The Road Inventory
of
Saguaro National Park
SAGU - 8670

national park service

Road Inventory Program

Prepared By:
Federal Highway Administration
Eastern Federal Lands Highway Division
Cycle 3

Saguaro National Park
in
Arizona

TABLE OF CONTENTS

INTRODUCTION

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

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

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

In an effort to maintain and update the RIP data, a cyclical data collection and reporting process was re-established in the 1990's. The FLH completed two cycles of RIP data collection between 1994 and 2001. Cycle 1 data was collected in 44 large parks from 1994 to 1995. This data was found to be unusable for comparison to future cycles. Cycle 2 data was collected from March 1997 to January 2001 in 79 large parks and 5 small parks containing 4,874 route miles. Each park received a copy of a Cycle 2 RIP Report, also known as the "Blue Book."

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

In 1998, the Transportation Equity Act for the 21st Century (TEA-21) amended Title 23 U.S.C., and inserted Section 204(a)(6) which requires the Federal Highway Administration and the National Park Service, to develop, by rule, a Pavement Management System (PMS) for the park roads and parkways serving the National Park System. As a result of the requirements in TEA-21, the NPS and the FHWA are in the process of developing a PMS. The PMS will assist the decision-makers in effectively spending limited PRP Program funds. The PMS will provide information for planning and programming road maintenance, rehabilitation, and reconstruction activities. RIP data will provide the basic information for this system.

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

RIP Cycle 3: A third RIP cycle was initiated in 2001. Data was collected from March 2001 to July 2004, and is included in the Cycle 3 Reports. Cycle 3 includes 254 large and small parks with a combined total of 5,455 route miles.

In the Cycle 3 Reports, a general condition rating of excellent, good, fair and poor is ascribed to each one-mile section of paved roadway, and to each paved parking area. This condition rating system provides a realistic means of assessing the general funding needs for road improvements. Along with these descriptive condition ratings, a numerical rating between 0 and 100 is ascribed to each mile of road and to each parking area.. This numerical rating is called a Pavement Condition Rating (PCR). The PCR rating system is described in Section 10 of this report.

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

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

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Saguaro National Park Summaries

Overall Park Mileage Summary

PARK TOTAL SUMMARY ITEMS	TOTAL	DATE
Paved ARAN Driven Route Miles	14.72	11/29/2001
Unpaved Estimated Route Miles	11.03	11/29/2001
Paved ARAN and Unpaved Route Miles	25.75	
Paved ARAN Driven Lane Miles	22.62	11/29/2001
Paved MRR Lane Miles	0.00	
Parking Lot Lane Miles	2.65	11/29/2001
Total Paved Lane Miles	25.27	

Notes: Total Paved Lane Miles includes the sum of Paved ARAN Driven Lane Miles, Paved MRR Lane Miles, and Parking Lot Lane Miles

Unpaved Route Miles are estimates, they have not been inventoried by the Roadway Inventory Program (RIP)

Saguaro National Park Summaries

Cost to Improve to "Excellent" Condition

SOURCE	WORK PERFORMED	COST PER MILE	INITIAL CONDITION
FHWA Awarded Projects	Surface Maintenance	$30,000	Excellent
FHWA Awarded Projects	3-R (Resurfacing)	$110,000	Good
FHWA Awarded Projects	3-R (Resurfacing, Restoration, and Rehabilitation) Projects	$560,000	Fair
FHWA Awarded Projects	4-R (Resurfacing, Restoration, Rehabilitation, and Reconstruction) Projects	$1,540,000	Poor

Based on the above table, the cost to improve ARAN driven paved road condition miles to "Excellent" PCR are:

Existing Condition	Existing Miles	Estimated Cost to Improve
Excellent	0.09	$2,700
Good	2.70	$297,000
Fair	11.93	$6,680,800
Poor	0.00	$0
Totals	**14.72**	**$6,980,500**

The above numbers include the 35% PE, CE and contingency costs and are national averages. The cost estimates were used in the calculations for the 2004 Reauthorization Bill to determine the level of funding required to bring all the NPS roads into a Pavement Condition Rating (PCR) of Good (85).

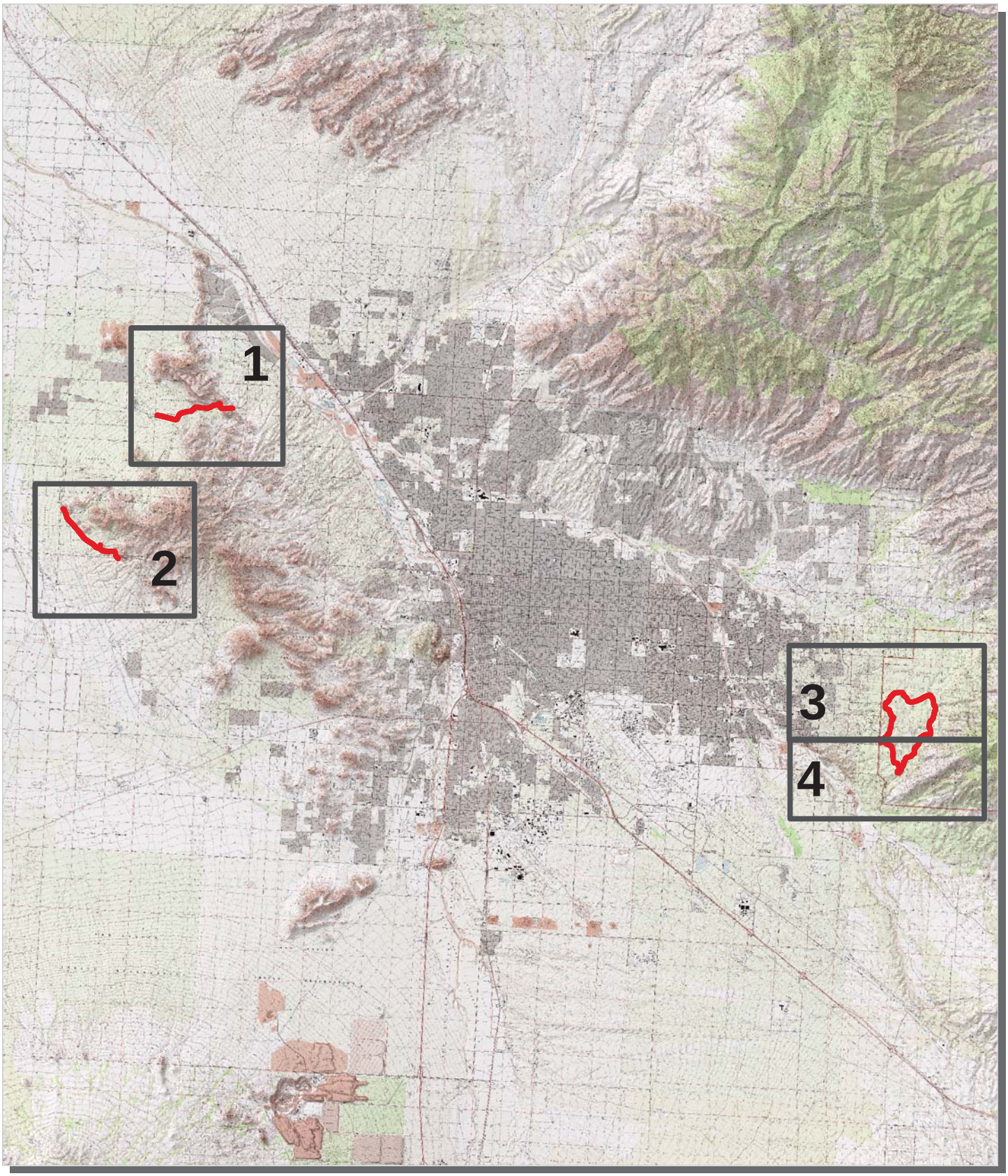
These numbers are for preliminary planning purposes only and should not be used for project level proposals. For park planning level analysis, apply your park multiplier for more accurate regional costs.

Saguaro National Park Summaries

Paved Route Miles and Percentages by Functional Class and PCR for ARAN Driven Paved Roads

F.C.	Pavement Condition Rating								TOTAL MILES
	Poor (<=60)		Fair (61-84)		Good (85-94)		Excellent (95-100)		
	MILES	%	MILES	%	MILES	%	MILES	%	
1	2.91	19.77%			0.01	0.07%			2.92
2	6.89	46.81%	1.50	10.19%	0.08	0.54%			8.47
3	0.09	0.61%							0.09
4									
5									
6	0.24	1.63%							0.24
7	1.80	12.23%	1.20	8.15%					3.00
8									
Totals	**11.93**	**81.05%**	**2.70**	**18.34%**	**0.09**	**0.61%**	**0.00**	**0.00%**	**14.72**

Saguaro National Park
Route Location
Key Map



Park Owned Routes

3 0 3 6 Miles

N

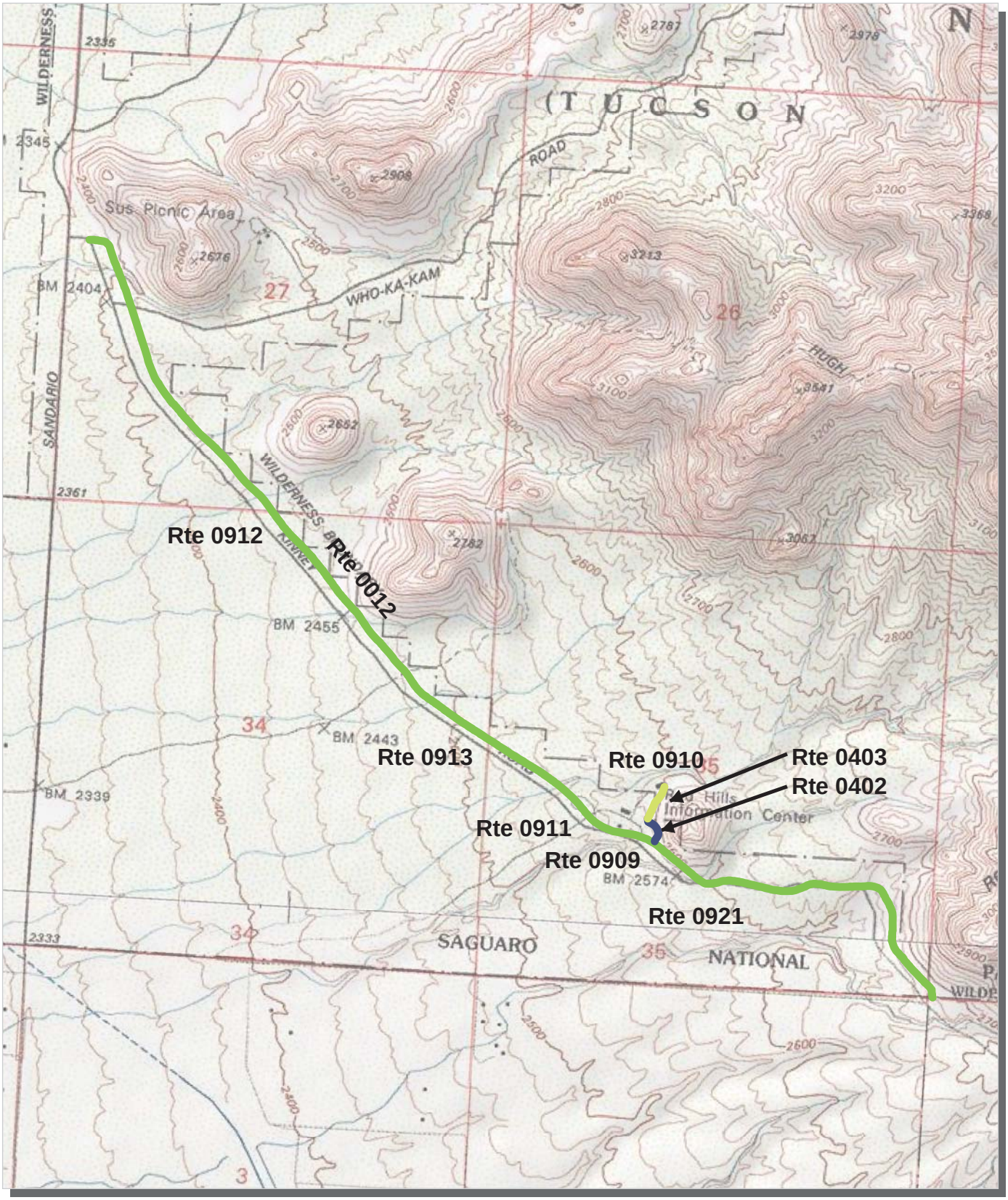
Saguaro National Park
Route Location Map
Area Map 1

Unique colors used to differentiate routes

0.5 0.25 0 0.5 Miles

N

Saguaro National Park
Route Location Map
Area Map 2

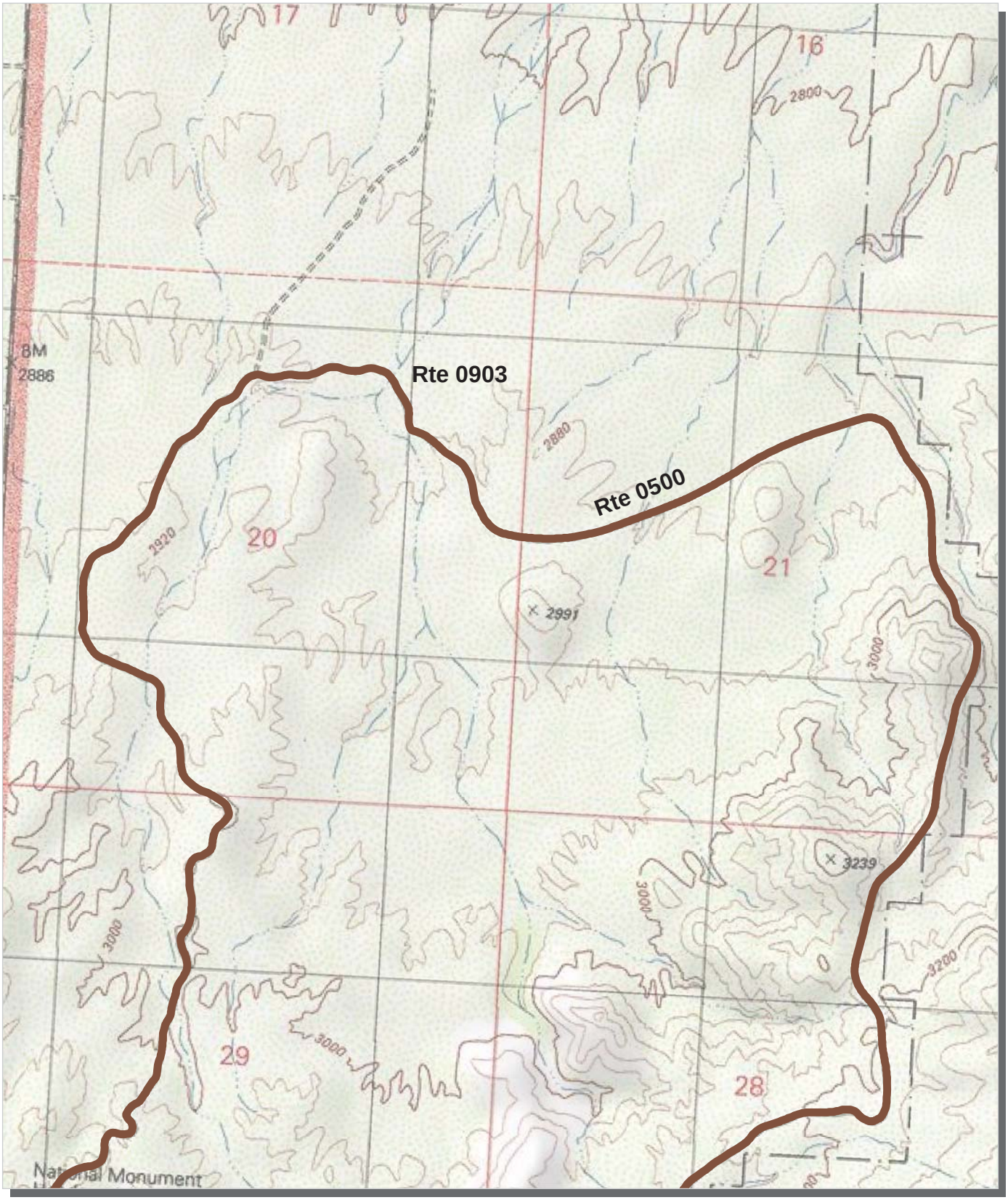


Unique colors used to differentiate routes

0.5 0.25 0 Miles

N

Saguaro National Park
Route Location Map
Area Map 3

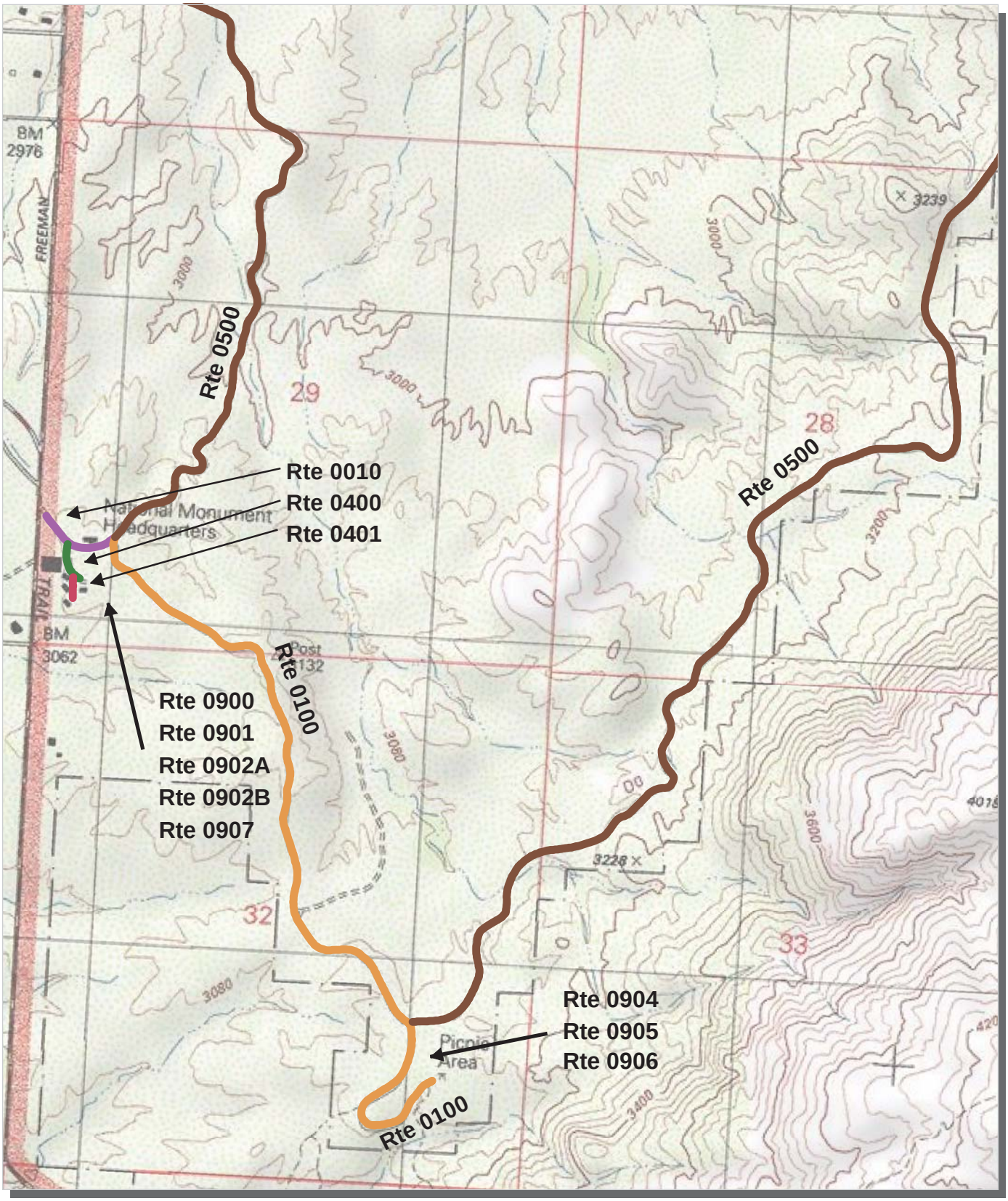


Unique colors used to differentiate routes

0.5 0.25 0 0.5 Miles

N

Saguaro National Park
Route Location Map
Area Map 4

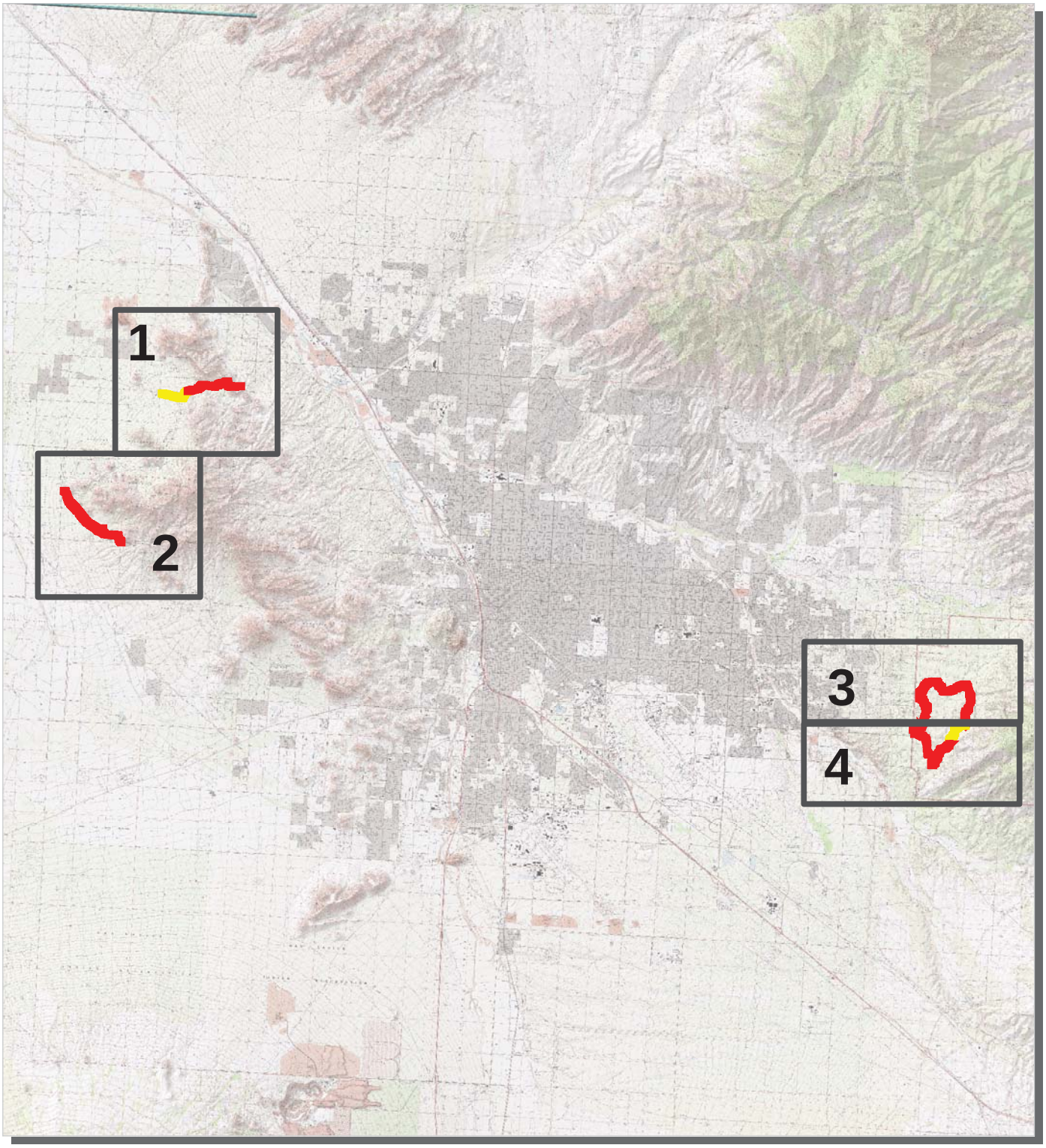


Unique colors used to differentiate routes

0.5 0.25 0 0.5 Miles

N

Saguaro National Park
Route Condition Key Map
PCR - Mile by Mile



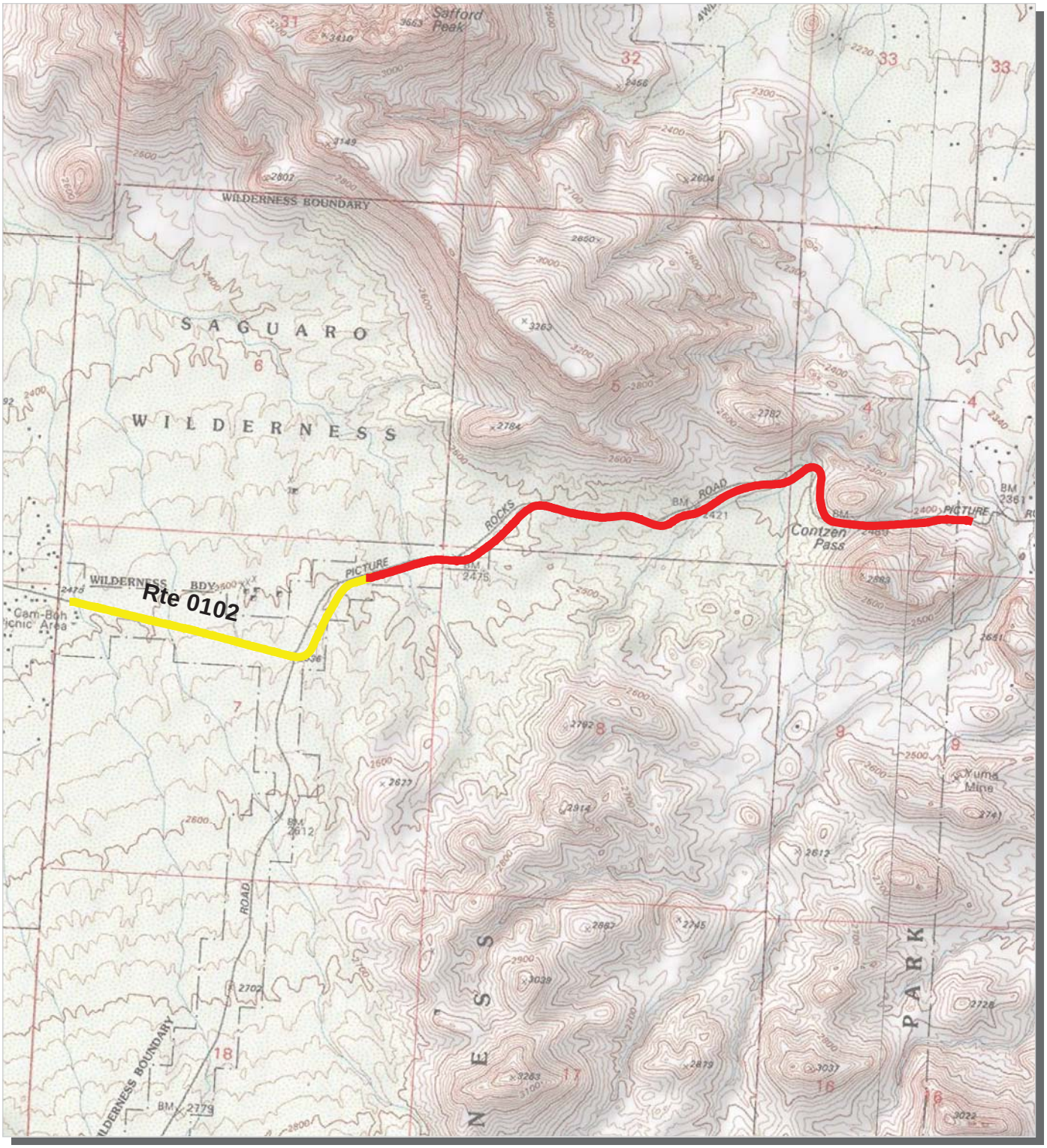
PCR	Poor	Fair	Good	Excellent
	(<=60)	(61 - 84)	(85 - 94)	(95 - 100)

