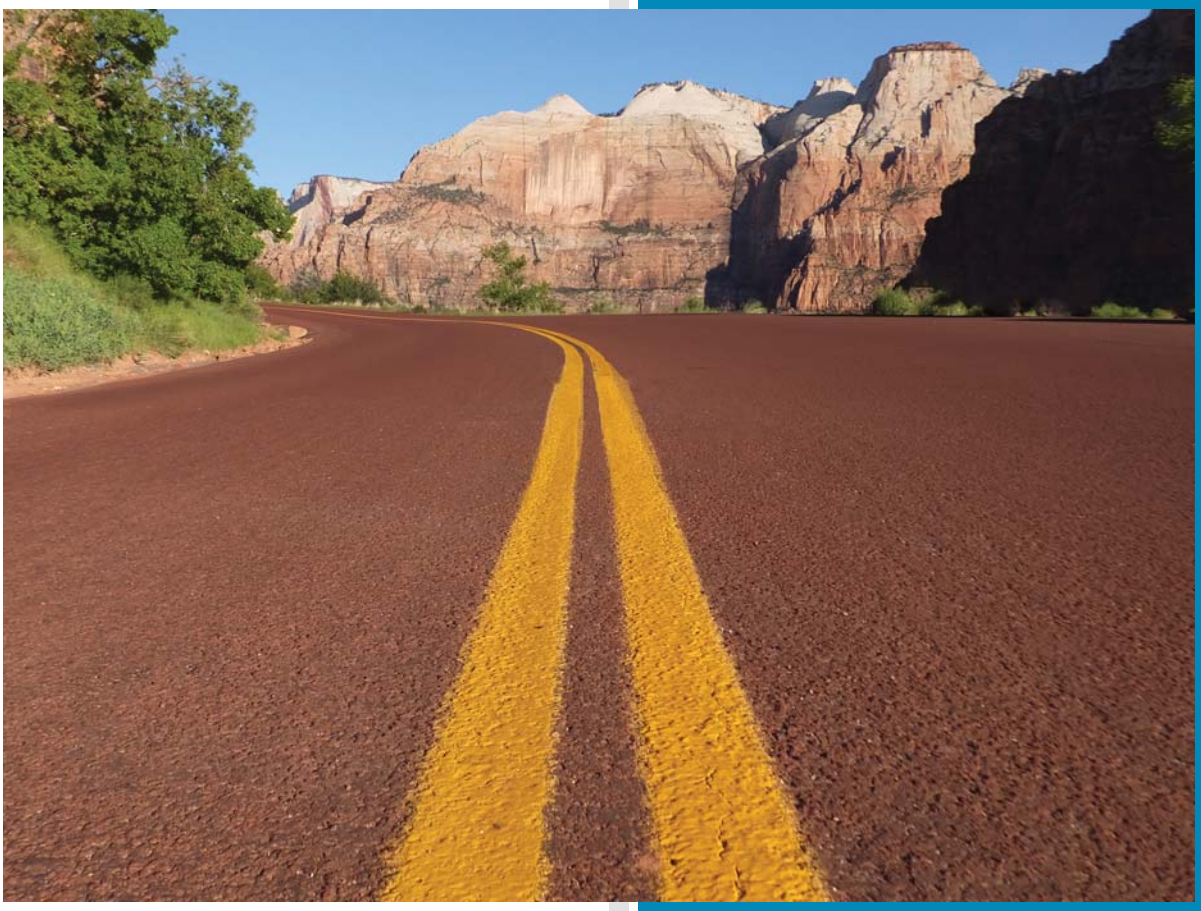
ZION
Cycle 6

Final Report

Road Inventory and Condition Assessment of Paved Routes
Zion National Park

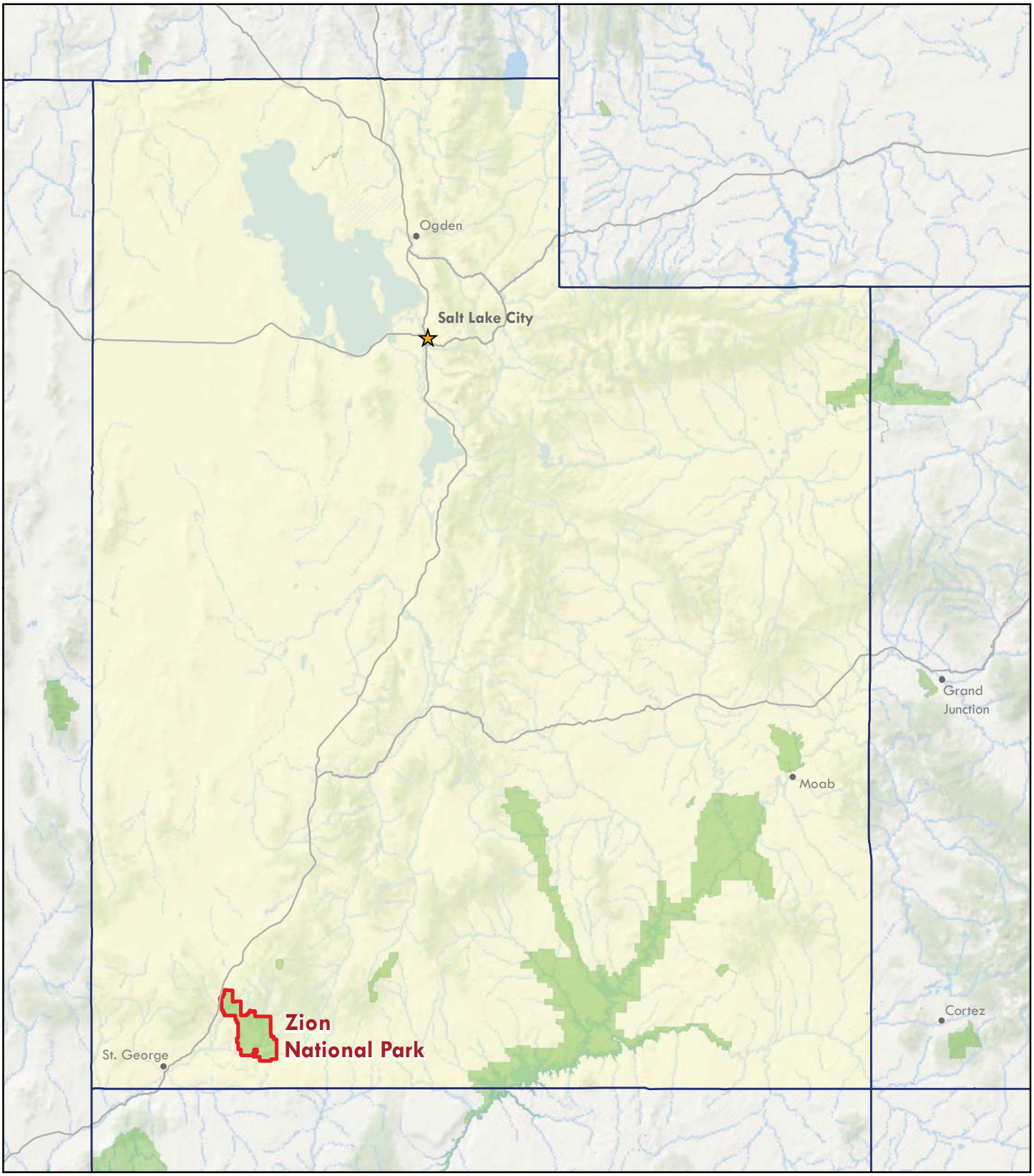


Federal Lands Highway
Road Inventory Program

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

Report Date: January 2018

Zion National Park
in
Utah



Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

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Section 1
Introduction

Zion National Park

Federal Lands Highway
Road Inventory Program

Introduction

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

A History of the Road Inventory Program:

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

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

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

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

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

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

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

A History of the Pavement Management System:

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

Overview of Cycle 6:

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

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

Respectfully,

FHWA RIP Team

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Section 2
Park Route Inventory

Zion National Park

Federal Lands Highway
Road Inventory Program

Report Date: 1/22/2018

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)

Federal Lands Highway
Road Inventory Program

Shading Color Key

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

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ZION *Zion National Park*

