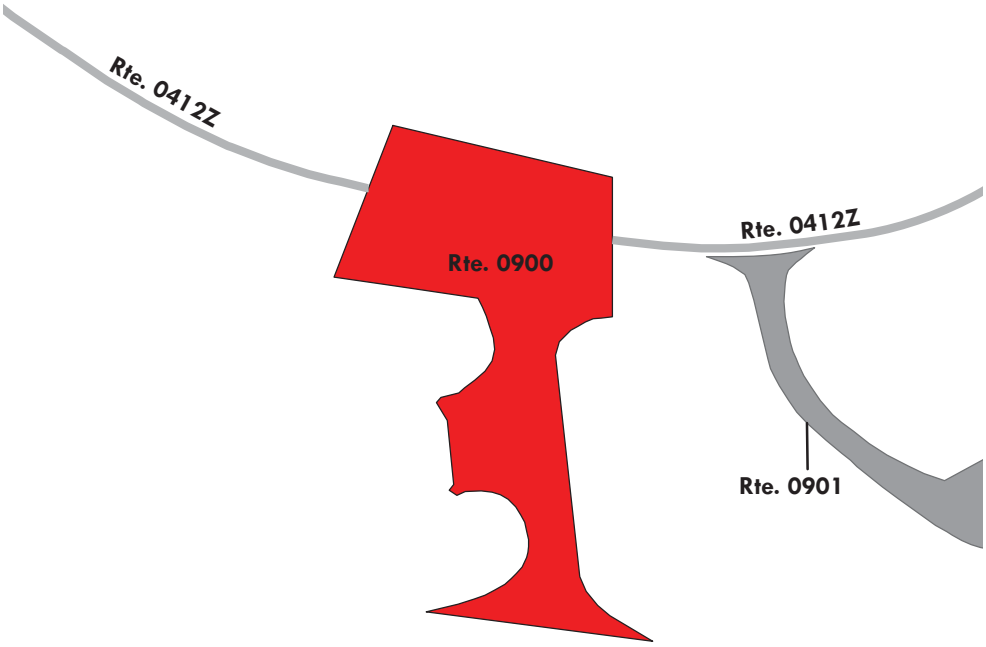
TO ROUTE 0412ZZ (LASSEN HEADQUARTERS / RESIDENCE AREA ROADS)

Inspection Date	FMSS Number	User Access	Surface Type
9/30/2014	73597	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
22,142	0.381	4	REPLACE
Curb Type		**Curb & Gutter Type**	
CONCRETE		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
RECONSTRUCTION		POOR / 30	

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



Lassen Volcanic National Park

ROUTE 0901: NATURALIST DIVISION ANNEX PARKING

Manual Rating

FROM ROUTE 0412ZZ (LASSEN HEADQUARTERS / RESIDENCE AREA ROADS)

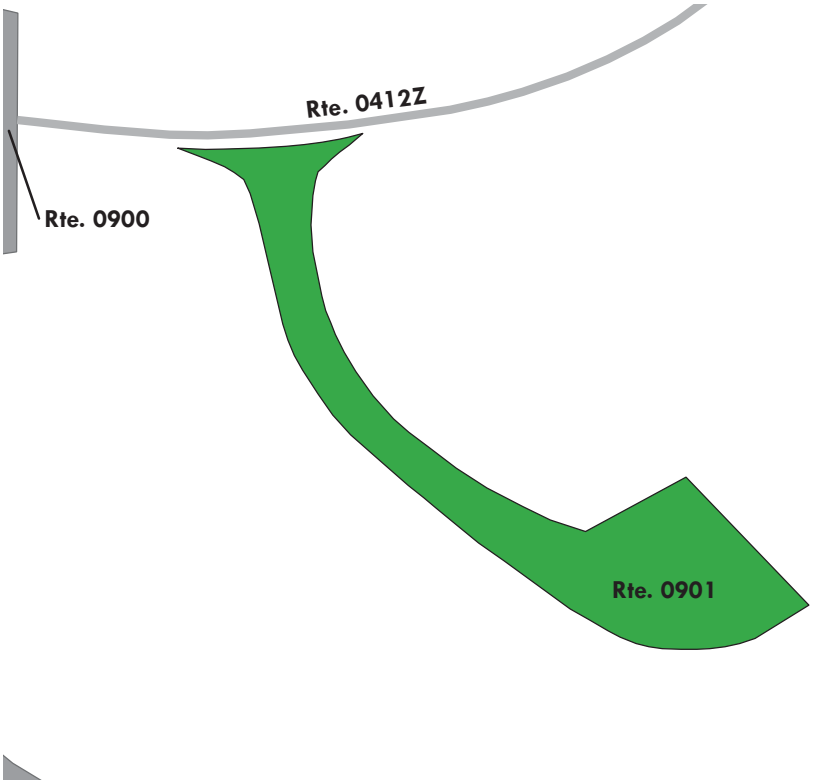
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
9/30/2014	73601	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
6,236	0.107	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)** | **Not Rated**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0902ZZ: PARK HEADQUARTERS RANGER / MAINTENANCE PARKING AREAS

Summary Route
Manual Rating

FROM ROUTE 0412ZZ (LASSEN HEADQUARTERS / RESIDENCE AREA ROADS)

TO PARKING

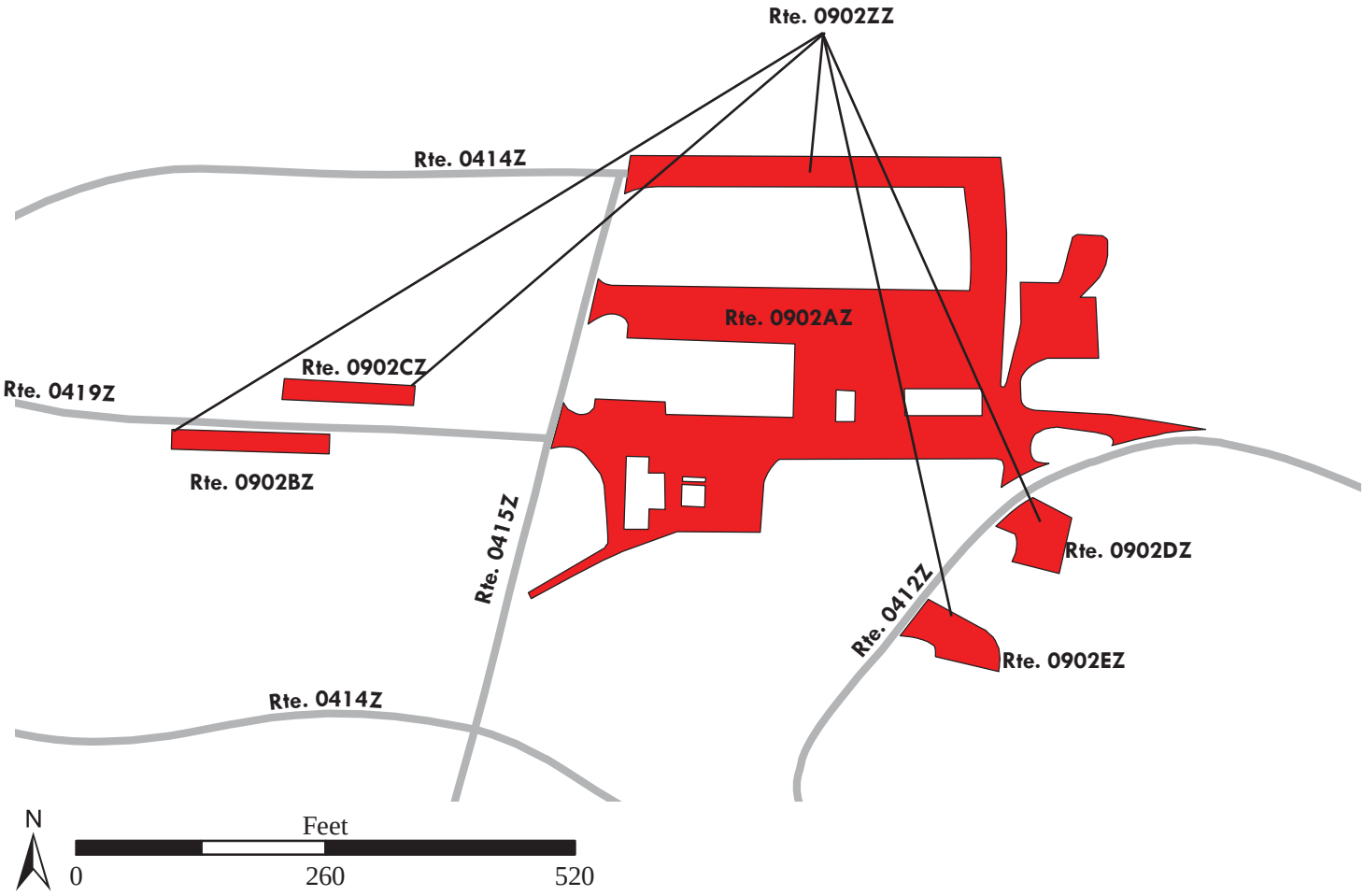
Inspection Date	FMSS Number	User Access	Surface Type
9/30/2014	73607	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Condition Rating / PCR**	
88,115	1.517	SUMMARY / 35	

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

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



Lassen Volcanic National Park

ROUTE 0902AZ: PARK HEADQUARTERS / RANGER AND MAINTENANCE PARKING A

Subcomponent of Route LAVO-0902ZZ
Manual Rating

FROM ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST)

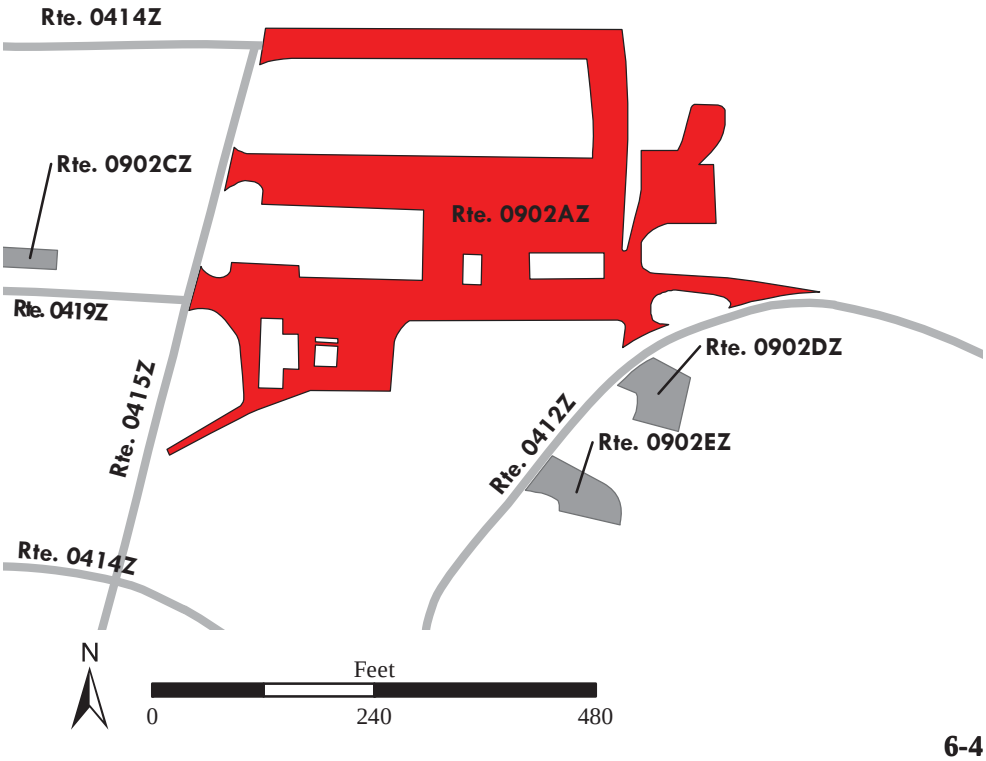
TO ROUTE 0415Z (MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD))

Inspection Date	FMSS Number	User Access	Surface Type
9/30/2014	73607	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
77,419	1.333	5	REPLACE
Curb Type		**Curb & Gutter Type**	
ASPHALT		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
RECONSTRUCTION		POOR / 30	

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



Lassen Volcanic National Park

ROUTE 0902BZ: PARK HEADQUARTERS / FIRE STATION PARKING B

Subcomponent of Route LAVO-0902ZZ
Manual Rating

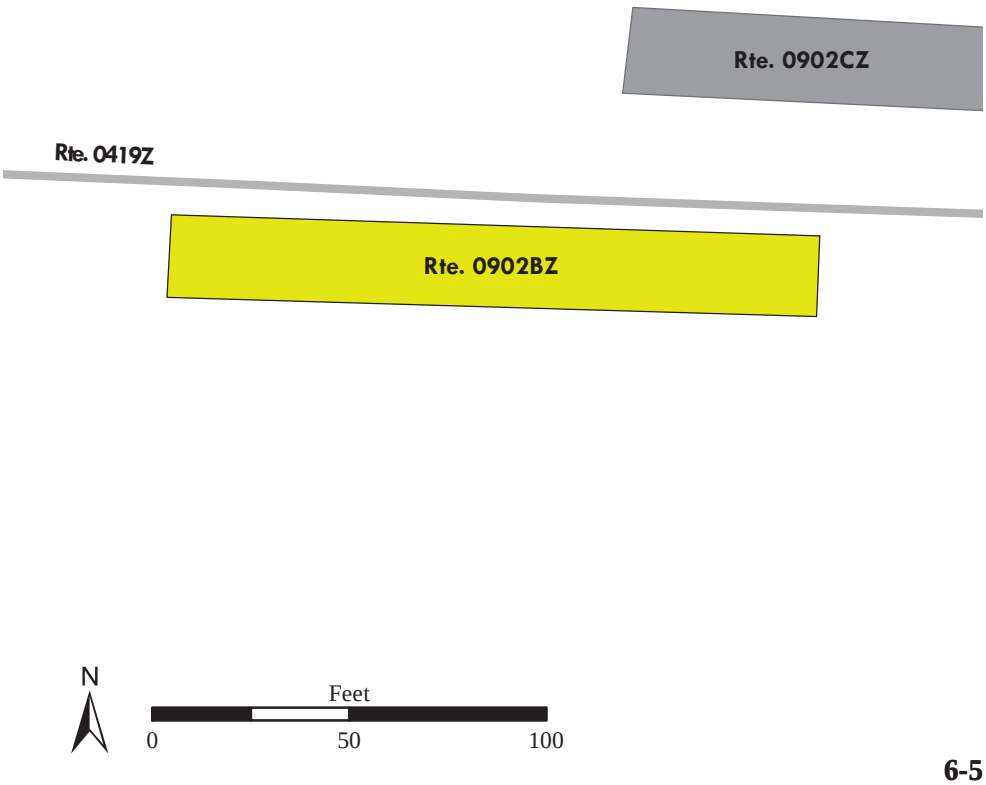
ADJACENT TO ROUTE 0419Z (LASSEN FIRE ROAD) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
9/30/2014	73607	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,602	0.045	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

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0902CZ: PARK HEADQUARTERS / FIRE STATION PARKING C

Subcomponent of Route LAVO-0902ZZ
Manual Rating

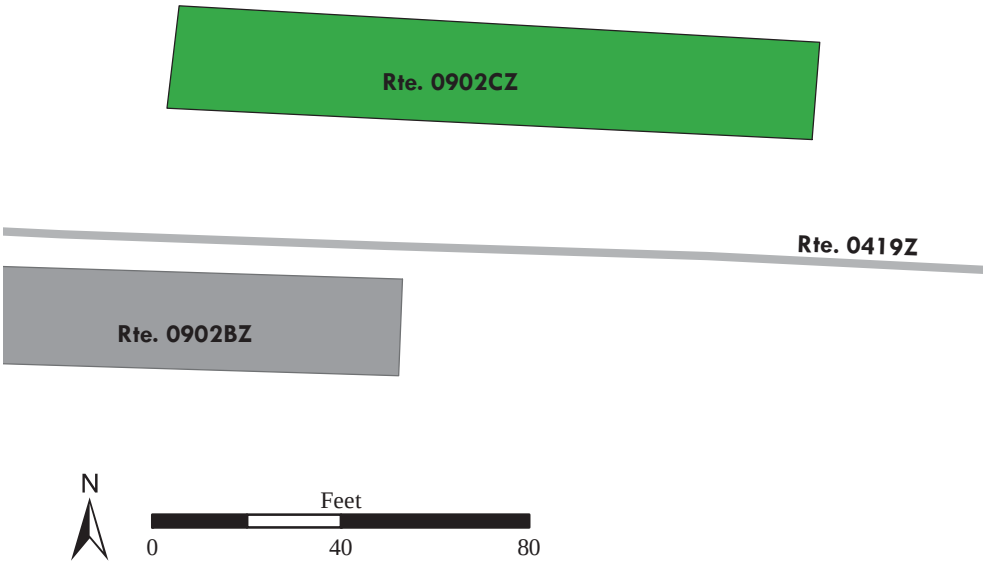
ADJACENT TO ROUTE 0419Z (LASSEN FIRE ROAD) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
9/30/2014	73607	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,223	0.038	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0902DZ: PARK HEADQUARTERS / RANGER OPERATIONS PARKING

Subcomponent of Route LAVO-0902ZZ
Manual Rating

FROM ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST)

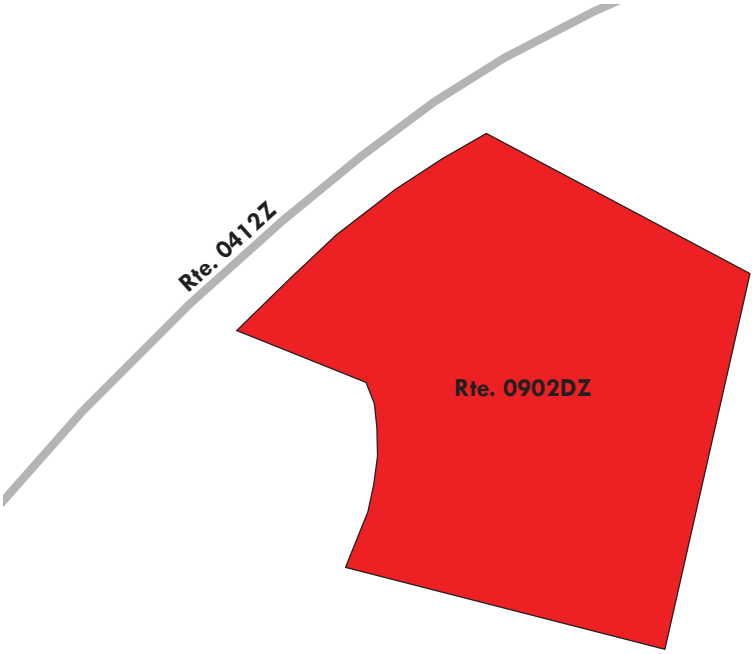
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
9/30/2014	73607	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,881	0.05	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
RECONSTRUCTION		POOR / 30	

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



Lassen Volcanic National Park

ROUTE 0902EZ: PARK HEADQUARTERS / INTERPRETATION AND EDUCATION BUILDING PARKING

Subcomponent of Route LAVO-0902ZZ
Manual Rating

FROM ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST)

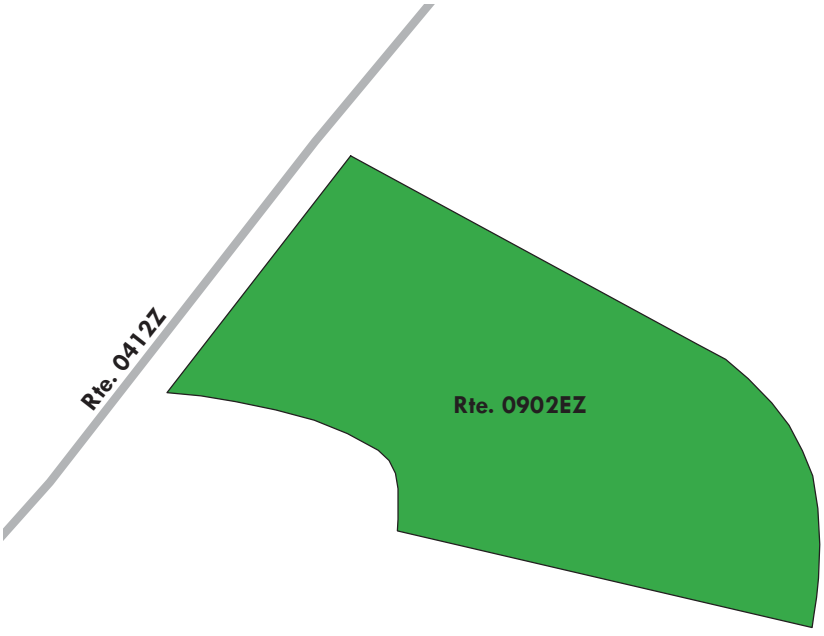
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
9/30/2014	73607	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,990	0.051	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0903: CROSSROAD PAVILION PARKING

Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 29.73 ON RIGHT

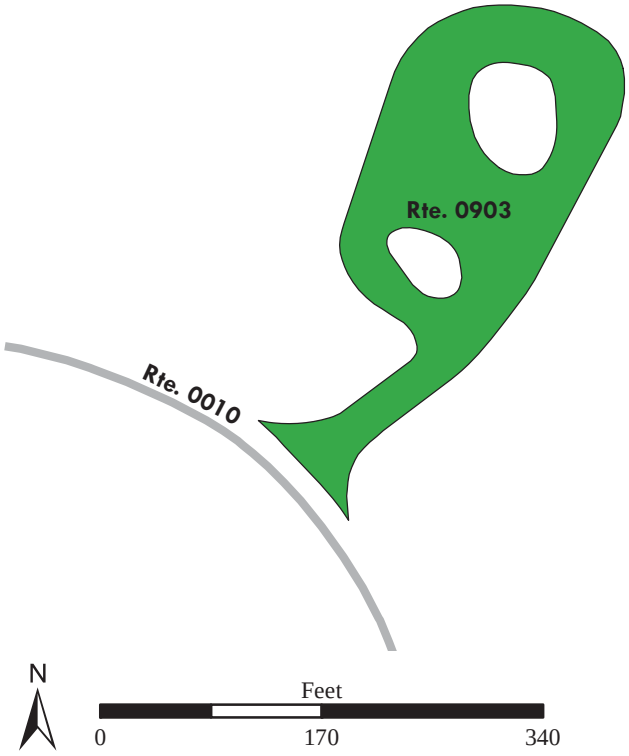
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73610	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
29,111	0.501	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

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0904: MANZANITA MAINTENANCE PARKING

Manual Rating

FROM ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD)

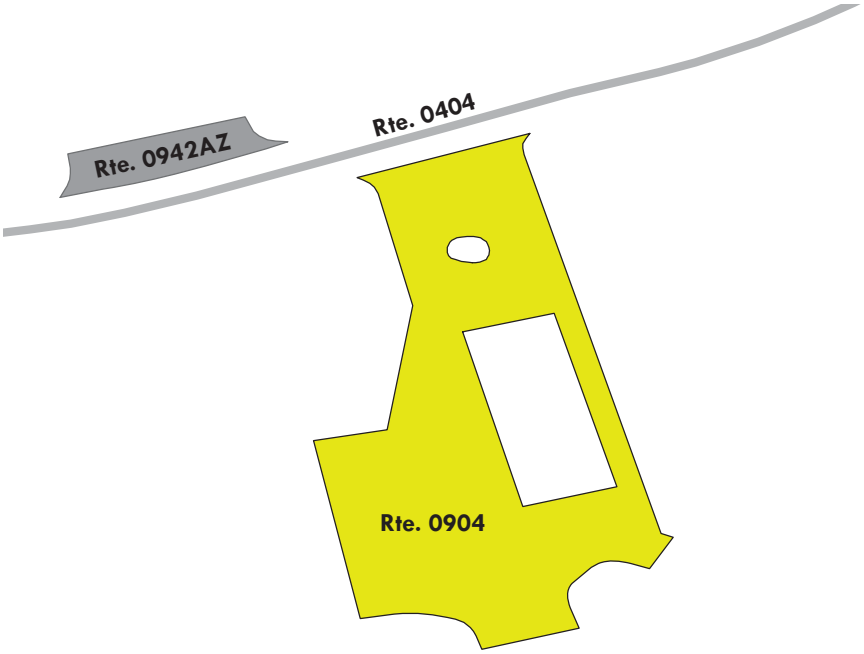
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73616	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
18,112	0.312	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

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0906ZZ: SOUTHWEST VISITORS CENTER PARKING AREAS

Summary Route
Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD)

TO PARKING

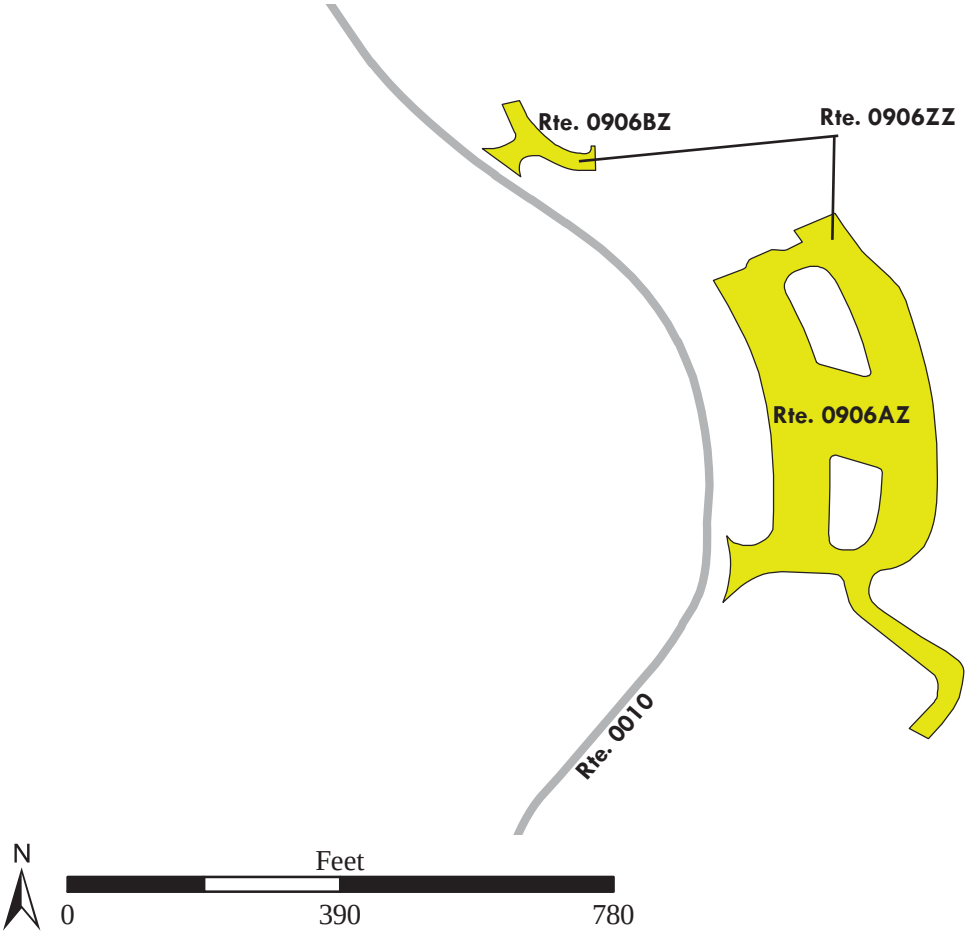
Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73618	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Condition Rating / PCR**	
83,506	1.438	SUMMARY / 74	

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

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



Lassen Volcanic National Park

ROUTE 0906AZ: SOUTHWEST VISITORS CENTER PARKING

Subcomponent of Route LAVO-0906ZZ
Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 0.99 ON RIGHT

TO PARKING

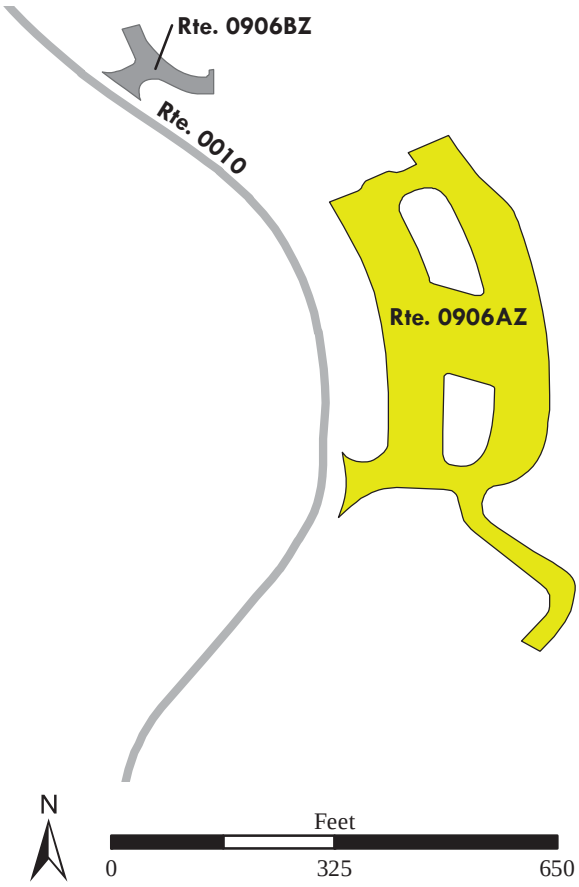
Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73618	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
79,053	1.361	NOT APPLICABLE	DO NOTHING
Curb Type		**Curb & Gutter Type**	
NO CURB		CONCRETE	
Pavement Recommendation		**Condition 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 - 100)** | **Not Rated**

See Appendix for definitions and formulas

The parking area consists of multiple surface types, one part asphalt at 77,884 square feet; one part concrete at 1,169 square feet.



Lassen Volcanic National Park

ROUTE 0906BZ: SERVICE ENTRY PARKING

Subcomponent of Route LAVO-0906ZZ
Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 1.12 ON RIGHT

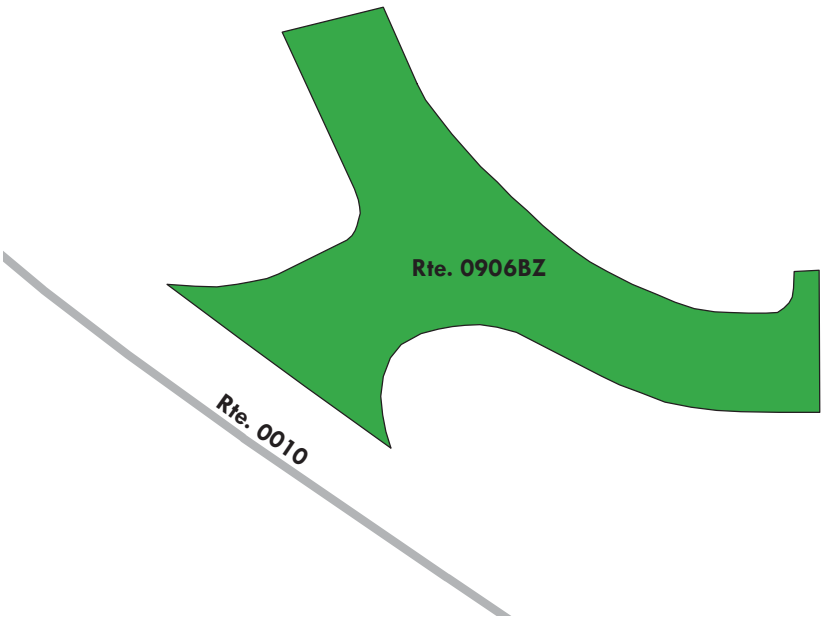
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73618	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,453	0.077	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0908: SULPHUR WORKS PARKING

Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 1.91 ON LEFT

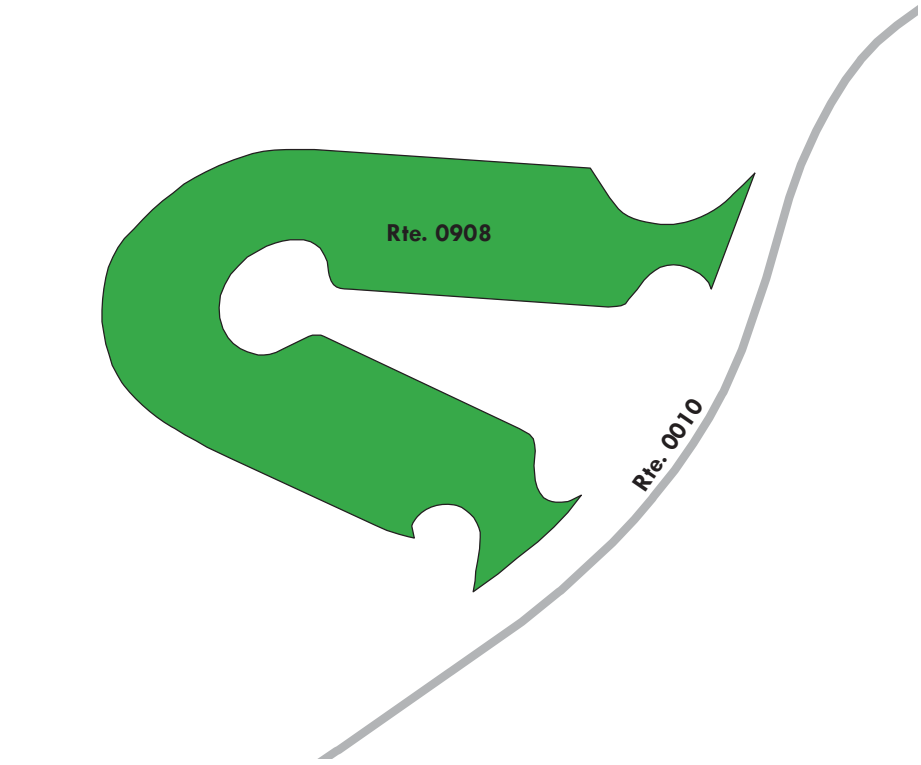
TO ROUTE 0010 (LASSEN PARK ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73621	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
19,608	0.338	NOT APPLICABLE	LIGHT REPAIR
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**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0909: LAKE HELEN PICNIC AREA LOOP

Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MO 7.03 ON LEFT

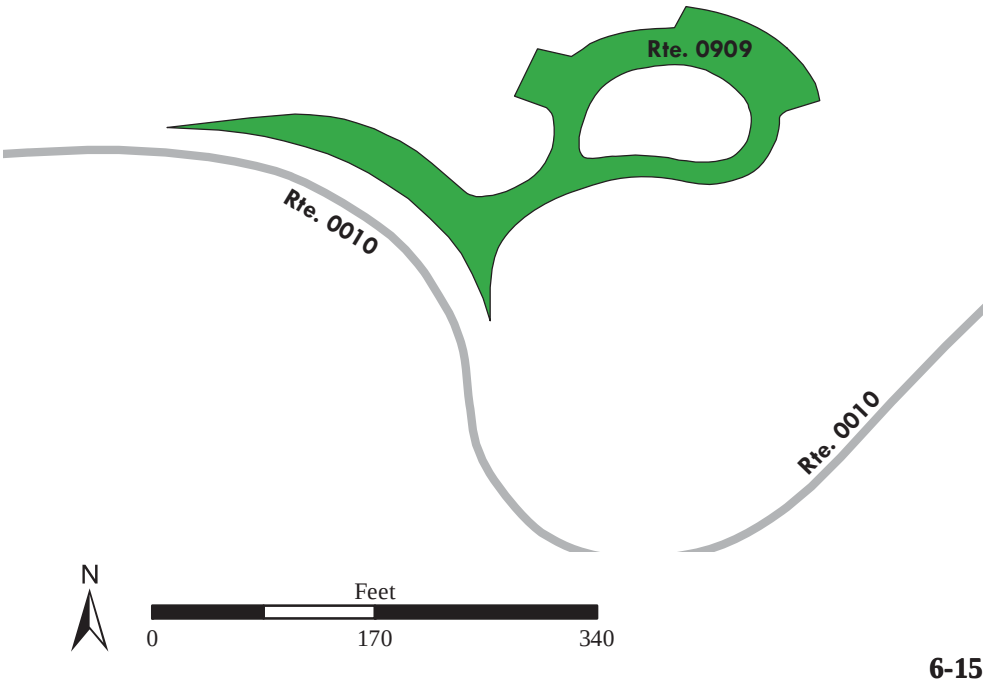
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73623	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
17,129	0.295	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0910ZZ: KINGS CREEK PICNIC PARKING AREAS

Summary Route
Manual Rating

FROM ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD)

TO PARKING

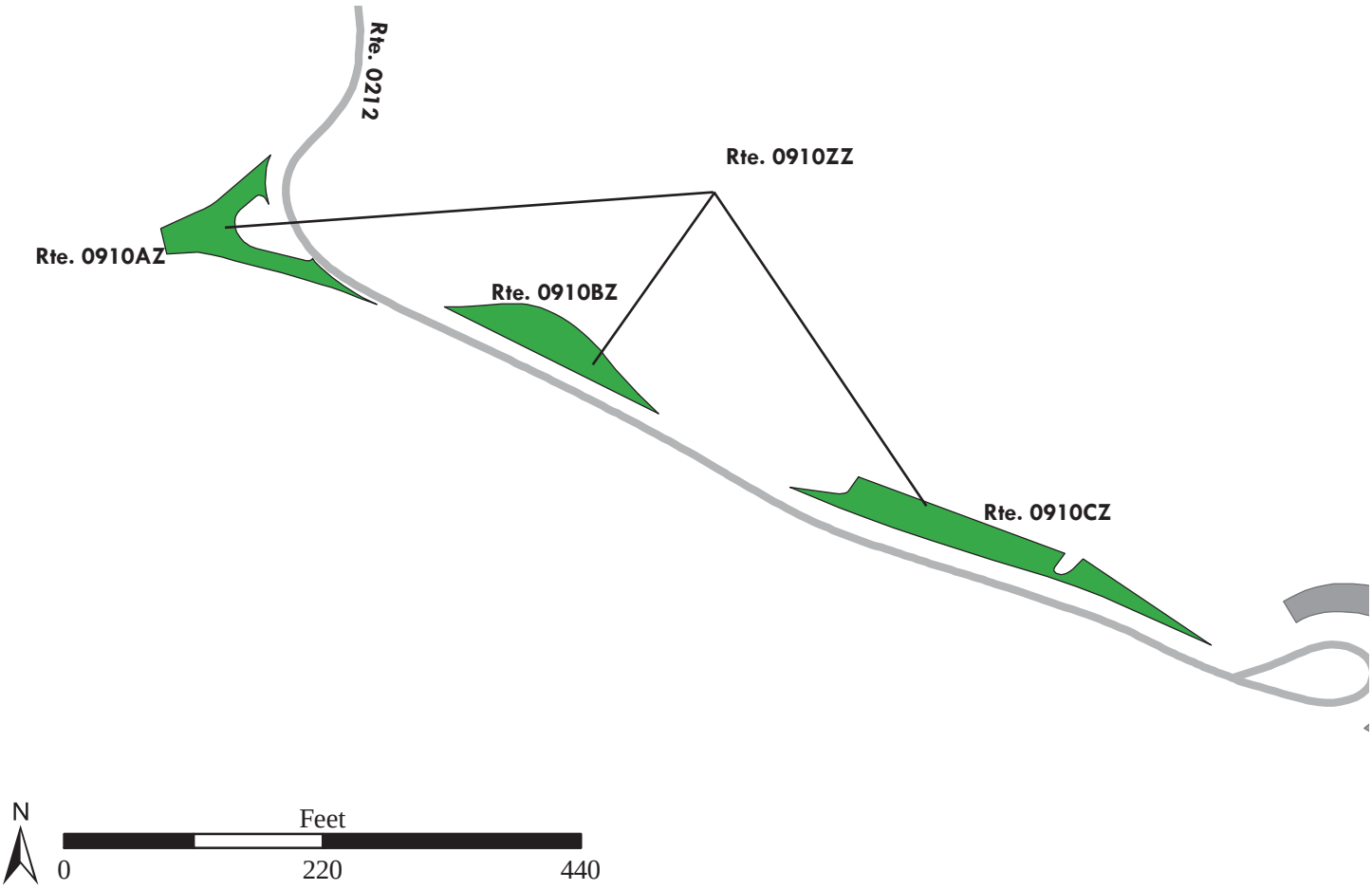
Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73625	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Condition Rating / PCR**	
12,253	0.21	SUMMARY / 90	

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

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



Lassen Volcanic National Park

ROUTE 0910AZ: KINGS CREEK PICNIC AREA TURNOUT PARKING A

Subcomponent of Route LAVO-0910ZZ
Manual Rating

FROM ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD)

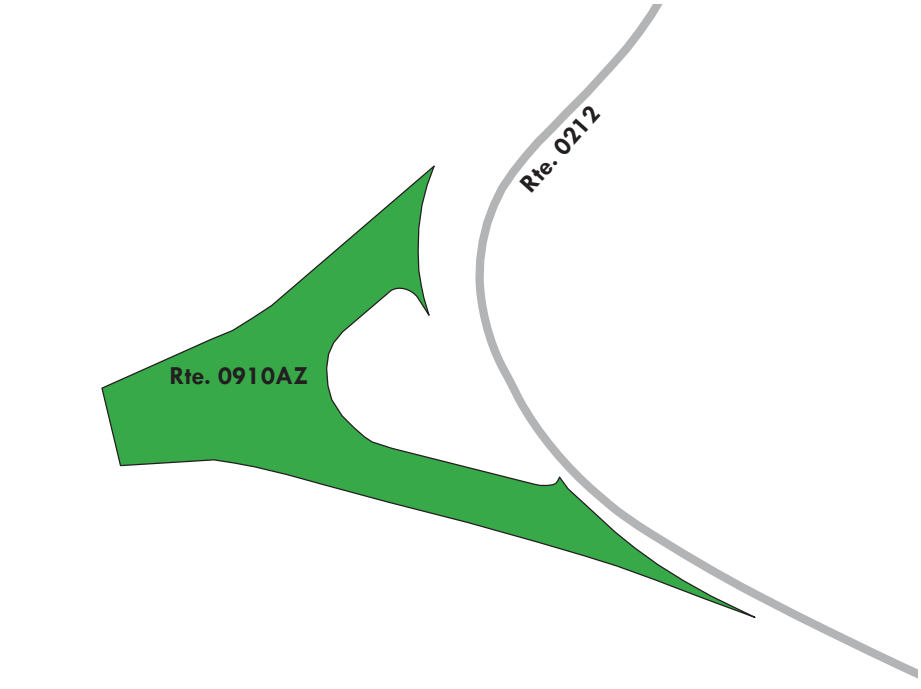
TO ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73625	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
3,440	0.059	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0910BZ: KINGS CREEK PICNIC AREA TURNOUT PARKING B