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

3 0 3 6 Miles

N

Saguaro National Park
Route Condition Area Map 1
PCR - Mile by Mile



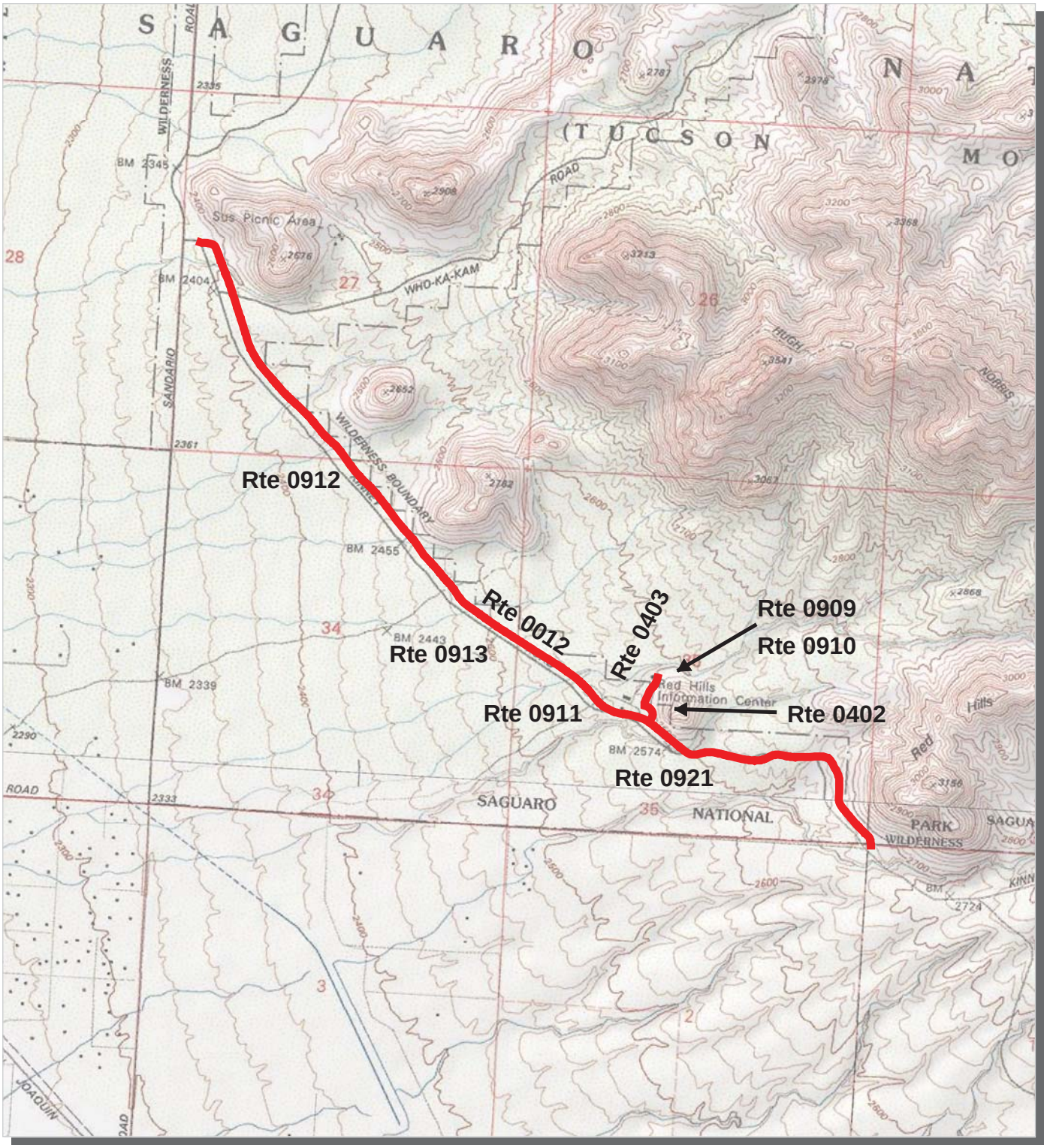
PCR	Poor	Fair	Good	Excellent
	(<=60)	(61 - 84)	(85 - 94)	(95 - 100)

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

0.25 0 0.25 0.5 Miles

N

Saguaro National Park
Route Condition Area Map 2
PCR - Mile by Mile



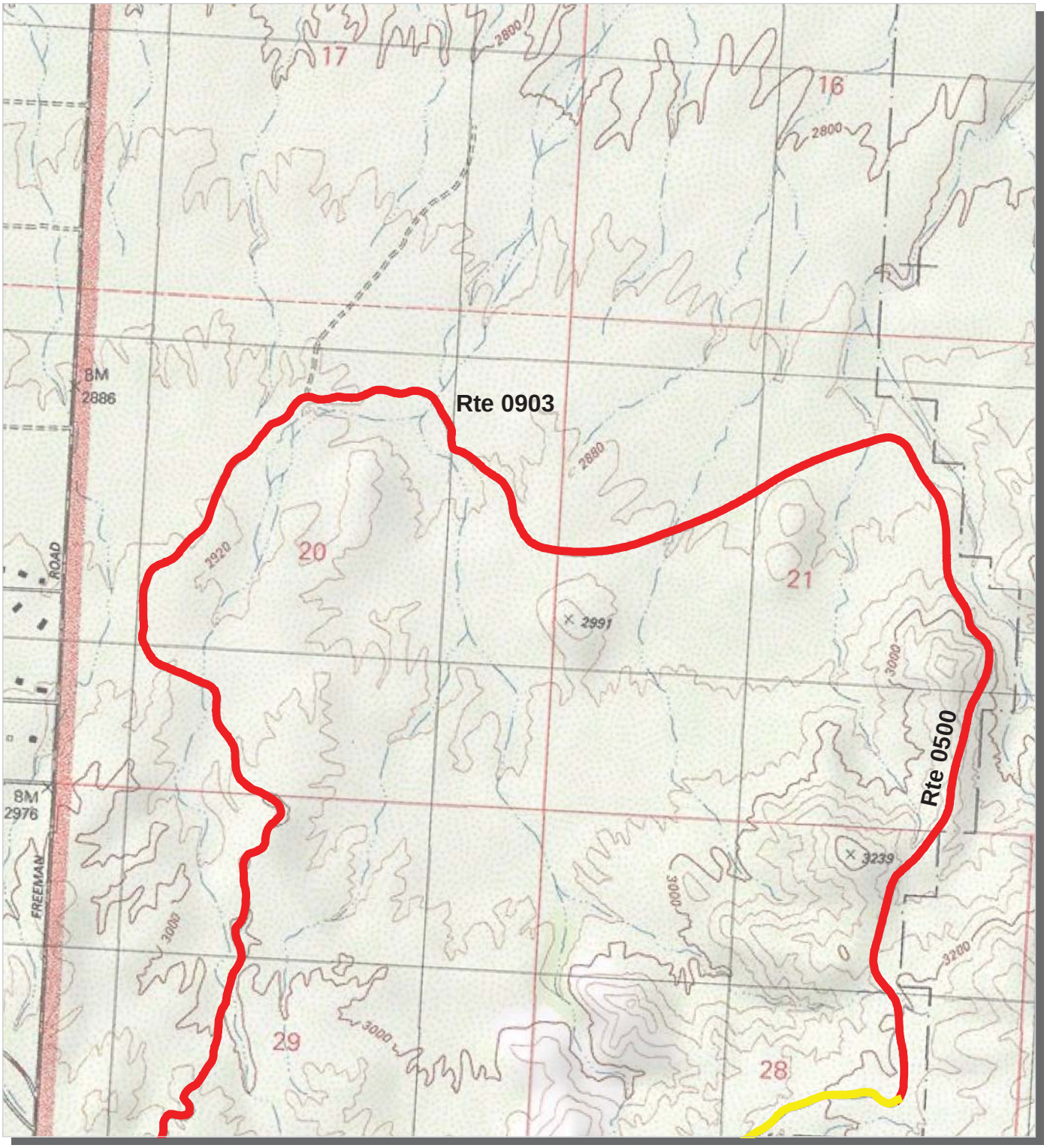
PCR	Poor	Fair	Good	Excellent
	(<=60)	(61 - 84)	(85 - 94)	(95 - 100)

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

0.25 0 0.25 0.5 Miles

N

Saguaro National Park
Route Condition Area Map 3
PCR - Mile by Mile



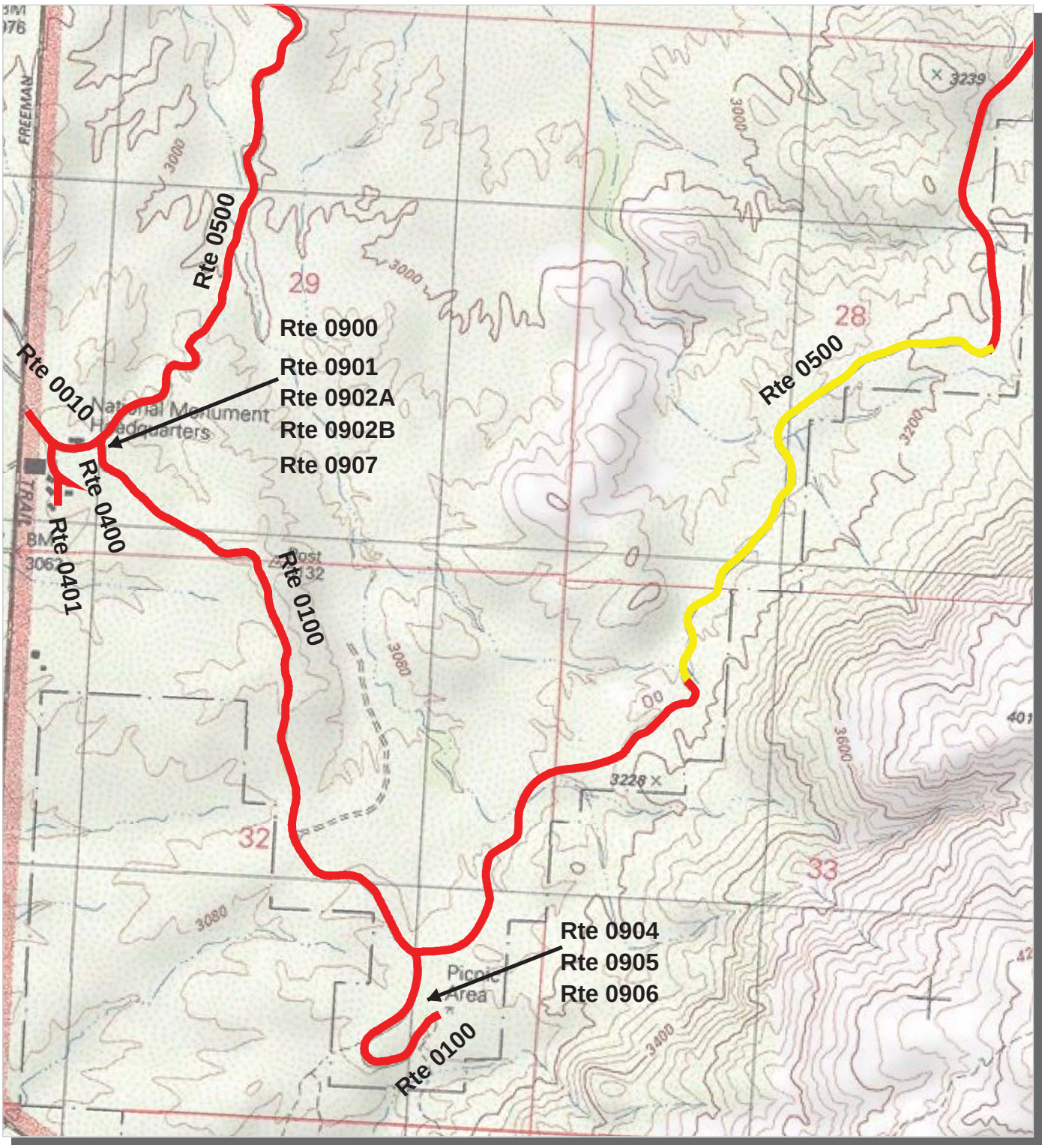
PCR	Poor	Fair	Good	Excellent
	(<=60)	(61 - 84)	(85 - 94)	(95 - 100)

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

0.2 0 0.2 0.4 Miles

N

Saguaro National Park
Route Condition Area Map 4
PCR - Mile by Mile



PCR	Poor	Fair	Good	Excellent
	(<=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.

0.25 0 0.25 0.5 Miles

N

NPS/RIP Route ID Report

(Numerical By Route #)

Shading Color Key:
Red text denotes approx. mileage

White = Paved Routes, ARAN Driven
Yellow = Unpaved Routes, ARAN not Driven
Blue = All Paved Parking Areas
Grey = Paved Routes, ARAN not Driven
Red =
Green = All Unpaved Parking Areas
Black = Paved State, Local or Private non-NPS Routes, ARAN Driven
Purple =

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Saguaro National Park

Rte. #	FMSS Asset #	Route Name	Route Description From	Route Description To	Paved Miles	Un-Paved Miles	Rte. Lgth	Func. Class	Rte. Lanes	Manual Rated SQ/FT	Surf. Type
0010	78696	RINCON MOUNTAIN DISTRICT ENTRANCE ROAD	From West Park Boundary	To Route 0500	0.17	0.00	0.17	1	2	0	AS
0012	64496	KINNEY ROAD	From South Park Boundary	To Sandario Road	2.75	0.00	2.75	1	2	0	OC
0100	78691	JAVELINA PICNIC AREA ACCESS ROAD	From Route 0010	To Route 0906	1.65	0.00	1.65	2	2	0	OC
0101	64500	GOLDEN GATE ROAD	From Sandario Road	To Route 0102	0.00	6.21	6.21	2	2	0	OT
0102	64497	PICTURE ROCKS ROAD	From West Park Boundary	To East Park Boundary	3.00	0.00	3.00	7	2	0	OC
0200	78671	MICA VIEW PICNIC AREA ACCESS ROAD	From Route 0500	To Route 0919	0.00	0.67	0.67	3	2	0	OT
0201	64504	CAM-BOH PICNIC AREA ACCESS ROAD	From Route 0102	To Route 0913	0.00	0.06	0.06	3	2	0	OT
0202	78459	EZ-KIM-IN-ZIN PICNIC AREA ACCESS ROAD.	From Route 0101	To Route 0914	0.00	0.14	0.14	3	2	0	OT
0203		SIGNAL HILL PICNIC AREA ACCESS ROAD	From Route 0101	To Route 0915	0.00	0.48	0.48	3	2	0	OT
0204	64502	SUS PICNIC AREA ACCESS ROAD	From Route 0300	To Route 0916	0.00	0.33	0.33	3	2	0	OT
0300	64501	HOHOKAM ROAD	From Route 0012	To Route 0101	0.00	2.32	2.32	3	2	0	OT
0400	78692	HEADQUARTERS ACCESS ROAD	From Route 0010	To Route 0900	0.09	0.00	0.09	3	2	0	OC
0401	78694	RESIDENCE ACCESS ROAD	From Route 0400	To End of Pavement	0.06	0.07	0.13	6	2	0	OC
0402	64498	RED HILLS ADMINISTRATIVE ACCESS ROAD	From Route 0012	To Route 0909	0.08	0.00	0.08	6	2	0	OC
0403	78623	RED HILLS MAINTENANCE AREA ACCESS ROAD	From Route 0402	To Route 0910	0.10	0.00	0.10	6	2	0	OC
0404	78686	MADRONA ACCESS ROAD	From Gate at South Park Boundary	To Ranger Station	0.00	0.50	0.50	6	2	0	OT
0500	78693	CACTUS FOREST DRIVE	From Route 0010	To Route 0100	6.82	0.00	6.82	2	1	0	OC
0700	82422	RM Madrona Unpaved Road	From	To	0.00	0.25	0.25	ZZ		0	GR
0900		HEADQUARTERS PARKING AREA	From End of Route 0400	To Parking	0.00	0.00	0.00	9		8,856	NC
0901		HEADQUARTERS MAINTENANCE AREA PARKING	From Route 0400	To Maintenance Area	0.00	0.00	0.00	9		10,339	NC
0902A		EAST SIDE VISITOR CENTER PARKING A	From Route 0010 on Right	To Parking	0.00	0.00	0.00	9		3,909	NC
0902B		EAST SIDE VISITOR CENTER PARKING B	From Route 0010 on Left	To Parking	0.00	0.00	0.00	9		3,505	NC
0903		DESERT ECOLOGY TRAILHEAD PARKING	From Route 0500	To Parking	0.00	0.00	0.00	9		4,230	NC
0904		FREEMAN HOMESTEAD TRAILHEAD PARKING	From Route 0100	Route 0100	0.00	0.00	0.00	9		2,222	NC
0905		TANQUE VERDE TRAILHEAD PARKING	From Route 0100	To Parking	0.00	0.00	0.00	9		923	NC
0906		JAVELINA PICNIC AREA PARKING	From End of Route 0100	To Parking	0.00	0.00	0.00	9		11,613	NC
0907		TUCSON BASIN INFORMATION PARKING	From Route 0100	Route 0100	0.00	0.00	0.00	9		1,955	NC

NPS/RIP Route ID Report

(Numerical By Route #)

Shading Color Key:
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White = Paved Routes, ARAN Driven
Yellow = Unpaved Routes, ARAN not Driven
Blue = All Paved Parking Areas
Grey = Paved Routes, ARAN not Driven
Red =
Green = All Unpaved Parking Areas
Black = Paved State, Local or Private non-NPS Routes, ARAN Driven
Purple =

SAGU

Saguaro National Park

Rte. #	FMSS Asset #	Route Name	Route Description From	Route Description To	Paved Miles	Un-Paved Miles	Rte. Lgth	Func. Class	Rte. Lanes	Manual Rated SQ/FT	Surf. Type
0908		DOUGLAS SPRINGS TRAILHEAD PARKING	From East Speedway Boulevard	To Parking	0.00	0.00	0.00	9		7,648	NC
0909		RED HILLS ADMINISTRATIVE PARKING	From Route 0402	To Parking	0.00	0.00	0.00	9		14,992	OC
0910		RED HILLS MAINTENANCE AREA PARKING	From End of Route 0403	To Parking	0.00	0.00	0.00	9		31,999	NC
0911		RED HILLS VISITOR CENTER PARKING	From Route 0012	To Parking	0.00	0.00	0.00	9		44,805	AS
0912		DESERT DISCOVERY NATURE TRAIL PARKING	From Route 0012	To Parking	0.00	0.00	0.00	9		2,297	OC
0913		WILDLIFE WATERHOLE PARKING	From Route 0012	To Parking	0.00	0.00	0.00	9		2,997	NC
0914		EZ-KIM-IN-ZIN PICNIC AREA PARKING	From Route 0202	To Parking	0.00	0.00	0.00	9		750	OT
0915		SIGNAL HILL PICNIC AREA PARKING	From Route 0203	To Parking	0.00	0.00	0.00	9		2,240	OT
0916		SUS PICNIC AREA PARKING	From Route 0204	To Parking	0.00	0.00	0.00	9		1,230	OT
0919		MICA VIEW PUBLIC PARKING	From Route 0200	To Parking	0.00	0.00	0.00	9		7,880	OT
0920		CAM-BOH PICNIC AREA PARKING	From Route 0201	To Parking	0.00	0.00	0.00	9		750	OT
0921		DESERT VIEW PARKING	From Route 0012	To Parking	0.00	0.00	0.00	9		1,501	OC
				Totals:	14.72	11.03	**25.75**			166,639	

NPS/RIP Route ID Report

(Numerical By Route #)

Shading Color Key:
Red text denotes approx. mileage

White = Paved Routes, ARAN Driven	Yellow = Unpaved Routes, ARAN not Driven	Blue = All Paved Parking Areas
Grey = Paved Routes, ARAN not Driven	Red =	Green = All Unpaved Parking Areas
Black = Paved State, Local or Private non-NPS Routes, ARAN Driven	Purple =	

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 Invetoried 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.

Class 9 Boat Ramp - (Public and Administrative) Route Numbers 800-899.
Parking Area - (Public and Administrative) Route Numbers 900-1999.

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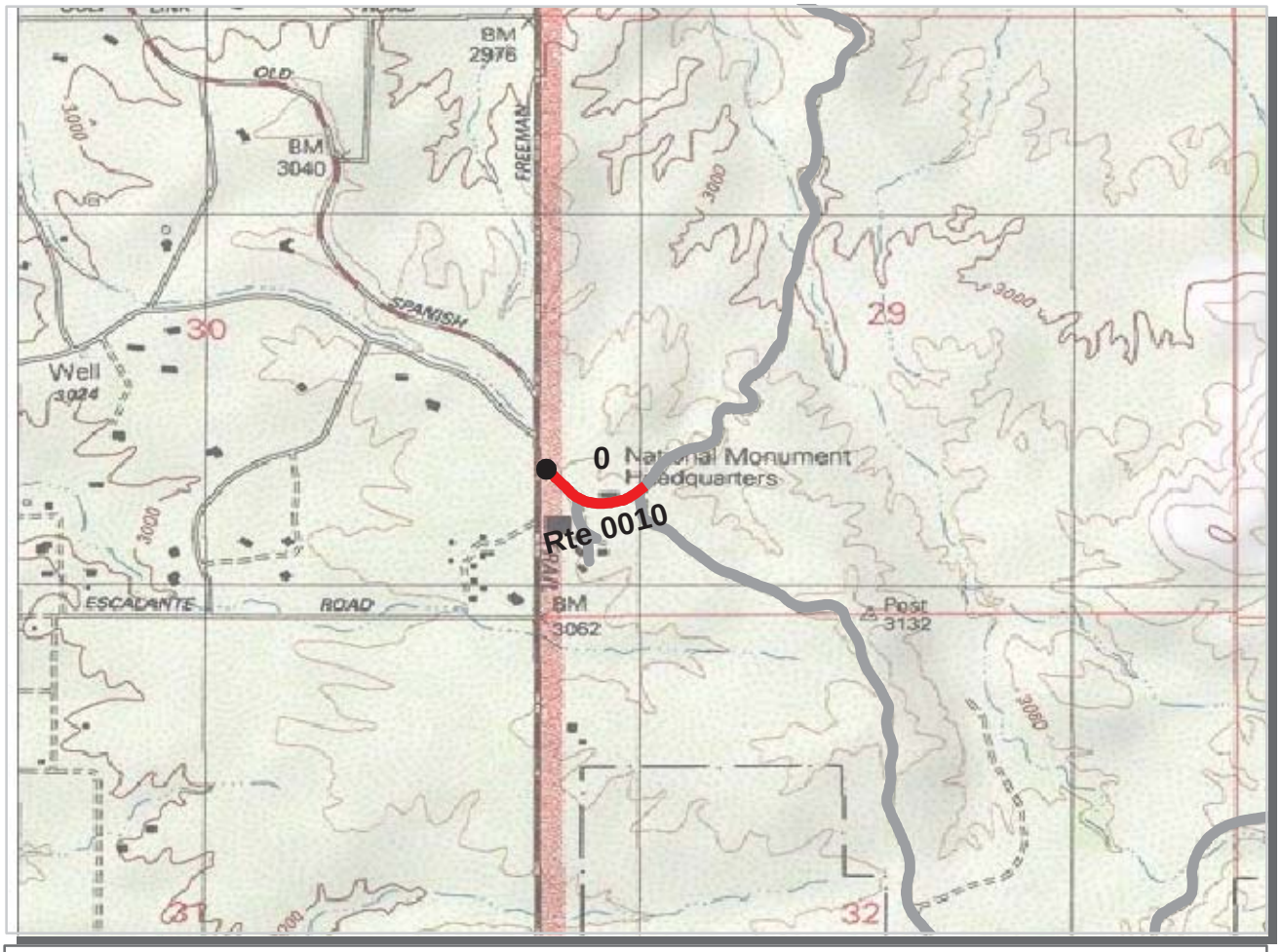
A park road system contains those roads within or giving access to a park or other unit of the NPS which are administered by the NPS, or by the Service in cooperation with other agencies. The assignment of a functional classification (FC) to a park road is not based on traffic volumes or design speed,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

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

ZZ Functional Class Routes were added from FMSS Database. Final Route Number and Functional Class will be established during Park visit for Cycle 4 data collection.