ROAD INVENTORY (1100 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)	Surf. Type	Area Map
0010	6	1	65424		SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)	FROM BEGINNING OF ROUTE 5002 (SOUTH ROAD 9) AT SOUTH PARK BOUNDARY	TO BEGINNING OF ROUTE 5000 (EAST HIGHWAY 9) AT EAST PARK BOUNDARY	CANYON	YES	12.25	0.00	12.25	1		AS	3,4,5
0011	6	1	65486		ZION CANYON SCENIC DRIVE	FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 1.60	TO ROUTE 0923 (TEMPLE OF SINAWAVA PARKING)	CANYON	YES	6.19	0.00	6.19	1		AS	4,6
0012	6	1	65631		KOLOB TERRACE ROAD SOUTH	FROM END OF ROUTE 5005 (KOLOB TERRACE ROAD SOUTH (NON NPS)) AT WEST-SOUTH PARK BOUNDARY	TO BEGINNING OF ROUTE 5004 (KOLOB TERRACE ROAD NORTH (NON NPS)) AT WEST-NORTH PARK BOUNDARY	PLATEAU	YES	4.09	0.00	4.09	1		AS	2
0013	6	1	65658		KOLOB CANYON ROAD	FROM I-15 ON AND OFF RAMPS ON THE EAST SIDE	TO ROUTE 0930 (KOLOB CANYON OVERLOOK PARKING)	KOLOB CANYON	YES	5.32	0.00	5.32	1		AS	1
0014	6	1	65633		KOLOB TERRACE ROAD NORTH	FROM END OF ROUTE 5004 (KOLOB TERRACE ROAD NORTH (NON NPS)) AT WEST PARK BOUNDARY	TO BEGINNING OF ROUTE 5003 (UPPER KOLOB PLATEAU ROAD) AT NORTH PARK BOUNDARY	PLATEAU	YES	5.88	0.00	5.88	1		AS	2
0200	6	1	65428		SOUTH CAMPGROUND LOOP	FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 0.46 ON RIGHT	TO END OF THE LOOP	CANYON	YES	0.86	0.00	0.86	2		AS	3
0200ZZ	6	1	104928		SOUTH CAMPGROUND INSIDE ROADS	FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP)	THROUGH CAMPGROUND	CANYON	YES	0.90	0.00	0.90	3		AS	3
0202	6	1	65429		WATCHMAN CAMPGROUND ROAD	FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 0.19 ON RIGHT	TO END OF LOOP	CANYON	YES	0.82	0.00	0.82	2		AS	3
0202A	6	1	104978		WATCHMAN CAMPGROUND LOOP A	FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.41 ON RIGHT	TO END OF LOOP	CANYON	YES	0.26	0.00	0.26	3		AS	3

