



# Federal Lands Highway Road Inventory Program

Road Inventory and Condition Assessment



## Santa Monica Mountains National Recreation Area SAMO

### Cycle 5 Report

**Prepared By: Federal Highway Administration  
Road Inventory Program (RIP)  
Data Collected: 04/2012  
Report Date: 12/2012**

# Santa Monica Mountains National Recreation Area in California





DCV = Data Collection Vehicle

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# Section 1 Introduction



## Santa Monica Mountains National Recreation Area



Federal Lands Highway  
Road Inventory Program

## INTRODUCTION

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

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

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

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

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

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

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

Cycle 5 has launched in the summer of 2010 and will again comprise all parks, large and small, that are served by paved roads and/or parking areas. For Cycle 5, the decision was made to collect condition data in large parks on Functional Class 1, 2, and 7 paved routes only, as well as any new routes that were previously not collected. In small parks, all paved routes and parking areas will be collected. As a result, this will include 81 large parks with 4,459 paved route miles and 168 small parks with 529 paved route miles and associated paved parking areas.

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

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

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

Respectfully,

FHWA RIP Team

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# Section 2

## Park Route Inventory



### Santa Monica Mountains National Recreation Area



Federal Lands Highway  
Road Inventory Program

# Cycle 5 NPS/RIP Route ID Report

Road Inventory Program 12/12/2012

(Numerical By Route #)

Page 1 of 9

Shading Color Key:

White = Paved Routes, DCV Driven

Yellow = Unpaved Routes, DCV not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Red text denotes approx. mileage

Grey = Paved Routes, DCV not Driven

Black = State, Local or Private non-NPS Routes

■ = Concession Route Flag ON

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

\*\* DCV - Data Collection Vehicle NC - Not Collected

## SAMO

### SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0011	5	17248		RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD	FROM POTRERO/LYNN ROAD TO ROUTE 0908 (RANCHO SIERRA VISTA/SATWIWA MAIN PARKING)	N/A	0.62	0.00	0.62	2		AS	1
0100	5	17243		SOLSTICE CANYON ACCESS ROAD	FROM CORRAL CANYON ROAD TO END OF LOOP	N/A	0.38	0.00	0.38	2		AS	2
0200	5	00002696		PARAMOUNT RANCH ACCESS ROAD	FROM CORNELL ROAD TO CORNELL ROAD	N/A	0.39	0.00	0.39	3		AS	2
0201	5	17244		CHEESEBORO CANYON ENTRANCE ROAD	FROM CHEESEBORO ROAD TO ROUTE 0916 (CHEESEBORO PARKING LOT)	N/A	0.21	0.00	0.21	3		AS	2
0202	NC	102380		PETER STRAUSS ENTRANCE ROAD	FROM ROUTE 5000 (MULHOLLAND HIGHWAY) TO ROUTE 0911 (PETER STRAUSS PARKING)	N/A	0.00	0.30	0.30	3		GR	
0203	NC	102643		ROCKY OAKS ENTRANCE ROAD	FROM ROUTE 5000 (MULHOLLAND HIGHWAY) TO ROUTE 0913 (ROCKY OAKS PARKING)	N/A	0.00	0.01	0.01	3		GR	
0204	NC	102383		ZUMA CANYON ENTRANCE ROAD	FROM BONSTALL DRIVE TO ROUTE 0915 (BUSCH PARKING)	N/A	0.00	0.01	0.01	3		GR	
0205	NC	12860		MORRISON RANCH ROAD	FROM ROUTE 0201 (CHEESEBORO CANYON ENTRANCE ROAD) TO END	N/A	0.00	0.80	0.80	3		GR	
0206	NC	12858		POOL ACCESS ROAD	FROM ROUTE 0208 (ENTRANCE CAMPGROUND) TO END	N/A	0.00	0.02	0.02	3		GR	
0207	NC	12904		ENTRANCE ROAD	FROM YERBA BUENA ROAD TO ROUTE 0206 (POOL ACCESS ROAD)	N/A	0.00	0.15	0.15	3		GR	
0208	NC	12857		ENTRANCE CAMPGROUND	FROM YERBA BUENA ROAD TO ROUTE 0207 (ENTRANCE ROAD)	N/A	0.00	0.15	0.15	3		GR	
0209	NC	12852		WESTERN TOWN ROAD	FROM ROUTE 0200 (PARAMOUNT RANCH ACCESS ROAD) TO END	N/A	0.00	0.20	0.20	3		GR	
0210	NC	12853		ABANDONED PARA ROAD	FROM ROUTE 0209 (WESTERN TOWN ROAD) TO ROUTE 0924 (PHASE TWO PARKING)	N/A	0.00	0.50	0.50	3		GR	
0211	NC	12855		GREEN HOUSE ACCESS ROAD	FROM ROUTE 0405 (RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD) TO END	N/A	0.00	0.10	0.10	3		GR	
0212	NC	12854		PINE HILL ROAD	FROM POTRERO ROAD TO ROUTE 0011 (RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD)	N/A	0.00	0.90	0.90	3		GR	

# Cycle 5 NPS/RIP Route ID Report

Road Inventory Program 12/12/2012

(Numerical By Route #)

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Shading Color Key:

White = Paved Routes, DCV Driven

Yellow = Unpaved Routes, DCV not Driven

Blue = All Paved Parking Areas

Green = All Unpaved Parking Areas

Red text denotes approx. mileage

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## SAMO

### SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

Rte. No.	Cycle Collected	FMSS No.	Concess Route	Route Name	Route Description From To	Maint. District	Paved Miles	Un-Paved Miles	Total Route Length	Func. Class	Manual Rated SQ/FT	Surf. Type	Area Maps
0400	5	00002681		DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD	FROM ROUTE 5000 (MULHOLLAND HIGHWAY) TO END OF LOOP	N/A	0.53	0.00	0.53	6		AS	2
0401	5	17246		TRW BUILDINGS ACCESS ROAD	FROM ROUTE 0423 (OLD KELLER HOUSE ACCESS ROAD, SOLSTICE CANYON) TO END OF LOOP	N/A	0.29	0.00	0.29	6	26,389	AS	2
0402	5	17247		SOLSTICE CANYON UPPER ROAD	FROM ROUTE 0100 (SOLSTICE CANYON ACCESS ROAD) SOUTH END TO ROUTE 0423 (OLD KELLER HOUSE ACCESS ROAD, SOLSTICE CANYON)	N/A	0.52	0.00	0.52	6	44,014	AS	2
0403	5	00002683		ARROYO SEQUIT ACCESS ROAD	FROM ROUTE 5000 (MULHOLLAND HIGHWAY) TO ROUTE 0407 (ARROYO SEQUIT WATER TANK ROAD)	N/A	0.22	0.00	0.22	6		AS	1
0405	5	17249		RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD	FROM POTRERO ROAD TO PARK BOUNDARY	N/A	0.67	0.00	0.67	5		AS	1
0406	5	17250		RANCH CENTER ROAD	FROM ROUTE 0405 (RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD) TO ROUTE 0928 (RANCHO SIERRA VISTA RANCH MANAGER PARKING)	N/A	0.06	0.00	0.06	5		AS	1
0407	NC	12859		ARROYO SEQUIT WATER TANK ROAD	FROM ROUTE 0401 (TRW BUILDINGS ACCESS ROAD) TO WATER TANK	N/A	0.00	0.10	0.10	5		GR	
0408	NC	12862		EDISON ROAD	FROM KANAN DUME ROAD TO ZUMA RIDGE TRAIL FIRE ROAD	N/A	0.00	2.30	2.30	5		GR	
0410	NC	12906		TRANCUS EDISON ROAD	FROM ZUMA RIDGE TRAIL FIRE ROAD TO END	N/A	0.00	1.50	1.50	5		GR	
0411	NC	12861		LIBERTY CANYON ROAD	FROM AGOURA ROAD TO END	N/A	0.00	0.70	0.70	6		GR	
0412	NC	102384		MAINTENANCE ROAD	FROM YERBA BUENA ROAD TO ROUTE 0918 (MAINTENANCE FACILITY, CIRCLE X PARKING)	N/A	0.00	0.04	0.04	5		GR	
0413	NC	102385		ACCESS ROAD	FROM CORNELL ROAD TO END	N/A	0.00	0.39	0.39	5		GR	
0414	NC	00002733		UNPAVED SERVICE ROAD RSV	FROM ROUTE 0011 (RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD) TO ROUTE 0405 (RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD)	N/A	0.00	1.00	1.00	6		GR	











# Cycle 5 NPS/RIP Route ID Report

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## CYCLE 5 SUMMARY TOTALS FOR SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

### CYCLE 5 ROUTE TOTALS

DCV Driven Route Miles	5.39
Manually Rated Route Miles	1.51
<b>TOTAL PARK ROUTE MILES COLLECTED IN CYCLE 5</b>	<b>6.89</b>
Manually Rated Routes (SQFT)	5,520
<b>TOTAL UNPAVED PARK ROUTE MILES</b>	<b>23.17</b>

### CYCLE 5 CONCESSION TOTALS

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

### \* CYCLE 5 PARKING AREA TOTALS

Paved Parking (SQFT)	208,062
Unpaved Parking (SQFT)	1,502,214
<b>TOTAL PARKING (SQFT)</b>	<b>1,710,276</b>

### CYCLE 5 WEIGHTED AVERAGE PARK VALUES

DCV Driven PCR	53
**Manually Rated Routes PCR	52
**Parking PCR	85
<b>***Total Equivalent Lane Miles</b>	<b>15.01</b>

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

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

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

# Cycle 5 NPS/RIP Route ID Report

Road Inventory Program 12/12/2012

(Numerical By Route #)

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Black = State, Local or Private non-NPS Routes

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## General Park Road Functional Classification Table

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

\*\*\*\*\*

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

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

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

## Surface Type Abbreviations:

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

**ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - SAMO**

ROUTES ADDED FROM PREVIOUS INVENTORY:			
Route #	Route Name	Reason for Addition	Comments
0422A	FRANKLIN CANYON DRIVE	OTHER	PAVED ROAD ADDED FROM ALIGNMENT IN MAY 2010 AND CONFIRMED IN CYCLE 5.
0422B	FRANKLIN CANYON DRIVE LOOP	OTHER	PAVED ROAD ADDED IN CYCLE 5.
0425	ROCKY OAKS MUSEUM/RESIDENT ACCESS	OTHER	ROUTE ADDED FROM ALIGNMENT IN MAY 2010.
0931	FRANKLIN CANYON RESTROOM PARKING	OTHER	PAVED PARKING AREA ADDED FROM ALIGNMENT IN MAY 2010 AND CONFIRMED IN CYCLE 5.
0933	ROCKY OAKS MUSEUM PARKING	OTHER	PAVED PARKING AREA ADDED FROM ALIGNMENT IN MAY 2010 AND CONFIRMED IN CYCLE 5.
0934	PETER STRAUSS WEST PARKING	OTHER	PAVED PARKING AREA ADDED FROM ALIGNMENT IN MAY 2010 AND CONFIRMED IN CYCLE 5.
0938	KANAN TRAILHEAD PARKING	OTHER	PAVED PARKING AREA ADDED FROM ALIGNMENT IN MAY 2010 AND CONFIRMED IN CYCLE 5.
0940B	INTERN CENTER HANDICAP PARKING	OTHER	PAVED PARKING AREA ADDED IN CYCLE 5.
0941	KING GILLETE VISITOR CENTER PARKING	OTHER	PAVED PARKING AREA ADDED IN CYCLE 5.
5000	MULHOLLAND HIGHWAY	OTHER	PAVED ROAD ADDED IN CYCLE 5.

**ROUTE IDENTIFICATION CHANGES TO PAVED ROUTES FROM PREVIOUS CYCLE - SAMO**

<b>ROUTES MODIFIED FROM PREVIOUS INVENTORY:</b>			
<b>Route #</b>	<b>Route Name</b>	<b>Type of Modification</b>	<b>Comments</b>
0405	RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD	LENGTH CHANGE	ROUTE WAS EXTENDED IN CYCLE 5. IT CONTINUES UNTIL IT REACHES THE PARK BOUNDARY.
0904C	DRY CANYON TRAILHEAD PARKING C	SQ FEET CHANGE	MINOR ADJUSTMENT MADE TO SHAPE TO REFLECT PARKING LOT GEOMETRY ACCURATELY.
<b>OTHER CHANGES FROM PREVIOUS INVENTORY:</b>			
<b>Route #</b>	<b>Route Name</b>	<b>Type of Change</b>	<b>Comments</b>
0100	SOLSTICE CANYON ACCESS ROAD	ROUTE SPLIT	ROUTE 0100 SPLIT INTO TWO SECTIONS IN CYCLE 5. BECAUSE PART OF THE ROAD HAS PUBLIC ACCESS (ROUTE 0100) AND THE OTHER DOES NOT (ROUTE 0423).
0400	DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 5 TO 6 IN CYCLE 5.
0401	TRW BUILDINGS ACCESS ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 5 TO 6 IN CYCLE 5.
0402	SOLSTICE CANYON UPPER ROAD	COLLECTION METHOD CHANGE	ROUTE MANUALLY RATED IN CYCLE 5 BECAUSE IT IS IN POOR CONDITION AND IS NOT SAFE TO DRIVE THE COLLECTION VEHICLE OVER.
0403	ARROYO SEQUIT ACCESS ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 5 TO 6 IN CYCLE 5.
0423	OLD KELLER HOUSE ACCESS ROAD, SOLSTICE CANYON	ROUTE SPLIT	ROUTE 0100 SPLIT INTO TWO SECTIONS IN CYCLE 5. BECAUSE PART OF THE ROAD HAS PUBLIC ACCESS (ROUTE 0100) AND THE OTHER DOES NOT (ROUTE 0423).

# Section 3

## Park Summary Information



Santa Monica Mountains  
National Recreation Area



Federal Lands Highway  
Road Inventory Program

## SAMO: PAVED ROUTE MILES AND PERCENTAGES BY FUNCTIONAL CLASS AND PCR

F.C.	Pavement Condition Rating (PCR)								TOTAL MILES
	Poor (0-60)		Fair (61-84)		Good (85-94)		Excellent (95-100)		
	MILES	%	MILES	%	MILES	%	MILES	%	
1	1.34	24.91%	0.24	4.46%	0.18	3.35%	0.54	10.04%	2.30
2					0.06	1.12%	0.94	17.47%	1.00
3	0.06	1.12%	0.29	5.39%	0.16	2.97%	0.09	1.67%	0.60
4									
5	0.06	1.12%			0.13	2.42%	0.54	10.04%	0.73
6	0.02	0.37%	0.20	3.72%	0.13	2.42%	0.40	7.43%	0.75
7									
8									
<b>Totals</b>	<b>1.48</b>	<b>27.51%</b>	<b>0.73</b>	<b>13.57%</b>	<b>0.66</b>	<b>12.27%</b>	<b>2.51</b>	<b>46.65%</b>	<b>5.38</b>

**Note:** The information in this table is derived from the PMS\_20 table in the Park database, which only contains processed data from routes collected with the Data Collection Vehicle (DCV). Information for Manually Rated Routes (MRR) and Parking Areas is not reported in this table. Only Functional Class 1, 2, & 7 routes, and any new routes not previously collected by RIP, are collected in Large Parks.

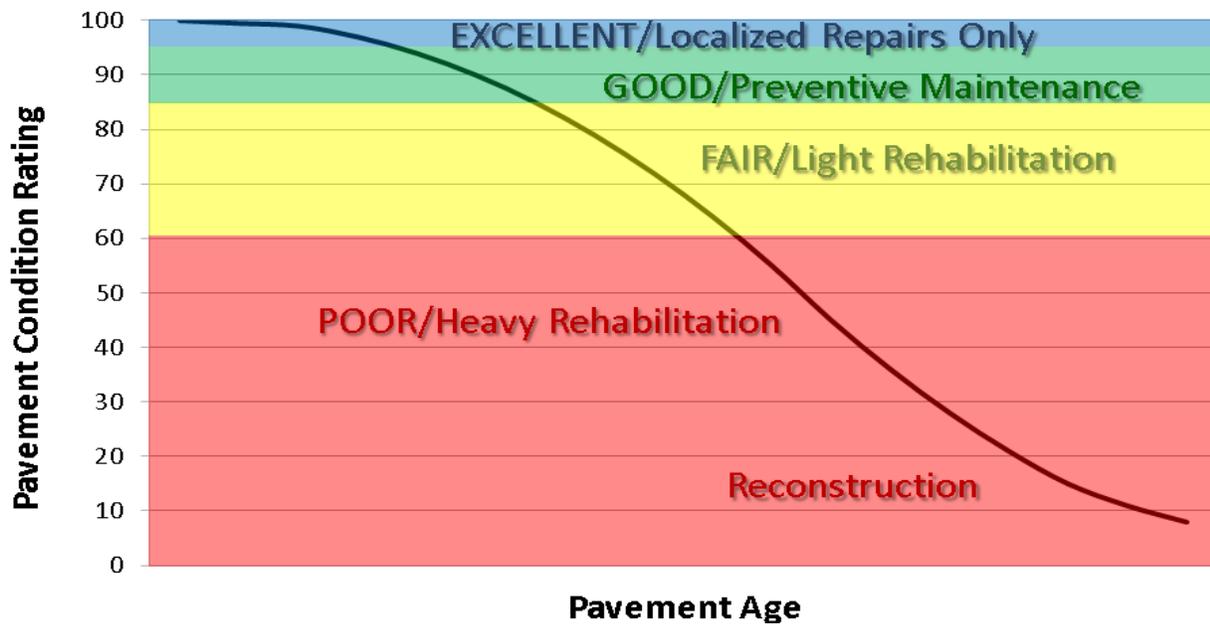
### Explanation of the Excellent, Good, Fair and Poor Condition Descriptions

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

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

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

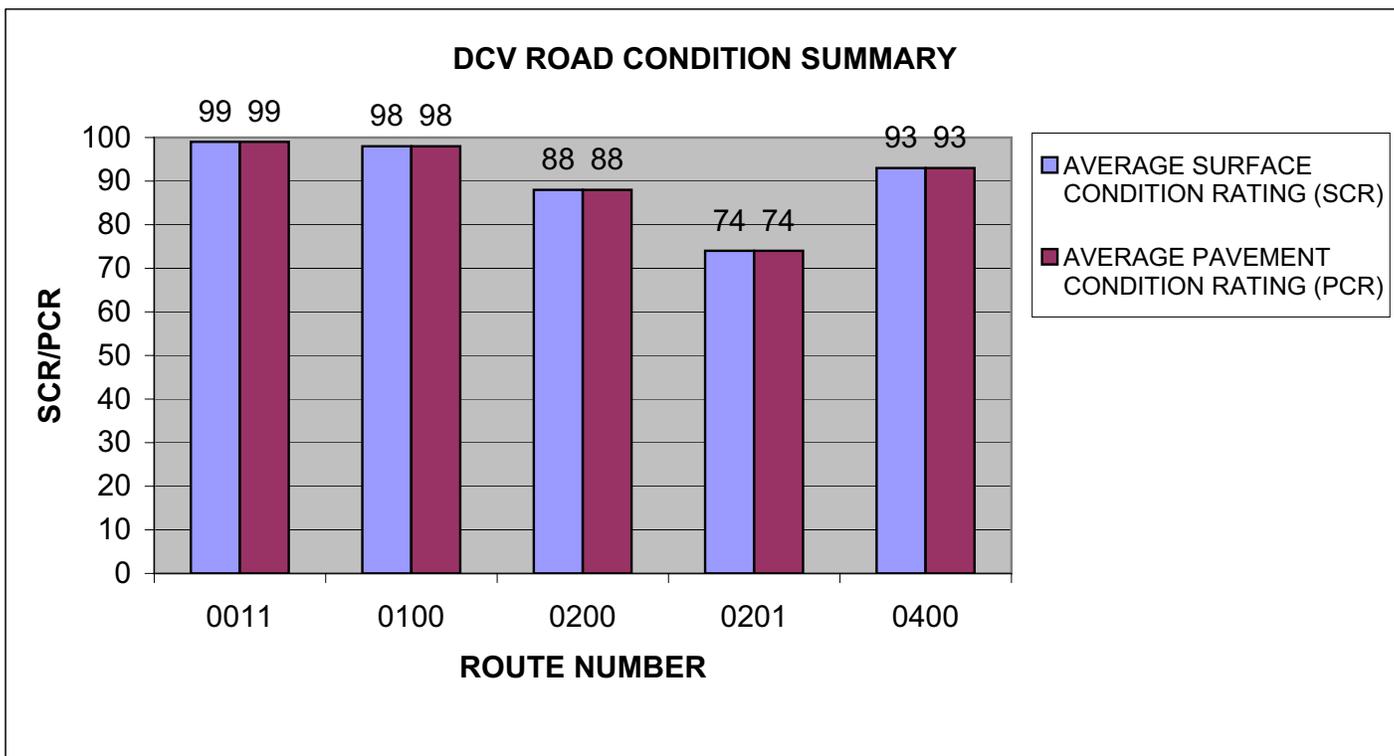
### Condition Categories and Treatments



# SAMO: DCV ROAD CONDITION SUMMARY

DCV - Data Collection Vehicle

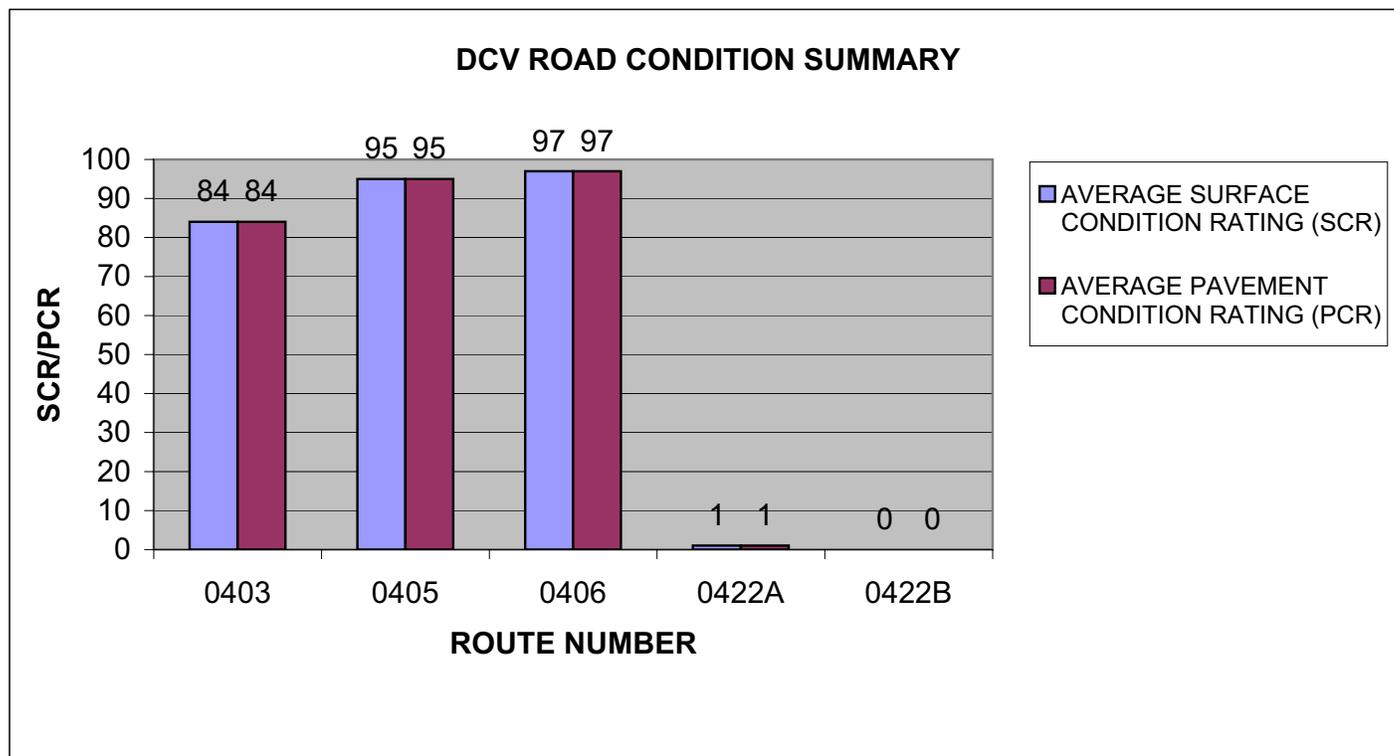
ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	PAVED LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0011	RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD	2	0.62	ASPHALT	99	99
0100	SOLSTICE CANYON ACCESS ROAD	2	0.38	ASPHALT	98	98
0200	PARAMOUNT RANCH ACCESS ROAD	3	0.39	ASPHALT	88	88
0201	CHEESEBORO CANYON ENTRANCE ROAD	3	0.21	ASPHALT	74	74
0400	DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD	6	0.53	ASPHALT	93	93