Surface Type Abbreviations:

AS - Asphaltic Concrete Pavement
CO - Portland Cement Concrete Pavement
NC - New Chip Seal Pavement (Under 5 Years)
OC - Old Chip Seal Pavement (5 Years and Greater)
SS - Slurry Seal Pavement
GR - Gravel Road Bed
BR - Brick or Pavers Road Bed
CB - Cobble Stone Road Bed
SA - Sand Road Bed
DT - Dirt or Native Material Road Bed
OT - Other Materials Road Bed



PCR Poor (<=60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100)

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

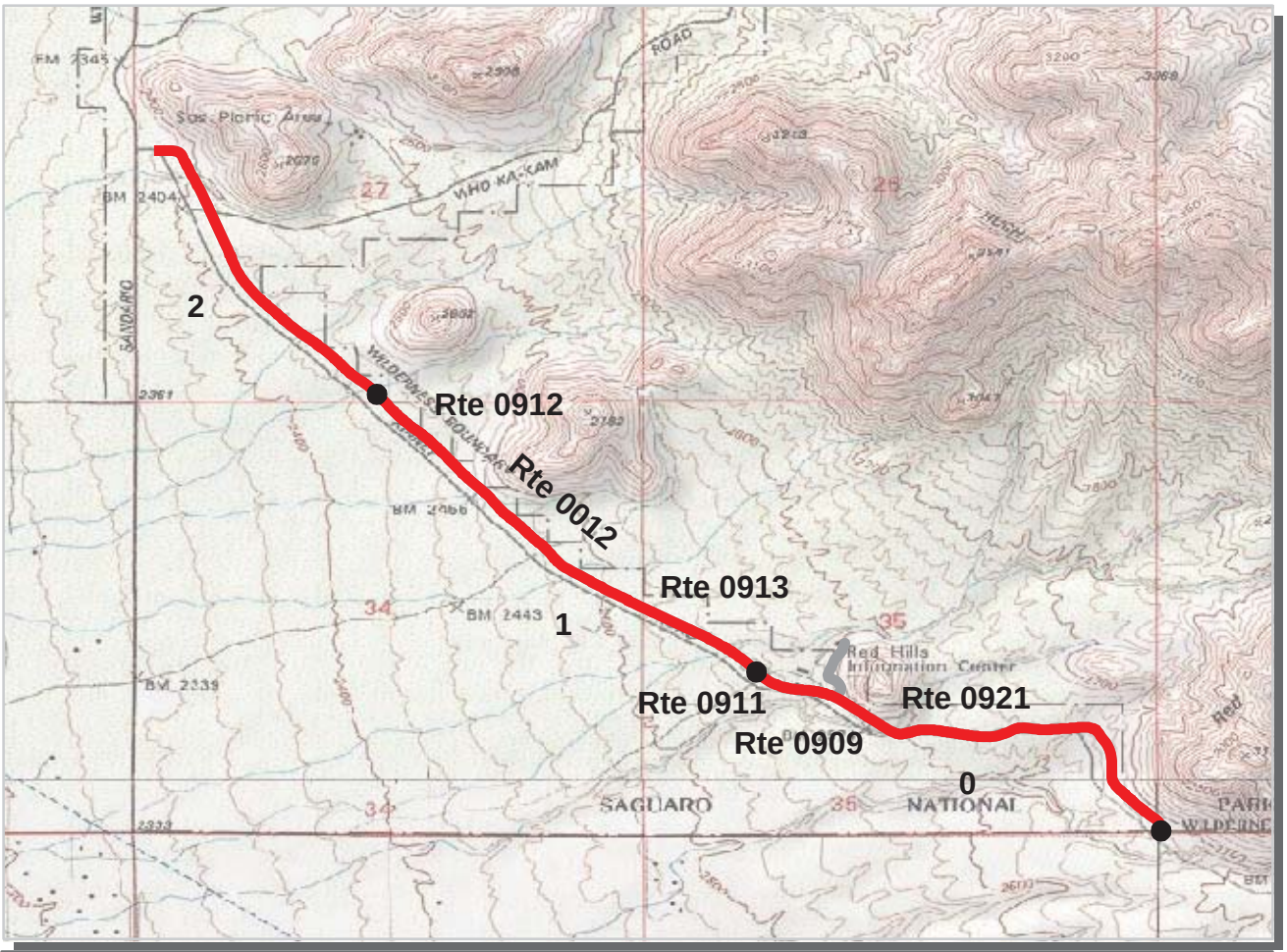
Intermountain Region
SAGU : Saguaro National Park

ROUTE: 0010 Rincon Mountain District Entrance Road **TOTAL LENGTH: 0.17 Miles**

Section Number	0				
Section Length (mi)	0.17				
AADT	**				
SADT	**				
ADT Date	**				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	23				
Lane Width (ft)	10				
Shoulder Width (ft)	0				
Roadway Condition Information					
PCR (Pavement Condition Rating)	46				
RCI (Roughness Condition Index)	NC				
SCR (Surface Condition Rating)	46				
Alligator Cracking Index	100				
Rutting Index	54				
Patching Index	100				
Tranverse Cracking Index	93				
Longitudinal Cracking Index	98				
Shoulder Condition Rating	N/A				
Drainage Condition Rating	N/C				

* NC designates data not collected NA designates not applicable

** See website for traffic data: http://www.efl.fhwa.dot.gov/nps/index.htm



PCR Poor (<=60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100)

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

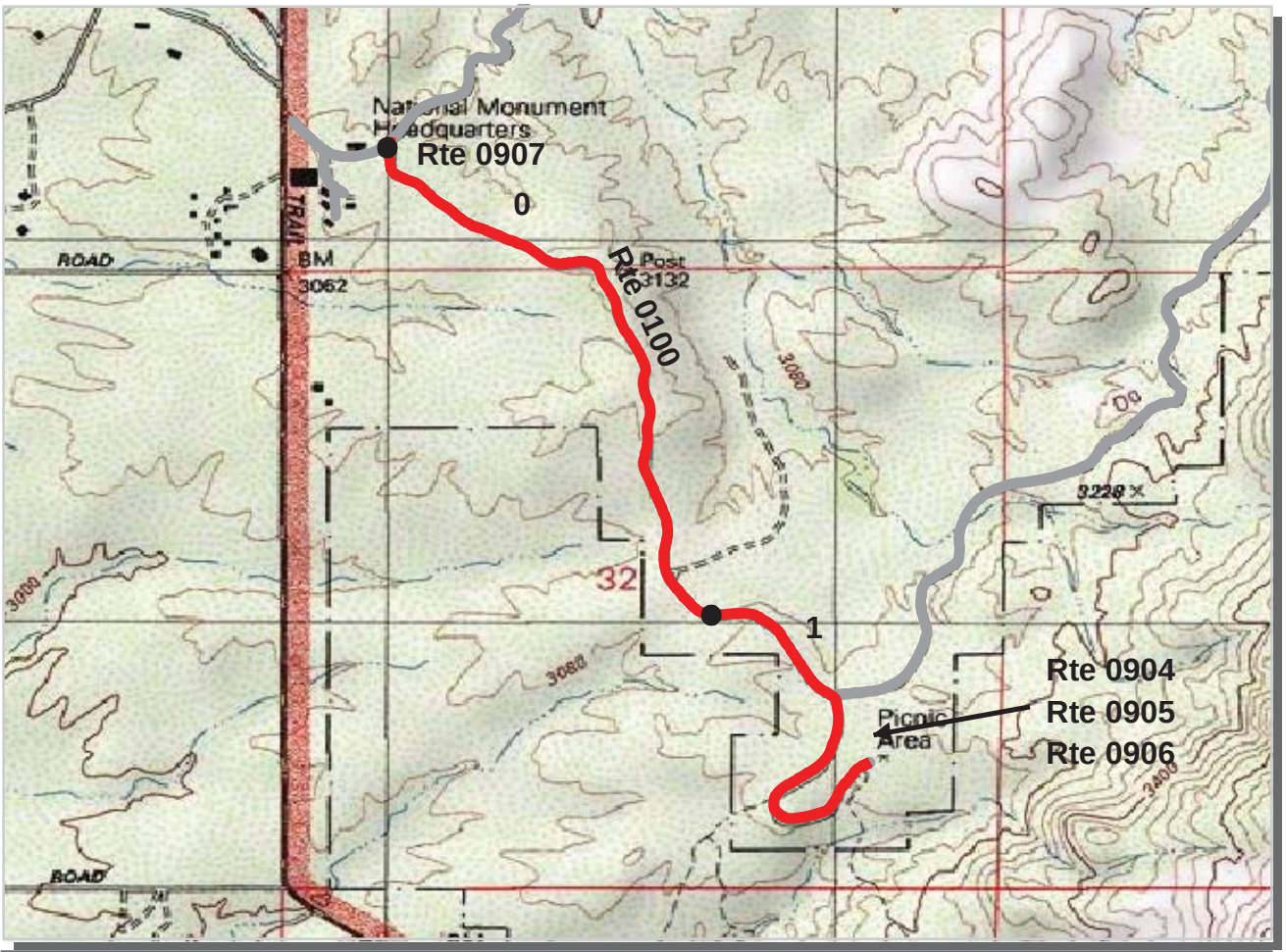
Intermountain Region
SAGU : Saguaro National Park

ROUTE: 0012 Kinney Road **TOTAL LENGTH: 2.75 Miles**

Section Number	0	1	2		
Section Length (mi)	1.00	1.00	0.75		
AADT	**				
SADT	**				
ADT Date	**				
Cross Section Information					
Number of Lanes	2	2	2		
Paved Width (ft)	20	20	19		
Lane Width (ft)	10	10	10		
Shoulder Width (ft)	4	0	4		
Roadway Condition Information					
PCR (Pavement Condition Rating)	5	7	6		
RCI (Roughness Condition Index)	59	-1	55		
SCR (Surface Condition Rating)	1	7	6		
Alligator Cracking Index	91	99	99		
Rutting Index	35	44	44		
Patching Index	99	100	99		
Tranverse Cracking Index	66	72	74		
Longitudinal Cracking Index	79	84	84		
Shoulder Condition Rating	GOOD	N/A	GOOD		
Drainage Condition Rating	GOOD	GOOD	GOOD		

* NC designates data not collected NA designates not applicable

** See website for traffic data: http://www.efl.fhwa.dot.gov/nps/index.htm



PCR Poor (<=60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100)

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

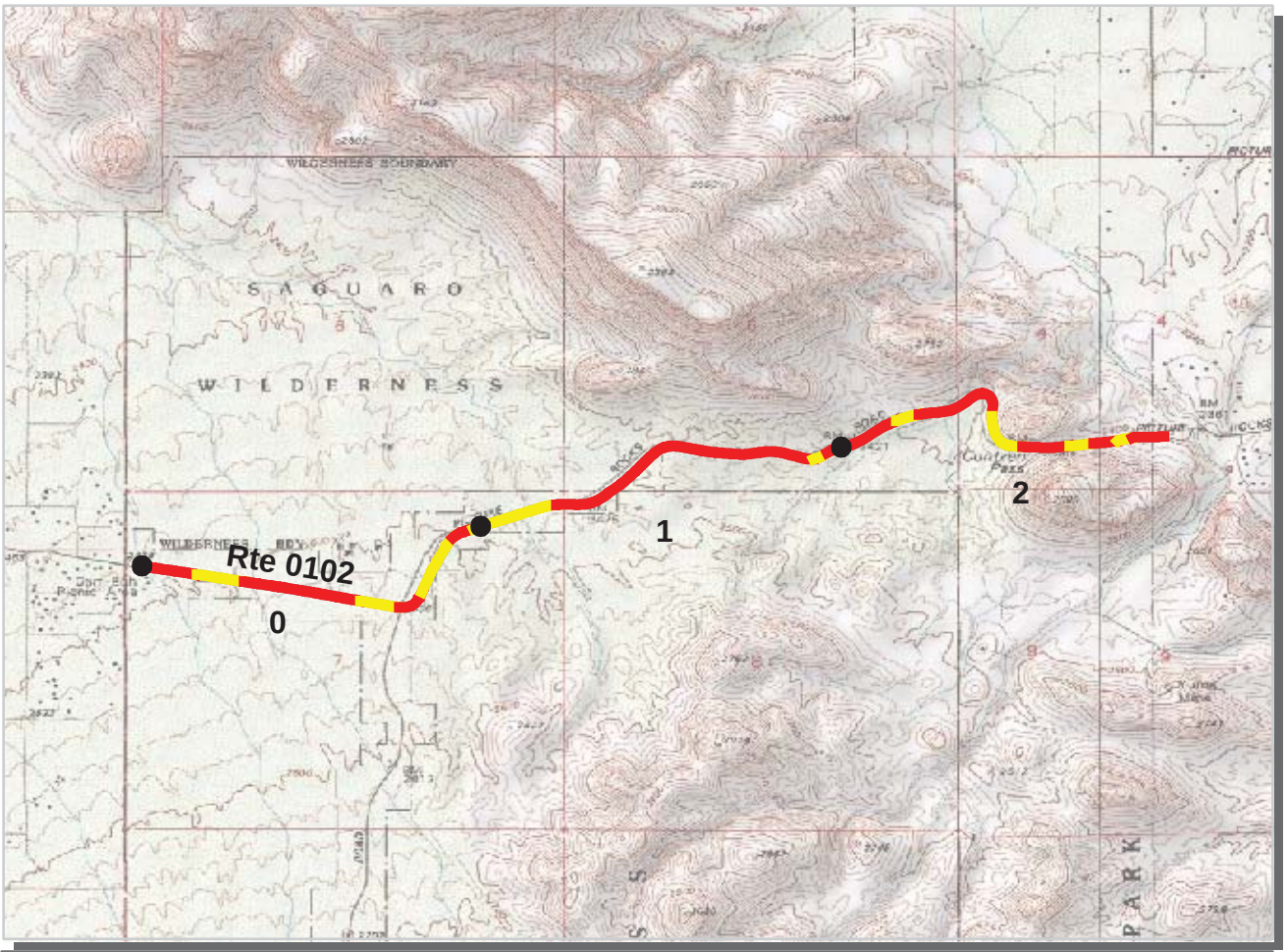
Intermountain Region
SAGU : Saguaro National Park

ROUTE: 0100 Javelina Picnic Area Access Road **TOTAL LENGTH: 1.65 Miles**

Section Number	0	1			
Section Length (mi)	1.00	0.65			
AADT	**				
SADT	**				
ADT Date	**				
Cross Section Information					
Number of Lanes	2	2			
Paved Width (ft)	19	19			
Lane Width (ft)	10	10			
Shoulder Width (ft)	0	0			
Roadway Condition Information					
PCR (Pavement Condition Rating)	41	41			
RCI (Roughness Condition Index)	51	51			
SCR (Surface Condition Rating)	35	35			
Alligator Cracking Index	100	100			
Rutting Index	43	43			
Patching Index	100	100			
Tranverse Cracking Index	93	92			
Longitudinal Cracking Index	98	98			
Shoulder Condition Rating	N/A	N/A			
Drainage Condition Rating	N/C	N/C			

* NC designates data not collected NA designates not applicable

** See website for traffic data: http://www.efl.fhwa.dot.gov/nps/index.htm



PCR Poor (<=60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100)

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

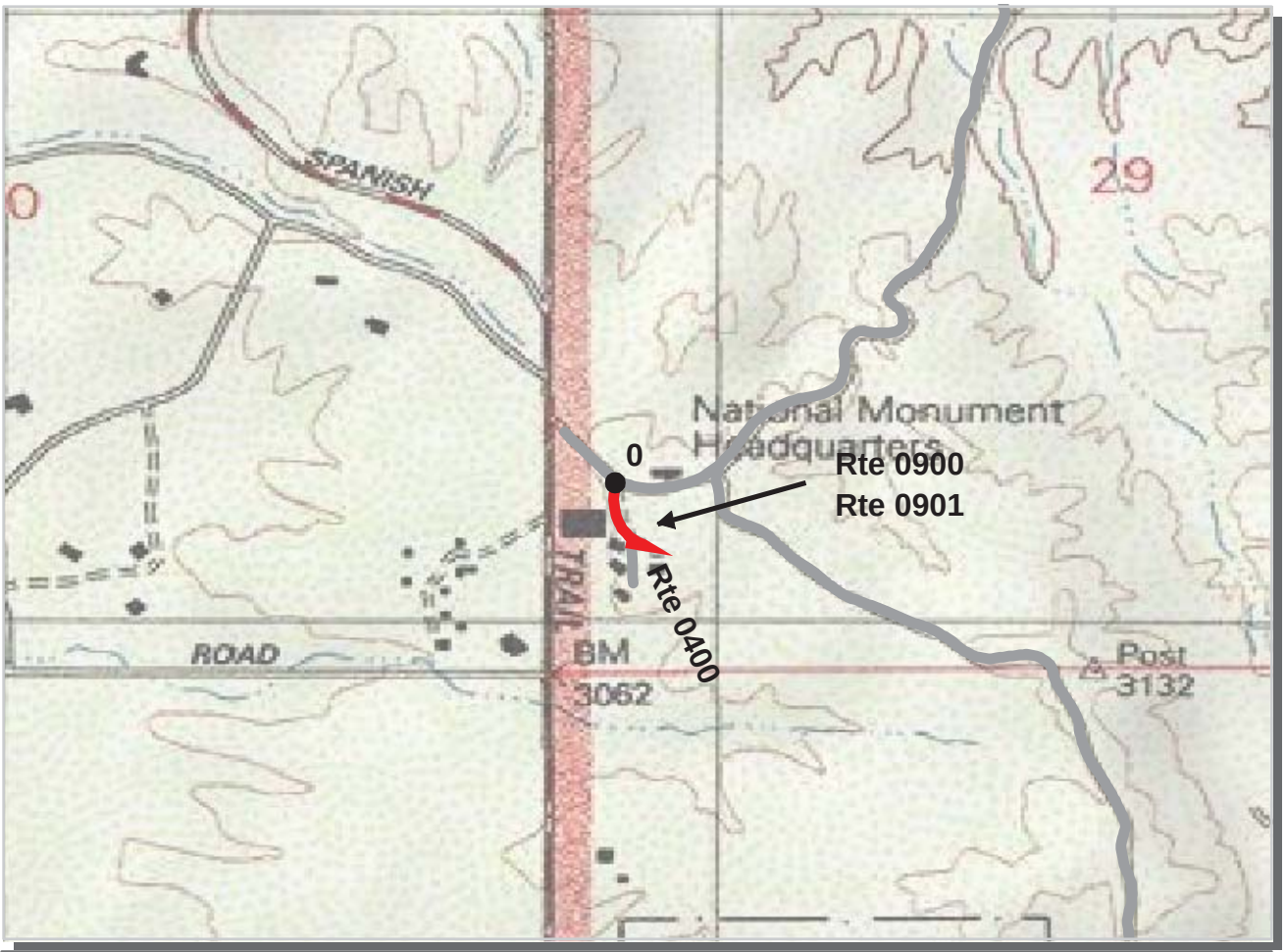
Intermountain Region
SAGU : Saguaro National Park

ROUTE: 0102 Picture Rocks Road **TOTAL LENGTH: 3.00 Miles**

Section Number	0	1	2		
Section Length (mi)	1.00	1.00	1.00		
AADT	**				
SADT	**				
ADT Date	**				
Cross Section Information					
Number of Lanes	2	2	2		
Paved Width (ft)	22	21	21		
Lane Width (ft)	11	11	10		
Shoulder Width (ft)	4	3	4		
Roadway Condition Information					
PCR (Pavement Condition Rating)	61	54	54		
RCI (Roughness Condition Index)	88	73	72		
SCR (Surface Condition Rating)	42	42	42		
Alligator Cracking Index	99	99	99		
Rutting Index	59	51	48		
Patching Index	100	100	100		
Tranverse Cracking Index	85	93	96		
Longitudinal Cracking Index	97	97	98		
Shoulder Condition Rating	N/C	N/C	N/C		
Drainage Condition Rating	N/C	N/C	N/C		

* NC designates data not collected NA designates not applicable

** See website for traffic data: http://www.efl.fhwa.dot.gov/nps/index.htm



PCR Poor (<=60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100)

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

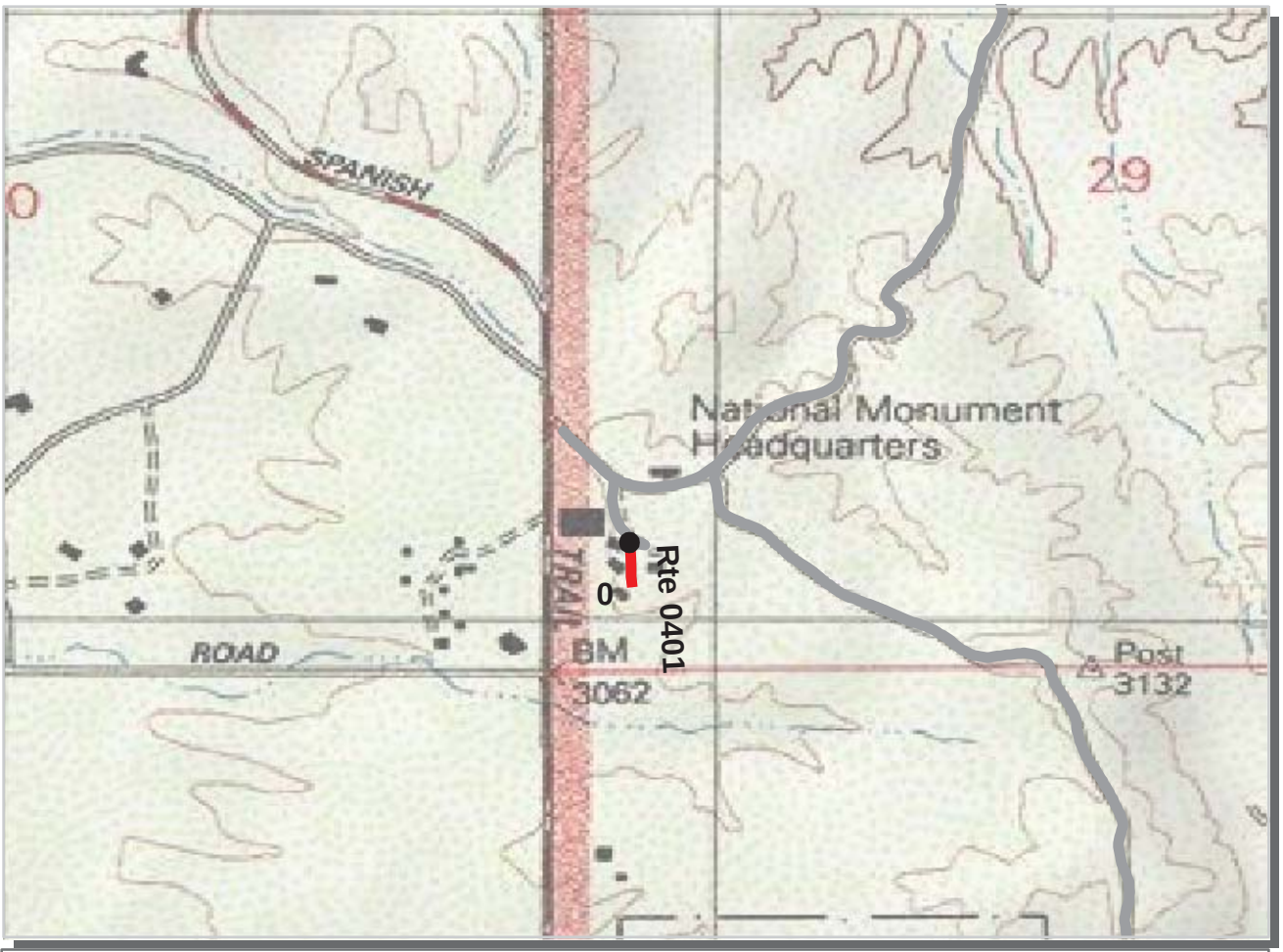
Intermountain Region
SAGU : Saguaro National Park

ROUTE: 0400 Headquarters Access Road **TOTAL LENGTH: 0.09 Miles**

Section Number	0				
Section Length (mi)	0.09				
AADT	**				
SADT	**				
ADT Date	**				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	25				
Lane Width (ft)	13				
Shoulder Width (ft)	0				
Roadway Condition Information					
PCR (Pavement Condition Rating)	21				
RCI (Roughness Condition Index)	NC				
SCR (Surface Condition Rating)	21				
Alligator Cracking Index	100				
Rutting Index	30				
Patching Index	100				
Tranverse Cracking Index	92				
Longitudinal Cracking Index	97				
Shoulder Condition Rating	N/A				
Drainage Condition Rating	N/C				

* NC designates data not collected NA designates not applicable

** See website for traffic data: http://www.efl.fhwa.dot.gov/nps/index.htm



PCR Poor (<=60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100)