Report Date: 12/22/2017

Cycle 6 NPS / RIP Route ID Report

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Federal Lands Highway
Road Inventory Program

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ZION *Zion National Park*

ROAD INVENTORY (1100 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)	Surf. Type	Area Map
0202B	6	1	104983		WATCHMAN CAMPGROUND LOOP B	FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.52 ON RIGHT	TO END OF LOOP	CANYON	YES	0.40	0.00	0.40	3		AS	3
0202C	6	1	104985		WATCHMAN CAMPGROUND LOOP C	FROM ROUTE 0202E (WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS) AT MP 0.02 ON RIGHT	TO END OF LOOP	CANYON	YES	0.29	0.00	0.29	3		AS	3
0202D	6	1	104989		WATCHMAN CAMPGROUND LOOP D	FROM ROUTE 0202E (WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS) AT MP 0.06 ON RIGHT	TO END OF LOOP	CANYON	YES	0.28	0.00	0.28	3		AS	3
0202E	6	1	104993		WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS	FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.37 ON LEFT	TO END	CANYON	YES	0.13	0.00	0.13	3		AS	3
0202F	6	1	231609		WATCHMAN CAMPGROUND LOOP B (SIDE LOOP)	FROM ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B) AT MP 0.11	TO ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B) AT MP 0.24	CANYON	YES	0.19	0.00	0.19	3		AS	3
0204	NC		65635		MIA ROAD	FROM ROUTE 0205 (LAVA POINT ROAD)	TO END	PLATEAU	NO	0.00	6.30	6.30	2		GR	
0205	NC		65634		LAVA POINT ROAD	FROM WEST PARK BOUNDARY	TO END	PLATEAU	NO	0.00	0.85	0.85	2		GR	
0206	NC		65632		SMITH MESA ROAD	FROM ROUTE 0012 (KOLOB TERRACE ROAD SOUTH)	TO WEST PARK BOUNDARY	PLATEAU	NO	0.00	1.00	1.00	3		GR	
0207	6	1	65469		WATCHMAN TRAIL ROAD	FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.17 ON LEFT	TO INTERSECTION OF ROUTE 0401 (WATCHMAN RESIDENCE ROAD) AND ROUTE 0400 (WATCHMAN HOUSING COMPLEX ROAD)	CANYON	YES	0.37	0.00	0.37	2		AS	3

Report Date: 1/22/2018

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)

Federal Lands Highway
Road Inventory Program

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ZION *Zion National Park*

ROAD INVENTORY (1100 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)	Surf. Type	Area Map
0208	6	1	65431		EAST RIM TRAIL ACCESS	FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 11.49 ON LEFT	TO END OF PAVEMENT	CANYON	YES	0.08	0.00	0.08	3		AS	5
0209	NC		65637		UPPER LEE VALLEY ROAD	FROM ROUTE 0014 (KOLOB TERRACE ROAD NORTH) ON RIGHT	TO END	PLATEAU	NO	0.00	0.75	0.75	3		GR	
0400	6	1	65432		WATCHMAN HOUSING COMPLEX ROAD	FROM ROUTE 0401 (WATCHMAN RESIDENCE ROAD) AT MP 0.33 ON LEFT	TO INTERSECTION OF ROUTE 0207 (WATCHMAN TRAIL ROAD) AND END OF ROUTE 0401 (WATCHMAN RESIDENCE ROAD)	CANYON	YES	0.18	0.00	0.18	5		AS	3
0401	6	1	90340		WATCHMAN RESIDENCE ROAD	FROM ROUTE 0403 (OAK CREEK HEADQUARTERS ROAD) AT MP 0.05 ON RIGHT	TO INTERSECTION OF ROUTE 0207 (WATCHMAN TRAIL ROAD) AND END OF ROUTE 0400 (WATCHMAN HOUSING COMPLEX ROAD)	CANYON	YES	0.48	0.00	0.48	5		AS	3
0402	6	1	65433		MAINTENANCE ACCESS ROAD	FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 0.68 ON LEFT	TO ROUTE 0909C (OAK CREEK MAINTENANCE YARD)	CANYON	YES	0.57	0.00	0.57	5		AS	3
0403	6	1	65435		OAK CREEK HEADQUARTERS ROAD	FROM ROUTE 0402 (MAINTENANCE ACCESS ROAD) AT MP 0.04 ON RIGHT AND LEFT	TO ROUTE 0908 (ADMINISTRATION PARKING)	CANYON	YES	0.08	0.00	0.08	5		AS	3
0404	6	1	65436		PINE CREEK RESIDENTIAL ROAD	FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 1.32 ON LEFT	TO DEAD END	CANYON	YES	0.07	0.00	0.07	5		AS	3
0405	NC		65425		MAINTENANCE STORAGE ROAD	FROM ROUTE 0909B (OAK CREEK MAINTENANCE OVERFLOW PARKING B)	TO DIRT ROAD ACCESS	CANYON	NO	0.00	0.06	0.06	6		GR	