# SAMO: DCV ROAD CONDITION SUMMARY

DCV - Data Collection Vehicle

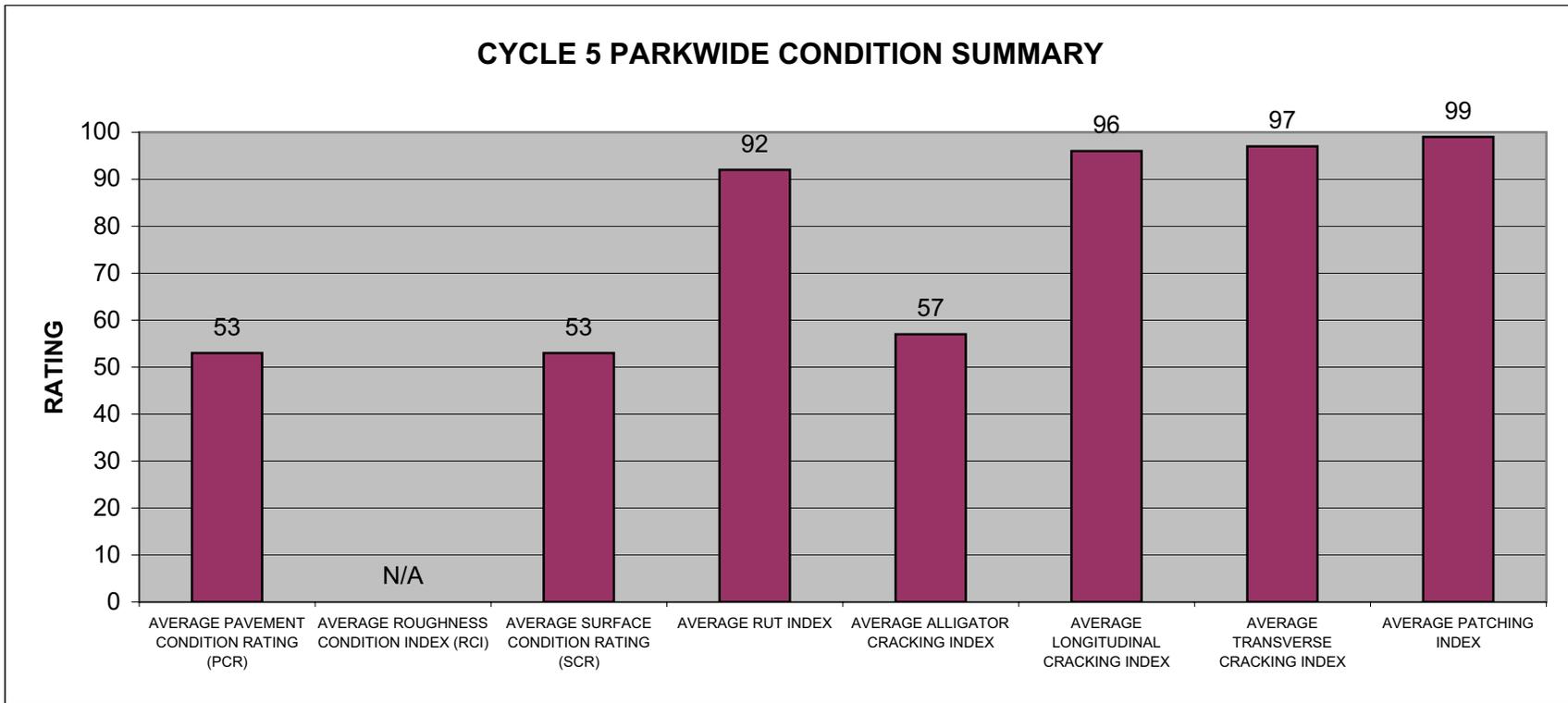
ROUTE NUMBER	ROUTE NAME	FUNCT CLASS	PAVED LENGTH	SURFACE TYPE	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE PAVEMENT CONDITION RATING (PCR)
0403	ARROYO SEQUIT ACCESS ROAD	6	0.22	ASPHALT	84	84
0405	RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD	5	0.67	ASPHALT	95	95
0406	RANCH CENTER ROAD	5	0.06	ASPHALT	97	97
0422A	FRANKLIN CANYON DRIVE	1	1.96	ASPHALT	1	1
0422B	FRANKLIN CANYON DRIVE LOOP	1	0.34	ASPHALT	0	0



# SAMO: PARKWIDE DCV CONDITION SUMMARY

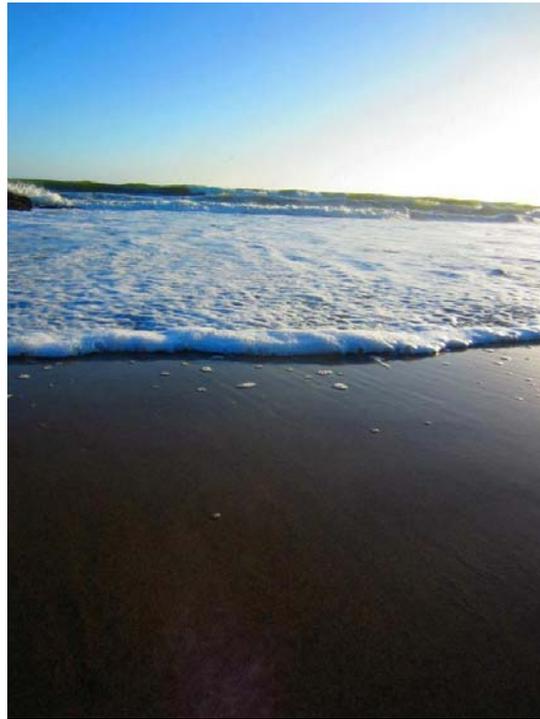
AVERAGE PAVEMENT CONDITION RATING (PCR)	AVERAGE ROUGHNESS CONDITION INDEX (RCI)	AVERAGE SURFACE CONDITION RATING (SCR)	AVERAGE RUT INDEX	AVERAGE ALLIGATOR CRACKING INDEX	AVERAGE LONGITUDINAL CRACKING INDEX	AVERAGE TRANSVERSE CRACKING INDEX	AVERAGE PATCHING INDEX
53	N/A	53	92	57	96	97	99

All Index values are based on Data Collection Vehicle (DCV) driven roads that were collected in Cycle-5.  
 Roughness data is only collected on routes with lengths greater than 0.5 miles and a posted speed limit of 25 MPH or greater.



# Section 4

## Park Route Location Maps

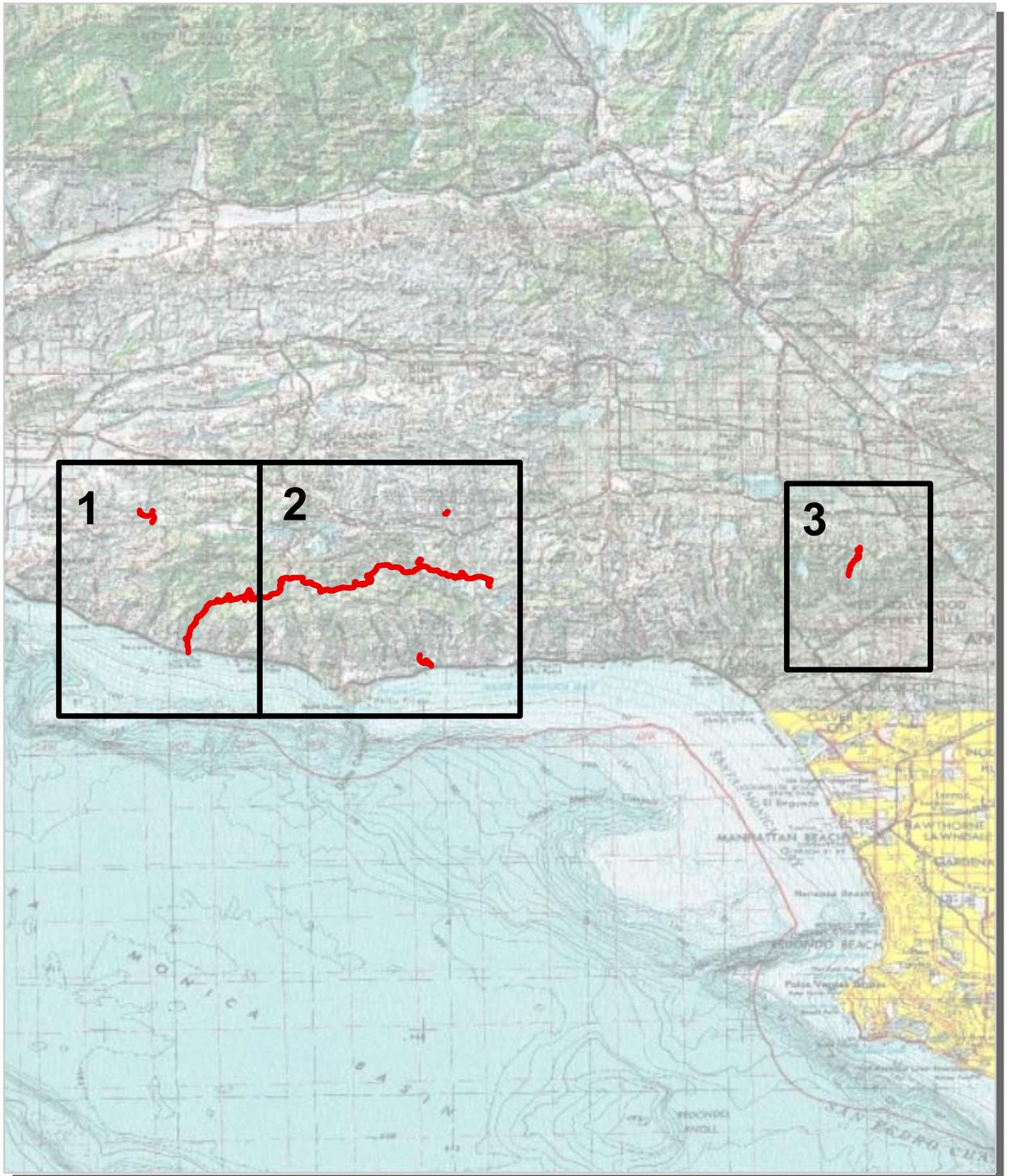


Santa Monica Mountains  
National Recreation Area



Federal Lands Highway  
Road Inventory Program

**Santa Monica Mountains National Recreation Area  
Route Location Map  
Key Map**



 Cycle 5 Collected Routes



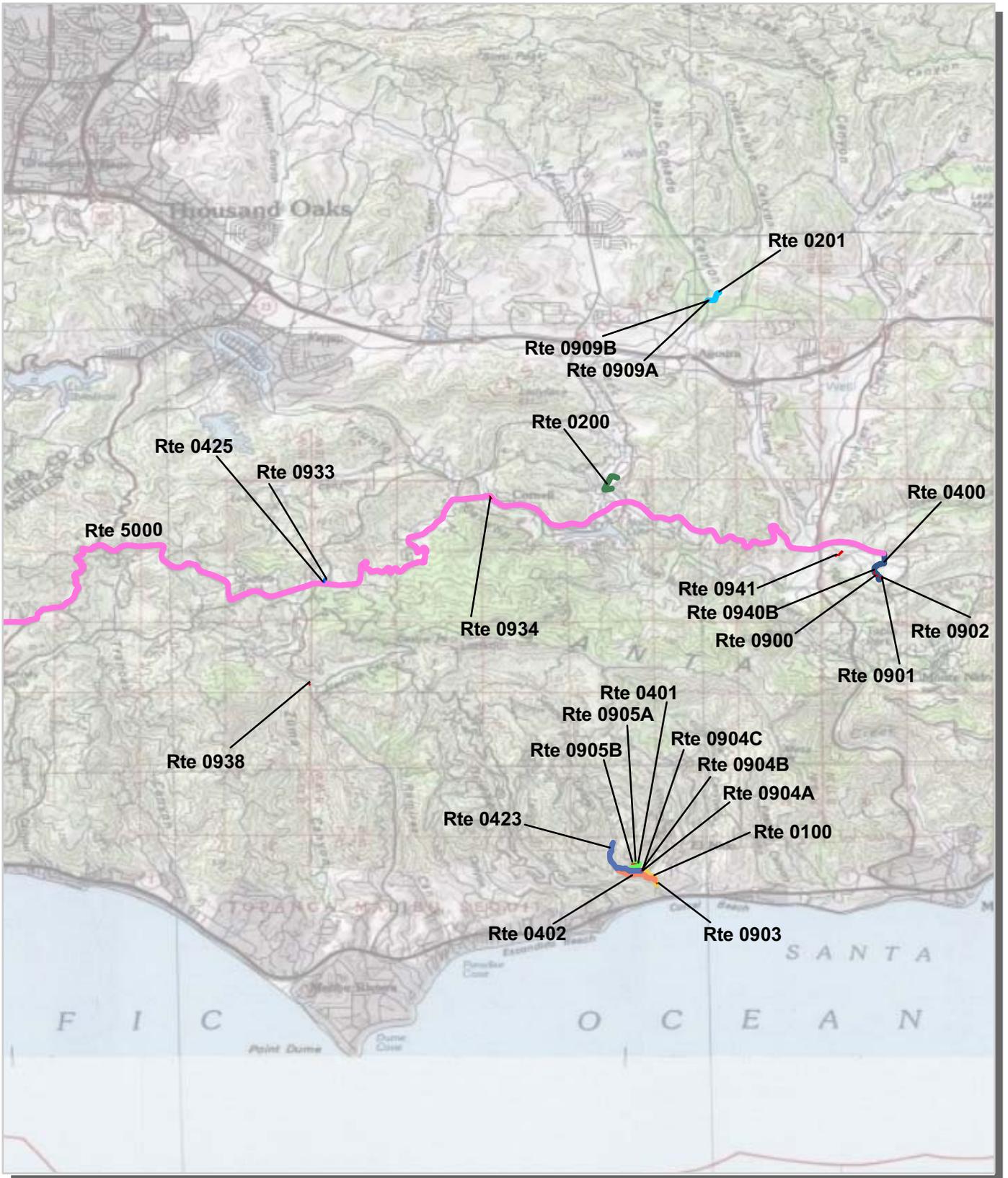
# Santa Monica Mountains National Recreation Area Route Location Map Area 1



Unique colors used to differentiate routes



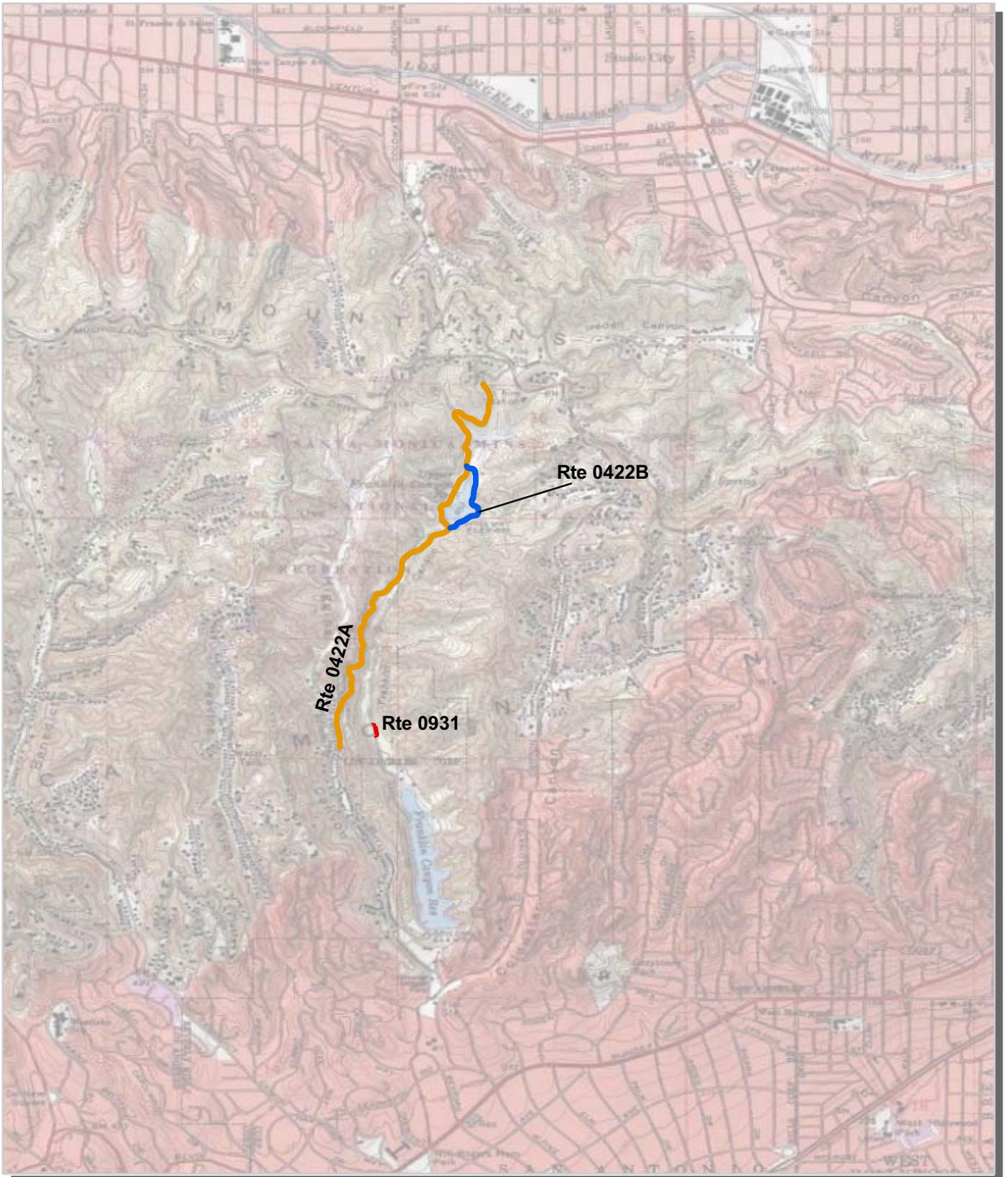
# Santa Monica Mountains National Recreation Area Route Location Map Area 2



Unique colors used to differentiate routes



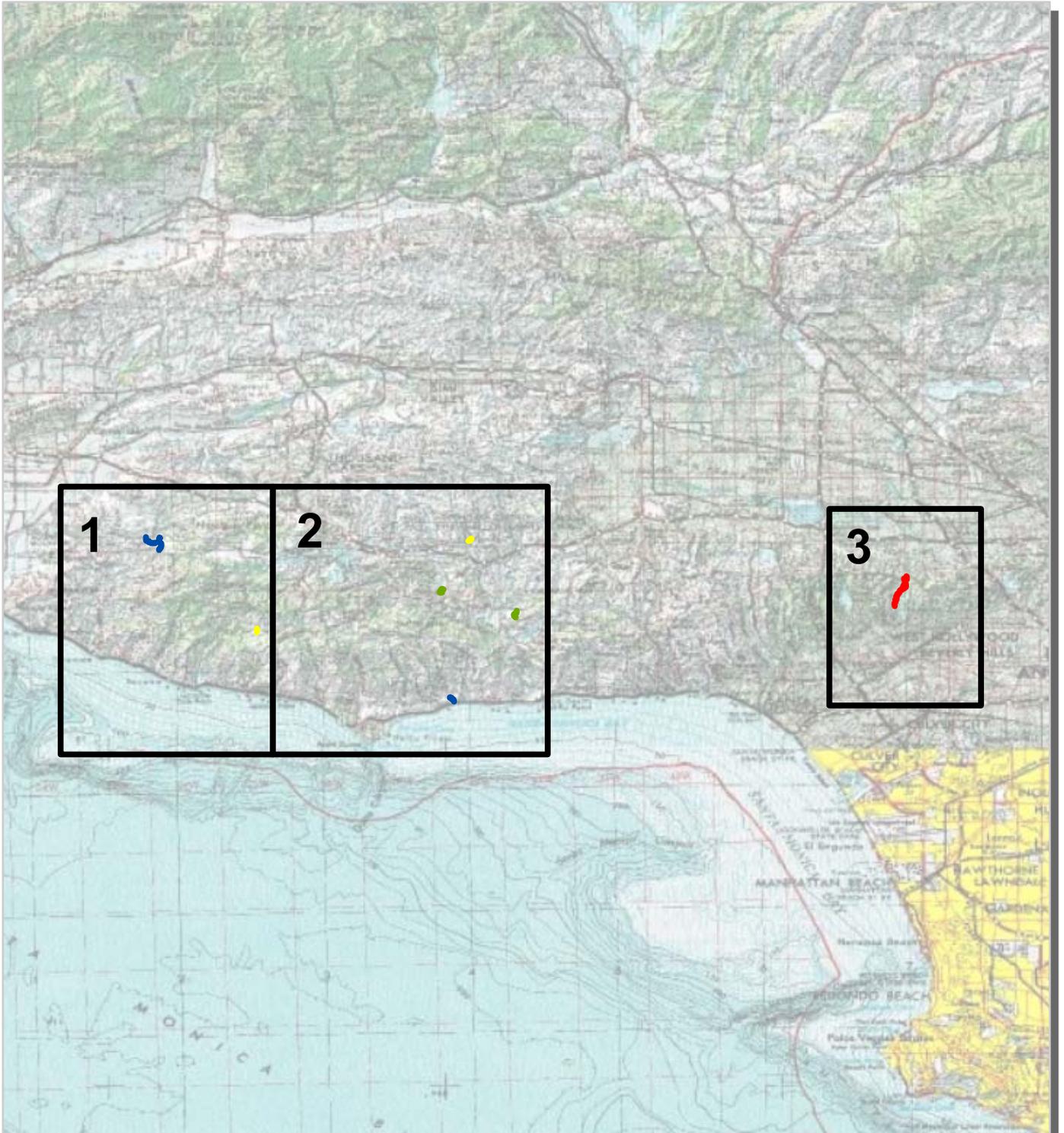
**Santa Monica Mountains National Recreation Area  
Route Location Map  
Area 3**