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

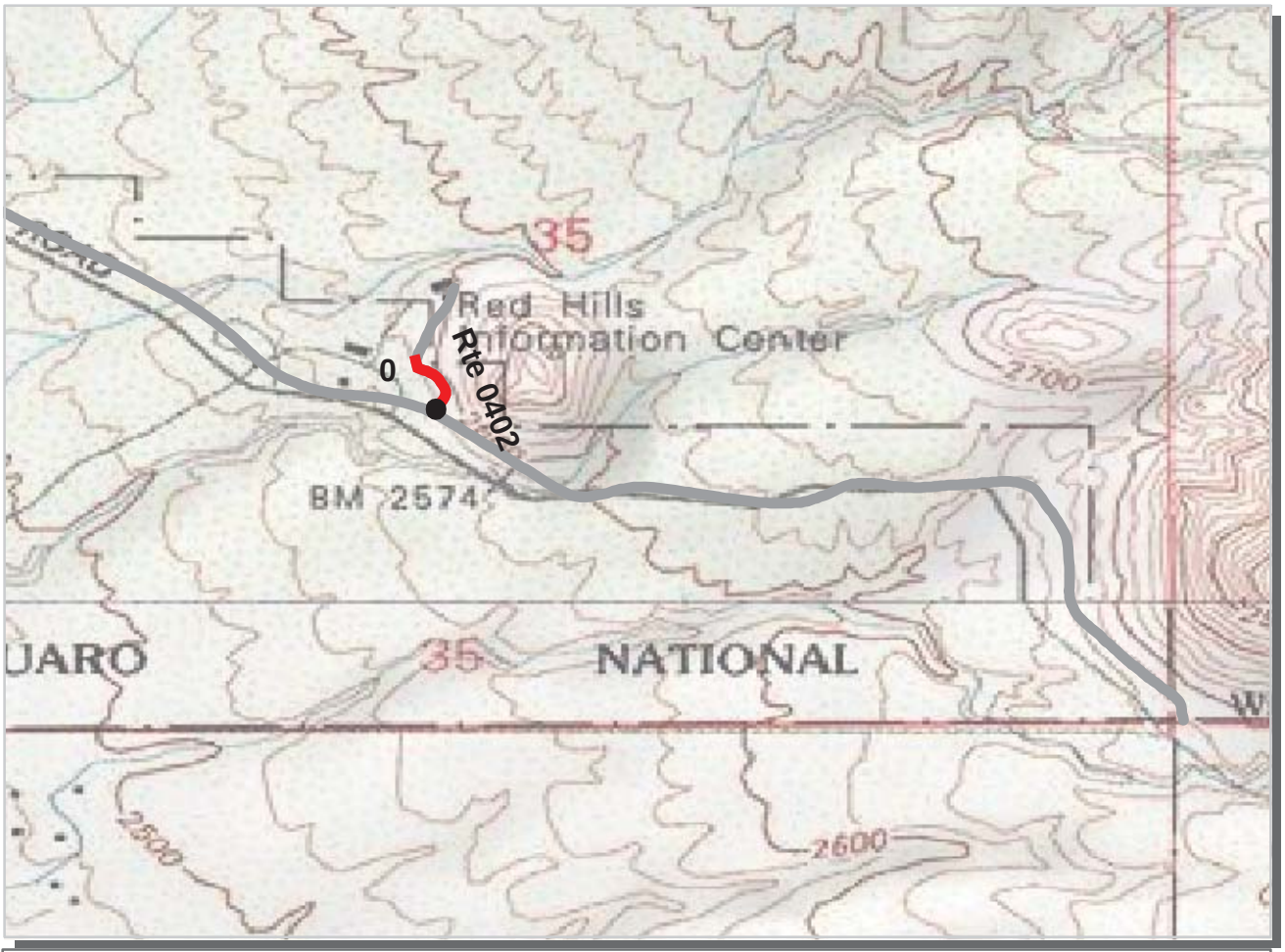
Intermountain Region
SAGU : Saguaro National Park

ROUTE: 0401 Residence Access Road **TOTAL LENGTH: 0.06 Miles**

Section Number	0				
Section Length (mi)	0.06				
AADT	**				
SADT	**				
ADT Date	**				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	17				
Lane Width (ft)	8				
Shoulder Width (ft)	0				
Roadway Condition Information					
PCR (Pavement Condition Rating)	12				
RCI (Roughness Condition Index)	NC				
SCR (Surface Condition Rating)	12				
Alligator Cracking Index	100				
Rutting Index	16				
Patching Index	100				
Tranverse Cracking Index	90				
Longitudinal Cracking Index	95				
Shoulder Condition Rating	N/A				
Drainage Condition Rating	N/C				

* NC designates data not collected NA designates not applicable

** See website for traffic data: http://www.efl.fhwa.dot.gov/nps/index.htm



PCR Poor (<=60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100)

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

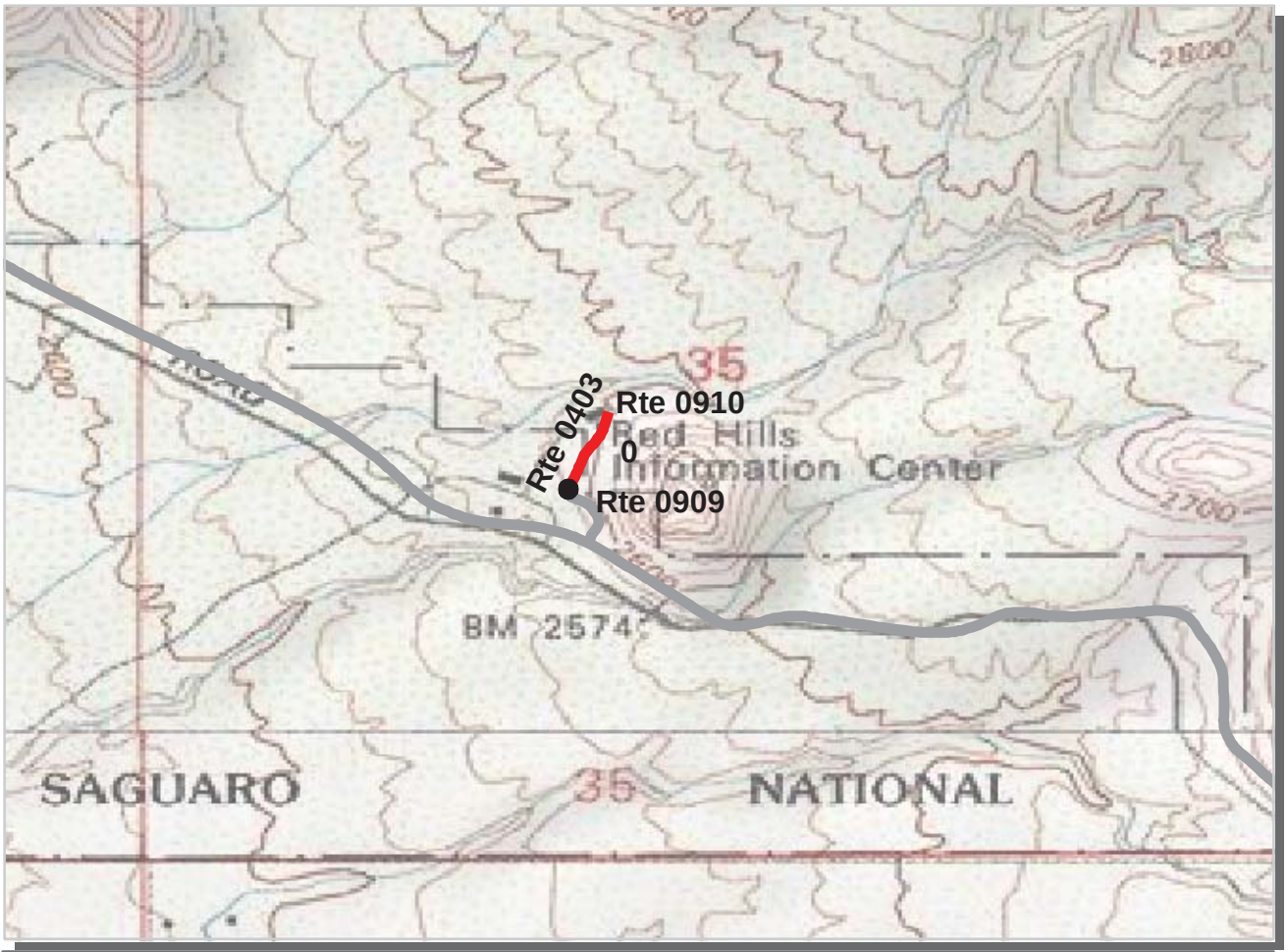
Intermountain Region
SAGU : Saguaro National Park

ROUTE: 0402 Red Hills Administrative Access Road **TOTAL LENGTH: 0.08 Miles**

Section Number	0				
Section Length (mi)	0.08				
AADT	**				
SADT	**				
ADT Date	**				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	21				
Lane Width (ft)	10				
Shoulder Width (ft)	3				
Roadway Condition Information					
PCR (Pavement Condition Rating)	23				
RCI (Roughness Condition Index)	30				
SCR (Surface Condition Rating)	24				
Alligator Cracking Index	100				
Rutting Index	28				
Patching Index	100				
Tranverse Cracking Index	96				
Longitudinal Cracking Index	99				
Shoulder Condition Rating	N/C				
Drainage Condition Rating	N/C				

* NC designates data not collected NA designates not applicable

** See website for traffic data: http://www.efl.fhwa.dot.gov/nps/index.htm



PCR Poor (<=60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100)

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

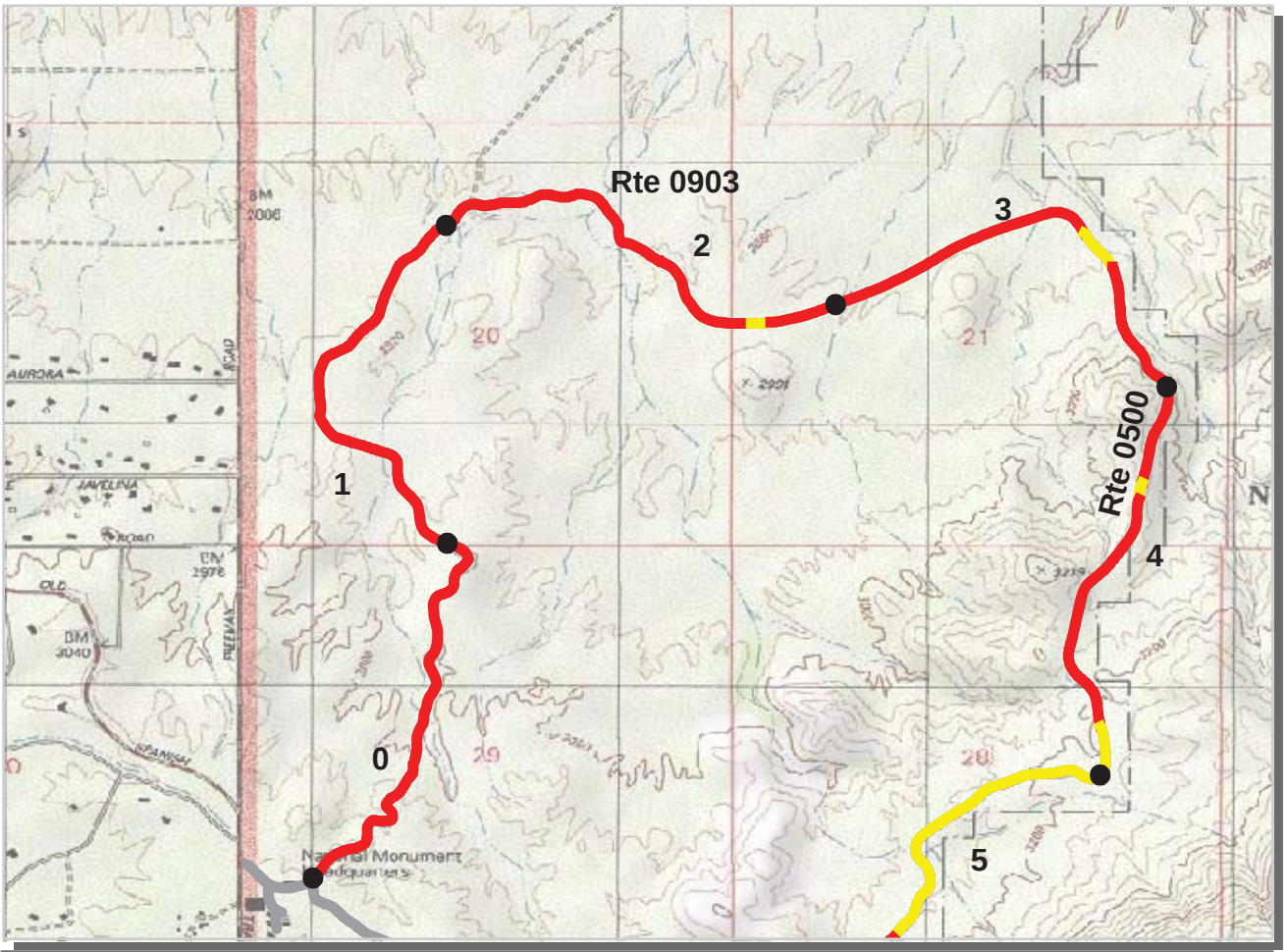
Intermountain Region
SAGU : Saguaro National Park

ROUTE: 0403 Red Hills Maintenance Area Access Road **TOTAL LENGTH: 0.10 Miles**

Section Number	0				
Section Length (mi)	0.10				
AADT	**				
SADT	**				
ADT Date	**				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	19				
Lane Width (ft)	9				
Shoulder Width (ft)	5				
Roadway Condition Information					
PCR (Pavement Condition Rating)	18				
RCI (Roughness Condition Index)	54				
SCR (Surface Condition Rating)	10				
Alligator Cracking Index	100				
Rutting Index	12				
Patching Index	100				
Tranverse Cracking Index	98				
Longitudinal Cracking Index	100				
Shoulder Condition Rating	N/C				
Drainage Condition Rating	N/C				

* NC designates data not collected NA designates not applicable

** See website for traffic data: http://www.efl.fhwa.dot.gov/nps/index.htm



PCR Poor (<=60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100)

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

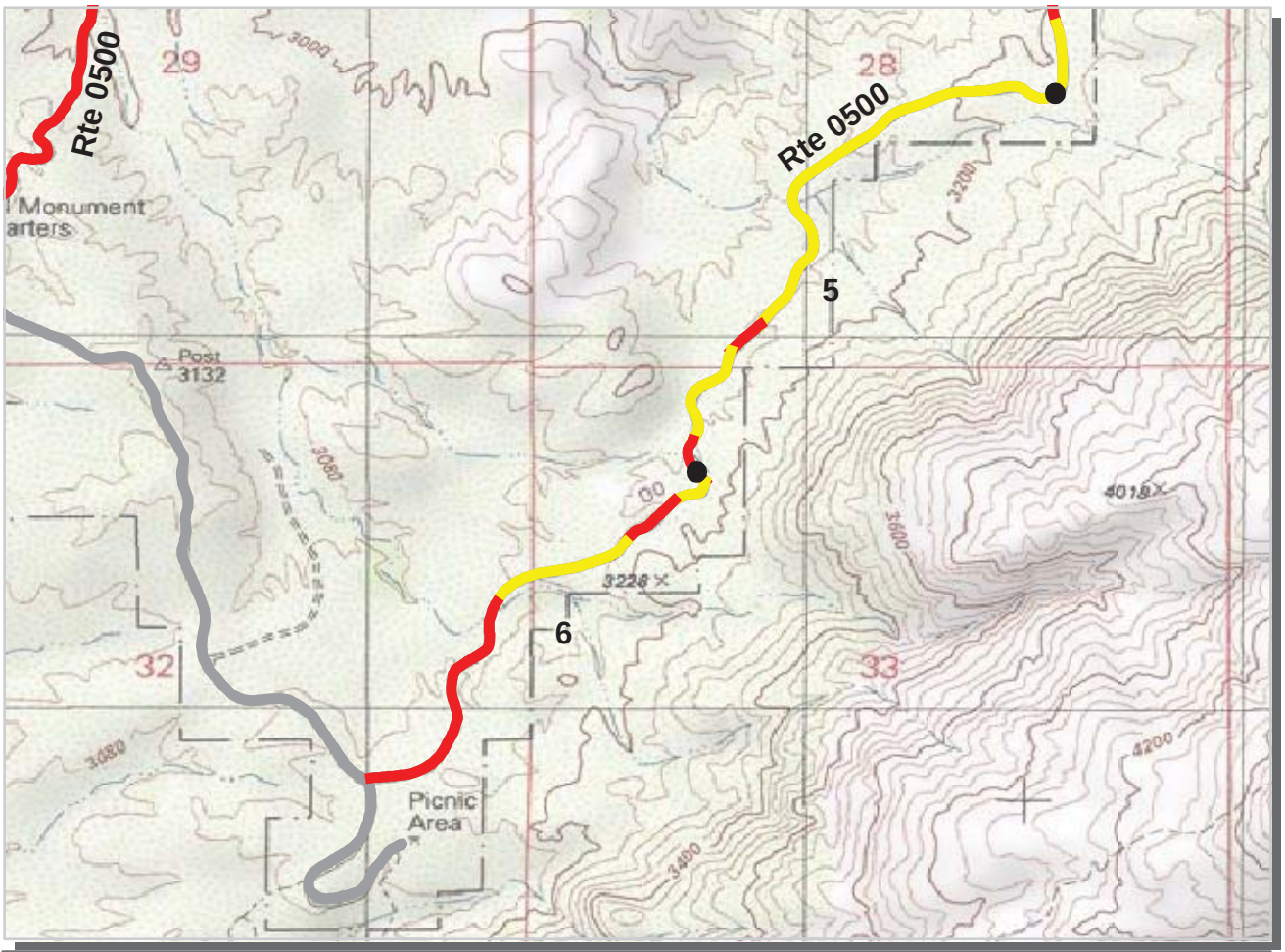
Intermountain Region
SAGU : Saguaro National Park

ROUTE: 0500 Cactus Forest Drive **TOTAL LENGTH: 6.82 Miles**

Section Number	0	1	2	3	4
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
AADT	**				
SADT	**				
ADT Date	**				
Cross Section Information					
Number of Lanes	1	1	1	1	1
Paved Width (ft)	14	10	11	11	13
Lane Width (ft)	14	10	11	11	13
Shoulder Width (ft)	2	0	0	0	3
Roadway Condition Information					
PCR (Pavement Condition Rating)	34	34	33	40	48
RCI (Roughness Condition Index)	32	34	39	49	66
SCR (Surface Condition Rating)	35	34	30	36	40
Alligator Cracking Index	100	100	100	100	100
Rutting Index	41	38	39	40	42
Patching Index	100	100	100	100	100
Tranverse Cracking Index	94	95	90	95	98
Longitudinal Cracking Index	99	99	99	99	99
Shoulder Condition Rating	N/C	N/A	N/A	N/A	N/C
Drainage Condition Rating	N/C	N/C	N/C	N/C	N/C

* NC designates data not collected NA designates not applicable

** See website for traffic data: http://www.efl.fhwa.dot.gov/nps/index.htm



PCR Poor (<=60) Fair (61 - 84) Good (85 - 94) Excellent (95 - 100)

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

Intermountain Region
SAGU : Saguaro National Park

ROUTE: 0500 Cactus Forest Drive **TOTAL LENGTH: 6.82 Miles**

Section Number	5	6			
Section Length (mi)	1.00	0.82			
AADT	**				
SADT	**				
ADT Date	**				
Cross Section Information					
Number of Lanes	1	1			
Paved Width (ft)	11	12			
Lane Width (ft)	11	12			
Shoulder Width (ft)	0	4			
Roadway Condition Information					
PCR (Pavement Condition Rating)	65	55			
RCI (Roughness Condition Index)	75	66			
SCR (Surface Condition Rating)	59	49			
Alligator Cracking Index	100	100			
Rutting Index	61	57			
Patching Index	100	100			
Tranverse Cracking Index	98	93			
Longitudinal Cracking Index	99	99			
Shoulder Condition Rating	N/A	N/C			
Drainage Condition Rating	N/C	N/C			

* NC designates data not collected NA designates not applicable

** See website for traffic data: http://www.efl.fhwa.dot.gov/nps/index.htm

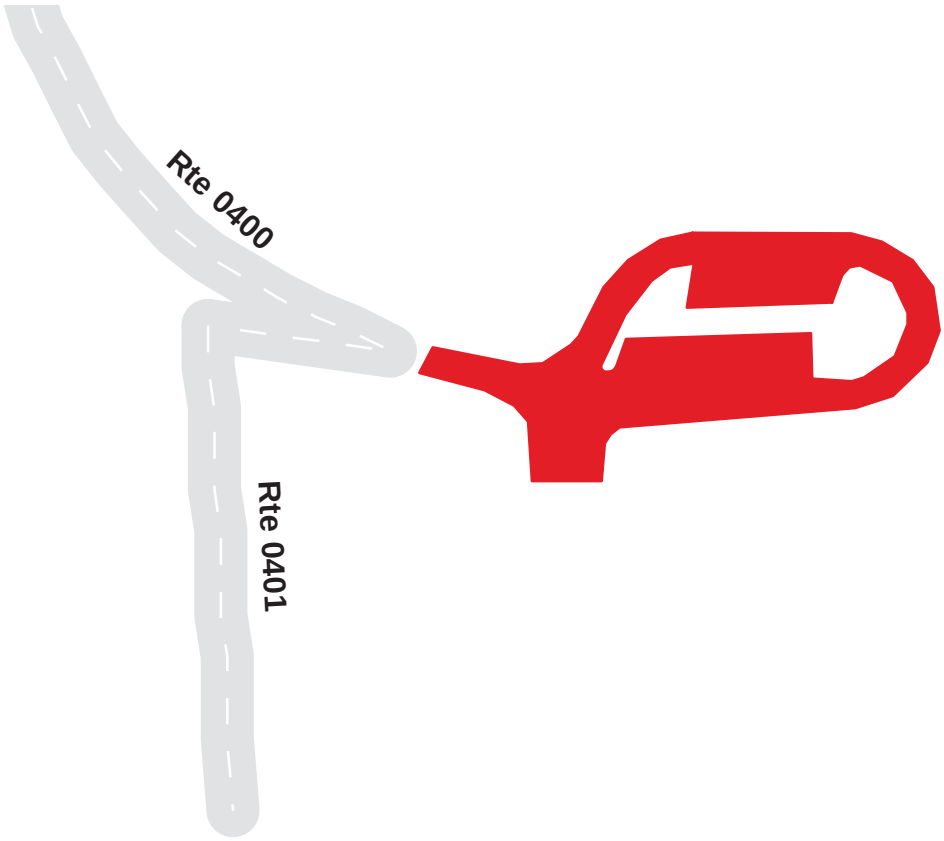
SAGU: Manually Rated Paved Route Condition Rating Sheets

No data available for this section

Saguaro National Park
Route 0900
Headquarters Parking Area
From End of Route 0400

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0900	NonPublic	11/30/2001	8856	0.15	NC	GOOD / 90

* Lane miles are based on 11' lane widths



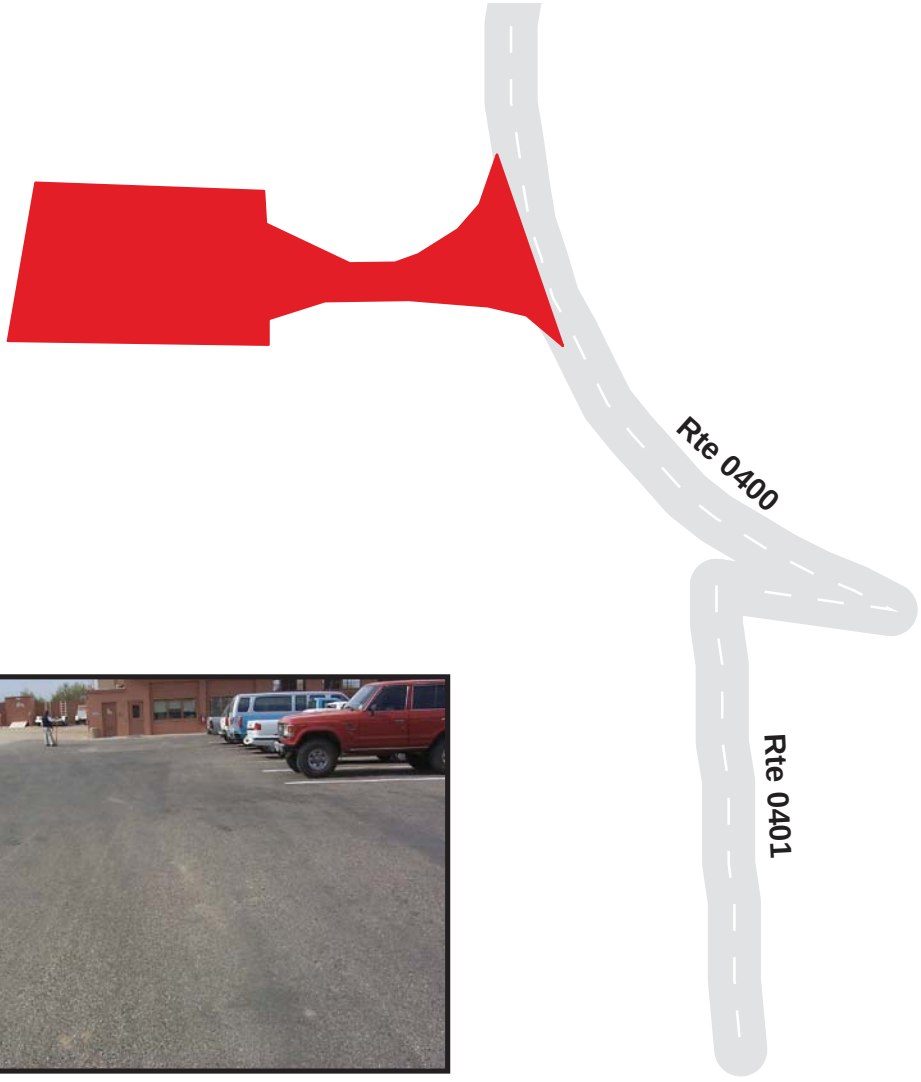
100 50 0 100
Feet

N

Saguaro National Park
Route 0901
Headquarters Maintenance Area Parking
From Route 0400

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0901	NonPublic	11/30/2001	10339	0.18	NC	GOOD / 90