Report Date: 1/22/2018

Cycle 6 NPS / RIP Route ID Report

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Federal Lands Highway Road Inventory Program

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ZION *Zion National Park*

ROAD INVENTORY (1100 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)	Surf. Type	Area Map
0407	6	1	65427		OAK CREEK RESIDENCE ROAD	FROM ROUTE 0402 (MAINTENANCE ACCESS ROAD) AT MP 0.30 ON RIGHT	TO DEAD END	CANYON	YES	0.23	0.00	0.23	5		AS	3
0408	6	1	90348		OAK CREEK RESIDENCE SPUR ROAD	FROM ROUTE 0407 (OAK CREEK RESIDENCE ROAD) AT MP 0.08 ON RIGHT	TO DEAD END	CANYON	YES	0.18	0.00	0.18	5		AS	3
0409	6	1	65505		HORSE CORRAL ROAD	FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 1.64 ON LEFT	TO DEAD END	CANYON	YES	0.15	0.00	0.15	5		AS	4
0410	6	1	65660		KOLOB SERVICE ROAD	FROM ROUTE 0013 (KOLOB CANYON ROAD) AT MP 0.07 ON LEFT	TO UNPAVED ROUTE	KOLOB CANYON	NO	0.45	0.00	0.45	6		AS	1
0411	6	1	90349		KOLOB RESIDENCE ROAD	FROM ROUTE 0410 (KOLOB SERVICE ROAD)	TO ROUTE 0410 (KOLOB SERVICE ROAD)	KOLOB CANYON	NO	0.00	0.00	0.00	6	6,094	AS	1
0412	6	1	90351		CONCESSIONAIRE / DORM ACCESS ROAD	FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 2.48 ON RIGHT	TO ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD) AT MP 0.22 ON RIGHT	CANYON	NO	0.35	0.00	0.35	6		AS	6
0413	NC		65636		FIRE PIT ROAD	FROM ROUTE 0014 (KOLOB TERRACE ROAD NORTH) ON LEFT	TO END	PLATEAU	NO	0.00	1.50	1.50	6		GR	

NON-NPS ROADS INVENTORY

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)	Surf. Type	Area Map
5000	4	1	234207		EAST HIGHWAY 9	FROM END OF ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))	TO INTERSECTION OF HIGHWAY 9 AND ZION MOUNTAIN RESORT ON RIGHT		NO	3.50	0.00	3.50			AS	Key,5

Report Date: 1/22/2018

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)

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Road Inventory Program

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ZION *Zion National Park*

NON-NPS ROADS INVENTORY

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)	Surf. Type	Area Map
5001	4	1	116293		NORTH FORK ROAD	FROM ROUTE 5000 (EAST HIGHWAY 9) ON LEFT	TO BEGINNING OF NORTH FORK ROAD UNPAVED SECTION		NO	5.45	0.00	5.45			AS	Key
5002	4	1	116160		SOUTH ROAD 9	FROM BEGINNING OF ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))	TO BEGINNING OF ROUTE 5005 (KOLOB TERRACE ROAD SOUTH (NON NPS)) ON RIGHT		NO	14.05	0.00	14.05			AS	Key,3
5003	4	1	234210		UPPER KOLOB PLATEAU ROAD	FROM END OF ROUTE 0014 (KOLOB TERRACE ROAD NORTH)	TO UNPAVED ROAD AT RESERVOIR		NO	5.38	0.00	5.38			AS	Key,2
5004	4	1	234212		KOLOB TERRACE ROAD NORTH (NON NPS)	FROM END OF ROUTE 0012 (KOLOB TERRACE ROAD SOUTH)	TO BEGINNING OF ROUTE 0014 (KOLOB TERRACE ROAD NORTH)		NO	2.02	0.00	2.02			AS	2
5005	4	1	234213		KOLOB TERRACE ROAD SOUTH (NON NPS)	FROM END OF ROUTE 5002 (SOUTH ROAD 9)	TO BEGINNING OF ROUTE 0012 (KOLOB TERRACE ROAD SOUTH)		NO	6.54	0.00	6.54			AS	Key,2