Unique colors used to differentiate routes



**Santa Monica Mountains National Recreation Area  
Route Condition Map  
PCR - Mile by Mile  
Key Map**



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

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

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

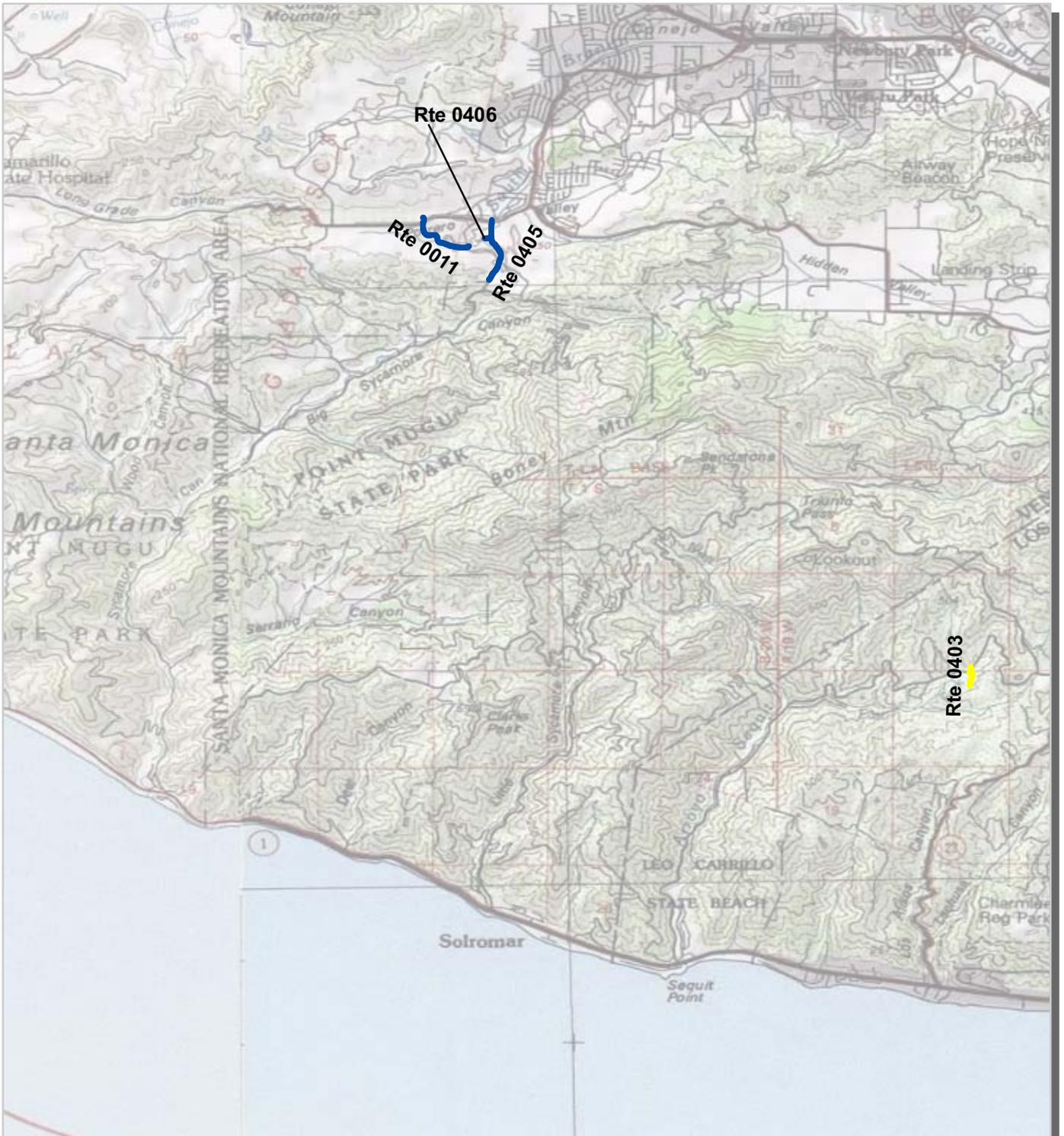


# Santa Monica Mountains National Recreation Area

## Route Condition Map

### PCR - Mile by Mile

#### Area 1



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

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

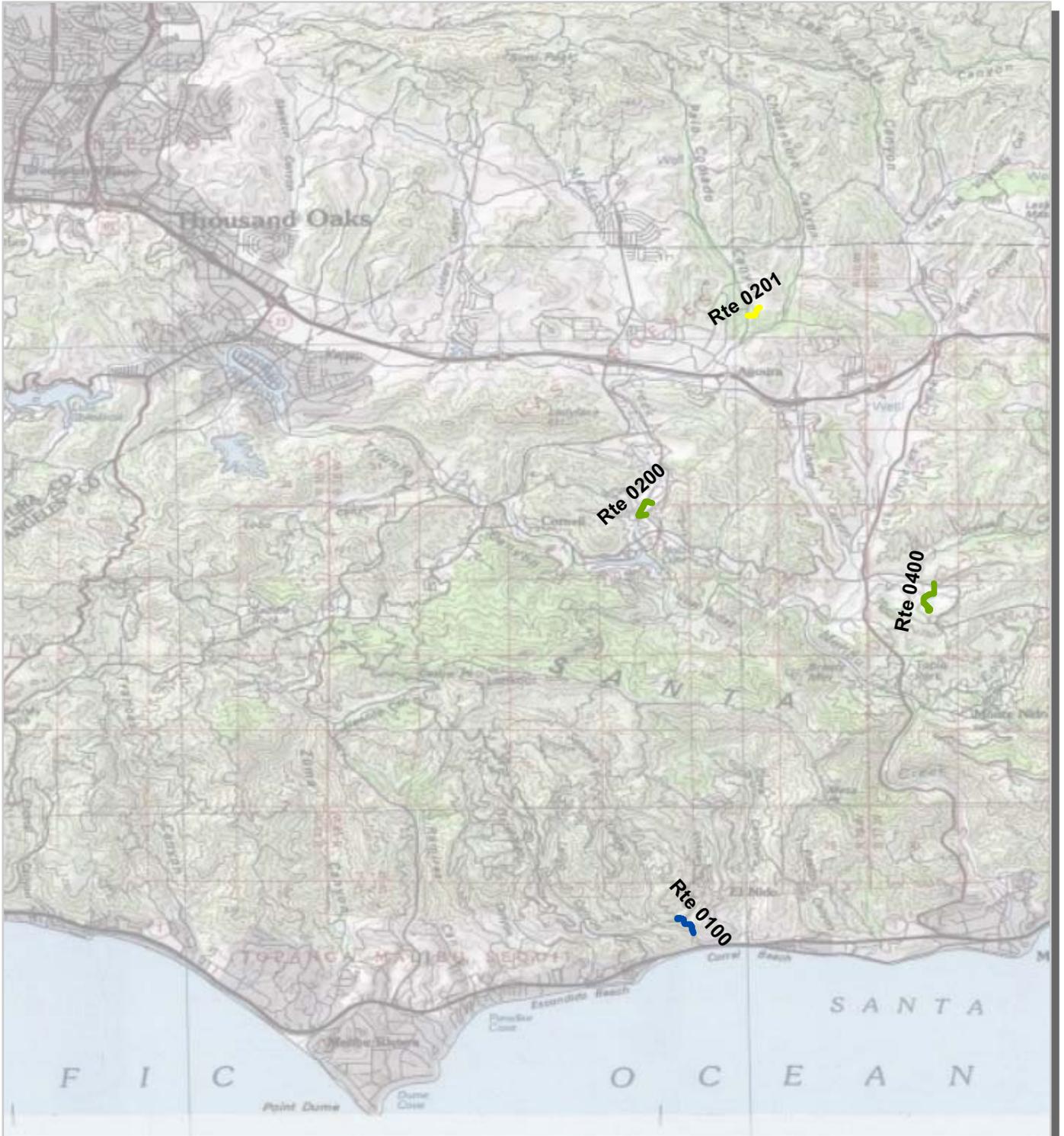


# Santa Monica Mountains National Recreation Area

## Route Condition Map

### PCR - Mile by Mile

#### Area 2



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

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



**Santa Monica Mountains National Recreation Area  
Route Condition Map  
PCR - Mile by Mile  
Area 3**



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

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



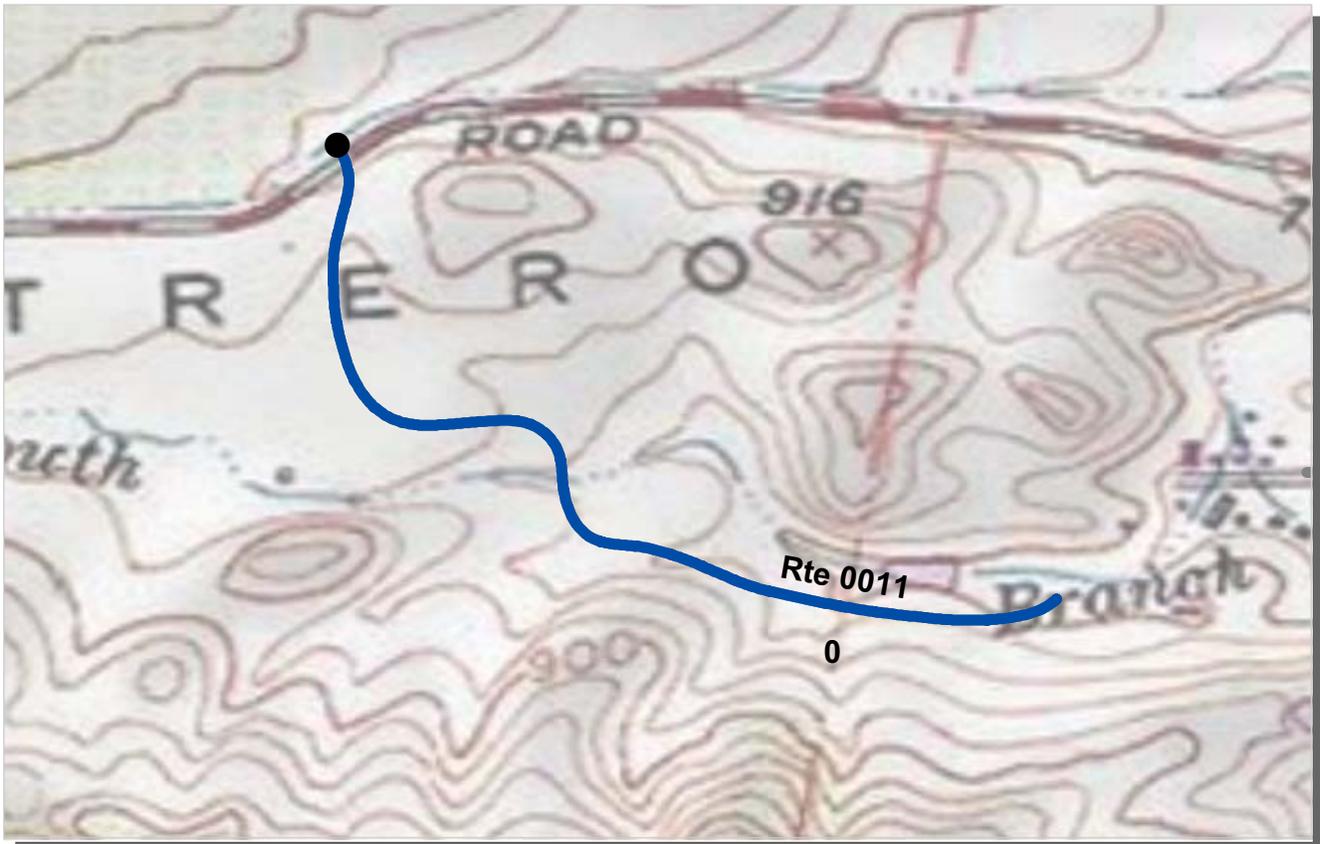
**Section 5**  
**Paved Route**  
**Condition Rating Sheets**



Santa Monica Mountains  
National Recreation Area



Federal Lands Highway  
Road Inventory Program



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

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

**ROUTE: 0011 RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD**  
**SAMO : SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA**

COLLECTED: 4/26/2012  
 TOTAL LENGTH: 0.62 Miles

**PACIFIC WEST REGION**

<b>Section Number</b>	0				
<b>Section Length (mi)</b>	0.62				
<b>Cross Section Information</b>					
Number of Lanes	2				
Paved Width (ft)	23				
Lane Width (ft)	11				
<b>Roadway Condition Information</b>					
SCR (Surface Condition Rating)	99				
PCR (Pavement Condition Rating)	99				
<b>Distress Index Values</b>					
Structural Crack Index	100				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	99				
Roughness Condition Index (RCI)	NC				

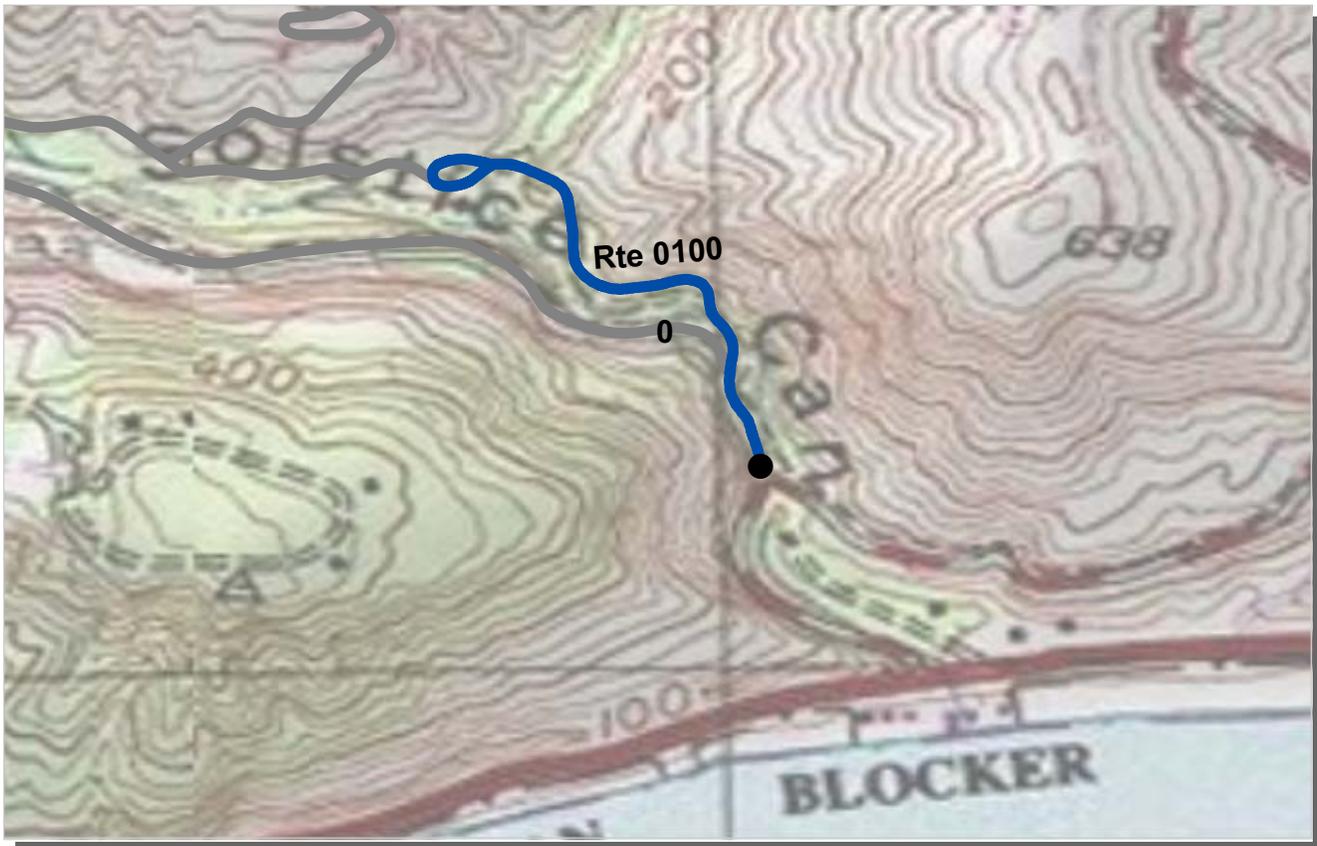
**NOTES:**

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

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

NC - Not Collected    N/A - Not Applicable

**ROUTE: 0011 RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD**



PCR	Poor	<span style="color: red;">■</span>	Fair	<span style="color: yellow;">■</span>	Good	<span style="color: green;">■</span>	Excellent	<span style="color: blue;">■</span>	No Data	<span style="color: black;">■</span>
		(0 - 60)		(61 - 84)		(85 - 94)		(95 - 100)		

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

**ROUTE: 0100 SOLSTICE CANYON ACCESS ROAD**  
**SAMO : SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA**

**COLLECTED: 4/26/2012**  
**TOTAL LENGTH: 0.38 Miles**

**PACIFIC WEST REGION**

<b>Section Number</b>	0				
<b>Section Length (mi)</b>	0.38				
<b>Cross Section Information</b>					
Number of Lanes	2				
Paved Width (ft)	19				
Lane Width (ft)	10				
<b>Roadway Condition Information</b>					
SCR (Surface Condition Rating)	98				
PCR (Pavement Condition Rating)	98				
<b>Distress Index Values</b>					
Structural Crack Index	99				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	98				
Roughness Condition Index (RCI)	NC				

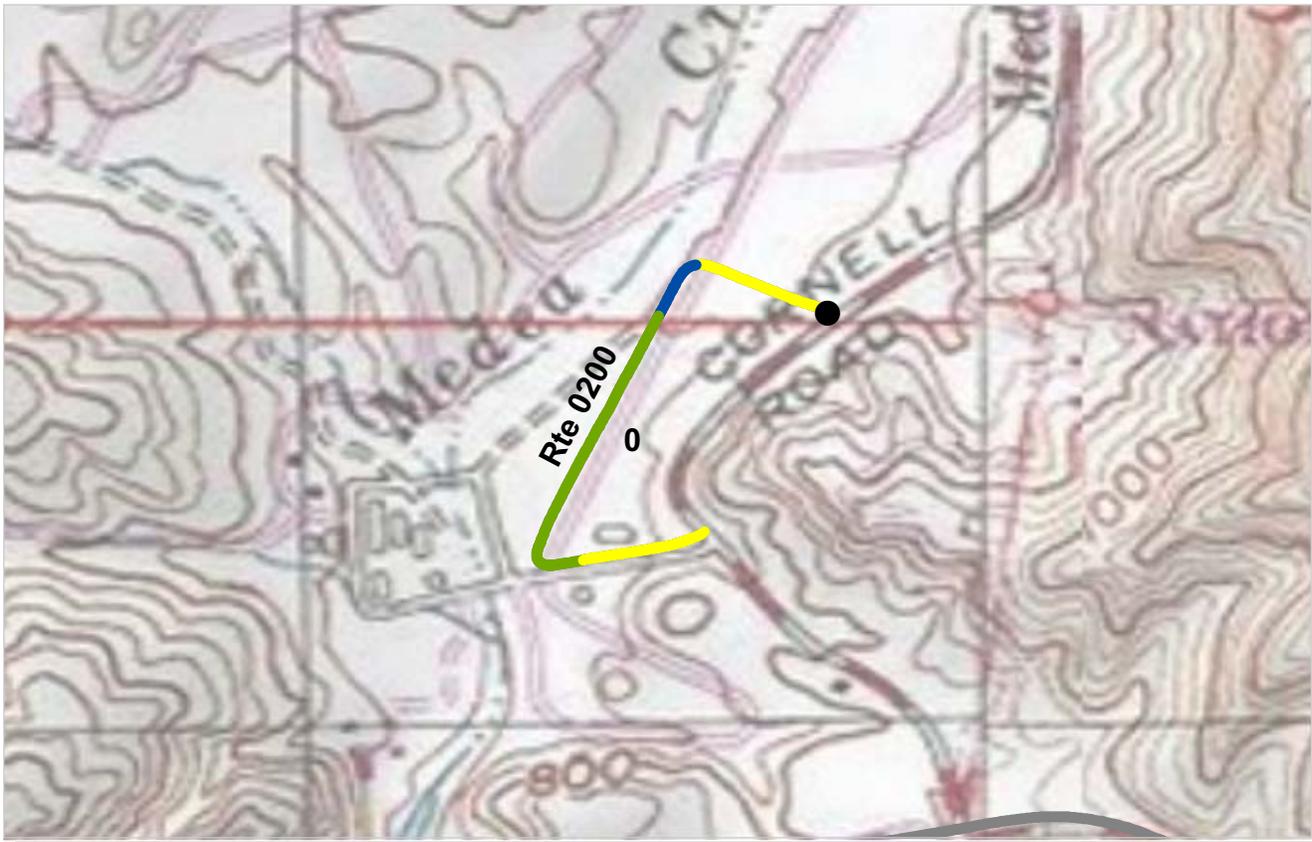
**NOTES:**

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

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

NC - Not Collected N/A - Not Applicable

**ROUTE: 0100 SOLSTICE CANYON ACCESS ROAD**



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

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

**ROUTE: 0200 PARAMOUNT RANCH ACCESS ROAD**  
**SAMO : SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA**

COLLECTED: 4/26/2012  
 TOTAL LENGTH: 0.39 Miles

**PACIFIC WEST REGION**

<b>Section Number</b>	0				
<b>Section Length (mi)</b>	0.39				
<b>Cross Section Information</b>					
Number of Lanes	2				
Paved Width (ft)	23				
Lane Width (ft)	12				
<b>Roadway Condition Information</b>					
SCR (Surface Condition Rating)	88				
PCR (Pavement Condition Rating)	88				
<b>Distress Index Values</b>					
Structural Crack Index	90				
Transverse Cracking Index	88				
Patching Index	100				
Rutting Index	98				
Roughness Condition Index (RCI)	NC				

**NOTES:**

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

**ROUTE: 0200 PARAMOUNT RANCH ACCESS ROAD**



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

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

**ROUTE: 0201 CHEESEBORO CANYON ENTRANCE ROAD**  
**SAMO : SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA**

**COLLECTED: 4/26/2012**  
**TOTAL LENGTH: 0.21 Miles**

**PACIFIC WEST REGION**

<b>Section Number</b>	0				
<b>Section Length (mi)</b>	0.21				
<b>Cross Section Information</b>					
Number of Lanes	2				
Paved Width (ft)	23				
Lane Width (ft)	11				
<b>Roadway Condition Information</b>					
SCR (Surface Condition Rating)	74				
PCR (Pavement Condition Rating)	74				
<b>Distress Index Values</b>					
Structural Crack Index	74				
Transverse Cracking Index	83				
Patching Index	100				
Rutting Index	97				
Roughness Condition Index (RCI)	NC				

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

**ROUTE: 0201 CHEESEBORO CANYON ENTRANCE ROAD**



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

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

**ROUTE: 0400 DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD**  
**SAMO : SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA**

COLLECTED: 4/26/2012  
 TOTAL LENGTH: 0.53 Miles

**PACIFIC WEST REGION**

<b>Section Number</b>	0				
<b>Section Length (mi)</b>	0.53				
<b>Cross Section Information</b>					
Number of Lanes	2				
Paved Width (ft)	19				
Lane Width (ft)	9				
<b>Roadway Condition Information</b>					
SCR (Surface Condition Rating)	93				
PCR (Pavement Condition Rating)	93				
<b>Distress Index Values</b>					
Structural Crack Index	93				
Transverse Cracking Index	99				
Patching Index	100				
Rutting Index	98				
Roughness Condition Index (RCI)	NC				

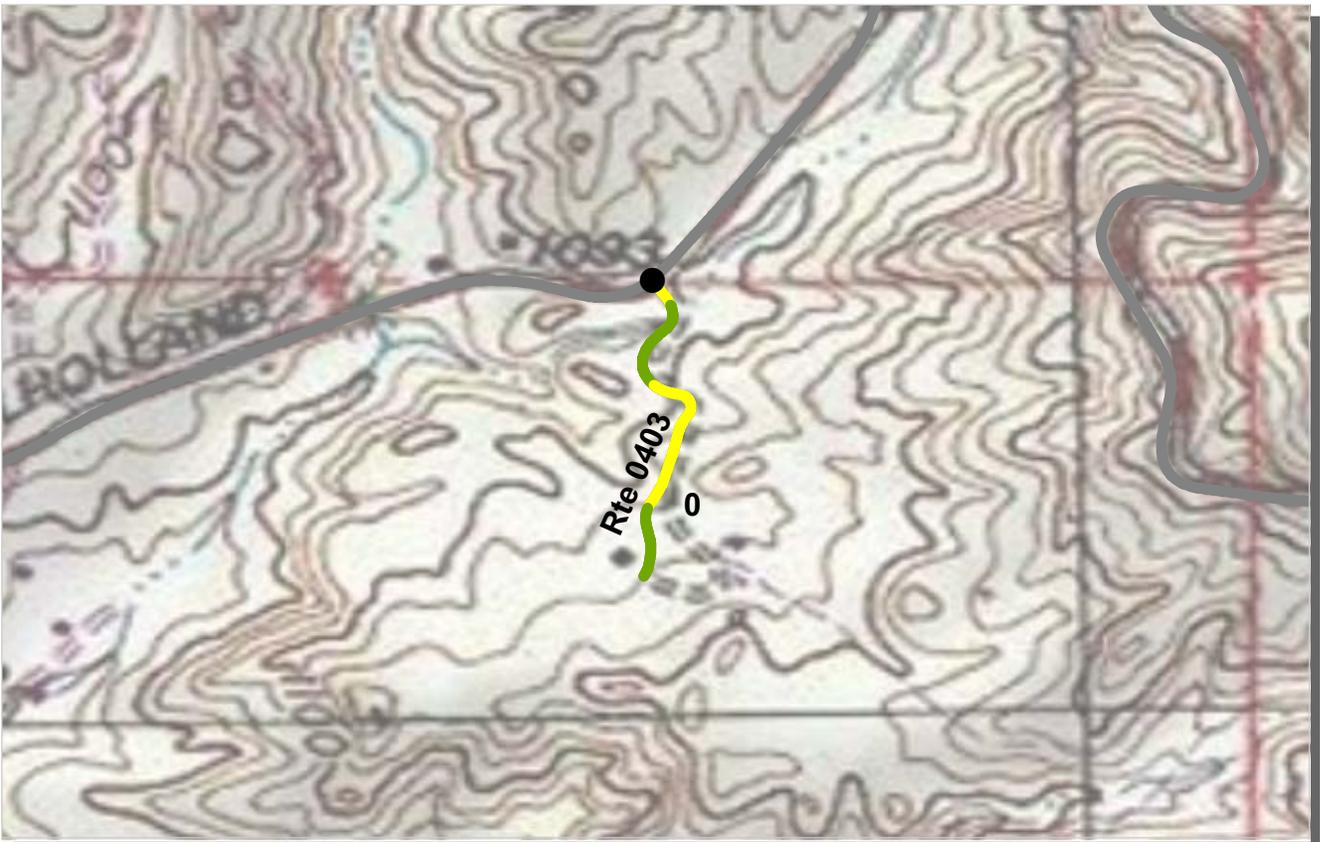
NOTES:

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

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

NC - Not Collected    N/A - Not Applicable

ROUTE: 0400 DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD



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

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

**ROUTE: 0403 ARROYO SEQUIT ACCESS ROAD**  
**SAMO : SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA**

COLLECTED: 4/26/2012  
 TOTAL LENGTH: 0.22 Miles

**PACIFIC WEST REGION**

<b>Section Number</b>	0				
<b>Section Length (mi)</b>	0.22				
<b>Cross Section Information</b>					
Number of Lanes	1				
Paved Width (ft)	11				
Lane Width (ft)	11				
<b>Roadway Condition Information</b>					
SCR (Surface Condition Rating)	84				
PCR (Pavement Condition Rating)	84				
<b>Distress Index Values</b>					
Structural Crack Index	98				
Transverse Cracking Index	99				
Patching Index	100				
Rutting Index	84				
Roughness Condition Index (RCI)	NC				

NOTES:

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

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

NC - Not Collected    N/A - Not Applicable



ROUTE: 0403 ARROYO SEQUIT ACCESS ROAD



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

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

**ROUTE: 0405 RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD**  
**SAMO : SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA**