* Lane miles are based on 11' lane widths

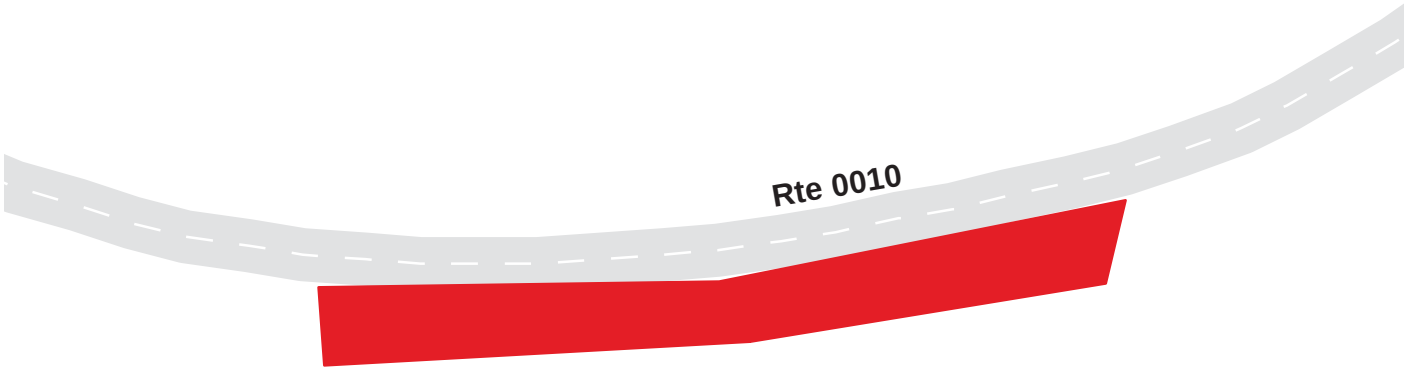


Saguaro National Park
Route 0902A

East Side Visitor Center Parking A
From Route 0010 on Right

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0902A	Public	11/30/2001	3909	0.07	NC	GOOD / 90

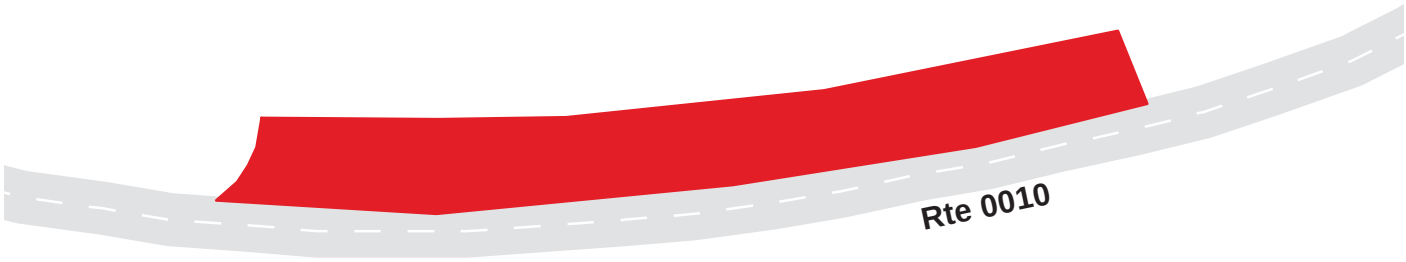
* Lane miles are based on 11' lane widths



Saguaro National Park
Route 0902B
East Side Visitor Center Parking B
From Route 0010 on Left

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0902B	Public	11/30/2001	3505	0.06	NC	GOOD / 90

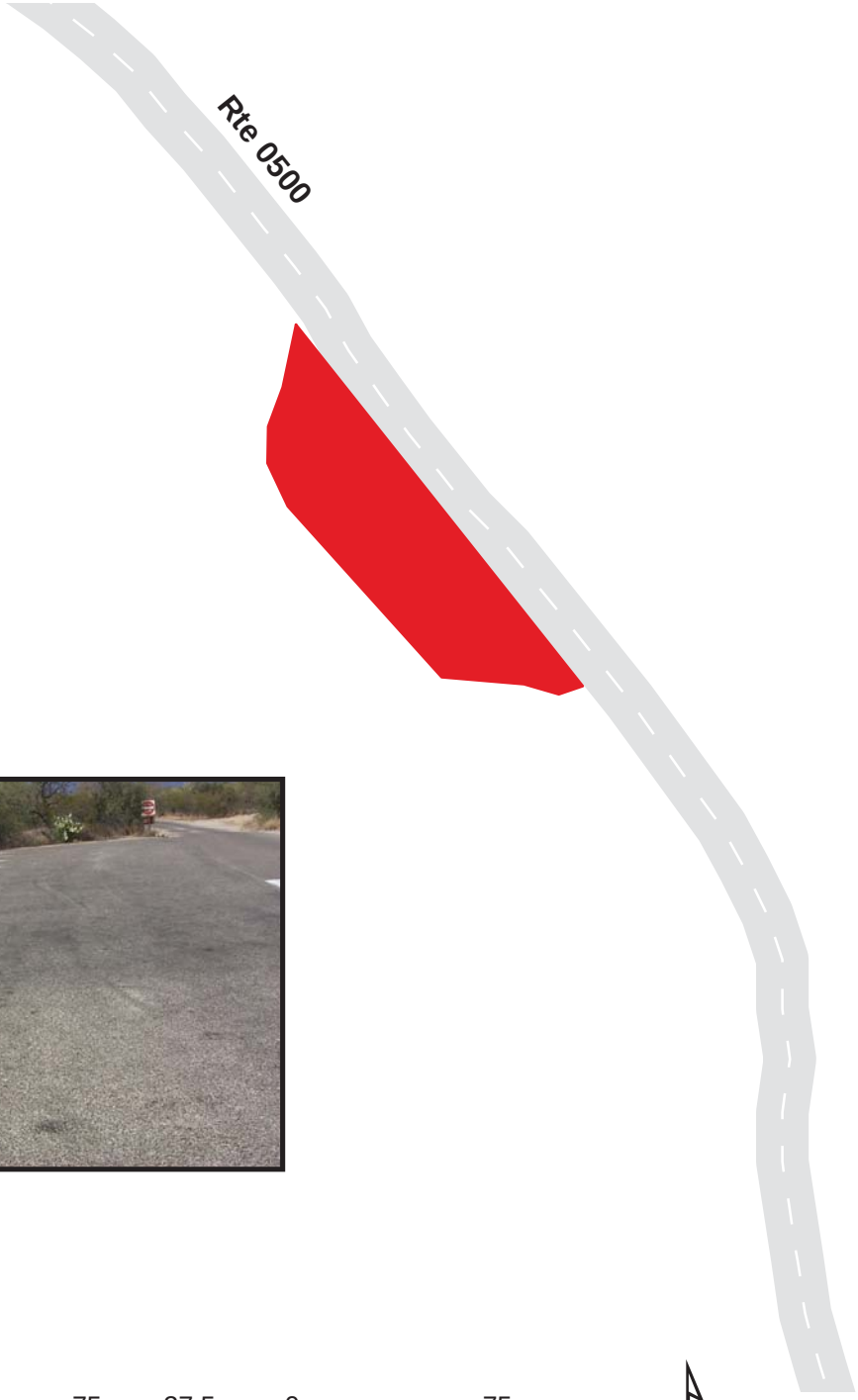
* Lane miles are based on 11' lane widths



Saguaro National Park
Route 0903
Desert Ecology Trailhead Parking
From Route 0500

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0903	Public	11/27/2001	4230	0.07	NC	GOOD / 90

* Lane miles are based on 11' lane widths



Saguaro National Park
Route 0904
Freeman Homestead Trailhead Parking
From Route 0100

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0904	Public	11/27/2001	2222	0.04	NC	FAIR / 73

* Lane miles are based on 11' lane widths

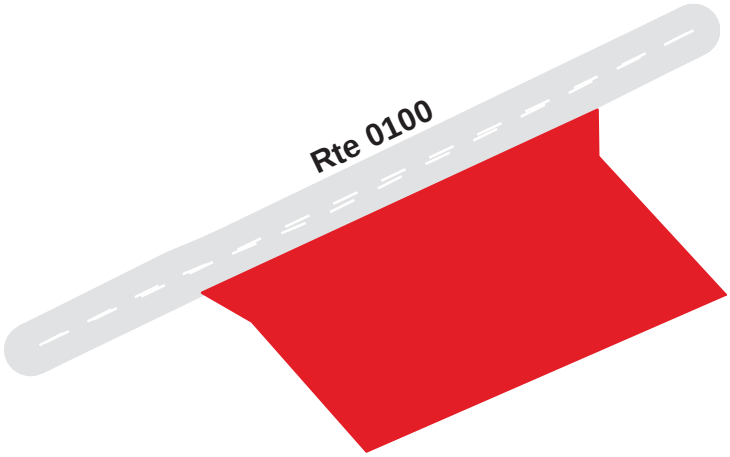
50 25 0 50
Feet

N

Saguaro National Park
Route 0905
Tanque Verde Trailhead Parking
From Route 0100

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0905	Public	11/27/2001	923	0.02	NC	FAIR / 73

* Lane miles are based on 11' lane widths



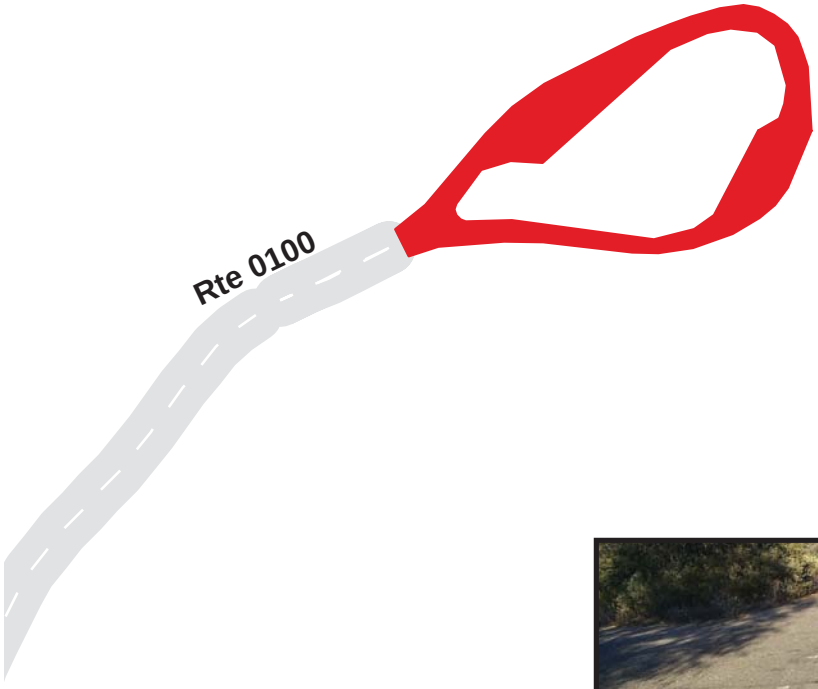
25 12.5 0 25
Feet

N

Saguaro National Park
Route 0906
Javelina Picnic Area Parking
From End of Route 0100

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0906	Public	11/27/2001	11613	0.20	NC	GOOD / 90

* Lane miles are based on 11' lane widths



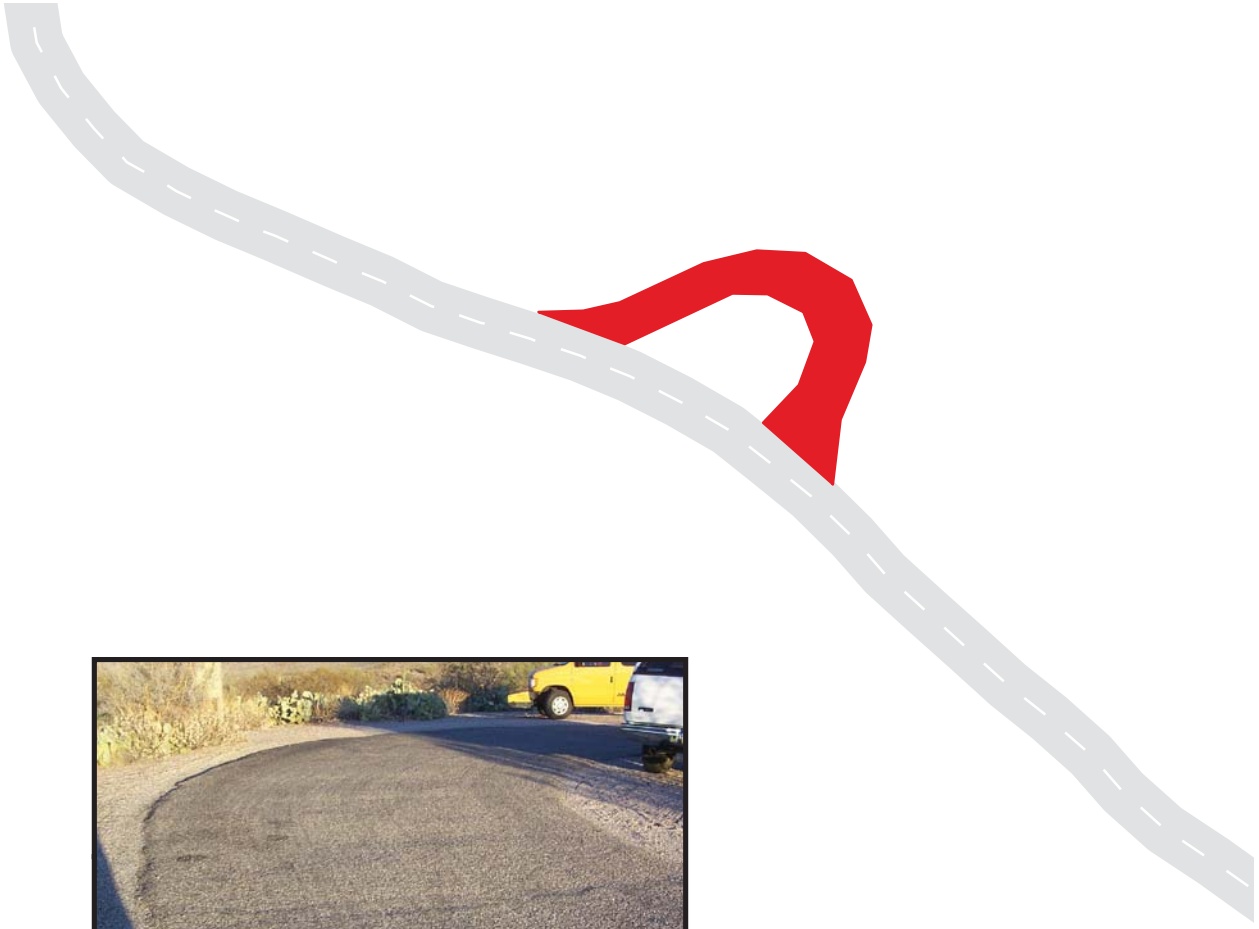
160 80 0 160
Feet

N

Saguaro National Park
Route 0907
Tucson Basin Information Parking
From Route 0100

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0907	Public	11/27/2001	1955	0.03	NC	FAIR / 73

* Lane miles are based on 11' lane widths



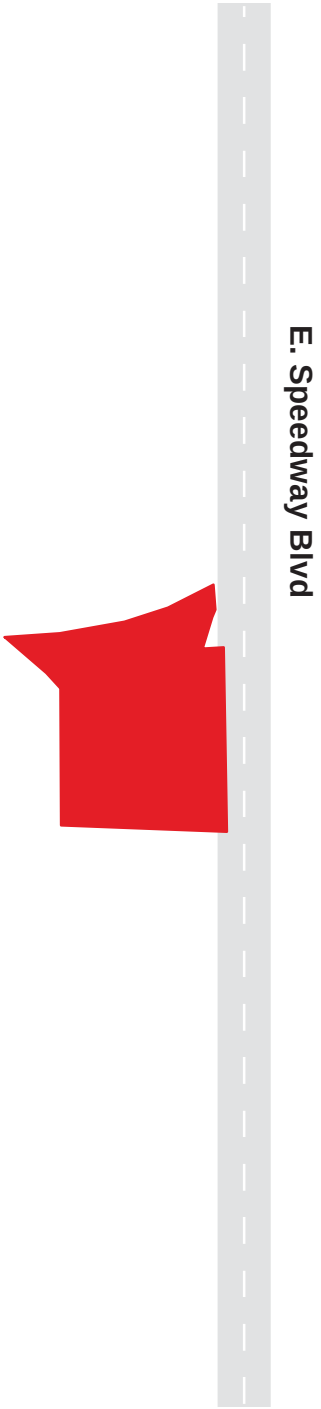
75 37.5 0 75
Feet

N

Saguaro National Park
Route 0908
Douglas Springs Trailhead Parking
From East Speedway Boulevard

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0908	Public	11/30/2001	7648	0.13	NC	POOR / 45

* Lane miles are based on 11' lane widths



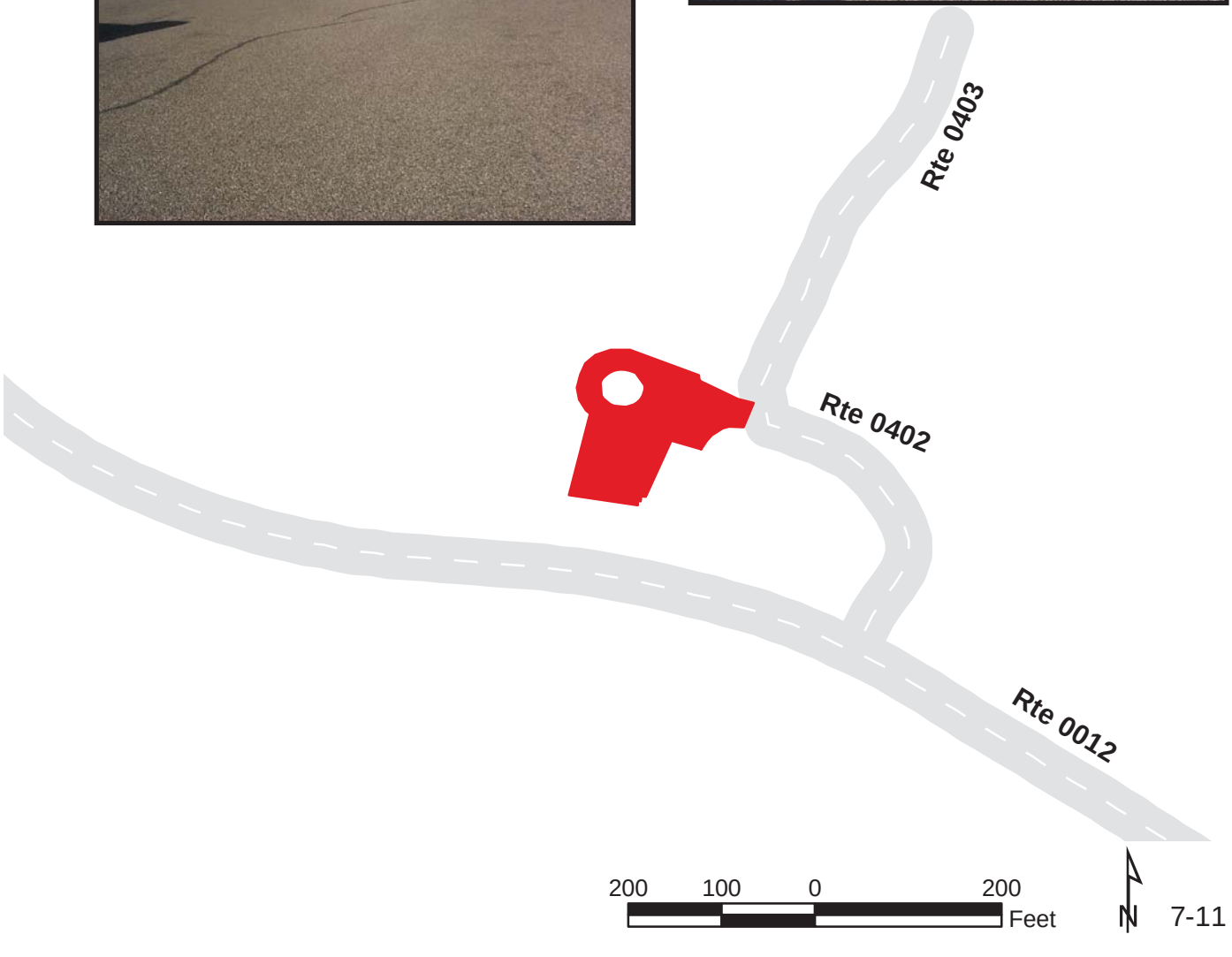
120 60 0 120
Feet

N

Saguaro National Park
Route 0909
Red Hills Administrative Parking
From Route 0402

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0909	NonPublic	11/30/2001	14992	0.26	OC	GOOD / 90

* Lane miles are based on 11' lane widths



Saguaro National Park
Route 0910
Red Hills Maintenance Area Parking
From End of Route 0403

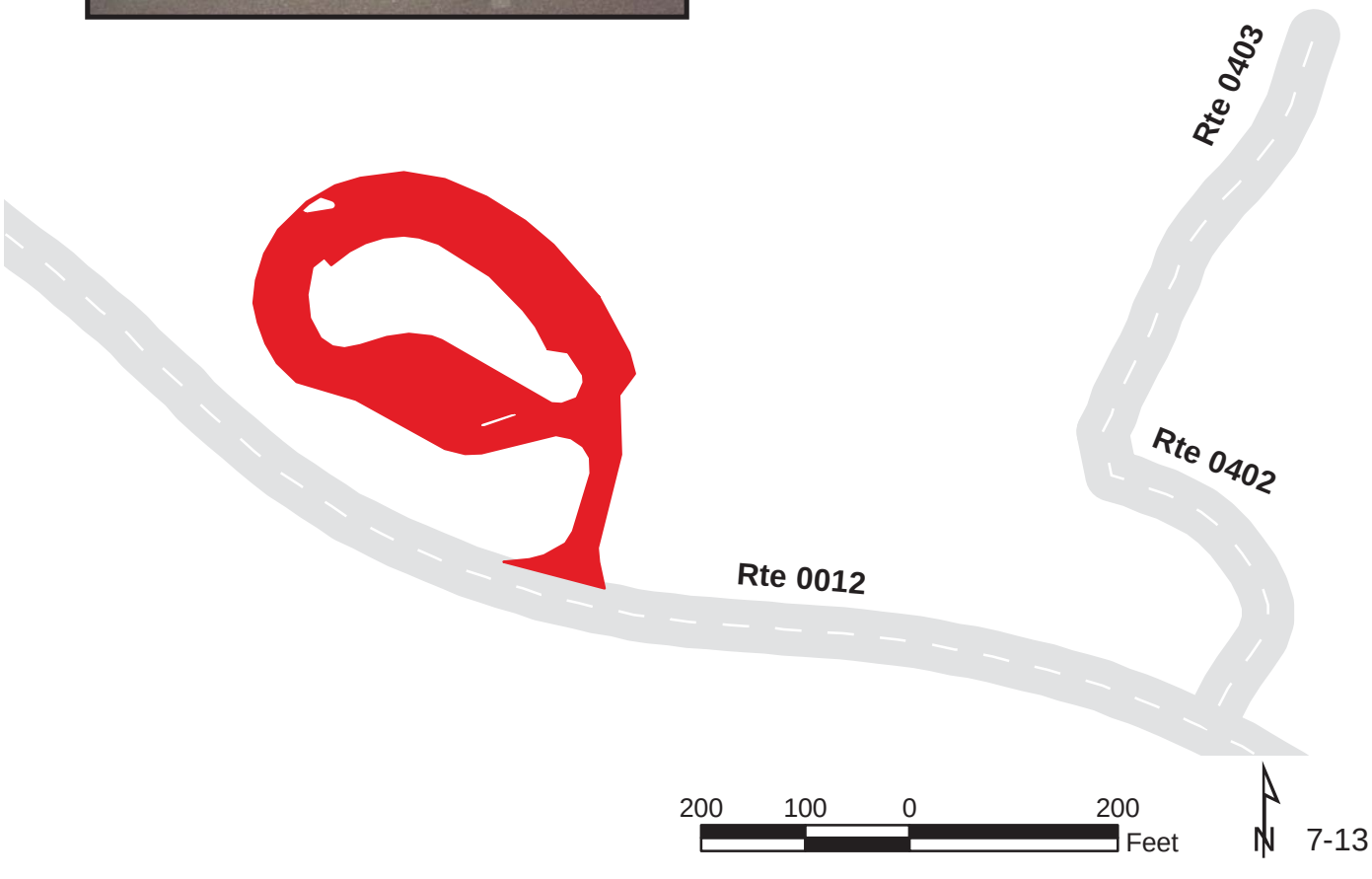
Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0910	NonPublic	11/30/2001	31999	0.55	NC	GOOD / 90

* Lane miles are based on 11' lane widths

Saguaro National Park
Route 0911
Red Hills Visitor Center Parking
From Route 0012

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0911	Public	11/30/2001	44805	0.77	AS	GOOD / 90