Subcomponent of Route LAVO-0910ZZ
Manual Rating

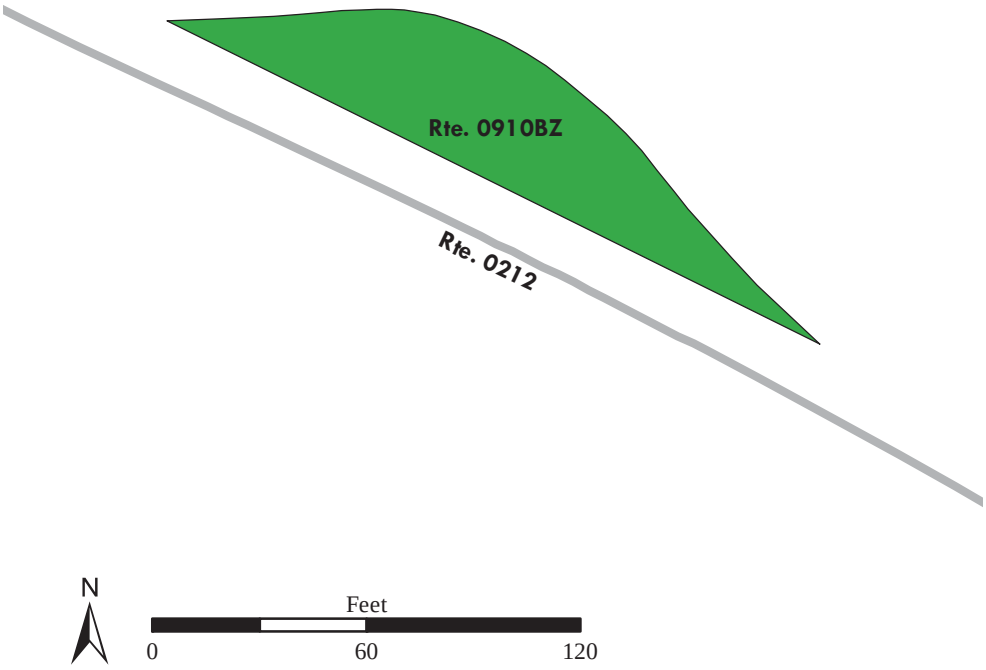
ADJACENT TO ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73625	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
3,332	0.057	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0910CZ: KINGS CREEK PICNIC AREA TURNOUT PARKING C

Subcomponent of Route LAVO-0910ZZ
Manual Rating

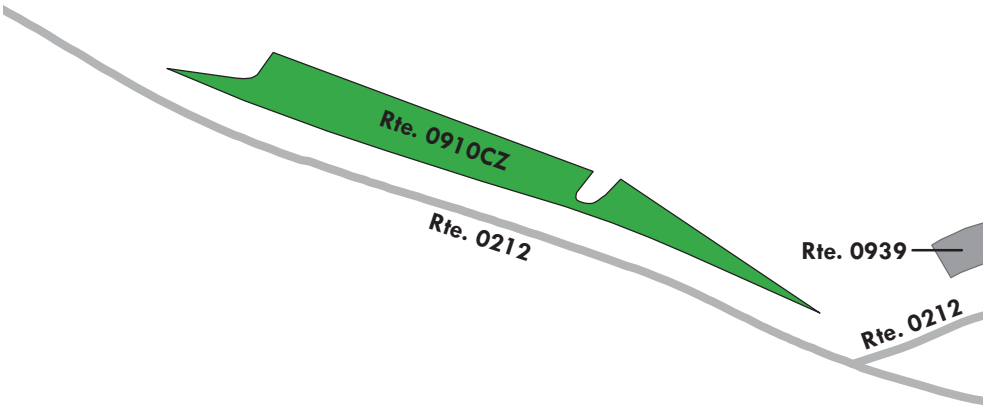
ADJACENT TO ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73625	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
5,481	0.094	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0911: SUMMIT LAKE SOUTH CAMPGROUND PARKING

Manual Rating

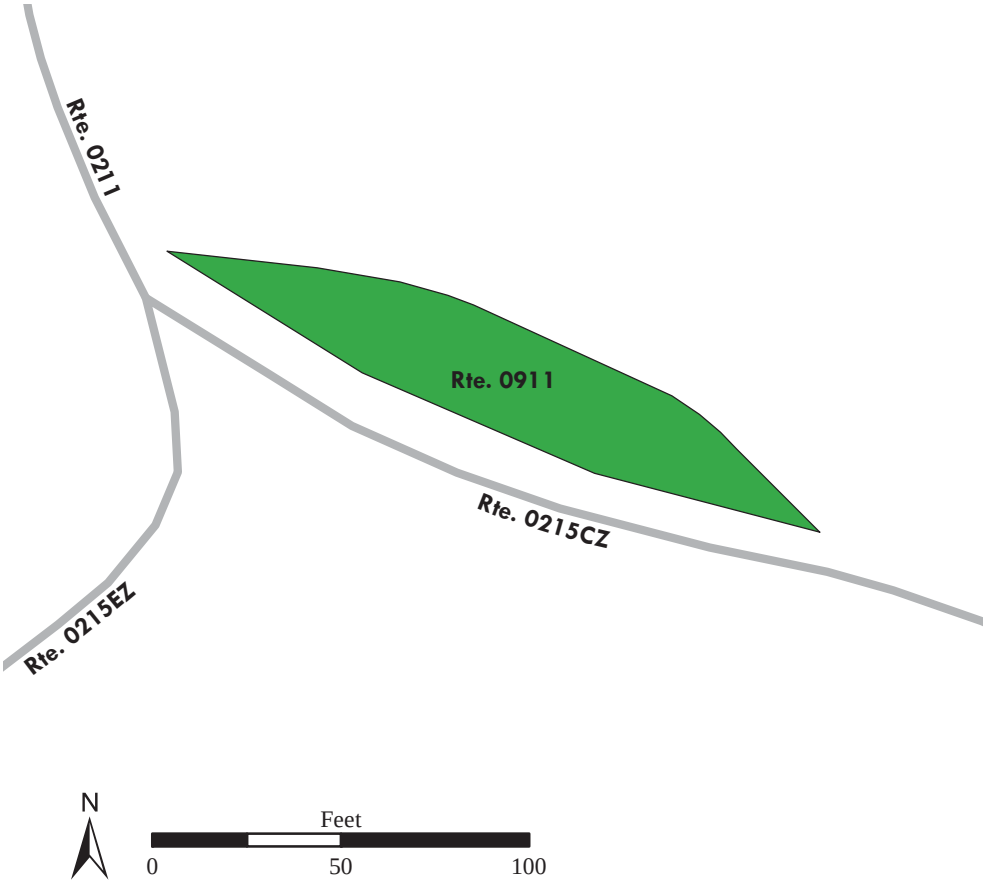
ADJACENT TO ROUTE 0215ZZ (SUMMIT LAKE SOUTH CAMPGROUND LOOPS)

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73626	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,778	0.048	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)** | **Not Rated**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0912A: SUMMIT LAKE NORTH CAMPGROUND PARKING A

Manual Rating

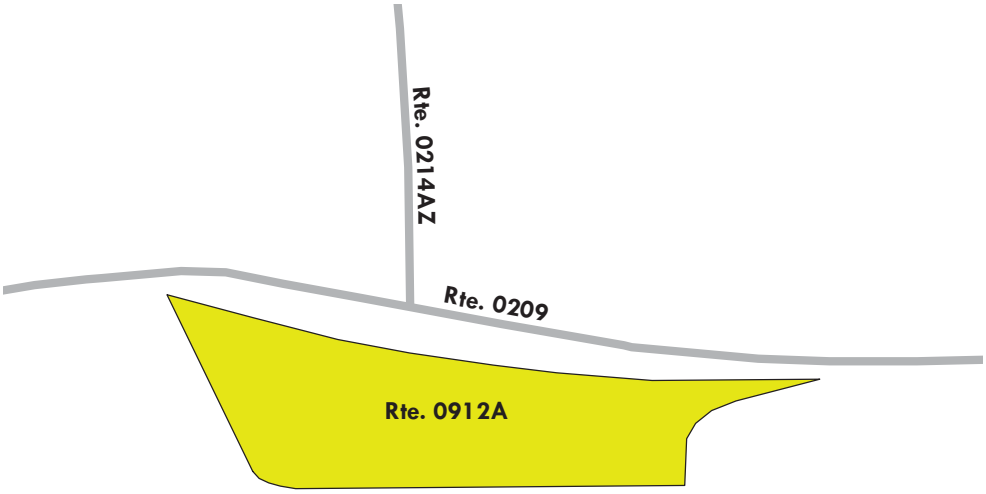
ADJACENT TO ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73628	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
3,097	0.053	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**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0912B: SUMMIT LAKE NORTH CAMPGROUND PARKING B

Manual Rating

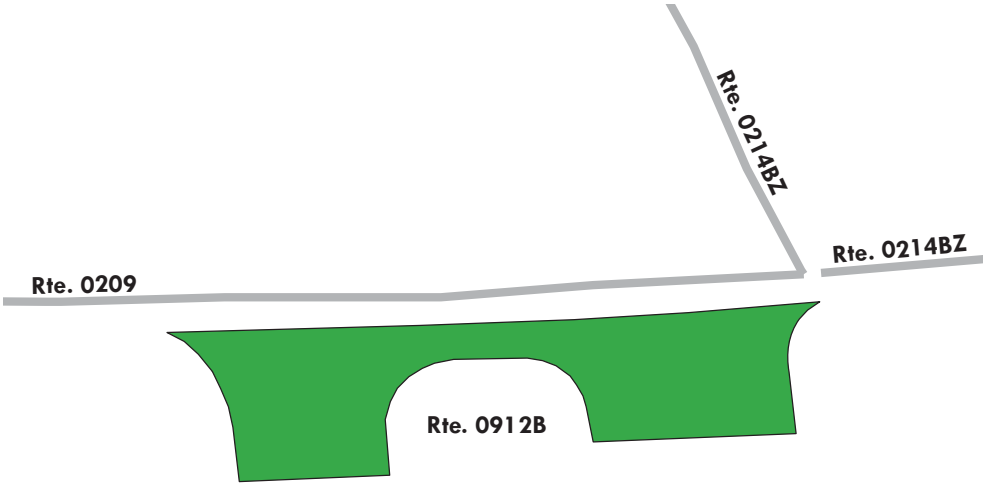
ADJACENT TO ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	105047	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,352	0.023	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0914: DEVASTATED AREA INTERPRETIVE TRAIL PARKING

Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 19.73 ON RIGHT

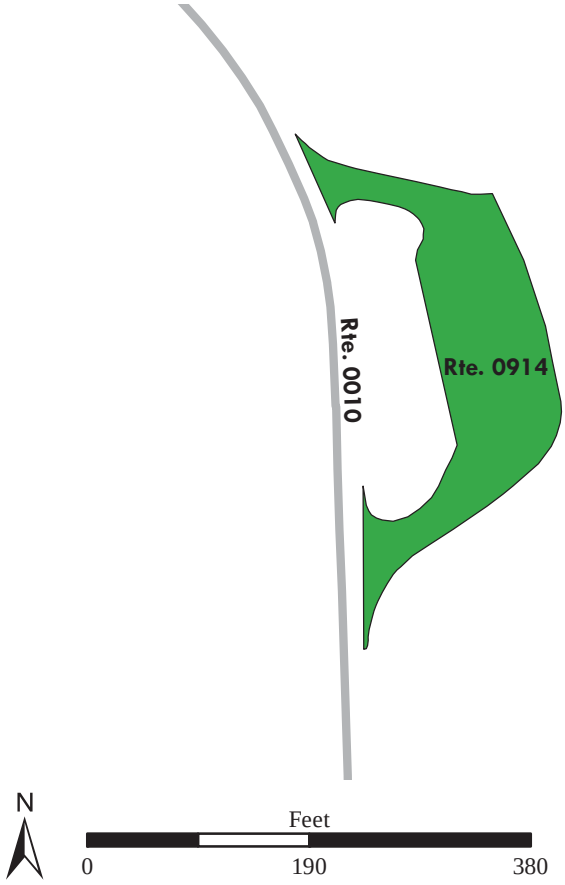
TO ROUTE 0010 (LASSEN PARK ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73633	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
22,881	0.394	6	DO NOTHING
Curb Type		**Curb & Gutter Type**	
STONE		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 - 100)** | **Not Rated**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0915: HAT LAKE PARKING

Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 19.27 ON RIGHT

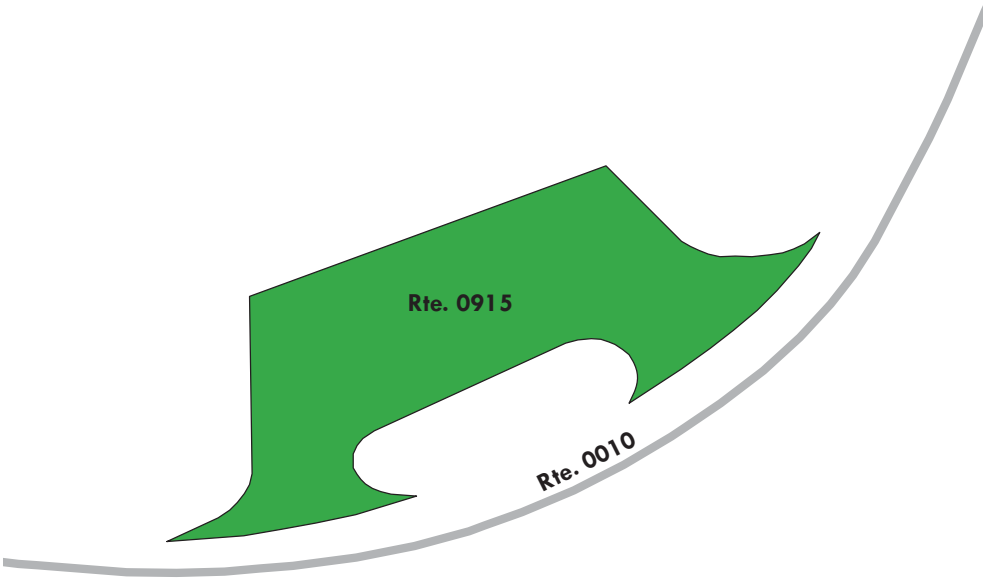
TO ROUTE 0010 (LASSEN PARK ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73635	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
7,017	0.121	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**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0916A: DERSCH MEADOWS PULLOUT PARKING A

Manual Rating

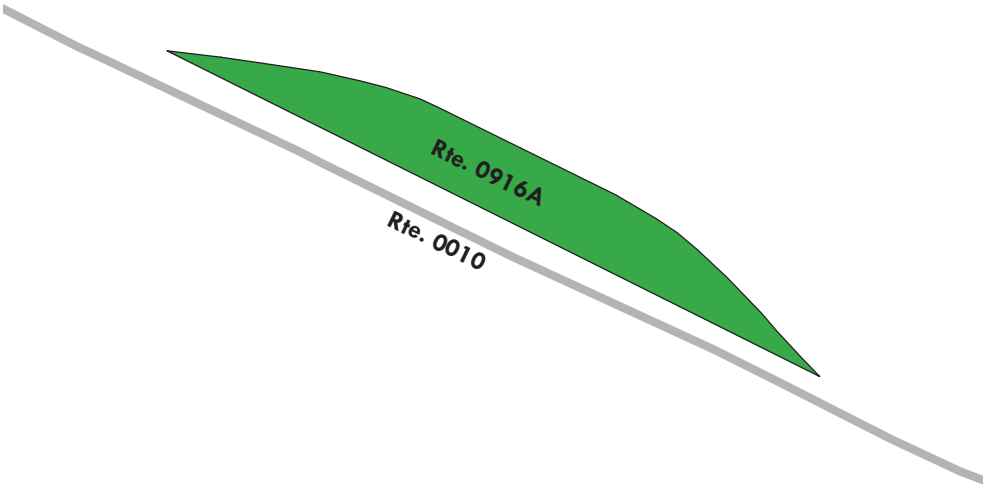
ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 16.93 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	105048	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,823	0.031	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)** | **Not Rated**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0916B: DERSCH MEADOWS PULLOUT PARKING B

Manual Rating

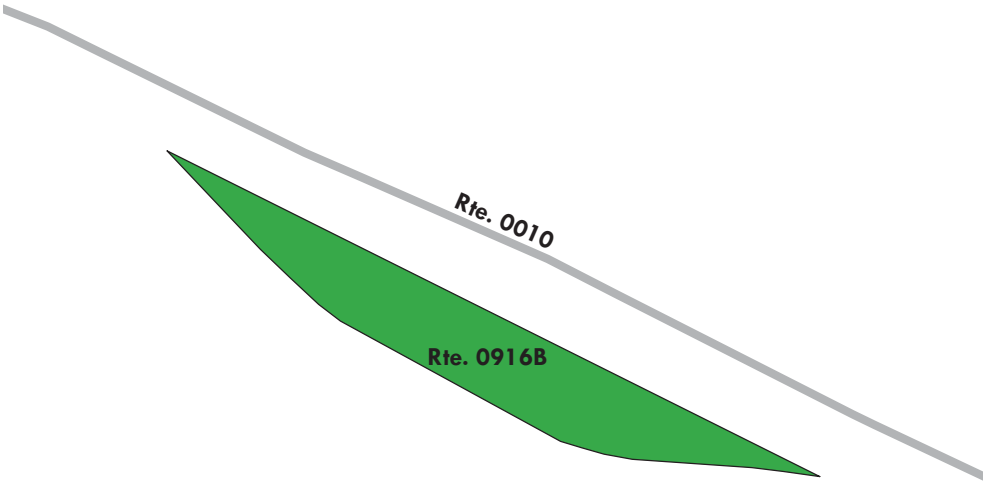
ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 16.96 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	105049	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,534	0.026	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0917: HOT ROCK PARKING

Manual Rating

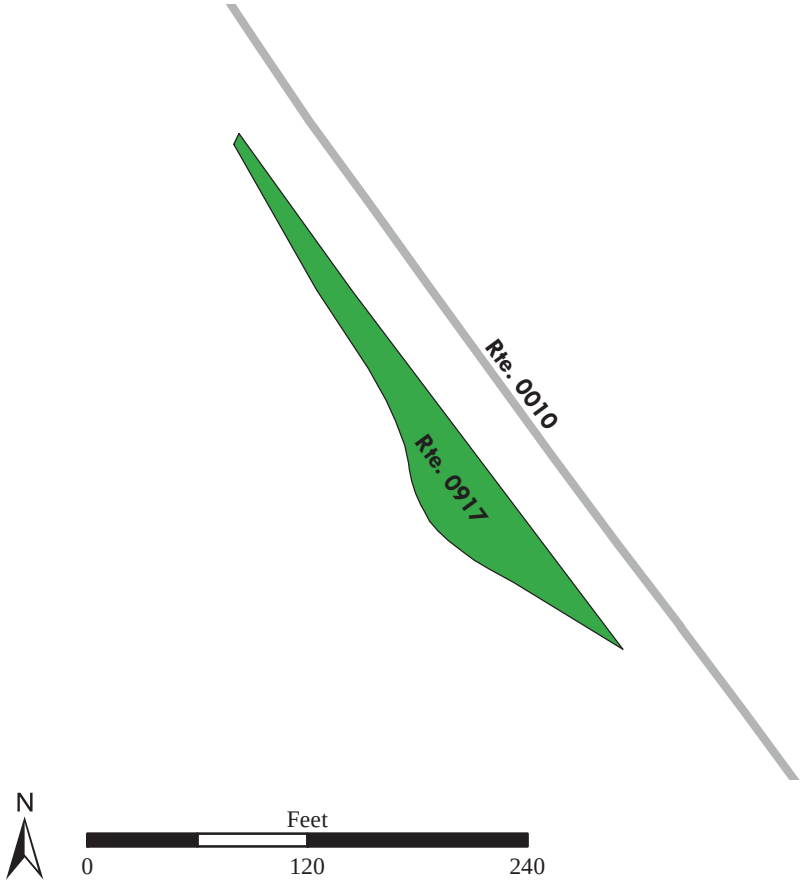
ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 21.74 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73638	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
5,423	0.093	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