PARKING AREA INVENTORY (1300 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Access Level	Area (SQ FT)	Surf. Type	Area Map
0900	6	1	65438		SOUTH ENTRANCE PARKING	FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))	TO ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))	CANYON	YES	PUBLIC	12,526	AS	3
0901	6	1	65470		EMPLOYEE VISITOR CENTER PARKING	FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.12 ON LEFT	TO ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.15 ON LEFT	CANYON	YES	PUBLIC	5,900	AS	3
0902	6	1	65482		VISITOR CENTER PARKING	FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.20 ON RIGHT	TO PARKING AND ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)	CANYON	YES	PUBLIC	209,089	AS	3

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Cycle 6 NPS / RIP Route ID Report

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ZION *Zion National Park*

PARKING AREA INVENTORY (1300 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Access Level	Area (SQ FT)	Surf. Type	Area Map
0903	6	1	65483		WATCHMAN CAMPGROUND DUMP STATION PARKING	FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.38 ON LEFT	TO INTERSECTION OF ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.41 ON LEFT AND ROUTE 0202A (WATCHMAN CAMPGROUND LOOP A)	CANYON	YES	PUBLIC	6,458	AS	3
0904	6	1	65471		WATCHMAN AMPHITHEATER LOOP B PARKING	ADJACENT TO ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B) ON RIGHT		CANYON	YES	PUBLIC	3,334	AS	3
0905	6	1	65484		SOUTH CAMPGROUND DUMP STATION	ADJACENT TO ROUTE 0200 (SOUTH CAMPGROUND LOOP) ON LEFT		CANYON	YES	PUBLIC	4,305	AS	3
0906	6	1	65472		ZION NATURE CENTER PARKING	FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP) ON LEFT	TO ROUTE 0907 (SOUTH CAMPGROUND / AMPHITHEATER PARKING)	CANYON	YES	PUBLIC	31,043	AS	3
0907	6	1	65474		SOUTH CAMPGROUND / AMPHITHEATER PARKING	FROM ROUTE 0906 (ZION NATURE CENTER PARKING)	TO PARKING	CANYON	YES	PUBLIC	25,326	AS	3
0908	6	1	65475		ADMINISTRATION PARKING	FROM END OF ROUTE 0403 (OAK CREEK HEADQUARTERS ROAD)	TO PARKING	CANYON	NO	NONPUBLIC	19,493	AS	3
0909A	6	1	65476		NORTH MAINTENANCE AREA PARKING A	ADJACENT TO ROUTE 0402 (MAINTENANCE ACCESS ROAD) ON LEFT		CANYON	NO	NONPUBLIC	2,928	AS	3
0909B	6	1	104999		OAK CREEK MAINTENANCE OVERFLOW PARKING B	ADJACENT TO ROUTE 0402 (MAINTENANCE ACCESS ROAD) ON RIGHT		CANYON	NO	NONPUBLIC	8,282	AS	3
0909C	6	1	105003		OAK CREEK MAINTENANCE YARD	FROM END OF ROUTE 0402 (MAINTENANCE ACCESS ROAD)	TO PARKING	CANYON	NO	NONPUBLIC	58,197	AS	3
0910	6	1	65485		WATCHMAN ADMINISTRATOR (HELIPAD) PARKING	ADJACENT TO ROUTE 0401 (WATCHMAN RESIDENCE ROAD) AT MP 0.27 ON LEFT		CANYON	NO	NONPUBLIC	6,010	AS	3
0911	6	1	65477		MUSEUM PARKING AREA	FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 0.93 ON LEFT	TO PARKING	CANYON	YES	PUBLIC	49,926	AS	3

Report Date: 1/22/2018

Cycle 6 NPS / RIP Route ID Report

(Numerical By Summary Route and Subcomponent #)