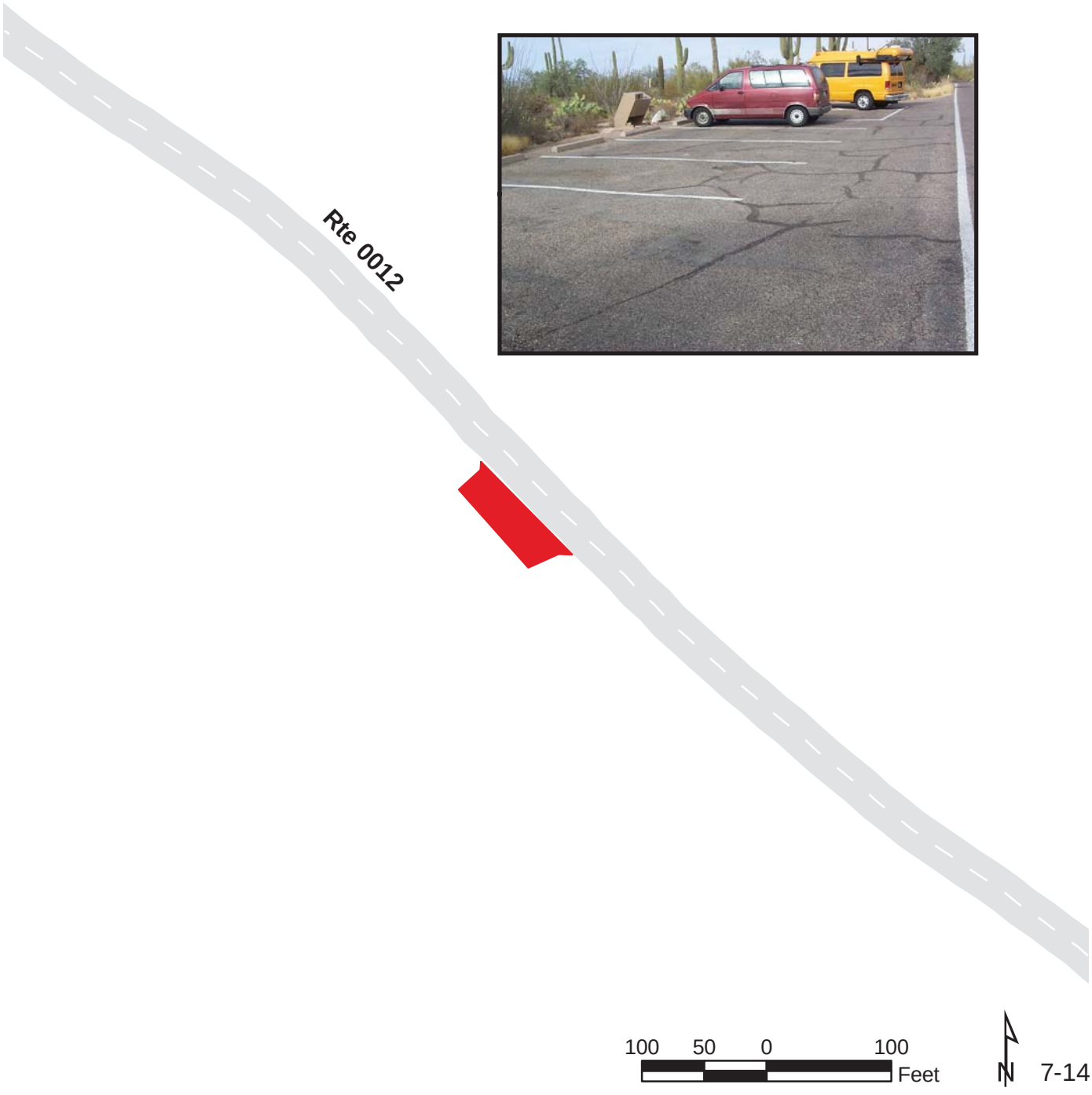
* Lane miles are based on 11' lane widths



Saguaro National Park
Route 0912
Desert Discovery Nature Trail Parking
From Route 0012

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0912	Public	11/30/2001	2297	0.04	OC	FAIR / 73

* Lane miles are based on 11' lane widths



Saguaro National Park
Route 0913
Wildlife Waterhole Parking
From Route 0012

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0913	Public	11/30/2001	2997	0.05	NC	POOR / 45

* Lane miles are based on 11' lane widths

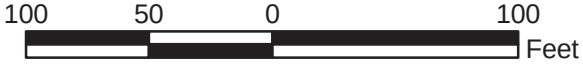
100 50 0 100
Feet

N

Saguaro National Park
Route 0921
Desert View Parking
From Route 0012

Route	Public / NonPublic	Date Visited	Area (sq ft)	Lane Miles *	Surface Type	Condition / PCR
0921	Public	10/17/2003	1501	0.03	OC	FAIR / 73

* Lane miles are based on 11' lane widths



SAGU: PARKWIDE MAINTENANCE FEATURES SUMMARY

FEATURE	PARK TOTAL	UNIT
BRIDGE	0	EACH
CATTLE GUARD	0	EACH
CULVERT	71	EACH
CURB	993	LINEAR FEET
DROP INLET	1	EACH
GUARD WALL	0	LINEAR FEET
GUARDRAIL	0	LINEAR FEET
INTERSECTION	57	EACH
LOW WATER CROSSING	1	EACH
OVERHEAD SIGN	0	EACH
PARK BOUNDARY	0	EACH
PAVED DITCH	0	LINEAR FEET
PULLOUT	15	EACH
RAILROAD CROSSING	0	EACH
RETAINING WALL	6	EACH
STATE BOUNDARY	0	EACH
TRAFFIC LIGHT	0	EACH
TUNNEL	0	EACH
TURNOUT	0	LINEAR FEET

SAGU: ROUTE MAINTENANCE FEATURES SUMMARY

FEATURE	ROUTE 0010 RINCON MOUNTAIN DISTRICT ENTRANCE ROAD	ROUTE 0012 KINNEY ROAD	ROUTE 0100 JAVELINA PICNIC AREA ACCESS ROAD	ROUTE 0101 GOLDEN GATE ROAD	ROUTE 0102 PICTURE ROCKS ROAD	ROUTE 0200 MICA VIEW PICNIC AREA ACCESS ROAD	UNIT
BRIDGE	0	0	0	0	0	0	EACH
CATTLE GUARD	0	0	0	0	0	0	EACH
CULVERT	0	24	1	0	25	0	EACH
CURB	37	238	0	0	718	0	LINEAR FEET
DROP INLET	0	0	0	0	0	0	EACH
GUARD WALL	0	0	0	0	0	0	LINEAR FEET
GUARDRAIL	0	0	0	0	0	0	LINEAR FEET
INTERSECTION	4	13	9	0	2	0	EACH
LOW WATER CROSSING	0	1	0	0	0	0	EACH
OVERHEAD SIGN	0	0	0	0	0	0	EACH
PARK BOUNDARY	0	0	0	0	0	0	EACH
PAVED DITCH	0	0	0	0	0	0	LINEAR FEET
PULLOUT	0	2	1	0	1	0	EACH
RAILROAD CROSSING	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	0	0	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
TURNOUT	0	0	0	0	0	0	LINEAR FEET

SAGU: ROUTE MAINTENANCE FEATURES SUMMARY

FEATURE	ROUTE 0201 CAM-BOH PICNIC AREA ACCESS ROAD	ROUTE 0202 EZ-KIM-IN-ZIN PICNIC AREA ACCESS ROAD	ROUTE 0203 SIGNAL HILL PICNIC AREA ACCESS ROAD	ROUTE 0204 SUS PICNIC AREA ACCESS ROAD	ROUTE 0300 HOHOKAM ROAD	ROUTE 0400 HEADQUARTERS ACCESS ROAD	UNIT
BRIDGE	0	0	0	0	0	0	EACH
CATTLE GUARD	0	0	0	0	0	0	EACH
CULVERT	0	0	0	0	0	0	EACH
CURB	0	0	0	0	0	0	LINEAR FEET
DROP INLET	0	0	0	0	0	0	EACH
GUARD WALL	0	0	0	0	0	0	LINEAR FEET
GUARDRAIL	0	0	0	0	0	0	LINEAR FEET
INTERSECTION	0	0	0	0	0	5	EACH
LOW WATER CROSSING	0	0	0	0	0	0	EACH
OVERHEAD SIGN	0	0	0	0	0	0	EACH
PARK BOUNDARY	0	0	0	0	0	0	EACH
PAVED DITCH	0	0	0	0	0	0	LINEAR FEET
PULLOUT	0	0	0	0	0	0	EACH
RAILROAD CROSSING	0	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	0	0	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
TURNOUT	0	0	0	0	0	0	LINEAR FEET

SAGU: ROUTE MAINTENANCE FEATURES SUMMARY

FEATURE	ROUTE 0401 RESIDENCE ACCESS ROAD	ROUTE 0402 RED HILLS ADMINISTRATIVE ACCESS ROAD	ROUTE 0403 RED HILLS MAINTENANCE AREA ACCESS ROAD	ROUTE 0404 MADRONA ACCESS ROAD	ROUTE 0500 CACTUS FOREST DRIVE	UNIT
BRIDGE	0	0	0	0	0	EACH
CATTLE GUARD	0	0	0	0	0	EACH
CULVERT	0	0	0	0	21	EACH
CURB	0	0	0	0	0	LINEAR FEET
DROP INLET	0	0	1	0	0	EACH
GUARD WALL	0	0	0	0	0	LINEAR FEET
GUARDRAIL	0	0	0	0	0	LINEAR FEET
INTERSECTION	6	4	3	0	11	EACH
LOW WATER CROSSING	0	0	0	0	0	EACH
OVERHEAD SIGN	0	0	0	0	0	EACH
PARK BOUNDARY	0	0	0	0	0	EACH
PAVED DITCH	0	0	0	0	0	LINEAR FEET
PULLOUT	0	0	0	0	11	EACH
RAILROAD CROSSING	0	0	0	0	0	EACH
RETAINING WALL	0	0	0	0	6	EACH
STATE BOUNDARY	0	0	0	0	0	EACH
TRAFFIC LIGHT	0	0	0	0	0	EACH
TUNNEL	0	0	0	0	0	EACH
TURNOUT	0	0	0	0	0	LINEAR FEET

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0010 : RINCON MOUNTAIN DISTRICT ENTRANCE ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000			ROUTE BEGINS AT WEST BOUNDARY
0.073	0.073	INTERSECTION	RIGHT	RTE 400
0.106	0.106	INTERSECTION	RIGHT	RTE 902A
0.112	0.112	INTERSECTION	LEFT	RTE 902B
0.139	0.143	CURB	LEFT	
0.147	0.150	CURB	LEFT	
0.167	0.167	INTERSECTION	RIGHT	RTE 500
0.170	0.170			ROUTE ENDS AT ROUTE 500

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0012 : KINNEY ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000			ROUTE BEGINS AT SOUTH BOUNDARY
0.005	0.005	INTERSECTION	LEFT	SOUTH BOUNDARY
0.005	0.005	INTERSECTION	RIGHT	SOUTH BOUNDARY
0.024	0.024	CULVERT	N/A	
0.075	0.075	CULVERT	N/A	
0.125	0.125	CULVERT	N/A	
0.186	0.186	CULVERT	N/A	
0.262	0.262	CULVERT	N/A	
0.278	0.278	CULVERT	N/A	
0.319	0.319	CULVERT	N/A	
0.386	0.386	CULVERT	N/A	
0.683	0.683	INTERSECTION	LEFT	NPS PARKING
0.723	0.723	CULVERT	N/A	
0.836	0.836	INTERSECTION	RIGHT	RTE 402
0.862	0.862	CULVERT	N/A	
0.911	0.933	CURB	RIGHT	
0.919	0.942	CURB	LEFT	
0.938	0.938	INTERSECTION	LEFT	
0.942	0.942	INTERSECTION	RIGHT	RTE 911
1.014	1.014	INTERSECTION	LEFT	
1.063	1.063	LOW WATER CROSSING	RIGHT	
1.296	1.296	INTERSECTION	LEFT	RTE 913
1.722	1.739	PULLOUT	LEFT	
1.811	1.811	CULVERT	N/A	
1.828	1.828	INTERSECTION	LEFT	
1.859	1.859	CULVERT	N/A	
1.929	1.929	CULVERT	N/A	

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0012 : KINNEY ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
1.969	1.969	INTERSECTION	LEFT	RTE 912
2.011	2.011	CULVERT	N/A	
2.053	2.053	CULVERT	N/A	
2.187	2.187	CULVERT	N/A	
2.270	2.270	CULVERT	N/A	
2.376	2.376	CULVERT	N/A	
2.414	2.414	CULVERT	N/A	
2.442	2.442	CULVERT	N/A	
2.466	2.466	CULVERT	N/A	
2.495	2.495	CULVERT	N/A	
2.506	2.533	PULLOUT	RIGHT	
2.541	2.541	CULVERT	N/A	
2.557	2.557	INTERSECTION	RIGHT	RTE 300
2.646	2.646	CULVERT	N/A	
2.747	2.747	INTERSECTION	LEFT	SANDARIO ROAD
2.750	2.750			ROUTE ENDS AT SANDARIO ROAD
2.761	2.761	INTERSECTION	RIGHT	SANDARIO ROAD

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0100 : JAVELINA PICNIC AREA ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000			ROUTE BEGINS AT ROUTE 010
0.001	0.001	INTERSECTION	RIGHT	RTE 010
0.007	0.007	INTERSECTION	LEFT	RTE 010
0.077	0.077	INTERSECTION	LEFT	RTE 907
0.089	0.089	INTERSECTION	LEFT	RTE 907
1.303	1.303	INTERSECTION	LEFT	RTE 500
1.391	1.391	INTERSECTION	RIGHT	RTE 904
1.399	1.410	PULLOUT	LEFT	
1.410	1.410	INTERSECTION	RIGHT	RTE 904
1.592	1.592	CULVERT	N/A	
1.637	1.637	INTERSECTION	RIGHT	RTE 905
1.647	1.647	INTERSECTION	LEFT	RTE 906
1.650	1.650			ROUTE ENDS AT ROUTE 906

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0101 : GOLDEN GATE ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
		NO MAINTENANCE FEATURES IN ROUTE.		
0.000	0.000			ROUTE BEGINS AT SANDARIO ROAD
0.000	0.000			ROUTE ENDS AT ROUTE 102

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0102 : PICTURE ROCKS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000			ROUTE BEGINS AT WEST BOUNDARY
0.033	0.033	INTERSECTION	RIGHT	RTE 101
0.065	0.065	CULVERT	N/A	
0.140	0.140	CULVERT	N/A	
0.260	0.260	CULVERT	N/A	
0.328	0.328	CULVERT	N/A	
0.360	0.360	CULVERT	N/A	
0.434	0.434	CULVERT	N/A	
0.483	0.483	CULVERT	N/A	
0.543	0.543	CULVERT	N/A	
0.644	0.644	CULVERT	N/A	
0.692	0.692	INTERSECTION	RIGHT	RTE 201
1.041	1.041	CULVERT	N/A	
1.101	1.101	CULVERT	N/A	
1.163	1.163	CULVERT	N/A	
1.284	1.284	CULVERT	N/A	
1.321	1.321	CULVERT	N/A	
1.592	1.592	CULVERT	N/A	
1.670	1.670	CULVERT	N/A	
1.782	1.782	CULVERT	N/A	
1.841	1.841	CULVERT	N/A	
1.885	1.921	CURB	LEFT	
1.953	1.953	CULVERT	N/A	
2.050	2.050	CULVERT	N/A	
2.386	2.410	PULLOUT	LEFT	
2.459	2.497	CURB	LEFT	
2.498	2.560	CURB	LEFT	

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0102 : PICTURE ROCKS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
2.502	2.502	CULVERT	N/A	
2.598	2.598	CULVERT	N/A	
2.802	2.802	CULVERT	N/A	
2.836	2.836	CULVERT	N/A	
2.960	2.960	CULVERT	N/A	
3.000	3.000			ROUTE ENDS AT EAST BOUNDARY

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0200 : MICA VIEW PICNIC AREA ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
		NO MAINTENANCE FEATURES IN ROUTE.		
0.000	0.000			ROUTE BEGINS AT ROUTE 500
0.000	0.000			ROUTE ENDS AT ROUTE 919

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0201 : CAM-BOH PICNIC AREA ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
		NO MAINTENANCE FEATURES IN ROUTE.		
0.000	0.000			ROUTE BEGINS AT ROUTE 102
0.000	0.000			ROUTE ENDS AT ROUTE 913

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0202 : EZ-KIM-IN-ZIN PICNIC AREA ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
		NO MAINTENANCE FEATURES IN ROUTE.		
0.000	0.000			ROUTE BEGINS AT ROUTE 101
0.000	0.000			ROUTE ENDS AT ROUTE 914

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0203 : SIGNAL HILL PICNIC AREA ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
		NO MAINTENANCE FEATURES IN ROUTE.		
0.000	0.000			ROUTE BEGINS AT ROUTE 101
0.000	0.000			ROUTE ENDS AT ROUTE 915

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0204 : SUS PICNIC AREA ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
		NO MAINTENANCE FEATURES IN ROUTE.		
0.000	0.000			ROUTE BEGINS AT ROUTE 300
0.000	0.000			ROUTE ENDS AT ROUTE 916

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0300 : HOHOKAM ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
		NO MAINTENANCE FEATURES IN ROUTE.		
0.000	0.000			ROUTE BEGINS AT ROUTE 012
0.000	0.000			ROUTE ENDS AT ROUTE 101

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0400 : HEADQUARTERS ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000			ROUTE BEGINS AT ROUTE 010
0.002	0.002	INTERSECTION	RIGHT	ROUTE 010
0.038	0.038	INTERSECTION	RIGHT	RTE 901
0.062	0.062	INTERSECTION	RIGHT	NPS DRIVEWAY
0.069	0.069	INTERSECTION	RIGHT	RTE 401
0.090	0.090			ROUTE ENDS AT ROUTE 900
0.091	0.091	INTERSECTION	LEFT	RTE 900

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0401 : RESIDENCE ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000			ROUTE BEGINS AT ROUTE 400
0.002	0.002	INTERSECTION	RIGHT	RTE 400
0.008	0.008	INTERSECTION	LEFT	RTE 400
0.009	0.009	INTERSECTION	LEFT	NPS DRIVEWAY
0.019	0.019	INTERSECTION	RIGHT	
0.039	0.039	INTERSECTION	RIGHT	NPS UNPAVED DRIVEWAY
0.053	0.053	INTERSECTION	RIGHT	NPS DRIVEWAY
0.060	0.060			ROUTE ENDS AT END OF PAVEMENT

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0402 : RED HILLS ADMINISTRATIVE ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000			ROUTE BEGINS AT ROUTE 012
0.002	0.002	INTERSECTION	LEFT	ROUTE 012
0.002	0.002	INTERSECTION	RIGHT	ROUTE 012
0.064	0.064	INTERSECTION	RIGHT	RTE 403
0.080	0.080			ROUTE ENDS AT ROUTE 909
0.083	0.083	INTERSECTION	LEFT	RTE 909

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0403 : RED HILLS MAINTENANCE AREA ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000			ROUTE BEGINS AT ROUTE 402
0.001	0.001	INTERSECTION	LEFT	RTE 402
0.007	0.007	INTERSECTION	RIGHT	RTE 402
0.037	0.037	INTERSECTION	RIGHT	NPS DRIVEWAY
0.075	0.075	DROP INLET	RIGHT	
0.100	0.100			ROUTE ENDS AT ROUTE 910

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0404 : MADRONA ACCESS ROAD

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
		NO MAINTENANCE FEATURES IN ROUTE.		
0.000	0.000			ROUTE BEGINS AT GATE AT SOUTH BOUNDARY
0.000	0.000			ROUTE ENDS AT RANGER STATION

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0500 : CACTUS FOREST DRIVE

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.000	0.000			ROUTE BEGINS AT ROUTE 010
0.006	0.006	INTERSECTION	RIGHT	ROUTE 010
0.600	0.614	PULLOUT	RIGHT	
0.689	0.704	PULLOUT	RIGHT	
0.799	0.815	PULLOUT	LEFT	
0.929	0.945	PULLOUT	RIGHT	
1.156	1.186	PULLOUT	LEFT	
1.280	1.289	PULLOUT	RIGHT	
1.311	1.311	CULVERT	N/A	
1.408	1.408	CULVERT	N/A	
1.571	1.596	PULLOUT	LEFT	
1.659	1.677	PULLOUT	LEFT	
1.711	1.711	CULVERT	N/A	
2.077	2.077	INTERSECTION	LEFT	ROUTE 919
2.387	2.387	INTERSECTION	RIGHT	ROUTE 903
3.468	3.485	PULLOUT	LEFT	
3.475	3.475	CULVERT	N/A	
3.493	3.493	INTERSECTION	LEFT	
3.818	3.874	RETAINING WALL	LEFT	
3.887	3.906	RETAINING WALL	LEFT	
3.932	4.054	RETAINING WALL	LEFT	
4.049	4.049	INTERSECTION	LEFT	
4.146	4.182	RETAINING WALL	LEFT	
4.256	4.264	PULLOUT	LEFT	
4.346	4.363	PULLOUT	RIGHT	
4.524	4.562	RETAINING WALL	LEFT	
4.587	4.611	RETAINING WALL	LEFT	

SAGU: ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 0500 : CACTUS FOREST DRIVE

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
4.790	4.790	CULVERT	N/A	
4.874	4.874	CULVERT	N/A	
4.946	4.946	CULVERT	N/A	
5.002	5.002	CULVERT	N/A	
5.019	5.019	INTERSECTION	LEFT	
5.034	5.034	INTERSECTION	LEFT	
5.144	5.144	CULVERT	N/A	
5.199	5.199	CULVERT	N/A	
5.465	5.465	CULVERT	N/A	
5.608	5.608	CULVERT	N/A	
5.664	5.664	CULVERT	N/A	
5.713	5.713	CULVERT	N/A	
5.777	5.777	CULVERT	N/A	
5.823	5.823	CULVERT	N/A	
5.963	5.963	CULVERT	N/A	
6.084	6.084	INTERSECTION	RIGHT	
6.133	6.133	CULVERT	N/A	
6.264	6.264	INTERSECTION	LEFT	
6.275	6.275	INTERSECTION	LEFT	
6.424	6.424	CULVERT	N/A	
6.490	6.490	CULVERT	N/A	
6.498	6.498	CULVERT	N/A	
6.808	6.808	INTERSECTION	LEFT	RTE 100
6.820	6.820			ROUTE ENDS AT ROUTE 100

APPENDIX A: GLOSSARY OF TERMS AND ABBREVIATIONS

TERM OR ABBREVIATION	DESCRIPTION OR DEFINITION
8670	Numeric Code for Saguaro National Park
AADT	Annually Adjusted Daily Traffic. Average daily traffic adjusted for the term period comprising 80% of annual visitation
CRS	Condition Rating Sheets. (Section 5)
Drainage Condition Rating	A visual rating (Good, Poor) of the drainage condition. (see Section 10)
Excellent	Excellent rating with an index value of 95 or greater
Fair	Fair rating with an index value between 61 and 84
Func. Class	Functional Classification (see Route ID, Section 4)
Good	Good rating with an index value between 85 and 94
IRI	International Roughness Index
Lane Width	Distance from road centerline to fogline, or from centerline to edge-of-pavement when no fogline exists
MRR	Manually Rated Route
NA	Not Applicable
NC	Not Collected
Paved Width	Distance from edge-of-pavement to edge-of-pavement
PCR	Pavement Condition Rating (see Section 10)
Poor	Poor Rating with an index value of 60 or less

RCI	Roughness Condition Index
SADT	Seasonal Annual Daily Traffic. Average daily traffic for the total defined "season"
SAGU	Alpha Code for Saguaro National Park
SCR	Surface Condition Rating (see Section 10)
Shoulder Condition Rating	Visual rating (Good, Poor) of the condition of shoulder. (see Section 10)
Shoulder Width	Distance from fogline to hinge point, or if no fogline, from edge-of-pavement to hinge point

APPENDIX B: DESCRIPTION OF RATING SYSTEM

A numerical roadway rating system is used to describe the overall condition of the paved roadways and paved parking areas. In this system, a numerical rating between 1 and 100 is ascribed to each 0.02 miles of road. This numerical rating is called a Pavement Condition Rating (PCR). A "perfect" road, newly constructed with no surface distresses and a smooth surface, would be assigned a PCR rating of 100. Based on the type, severity, and extent of surface distresses points are deducted from 100 to arrive at the final PCR.

Data is collected on the following distresses and conditions:

- **Alligator Cracking** - a series of interconnecting cracks resembling alligator skin or chicken wire, which can ocurr anywhere in the lane.

- **Longitudinal Cracking** - cracks which are parallel to the pavement centerline or asphalt lay-down direction.

- **Transverse Cracking** - cracks perpendicular to the pavement centerline.

- **Pothole (patch)** - a bowl-shaped hole in the pavement surface. May be patched or not.

- **Rutting** - surface depressions in the wheel paths.

Roughness is collected as International Roughness Index (IRI) and is used in the PCR formula. Roughness is measured in inches of vertical displacement of the vehicle per mile traveled.

A Distress Rating Index value is calculated for each of the individual distresses at the 0.02 mile, or every 105.6 feet.

Rating Index Formulas

Alligator Cracking Index = 100 - [40 * (%low/70 + %medium/30 + %high/10)]
Longitudinal Cracking Index = 100 - [40 * (%low/350 + %medium/200 + %high/75)]
Transverse Cracking Index = 100 – [(20 * (low/15.1 + medium/7.5)) + (40 * (high/1.9))]
Patching Index = 100 - [40 * (%patching / 80)]
Rutting Index: 100-[40*((low/160) + (med/80) + (high/40))]
Roughness Condition Index: (RCI) = $32 * [5 * e^{(-0.0041 * \text{average IRI})}]$

These 0.02 Distress Rating Index values are then averaged over one mile sections for the mile-by-mile Disitress Rating Indexes, Surface Condition Rating (SCR) and Pavement Condition Rating (PCR).

Surface Condition Rating (SCR) = 100 – [(100 – AC_INDEX) + (100 – LC_INDEX) + (100 – TC_INDEX) + (100 – PATCH_INDEX) + (100 – RUT_INDEX)]

Pavement Condition Rating (PCR) = (SCR * 0.60) + (RCI * 0.40)

NOTE: Collection of roughness data is dependant on the data collection vehicle traveling at a minimum speed of 12 mph. In the event that a route cannot be safely traveled at this minimum speed, and results in no roughness data, the SCR only will be calculated.

Parking Lot and Manually Rated Road Condition Rating

Surface Condition Distresses- Chip Seal:

Raveling – loss of surface rock chips revealing previous surface
Bleeding – asphalt or tar is bleeding through to the surface where surface looks slick with asphalt
Rutting
Potholes/Patching

Ratings - Chip Seal:

Excellent – None of the surface affected by the above (recently constructed)
Good – Less than 10% of surface affected by the above
Fair – Between 10% and 40% of surface affected by the above
Poor – More than 40% of surface affected by the above

Surface Condition - Asphalt:

Cracking of any type
Rutting
Potholes/Patching

Ratings - Asphalt:

Excellent – None of the surface affected by the above (recently constructed)
Good – Less than 10% of surface affected by the above
Fair – Between 10% and 40% of surface affected by the above
Poor – More than 40% of surface affected by the above

Index Values of Visual Ratings on Parking Lots and Manually Rated Roads

Excellent	97
Good	90
Fair	73
Poor	45

Drainage Condition Rating Definitions

Good: Minimal overall drainage problems. If funding were available for pavement maintenance, 25% or less is estimated to correct drainage deficiencies.

Poor: Problems exist that jeopardizes the integrity of the road in this section. If funding were available for pavement maintenance, 50% to 100% is estimated to correct drainage deficiencies.