COLLECTED: 4/26/2012  
 TOTAL LENGTH: 0.67 Miles

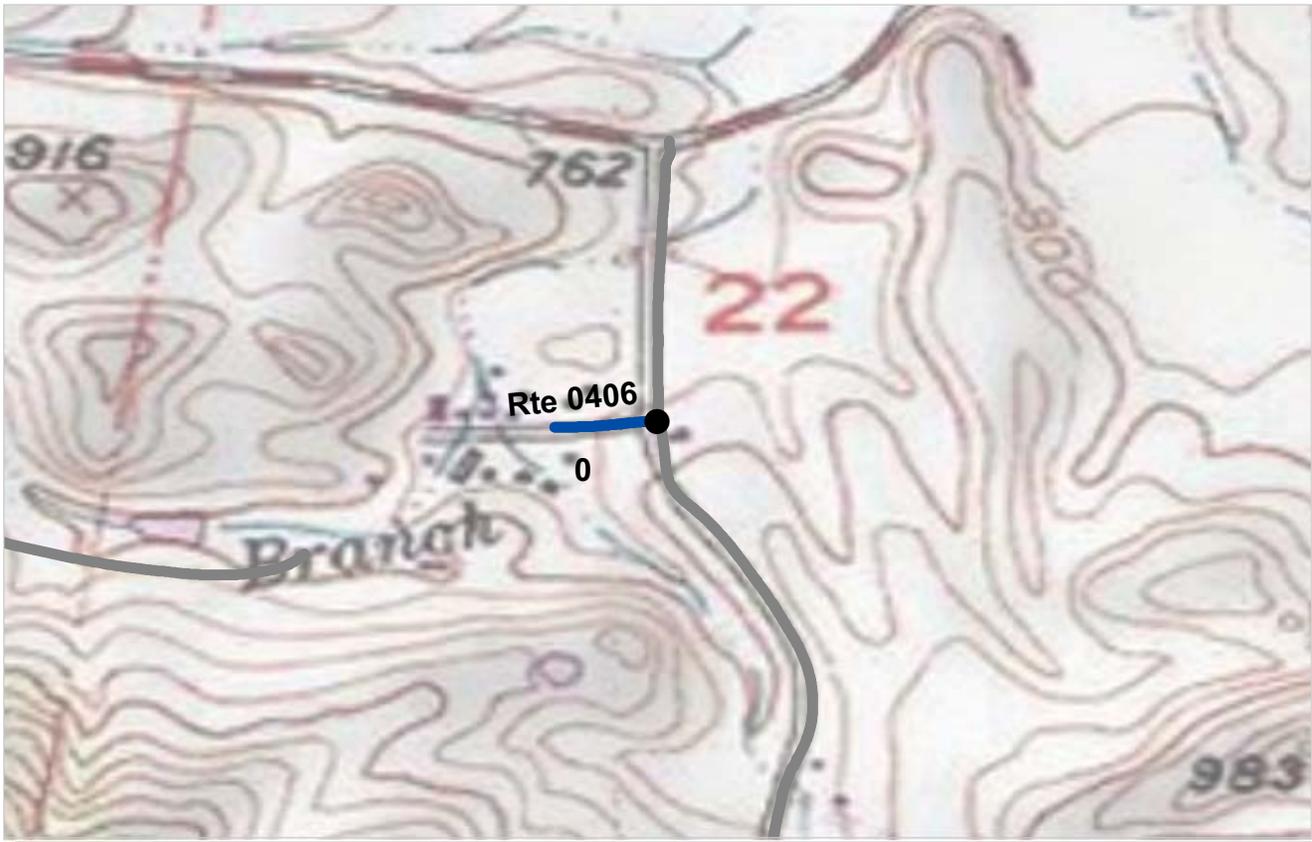
**PACIFIC WEST REGION**

<b>Section Number</b>	0				
<b>Section Length (mi)</b>	0.67				
<b>Cross Section Information</b>					
Number of Lanes	1				
Paved Width (ft)	15				
Lane Width (ft)	11				
<b>Roadway Condition Information</b>					
SCR (Surface Condition Rating)	95				
PCR (Pavement Condition Rating)	95				
<b>Distress Index Values</b>					
Structural Crack Index	95				
Transverse Cracking Index	100				
Patching Index	100				
Rutting Index	96				
Roughness Condition Index (RCI)	NC				

NOTES:

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

**ROUTE: 0405 RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD**



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

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

**ROUTE: 0406 RANCH CENTER ROAD**  
**SAMO : SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA**

**COLLECTED: 4/26/2012**  
**TOTAL LENGTH: 0.06 Miles**

**PACIFIC WEST REGION**

<b>Section Number</b>	0				
<b>Section Length (mi)</b>	0.06				
<b>Cross Section Information</b>					
Number of Lanes	2				
Paved Width (ft)	20				
Lane Width (ft)	10				
<b>Roadway Condition Information</b>					
SCR (Surface Condition Rating)	97				
PCR (Pavement Condition Rating)	97				
<b>Distress Index Values</b>					
Structural Crack Index	97				
Transverse Cracking Index	99				
Patching Index	100				
Rutting Index	97				
Roughness Condition Index (RCI)	NC				

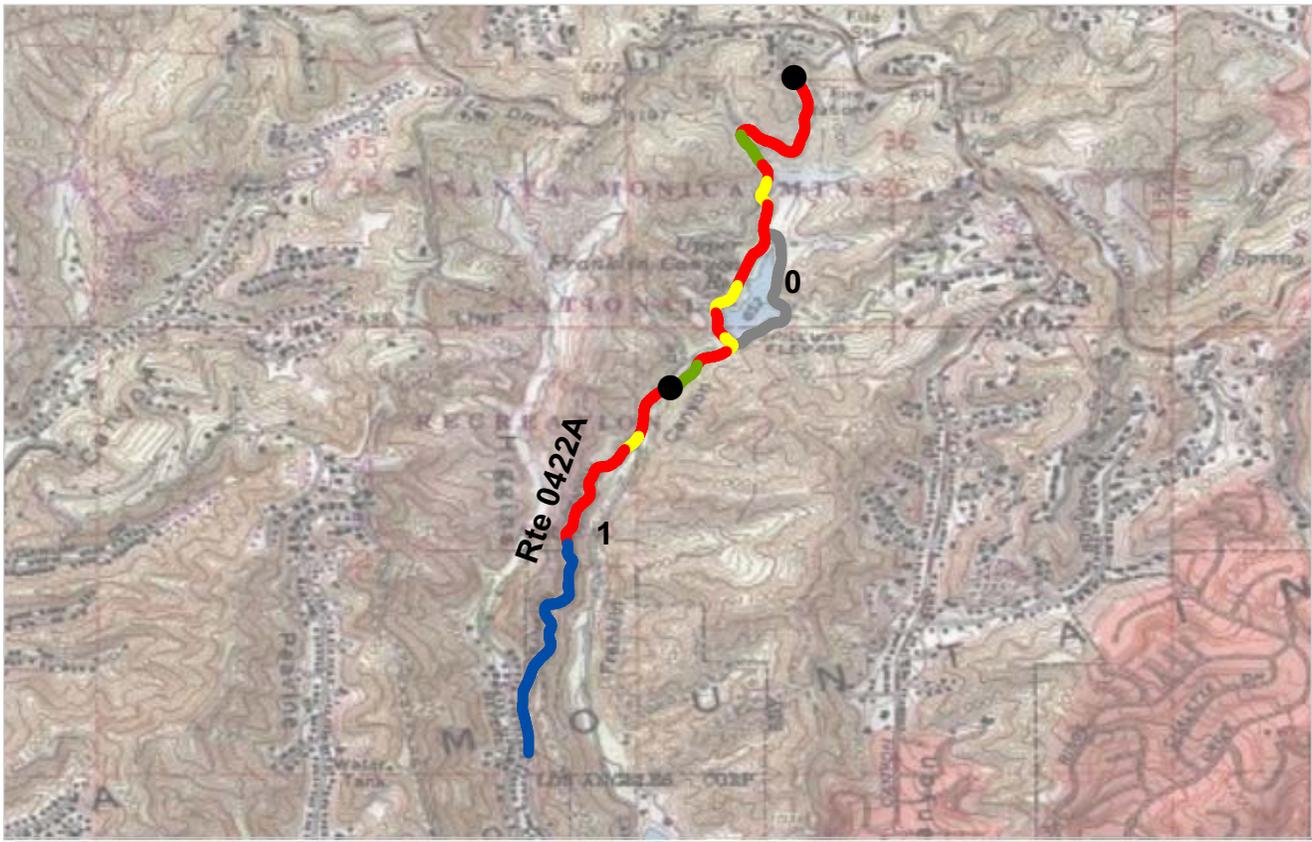
**NOTES:**

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

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

NC - Not Collected    N/A - Not Applicable

**ROUTE: 0406 RANCH CENTER ROAD**



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

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

**ROUTE: 0422A FRANKLIN CANYON DRIVE**

**SAMO : SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA**

**COLLECTED: 4/26/2012**  
**TOTAL LENGTH: 1.96 Miles**

**PACIFIC WEST REGION**

<i>Section Number</i>	0	1			
<i>Section Length (mi)</i>	1.00	0.96			
<i>Cross Section Information</i>					
Number of Lanes	2	2			
Paved Width (ft)	20	17			
Lane Width (ft)	12	9			
<i>Roadway Condition Information</i>					
SCR (Surface Condition Rating)	0	2			
PCR (Pavement Condition Rating)	0	2			
<i>Distress Index Values</i>					
Structural Crack Index	0	2			
Transverse Cracking Index	96	98			
Patching Index	98	99			
Rutting Index	85	91			
Roughness Condition Index (RCI)	NC	NC			

**NOTES:**

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

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

NC - Not Collected N/A - Not Applicable



**ROUTE: 0422A FRANKLIN CANYON DRIVE**



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

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

**ROUTE: 0422B FRANKLIN CANYON DRIVE LOOP**  
**SAMO : SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA**

**COLLECTED: 4/26/2012**  
**TOTAL LENGTH: 0.34 Miles**

**PACIFIC WEST REGION**

<b>Section Number</b>	0				
<b>Section Length (mi)</b>	0.34				
<b>Cross Section Information</b>					
Number of Lanes	1				
Paved Width (ft)	17				
Lane Width (ft)	17				
<b>Roadway Condition Information</b>					
SCR (Surface Condition Rating)	0				
PCR (Pavement Condition Rating)	0				
<b>Distress Index Values</b>					
Structural Crack Index	0				
Transverse Cracking Index	99				
Patching Index	99				
Rutting Index	81				
Roughness Condition Index (RCI)	NC				

**NOTES:**

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



**ROUTE: 0422B FRANKLIN CANYON DRIVE LOOP**

**Section 6**  
**Manually Rated Paved Route**  
**Condition Rating Sheets**



Santa Monica Mountains  
National Recreation Area



Federal Lands Highway  
Road Inventory Program

# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0401

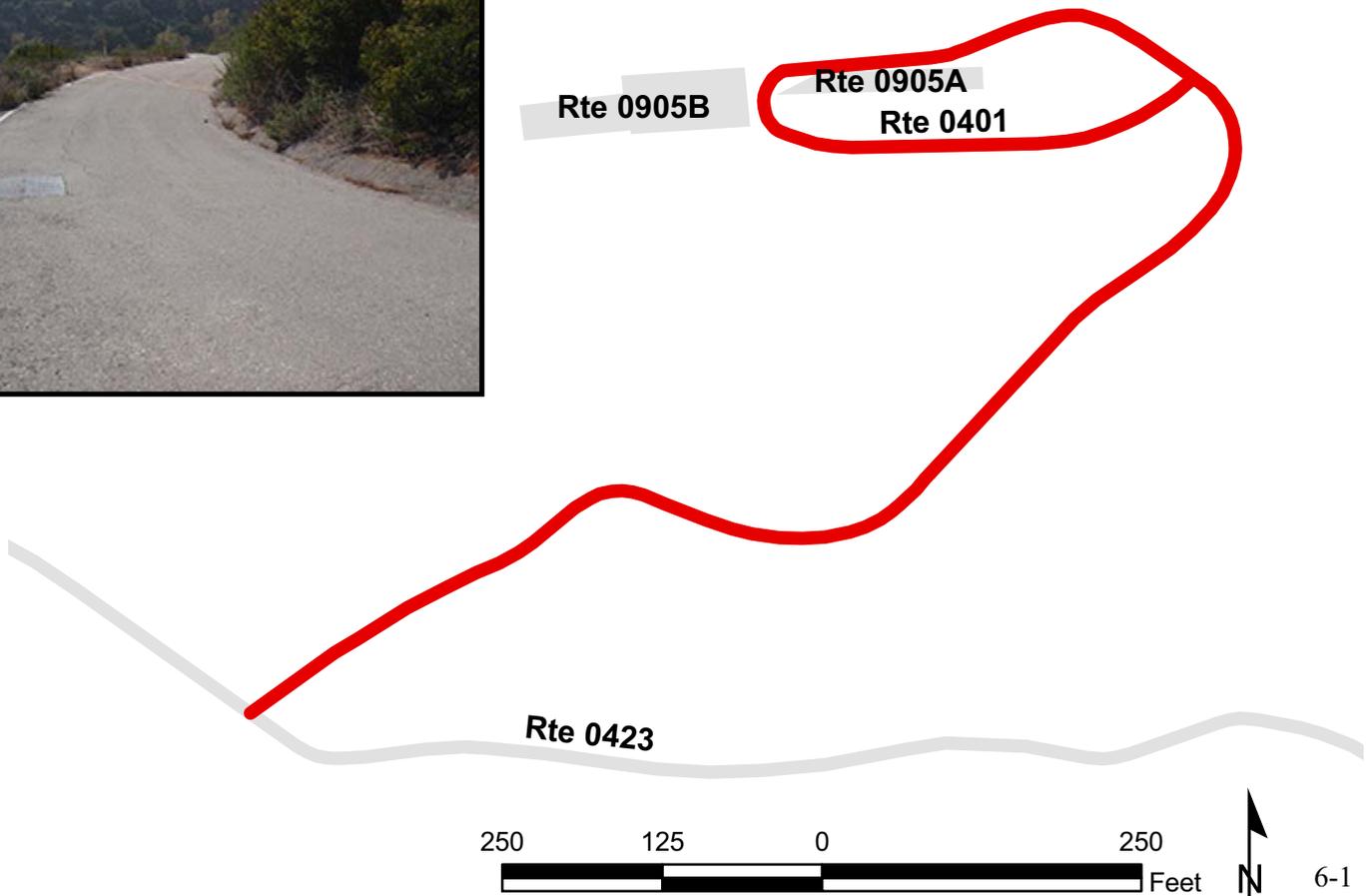
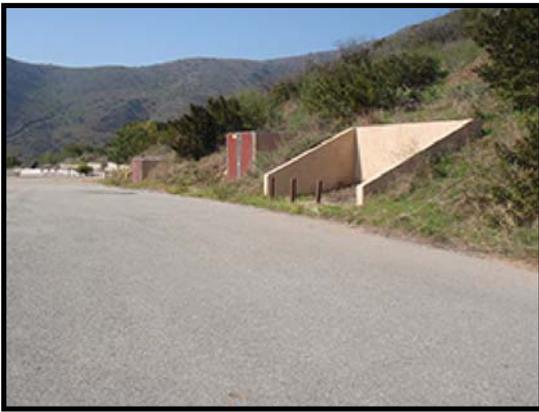
TRW BUILDINGS ACCESS ROAD

FROM ROUTE 0423 (OLD KELLER HOUSE ACCESS ROAD, SOLSTICE CANYON)

TO END OF LOOP

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0401	NONPUBLIC	11/17/2010	26,389	0.45	0.29	17
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR	Surface Type
0	1	0	NO CURB AND GUTTER	ASPHALT CURB	FAIR/73	AS

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0402

### SOLSTICE CANYON UPPER ROAD

FROM ROUTE 0100 (SOLSTICE CANYON ACCESS ROAD) SOUTH END  
TO ROUTE 0423 (OLD KELLER HOUSE ACCESS ROAD, SOLSTICE CANYON)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0402	NONPUBLIC	11/17/2010	44,014	0.76	0.52	16
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR	Surface Type
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45	AS

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0423

OLD KELLER HOUSE ACCESS ROAD, SOLSTICE CANYON  
 FROM ROUTE 0100 (SOLSTICE CANYON ACCESS ROAD)  
 TO OLD KELLER HOUSE

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Paved Length (mi)	Paved Width (ft)
0423	NONPUBLIC	11/17/2010	54,648	0.94	0.69	15
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR	Surface Type
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45	AS

\* Lane miles are based on 11' lane widths



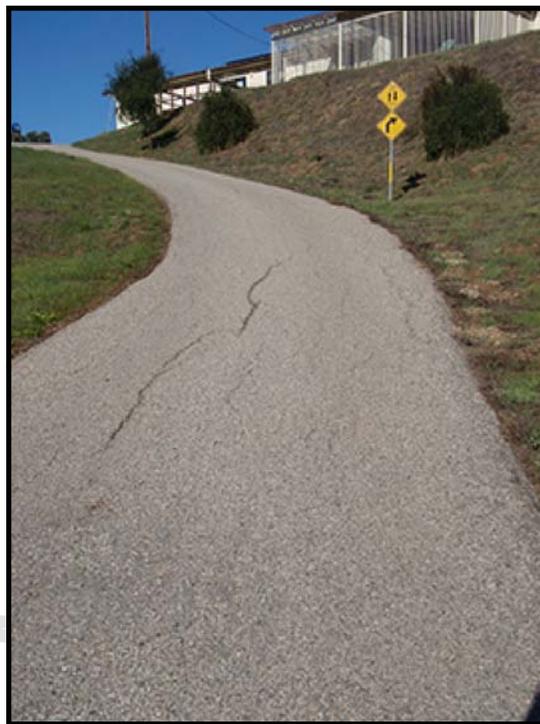
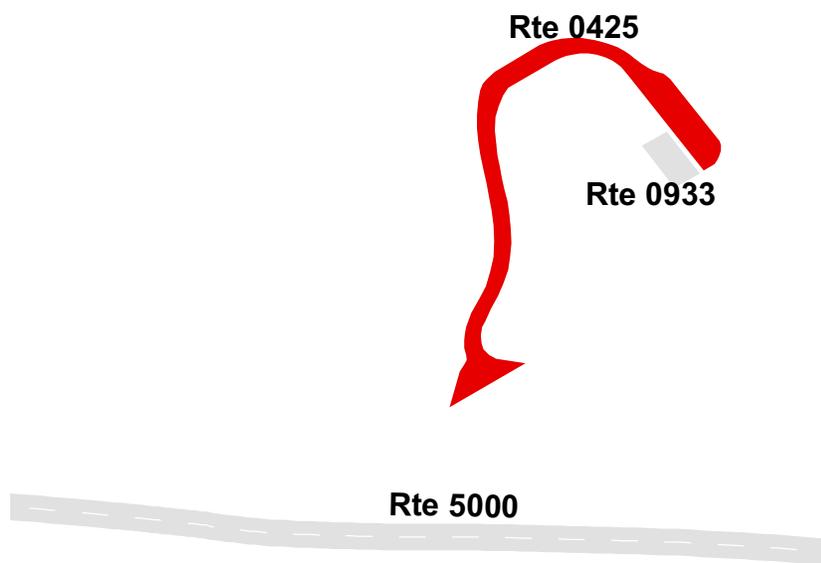
# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0425

ROCKY OAKS MUSEUM/RESIDENT ACCESS  
FROM KANAN ROAD  
TO ROUTE 0933 (ROCKY OAKS MUSEUM PARKING)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0425	NONPUBLIC	11/17/2010	5,520	0.10	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

\* Lane miles are based on 11' lane widths



**Section 7**  
**Parking Area**  
**Condition Rating Sheets**



Santa Monica Mountains  
National Recreation Area



Federal Lands Highway  
Road Inventory Program

# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0900

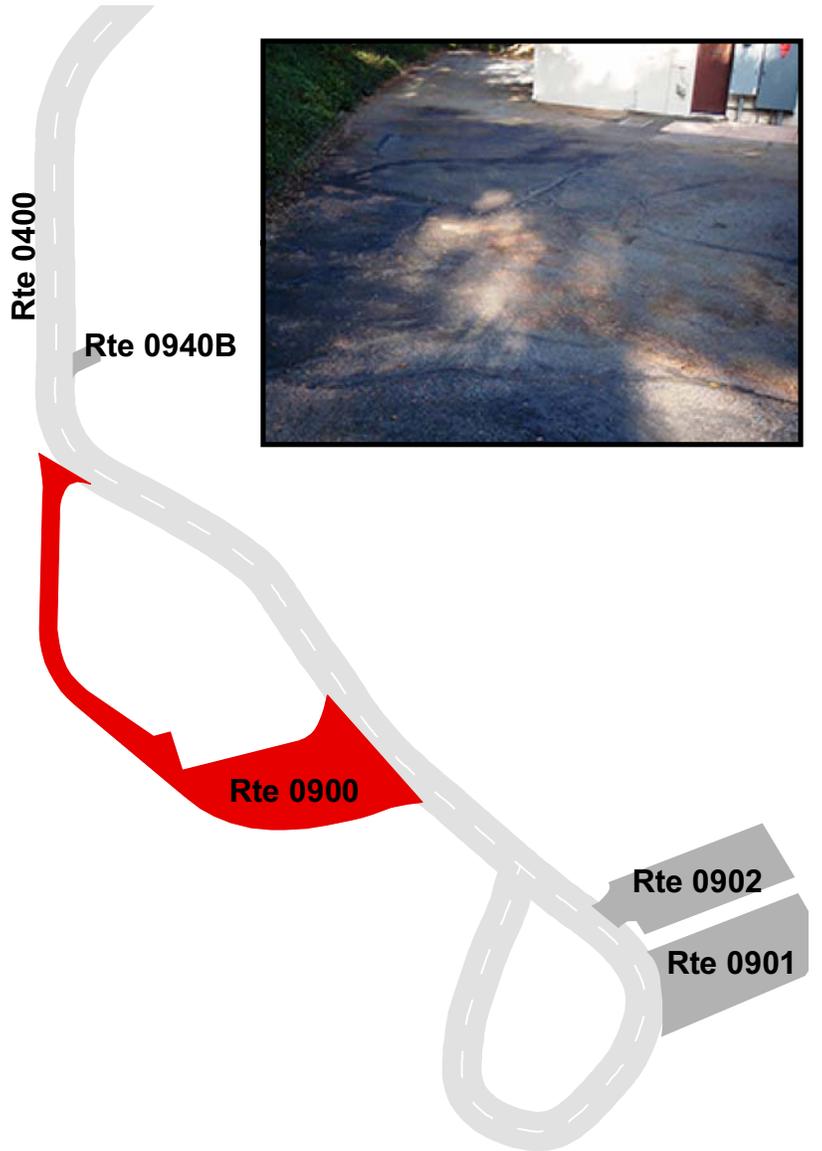
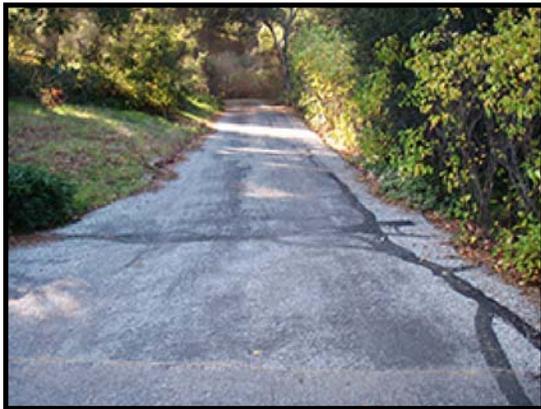
MAINTENANCE ADMIN. BUILDING PARKING LOOP

FROM ROUTE 0400 (DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD)

TO ROUTE 0400 (DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0900	NONPUBLIC	11/17/2010	13,832	0.24	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	ASPHALT & CONCRETE CURB	POOR/45

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

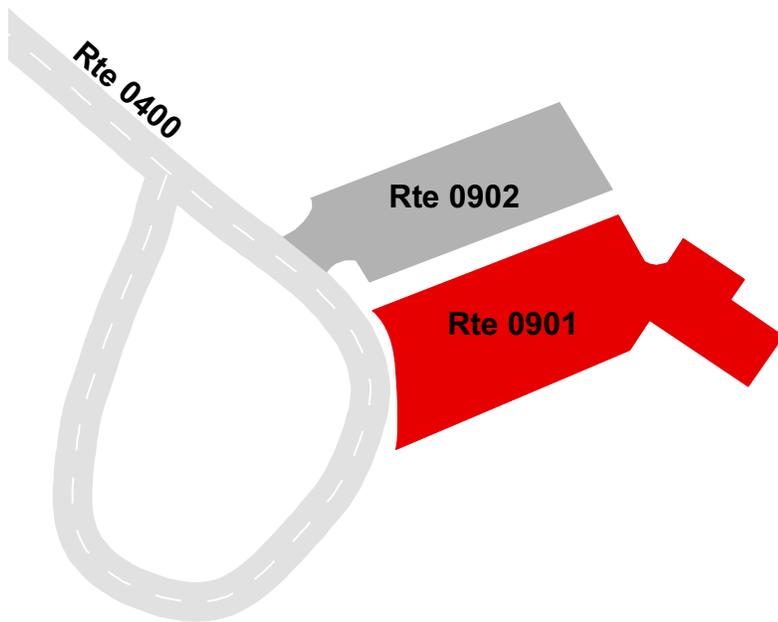
## Route 0901

### GSA PARKING

FROM ROUTE 0400 (DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD)  
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0901	NONPUBLIC	11/17/2010	9,871	0.17	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	CONCRETE CURB	FAIR/73