Federal Lands Highway
Road Inventory Program

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ZION *Zion National Park*

PARKING AREA INVENTORY (1300 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Access Level	Area (SQ FT)	Surf. Type	Area Map
0912	6	1	65478		TUNNEL EAST (CANYON OVERLOOK) PARKING	FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 6.20 ON RIGHT	TO PARKING	CANYON	YES	PUBLIC	4,705	AS	4
0913	6	1	65479		CHECKERBOARD MESA VIEWPOINT PARKING	FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 11.28 ON LEFT	TO PARKING	CANYON	YES	PUBLIC	9,116	AS	5
0914	NC		65481		EAST RIM TRAIL HEAD PARKING	FROM END OF ROUTE 0208 (EAST RIM TRAIL ACCESS)	TO PARKING	CANYON	NO	PUBLIC	5,894	GR	
0915	6	1	65491		COURT OF THE PATRIARCHS PARKING	FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 1.64 ON RIGHT	TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 1.67 ON RIGHT	CANYON	YES	PUBLIC	4,724	AS	4
0916	6	1	65494		WYLIE PARKING	FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 2.31 ON RIGHT	TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 2.36 ON RIGHT	CANYON	YES	PUBLIC	7,439	AS	6
0917	6	1	65496	■	ZION LODGE CABIN PARKING	FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 2.65 ON RIGHT AND ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD) ON LEFT	TO ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD)	CANYON	YES	PUBLIC	85,246	AS	6
0918	6	1	65497		WEST RIM TRAILHEAD PARKING	ADJACENT TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 3.37 ON LEFT		CANYON	YES	PUBLIC	3,628	AS	6
0919	6	1	65498		GROTTO PICNIC PARKING	FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 3.37 ON RIGHT	TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 3.44 ON RIGHT	CANYON	YES	PUBLIC	17,141	AS	6
0920	6	1	65499		WEEPING ROCK PARKING	FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 4.58 ON RIGHT	TO PARKING	CANYON	YES	PUBLIC	17,318	AS	6
0921	6	1	65500		THE GREAT WHITE THRONE PARKING	FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 4.82 ON LEFT	TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 4.86 ON LEFT	CANYON	YES	PUBLIC	6,030	AS	6
0922	6	1	65501	■	BIG BEND BUS AND TRAILER PARKING	FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 5.09 ON LEFT	TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 5.13 ON LEFT	CANYON	YES	PUBLIC	14,288	CO	6
0923	6	1	65502		TEMPLE OF SINAWAVA PARKING	FROM END OF ROUTE 0011 (ZION CANYON SCENIC DRIVE)	TO PARKING	CANYON	YES	PUBLIC	39,231	AS	6

Report Date: 1/22/2018

Cycle 6 NPS / RIP Route ID Report

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Road Inventory Program

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ZION *Zion National Park*

PARKING AREA INVENTORY (1300 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Access Level	Area (SQ FT)	Surf. Type	Area Map
0924	6	1	65503		EMERALD POOLS HORSE CORRAL PARKING	FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 2.65 ON LEFT	TO PARKING	CANYON	YES	PUBLIC	16,714	AS	6
0925A	6	1	65504	■	ZION LODGE VISITOR PARKING	FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 2.81 ON RIGHT	TO ROUTE 0925B (ZION LODGE MAINTENANCE PARKING)	CANYON	YES	PUBLIC	41,491	AS	6
0925B	6	1	105002	■	ZION LODGE MAINTENANCE PARKING	FROM ROUTE 0925A (ZION LODGE VISITOR PARKING)	TO PARKING	CANYON	NO	NONPUBLIC	5,495	AS	6
0926	6	1	65661	■	KOLOB VISITORS CENTER PARKING	FROM ROUTE 0013 (KOLOB CANYON ROAD) AT MP 0.05 ON RIGHT	TO ROUTE 0013 (KOLOB CANYON ROAD) AT MP 0.13 ON RIGHT	KOLOB CANYON	YES	PUBLIC	41,277	AS	1
0927	6	1	65665	■	TAYLOR CREEK TRAILHEAD PARKING	FROM ROUTE 0013 (KOLOB CANYON ROAD) AT MP 2.02 ON LEFT	TO ROUTE 0013 (KOLOB CANYON ROAD) AT MP 2.07 ON LEFT	KOLOB CANYON	YES	PUBLIC	16,227	AS	1
0928	6	1	65663		SOUTH FORK PARKING AREA	FROM ROUTE 0013 (KOLOB CANYON ROAD) AT MP 3.24 ON RIGHT	TO ROUTE 0013 (KOLOB CANYON ROAD) AT MP 3.29 ON RIGHT	KOLOB CANYON	YES	PUBLIC	16,318	AS	1
0929	6	1	65664	■	LEE PASS TRAILHEAD PARKING	ADJACENT TO ROUTE 0013 (KOLOB CANYON ROAD) AT MP 3.91 ON LEFT		KOLOB CANYON	YES	PUBLIC	4,871	AS	1
0930	6	1	65662	■	KOLOB CANYON OVERLOOK PARKING	FROM END OF ROUTE 0013 (KOLOB CANYON ROAD)	TO PARKING	KOLOB CANYON	YES	PUBLIC	29,057	AS	1
0931A	6	1	90355	■	CONCESSIONAIRE / DORM PARKING A	ADJACENT TO ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD) AT MP 0.08 ON RIGHT		CANYON	NO	NONPUBLIC	1,376	AS	6
0931B	6	1	104971	■	CONCESSIONAIRE / DORM PARKING B	ADJACENT TO ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD) AT MP 0.15 ON RIGHT		CANYON	NO	NONPUBLIC	5,730	AS	6
0931C	6	1	104972		CONCESSIONAIRE / DORM PARKING C	ADJACENT TO ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD) AT MP 0.19 ON RIGHT		CANYON	NO	NONPUBLIC	2,453	AS	6
0932	6	1	90403		CANYON OVERLOOK PARKING	ADJACENT TO ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 6.30 ON LEFT		CANYON	YES	PUBLIC	4,085	AS	4