Drainage Condition Rating Criteria

The following are examples of basic criteria to help the rater to identify the different drainage ratings. While in the field, many other flaws will be discovered, but these criteria should give a feel for where the flaws would apply in the ratings.

Good Drainage
Most water clears the road prism adequately with little concern of base saturation.

- X Pavement has minor deficiencies that interrupt water flow.
- X Shoulders are mostly adequate as they relate to surrounding terrain. Shoulder design generally coincides with the drainage design.
- X Curbs have deficiencies, but still function without erosion.
- X Down drains are placed properly, but show signs of some deterioration.
- X Culverts are adequate in numbers and size however, minor deficiencies are evident.
- X Ditches are not paved, but solid and have enough area to maintain and carry required volume of water.

Poor Drainage
This section has areas of inadequate drainage ability that is causing base saturation that could cause a road failure.

- X Pavement grade is irregular and holds dangerous amounts of water (hydroplaning is a concern), or shows massive alligator cracking.
- X Shoulder design induces ponding that encroaches on the pavement (drivers try to avoid ponds).
- X Portions of curbs are missing, allowing water to escape causing erosion.
- X Drop inlets, due to various reasons, are only able to drain 50% or less efficiently.
- X Down drains show signs of water exiting in areas by the down drain causing erosion.
- X Culverts are functionally deficient including size, installation, location, or grade giving water opportunity to saturate the road base.
- X Ditches allow water opportunity to saturate the road base through various reasons such as low places in ditch where design has not allowed for water to drain, little or no room in the road prism for a needed ditch, or water is disappearing within the ditch.

Shoulder Condition Rating Definitions

Good: The shoulder is generally in good functional condition.. If curbs are present, they are functional.

Poor: There is no shoulder because erosion has removed it. If curbs are present, they need to be replaced.

Shoulder Rating Criteria

The following are examples of basic criteria to help the rater to identify the different shoulder ratings. While in the field, many other flaws will be discovered, but these criteria should give a feel for where the flaws would apply in the ratings.

Good Shoulders

- X If shoulder is unpaved drop-offs are less than 1", but grading is required.
- X If shoulder is paved rut depth is less than 1/2", sealed cracks are present, and grading is required.
- X If curbs are present they are functional.

Poor Shoulder

- X If shoulder is unpaved drop-offs are greater than 4" and erosion has removed the shoulder.
- X If shoulder is paved rut depth is greater than 1". Open cracks are greater than 1/4" deep, and erosion has removed the shoulder.
- X If curbs are present they need replacement.
- X If curbs are present they need repairs, and there is erosion behind the curb.

APPENDIX C: DIGITAL IMAGE INFORMATION

All images collected in Cycle 3 are digital images. These images provide the best resolution for identifying sign inventories and pavement evaluations. The images can be viewed with an interactive software program called **Visi-Data**. Each park will have a copy of the Visi-Data program installed in the park for park personnel to access and use.

Only Cycle 3 data can be queried and reviewed using the Visi-Data software program. This program is a multimedia data presentation and analysis tool that can be accessed either at the individual park, park region or at NPS headquarters. The data is organized in a hierarchical manner and presented in tabular and graphical formats. The user is able to perform queries and drill down through the data to find the particular information they are trying to query. Associated digital right-of-way images from the either the LAN, USB port, individual DVD, or from the Visi-web application, can be presented along with the GPS locations.

APPENDIX D: METADATA

ARAN ROUTE GPS DATA

Background information of route spatial data.

GPS Records: GPS data for NPS routes is stored in the MS Access database for the park. The coordinates of the road traces are stored in the '**PMS_20**' table in the '**GPS_LAT**' and '**GPS_LON'** fields.

Data Collection Device:

Vehicle Information:	Ford Van
Type of GPS Unit:	NovAtel MiLLennium, 12 channel, dual frequency L1/L2, DGPS ready receiver w/MiLLennium 502 GPS antenna and OmniSTAR System 3000 LR
Inertial System:	Applanix POS LV

Accuracy: Expected ground accuracy is 1 meter *

*The above accuracy assumes good GPS mission planning resulting in maximum GPS satellite observation and ideal environmental conditions. Due to less than ideal satellite and environmental conditions, some routes may lack the expected ground accuracy.

Geographic Datum: WGS 1984

Post Collection GPS Correction: Due to unanticipated GPS collection inaccuracies, some route locations have been digitized using DOQQ's and other data sources.

FHWA – NPS Road Inventory Program
Cycle 3 Metadata for the Park Database

The purpose of these sheets is to provide users of the Road Inventory Program's data with data accuracies and tolerances to help users define ways in which the RIP data can and cannot be used. For further information on specifics of data collection equipment, data collection procedures, equipment calibrations, or quality control/quality assurance procedures, please contact Jim Kennedy, Project Manager, Data Quality Assurance, at 720-963-3560 or jim.kennedy@fhwa.dot.gov.

All Road Inventory Program data undergoes quality control and quality assurance testing. This document represents the known data accuracies and tolerances for the data collection equipment, data collection procedures, and data processing procedures currently in use. Many additional tests conducted on the park databases during the quality assurance phase to ensure data integrity are not listed as a part of this document. Before it is delivered, a park database undergoes a large set of table design consistency, field data format consistency, data completeness, uniqueness of key fields, data reasonableness, acceptable data range, within-field data consistency, between-field data consistency, and between-table data consistency tests. Additional data sampling checks are conducted to ensure proper data upload from raw files into the park database and to quality check the pavement crack analysis. Further information is detailed in the FHWA – NPS RIP Quality Assurance Manual, available upon request.

This description of metadata includes only the known accuracies with which a data field matches its expected value. The tables that follow this page show each database field's:

- Field – field name
- Format – data type and number of characters of field
- Expected Value – meaning of value assigned to field
- Source – when in process field value obtained
- Validation – how field value obtained
- Expected Accuracy – accuracy with which contents of field match Expected Value

Verifying and continually improving the accuracy of Road Inventory Program data is an ongoing goal of the Federal Highway Administration and the National Park Service. Field testing and post-collection analysis of ARAN (Automatic Road ANalyzer) -collected data will continue in Cycle 4. Data quality is expected to improve as the FHWA – NPS Road Inventory Program continues to operate, due to the fact that future data collection cycles will consist in large part of data updates. Also, technological improvements are expected to render the data increasingly consistent with actual roadway conditions as data collection cycles progress.

Specific Caveats

- Three canned reports are titled "Features in Good Condition", "Features in Fair Condition," and "Features in Poor Condition." These titles could be misleading. In Cycle 3, condition assessments have been conducted on **signs only**. Condition assessments have not been conducted on non-sign features, such as culverts, guardrails, pullouts, etc. Although the database and canned reports might report a default value of "good" for un-assessed features, these condition values are not valid for import into FMSS.
- Database records that show a concrete surface type sometimes include index values that seem to show a perfect roadway (e.g., a Pavement Condition Rating (PCR) of 100). The Road Inventory Program does not actually conduct condition assessments of concrete surfaces. The perfect values are just default values assigned to unassessed sections of pavement and do not represent an assessment of the roadway surface's quality.
- On the USB drive, in the Database folder, parks are provided with intersection lists and exceptions lists. These documents should be treated as raw files and are **not accurate**. Refer to the final database for accurately post-processed intersection data.
- Most roadway data is collected in the primary direction lane of a roadway. To save data storage

space and to reduce data analysis efforts, the assumption was made that the paved surface condition of a route's primary lane adequately represents the surface condition of the full roadway. Therefore, in the database, opposite-direction records in the PMS_Visidata table do not include assessed values for roadway surface distresses. Values such as 0, N/A, -1, or a repeat of the primary-direction assessed value indicate that no assessment was performed. The PMS_20 and PMS_Mile tables simply exclude all opposite routes.

- Most roadway features are collected relative to the primary direction lane of a roadway, using the primary-direction video. Signs are the only features collected using the opposite-direction video.

Key to Notes in Tables

(1): Note that only one value fits in field, so even if this value varies throughout the route, only one value is recorded here.
(2): Note that some MP values listed here are estimates recorded during the Route ID process for use by the data collection crew (e.g. "FROM ROUTE 0010 AT MILEPOST 30.3"). They are estimates only and are not expected to match the more accurate milepost values included elsewhere in the database in the BEG_MP, END_MP, and MP fields.
(3): Mileage is measured by the ARAN (Automatic Road ANalyzer) data collection vehicle out to the 0.001 decimal place. The DMI (distance measuring instrument) is very accurate, with extremely slight variations in measurement due to air temperature, tire inflation, curves, hills, and equipment calibration.
(4): Features are measured differently depending on whether they are visible in the forward-facing video of the roadway, but every feature milepost measurement depends on the baseline measurement of the data collection vehicle's mileage. The ARAN (Automatic Road ANalyzer) data collection vehicle's mileage is measured by the DMI (distance measuring instrument) out to the 0.001 decimal place. The DMI is very accurate, with extremely slight variations in measurement due to air temperature, tire inflation, curves, hills, and equipment calibration. If a feature will not be visible in the forward-facing video, its milepost is determined by the data collectors' key press tagging the milepost when the ARAN passes the feature. Key presses are entered into the ARAN software when the vehicle travels typically between 15 and 45 miles/hour, so a delay of a single second as the vehicle passes a feature would result in an inaccuracy of 0.004 miles (22 feet) to 0.012 miles (66 feet). If a feature is visible in the video, its milepost is determined during post-processing using a video measurement software called Surveyor. Features along the side of a roadway that are measured using the Surveyor software might not be located very accurately. Surveyor is known to be most accurate when measuring quantities near the center of the video frame, as opposed to in the edges of the video image.
(5): Only signs are evaluated for condition. No other features' conditions are assessed, so "N/A" was originally intended to be the default value for unassessed features. However, some non-sign features do have condition ratings in the database. These are not accurate, because no assessment was ever done on non-sign features.
(6): Condition assessments are not conducted on concrete (CO) surface types. Perfect values for concrete road sections are default values and do not represent a condition assessment of the concrete surfaces.
(7): Roadway cracking presence, type, severity, and extent are determined by filming the roadway in the primary lane continuously with two overlapping analog cameras of 640 x 480 resolution. The images from both cameras are stitched together in real time to create a continuous strip image of the roadway pavement in the primary lane. Cracks 3 mm or greater in width are visible in this video. A semi-automatic process running the WiseCrax software with additional input by human operators provides the cracking quantities recorded in these database fields. Quality checks have determined that a consistent 80% or better of the visible cracks are recorded.

Access Database Metadata

Master Table Metadata:

FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
RIP_CYCLE	X	3, for data collection cycle 3	Route ID Meeting	FHWA Determination	100%
STATE	XX	State where route is located	Route ID Meeting	Park Input/FHWA Determination	Untested. (1)
PARK_ALPHA	XXXX	Park alpha code	Route ID Meeting	NPS References	Untested
PARK_NO	XXXX	Park numeric code	Route ID Meeting	NPS References	Untested
RTE_NO	XXXXXX	Route number	Route ID Meeting	Park Input/FHWA Classification	Untested
RTE_NAME	(Text)	Route name	Route ID Meeting	Park Input	Untested. 50 characters fit in field
FUNCT_CLASS	X	Route functional classification	Route ID Meeting	Park Input/FHWA Classification	Untested
DIRECTION	XXX	Survey lane: PRI (primary) or OPP (opposite)	Route ID Meeting	Park Input/FHWA Determination	Untested
BEG_MP_EST	999.999 (miles)	Estimated starting MP	Route ID Meeting	Park Input/FHWA Determination	Estimated before data collected
END_MP_EST	999.999 (miles)	Estimated ending MP	Route ID Meeting	Park Input/FHWA Determination	Estimated before data collected
RTE_LENGTH	999.999 (miles)	Collected route length	ARAN Data Collection	Automatic Output	100%
FROM_DESC	(Text)	Beginning terminus of route	Route ID Meeting	Park Input/FHWA Determination	Estimated before data collected. (2)
TO_DESC	(Text)	Ending terminus of route	Route ID Meeting	Park Input/FHWA Determination	Estimated before data collected. (2)
NO_LANES	X	Number of lanes in route	ARAN Data Collection	Survey Crew Input	Untested. (1)
SURF_TYPE	XX	Surface type of route	ARAN Data Collection	Survey Crew Input	Untested. (1)
COMP_DIR	XX	Compass direction of route's primary lane (nearest cardinal direction)	Route ID Meeting	Park Input/FHWA Determination	Untested
COMMENTS	(Text)	Special information, if any	Contractor Post-processing	Contractor Input	Untested
FILENAME	XXXXXXXX	Filename of raw data files	ARAN Data Collection	Automatic Output	100%
SECTION	XXXXXX	Route section ID	Route ID Meeting/ARAN Data Collection	Survey Crew Input/Automatic Output	100%
FKEY	9999999	Unique record ID	Contractor Post-processing	Database Processing	100%
DATE	DD/MM/YY	Data collection date	ARAN Data Collection	Automatic Output	100%
BEG_MP	999.999 (miles)	Beginning MP collected	ARAN Data Collection	Automatic Output	100% (3)
END_MP	999.999 (miles)	Ending MP collected	ARAN Data Collection	Automatic Output	100% (3)

PMS_Feature Table Metadata:

FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
RIP_CYCLE	X	3, for data collection cycle 3	Route ID Meeting	FHWA Determination	100%
STATE	XX	State where route is located	Route ID Meeting	Park Input/FHWA Determination	Untested. (1)
PARK_ALPHA	XXXX	Park alpha code	Route ID Meeting	NPS References	Untested
PARK_NO	XXXX	Park numeric code	Route ID Meeting	NPS References	Untested
RTE_NO	XXXXXX	Route number	Route ID Meeting	Park Input/FHWA Classification	Untested
FUNCT_CLASS	X	Route functional class	Route ID Meeting	Park Input/FHWA Classification	Untested
DIRECTION	XXX	Survey lane: PRI (primary) or OPP (opposite)	Route ID Meeting	Park Input/FHWA Determination	Untested
MP	999.999 (miles)	Feature location along route	ARAN Data Collection/Contractor Post-processing	Survey Crew Input/Video Processing	Untested (4)
EVENT	XXXX	Event category of feature	Contractor Post-processing	Video Processing	Untested
EVENT_CODE	XXXX	Event sub-category of feature	Contractor Post-processing	Video Processing	Untested
EVENT_DESC	(Text)	Description of feature/contents of sign	Contractor Post-processing	Video Processing	Untested
MUTCD	"N/A"	N/A. Intended to be sign MUTCD code	Contractor Post-processing	Database Processing	Values inaccurate, defaulted to N/A
CONDITION	XXX	Sign condition (G-D, F-R, P-R, N/A)	Contractor Post-processing	Video Processing	Untested (5)
COMMENT	(Text)	Sign label, intersecting route, etc.	Contractor Post-processing	Database Processing	Untested
OFFSET	"N/A"	N/A. Intended to be offset from pavement edge	Contractor Post-processing	Database Processing	Values inaccurate, defaulted to N/A
SIDE	XXX	Side of route; "N/A" if not on one side	Contractor Post-processing	Video Processing	Untested
STR_NUMBER	XXXXXXXXXX	FHWA bridge structure number	FHWA Post-processing	Database Processing	Untested
GPS_LAT	"N/A"	N/A. Intended to be latitude coordinate	Contractor Post-processing	Database Processing	Values inaccurate, defaulted to N/A
GPS_LON	"N/A"	N/A. Intended to be longitude coordinate	Contractor Post-processing	Database Processing	Values inaccurate, defaulted to N/A
GPS_ELEV	"N/A"	N/A. Intended to be elevation	Contractor Post-processing	Database Processing	Values inaccurate, defaulted to N/A
GPS_MODE	"N/A"	N/A. Intended to be GPS mode	Contractor Post-processing	Database Processing	Values inaccurate, defaulted to N/A
VIDEO	<*Park*>C03VID<#>	Removable USB video hard drive number	Contractor Post-processing	Database Processing	Untested
IMAGE	(Text)	Filename of .jpg image showing feature	Contractor Post-processing	Automatic Output	Untested
DATE	DD/MM/YY	Data collection date	ARAN Data Collection	Automatic Output	100%
FILENAME	XXXXXXXX	Filename of raw data files	ARAN Data Collection	Automatic Output	100%
SECTION	XXXXXX	Route section ID	Route ID Meeting/ARAN Data Collection	Survey Crew Input/Automatic Output	100%
FKEY	9999999	Unique record ID	Contractor Post-processing	Database Processing	100%
VISI_FROM	999999 (millimiles)	Raw MP of first video frame showing feature	Contractor Post-processing	Database Processing	Untested
VISI_TO	999999 (millimiles)	Raw MP of last video frame showing feature	Contractor Post-processing	Database Processing	Untested

FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
IDKEY	(Text)	Unique record ID used by VisiData	Contractor Post-processing	Database Processing	Untested
MP_REF	(Text)	Range of mileage to play in VisiData	Contractor Post-processing	Database Processing	Untested

PMS_20, PMS_Mile & PMS_Visidata Tables Metadata:

FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
RIP_CYCLE	X	3, for data collection cycle 3	Route ID Meeting	FHWA Determination	100%
STATE	XX	State where route is located	Route ID Meeting	Park Input/FHWA Determination	Untested. (1)
PARK_ALPHA	XXXX	Park alpha code	Route ID Meeting	NPS References	Untested
PARK_NO	XXXX	Park numeric code	Route ID Meeting	NPS References	Untested
RTE_NO	XXXXXX	Route number	Route ID Meeting	Park Input/FHWA Classification	Untested
FUNCT_CLASS	X	Route functional class	Route ID Meeting	Park Input/FHWA Classification	Untested
DIRECTION	XXX	Survey lane: PRI (primary) or OPP (opposite)	Route ID Meeting	Park Input/FHWA Determination	Untested
BEG_MP	999.999 (miles)	MP at start of road interval described by database record	Contractor Post-processing	Database Processing	100% (3)
END_MP	999.999 (miles)	MP at end of road interval described by database record	Contractor Post-processing	Database Processing	100% (3)
INT_LENGTH	999.9 (ft)	Length of road interval as aggregated for data table	Contractor Post-processing	Database Processing	100%
RTE_LENGTH	999.999 (miles)	Collected route length	ARAN Data Collection	Automatic Output	100%
NO_LANES	X	Number of lanes in route	ARAN Data Collection	Survey Crew Input	Untested. (1)
LANE_NO	X	Data collection lane	Contractor Post-processing	Database Processing	Untested
WX_LANE_WIDTH	99.999 (ft)	WiseCrax (crack detection software) analysis width	Contractor Post-processing	Automatic Output	Untested
LANE_WIDTH	99.999 (ft)	Width of lane	Contractor Post-processing	Video Processing	Untested
PAVE_WIDTH	99.999 (ft)	Full pavement width	Contractor Post-processing	Video Processing	Untested
SHLD_WIDTH_L	99.999 (ft)	Left shoulder width	Contractor Post-processing	Video Processing	Untested
SHLD_WIDTH_R	99.999 (ft)	Right shoulder width	Contractor Post-processing	Video Processing	Untested
SHLD_COND_L	XXXX	Left shoulder condition	ARAN Data Collection	Survey Crew Input	Untested
SHLD_COND_R	XXXX	Right shoulder condition	ARAN Data Collection	Survey Crew Input	Untested
DRAIN_COND_L	XXXX	Left drainage condition	ARAN Data Collection	Survey Crew Input	Untested
DRAIN_COND_R	XXXX	Right drainage condition	ARAN Data Collection	Survey Crew Input	Untested
SURF_TYPE	XX	Surface type of route	ARAN Data Collection	Survey Crew Input	Untested. (1)
PCR	999	Pavement Condition Rating	Contractor Post-processing	Database Processing	100% for calculation (6)
RCI	999	Roughness Condition Index; -1 if invalid IRI	Contractor Post-processing	Database Processing	100% for calculation

FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
SCR	999	Surface Condition Rating	Contractor Post-processing	Database Processing	100% for calculation (6)
IRI_AVG	999.9 (inches/mile)	Average IRI	Contractor Post-processing	Database Processing	Untested
IRI_SD	999.9 (inches/mile)	IRI standard deviation	Contractor Post-processing	Database Processing	Untested
IRI_L	999.9 (inches/mile)	Left wheel path IRI	ARAN Data Collection	Automatic Output	Untested
IRI_R	999.9 (inches/mile)	Right wheel path IRI	ARAN Data Collection	Automatic Output	Untested
IRI_FLAG	0 or -1	-1 if invalid IRI data	Contractor Post-processing	Database Processing	Untested
RUT_INDEX	999	Rut index	Contractor Post-processing	Database Processing	100% for calculation (6)
RUT_AVG	99.99 (inches)	Average rut depth of both wheelpaths	Contractor Post-processing	Database Processing	Untested (6)
RUT_MAX	99.99 (inches)	Maximum rut depth of both wheelpaths	Contractor Post-processing	Database Processing	Untested (6)
RUT_SD	9.9	Rut depth standard deviation	Contractor Post-processing	Database Processing	Untested (6)
RUT_LOW	999 (%)	Percent of low severity ruts (on a 0-200% scale) in both wheelpaths	Contractor Post-processing	Database Processing	Untested (6)
RUT_MED	999 (%)	Percent of medium severity ruts (on a 0-200% scale) in both wheelpaths	Contractor Post-processing	Database Processing	Untested (6)
RUT_HI	999 (%)	Percent of high severity ruts (on a 0-200% scale) in both wheelpaths	Contractor Post-processing	Database Processing	Untested (6)
XFALL	999.9 (% slope)	Cross fall at start of road interval	ARAN Data Collection	Automatic Output	Precise but inaccurate. Not reported in Cycle 4
GRADE	999.9 (% slope)	Grade at start of road interval	ARAN Data Collection	Automatic Output	Precise but inaccurate. Not reported in Cycle 4
AC_INDEX	999	Alligator cracking index	Contractor Post-processing	Database Processing	100% for calculation (6)
AC_LOW	999.9999 (%)	Percent of WiseCrax measured lane area with low-severity alligator cracking	Contractor Post-processing	Automatic Output	(6) (7)
AC_MED	999.9999 (%)	Percent of WiseCrax measured lane area with medium-severity alligator cracking	Contractor Post-processing	Automatic Output	(6) (7)
AC_HI	999.9999 (%)	Percent of WiseCrax measured lane area with high-severity alligator cracking	Contractor Post-processing	Automatic Output	(6) (7)
LC_INDEX	999	Longitudinal cracking index	Contractor Post-processing	Database Processing	100% for calculation (6)
LC_LOW	999.99 (%)	Low-severity longitudinal cracking in lane as a percentage of road interval length	Contractor Post-processing	Automatic Output	(6) (7)
LC_MED	999.99 (%)	Medium-severity longitudinal cracking in lane as a percentage of road interval length	Contractor Post-processing	Automatic Output	(6) (7)
LC_HI	999.99 (%)	High-severity longitudinal cracking in lane as a percentage of road interval length	Contractor Post-processing	Automatic Output	(6) (7)
TC_INDEX	999	Transverse cracking index	Contractor Post-processing	Database Processing	100% for calculation (6)
TC_LOW	999.99 (cracks)	Count of low-severity transverse cracks, where one crack unit equals the WiseCrax measured lane width	Contractor Post-processing	Automatic Output	(6) (7)
TC_MED	999.99 (cracks)	Count of medium-severity transverse cracks, where one crack unit equals the WiseCrax measured lane width	Contractor Post-processing	Automatic Output	(6) (7)
TC_HI	999.99 (cracks)	Count of high-severity transverse cracks, where one crack unit equals the WiseCrax measured lane width	Contractor Post-processing	Automatic Output	(6) (7)
PATCH_INDEX	999	Patching index	Contractor Post-processing	Database Processing	100% for calculation (6)

FIELD	FORMAT	EXPECTED VALUE	SOURCE	VALIDATION	EXPECTED ACCURACY
PATCHING	999.9999 (%)	Percent of WiseCrax measured lane area affected by patching	Contractor Post-processing	Manual Pavement Video Processing	Untested (6)
GPS_LAT	999.999999	Latitude coordinate	ARAN Data Collection	Automatic Output	See GPS Metadata sheet distributed with data
GPS_LON	-999.999999	Longitude coordinate	ARAN Data Collection	Automatic Output	See GPS Metadata sheet distributed with data
GPS_ELEV	99999.9	Elevation	ARAN Data Collection	Automatic Output	See GPS Metadata sheet distributed with data
GPS_MODE	XXX	GPS mode during collection	ARAN Data Collection	Automatic Output	See GPS Metadata sheet distributed with data
VIDEO	<*Park*>C03VID<#>	Removable USB video hard drive number	Contractor Post-processing	Database Processing	Untested
IMAGE	(Text)	Filename of .jpg image showing road interval	Contractor Post-processing	Automatic Output	Untested
SPEED	999 (miles/hour)	Average ARAN speed during data collection	ARAN Data Collection	Automatic Output	Untested
BRIDGE_FLAG	0 or 1	Flag indicating presence of bridge in interval	ARAN Data Collection	Survey Crew Input	Untested
CONSTR_FLAG	0 or 1	Flag indicating construction in interval	ARAN Data Collection	Survey Crew Input	Untested
LANEDEV_FLAG	0 or 1	Flag indicating lane deviation in interval	ARAN Data Collection	Survey Crew Input	Untested
DATE	DD/MM/YY	Data collection date	ARAN Data Collection	Automatic Output	100%
NODISTRESS	0 OR 1	Flag indicating absence of pavement distress	Contractor Post-processing	Database Processing	100%
FILENAME	XXXXXXXX	Filename of raw data files	ARAN Data Collection	Automatic Output	100%
SECTION	XXXXXX	Route section ID	Route ID Meeting/ARAN Data Collection	Survey Crew Input/Automatic Output	100%
FKEY	9999999	Unique record ID	Contractor Post-processing	Database Processing	100%
VISI_FROM	999999 (millimiles)	Raw MP of first video frame in section	Contractor Post-processing	Database Processing	Untested
VISI_TO	999999 (millimiles)	Raw MP of last video frame in section	Contractor Post-processing	Database Processing	Untested
IDKEY	(Text)	Unique record ID used by VisiData	Contractor Post-processing	Database Processing	Untested
MP_REF	(Text)	Range of mileage to play in VisiData	Contractor Post-processing	Database Processing	Untested

Cycle 3 Shapefile Metadata

Metadata is provided for all shapefiles used for the creation of RIP report documents. The metadata for each shapefile associated with the park can be found in Section 10 of the PDF report provided on your park CD.