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0918: LOST CREEK GROUP CAMP PARKING

Manual Rating

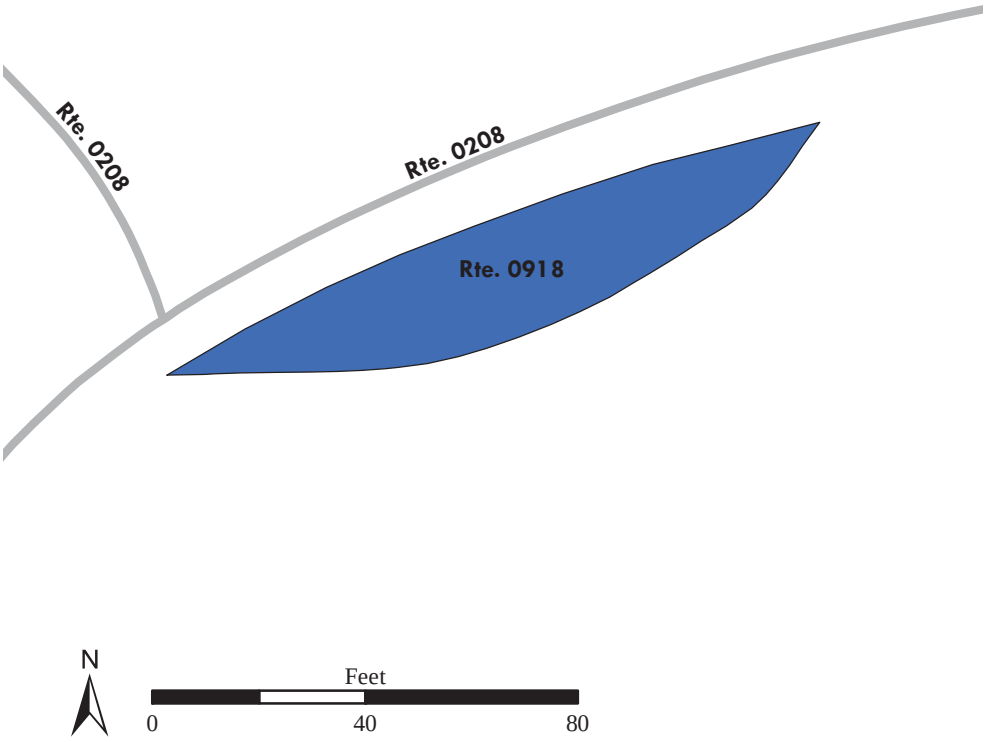
ADJACENT TO ROUTE 0208 (LOST CREEK CAMPGROUND)

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73640	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,513	0.026	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
DO NOTHING		EXCELLENT / 97	

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



Lassen Volcanic National Park

ROUTE 0919: CRAGS PARKING

Manual Rating

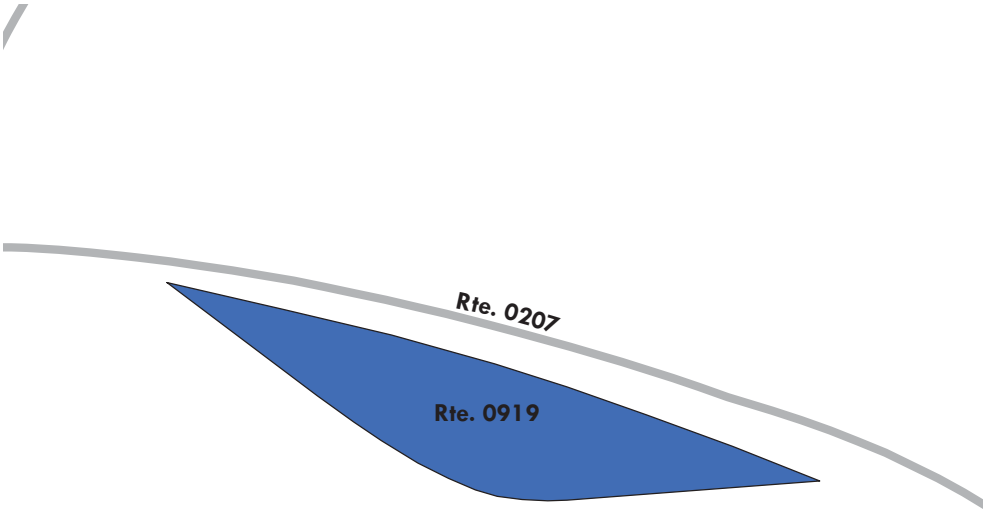
ADJACENT TO ROUTE 0207 (CRAGS CAMPGROUND)

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73642	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,594	0.027	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
DO NOTHING		EXCELLENT / 97	

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



Lassen Volcanic National Park

ROUTE 0920A: MANZANITA STORE SPUR PARKING A

Manual Rating

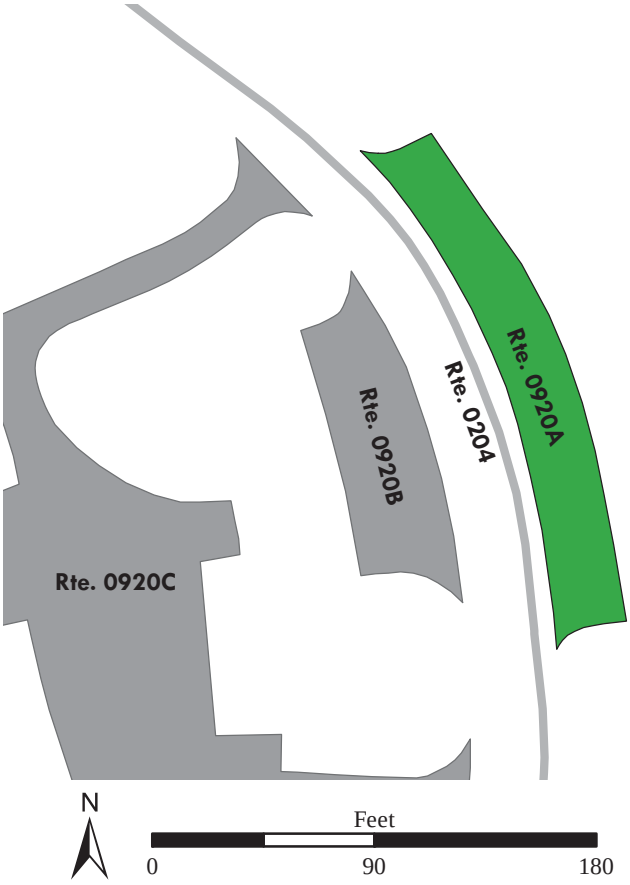
ADJACENT TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.60 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73645	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,357	0.075	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**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0920B: MANZANITA STORE SPUR PARKING B

Manual Rating

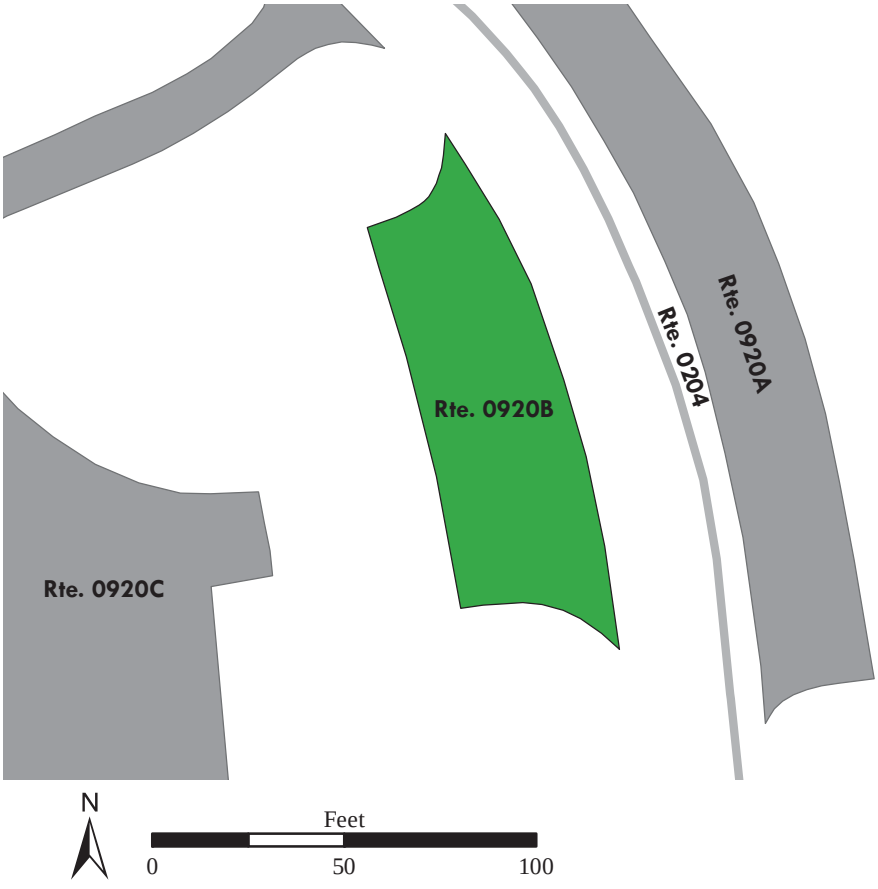
ADJACENT TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.60 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	105050	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
3,229	0.056	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

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0920C: MANZANITA STORE SPUR PARKING C

Manual Rating

FROM ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.58 ON RIGHT

TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.63 ON RIGHT

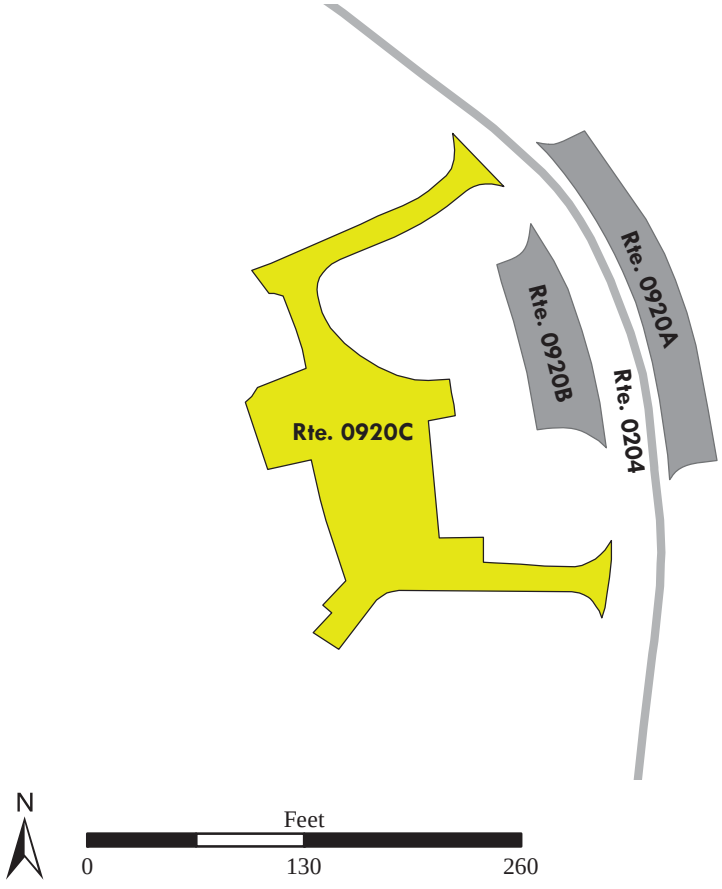
Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	105075	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
13,539	0.233	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**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

See Appendix for definitions and formulas

The parking area consists of multiple surface types, two parts asphalt at 12,816 square feet; one part concrete at 723 square feet.



Lassen Volcanic National Park

ROUTE 0921A: MANZANITA LAKE ACCESS PARKING A

Manual Rating

FROM ROUTE 0206 (MANZANITA LAKE ACCESS ROAD)

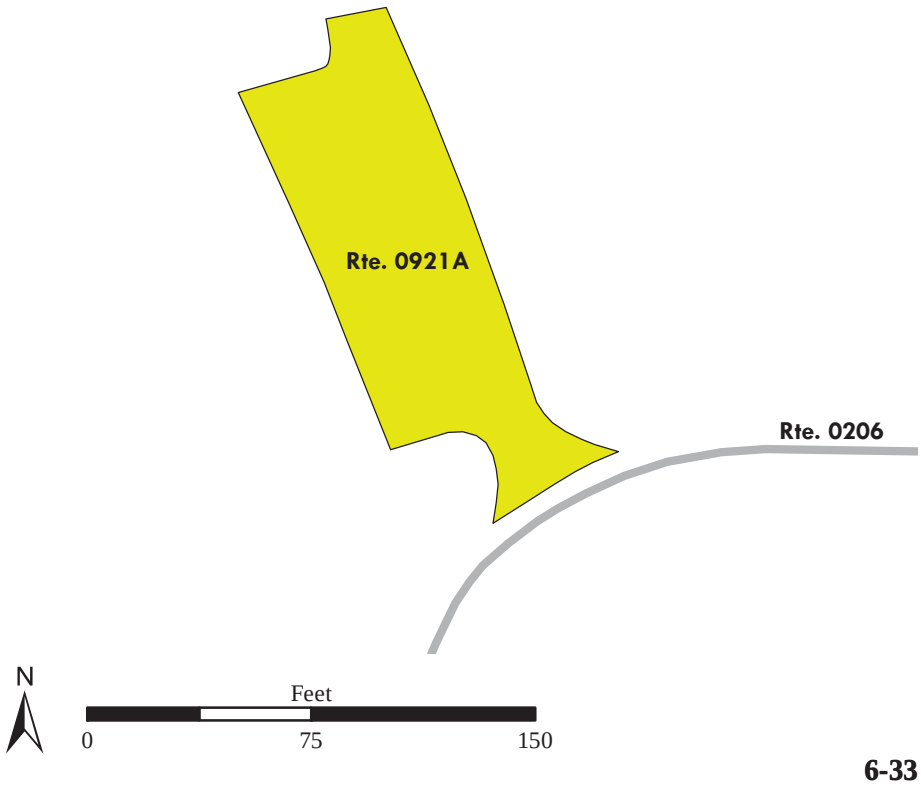
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73647	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
6,251	0.108	NOT APPLICABLE	LIGHT REPAIR
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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0921B: MANZANITA LAKE ACCESS PARKING B

Manual Rating

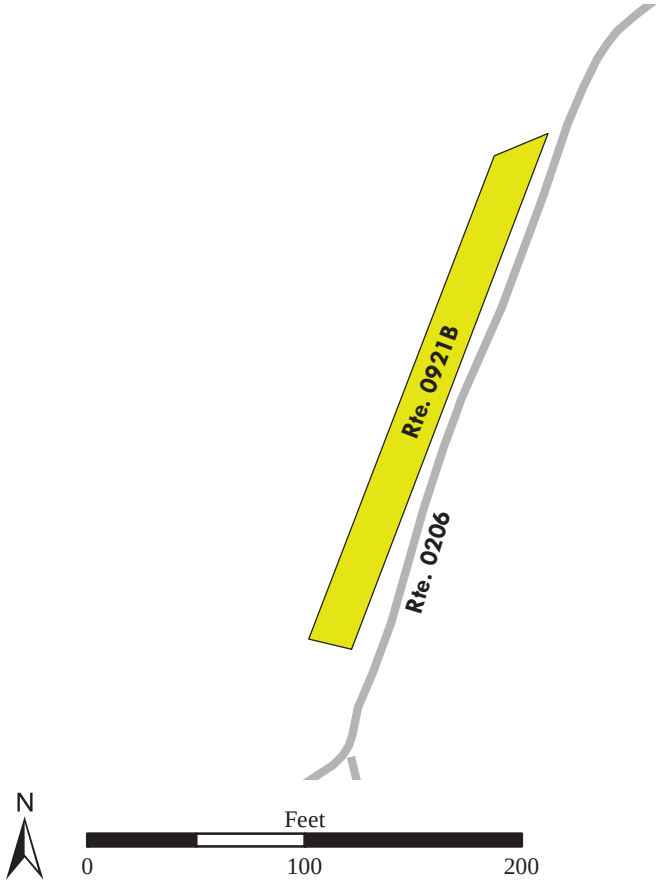
ADJACENT TO ROUTE 0206 (MANZANITA LAKE ACCESS ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	105076	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
3,696	0.064	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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0922: MANZANITA DUMP STATION PARKING

Manual Rating

FROM ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.24 ON LEFT

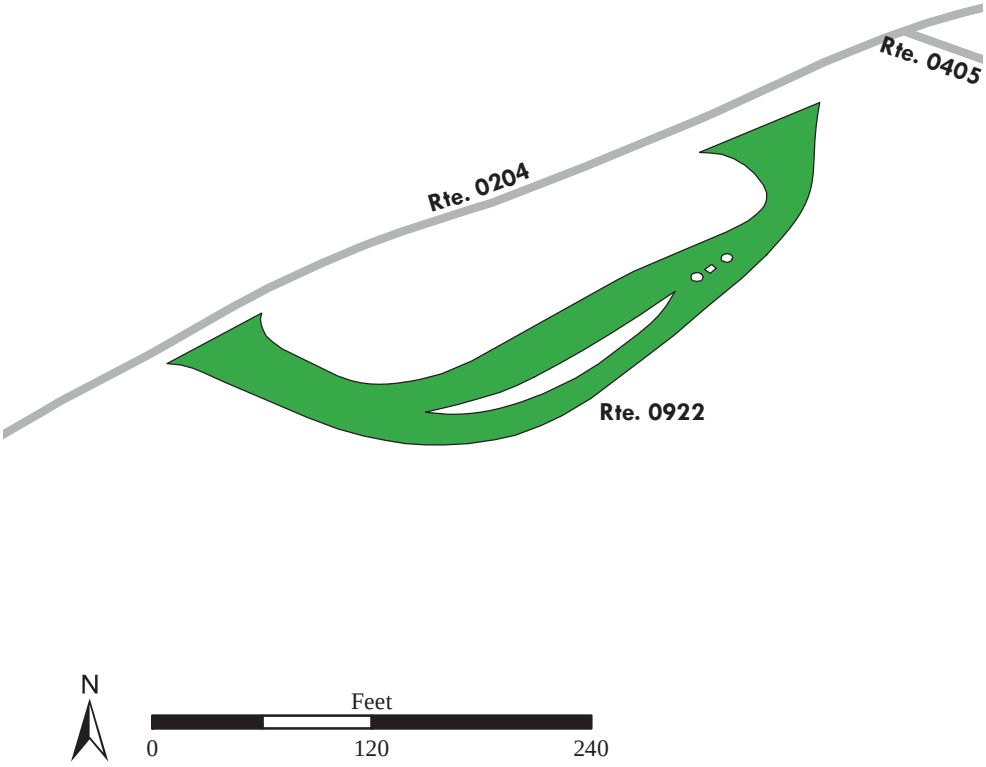
TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.23 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73648	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
10,149	0.175	5	DO NOTHING
Curb Type		**Curb & Gutter Type**	
CONCRETE		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 - 100)** | **Not Rated**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0923: LASSEN PEAK TRAILHEAD PARKING

Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 7.86 ON LEFT

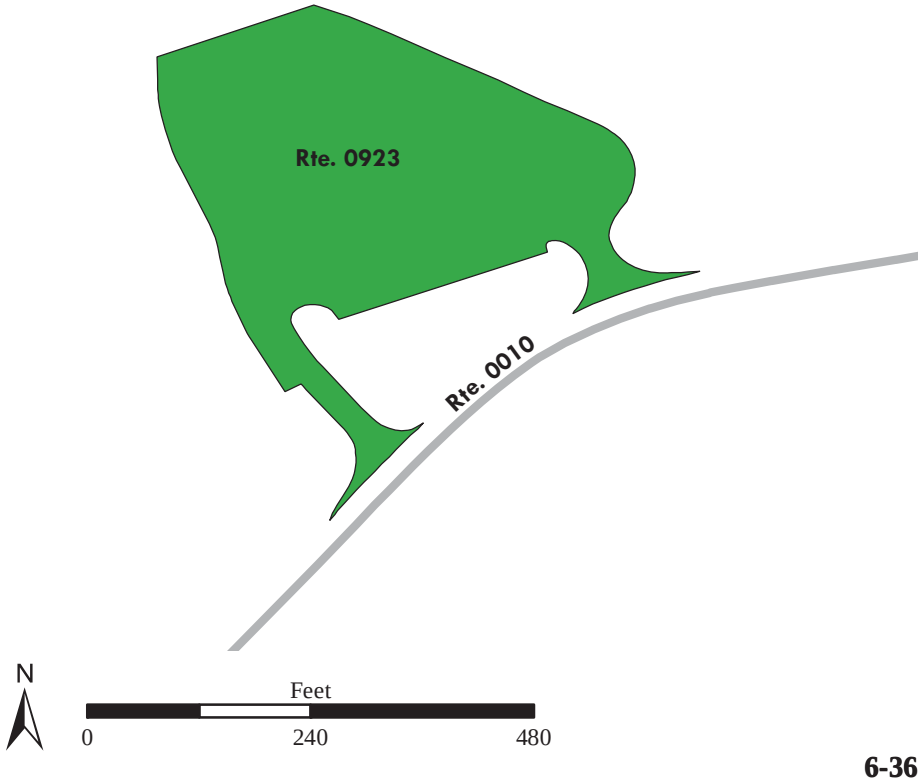
TO ROUTE 0010 (LASSEN PARK ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73649	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
97,575	1.68	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