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

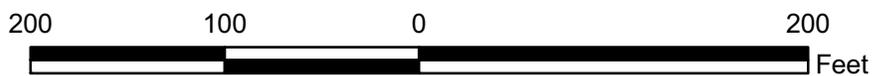
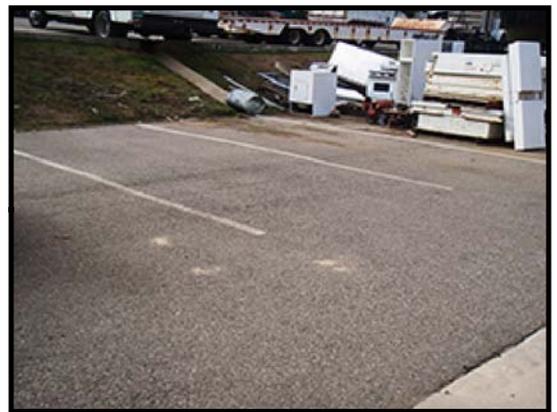
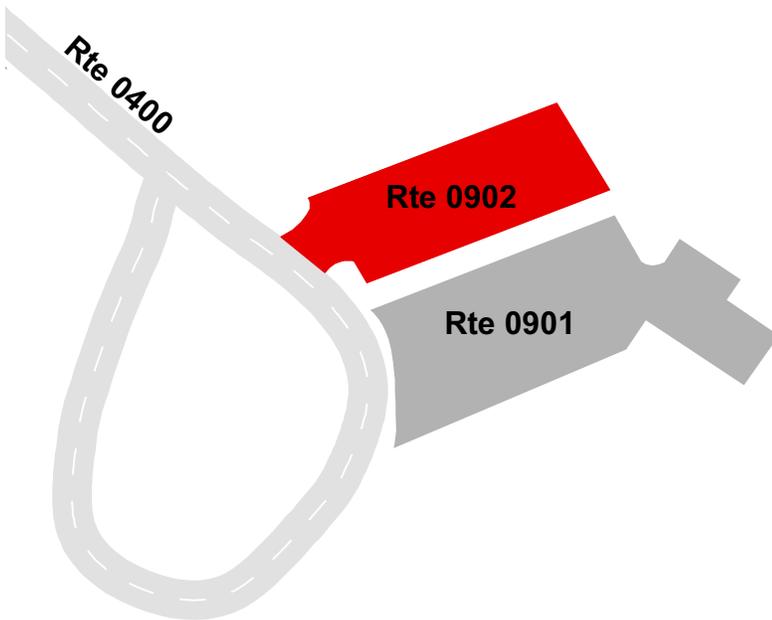
## Route 0902

### P.O.V. PARKING

FROM ROUTE 0400 (DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD)  
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0902	NONPUBLIC	11/17/2010	6,197	0.11	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	2	0	NO CURB AND GUTTER	NO CURB	GOOD/90

\* Lane miles are based on 11' lane widths



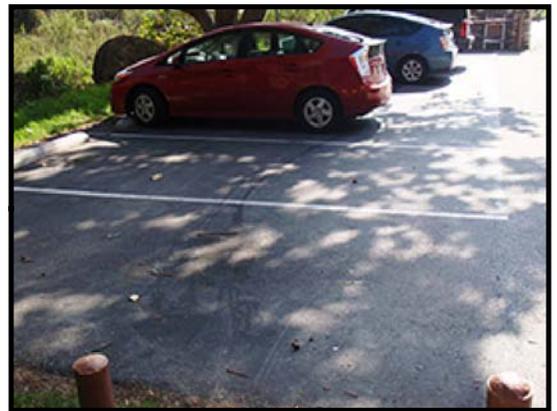
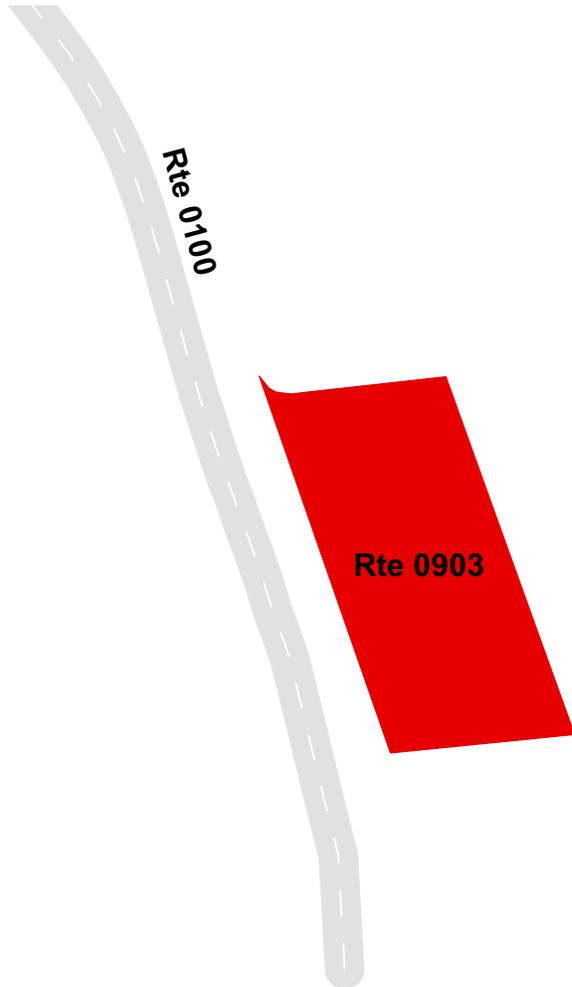
# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0903

SOLSTICE CANYON TRAILHEAD PARKING  
 ADJACENT TO ROUTE 0100 (SOLSTICE CANYON ACCESS ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0903	PUBLIC	11/17/2010	1,938	0.03	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

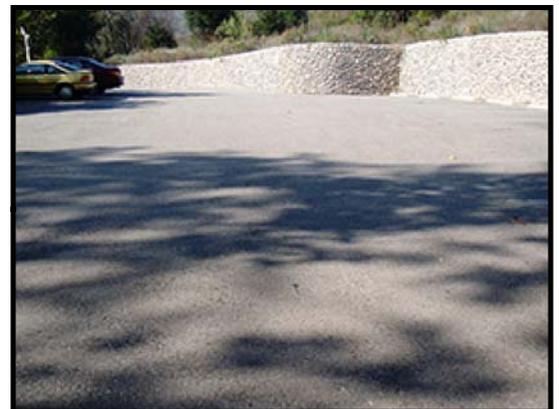
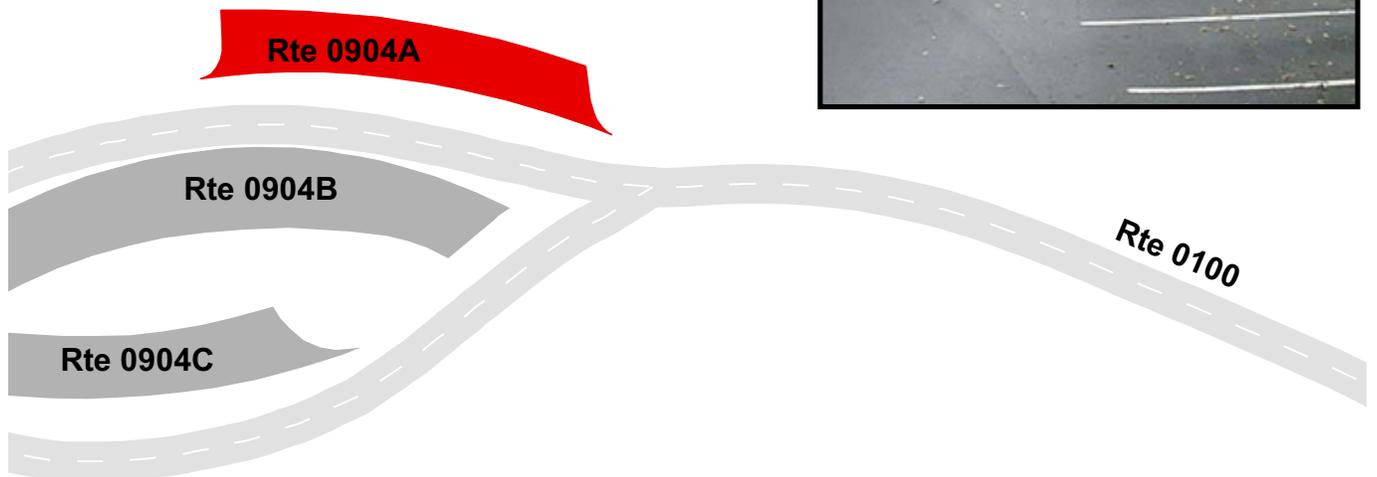
## Route 0904A

### DRY CANYON TRAILHEAD PARKING A

ADJACENT TO ROUTE 0100 (SOLSTICE CANYON ACCESS ROAD) ON RIGHT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0904A	PUBLIC	11/17/2010	1,451	0.03	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	1	0	NO CURB AND GUTTER	NO CURB	GOOD/90

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

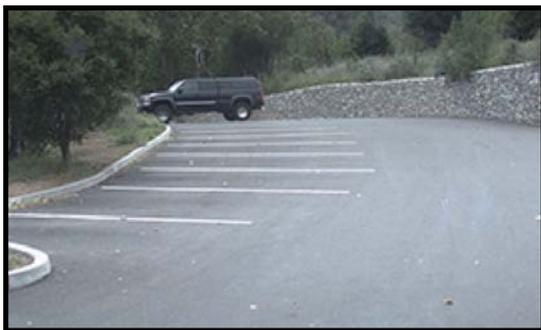
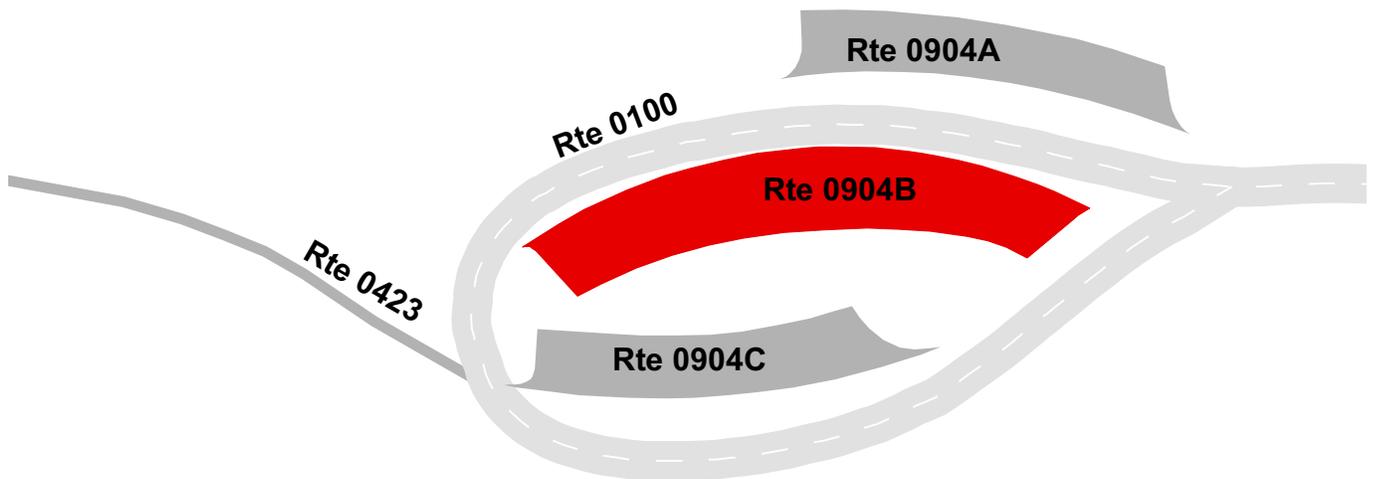
## Route 0904B

DRY CANYON TRAILHEAD PARKING B

ADJACENT TO ROUTE 0100 (SOLSTICE CANYON ACCESS ROAD) ON LEFT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0904B	PUBLIC	11/17/2010	2,649	0.05	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	1	0	NO CURB AND GUTTER	CONCRETE CURB	GOOD/90

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

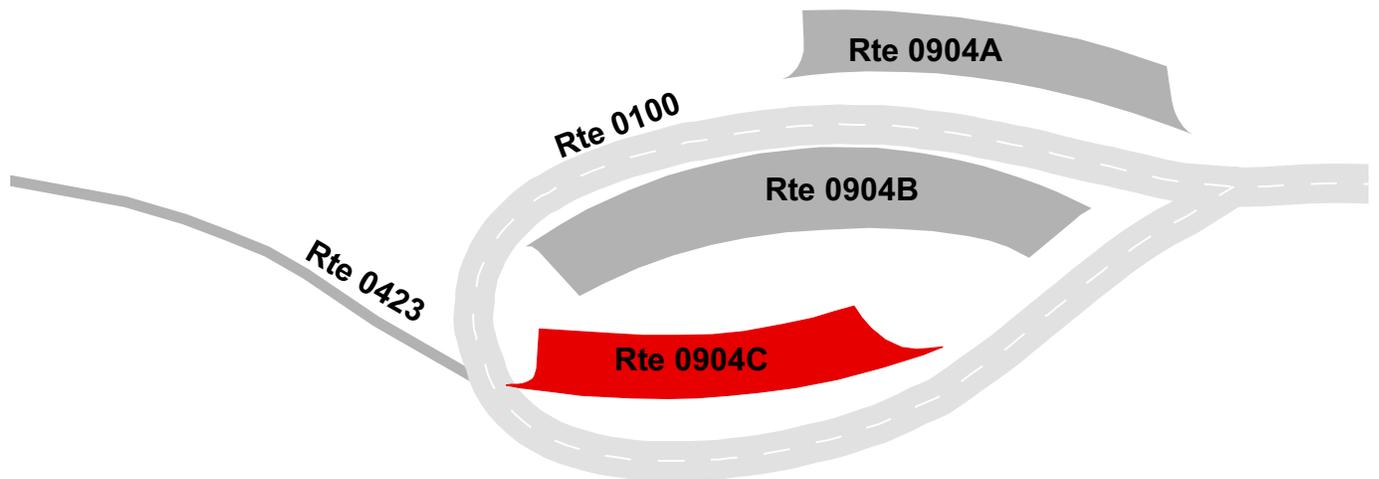
## Route 0904C

DRY CANYON TRAILHEAD PARKING C

ADJACENT TO ROUTE 0100 (SOLSTICE CANYON ACCESS ROAD) ON LEFT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0904C	PUBLIC	11/17/2010	1,467	0.03	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	1	0	NO CURB AND GUTTER	CONCRETE CURB	GOOD/90

\* Lane miles are based on 11' lane widths



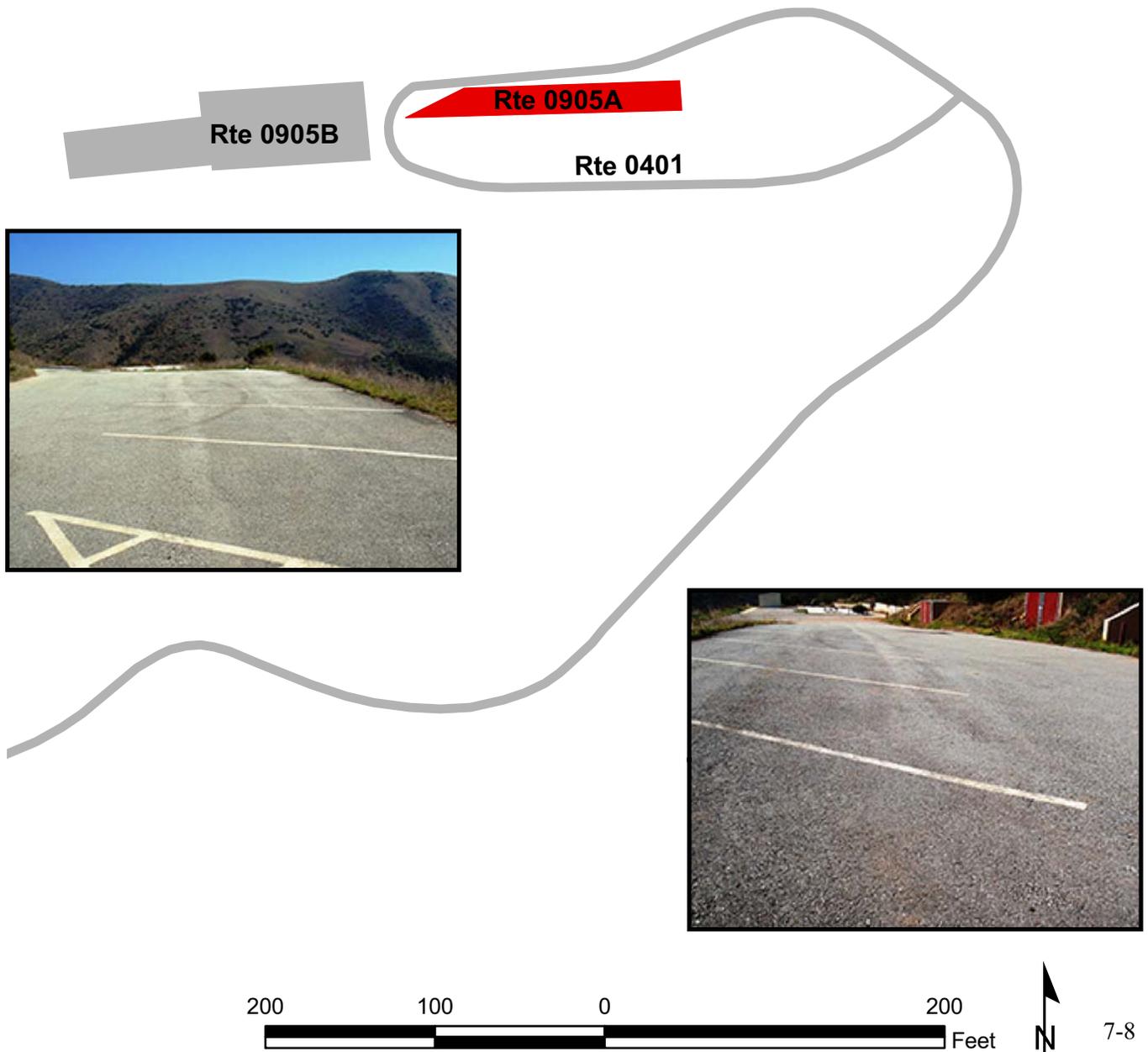
# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0905A

TRW RESIDENCE PARKING AREA A  
 ADJACENT TO ROUTE 0401 (TRW BUILDINGS ACCESS ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0905A	NONPUBLIC	11/17/2010	2,020	0.04	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

\* Lane miles are based on 11' lane widths



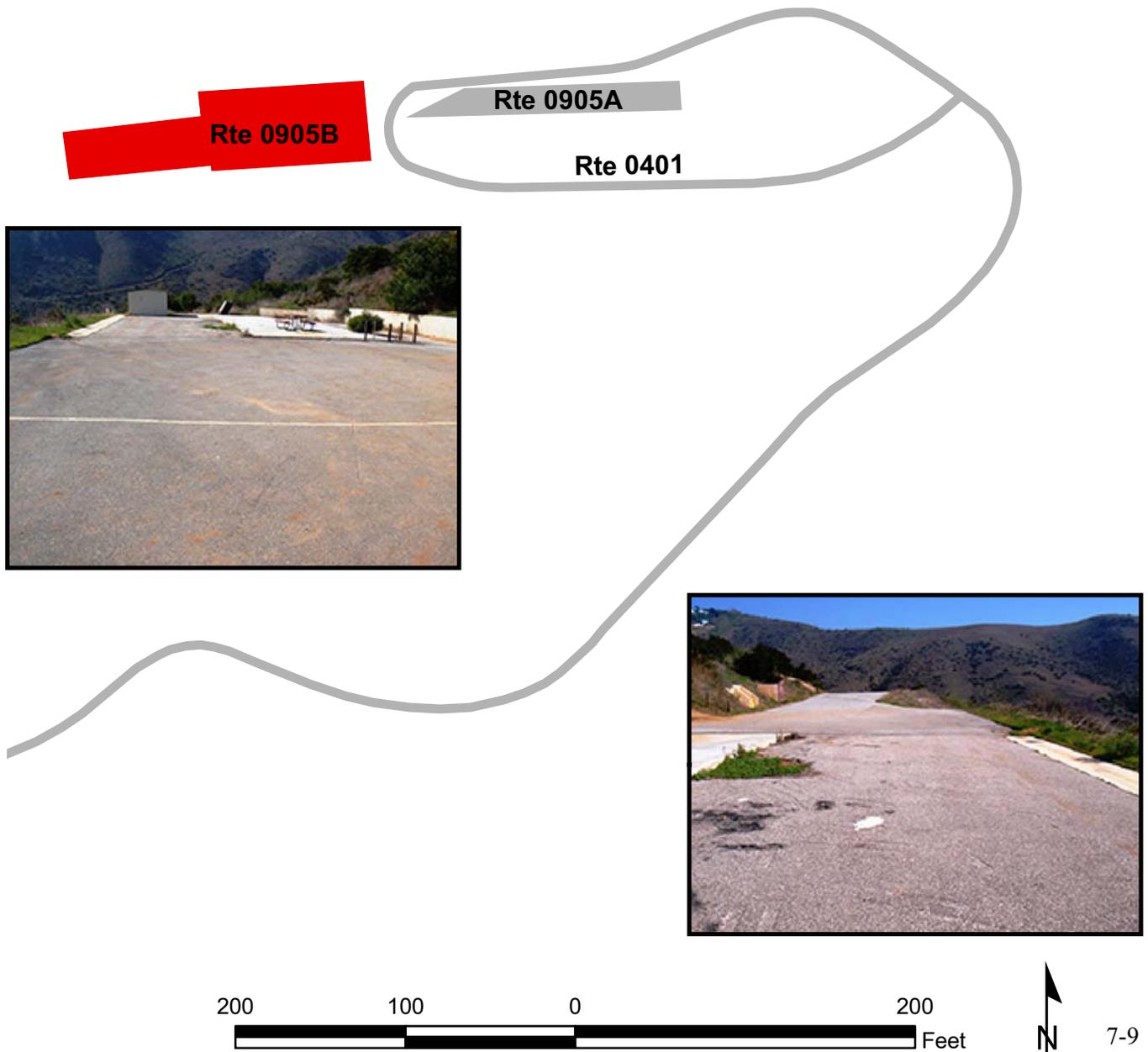
# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0905B

TRW RESIDENCE PARKING AREA B  
 FROM ROUTE 0401 (TRW BUILDINGS ACCESS ROAD)  
 TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0905B	NONPUBLIC	11/17/2010	5,627	0.10	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	POOR/45

\* Lane miles are based on 11' lane widths



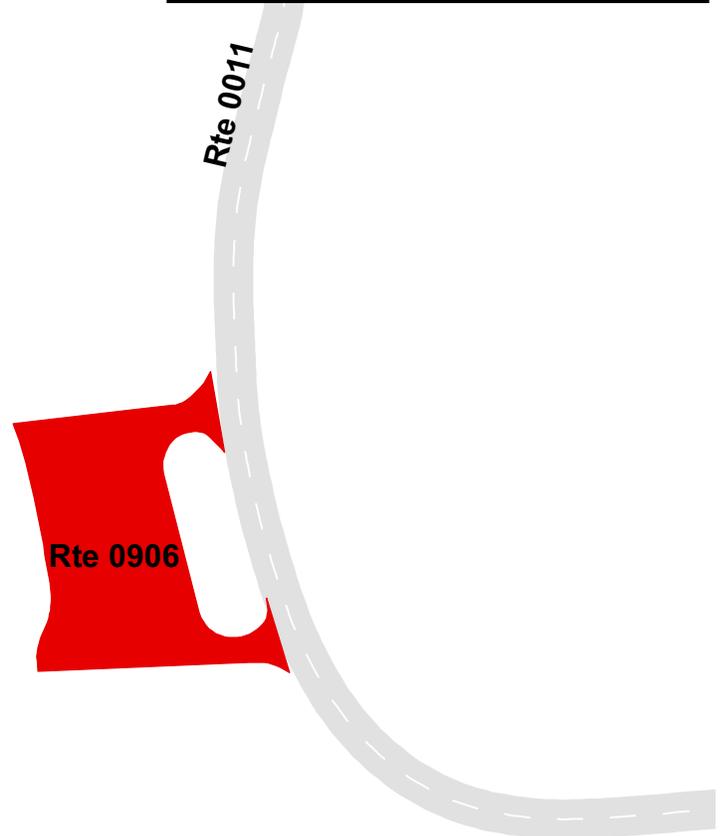
# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0906