All shapefiles have the following spatial characteristics:

Geographic_Coordinate_Units: Decimal degrees
Spheroid: WGS 1984

sagu_nonnps

Metadata also available as

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator: The TSR Group
Publication_Date: 2005
Title: sagu_nonnps
Geospatial_Data_Presentation_Form: vector digital data
Online_Linkage: Not Available
Description:
Abstract: non-NPS roads
Purpose: Road Inventory Program
Supplemental_Information:
Data created by The TSR Group from heads-up digitizing of roads representing non-NPS roads for graphic purposes
Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Currentness_Reference:
REQUIRED: The basis on which the time period of content information is determined.
Status:
Progress: Complete
Maintenance_and_Update_Frequency: As per RIP cycle
Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -110.686848
East_Bounding_Coordinate: -110.682876
North_Bounding_Coordinate: 32.242835
South_Bounding_Coordinate: 32.233729
Keywords:
Theme:
Theme_Keyword_Thesaurus: SAGU

Theme_Keyword: SAGU
Access_Constraints: None
Use_Constraints: Redistribution needs permission from EFLHD/NPS
Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Dan VanGilder
Contact_Organization: EFLHD
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: 21400 Ridgetop Circle
City: Sterling
State_or_Province: Virginia
Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Native_Data_Set_Environment:
Microsoft Windows 2000 Version 5.1 (Build 2600) Service Pack 2; ESRI ArcCatalog 8.3.0.800

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report: Good
Completeness_Report: Complete for non-NPS roads
Lineage:
Source_Information:
Type_of_Source_Media: Heads-up digitized

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: String
Point_and_Vector_Object_Count: 1

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.000000
Longitude_Resolution: 0.000000
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927

Ellipsoid_Name: Clarke 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: sagu_nonnps
Attribute:
Attribute_Label: FID
Attribute_Definition: Internal feature number.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain:
Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: Shape
Attribute_Definition: Feature geometry.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Coordinates defining the features.
Attribute:
Attribute_Label: ID
Attribute_Definition: Name of road if available
Attribute:
Attribute_Label: NAME

Distribution_Information:
Resource_Description: Downloadable Data
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Transfer_Size: 0.008

Metadata_Reference_Information:
Metadata_Date: 20050423
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: EFLHD Sterling
Contact_Person: Dan VanGilder
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: 21400 Ridgetop Circle

City: Sterling
State_or_Province: Virginia
Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Time_Convention: local time
Metadata_Extensions:
Online_Linkage: <http://www.esri.com/metadata/esriprof80.html>
Profile_Name: ESRI Metadata Profile

Generated by mp version 2.7.33 on Sat Apr 23 09:07:58 2005

sagu_pkg_03

Metadata also available as

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator: Eastern Federal Lands Highway Division
Publication_Date: Unknown
Title: sagu_pkg_03
Geospatial_Data_Presentation_Form: vector digital data
Online_Linkage: Not Available
Description:
Abstract: Parking Areas
Purpose: Road Inventory Program
Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 11/29/2001
Currentness_Reference: ground condition
Status:
Progress: Complete
Maintenance_and_Update_Frequency: As per RIP cycle
Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -111.210552
East_Bounding_Coordinate: -110.686851
North_Bounding_Coordinate: 32.262675
South_Bounding_Coordinate: 32.165083
Keywords:
Theme:
Theme_Keyword_Thesaurus: SAGU
Theme_Keyword: SAGU
Access_Constraints: None
Use_Constraints: Redistribution needs permission from EFLHD/NPS
Point_of_Contact:
Contact_Information:

Contact_Person_Primary:
Contact_Person: Dan VanGilder
Contact_Organization: EFLHD
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: 21400 Ridgetop Circle
City: Sterling
State_or_Province: Virginia
Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Native_Data_Set_Environment:
Microsoft Windows 2000 Version 5.1 (Build 2600) Service Pack 2; ESRI ArcCatalog 8.3.0.800

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report: Good
Completeness_Report: Complete for parking areas
Lineage:
Source_Information:
Type_of_Source_Media: GPS

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: G-polygon
Point_and_Vector_Object_Count: 19

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.000000
Longitude_Resolution: 0.000000
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clarke 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: sagu_pkg_03
Attribute:
Attribute_Label: FID
Attribute_Definition: Internal feature number.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain:
Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: Shape
Attribute_Definition: Feature geometry.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Coordinates defining the features.
Attribute:
Attribute_Label: PARK_ALPHA
Attribute_Definition: Park alpha code
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: RTE_NO
Attribute_Definition: Route number
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: RTE_NAME
Attribute_Definition: Route name
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: FEATURE
Attribute:
Attribute_Label: SURF_TYPE
Attribute_Definition: Surface type of route
Attribute_Domain_Values:
Attribute:
Attribute_Label: CONDITION
Attribute_Definition: Condition rating for route
Attribute:
Attribute_Label: PHOTOS
Attribute_Definition: Photo filename associated with feature
Attribute:
Attribute_Label: COMMENT
Attribute_Definition: Field comment
Attribute:
Attribute_Label: GPS_DATE
Attribute_Definition: Date of GPS collection
Attribute:
Attribute_Label: DATAFILE
Attribute:
Attribute_Label: SQ_FT

Attribute_Definition: Feature area in square feet

Distribution_Information:
Resource_Description: Downloadable Data
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Transfer_Size: 0.018

Metadata_Reference_Information:
Metadata_Date: 20050422
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: EFLHD Sterling
Contact_Person: Dan VanGilder
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: 21400 Ridgetop Circle
City: Sterling
State_or_Province: Virginia
Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Time_Convention: local time
Metadata_Extensions:
Online_Linkage: <http://www.esri.com/metadata/esriprof80.html>
Profile_Name: ESRI Metadata Profile

Generated by mp version 2.7.33 on Fri Apr 22 15:21:30 2005

sagu_pkg_03_map

Metadata also available as

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator: Eastern Federal Lands Highway Division
Publication_Date: Unknown
Title: sagu_pkg_03_map
Geospatial_Data_Presentation_Form: vector digital data
Online_Linkage: Not Available
Description:
Abstract: Copy of Parking Areas
Purpose: Road Inventory Program
Supplemental_Information:
This shapefile is a copy of the source parking shapefile. The features are edited as needed for graphic purposes.
Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 11/29/2001
Currentness_Reference: ground condition
Status:
Progress: Complete
Maintenance_and_Update_Frequency: As per RIP cycle
Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -111.210552
East_Bounding_Coordinate: -110.686871
North_Bounding_Coordinate: 32.262675
South_Bounding_Coordinate: 32.165069
Keywords:
Theme:
Theme_Keyword_Thesaurus: SAGU
Theme_Keyword: SAGU
Access_Constraints: None

Use_Constraints: Redistribution needs permission from EFLHD/NPS
Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Dan VanGilder
Contact_Organization: EFLHD
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: 21400 Ridgetop Circle
City: Sterling
State_or_Province: Virginia
Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Native_Data_Set_Environment:
Microsoft Windows 2000 Version 5.1 (Build 2600) Service Pack 2; ESRI ArcCatalog 8.3.0.800

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report: Good
Completeness_Report: Complete for parking areas
Lineage:
Source_Information:
Type_of_Source_Media: GPS

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: G-polygon
Point_and_Vector_Object_Count: 19

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.000000
Longitude_Resolution: 0.000000
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clarke 1866
Semi-major_Axis: 6378206.400000

Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: sagu_pkg_03_map
Attribute:
Attribute_Label: FID
Attribute_Definition: Internal feature number.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain:
Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: Shape
Attribute_Definition: Feature geometry.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Coordinates defining the features.
Attribute:
Attribute_Label: PARK_ALPHA
Attribute_Definition: Park alpha code
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: RTE_NO
Attribute_Definition: Route number
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: RTE_NAME
Attribute_Definition: Route name
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: FEATURE
Attribute:
Attribute_Label: SURF_TYPE
Attribute_Definition: Surface type of route
Attribute_Domain_Values:
Attribute:
Attribute_Label: CONDITION
Attribute_Definition: Condition rating for route
Attribute:
Attribute_Label: PHOTOS
Attribute_Definition: Photo filename associated with feature
Attribute:
Attribute_Label: COMMENT
Attribute_Definition: Field comment
Attribute:
Attribute_Label: GPS_DATE
Attribute_Definition: Date of GPS collection

Attribute:
Attribute_Label: DATAFILE
Attribute:
Attribute_Label: SQ_FT
Attribute_Definition: Feature area in square feet

Distribution_Information:
Resource_Description: Downloadable Data
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Transfer_Size: 0.018

Metadata_Reference_Information:
Metadata_Date: 20050423
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: EFLHD Sterling
Contact_Person: Dan VanGilder
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: 21400 Ridgetop Circle
City: Sterling
State_or_Province: Virginia
Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Time_Convention: local time
Metadata_Extensions:
Online_Linkage: <http://www.esri.com/metadata/esriprof80.html>
Profile_Name: ESRI Metadata Profile

Generated by mp version 2.7.33 on Sat Apr 23 09:07:06 2005

sagu_mi

Metadata also available as

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator: The TSR Group
Publication_Date: 2005
Title: sagu_mi
Geospatial_Data_Presentation_Form: vector digital data
Online_Linkage: Not Available
Description:
Abstract: Routes
Purpose: Road Inventory Program
Supplemental_Information:
Data created by The TSR Group from GPS coordinates provided in the PMS_20 table. The shapefile is processed to aggregate adjacent segments with the same PCR rating provided in the PMS_mile table.
Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Currentness_Reference: ground condition
Status:
Progress: Complete
Maintenance_and_Update_Frequency: As per RIP cycle
Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -111.218040
East_Bounding_Coordinate: -110.705833
North_Bounding_Coordinate: 32.327488
South_Bounding_Coordinate: 32.164257
Keywords:
Theme:
Theme_Keyword_Thesaurus: SAGU
Theme_Keyword: SAGU

Access_Constraints: None
Use_Constraints: Redistribution meeds permission from EFLHD/NPS
Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Dan VanGilder
Contact_Organization: EFLHD
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: 21400 Ridgetop Circle
City: Sterling
State_or_Province: Virginia
Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Native_Data_Set_Environment:
Microsoft Windows 2000 Version 5.1 (Build 2600) Service Pack 2; ESRI ArcCatalog 8.3.0.800

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report: Good
Completeness_Report: Complete for routes
Lineage:
Source_Information:
Type_of_Source_Media: GPS

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: String
Point_and_Vector_Object_Count: 18

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.000000
Longitude_Resolution: 0.000000
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clarke 1866

Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: sagu_mi
Attribute:
Attribute_Label: FID
Attribute_Definition: Internal feature number.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain:
Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: Shape
Attribute_Definition: Feature geometry.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Coordinates defining the features.
Attribute:
Attribute_Label: LENGTH
Attribute_Definition: Length of feature
Attribute_Definition_Source: ESRI
Attribute:
Attribute_Label: ID
Attribute:
Attribute_Label: RTE_NO
Attribute_Definition: Route number
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: RT_LENGTH
Attribute_Definition: Collected route length
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: PCRMI
Attribute_Definition: Numeric PCR definition
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 0
Range_Domain_Maximum: 100
Attribute:
Attribute_Label: PCR_RATEMI
Attribute_Definition: Verbal PCR definition
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: POOR
Enumerated_Domain_Value_Definition: PCR value <= 60
Enumerated_Domain:

Enumerated_Domain_Value: FAIR
Enumerated_Domain_Value_Definition: PCR value 61-84
Enumerated_Domain:
Enumerated_Domain_Value: GOOD
Enumerated_Domain_Value_Definition: PCR value 85-94
Enumerated_Domain:
Enumerated_Domain_Value: EXCELLENT
Enumerated_Domain_Value_Definition: PCR value 95-100
Attribute:
Attribute_Label: TSR_EDIT
Attribute_Definition: Indicates whether feature has been edited for graphic purposes.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 1
Enumerated_Domain_Value_Definition: Edit has been made to feature for graphic purposes
Enumerated_Domain:
Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: No edit made to feature.

Distribution_Information:
Resource_Description: Downloadable Data
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Transfer_Size: 0.016

Metadata_Reference_Information:
Metadata_Date: 20050422
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: EFLHD Sterling
Contact_Person: Dan VanGilder
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
City: Sterling
State_or_Province: Virginia
Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Time_Convention: local time
Metadata_Extensions:

Online_Linkage: <http://www.esri.com/metadata/esriprof80.html>
Profile_Name: ESRI Metadata Profile

Generated by mp version 2.7.33 on Fri Apr 22 16:03:18 2005

sagu_mi_pt

Metadata also available as

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator: The TSR Group
Publication_Date: 2005
Title: sagu_mi_pt
Geospatial_Data_Presentation_Form: vector digital data
Online_Linkage: Not Available
Description:
Abstract: Mile Points
Purpose: Road Inventory Program
Supplemental_Information:
Data created by The TSR Group from GPS coordinates provided in the PMS_20 table. All attributes found in the PMS_20 table are found on the miles points.
Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Currentness_Reference: ground condition
Status:
Progress: Complete
Maintenance_and_Update_Frequency: Not Available
Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -111.210709
East_Bounding_Coordinate: -110.705879
North_Bounding_Coordinate: 32.325172
South_Bounding_Coordinate: 32.169071
Keywords:
Theme:
Theme_Keyword_Thesaurus: SAGU
Theme_Keyword: SAGU
Access_Constraints: None

Use_Constraints: Redistribution needs permission from EFLHD/NPS
Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Dan VanGilder
Contact_Organization: EFLHD Sterling
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: 21400 Ridgetop Circle
City: Sterling
State_or_Province: Virginia
Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Native_Data_Set_Environment:
Microsoft Windows 2000 Version 5.1 (Build 2600) Service Pack 2; ESRI ArcCatalog 8.3.0.800

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report: Good
Completeness_Report: Complete for mile points
Lineage:
Source_Information:
Type_of_Source_Media: GPS

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Entity point
Point_and_Vector_Object_Count: 20

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.000000
Longitude_Resolution: 0.000000
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clarke 1866
Semi-major_Axis: 6378206.400000

Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: sagu_mi_pt
Attribute:
Attribute_Label: FID
Attribute_Definition: Internal feature number.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain:
Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: Shape
Attribute_Definition: Feature geometry.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Coordinates defining the features.
Attribute:
Attribute_Label: RIP_CYCLE
Attribute_Definition: 3, for data collection cycle 3
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: STATE
Attribute_Definition: State where route is located
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: PARK_ALPHA
Attribute_Definition: Park alpha code
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: PARK_NO
Attribute_Definition: Park numeric code
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: RTE_NO
Attribute_Definition: Route number
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: FUNCT_CLAS
Attribute_Definition: Route functional class
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: DIRECTION
Attribute_Definition: Survey lane: PRI (primary) or OPP (opposite)
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: BEG_MP

Attribute_Definition: MP at end of road interval described by database record
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: END_MP
Attribute_Definition: MP at end of road interval described by database record
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: INT_LENGTH
Attribute_Definition: Length of road interval as aggregated from data table
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: RTE_LENGTH
Attribute_Definition: Collected route length
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: NO_LANES
Attribute_Definition: Number of lanes in route
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: LANE_NO
Attribute_Definition: Data collection lane
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: WX_LANE_WI
Attribute_Definition: WiseCrax (crack detection software) analysis width
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: LANE_WIDTH
Attribute_Definition: Width of lane
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: PAVE_WIDTH
Attribute_Definition: Full pavement width
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: SHLD_WIDTH
Attribute_Definition: Left shouler width
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: SHLD_WID_1
Attribute_Definition: Right shoulder width
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: SHLD_COND_
Attribute_Definition: Left shoulder condition
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: SHLD_COND1
Attribute_Definition: Right shoulder condition
Attribute_Definition_Source: ARAN Data Collection
Attribute:

Attribute_Label: DRAIN_COND
Attribute_Definition: Left drainage condition
Attribute_Definition_Source: ARAN Data Collection

Attribute:
Attribute_Label: DRAIN_CO_1
Attribute_Definition: Right drainage condition
Attribute_Definition_Source: ARAN Data Collection

Attribute:
Attribute_Label: SURF_TYPE
Attribute_Definition: Surface type of route
Attribute_Definition_Source: ARAN Data Collection

Attribute:
Attribute_Label: PCR
Attribute_Definition: Pavement Condition Rating
Attribute_Definition_Source: Contractor Post-processing

Attribute:
Attribute_Label: RCI
Attribute_Definition: Roughness Condition Index; -1 if invalid IRI
Attribute_Definition_Source: Contractor Post-processing

Attribute:
Attribute_Label: SCR
Attribute_Definition: Surface Condition Rating
Attribute_Definition_Source: Contractor Post-processing

Attribute:
Attribute_Label: IRI_AVG
Attribute_Definition: Average IRI
Attribute_Definition_Source: Contractor Post-processing

Attribute:
Attribute_Label: IRI_SD
Attribute_Definition: IRI Standard Deviation
Attribute_Definition_Source: Contractor Post-processing

Attribute:
Attribute_Label: IRI_L
Attribute_Definition: Left wheel path IRI
Attribute_Definition_Source: ARAN Data Collection

Attribute:
Attribute_Label: IRI_R
Attribute_Definition: Rigth wheel path IRI
Attribute_Definition_Source: ARAN Data Collection

Attribute:
Attribute_Label: IRI_FLAG
Attribute_Definition: -1 if invalid IRI data
Attribute_Definition_Source: Contractor Post-processing

Attribute:
Attribute_Label: RUT_INDEX
Attribute_Definition: Rut index
Attribute_Definition_Source: Contractor Post-processing

Attribute:
Attribute_Label: RUT_AVG
Attribute_Definition: Average rut depth of both wheelpaths
Attribute_Definition_Source: Contractor Post-processing

Attribute:
Attribute_Label: RUT_MAX
Attribute_Definition: Maximum rut depth of both wheelpaths
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: RUT_SD
Attribute_Definition: Rut depth standard deviation
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: RUT_LOW
Attribute_Definition:
Percent of low severity ruts (on a 0-200% scale) in both wheelpaths
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: RUT_MED
Attribute_Definition:
Percent of medium severity ruts (on a 0-200% scale) in both wheelpaths
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: RUT_HI
Attribute_Definition:
Percent of high severity ruts (on a 0-200% scale) in both wheelpaths
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: XFALL
Attribute_Definition: Cross fall at start of road interval
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: GRADE
Attribute_Definition: Grade at start of road interval
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: AC_INDEX
Attribute_Definition: Alligator cracking index
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: AC_LOW
Attribute_Definition:
Percent of WiseCrax measured lane area with low-severity alligator cracking
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: AC_MED
Attribute_Definition:
Percent of WiseCrax measured lane area with medium-severity alligator cracking
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: AC_HI
Attribute_Definition:
Percent of WiseCrax measured lane area with high-severity alligator cracking
Attribute_Definition_Source: Contractor Post-processing

Attribute:
Attribute_Label: LC_INDEX
Attribute_Definition: Longitudinal cracking index
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: LC_LOW
Attribute_Definition:
Low-severity longitudinal cracking in lane as a percentage of road interval length
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: LC_MED
Attribute_Definition:
Medium-severity longitudinal cracking in lane as a percentage of road interval length
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: LC_HI
Attribute_Definition:
High-severity longitudinal cracking in lane as a percentage of road interval length
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: TC_INDEX
Attribute_Definition: Transverse cracking index
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: TC_LOW
Attribute_Definition:
Count of low-severity transverse cracks, where one crack unit equals the WiseCrax measured land width
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: TC_MED
Attribute_Definition:
Count of medium-severity transverse cracks, where one crack unit equals the WiseCrax measured land width
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: TC_HI
Attribute_Definition:
Count of high-severity transverse cracks, where one crack unit equals the WiseCrax measured land width
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: PATCH_INDE
Attribute_Definition: Patching index
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: PATCHING
Attribute_Definition: Percent of WiseCrax measured lane area affected by patching

Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: GPS_LAT
Attribute_Definition: Latitude coordinate
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: GPS_LON
Attribute_Definition: Longitude coordinate
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: GPS_ELEV
Attribute_Definition: Elevation
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: GPS_MODE
Attribute_Definition: GPS mode during collection
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: VIDEO
Attribute_Definition: Removable USB video hard drive number
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: IMAGE
Attribute_Definition: Filename of .jpg image showing road interval
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: SPEED
Attribute_Definition: Average ARAN speed during data collection
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: BRIDGE_FLA
Attribute_Definition: Flag indicating presence of bridge in interval
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: CONSTR_FLA
Attribute_Definition: Flag indicating construction in interval
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: LANEDEV_FL
Attribute_Definition: Flag indicating lane deviation in interval
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: DATE
Attribute_Definition: Data collection date
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: NODISTRESS
Attribute_Definition: Flag indicating absence of pavement distress
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: FILENAME

Attribute_Definition: Filename of raw data files
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: SECTION
Attribute_Definition: route section ID
Attribute_Definition_Source: Route ID Meeting / ARAN Data Collection
Attribute:
Attribute_Label: FKEY
Attribute_Definition: Unique record ID
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: VISI_FROM
Attribute_Definition: Raw MP of first video frame in section
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: VISI_TO
Attribute_Definition: Raw MP of last video frame in section
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: IDKEY
Attribute_Definition: Unique record ID used by VisiData
Attribute_Definition_Source: Contractor Post-processing
Attribute:
Attribute_Label: MP_REF
Attribute_Definition: Range of mileage to play in VisiData
Attribute_Definition_Source: Contractor Post-processing

Distribution_Information:
Resource_Description: Downloadable Data
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Transfer_Size: 0.030

Metadata_Reference_Information:
Metadata_Date: 20050422
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: EFLHD Sterling
Contact_Person: Dan VanGilder
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: 21400 Ridgetop Circle
City: Sterling
State_or_Province: Virginia

Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Time_Convention: local time
Metadata_Extensions:
Online_Linkage: <http://www.esri.com/metadata/esriprof80.html>
Profile_Name: ESRI Metadata Profile

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sagu_seg

Metadata also available as

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator: The TSR Group
Publication_Date: 2005
Title: sagu_seg
Geospatial_Data_Presentation_Form: vector digital data
Online_Linkage: Not Available
Description:
Abstract: Routes
Purpose: Road Inventory Program
Supplemental_Information:
Data created by The TSR Group from GPS coordinates provided in the PMS_20 table. The shapefile is processed to aggregate adjacent segments with the same PCR rating.
Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Currentness_Reference: ground condition
Status:
Progress: Complete
Maintenance_and_Update_Frequency: As per RIP cycle
Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -111.218040
East_Bounding_Coordinate: -110.705833
North_Bounding_Coordinate: 32.327488
South_Bounding_Coordinate: 32.164257
Keywords:
Theme:
Theme_Keyword_Thesaurus: SAGU
Theme_Keyword: SAGU

Access_Constraints: None
Use_Constraints: Redistribution meeds permission from EFLHD/NPS
Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Dan VanGilder
Contact_Organization: EFLHD
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address: 21400 Ridgetop Circle
City: Sterling
State_or_Province: Virginia
Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Native_Data_Set_Environment:
Microsoft Windows 2000 Version 5.1 (Build 2600) Service Pack 2; ESRI ArcCatalog 8.3.0.800

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report: Good
Completeness_Report: Complete for routes
Lineage:
Source_Information:
Type_of_Source_Media: GPS

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: String
Point_and_Vector_Object_Count: 44

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.000000
Longitude_Resolution: 0.000000
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clarke 1866

Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: sagu_seg
Attribute:
Attribute_Label: FID
Attribute_Definition: Internal feature number.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain:
Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: Shape
Attribute_Definition: Feature geometry.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Coordinates defining the features.
Attribute:
Attribute_Label: LENGTH
Attribute_Definition: Length of feature
Attribute_Definition_Source: ESRI
Attribute:
Attribute_Label: ID
Attribute:
Attribute_Label: RTE_NO
Attribute_Definition: Route number
Attribute_Definition_Source: Route ID Meeting
Attribute:
Attribute_Label: RT_LENGTH
Attribute_Definition: Collected route length
Attribute_Definition_Source: ARAN Data Collection
Attribute:
Attribute_Label: PCR_RATEAV
Attribute_Definition:
Numeric PCR definition. Average PCR value based on programatic averaging of adjacent segments.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 0
Range_Domain_Maximum: 100
Attribute:
Attribute_Label: PCRAV
Attribute_Definition: Verbal PCR definition based on value in PCRAV field
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: POOR

Enumerated_Domain_Value_Definition: PCR value <= 60
Enumerated_Domain:
Enumerated_Domain_Value: FAIR
Enumerated_Domain_Value_Definition: PCR value 61-84
Enumerated_Domain:
Enumerated_Domain_Value: GOOD
Enumerated_Domain_Value_Definition: PCR value 85-94
Enumerated_Domain:
Enumerated_Domain_Value: EXCELLENT
Enumerated_Domain_Value_Definition: PCR value 95-100
Attribute:
Attribute_Label: TSR_EDIT
Attribute_Definition: Indicates whether feature has been edited for graphic purposes.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 1
Enumerated_Domain_Value_Definition: Edit has been made to feature for graphic purposes
Enumerated_Domain:
Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: No edit made to feature.

Distribution_Information:
Resource_Description: Downloadable Data
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Transfer_Size: 0.016

Metadata_Reference_Information:
Metadata_Date: 20050422
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: EFLHD Sterling
Contact_Person: Dan VanGilder
Contact_Position: GIS Coordinator
Contact_Address:
Address_Type: mailing and physical address
City: Sterling
State_or_Province: Virginia
Postal_Code: 20166
Country: United States
Contact_Voice_Telephone: 703-404-6361
Contact_Electronic_Mail_Address: dvangilder@fhwa.dot.gov
Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Metadata_Time_Convention: local time
Metadata_Extensions:
Online_Linkage: <http://www.esri.com/metadata/esriprof80.html>
Profile_Name: ESRI Metadata Profile

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