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0924: LOOMIS MUSEUM PARKING

Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 28.65 ON LEFT

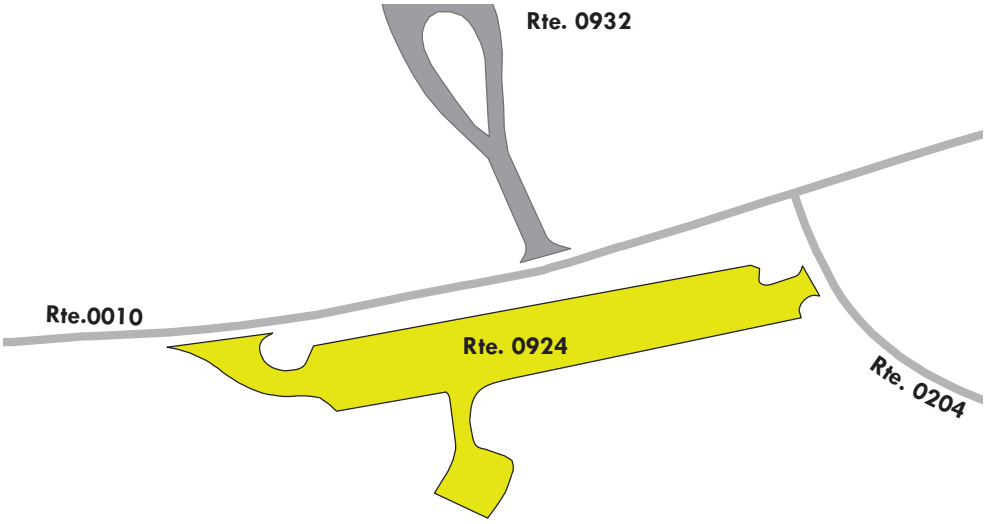
TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.021 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73651	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
24,391	0.42	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

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0926: BUMPASS PARKING

Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 6.72 ON THE RIGHT

TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73653	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
35,384	0.609	NOT APPLICABLE	LIGHT REPAIR
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**

See Appendix for definitions and formulas

Lassen Volcanic National Park

ROUTE 0929A: EMERALD LAKE PICNIC AREA PARKING A

Manual Rating

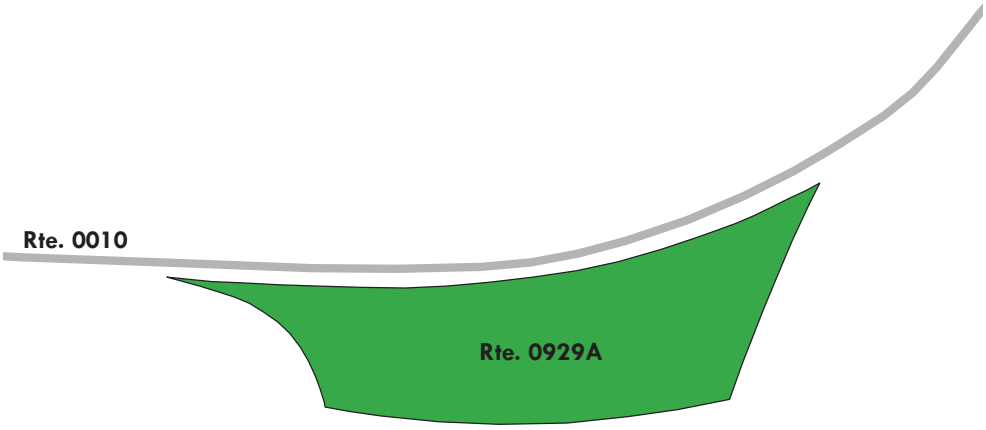
ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 6.25 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73657	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,665	0.08	NOT APPLICABLE	LIGHT REPAIR
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

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0929B: EMERALD LAKE PICNIC AREA PARKING B

Manual Rating

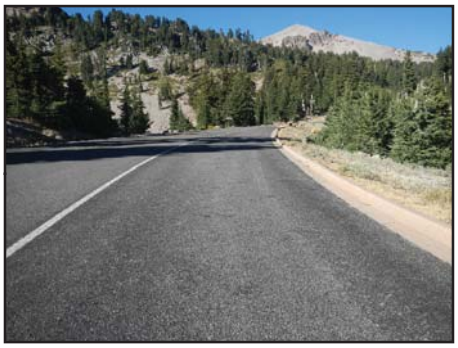
ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 6.38 ON RIGHT

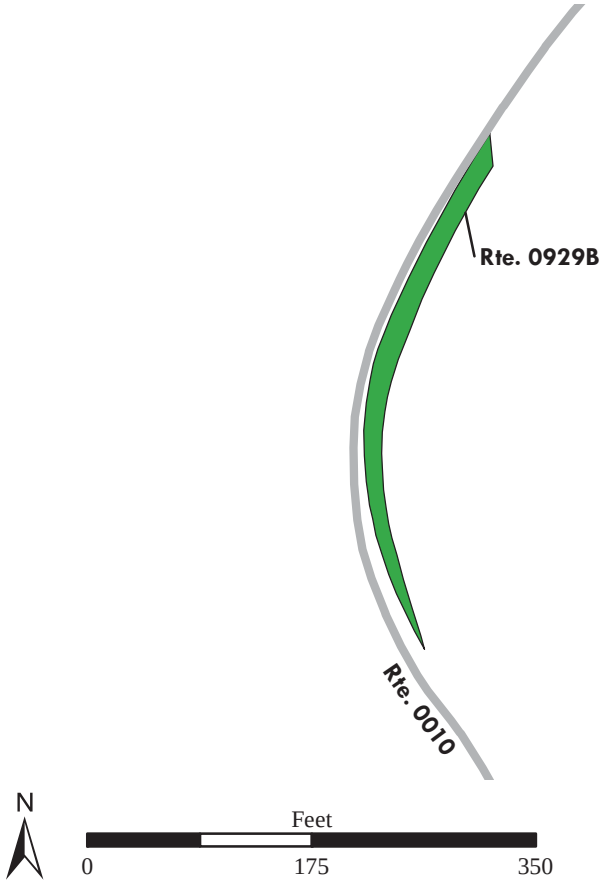
Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	105077	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,293	0.074	NOT APPLICABLE	DO NOTHING
Curb Type		**Curb & Gutter Type**	
NO CURB		CONCRETE	
Pavement Recommendation		**Condition 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**

See Appendix for definitions and formulas





Lassen Volcanic National Park

ROUTE 0931: MAINTENANCE SERVICE RV PARKING

Manual Rating

FROM ROUTE 0412ZZ (LASSEN HEADQUARTERS / RESIDENCE AREA ROADS)

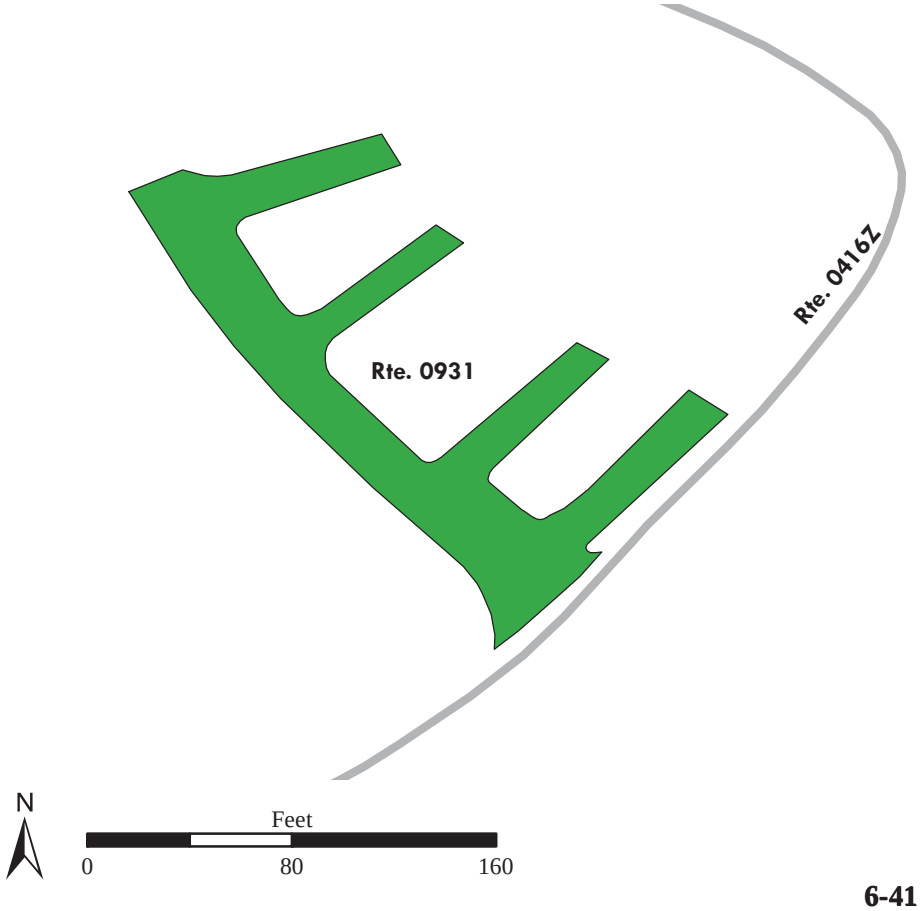
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
9/30/2014	73660	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
8,047	0.139	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0932: LILY POND TRAILHEAD PARKING

Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 28.61 ON RIGHT

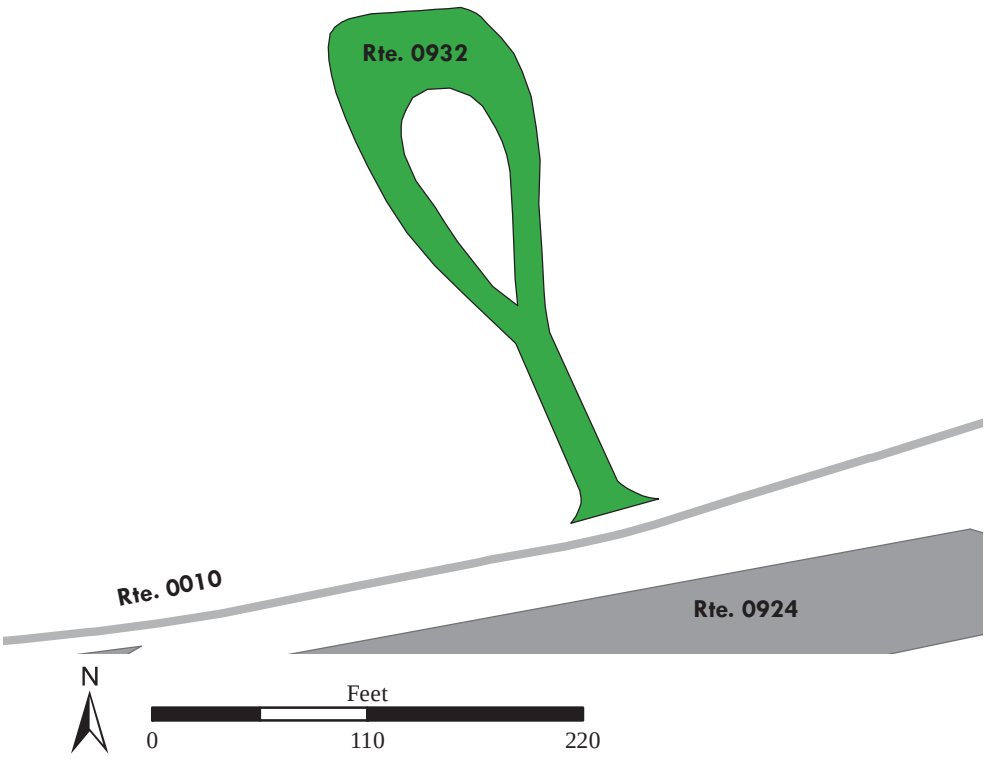
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73662	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
8,021	0.138	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0933: LITTLE HOT SPRINGS OVERLOOK PARKING

Manual Rating

ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 4.98 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73663	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
13,647	0.235	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**

See Appendix for definitions and formulas

Lassen Volcanic National Park

ROUTE 0935: MANZANITA OLD RESTROOM PARKING

Manual Rating

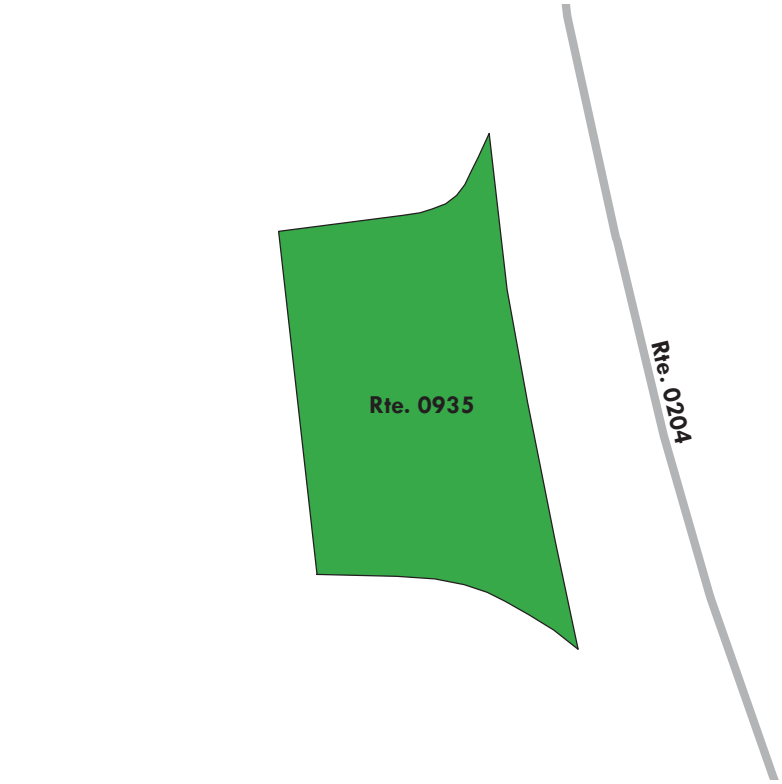
ADJACENT TO ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD) AT MP 0.46 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73665	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,324	0.023	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

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0937: SUMMIT LAKE TRAILHEAD PARKING

Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 16.90 ON RIGHT

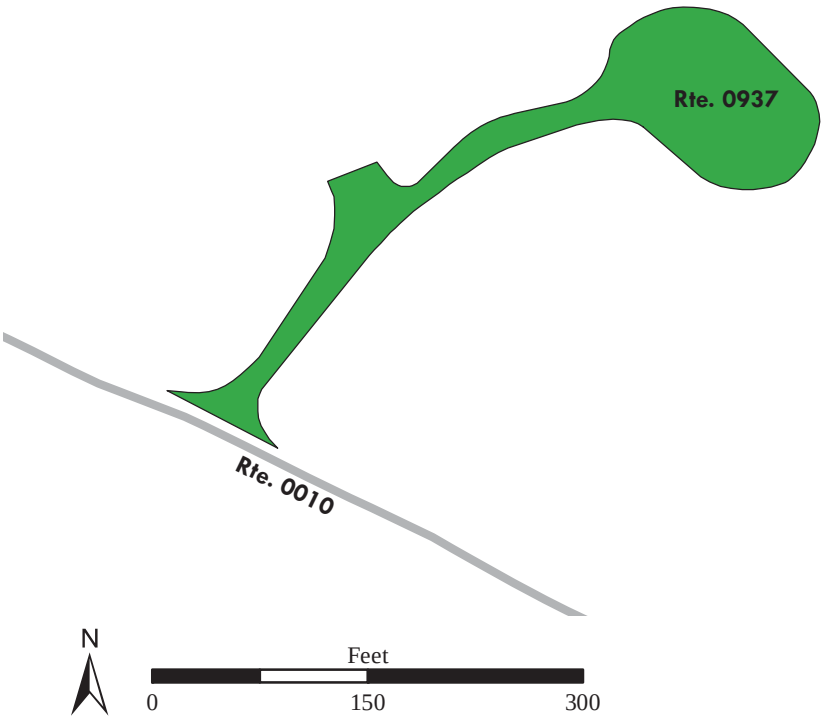
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73667	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
17,054	0.294	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0938ZZ: KINGS CREEK TRAILHEAD PARKING AREAS

Summary Route

Manual Rating

ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 13.10

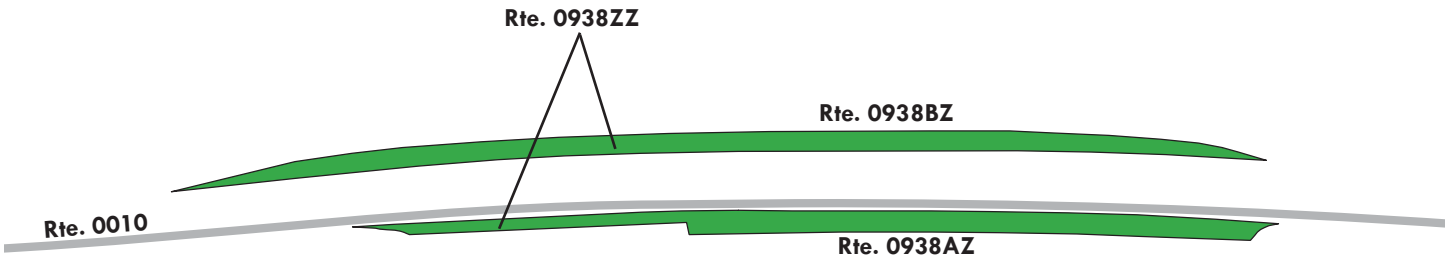
Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73668	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Condition Rating / PCR**	
6,820	0.118	SUMMARY / 90	

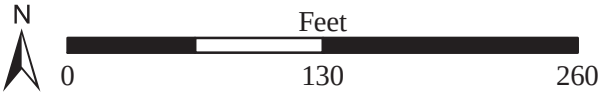
Route Condition Legend – Pavement Condition Rating (PCR)

Poor (0 - 60)	Fair (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas

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





Lassen Volcanic National Park

ROUTE 0938AZ: KINGS CREEK TRAILHEAD PARKING A

Subcomponent of Route LAVO-0938ZZ
Manual Rating

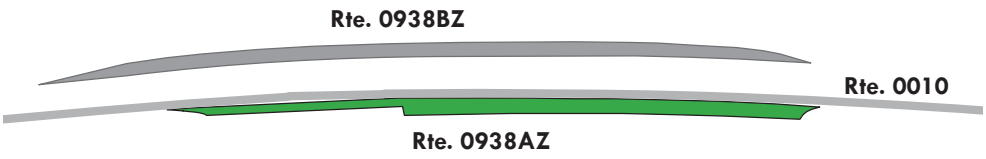
ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 13.1 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73668	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
3,117	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 – Pavement Condition Rating (PCR)

Poor (0 - 60)	Fair (61- 84)	Good (85 - 94)	Excellent (95 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0938BZ: KINGS CREEK TRAILHEAD PARKING B

Subcomponent of Route LAVO-0938ZZ
Manual Rating

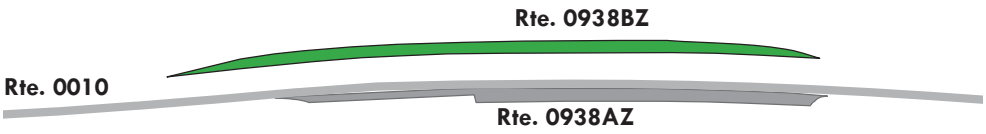
ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) 13.1 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73668	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
3,703	0.064	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)** | **Not Rated**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0939: KINGS CREEK PARKING

Manual Rating

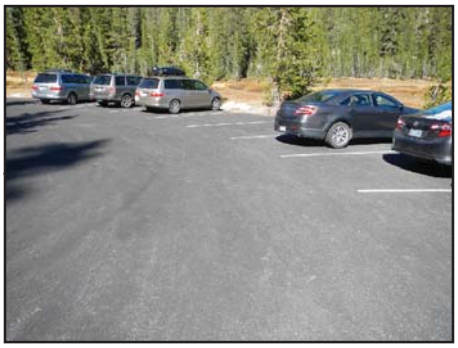
ADJACENT TO ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD) AT LOOP ON RIGHT