RANCHO SIERRA VISTA/SATWIWA EQUESTRIAN PARKING  
 FROM ROUTE 0011 (RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD)  
 TO ROUTE 0011 (RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0906	PUBLIC	11/17/2010	33,662	0.58	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

\* Lane miles are based on 11' lane widths



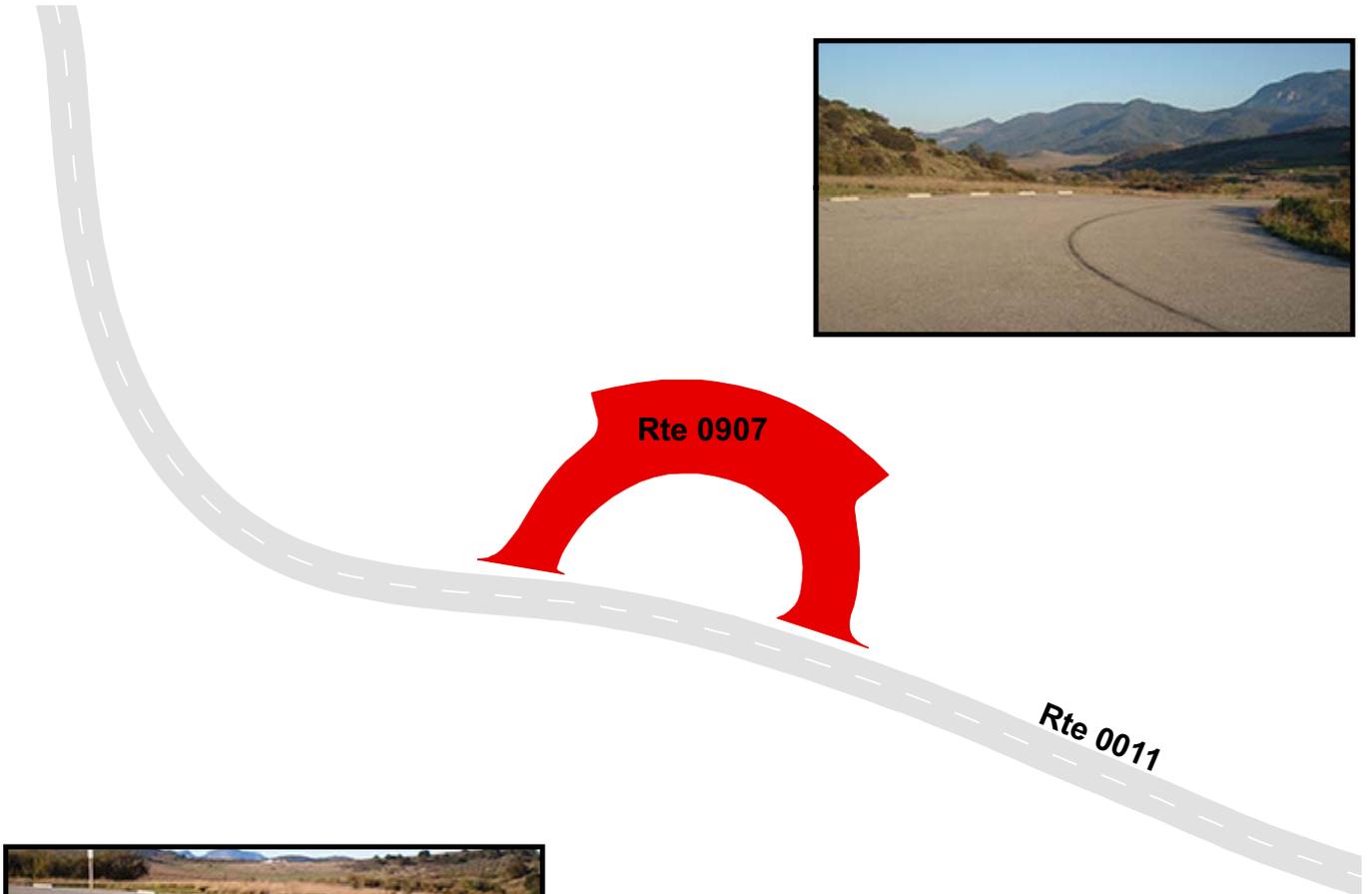
# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0907

RANCHO SIERRA VISTA/SATWIWA DAY USE PARKING  
 FROM ROUTE 0011 (RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD)  
 TO ROUTE 0011 (RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD)

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0907	PUBLIC	11/17/2010	8,898	0.15	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

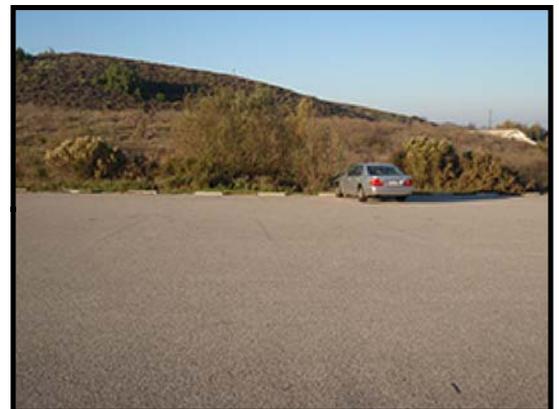
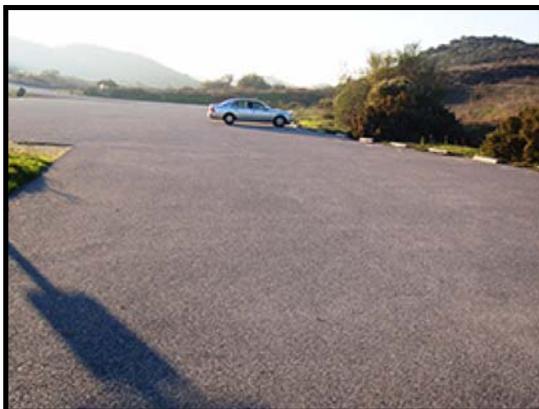
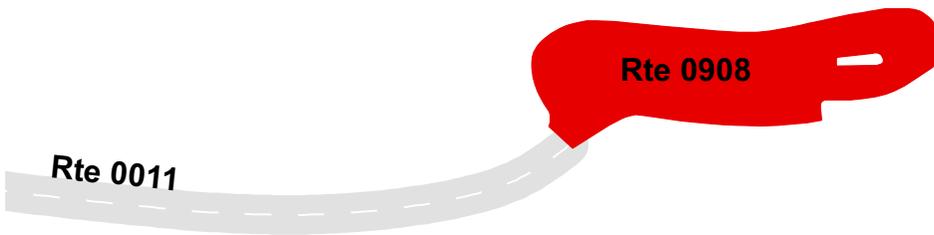
## Route 0908

RANCHO SIERRA VISTA/SATWIWA MAIN PARKING

FROM END OF ROUTE 0011 (RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD)  
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0908	PUBLIC	11/17/2010	33,681	0.58	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

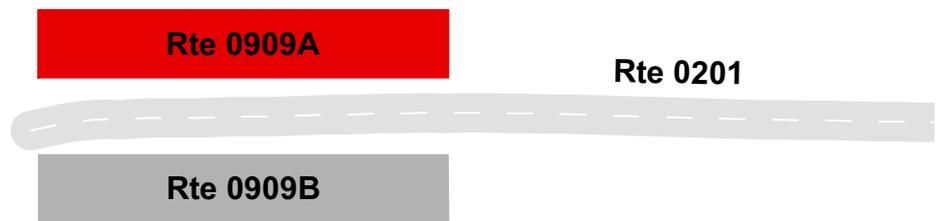
## Route 0909A

CHEESEBORO CANYON ENTRANCE PARKING A

ADJACENT TO ROUTE 0201 (CHEESEBORO CANYON ENTRANCE ROAD) ON LEFT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0909A	PUBLIC	11/16/2010	1,603	0.03	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

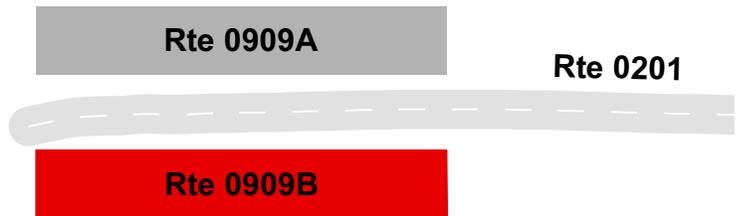
## Route 0909B

CHEESEBORO CANYON ENTRANCE PARKING B

ADJACENT TO ROUTE 0201 (CHEESEBORO CANYON ENTRANCE ROAD) ON RIGHT

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0909B	PUBLIC	11/16/2010	1,605	0.03	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0931

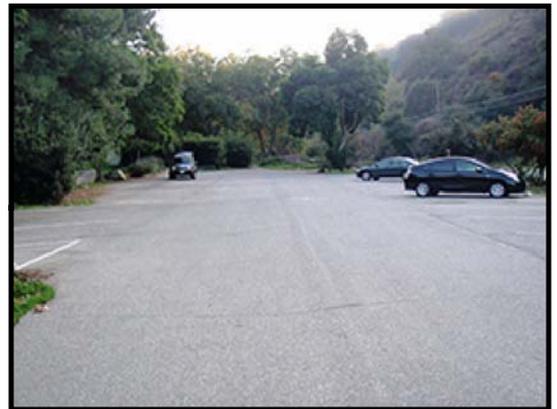
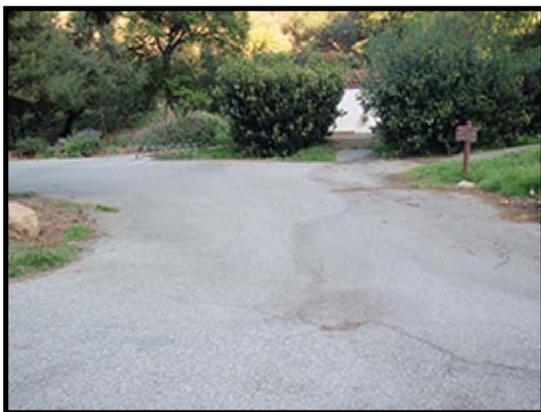
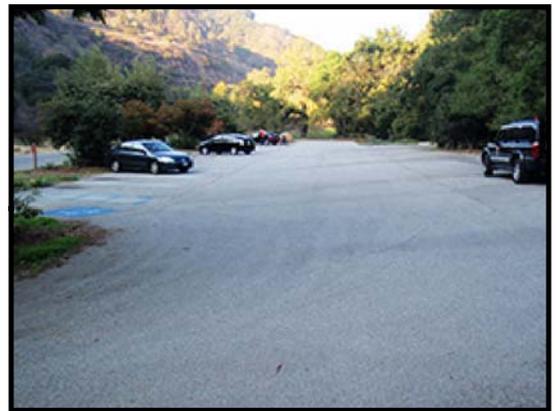
### FRANKLIN CANYON RESTROOM PARKING

FROM LAKE DRIVE

TO LAKE DRIVE

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0931	PUBLIC	11/16/2010	16,810	0.29	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	FAIR/73

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

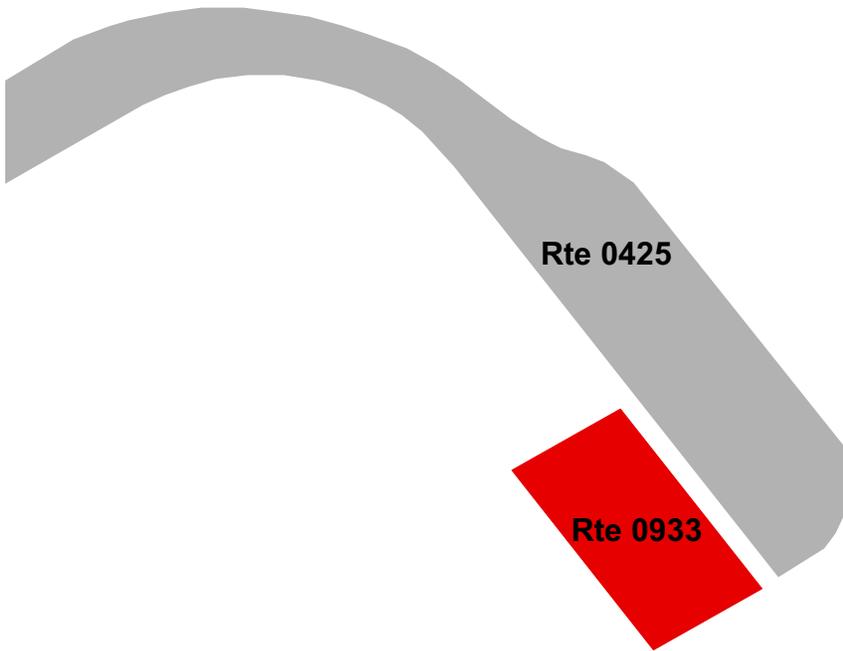
## Route 0933

### ROCKY OAKS MUSEUM PARKING

FROM ROUTE 0425 (ROCKY OAKS MUSEUM/RESIDENT ACCESS)  
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0933	PUBLIC	11/17/2010	662	0.01	CO
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	GOOD/90

\* Lane miles are based on 11' lane widths



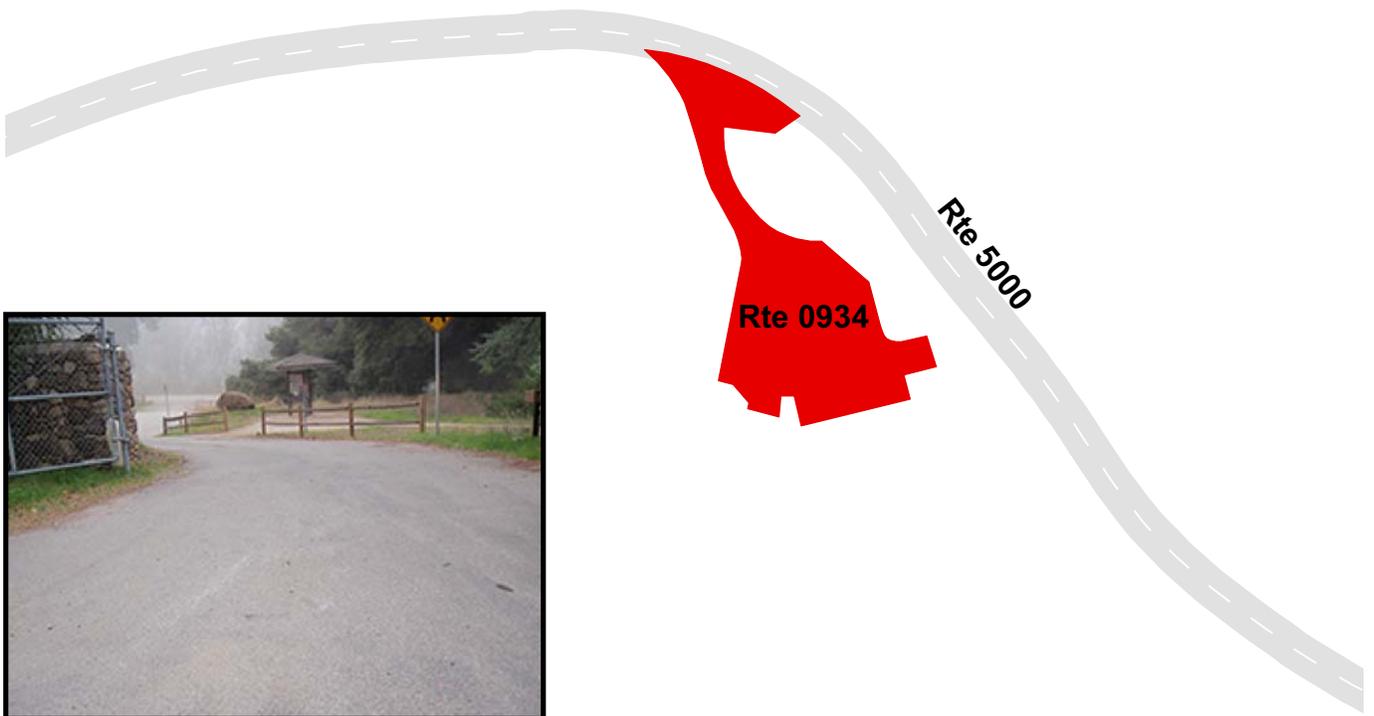
# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0934

PETER STRAUSS WEST PARKING  
 FROM ROUTE 5000 (MULHOLLAND HIGHWAY)  
 TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0934	PUBLIC	11/17/2010	12,547	0.22	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	2	NO CURB AND GUTTER	NO CURB	GOOD/90

\* Lane miles are based on 11' lane widths



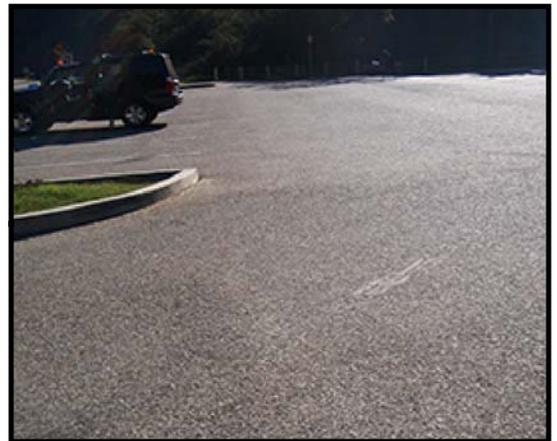
# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0938

KANAN TRAILHEAD PARKING  
FROM KANAN ROAD  
TO KANAN ROAD

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0938	PUBLIC	11/17/2010	12,522	0.22	AS
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	ASPHALT & CONCRETE CURB	GOOD/90

\* Lane miles are based on 11' lane widths



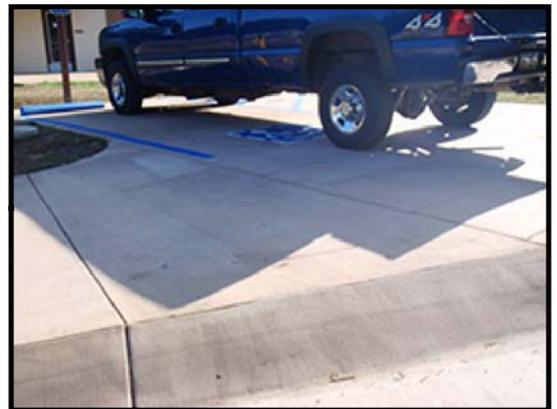
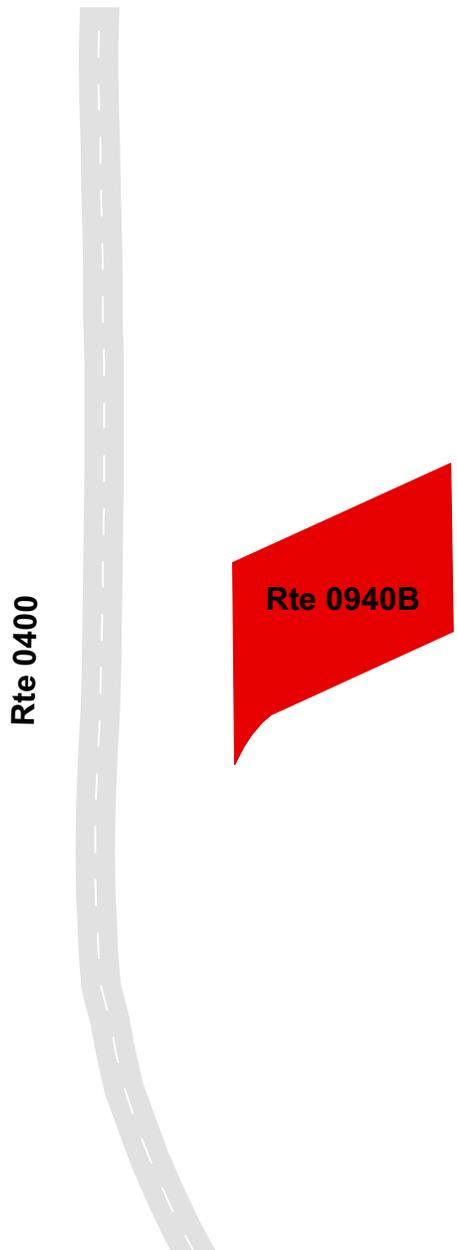
# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

## Route 0940B

INTERN CENTER HANDICAP PARKING  
 FROM ROUTE 0400 (DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD)  
 TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0940B	PUBLIC	11/17/2010	351	0.01	CO
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
0	0	0	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

\* Lane miles are based on 11' lane widths



# SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

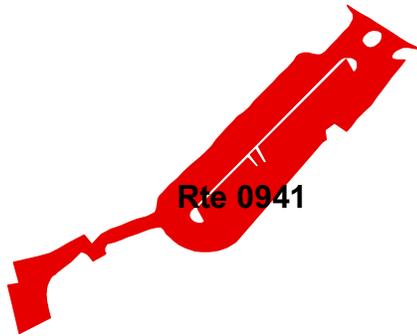
## Route 0941

### KING GILLETE VISITOR CENTER PARKING

FROM ROUTE 5000 (MULHOLLAND HIGHWAY) NEAR INTERSECTION WITH LAS VIRGENES ROAD  
TO PARKING

Route Number	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type
0941	PUBLIC	4/26/2012	40,669	0.70	CO
Culverts	Drop Inlets	Gates	Curb & Gutter	Curb	PCR
2	2	1	NO CURB AND GUTTER	NO CURB	EXCELLENT/97

\* Lane miles are based on 11' lane widths



# Section 8 Parkwide/Route Maintenance Features Summaries



Santa Monica Mountains  
National Recreation Area



Federal Lands Highway  
Road Inventory Program

**SAMO: PARKWIDE MAINTENANCE FEATURES SUMMARY**  
**Includes DCV, MRL, MRP & PKG routes collected in Cycle-5**

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

<b>FEATURE</b>	<b>LINEAR FEET</b>	<b>COUNT</b>
BRIDGE	--	1
CATTLE GUARD	--	0
CULVERT	--	33
CURB	5,702	--
DROP INLET	--	10
GATE	--	14
GUARD/GUIDE RAIL	3,210	--
CABLE	63	--
NON-CABLE	3,147	--
GUARD/GUIDE WALL	1,817	--
BOLLARD	32	--
TEMPORARY BARRIER	0	--
NON TEMP/BOLLARD	1,785	--
INTERSECTION	--	79
LOW WATER CROSSING	0	0
MILE MARKER	--	0
OVERPASS	--	0
PARK BOUNDARY	--	3
PAVED DITCH	322	--
PULLOUT	63	1
RAILROAD CROSSING	--	0
RETAINING WALL	439	4
SIGN	--	234
STATE BOUNDARY	--	0
TRAFFIC LIGHT	--	0
TUNNEL	0	0

# SAMO: DCV ROUTE MAINTENANCE FEATURES SUMMARY

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

FEATURE	ROUTE 0011 RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD	ROUTE 0100 SOLSTICE CANYON ACCESS ROAD	ROUTE 0200 PARAMOUNT RANCH ACCESS ROAD	ROUTE 0201 CHEESEBORO CANYON ENTRANCE ROAD	ROUTE 0400 DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD	ROUTE 0403 ARROYO SEQUIT ACCESS ROAD	UNIT
BRIDGE	0	1	0	0	0	0	EACH
CATTLE GUARD	0	0	0	0	0	0	EACH
CULVERT	4	2	1	0	2	2	EACH
CURB	26	1,475	0	0	385	121	LINEAR FEET
DROP INLET	0	2	0	0	0	0	EACH
GATE	1	1	2	1	1	2	EACH
GUARD/GUIDE RAIL	0	148	0	686	0	0	LINEAR FEET
CABLE	0	0	0	0	0	0	LINEAR FEET
NON-CABLE	0	148	0	686	0	0	LINEAR FEET
GUARD/GUIDE WALL	0	32	0	0	11	0	LINEAR FEET
BOLLARD	0	0	0	0	11	0	LINEAR FEET
TEMPORARY BARRIER	0	0	0	0	0	0	LINEAR FEET
NON TEMP/BOLLARD	0	32	0	0	0	0	LINEAR FEET
INTERSECTION	10	10	9	5	13	4	EACH
LOW WATER CROSSING	0	0	0	0	0	0	EACH
LOW WATER CROSSING	0	0	0	0	0	0	LINEAR FEET
MILE MARKER	0	0	0	0	0	0	EACH
OVERPASS	0	0	0	0	0	0	EACH
PARK BOUNDARY	0	0	0	0	0	0	EACH
PAVED DITCH	0	0	0	0	322	0	LINEAR FEET
PULLOUT	0	0	0	0	0	0	EACH
PULLOUT	0	0	0	0	0	0	LINEAR FEET
RAILROAD CROSSING	0	0	0	0	0	0	EACH
RETAINING WALL	0	1	0	0	1	0	EACH
RETAINING WALL	0	90	0	0	275	0	LINEAR FEET
SIGN	26	43	17	19	9	3	EACH
STATE BOUNDARY	0	0	0	0	0	0	EACH
TRAFFIC LIGHT	0	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	LINEAR FEET