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Cycle 6 NPS / RIP Route ID Report

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ZION *Zion National Park*

PARKING AREA INVENTORY (1300 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Access Level	Area (SQ FT)	Surf. Type	Area Map
0933A	6	1	90404		PINE CREEK OVERLOOK PARKING A	ADJACENT TO ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 1.63 ON RIGHT		CANYON	YES	PUBLIC	1,500	AS	4
0933B	6	1	104937		PINE CREEK OVERLOOK PARKING B	ADJACENT TO ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 1.71 ON RIGHT		CANYON	YES	PUBLIC	2,730	AS	4
0934	6	1	90405	■	PTI FACILITY PARKING	FROM ROUTE 0207 (WATCHMAN TRAIL ROAD) AT MP 0.03 ON RIGHT	TO PARKING	CANYON	NO	NONPUBLIC	117,576	AS	3
0935	6	1	90406		WATCHMAN CAMPGROUND WALK-IN SITES PARKING	FROM ROUTE 0202E (WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS) AT MP 0.04 ON LEFT	TO ROUTE 0202E (WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS) AT MP 0.09 ON LEFT	CANYON	YES	PUBLIC	11,161	AS	3
0936	6	1	65437		ZION NATURE CENTER REAR PARKING	FROM ROUTE 0907 (SOUTH CAMPGROUND / AMPHITHEATER PARKING)	TO PARKING	CANYON	YES	PUBLIC	6,940	AS	3
0937	6	1	90407		ZION CANYON VISITOR CENTER SHUTTLE BUS VISITOR PICK UP	FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.17 ON RIGHT	TO PARKING	CANYON	NO	NONPUBLIC	13,799	AS	3
0938	6	1	90409	■	KOLOB CANYON MAINTENANCE PARKING	FROM ROUTE 0410 (KOLOB SERVICE ROAD) AT MP 0.38 ON RIGHT	TO PARKING	KOLOB CANYON	NO	NONPUBLIC	8,565	AS	1
0939	6	1	65612		EAST ENTRANCE STATION PARKING AREA	ADJACENT TO ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 11.52 ON LEFT		CANYON	YES	PUBLIC	4,933	AS	5
0940	6	1	65606		E.O.C. PARKING AREA	FROM ROUTE 0402 (MAINTENANCE ACCESS ROAD) AT MP 0.08 ON RIGHT	TO ROUTE 0403 (OAK CREEK HEADQUARTERS ROAD) AT MP 0.02 ON LEFT	CANYON	NO	NONPUBLIC	34,633	AS	3
0941	6	1	231229		HEADQUARTERS WATCHMAN JUNCTION PARKING	ADJACENT TO ROUTE 0403 (OAK CREEK HEADQUARTERS ROAD) AT MP 0.05 ON LEFT		CANYON	NO	NONPUBLIC	1,748	AS	3

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Cycle 6 NPS / RIP Route ID Report

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= Concession Route

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ZION *Zion National Park*

PARKING AREA INVENTORY (1300 SERIES FMSS LOCATIONS)

Route No.	Cycle Collected	Iteration Collected	FMSS Number	Concession	Route Name	Route Description From	Route Description To	Maintenance District	FLTP	Access Level	Area (SQ FT)	Surf. Type	Area Map
0943	6	1	231581		UPPER LEE PASS PARKING	ADJACENT TO ROUTE 0013 (KOLOB CANYON ROAD) AT MP 4.49 ON LEFT		KOLOB CANYON	YES	PUBLIC	5,890	AS	1
0944	NC		231230		BIRCH CREEK CORRAL PARKING	FROM ROUTE 0409 (HORSE CORRAL ROAD) ON LEFT	TO PARKING	CANYON	NO	NONPUBLIC	5,200	GR	
0945	6	1	231580		SOUTH ENTRANCE STATION EMPLOYEE PARKING	ADJACENT TO ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) ON LEFT		CANYON	NO	NONPUBLIC	1,486	AS	3
0946ZZ	6	1	231610		OAK CREEK DORM STREET PARKING AREAS	ADJACENT TO ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD) ON RIGHT		CANYON	YES	PUBLIC	4,784	AS	3
0947	NC		231231		RIGHT FORK TRAILHEAD PARKING	FROM ROUTE 0012 (KOLOB TERRACE ROAD SOUTH) AT MP 0.45 ON RIGHT	TO PARKING	PLATEAU	NO	PUBLIC	4,800	GR	
0948	NC		231232		GRAPEVINE TRAILHEAD PARKING	FROM ROUTE 0012 (KOLOB TERRACE ROAD SOUTH) AT MP 0.80 ON RIGHT	TO PARKING	PLATEAU	NO	PUBLIC	4,200	GR	
0949	NC		231233		LEFT FORK TRAILHEAD PARKING	FROM ROUTE 0012 (KOLOB TERRACE ROAD SOUTH) AT MP 1.74 ON RIGHT	TO PARKING	PLATEAU	NO	PUBLIC	8,004	GR	
0950	NC		231234		HOP VALLEY TRAILHEAD PARKING	FROM ROUTE 0014 (KOLOB TERRACE ROAD NORTH) AT MP 0.28 ON LEFT	TO PARKING	PLATEAU	NO	PUBLIC	17,440	GR	
0951	NC		231235		THREE PINES PICNIC AREA PARKING	FROM ROUTE 0014 (KOLOB TERRACE ROAD NORTH) AT MP 3.35 ON LEFT	TO ROUTE 0014 (KOLOB TERRACE ROAD NORTH) AT MP 3.37 ON LEFT	PLATEAU	NO	PUBLIC	2,625	GR	
0952	NC		231236		WILDCAT CANYON TRAILHEAD PARKING	FROM ROUTE 0014 (KOLOB TERRACE ROAD NORTH) AT MP 3.18 ON LEFT	TO PARKING	PLATEAU	NO	PUBLIC	6,800	GR	
0953	6	1	231704		VISITOR CENTER RV PARKING	FROM ROUTE 0207 (WATCHMAN TRAIL ROAD)	TO PARKING	CANYON	YES	PUBLIC	48,872	AS	3