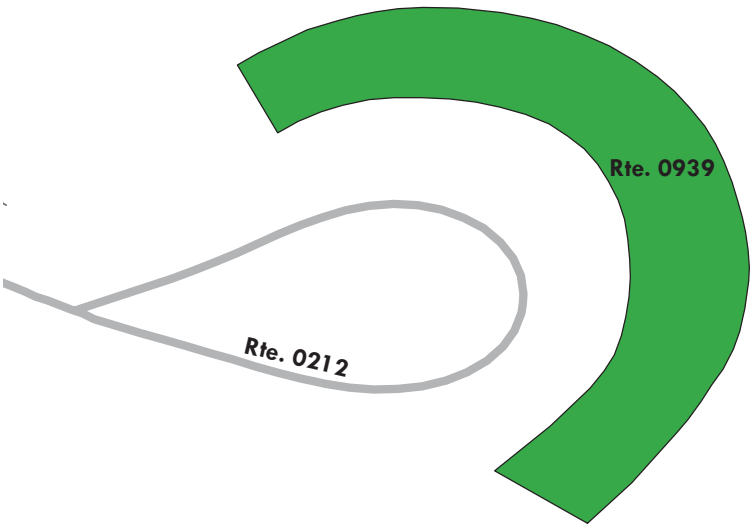
Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73669	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,492	0.077	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**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 - 100)	Not Rated

See Appendix for definitions and formulas





Lassen Volcanic National Park

ROUTE 0941: MANZANITA RECYCLE CENTER PARKING

Manual Rating

ADJACENT TO ROUTE 0410 (SUMMERTOWN ROAD)

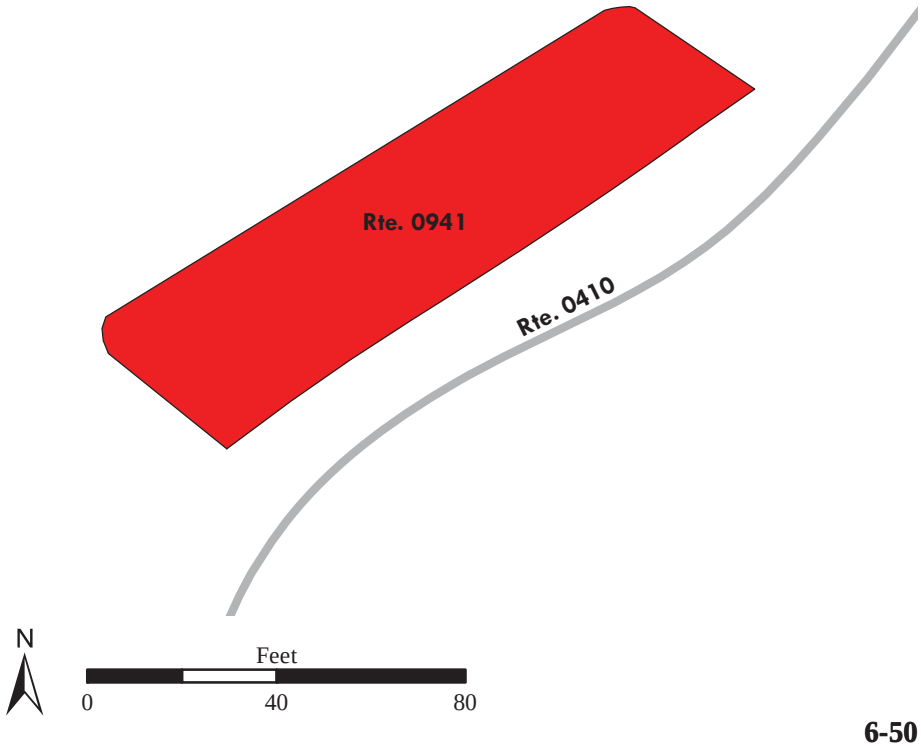
Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73671	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
3,494	0.06	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
RECONSTRUCTION		POOR / 0	

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 was rated POOR (PCR = 0) because it is in very poor condition and appears to be unpaved.



Lassen Volcanic National Park

ROUTE 0942ZZ: MANZANITA RESIDENCE PARKING AREAS

Summary Route
Manual Rating

ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD)

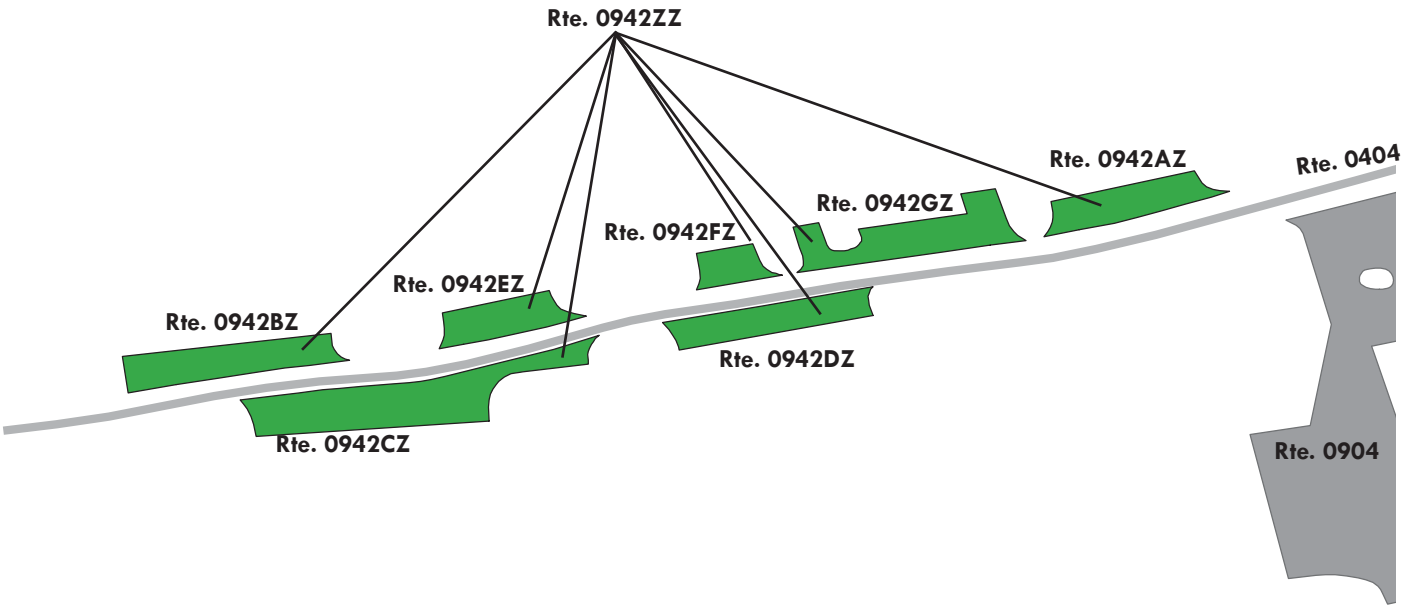
Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73673	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Condition Rating / PCR**	
13,889	0.239	SUMMARY / 90	

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

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



N

Feet

0 175 350

Lassen Volcanic National Park

ROUTE 0942AZ: MANZANITA RESIDENCE BUILDINGS 1-3 PARKING

Subcomponent of Route LAVO-0942ZZ
Manual Rating

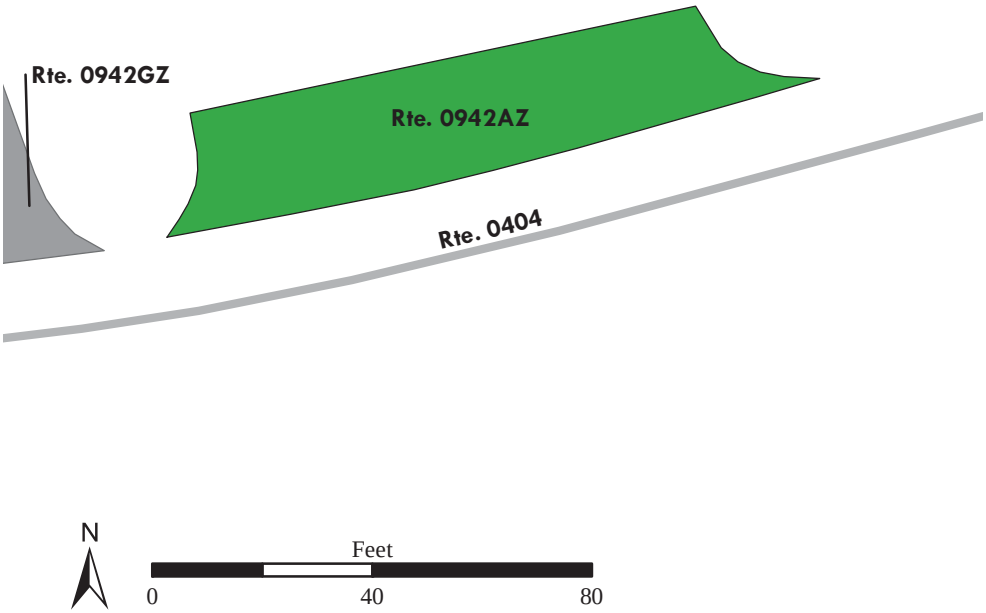
ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73673	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,634	0.028	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0942BZ: MANZANITA RESIDENCE BUILDINGS 8-11 PARKING

Subcomponent of Route LAVO-0942ZZ
Manual Rating

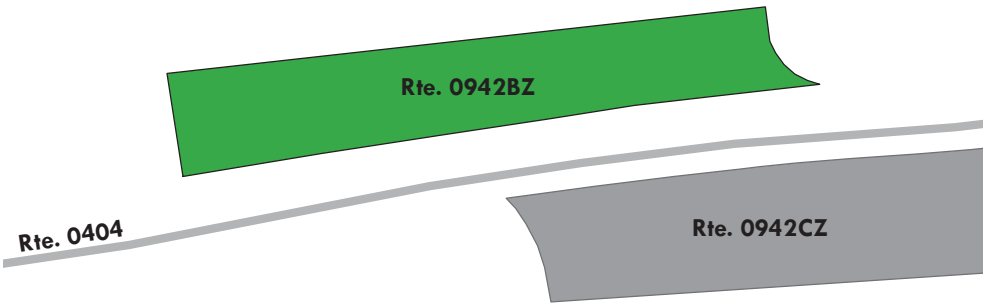
ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73673	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,095	0.036	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)** | **Not Rated**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0942CZ: MANZANITA RESIDENCE BUILDINGS 12-14 PARKING

Subcomponent of Route LAVO-0942ZZ
Manual Rating

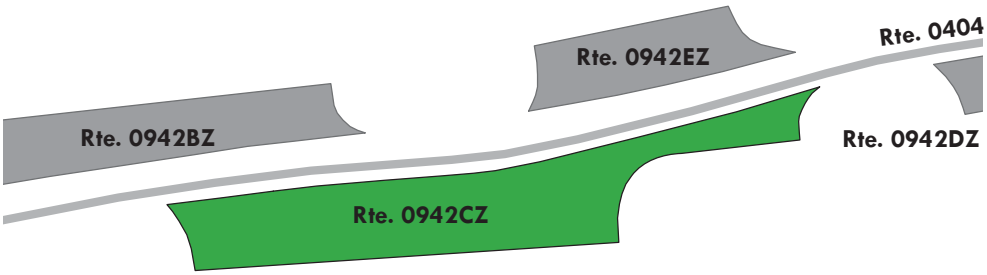
ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73673	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
3,878	0.067	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0942DZ: MANZANITA RESIDENCE BUILDING 653 PARKING

Subcomponent of Route LAVO-0942ZZ
Manual Rating

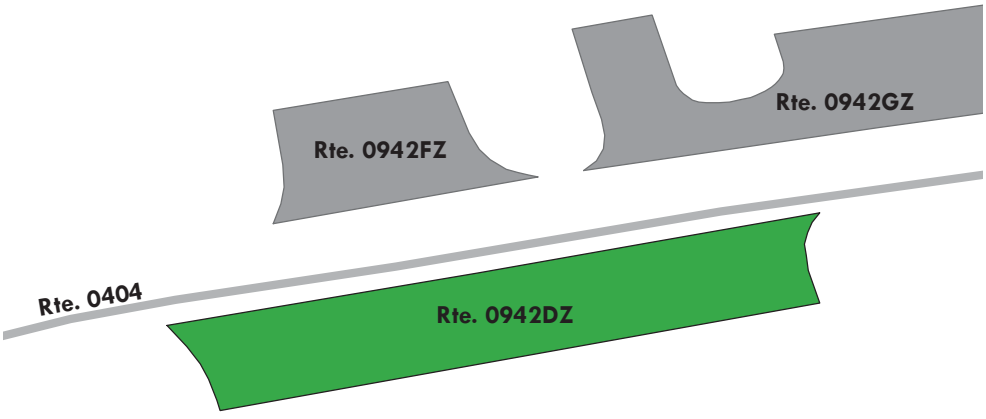
ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73673	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,824	0.031	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0942EZ: MANZANITA RESIDENCE BUILDING 7 PARKING

Subcomponent of Route LAVO-0942ZZ
Manual Rating

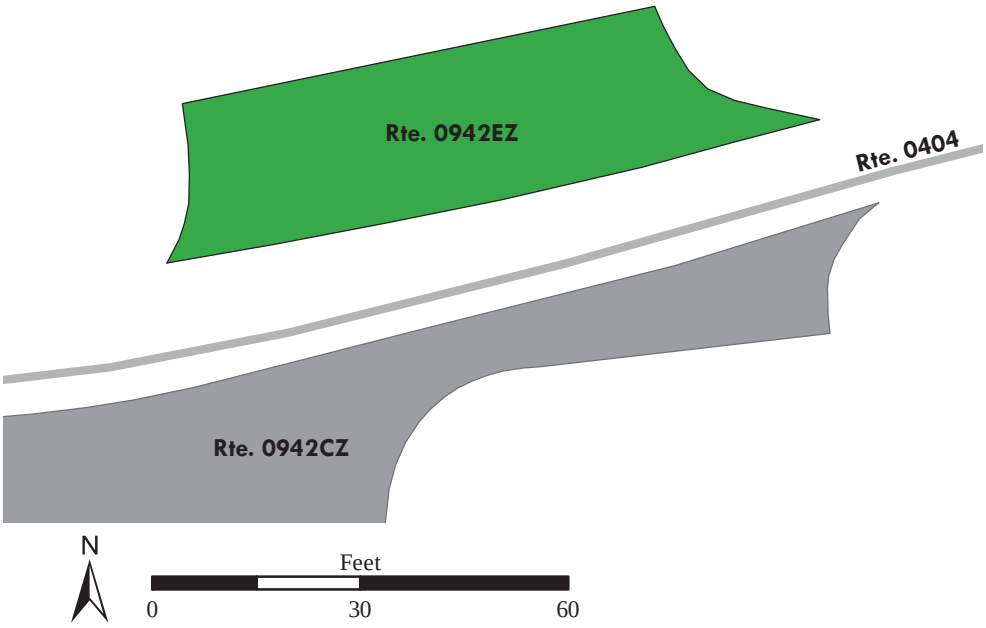
ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73673	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,325	0.023	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0942FZ: MANZANITA RESIDENCE BUILDING 6 PARKING

Subcomponent of Route LAVO-0942ZZ
Manual Rating

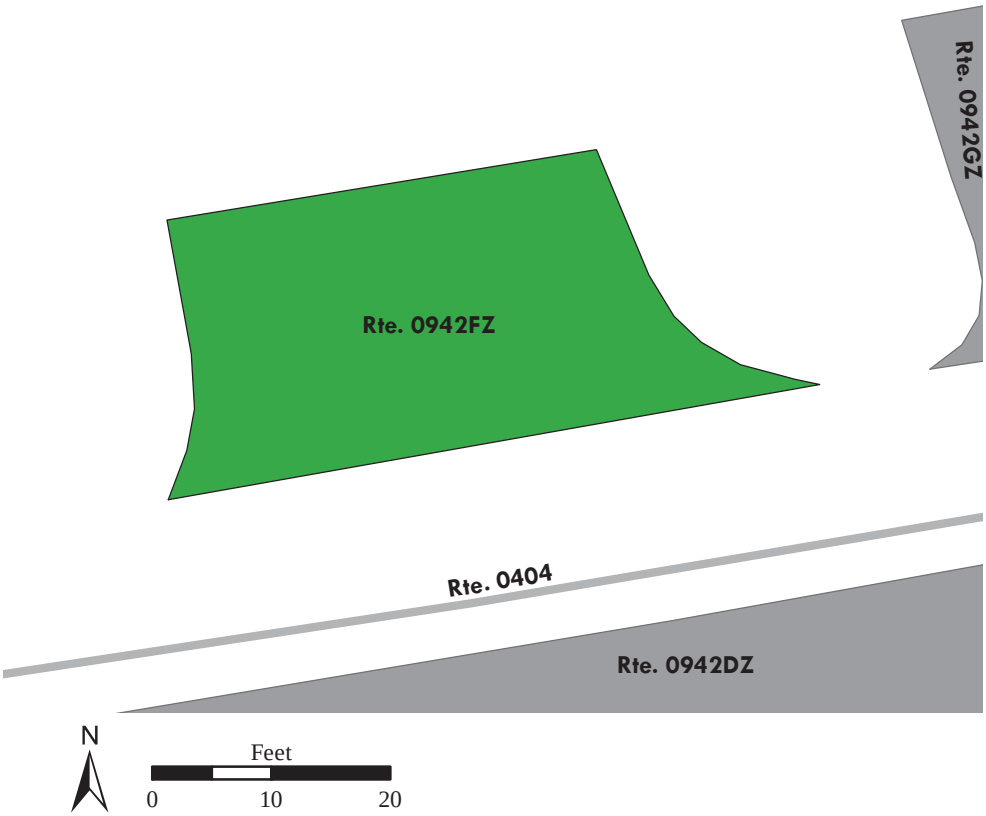
ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73673	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
718	0.012	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0942GZ: MANZANITA RESIDENCE BUILDINGS 4-5 PARKING

Subcomponent of Route LAVO-0942ZZ
Manual Rating

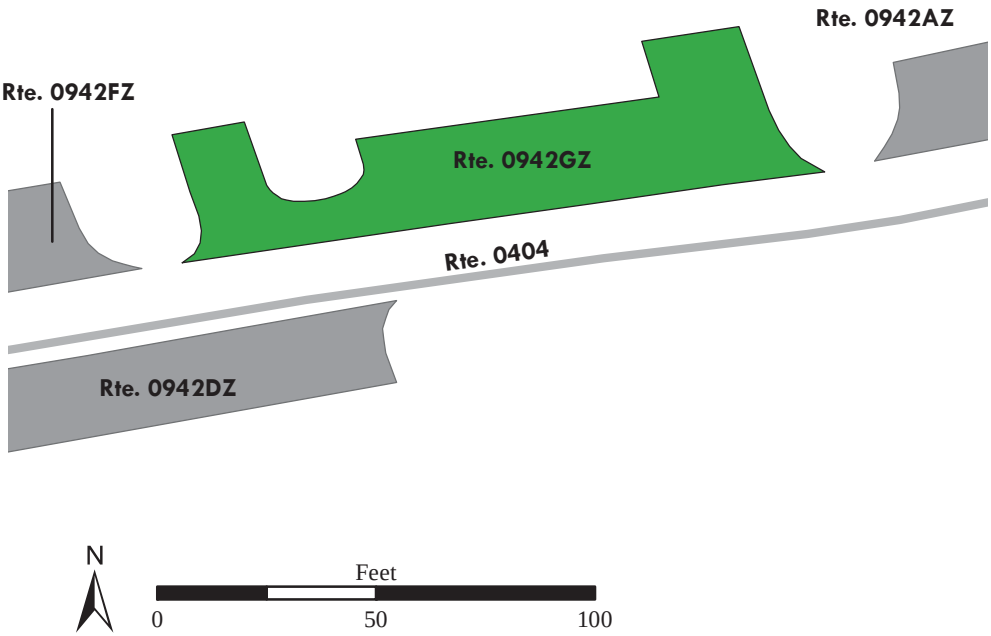
ADJACENT TO ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73673	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,415	0.042	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0943A: REFLECTION LAKE PARKING A

Manual Rating

ADJACENT TO ROUTE 0418 (REFLECTION LAKE ROAD)

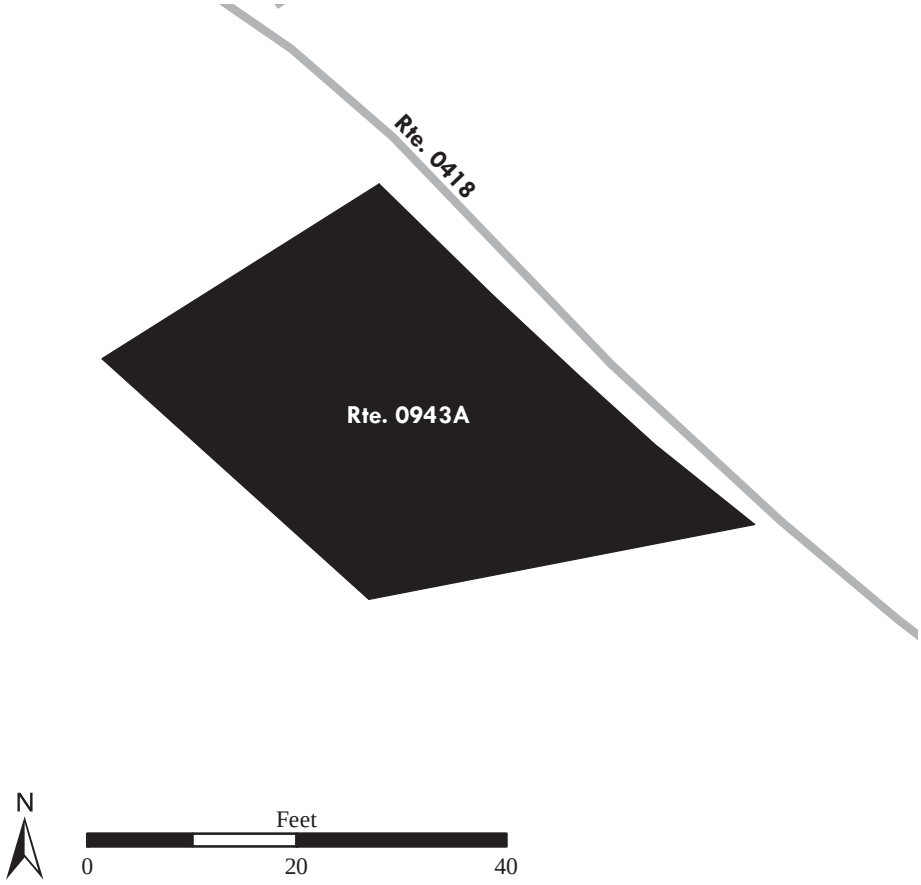
Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73675	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
929	0.016	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
NOT APPLICABLE		NOT RATED / -1	

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

The parking surface was covered with gravel, therefore, the pavement condition could not be assessed.