# SAMO: DCV ROUTE MAINTENANCE FEATURES SUMMARY

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

FEATURE	ROUTE 0405	RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD	ROUTE 0406	RANCH CENTER ROAD	ROUTE 0422A	FRANKLIN CANYON DRIVE	ROUTE 0422B	FRANKLIN CANYON DRIVE LOOP	UNIT
BRIDGE	0	0	0	0	0	0	0	0	EACH
CATTLE GUARD	0	0	0	0	0	0	0	0	EACH
CULVERT	2	1	17	0	0	0	0	0	EACH
CURB	16	0	0	3,542	137	0	0	0	LINEAR FEET
DROP INLET	0	0	0	0	0	0	0	0	EACH
GATE	2	0	0	1	0	0	0	0	EACH
GUARD/GUIDE RAIL	0	63	2,186	127	0	0	0	0	LINEAR FEET
CABLE	0	63	0	0	0	0	0	0	LINEAR FEET
NON-CABLE	0	0	2,186	127	0	0	0	0	LINEAR FEET
GUARD/GUIDE WALL	0	0	21	1,753	0	0	0	0	LINEAR FEET
BOLLARD	0	0	21	0	0	0	0	0	LINEAR FEET
TEMPORARY BARRIER	0	0	0	0	0	0	0	0	LINEAR FEET
NON TEMP/BOLLARD	0	0	0	1,753	0	0	0	0	LINEAR FEET
INTERSECTION	8	3	12	5	0	0	0	0	EACH
LOW WATER CROSSING	0	0	0	0	0	0	0	0	EACH
LOW WATER CROSSING	0	0	0	0	0	0	0	0	LINEAR FEET
MILE MARKER	0	0	0	0	0	0	0	0	EACH
OVERPASS	0	0	0	0	0	0	0	0	EACH
PARK BOUNDARY	1	0	2	0	0	0	0	0	EACH
PAVED DITCH	0	0	0	0	0	0	0	0	LINEAR FEET
PULLOUT	0	0	0	0	1	0	0	0	EACH
PULLOUT	0	0	0	0	63	0	0	0	LINEAR FEET
RAILROAD CROSSING	0	0	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	2	0	0	0	0	0	EACH
RETAINING WALL	0	0	74	0	0	0	0	0	LINEAR FEET
SIGN	16	1	87	13	0	0	0	0	EACH
STATE BOUNDARY	0	0	0	0	0	0	0	0	EACH
TRAFFIC LIGHT	0	0	0	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	0	0	0	LINEAR FEET

## SAMO: STRUCTURE LIST

<b>ROUTE NUMBER</b>	<b>FUNCTIONAL CLASS</b>	<b>MILEPOST START</b>	<b>MILEPOST END</b>	<b>FEATURE</b>	<b>STRUCTURE NUMBER</b>
0100	2	0.111	0.119	BRIDGE	8540-003

**Section 9**  
**Route Maintenance Features**  
**Road Logs**



Santa Monica Mountains  
National Recreation Area



# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0011: RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM POTRERO/LYNN ROAD
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (LYNN ROAD / NON NPS)
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (LYNN ROAD / NON NPS)
0.003	0.008	CURB	LEFT	N/A
0.004	0.004	SIGN	LEFT	REGULATORY, STOP
0.025	0.025	SIGN	RIGHT	WARNING, WATCH FOR EQUESTRIANS ON ROADWAY
0.025	0.025	SIGN	RIGHT	REGULATORY, SPEED LIMIT 20
0.030	0.030	INTERSECTION	LEFT	UNPAVED ROUTE
0.051	0.051	SIGN	LEFT	GUIDE, NATIONAL PARK SERVICE
0.051	0.051	SIGN	N/A	GUIDE, SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA
0.051	0.051	SIGN	N/A	GUIDE, RANCHO SIERRA VISTA - SATWIWA
0.051	0.051	SIGN	RIGHT	GUIDE, CALIFORNIA STATE PARKS SINCE 1854
0.052	0.052	SIGN	LEFT	GUIDE, GRAPHIC SIGN NO TEXT
0.052	0.052	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.052	0.052	GATE	N/A	N/A
0.053	0.053	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.053	0.053	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.054	0.054	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.064	0.064	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.064	0.064	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.079	0.079	SIGN	RIGHT	GUIDE, NO PARKING SUNSET TO 8 AM PARK MAY BE CLOSED DUE TO ENVIRONMENTAL CONDITIONS
0.091	0.091	SIGN	RIGHT	GUIDE, MAIN PUBLIC PARKING 3/4 MI
0.091	0.091	SIGN	RIGHT	GUIDE, EQUESTRIAN TRAILER PARKING
0.108	0.108	INTERSECTION	RIGHT	ROUTE 0906 (RANCHO SIERRA VISTA/SATWIWA EQUESTRIAN PARKING)
0.130	0.130	SIGN	RIGHT	WARNING, WATCH FOR EQUESTRIANS OR ROADWAY
0.130	0.130	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.153	0.153	INTERSECTION	RIGHT	ROUTE 0906 (RANCHO SIERRA VISTA/SATWIWA EQUESTRIAN PARKING)
0.236	0.236	SIGN	RIGHT	WARNING, WATCH FOR EQUESTRIANS OR ROADWAY

## SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

### ROUTE 0011: RANCHO SIERRA VISTA/SATWIWA ENTRANCE ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.236	0.236	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.306	0.306	CULVERT	N/A	N/A
0.341	0.341	CULVERT	N/A	N/A
0.344	0.344	SIGN	RIGHT	GUIDE, OVERFLOW PARKING
0.364	0.364	SIGN	LEFT	REGULATORY, SPEED LIMIT 15
0.372	0.372	INTERSECTION	LEFT	ROUTE 0907 (RANCHO SIERRA VISTA/SATWIWA DAY USE PARKING)
0.400	0.400	INTERSECTION	LEFT	ROUTE 0907 (RANCHO SIERRA VISTA/SATWIWA DAY USE PARKING)
0.444	0.444	SIGN	LEFT	GUIDE, OVERFLOW PARKING
0.495	0.495	CULVERT	N/A	N/A
0.510	0.510	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.602	0.602	CULVERT	N/A	N/A
0.614	0.614	SIGN	RIGHT	REGULATORY, AUTHORIZED VEHICLES ONLY
0.620	0.620	INTERSECTION	LEFT	UNPAVED ROUTE
0.621	0.621	INTERSECTION	N/A	ROUTE 0908 (RANCHO SIERRA VISTA/SATWIWA MAIN PARKING)
0.621	0.621	INTERSECTION	RIGHT	ROUTE 0414 (UNPAVED SERVICE ROAD RSV)
0.621	0.621	ROUTE END	N/A	TO ROUTE 0908 (RANCHO SIERRA VISTA/SATWIWA MAIN PARKING)

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0100: SOLSTICE CANYON ACCESS ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM CORRAL CANYON ROAD
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (CORRAL CANYON ROAD / NON NPS)
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (CORRAL CANYON ROAD / NON NPS)
0.004	0.004	SIGN	RIGHT	REGULATORY, PATROLLED BY ARSON WATCH
0.004	0.004	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.004	0.004	SIGN	RIGHT	REGULATORY, DANGER EXTREME FIRE HAZARD AREA NO OPEN FIRE NO SMOKING BRUSH CLEARANCE DEADLINE JUNE 1
0.005	0.005	SIGN	RIGHT	GUIDE, SOLSTICE CANYON SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA
0.006	0.006	SIGN	LEFT	REGULATORY, STOP
0.007	0.007	GATE	N/A	N/A
0.009	0.063	CURB	LEFT	N/A
0.012	0.012	INTERSECTION	RIGHT	ROUTE 0903 (SOLSTICE CANYON TRAILHEAD PARKING)
0.014	0.014	SIGN	LEFT	REGULATORY, FIRE LANE NO PARKING
0.020	0.020	SIGN	RIGHT	GUIDE, NO PARKING SUNSET TO 8 AM PARK MAY BE CLOSED DUE TO ENVIRONMENTAL CONDITIONS FOR MORE INFORMATION C
0.020	0.020	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.033	0.033	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.033	0.033	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.034	0.034	CULVERT	N/A	N/A
0.044	0.044	SIGN	RIGHT	REGULATORY, SPEED LIMIT 10
0.044	0.044	SIGN	RIGHT	REGULATORY, GRAPHIC SIGN NO TEXT
0.044	0.044	SIGN	RIGHT	REGULATORY, EMERGENCY VEHICLE ACCESS NO PARKING ALONG ROADWAY
0.063	0.063	SIGN	LEFT	REGULATORY, FIRE LANE NO PARKING
0.072	0.072	INTERSECTION	LEFT	ROUTE 0402 (SOLSTICE CANYON UPPER ROAD)
0.075	0.075	SIGN	RIGHT	WARNING, YIELD TO BUSES
0.075	0.075	SIGN	RIGHT	REGULATORY, ONE LANE BRIDGE
0.076	0.096	CURB	RIGHT	N/A
0.107	0.122	GUARD/GUIDE RAIL	RIGHT	N/A

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0100: SOLSTICE CANYON ACCESS ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.109	0.122	GUARD/GUIDE RAIL	LEFT	N/A
0.111	0.119	BRIDGE	N/A	8540-003 (SOLSTICE CANYON BRIDGE #1)
0.132	0.285	CURB	RIGHT	N/A
0.139	0.139	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.139	0.139	SIGN	LEFT	WARNING, YIELD TO BUSES
0.139	0.139	SIGN	LEFT	REGULATORY, ONE LANE BRIDGE
0.178	0.178	SIGN	LEFT	REGULATORY, SPEED LIMIT 10
0.178	0.178	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.181	0.181	SIGN	RIGHT	REGULATORY, SPEED LIMIT 10
0.199	0.199	SIGN	RIGHT	WARNING, YIELD TO BUSES
0.200	0.200	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.209	0.209	DROP INLET	RIGHT	N/A
0.212	0.212	SIGN	LEFT	REGULATORY, FIRE LANE NO PARKING
0.219	0.219	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.234	0.234	SIGN	LEFT	WARNING, YIELD TO BUSES
0.234	0.234	SIGN	LEFT	REGULATORY, FIRE LANE NO PARKING
0.236	0.236	CULVERT	N/A	N/A
0.280	0.289	CURB	LEFT	N/A
0.281	0.281	SIGN	LEFT	REGULATORY, EMERGENCY VEHICLE ACCESS NO PARKING ALONG ROADWAY
0.281	0.281	SIGN	LEFT	REGULATORY, SPEED LIMIT 10
0.281	0.281	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
0.289	0.303	CURB	LEFT	N/A
0.290	0.290	INTERSECTION	RIGHT	ROUTE 0939 (EQUESTRIAN PARKING)
0.297	0.303	CURB	RIGHT	N/A
0.298	0.298	SIGN	RIGHT	REGULATORY, HORSE TRAILER PARKING
0.300	0.300	DROP INLET	RIGHT	N/A
0.306	0.306	SIGN	LEFT	REGULATORY, PARK IN MARKED SPACES ONLY
0.306	0.306	SIGN	LEFT	REGULATORY, KEEP RIGHT
0.306	0.306	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0100: SOLSTICE CANYON ACCESS ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.315	0.315	INTERSECTION	RIGHT	ROUTE 0904A (DRY CANYON TRAILHEAD PARKING A)
0.318	0.335	RETAINING WALL	RIGHT	N/A
0.319	0.319	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.320	0.320	INTERSECTION	LEFT	ROUTE 0904B (DRY CANYON TRAILHEAD PARKING B)
0.325	0.325	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.338	0.338	INTERSECTION	RIGHT	ROUTE 0423 (OLD KELLER HOUSE ACCESS ROAD, SOLSTICE CANYON)
0.341	0.348	CURB	RIGHT	N/A
0.343	0.343	SIGN	RIGHT	REGULATORY, VALUABLES LOCK YOUR CAR
0.343	0.343	SIGN	RIGHT	REGULATORY, FIRE LANE NO PARKING
0.344	0.344	SIGN	RIGHT	GUIDE, AMPHITHEATER
0.349	0.358	CURB	RIGHT	N/A
0.350	0.350	SIGN	RIGHT	GUIDE, SOLSTICE CANYON EDUC TION SHELTER SANTA MONICA MOUNTAINS NATIONAL RECREATION A E
0.354	0.354	INTERSECTION	LEFT	ROUTE 0904C (DRY CANYON TRAILHEAD PARKING C)
0.355	0.361	GUARD/GUIDE WALL	RIGHT	N/A
0.362	0.362	SIGN	RIGHT	GUIDE, AMPHITHEATER
0.363	0.370	CURB	LEFT	N/A
0.368	0.368	SIGN	RIGHT	REGULATORY, FIRE LANE NO PARKING
0.378	0.378	INTERSECTION	N/A	ROUTE 0100 (SOLSTICE CANYON ACCESS ROAD)
0.378	0.378	ROUTE END	N/A	TO END OF LOOP

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0200: PARAMOUNT RANCH ACCESS ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM CORNELL ROAD
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (CORNELL ROAD / NON NPS)
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (CORNELL ROAD / NON NPS)
0.016	0.016	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.017	0.017	GATE	N/A	N/A
0.018	0.018	SIGN	LEFT	GUIDE, GRAPHIC SIGN NO TEXT
0.019	0.019	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.019	0.019	SIGN	RIGHT	GUIDE, DO NOT BLOCK GATE
0.025	0.025	SIGN	RIGHT	GUIDE, NO PARKING SUNSET TO 8 AM PARK MAY BE CLOSED DUE TO ENVIRONMENTAL CONDITIONS
0.081	0.081	INTERSECTION	RIGHT	ROUTE 0209 (WESTERN TOWN ROAD)
0.090	0.090	SIGN	N/A	GUIDE, WESTERN TOWN AND PARKING
0.112	0.112	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.192	0.192	CULVERT	N/A	N/A
0.198	0.198	SIGN	LEFT	REGULATORY, SPEED LIMIT 15
0.250	0.250	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.258	0.258	INTERSECTION	LEFT	ROUTE 0925 (RANGER STATION PARKING)
0.265	0.265	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.273	0.273	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.291	0.291	INTERSECTION	RIGHT	ROUTE 0921 (PARAMOUNT RANCH MAIN PARKING)
0.296	0.296	INTERSECTION	RIGHT	ROUTE 0926 (RESTROOM PARKING)
0.303	0.303	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.350	0.350	INTERSECTION	LEFT	ROUTE 0925 (RANGER STATION PARKING)
0.380	0.380	GATE	N/A	N/A
0.388	0.388	SIGN	RIGHT	REGULATORY, STOP
0.388	0.388	SIGN	N/A	WARNING, GRAPHIC SIGN NO TEXT
0.388	0.388	SIGN	N/A	WARNING, GRAPHIC SIGN NO TEXT
0.388	0.388	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.388	0.388	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.389	0.389	INTERSECTION	LEFT	PAVED ROUTE (CORNELL ROAD / NON NPS)

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0200: PARAMOUNT RANCH ACCESS ROAD

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

<b>FROM MILEPOST</b>	<b>TO MILEPOST</b>	<b>FEATURE</b>	<b>SIDE</b>	<b>COMMENT</b>
0.389	0.389	INTERSECTION	RIGHT	PAVED ROUTE (CORNELL ROAD / NON NPS)
0.389	0.389	ROUTE END	N/A	TO CORNELL ROAD

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0201: CHEESEBORO CANYON ENTRANCE ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM CHEESEBORO ROAD
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (CHEESEBORO ROAD / NON NPS)
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (CHEESEBORO ROAD / NON NPS)
0.004	0.004	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.008	0.008	INTERSECTION	LEFT	ROUTE 0909A (CHEESEBORO CANYON ENTRANCE PARKING A)
0.008	0.008	INTERSECTION	RIGHT	ROUTE 0909B (CHEESEBORO CANYON ENTRANCE PARKING B)
0.016	0.016	GATE	N/A	N/A
0.016	0.016	SIGN	LEFT	GUIDE, GRAPHIC SIGN NO TEXT
0.017	0.017	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
0.020	0.020	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.020	0.020	SIGN	RIGHT	REGULATORY, LEAVE NO VALUABLES LOCK YOUR CAR
0.020	0.020	SIGN	RIGHT	REGULATORY, NO PARKING ON ROADWAY
0.026	0.026	SIGN	RIGHT	GUIDE, NO PARKING SUNSET TO 8 AM PARK MAY BE CLOSED DUE TO ENVIRONMENTAL CONDITIONS
0.033	0.033	SIGN	RIGHT	REGULATORY, NO PARKING THIS SIDE OF STREET
0.045	0.045	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.076	0.206	GUARD/GUIDE RAIL	LEFT	N/A
0.078	0.078	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.078	0.078	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.078	0.078	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.104	0.104	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.120	0.120	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.124	0.124	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.138	0.138	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.165	0.165	SIGN	RIGHT	REGULATORY, NO PARKING ANY TIME
0.178	0.178	SIGN	LEFT	REGULATORY, NO PARKING ANY TIME
0.178	0.178	SIGN	LEFT	REGULATORY, SPEED LIMIT 15
0.211	0.211	INTERSECTION	N/A	ROUTE 0916 (CHEESEBORO PARKING LOT)
0.211	0.211	ROUTE END	N/A	TO ROUTE 0916 (CHEESEBORO PARKING LOT)

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0400: DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE RO

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 5000 (MULHOLLAND HIGHWAY)
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (MULHOLLAND HIGHWAY / NON NPS)
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (MULHOLLAND HIGHWAY / NON NPS)
0.006	0.006	SIGN	LEFT	REGULATORY, STOP
0.055	0.055	CULVERT	N/A	N/A
0.104	0.104	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.126	0.126	CULVERT	N/A	N/A
0.259	0.259	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.259	0.259	SIGN	RIGHT	REGULATORY, AUTHORIZED VEHICLES ONLY
0.281	0.281	INTERSECTION	RIGHT	PAVED ROUTE (MRCA 26416)
0.285	0.285	INTERSECTION	LEFT	ROUTE 0940A (INTERN CENTER PARKING)
0.287	0.289	GUARD/GUIDE WALL	RIGHT	N/A
0.287	0.287	INTERSECTION	LEFT	ROUTE 0940B (INTERN CENTER HANDICAP PARKING)
0.290	0.290	SIGN	RIGHT	GUIDE, NPS SMMC 26412MRCA 26416
0.314	0.328	CURB-AND-GUTTER	LEFT	N/A
0.330	0.330	GATE	N/A	N/A
0.336	0.336	INTERSECTION	RIGHT	ROUTE 0900 (MAINTENANCE ADMIN. BUILDING PARKING LOOP)
0.342	0.390	CURB	RIGHT	N/A
0.345	0.345	SIGN	N/A	REGULATORY, KEEP LEFT
0.396	0.396	INTERSECTION	RIGHT	ROUTE 0900 (MAINTENANCE ADMIN. BUILDING PARKING LOOP)
0.404	0.415	CURB	LEFT	N/A
0.420	0.420	SIGN	LEFT	REGULATORY, P O V PARKING ONLY
0.425	0.425	INTERSECTION	RIGHT	ROUTE 0400 (DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD)
0.426	0.426	INTERSECTION	LEFT	ROUTE 0937 (DIAMOND X BUS SHUTTLE PARKING)
0.435	0.435	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.439	0.439	INTERSECTION	LEFT	ROUTE 0902 (P.O.V. PARKING)
0.448	0.448	SIGN	LEFT	REGULATORY, NO PARKING
0.449	0.449	INTERSECTION	LEFT	ROUTE 0901 (GSA PARKING)

## SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

### ROUTE 0400: DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE RO

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

<b>FROM MILEPOST</b>	<b>TO MILEPOST</b>	<b>FEATURE</b>	<b>SIDE</b>	<b>COMMENT</b>
0.455	0.516	PAVED DITCH	LEFT	N/A
0.464	0.516	RETAINING WALL	LEFT	N/A
0.529	0.529	INTERSECTION	LEFT	ROUTE 0400 (DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD)
0.529	0.529	INTERSECTION	RIGHT	ROUTE 0400 (DIAMOND X RANCH MAINTENANCE FACILITY ENTRANCE ROAD)
0.529	0.529	ROUTE END	N/A	TO END OF LOOP

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0403: ARROYO SEQUIT ACCESS ROAD

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

<b>FROM MILEPOST</b>	<b>TO MILEPOST</b>	<b>FEATURE</b>	<b>SIDE</b>	<b>COMMENT</b>
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 5000 (MULHOLLAND HIGHWAY)
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (MULHOLLAND HIGHWAY / NON NPS)
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (MULHOLLAND HIGHWAY / NON NPS)
0.003	0.003	GATE	N/A	N/A
0.016	0.016	INTERSECTION	LEFT	PAVED PARKING
0.021	0.021	SIGN	N/A	GUIDE, GRAPHIC SIGN NO TEXT
0.022	0.022	GATE	N/A	N/A
0.022	0.022	SIGN	RIGHT	REGULATORY, AUTHORIZED VEHICLES ONLY
0.025	0.025	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.026	0.026	CULVERT	N/A	N/A
0.137	0.160	CURB	LEFT	N/A
0.178	0.178	CULVERT	N/A	N/A
0.224	0.224	INTERSECTION	N/A	UNPAVED ROUTE
0.224	0.224	ROUTE END	N/A	TO ROUTE 0407 (ARROYO SEQUIT WATER TANK ROAD)

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0405: RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM POTRERO ROAD
0.000	0.000	INTERSECTION	LEFT	PAVED ROUTE (POTRERO ROAD / NON NPS)
0.000	0.000	INTERSECTION	RIGHT	PAVED ROUTE (POTRERO ROAD / NON NPS)
0.006	0.006	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.006	0.006	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.006	0.006	SIGN	LEFT	REGULATORY, STOP
0.016	0.016	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.073	0.073	CULVERT	N/A	N/A
0.085	0.085	INTERSECTION	RIGHT	ROUTE 0211 (GREEN HOUSE ACCESS ROAD)
0.085	0.085	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.184	0.187	CURB	LEFT	N/A
0.185	0.185	INTERSECTION	RIGHT	ROUTE 0406 (RANCH CENTER ROAD)
0.188	0.188	INTERSECTION	LEFT	PAVED PARKING
0.192	0.192	SIGN	LEFT	REGULATORY, STOP
0.285	0.285	SIGN	LEFT	GUIDE, WENDY TRAIL
0.312	0.312	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.410	0.410	INTERSECTION	LEFT	ROUTE 0928 (RANCHO SIERRA VISTA RANCH MANAGER PARKING)
0.432	0.432	INTERSECTION	LEFT	PAVED PARKING
0.435	0.435	GATE	N/A	N/A
0.435	0.435	SIGN	N/A	GUIDE, GRAPHIC SIGN NO TEXT
0.442	0.442	CULVERT	N/A	N/A
0.460	0.460	INTERSECTION	RIGHT	UNPAVED ROUTE
0.474	0.474	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.476	0.476	SIGN	RIGHT	GUIDE, SATWIWA NATIVE AMERICAN INDIAN CULTURE CENTER POINT MUGU STATE PARK 1/4 MI.
0.476	0.476	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
0.478	0.478	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.478	0.478	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.672	0.672	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.673	0.673	GATE	N/A	N/A

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0405: RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD

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

<b>FROM MILEPOST</b>	<b>TO MILEPOST</b>	<b>FEATURE</b>	<b>SIDE</b>	<b>COMMENT</b>
0.674	0.674	PARK BOUNDARY	N/A	N/A
0.674	0.674	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
0.674	0.674	ROUTE END	N/A	TO PARK BOUNDARY

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0406: RANCH CENTER ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0405 (RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0405 (RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0405 (RANCHO SIERRA VISTA/SATWIWA SERVICE ROAD)
0.006	0.006	SIGN	LEFT	REGULATORY, STOP
0.039	0.046	GUARD/GUIDE RAIL	LEFT	N/A
0.042	0.047	GUARD/GUIDE RAIL	RIGHT	N/A
0.044	0.044	CULVERT	N/A	N/A
0.056	0.056	INTERSECTION	N/A	UNPAVED ROUTE
0.056	0.056	ROUTE END	N/A	TO ROUTE 0928 (RANCHO SIERRA VISTA RANCH MANAGER PARKING)

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0422A: FRANKLIN CANYON DRIVE