Lassen Volcanic National Park

ROUTE 0943B: REFLECTION LAKE PARKING B

Manual Rating

ADJACENT TO ROUTE 0418 (REFLECTION LAKE ROAD)

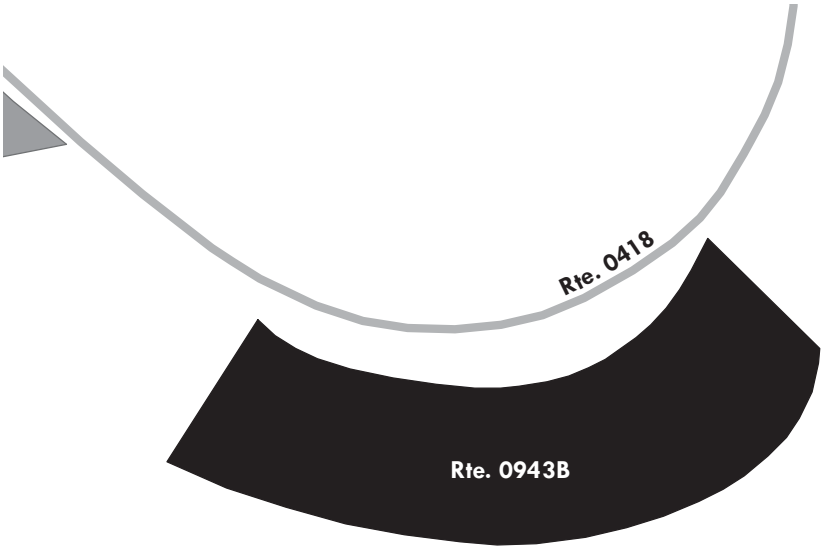
Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	105081	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,523	0.043	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
NOT APPLICABLE		NOT RATED / -1	

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

The parking surface was covered with gravel and debris, therefore, the pavement condition could not be assessed.



Lassen Volcanic National Park

ROUTE 0944: NORTHWEST MANZANITA FEE STATION PARKING

Manual Rating

FROM ROUTE 0010 (LASSEN PARK ROAD) AT MP 29.15 ON LEFT

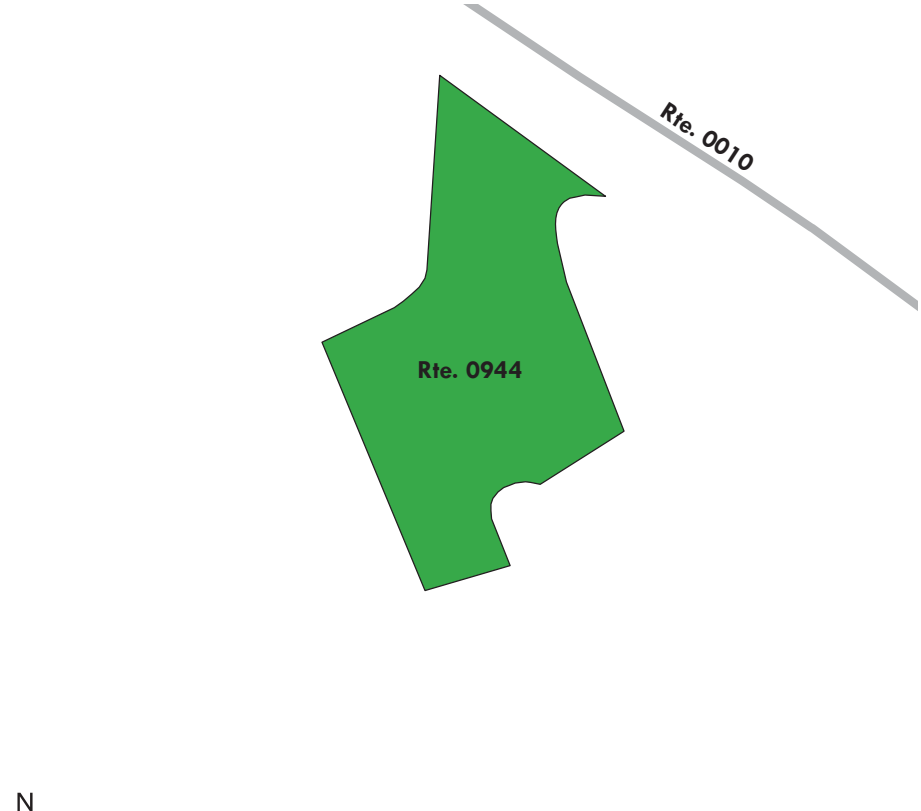
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73677	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,975	0.051	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)** | **Not Rated**

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0945: TERRACE LAKE PARKING

Manual Rating

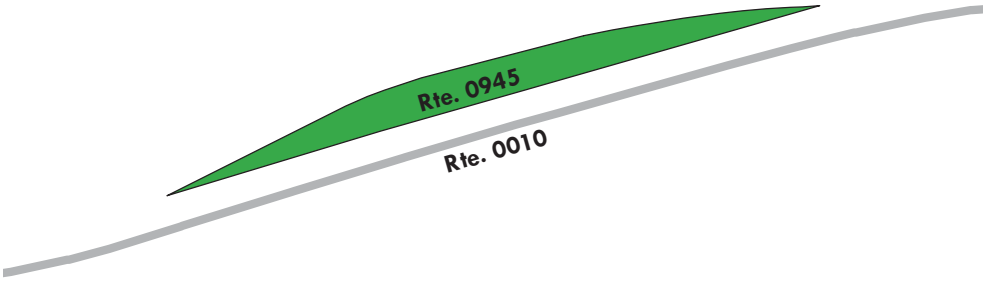
ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 9.78 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
10/1/2014	73678	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,502	0.078	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		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 - 100)	Not Rated

See Appendix for definitions and formulas



Lassen Volcanic National Park

ROUTE 0947: BROKEOFF TRAILHEAD PARKING

Manual Rating

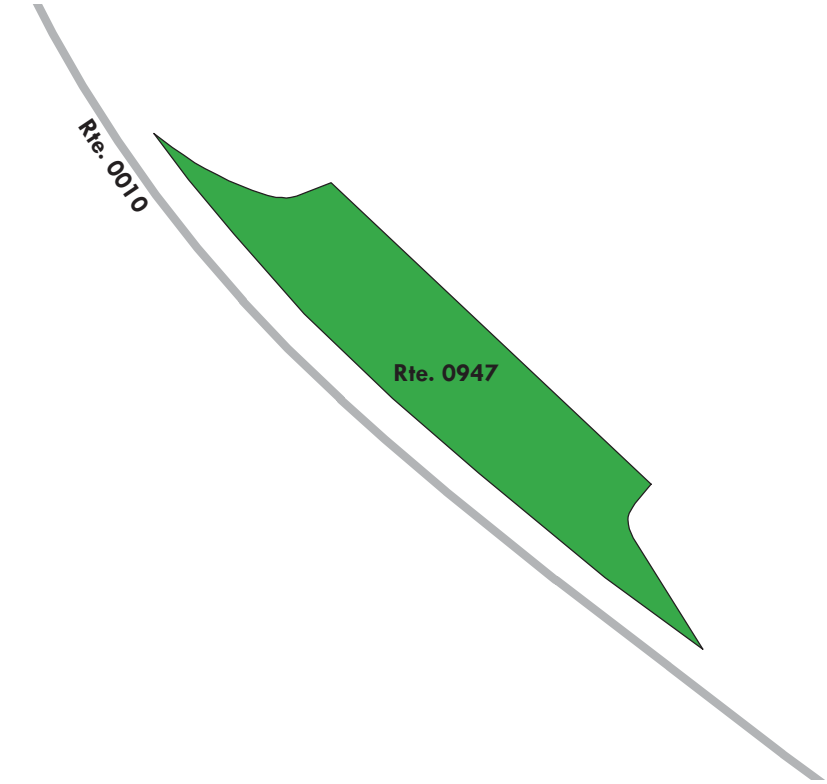
ADJACENT TO ROUTE 0010 (LASSEN PARK ROAD) AT MP 0.55 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
10/2/2014	105037	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
8,192	0.141	NOT APPLICABLE	LIGHT REPAIR
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**

See Appendix for definitions and formulas



Section 7
Road Milepost Information

Lassen Volcanic National Park

Federal Lands Highway
Road Inventory Program

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):
    - 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):
    - 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
    - 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.

LAVO: Route Milepost Log

ROUTE 0010: LASSEN PARK ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	PARK BOUNDARY	N/A	SOUTH PARK BOUNDARY
0.00	0.00	INTERSECTION	N/A	ROUTE 5000 (LASSEN PEAK HIGHWAY (STATE HIGHWAY 89))
0.55	0.55	INTERSECTION	R	ROUTE 0947 (BROKEOFF TRAILHEAD PARKING)
0.99	0.99	INTERSECTION	R	ROUTE 0906AZ (SOUTHWEST VISITORS CENTER PARKING)
1.12	1.12	INTERSECTION	R	ROUTE 0906BZ (SERVICE ENTRY PARKING)
1.84	1.88	BRIDGE	N/A	8400-001 (WEST FORK SULPHUR CREEK BRIDGE)
1.91	1.91	INTERSECTION	L	ROUTE 0908 (SULPHUR WORKS PARKING)
1.94	1.94	INTERSECTION	L	ROUTE 0908 (SULPHUR WORKS PARKING)
4.98	4.98	INTERSECTION	R	ROUTE 0933 (LITTLE HOT SPRINGS OVERLOOK PARKING)
6.25	6.25	INTERSECTION	R	ROUTE 0929A (EMERALD LAKE PICNIC AREA PARKING A)
6.39	6.39	INTERSECTION	R	ROUTE 0929B (EMERALD LAKE PICNIC AREA PARKING B)
6.72	6.72	INTERSECTION	R	ROUTE 0926 (BUMPASS PARKING)
7.03	7.03	INTERSECTION	L	ROUTE 0909 (LAKE HELEN PICNIC AREA LOOP)
7.28	7.28	INTERSECTION	R	ROUTE 0426 (LAKE HELEN QUARRY ROAD)
7.86	7.86	INTERSECTION	L	ROUTE 0923 (LASSEN PEAK TRAILHEAD PARKING)
7.91	7.91	INTERSECTION	L	ROUTE 0923 (LASSEN PEAK TRAILHEAD PARKING)
9.78	9.78	INTERSECTION	L	ROUTE 0945 (TERRACE LAKE PARKING)
12.07	12.07	INTERSECTION	R	ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD)
13.10	13.10	INTERSECTION	R	ROUTE 0938AZ (KINGS CREEK TRAILHEAD PARKING A)
13.10	13.10	INTERSECTION	L	ROUTE 0938BZ (KINGS CREEK TRAILHEAD PARKING B)
16.48	16.48	INTERSECTION	R	ROUTE 0211 (SUMMIT LAKE SOUTH CAMPGROUND ENTRANCE ROAD)
16.62	16.62	INTERSECTION	R	ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)
16.66	16.66	INTERSECTION	L	UNPAVED ROUTE (SERVICE ROAD)
16.90	16.90	INTERSECTION	R	ROUTE 0937 (SUMMIT LAKE TRAILHEAD PARKING)
16.93	16.93	INTERSECTION	R	ROUTE 0916A (DERSCH MEADOWS PULLOUT PARKING A)
16.96	16.96	INTERSECTION	L	ROUTE 0916B (DERSCH MEADOWS PULLOUT PARKING B)
19.13	19.13	INTERSECTION	R	ROUTE 0400 (HAT CREEK ROAD)
19.27	19.27	INTERSECTION	R	ROUTE 0915 (HAT LAKE PARKING)

Data Collected on 7/2015

LAVO: Route Milepost Log

ROUTE 0010: LASSEN PARK ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
19.30	19.30	INTERSECTION	R	ROUTE 0915 (HAT LAKE PARKING)
19.33	19.34	BRIDGE	N/A	8400-002 (HAT CREEK CULVERT)
19.73	19.73	INTERSECTION	R	ROUTE 0914 (DEVASTATED AREA INTERPRETIVE TRAIL PARKING)
19.79	19.79	INTERSECTION	R	ROUTE 0914 (DEVASTATED AREA INTERPRETIVE TRAIL PARKING)
21.20	21.20	INTERSECTION	L	ROUTE 0417 (LOST CREEK HELICOPTER PAD ROAD)
21.74	21.74	INTERSECTION	L	ROUTE 0917 (HOT ROCK PARKING)
24.18	24.18	INTERSECTION	R	ROUTE 0423 (WATER TREATMENT ROAD LOST CREEK)
24.42	24.42	INTERSECTION	R	ROUTE 0208 (LOST CREEK CAMPGROUND)
24.62	24.62	INTERSECTION	R	ROUTE 0207 (CRAGS CAMPGROUND)
28.57	28.57	INTERSECTION	L	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
28.61	28.61	INTERSECTION	R	ROUTE 0932 (LILY POND TRAILHEAD PARKING)
28.65	28.65	INTERSECTION	L	ROUTE 0924 (LOOMIS MUSEUM PARKING)
28.84	28.84	INTERSECTION	R	ROUTE 0418 (REFLECTION LAKE ROAD)
29.09	29.09	INTERSECTION	R	ROUTE 0410 (SUMMERTOWN ROAD)
29.15	29.15	INTERSECTION	L	ROUTE 0944 (NORTHWEST MANZANITA FEE STATION PARKING)
29.50	29.50	INTERSECTION	L	ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD)
29.73	29.73	INTERSECTION	R	ROUTE 0903 (CROSSROAD PAVILION PARKING)
29.76	29.76	INTERSECTION	L	PAVED ROUTE (STATE HIGHWAY 44 AND 89 / NON NPS)
29.76	29.76	INTERSECTION	R	PAVED ROUTE (STATE HIGHWAY 44 AND 89 / NON NPS)
29.76	29.76	PARK BOUNDARY	N/A	NORTH PARK BOUNDARY

LAVO: Route Milepost Log

ROUTE 0204: MANZANITA CAMPGROUND ACCESS ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0010 (LASSEN PARK ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0010 (LASSEN PARK ROAD)
0.01	0.01	INTERSECTION	R	ROUTE 0924 (LOOMIS MUSEUM PARKING)
0.13	0.13	INTERSECTION	L	ROUTE 0936 (CHAOS CRAGS TRAILHEAD PARKING)
0.22	0.22	INTERSECTION	L	ROUTE 0405 (MANZANITA WATER TANK ROAD)
0.24	0.24	INTERSECTION	L	ROUTE 0922 (MANZANITA DUMP STATION PARKING)
0.29	0.29	INTERSECTION	L	ROUTE 0922 (MANZANITA DUMP STATION PARKING)
0.45	0.45	INTERSECTION	R	ROUTE 0206 (MANZANITA LAKE ACCESS ROAD)
0.46	0.46	INTERSECTION	R	ROUTE 0935 (MANZANITA OLD RESTROOM PARKING)
0.58	0.58	INTERSECTION	R	ROUTE 0920C (MANZANITA STORE SPUR PARKING C)
0.60	0.60	INTERSECTION	R	ROUTE 0920B (MANZANITA STORE SPUR PARKING B)
0.60	0.60	INTERSECTION	L	ROUTE 0920A (MANZANITA STORE SPUR PARKING A)
0.63	0.63	INTERSECTION	R	ROUTE 0920C (MANZANITA STORE SPUR PARKING C)
0.68	0.68	INTERSECTION	R	ROUTE 0205AZ (MANZANITA CAMPGROUND LOOP A)
0.75	0.75	INTERSECTION	R	ROUTE 0205BZ (MANZANITA CAMPGROUND LOOP B)
0.81	0.81	INTERSECTION	R	ROUTE 0205CZ (MANZANITA CAMPGROUND LOOP C)
0.87	0.87	INTERSECTION	L	ROUTE 0205DZ (MANZANITA CAMPGROUND LOOP D)
0.87	0.87	INTERSECTION	N/A	ROUTE 0205DZ (MANZANITA CAMPGROUND LOOP D)

LAVO: Route Milepost Log

ROUTE 0205AAZ: MANZANITA CAMPGROUND LOOP A CUT-THRU

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0205AZ (MANZANITA CAMPGROUND LOOP A)
0.00	0.00	INTERSECTION	R	ROUTE 0205AZ (MANZANITA CAMPGROUND LOOP A)
0.00	0.00	ONE-WAY START	N/A	N/A
0.03	0.03	INTERSECTION	L	ROUTE 0205AZ (MANZANITA CAMPGROUND LOOP A)
0.03	0.03	INTERSECTION	R	ROUTE 0205AZ (MANZANITA CAMPGROUND LOOP A)
0.03	0.03	ONE-WAY END	N/A	N/A

LAVO: Route Milepost Log

ROUTE 0205AZ: MANZANITA CAMPGROUND LOOP A

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.01	0.01	ONE-WAY START	N/A	N/A
0.01	0.01	INTERSECTION	L	ROUTE 0205AZ (MANZANITA CAMPGROUND LOOP A)
0.10	0.10	INTERSECTION	L	ROUTE 0205AAZ (MANZANITA CAMPGROUND LOOP A CUT-THRU)
0.30	0.30	INTERSECTION	L	ROUTE 0205AAZ (MANZANITA CAMPGROUND LOOP A CUT-THRU)
0.43	0.43	INTERSECTION	L	ROUTE 0205AZ (MANZANITA CAMPGROUND LOOP A)
0.43	0.43	INTERSECTION	R	ROUTE 0205AZ (MANZANITA CAMPGROUND LOOP A)
0.43	0.43	ONE-WAY END	N/A	N/A

LAVO: Route Milepost Log

ROUTE 0205BAZ: MANZANITA CAMPGROUND LOOP B CUT-THRU

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0205BZ (MANZANITA CAMPGROUND LOOP B)
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	R	ROUTE 0205BZ (MANZANITA CAMPGROUND LOOP B)
0.04	0.04	INTERSECTION	R	ROUTE 0205BZ (MANZANITA CAMPGROUND LOOP B)
0.04	0.04	INTERSECTION	L	ROUTE 0205BZ (MANZANITA CAMPGROUND LOOP B)
0.04	0.04	ONE-WAY END	N/A	N/A

LAVO: Route Milepost Log

ROUTE 0205BZ: MANZANITA CAMPGROUND LOOP B

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.02	0.02	ONE-WAY START	N/A	N/A
0.02	0.02	INTERSECTION	L	ROUTE 0205BZ (MANZANITA CAMPGROUND LOOP B)
0.09	0.09	INTERSECTION	L	ROUTE 0205BAZ (MANZANITA CAMPGROUND LOOP B CUT-THRU)
0.34	0.34	INTERSECTION	L	ROUTE 0205BAZ (MANZANITA CAMPGROUND LOOP B CUT-THRU)
0.43	0.43	INTERSECTION	L	ROUTE 0205BZ (MANZANITA CAMPGROUND LOOP B)
0.43	0.43	ONE-WAY END	N/A	N/A
0.43	0.43	INTERSECTION	R	ROUTE 0205BZ (MANZANITA CAMPGROUND LOOP B)

LAVO: Route Milepost Log

ROUTE 0205CZ: MANZANITA CAMPGROUND LOOP C

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.01	0.01	ONE-WAY START	N/A	N/A
0.01	0.01	INTERSECTION	L	ROUTE 0205CZ (MANZANITA CAMPGROUND LOOP C)
0.36	0.36	INTERSECTION	L	ROUTE 0205CZ (MANZANITA CAMPGROUND LOOP C)
0.36	0.36	INTERSECTION	R	ROUTE 0205CZ (MANZANITA CAMPGROUND LOOP C)
0.36	0.36	ONE-WAY END	N/A	N/A