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM PARK BOUNDARY
0.000	0.000	INTERSECTION	N/A	PAVED ROUTE (FRANKLIN CANYON DRIVE / NON NPS)
0.000	0.000	PARK BOUNDARY	N/A	N/A
0.004	0.004	SIGN	RIGHT	WARNING, 15 MPH
0.004	0.004	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.006	0.006	SIGN	RIGHT	REGULATORY, UNABLE TO READ FROM VIDEO
0.007	0.007	SIGN	RIGHT	GUIDE, FRANKLIN CANYON SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA
0.008	0.008	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.009	0.009	SIGN	LEFT	GUIDE, GATES OPEN 7:00 AM - SUNSET
0.010	0.010	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.012	0.012	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.015	0.015	SIGN	RIGHT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
0.046	0.052	GUARD/GUIDE RAIL	LEFT	N/A
0.052	0.052	SIGN	RIGHT	REGULATORY, SPEED CHECKED BY RADAR
0.052	0.052	SIGN	RIGHT	REGULATORY, SPEED LIMIT 15
0.058	0.058	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.059	0.072	GUARD/GUIDE RAIL	LEFT	N/A
0.091	0.101	GUARD/GUIDE RAIL	LEFT	N/A
0.098	0.098	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
0.141	0.161	GUARD/GUIDE RAIL	LEFT	N/A
0.197	0.202	GUARD/GUIDE RAIL	LEFT	N/A
0.217	0.318	CURB	LEFT	N/A
0.233	0.233	SIGN	RIGHT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
0.242	0.242	SIGN	LEFT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
0.256	0.256	CULVERT	N/A	N/A
0.285	0.285	SIGN	RIGHT	REGULATORY, THIS PROPERTY CLOSED TO THE PUBLIC NO ENTRY WITHOUT PERMISSION
0.360	0.360	SIGN	LEFT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
0.382	0.382	CULVERT	N/A	N/A
0.390	0.390	SIGN	RIGHT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0422A: FRANKLIN CANYON DRIVE

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.417	0.429	CURB	RIGHT	N/A
0.425	0.476	CURB	LEFT	N/A
0.433	0.533	CURB	RIGHT	N/A
0.474	0.474	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
0.476	0.476	INTERSECTION	LEFT	UNPAVED ROUTE (NATURE CENTER AND OFFICES)
0.480	0.517	CURB	LEFT	N/A
0.486	0.486	SIGN	LEFT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
0.508	0.508	SIGN	RIGHT	WARNING, PHOTO ENFORCEMENT AREA MRCA DISTANCE SECTIONS 4.3 AND 5.5
0.508	0.508	SIGN	RIGHT	WARNING, COMPLIANCE WITH UPCOMING STOP SIGN SUBJECT TO VIDEO MONITORING AND ENFORCEMENT
0.520	0.520	SIGN	RIGHT	REGULATORY, STOP
0.520	0.520	SIGN	RIGHT	REGULATORY, PHOTO ENFORCED
0.525	0.525	INTERSECTION	LEFT	PAVED ROUTE (WYVERN GATEWAY / NON NPS)
0.525	0.842	ONE-WAY	N/A	N/A
0.532	0.532	SIGN	LEFT	GUIDE, NATURE CENTER AND OFFICES
0.533	0.533	SIGN	LEFT	GUIDE, WELCOME TO WILLIAM O. DOUGLAS OUTDOOR CLASSROOM
0.540	0.540	CULVERT	N/A	N/A
0.547	0.547	INTERSECTION	LEFT	ROUTE 0422B (FRANKLIN CANYON DRIVE LOOP)
0.563	0.579	GUARD/GUIDE RAIL	LEFT	N/A
0.565	0.565	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
0.570	0.589	GUARD/GUIDE RAIL	LEFT	N/A
0.588	0.588	CULVERT	N/A	N/A
0.601	0.638	GUARD/GUIDE RAIL	LEFT	N/A
0.602	0.638	CURB	LEFT	N/A
0.603	0.625	GUARD/GUIDE RAIL	RIGHT	N/A
0.604	0.604	CULVERT	N/A	N/A
0.608	0.626	CURB	RIGHT	N/A
0.632	0.636	GUARD/GUIDE RAIL	RIGHT	N/A
0.649	0.649	SIGN	RIGHT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0422A: FRANKLIN CANYON DRIVE

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.649	0.673	CURB	LEFT	N/A
0.649	0.673	GUARD/GUIDE RAIL	LEFT	N/A
0.653	0.659	CURB	RIGHT	N/A
0.654	0.654	CULVERT	N/A	N/A
0.654	0.660	GUARD/GUIDE RAIL	RIGHT	N/A
0.666	0.666	SIGN	LEFT	GUIDE, ONE WAY
0.669	0.669	CULVERT	N/A	N/A
0.669	0.673	GUARD/GUIDE RAIL	RIGHT	N/A
0.680	0.680	INTERSECTION	LEFT	UNPAVED PARKING (NON NPS)
0.685	0.685	SIGN	RIGHT	GUIDE, ONE WAY
0.697	0.712	CURB	LEFT	N/A
0.698	0.702	GUARD/GUIDE RAIL	LEFT	N/A
0.699	0.699	CULVERT	N/A	N/A
0.707	0.711	GUARD/GUIDE RAIL	LEFT	N/A
0.709	0.709	CULVERT	N/A	N/A
0.714	0.714	SIGN	RIGHT	GUIDE, ONE WAY
0.716	0.716	INTERSECTION	LEFT	UNPAVED PARKING (NON NPS)
0.720	0.774	GUARD/GUIDE RAIL	LEFT	N/A
0.722	0.759	CURB	LEFT	N/A
0.724	0.724	CULVERT	N/A	N/A
0.729	0.733	CURB	RIGHT	N/A
0.729	0.733	GUARD/GUIDE RAIL	RIGHT	N/A
0.731	0.731	SIGN	RIGHT	REGULATORY, GRAPHIC SIGN NO TEXT
0.735	0.735	SIGN	LEFT	GUIDE, UNABLE TO READ FROM VIDEO
0.741	0.755	CURB	RIGHT	N/A
0.741	0.754	GUARD/GUIDE RAIL	RIGHT	N/A
0.754	0.760	GUARD/GUIDE RAIL	RIGHT	N/A
0.759	0.759	CULVERT	N/A	N/A
0.766	0.766	SIGN	RIGHT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
0.777	0.787	RETAINING WALL	RIGHT	N/A

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0422A: FRANKLIN CANYON DRIVE

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.780	0.827	CURB	LEFT	N/A
0.790	0.790	CULVERT	N/A	N/A
0.804	0.808	GUARD/GUIDE WALL	RIGHT	N/A
0.804	0.829	CURB	RIGHT	N/A
0.823	0.823	SIGN	RIGHT	GUIDE, FRANKLIN CANYON LAKE EXIT TO BEVERLY DRIVE
0.838	0.838	SIGN	RIGHT	REGULATORY, STOP
0.838	0.838	SIGN	LEFT	REGULATORY, DO NOT ENTER
0.838	0.838	SIGN	LEFT	REGULATORY, WRONG WAY
0.839	0.839	SIGN	LEFT	WARNING, UNABLE TO READ FROM VIDEO
0.840	0.840	SIGN	LEFT	GUIDE, GRAPHIC SIGN NO TEXT
0.840	0.840	SIGN	LEFT	GUIDE, GRAPHIC SIGN NO TEXT
0.842	0.842	INTERSECTION	LEFT	ROUTE 0422B (FRANKLIN CANYON DRIVE LOOP)
0.843	0.845	GUARD/GUIDE RAIL	LEFT	N/A
0.844	0.844	CULVERT	N/A	N/A
0.846	0.846	SIGN	N/A	GUIDE, NATURE CENTER AND OFFICES
0.846	0.846	SIGN	N/A	REGULATORY, PARKING
0.849	0.849	SIGN	LEFT	GUIDE, GRAPHIC SIGN NO TEXT
0.849	0.849	SIGN	LEFT	GUIDE, GRAPHIC SIGN NO TEXT
0.850	0.850	SIGN	LEFT	REGULATORY, PHOTO ENFORCED
0.850	0.850	SIGN	LEFT	REGULATORY, STOP
0.852	0.908	GUARD/GUIDE RAIL	RIGHT	N/A
0.853	0.912	CURB	RIGHT	N/A
0.862	0.862	SIGN	LEFT	WARNING, UNABLE TO READ FROM VIDEO
0.862	0.862	SIGN	LEFT	WARNING, PHOTO ENFORCEMENT AREA MRCA DISTANCE SECTIONS 4.3 AND 5.5
0.864	0.864	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
0.867	0.886	GUARD/GUIDE RAIL	LEFT	N/A
0.872	0.903	CURB	LEFT	N/A
0.895	0.895	SIGN	LEFT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
0.942	0.942	CULVERT	N/A	N/A

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0422A: FRANKLIN CANYON DRIVE

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.993	0.993	CULVERT	N/A	N/A
1.023	1.023	INTERSECTION	RIGHT	PAVED ROUTE (WYVERN GATEWAY / NON NPS)
1.151	1.151	SIGN	RIGHT	REGULATORY, STOP
1.153	1.153	SIGN	LEFT	GUIDE, FRANKLIN CYN DR
1.154	1.154	SIGN	LEFT	GUIDE, FRANKLIN CANYON LAKE FRANKLIN CANYON RANCH
1.157	1.157	INTERSECTION	LEFT	PAVED ROUTE (LAKE DRIVE / NON NPS)
1.162	1.162	CULVERT	N/A	N/A
1.168	1.168	SIGN	LEFT	WARNING, GRAPHIC SIGN NO TEXT
1.168	1.168	SIGN	LEFT	GUIDE, 2200 N
1.168	1.168	SIGN	LEFT	GUIDE, FRANKLIN CYN DR
1.168	1.168	SIGN	LEFT	GUIDE, LAKE DR
1.168	1.168	SIGN	LEFT	GUIDE, 2200 N
1.169	1.169	SIGN	LEFT	REGULATORY, STOP
1.184	1.184	SIGN	LEFT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
1.196	1.196	SIGN	RIGHT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
1.288	1.288	SIGN	RIGHT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
1.317	1.317	SIGN	LEFT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
1.406	1.450	CURB	LEFT	N/A
1.408	1.416	GUARD/GUIDE RAIL	LEFT	N/A
1.470	1.470	SIGN	RIGHT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
1.600	1.600	CULVERT	N/A	N/A
1.600	1.604	RETAINING WALL	RIGHT	N/A
1.649	1.649	SIGN	LEFT	GUIDE, SPEED LIMIT 15
1.736	1.736	SIGN	LEFT	GUIDE, GRAPHIC SIGN NO TEXT
1.744	1.744	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
1.757	1.757	INTERSECTION	LEFT	PAVED ROUTE (HILLCREST DRIVE / NON NPS)
1.758	1.802	GUARD/GUIDE RAIL	RIGHT	N/A
1.762	1.762	SIGN	RIGHT	GUIDE, HILLCREST DRIVE
1.762	1.762	SIGN	RIGHT	GUIDE, FRANKLIN CANYON PARK
1.764	1.774	CURB	RIGHT	N/A

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0422A: FRANKLIN CANYON DRIVE

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
1.795	1.795	SIGN	RIGHT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
1.801	1.801	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
1.805	1.819	GUARD/GUIDE RAIL	RIGHT	N/A
1.866	1.866	SIGN	RIGHT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
1.925	1.925	SIGN	LEFT	REGULATORY, SPEED CHECKED BY RADAR
1.925	1.925	SIGN	LEFT	REGULATORY, SPEED LIMIT 15
1.926	1.926	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
1.944	1.944	SIGN	RIGHT	GUIDE, UNABLE TO READ FROM VIDEO
1.952	1.952	PARK BOUNDARY	N/A	N/A
1.953	1.953	GATE	N/A	N/A
1.954	1.954	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
1.955	1.955	SIGN	LEFT	REGULATORY, GRAPHIC SIGN NO TEXT
1.956	1.956	SIGN	RIGHT	GUIDE, PLEASE PULL UP TO THE LINE
1.957	1.957	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
1.958	1.958	SIGN	RIGHT	GUIDE, GRAPHIC SIGN NO TEXT
1.962	1.962	SIGN	LEFT	REGULATORY, WARNING
1.962	1.962	SIGN	LEFT	REGULATORY, UNABLE TO READ FROM VIDEO
1.963	1.963	SIGN	RIGHT	GUIDE, BEVERLY PL 1900 N
1.963	1.963	SIGN	RIGHT	REGULATORY, STOP
1.963	1.963	SIGN	RIGHT	REGULATORY, ALL WAY
1.963	1.963	INTERSECTION	RIGHT	PAVED ROUTE (BEVERLY PLACE / NON NPS)
1.963	1.963	INTERSECTION	N/A	PAVED ROUTE (FRANKLIN CANYON DRIVE / NON NPS)
1.963	1.963	ROUTE END	N/A	TO BEVERLY DRIVE

# SAMO: ROUTE MAINTENANCE FEATURES ROAD LOG

## ROUTE 0422B: FRANKLIN CANYON DRIVE LOOP

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000	ROUTE BEGIN	N/A	FROM ROUTE 0422A (FRANKLIN CANYON DRIVE A)
0.000	0.000	INTERSECTION	LEFT	ROUTE 0422A (FRANKLIN CANYON DRIVE)
0.000	0.000	INTERSECTION	RIGHT	ROUTE 0422A (FRANKLIN CANYON DRIVE)
0.000	0.343	ONE-WAY	N/A	N/A
0.007	0.333	GUARD/GUIDE WALL	LEFT	N/A
0.104	0.104	SIGN	RIGHT	REGULATORY, WRONG WAY
0.105	0.117	PULLOUT	RIGHT	N/A
0.120	0.144	GUARD/GUIDE RAIL	RIGHT	N/A
0.144	0.150	GUARD/GUIDE WALL	RIGHT	N/A
0.170	0.170	SIGN	RIGHT	GUIDE, SPEED LIMIT 15 PATROLLED BY PARK RANGER
0.260	0.260	INTERSECTION	RIGHT	PAVED ROUTE (NON NPS)
0.263	0.263	SIGN	LEFT	GUIDE, ONE WAY
0.283	0.291	CURB	RIGHT	N/A
0.299	0.304	CURB	RIGHT	N/A
0.300	0.300	SIGN	RIGHT	GUIDE, GOLDMAN AMPHITHEATER
0.301	0.301	SIGN	RIGHT	WARNING, GRAPHIC SIGN NO TEXT
0.312	0.312	SIGN	RIGHT	REGULATORY, GRAPHIC SIGN NO TEXT
0.319	0.332	CURB	RIGHT	N/A
0.320	0.320	SIGN	RIGHT	WARNING, PHOTO ENFORCEMENT AREA MRCA DISTANCE SECTIONS 4.3 AND 5.5
0.328	0.328	SIGN	RIGHT	REGULATORY, STOP
0.328	0.328	SIGN	RIGHT	REGULATORY, PHOTO ENFORCED
0.331	0.331	SIGN	LEFT	REGULATORY, DO NOT ENTER
0.331	0.331	SIGN	LEFT	REGULATORY, WRONG WAY
0.333	0.333	SIGN	LEFT	GUIDE, ONE WAY
0.333	0.333	SIGN	RIGHT	WARNING, COMPLIANCE WITH UPCOMING STOP SIGN SUBJECT TO VIDEO MONITORING AND ENFORCEMENT
0.343	0.343	INTERSECTION	LEFT	ROUTE 0422A (FRANKLIN CANYON DRIVE)
0.343	0.343	INTERSECTION	RIGHT	ROUTE 0422A (FRANKLIN CANYON DRIVE)
0.343	0.343	ROUTE END	N/A	TO ROUTE 0422A (FRANKLIN CANYON DRIVE A)

# Section 10 Appendix



## Santa Monica Mountains National Recreation Area



**Federal Lands Highway  
Road Inventory Program**

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

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

In an effort to improve the accuracy of treatment recommendations and pavement condition descriptions vis a vis 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 Road Inventory Program condition reporting method and specifically, the calculation of PCR. It was determined that a better representation of PCR could be achieved by modifying the relative impact certain distresses would have on the overall rating.

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

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

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

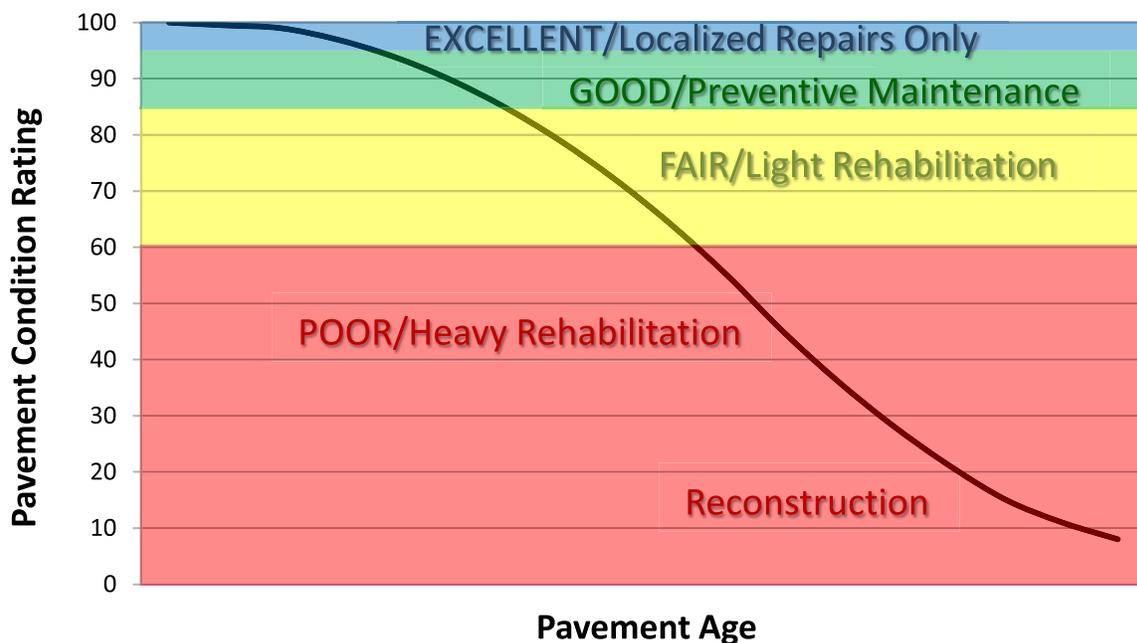
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In addition to the RIP Index changes that will be implemented in Cycle 5, we will also aim to provide greater assistance in translating good/fair/poor categories into pavement needs categories. The PCR can be used to indicate the place in the Pavement 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 Pavement Management System's data from our Highway Pavement Management Application (HPMA) please contact the Eastern Federal Lands pavement team.

## Condition Categories and Treatments



## DESCRIPTION OF RATING SYSTEM

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The Federal Highway Administration (FHWA), Road Inventory Program (RIP) for the National Park Service (NPS), 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). 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 about 5000 miles of National Park Service roads and parkways. Foremost in setting up the basis of pavement distress identification is employing the distress identification protocols used by FHWA. There is no single distress identification system that is universal among entities conducting a program of distress identification. For the purpose of the NPS RIP, FHWA employs distress identification protocols that are specific to this program.

FHWA has referenced the “*Distress Identification Manual for the Long-Term Pavement Performance Program*”, Publication No. FHWA-RD 03-031, June 2003, as the point-of-reference for distress types on NPS pavement. 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 5, 2010-2013*” was developed using the “*Distress Identification Manual for the Long-Term Pavement Performance Program*” as a guideline. Definitions of severity levels based on crack width contained in this document adhere to the LTPP Distress ID Manual. Modifications have been made to the definition of Alligator and Longitudinal Cracking and determination of Alligator Cracking severity. This manual also addresses Rutting and Roughness and its application to RIP.

In 2010, FHWA RIP began the fifth cycle of data collection in national parks. For Cycle 5, data will be collected in approximately 81 large parks (10 or more paved route miles) on Functional Class 1, 2, and 7 routes plus any new routes or parking areas previously not collected, totaling an estimated 4,459 paved route miles. Additionally, 168 small parks will be collected comprising approximately 529 paved route miles and associated paved parking areas. The data is used to support the National Park Service road maintenance program and Pavement Management System (PMS) developed and maintained by FHWA.

This “*Distress Identification Manual for the NPS Road Inventory Program, Cycle 5, 2010-2013*” will be used as a reference resource in crack detection and classification, determination of distress severity and extent, and in the calculation of distress index values for the FHWA RIP Cycle 5.

# **SURFACE DISTRESSES**

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## **Surface Condition Rating - SCR**

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

### **Surface distresses determined from digital images**

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

### **Surface distress measured by DCV (Data Collection Vehicle) LRMS (Laser Rut Measuring System)**

- Rutting

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

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

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

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

## **Roughness Condition Index - RCI**

### **Additional condition data measured by DCV (lasers and accelerometers)**

- Roughness (IRI)

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

## **Pavement Condition Rating - PCR**

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

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

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

A detailed description of each distress index formula, roughness index formula, SCR and PCR is provided in this document beginning on page 23.

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

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

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

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

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

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

**TABLE 1: Distress Summary**

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

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

# ALLIGATOR CRACKING

## Description

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

## Severity Levels

### **LOW**

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

### **MEDIUM**

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

### **HIGH**

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

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

**TABLE 2: Alligator Crack Severity Levels**

<b>ALLIGATOR CRACKING SEVERITY LEVELS</b>		<b>Crack Pattern</b>		
		<b>LOW</b>	<b>MED</b>	<b>HIGH</b>
<b>Crack Width</b>	<b>LOW</b>	L	M	H
	<b>MED</b>	M	M	H
	<b>HI</b>	H	H	H

## **LONGITUDINAL CRACKING**

### **Description**

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

### **Severity Levels**

#### **LOW**

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

#### **MED**

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

#### **HIGH**

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

## **TRANSVERSE CRACKING**

### **Description**

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

### **Severity Levels**

#### **LOW**

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

#### **MED**

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

#### **HIGH**

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

## **PATCHING AND POTHOLES**

### **Description**

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

### **Severity Levels**

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

## **RUTTING**

### **Description**

Rutting is a longitudinal surface depression in the wheelpath.

### **Severity Levels**

#### **LOW**

Ruts with a measured depth  $\geq 0.20''$  and  $\leq 0.49''$

#### **MED**

Ruts with a measured depth  $\geq 0.50''$  and  $\leq 0.99''$

#### **HIGH**

Ruts with a measured depth  $\geq 1.00''$

Ruts  $< 0.20''$  are not included in the distress calculations.

## **ROUGHNESS**

### **Description**

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

### **Severity Levels**

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

**TABLE 3: IRI**

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

## INDEX FORMULAS

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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  $\geq 0$  and can exceed 100.

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

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

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

Percent of interval length is computed as:

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

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

### **Structural Crack Index**

$$SC\_INDEX = [100 - ((100 - AC\_INDEX) + (100 - LC\_INDEX))]$$

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

### **Transverse Crack Index**

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

Where:

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

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

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

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

Number of cracks is computed as:

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

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

## Patching Index

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

Where:

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

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

Percent of total area is computed as:

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

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

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

## Rutting Index

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

Where:

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

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

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

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

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

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

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

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

### **Roughness Condition Index (Asphalt)**

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

Where:

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

Average IRI is computed as:

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

There is no applicable threshold for failure for this index.

### **Roughness Condition Index (Concrete)**

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

For concrete, PCR = RCI

### **Surface Condition Rating Index**

**SCR** = *Lowest* Index Value Of: [SC\_INDEX, TC\_INDEX, PATCH\_INDEX, RUT\_INDEX]

*Note: The modified SCR equation above combines AC\_INDEX and LC\_INDEX, and considers that a single AC/LC index value of the Structural Crack Index (SC\_INDEX). The lowest of the four computed index values (SC\_INDEX, TC\_INDEX, PATCH\_INDEX, or RUT\_INDEX) becomes the SCR.*

Where:

See above for determinations of SC\_INDEX, TC\_INDEX, PATCH\_INDEX and RUT\_INDEX.

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

## Data Collection Vehicle Subsystems

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

### CAMERAS

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

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

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

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

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

### **DMI (Distance Measuring Instrument)**

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

### **ROUGHNESS (IRI)**

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

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

### **RUTTING**

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

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

## **GPS & INERTIAL SYSTEMS**

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

<b>GPS SPECIFICATIONS</b>	
Static accuracy	Sub-meter
Dynamic accuracy	2-3 meters
Receiver	12 satellite tracking
Coordinate system	Lat Lon WGS 84
Environment	Day or night
Cross-slope	+ - 0.1 degrees
Grade	+ - 0.1 degrees

### GPS on Manually Rated Roads (MRR)

Parking areas, some roads, and other paved areas that are not fully drivable with the DCV are collected manually by field technicians. GPS is collected for these routes using portable Trimble GPS backpack units.

## Geodatabase – Background and Metadata

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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 will allow RIP to facilitate easier updates and enhancements in the future.

A geodatabase can be thought of as simply a database containing spatial data. Many different tables are contained with the park's geodatabase. A complete and thorough description of the tables and fields contained within this geodatabase can be found in the *metadata*. The metadata is attached directly within the geodatabase and can be accessed via ESRI's ArcCatalog.

## **GLOSSARY OF TERMS AND ABBREVIATIONS**

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