LAVO: Route Milepost Log

ROUTE 0205DZ: MANZANITA CAMPGROUND LOOP D

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0205DZ (MANZANITA CAMPGROUND LOOP D)
0.00	0.00	INTERSECTION	N/A	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.00	0.00	ONE-WAY START	N/A	N/A
0.24	0.24	INTERSECTION	L	ROUTE 0205DZ (MANZANITA CAMPGROUND LOOP D)
0.24	0.24	INTERSECTION	N/A	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.24	0.24	ONE-WAY END	N/A	N/A

LAVO: Route Milepost Log

ROUTE 0206: MANZANITA LAKE ACCESS ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.02	0.02	INTERSECTION	R	ROUTE 0921A (MANZANITA LAKE ACCESS PARKING A)
0.06	0.06	INTERSECTION	R	ROUTE 0921B (MANZANITA LAKE ACCESS PARKING B)
0.10	0.10	INTERSECTION	L	ROUTE 0206 (MANZANITA LAKE ACCESS ROAD)
0.11	0.11	INTERSECTION	R	PAVED ROUTE (BOAT LAUNCH)
0.15	0.15	INTERSECTION	L	ROUTE 0206 (MANZANITA LAKE ACCESS ROAD)
0.15	0.15	INTERSECTION	N/A	ROUTE 0206 (MANZANITA LAKE ACCESS ROAD)

LAVO: Route Milepost Log

ROUTE 0207: CRAGS CAMPGROUND

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 5.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0010 (LASSEN PARK ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0010 (LASSEN PARK ROAD)
0.05	0.05	ONE-WAY START	N/A	N/A
0.05	0.05	INTERSECTION	L	ROUTE 0207 (CRAGS CAMPGROUND)
0.07	0.07	INTERSECTION	R	ROUTE 0919 (CRAGS PARKING)
0.30	0.30	INTERSECTION	R	ROUTE 0207 (CRAGS CAMPGROUND)
0.30	0.30	ONE-WAY END	N/A	N/A
0.30	0.30	INTERSECTION	L	ROUTE 0207 (CRAGS CAMPGROUND)

LAVO: Route Milepost Log

ROUTE 0208: LOST CREEK CAMPGROUND

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 5.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0010 (LASSEN PARK ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0010 (LASSEN PARK ROAD)
0.03	0.03	INTERSECTION	L	ROUTE 0208 (LOST CREEK CAMPGROUND)
0.03	0.03	ONE-WAY START	N/A	N/A
0.03	0.03	INTERSECTION	R	ROUTE 0918 (LOST CREEK GROUP CAMP PARKING)
0.29	0.29	INTERSECTION	L	ROUTE 0208 (LOST CREEK CAMPGROUND)
0.29	0.29	INTERSECTION	R	ROUTE 0208 (LOST CREEK CAMPGROUND)
0.29	0.29	ONE-WAY END	N/A	N/A

LAVO: Route Milepost Log

ROUTE 0209: SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0010 (LASSEN PARK ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0010 (LASSEN PARK ROAD)
0.03	0.03	INTERSECTION	L	ROUTE 0214AZ (SUMMIT LAKE NORTH CAMPGROUND LOOP A)
0.06	0.06	INTERSECTION	L	ROUTE 0214AZ (SUMMIT LAKE NORTH CAMPGROUND LOOP A)
0.06	0.06	INTERSECTION	R	ROUTE 0912A (SUMMIT LAKE NORTH CAMPGROUND PARKING A)
0.09	0.09	INTERSECTION	R	ROUTE 0912B (SUMMIT LAKE NORTH CAMPGROUND PARKING B)
0.09	0.09	INTERSECTION	L	ROUTE 0214BZ (SUMMIT LAKE NORTH CAMPGROUND LOOP B)
0.10	0.10	INTERSECTION	N/A	ROUTE 0214BZ (SUMMIT LAKE NORTH CAMPGROUND LOOP B)

LAVO: Route Milepost Log

ROUTE 0211: SUMMIT LAKE SOUTH CAMPGROUND ENTRANCE ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0010 (LASSEN PARK ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0010 (LASSEN PARK ROAD)
0.10	0.10	INTERSECTION	R	ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E)
0.10	0.10	INTERSECTION	L	ROUTE 0215CZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP C)

LAVO: Route Milepost Log

ROUTE 0212: KINGS CREEK PICNIC AREA ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 5.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0010 (LASSEN PARK ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0010 (LASSEN PARK ROAD)
0.20	0.20	INTERSECTION	R	ROUTE 0910AZ (KINGS CREEK PICNIC AREA TURNOUT PARKING A)
0.22	0.22	INTERSECTION	R	ROUTE 0910AZ (KINGS CREEK PICNIC AREA TURNOUT PARKING A)
0.25	0.25	INTERSECTION	L	ROUTE 0910BZ (KINGS CREEK PICNIC AREA TURNOUT PARKING B)
0.30	0.30	INTERSECTION	L	ROUTE 0910CZ (KINGS CREEK PICNIC AREA TURNOUT PARKING C)
0.35	0.35	INTERSECTION	L	ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD)
0.36	0.36	INTERSECTION	R	ROUTE 0939 (KINGS CREEK PARKING)
0.39	0.39	INTERSECTION	R	ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD)
0.39	0.39	INTERSECTION	L	ROUTE 0212 (KINGS CREEK PICNIC AREA ROAD)

LAVO: Route Milepost Log

ROUTE 0214AZ: SUMMIT LAKE NORTH CAMPGROUND LOOP A

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)
0.00	0.00	INTERSECTION	N/A	ROUTE 0912A (SUMMIT LAKE NORTH CAMPGROUND PARKING A)
0.00	0.00	ONE-WAY START	N/A	N/A
0.16	0.16	INTERSECTION	L	ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)
0.16	0.16	INTERSECTION	R	ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)
0.16	0.16	ONE-WAY END	N/A	N/A

LAVO: Route Milepost Log

ROUTE 0214BZ: SUMMIT LAKE NORTH CAMPGROUND LOOP B

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0912B (SUMMIT LAKE NORTH CAMPGROUND PARKING B)
0.00	0.00	INTERSECTION	N/A	ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0214BZ (SUMMIT LAKE NORTH CAMPGROUND LOOP B)
0.00	0.00	ONE-WAY START	N/A	N/A
0.19	0.19	INTERSECTION	N/A	ROUTE 0912B (SUMMIT LAKE NORTH CAMPGROUND PARKING B)
0.19	0.19	INTERSECTION	R	ROUTE 0209 (SUMMIT LAKE NORTH CAMPGROUND ENTRANCE ROAD)
0.19	0.19	ONE-WAY END	N/A	N/A
0.19	0.19	INTERSECTION	L	ROUTE 0214BZ (SUMMIT LAKE NORTH CAMPGROUND LOOP B)

LAVO: Route Milepost Log

ROUTE 0215CZ: SUMMIT LAKE SOUTH CAMPGROUND LOOP C

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E)
0.00	0.00	INTERSECTION	L	ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E)
0.10	0.10	INTERSECTION	R	ROUTE 0911 (SUMMIT LAKE SOUTH CAMPGROUND PARKING)
0.11	0.11	INTERSECTION	L	ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E)
0.11	0.11	INTERSECTION	N/A	ROUTE 0211 (SUMMIT LAKE SOUTH CAMPGROUND ENTRANCE ROAD)

LAVO: Route Milepost Log

ROUTE 0215DZ: SUMMIT LAKE SOUTH CAMPGROUND LOOP D

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E)
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	L	ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E)
0.18	0.18	INTERSECTION	R	ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E)
0.18	0.18	ONE-WAY END	N/A	N/A
0.18	0.18	INTERSECTION	L	ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E)

LAVO: Route Milepost Log

ROUTE 0215EZ: SUMMIT LAKE SOUTH CAMPGROUND LOOP E

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0211 (SUMMIT LAKE SOUTH CAMPGROUND ENTRANCE ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0215CZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP C)
0.05	0.05	INTERSECTION	L	ROUTE 0215CZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP C)
0.08	0.08	INTERSECTION	L	ROUTE 0215DZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP D)
0.12	0.12	INTERSECTION	L	ROUTE 0215DZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP D)
0.16	0.16	INTERSECTION	L	ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E)
0.16	0.16	ONE-WAY START	N/A	N/A
0.31	0.31	INTERSECTION	R	ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E)
0.31	0.31	INTERSECTION	L	ROUTE 0215EZ (SUMMIT LAKE SOUTH CAMPGROUND LOOP E)
0.31	0.31	ONE-WAY END	N/A	N/A

LAVO: Route Milepost Log

ROUTE 0404: MANZANITA EMPLOYEE RESIDENCE ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0010 (LASSEN PARK ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0010 (LASSEN PARK ROAD)
0.03	0.03	INTERSECTION	L	UNPAVED ROUTE
0.05	0.05	INTERSECTION	L	ROUTE 0904 (MANZANITA MAINTENANCE PARKING)
0.07	0.07	INTERSECTION	R	ROUTE 0942AZ (MANZANITA RESIDENCE BUILDINGS 1-3 PARKING)
0.09	0.09	INTERSECTION	R	ROUTE 0942GZ (MANZANITA RESIDENCE BUILDINGS 4-5 PARKING)
0.10	0.10	INTERSECTION	R	ROUTE 0942FZ (MANZANITA RESIDENCE BUILDING 6 PARKING)
0.10	0.10	INTERSECTION	L	ROUTE 0942DZ (MANZANITA RESIDENCE BUILDING 653 PARKING)
0.14	0.14	INTERSECTION	R	ROUTE 0942EZ (MANZANITA RESIDENCE BUILDING 7 PARKING)
0.14	0.14	INTERSECTION	L	ROUTE 0942CZ (MANZANITA RESIDENCE BUILDINGS 12-14 PARKING)
0.16	0.16	INTERSECTION	R	ROUTE 0942BZ (MANZANITA RESIDENCE BUILDINGS 8-11 PARKING)
0.18	0.18	INTERSECTION	N/A	ROUTE 0404 (MANZANITA EMPLOYEE RESIDENCE ROAD) UNPAVED SECTION

LAVO: Route Milepost Log

ROUTE 0405: MANZANITA WATER TANK ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0204 (MANZANITA CAMPGROUND ACCESS ROAD)
0.09	0.09	INTERSECTION	N/A	ROUTE 0405 (MANZANITA WATER TANK ROAD) UNPAVED SECTION

LAVO: Route Milepost Log

ROUTE 0410: SUMMERTOWN ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 6.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0010 (LASSEN PARK ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0010 (LASSEN PARK ROAD)
0.03	0.03	INTERSECTION	L	UNPAVED PARKING
0.06	0.06	INTERSECTION	L	ROUTE 0940 (MANZANITA SERVICE PARKING)
0.16	0.16	INTERSECTION	L	ROUTE 0941 (MANZANITA RECYCLE CENTER PARKING)
0.16	0.16	INTERSECTION	R	PAVED ROUTE (MAINTENANCE AREA)
0.32	0.32	INTERSECTION	L	UNPAVED ROUTE
0.32	0.32	INTERSECTION	N/A	ROUTE 0410 (SUMMERTOWN ROAD) UNPAVED SECTION

LAVO: Route Milepost Log

ROUTE 0412Z: LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0900 (LASSEN HEADQUARTERS PARKING)
0.02	0.02	INTERSECTION	R	ROUTE 0901 (NATURALIST DIVISION ANNEX PARKING)
0.13	0.13	INTERSECTION	R	ROUTE 0413Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD CUL DE SAC)
0.19	0.19	INTERSECTION	R	ROUTE 0902AZ (PARK HEADQUARTERS / RANGER AND MAINTENANCE PARKING A)
0.21	0.21	INTERSECTION	R	ROUTE 0902AZ (PARK HEADQUARTERS / RANGER AND MAINTENANCE PARKING A)
0.25	0.25	INTERSECTION	L	ROUTE 0902DZ (PARK HEADQUARTERS / RANGER OPERATIONS PARKING)
0.27	0.27	INTERSECTION	L	ROUTE 0902EZ (PARK HEADQUARTERS / INTERPRETATION AND EDUCATION BUILDING PARKING)
0.30	0.30	INTERSECTION	R	ROUTE 0414Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST)
0.35	0.35	INTERSECTION	N/A	ROUTE 0900 (LASSEN HEADQUARTERS PARKING)

LAVO: Route Milepost Log

ROUTE 0413Z: LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD CUL DE SAC

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST)
0.00	0.00	INTERSECTION	R	ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST)
0.13	0.13	INTERSECTION	L	ROUTE 0413Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD CUL DE SAC)
0.17	0.17	INTERSECTION	L	ROUTE 0413Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD CUL DE SAC)
0.17	0.17	INTERSECTION	N/A	ROUTE 0413Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD CUL DE SAC)

LAVO: Route Milepost Log

ROUTE 0414Z: LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0415Z (MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD))
0.00	0.00	INTERSECTION	N/A	ROUTE 0902AZ (PARK HEADQUARTERS / RANGER AND MAINTENANCE PARKING A)
0.13	0.13	INTERSECTION	L	ROUTE 0419Z (LASSEN FIRE ROAD)
0.29	0.29	INTERSECTION	L	ROUTE 0415Z (MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD))
0.29	0.29	INTERSECTION	R	ROUTE 0415Z (MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD))
0.35	0.35	INTERSECTION	L	ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST)
0.35	0.35	INTERSECTION	R	ROUTE 0412Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD EAST)

LAVO: Route Milepost Log

ROUTE 0415Z: MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD)

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	PAVED ROUTE (STATE HIGHWAY 36 / NON NPS)
0.00	0.00	INTERSECTION	R	PAVED ROUTE (STATE HIGHWAY 36 / NON NPS)
0.07	0.07	INTERSECTION	L	ROUTE 0414Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST)
0.07	0.07	INTERSECTION	R	ROUTE 0414Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST)
0.13	0.13	INTERSECTION	L	ROUTE 0419Z (LASSEN FIRE ROAD)
0.13	0.13	INTERSECTION	R	ROUTE 0902AZ (PARK HEADQUARTERS / RANGER AND MAINTENANCE PARKING A)
0.16	0.16	INTERSECTION	R	ROUTE 0902AZ (PARK HEADQUARTERS / RANGER AND MAINTENANCE PARKING A)
0.18	0.18	INTERSECTION	L	ROUTE 0414Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST)
0.18	0.18	INTERSECTION	R	ROUTE 0902AZ (PARK HEADQUARTERS / RANGER AND MAINTENANCE PARKING A)

LAVO: Route Milepost Log

ROUTE 0416Z: MAINTENANCE SERVICE ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	PAVED ROUTE (STATE HIGHWAY 36 / NON NPS)
0.00	0.00	INTERSECTION	R	PAVED ROUTE (STATE HIGHWAY 36 / NON NPS)
0.14	0.14	INTERSECTION	R	ROUTE 0931 (MAINTENANCE SERVICE RV PARKING)
0.20	0.20	INTERSECTION	L	UNPAVED PICNIC AREA PARKING
0.23	0.23	INTERSECTION	N/A	DEAD END
0.23	0.23	INTERSECTION	N/A	UNPAVED ROUTE

LAVO: Route Milepost Log

ROUTE 0419Z: LASSEN FIRE ROAD

Road logs are verified in Cycle 6 and mileposts for this route are matched to GPS collected in Cycle 4.

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0414Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST)
0.00	0.00	INTERSECTION	R	ROUTE 0414Z (LASSEN HEADQUARTERS / RESIDENCE LOOP ROAD WEST)
0.05	0.05	INTERSECTION	R	ROUTE 0902BZ (PARK HEADQUARTERS / FIRE STATION PARKING B)
0.06	0.06	INTERSECTION	L	ROUTE 0902CZ (PARK HEADQUARTERS / FIRE STATION PARKING C)
0.08	0.08	INTERSECTION	L	ROUTE 0415Z (MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD))
0.08	0.08	INTERSECTION	N/A	ROUTE 0902AZ (PARK HEADQUARTERS / RANGER AND MAINTENANCE PARKING A)
0.08	0.08	INTERSECTION	R	ROUTE 0415Z (MAINTENANCE ACCESS ROAD (OLD VIOLA ROAD))

Section 8
Appendix

Lassen Volcanic National Park

Federal Lands Highway
Road Inventory Program

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.

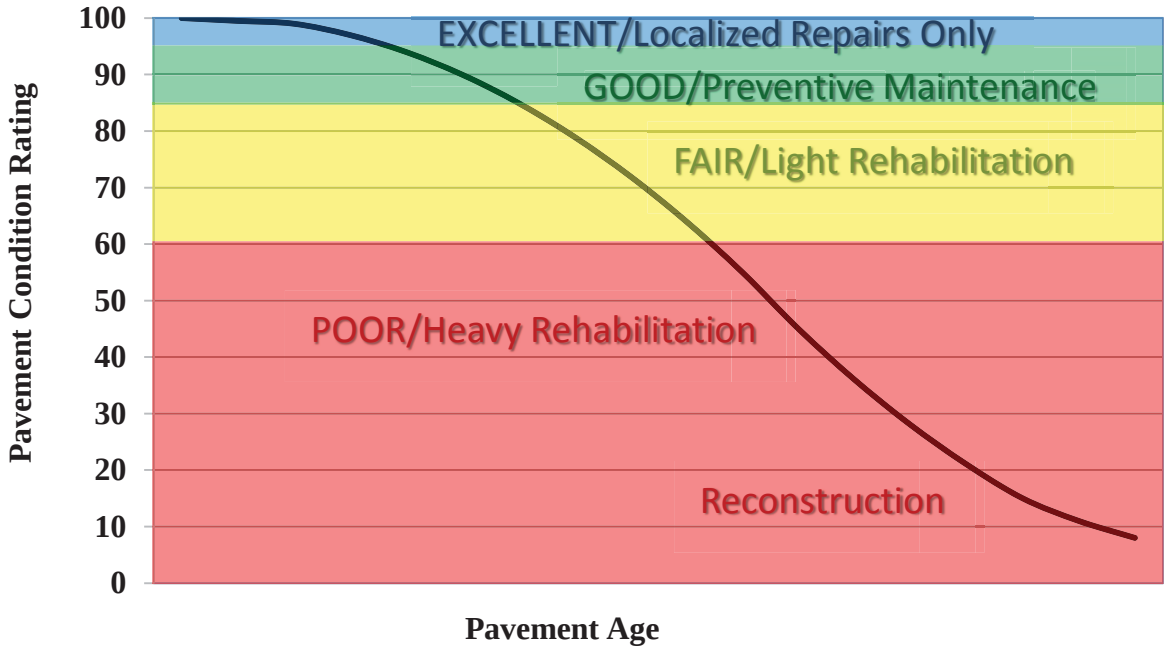
Explanation of the Condition Descriptions

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 ultra-thin 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	IRI	*RCI Per 0.02 Mile	No	DCV – Lasers / Accelerometers

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

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 SEVERITY	**CRACK PATTERN**		
		LOW	**MED**	**HIGH**
CRACK WIDTH	LOW	LOW	MED	HIGH
	MED	MED	MED	HIGH
	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:

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

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

Longitudinal Crack Index

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

Where:

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

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

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:

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

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

Patching Index

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

Where:

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

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

Percent of total area is computed as:

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

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

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:

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

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 * ($2.718282^{(-.0041 * \text{AVG IRI})}$)]

Where:

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

Average IRI is computed as:

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

There is no applicable threshold for failure for this index.

Roughness Condition Index (Concrete)

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

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
Iris range	Aperture Range F 1.8 – Infinity (P-Iris, 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
    - Rating based on percentage of road surface affected
- Longitudinal Cracking
    - Rating based on severity level (crack width) and percentage of road section length of longitudinal cracks
- Transverse Cracking
    - Rating based on crack width, crack spacing, and percentage of surface affected
- Patching
    - Rating based on percentage of road surface affected
- Rutting
    - Rating based on percentage of road section length affected by visible rutting (>1 inch depth) that requires remediation
- 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.

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:

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

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

Concrete Parking Distress Types

- Slab Faulting at Joints
  - Rating based on height differential between adjacent slabs or pieces of broken slabs
- Slab Cracking and breakup
  - Rating based on quantity of cracks and if slab is acting to able distribute load as designed
- Surface Delamination and Pop-outs
  - Rating based on percentage of road surface affected to include pop-outs, spalls and surface delamination
- Joint Distresses
  - Rating based on sealant condition and concrete distresses at/or adjacent to joints
- Patching
  - 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%:
    - DO NOTHING
- Overall curb damage ranging 5%-20%
    - LIGHT REPAIR
- Overall curb damage ranging 20%-50%
    - MODERATE REPAIR
- Overall curb damage greater than 50%:
    - 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 ºF to +140 ºF)
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.
    - GPS will be provided as Shapefiles and KMLs
    - 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.
    - All data disseminated in the preceding report has been obtained from the tables and fields within said geodatabase. The geodatabase can be referenced for tabular data via Microsoft Access or for both tabular and spatial data via ESRI's ArcGIS Suite of software which consists of; ArcMap, ArcCatalog and ArcExplorer.
    - Consolidating the RIP data into one database creates a seamless relationship of tables and geographic data. It 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