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Cycle 6 NPS / RIP Route ID Report

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Cycle 6 Summary Totals for Zion National Park

Cycle 6 Route Totals

	NPS Maintained	Concessionaire Maintained	Park Totals
Paved Roads, Data Collection Vehicle Rated (Miles)	40.10	0.95	**41.05**
Paved Roads, Manually Rated Length (Miles)	0	0	**0**
Paved Roads, Manually Rated Area (Sq. Ft.)	6,094	0	**6,094**
Unpaved Roads (Miles)	10.46	0	**10.46**
Paved Parking (Sq. Ft.)	730,195	371,199	**1,101,394**
Unpaved Parking (Sq. Ft.)	54,963	0	**54,963**

Cycle 6 Lane Miles and Overall Pavement Condition

	Lanes Miles*	Pavement Condition Rating**
Data Collection Vehicle Routes	86.40	90
Manually Rated Roads	0.11	73
Parking Areas	18.96	77

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

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

Report Date: 1/22/2018

Cycle 6 NPS / RIP Route ID Report

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General Park Road Functional Classification (FC) Table

FC	Type	User Access	Description	Route Numbers
1	Principal Park Road Rural Parkway	Public	Roads which constitute the main access route, circulatory tour, or thoroughfare for park visitors. Rural Parkways (e.g. Natchez Trace) are numbered 0001 - 0009.	0001 - 0009 0010 - 0099
2	Connector Park Road	Public	Roads which provide access within a park to areas of scenic, scientific, recreational or cultural interest, such as overlooks, campgrounds, etc.	0100 - 0199
3	Special Purpose Park Road	Public	Roads which provide circulation within public areas, such as campgrounds, picnic areas, visitor center complexes, concessionaire facilities, etc. These roads generally serve low-speed traffic and are often designed for one-way circulation.	0200 - 0299
4	Primitive Park Road	Public	Roads which provide circulation through remote areas and/or access to primitive campgrounds and undeveloped areas. These roads frequently have no minimum design standards and their use may be limited to specially equipped vehicles. Note: Functional Classes 3 and 4 have the same route numbers because, historically, they were numbered similarly.	0200 - 0299
5	Administrative Park Road	Public	All public roads intended for access to administrative developments or structures such as park offices, employee quarters, or utility areas.	0400 - 0499
6	Administrative Park Road (Restricted Access)	Nonpublic	All roads normally closed to the public, including patrol roads, truck trails, and other similar roads. Note: Functional Classes 5 and 6 have the same route numbers because historically they were numbered similarly and often there is little distinction between these routes. For example, because utility areas and employee housing are often closed to the public, this restriction would result in classification of FC 6 rather than FC 5.	0400 - 0499
7	Urban Parkway	Public	These facilities serve high volumes of park and non-park related traffic and are restricted, limited-access facilities in an urban area. This category of roads primarily encompasses the major parkways which serve as gateways to our nation's capital. Other major park roads or portions thereof, however, may be included in this category.	0001 - 0009
8	City Street	Public	City streets are usually extensions of the adjoining street system that are owned and maintained by the National Park Service. The construction and/or reconstruction should conform with accepted local engineering practice and local conditions.	0600 - 0699
N/A	Non-NPS Roads	Public	State, County, or City owned roads which border, traverse, or provide access to Park Facilities or Locations. Non-NPS roads are not assigned functional classes and are driven for GPS and Video Log only.	5000 - 5999

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

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

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

Report Date: 1/22/2018

NPS / RIP Subcomponent Details for ZION

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ZION *Zion National Park*

SUMMARY ROUTE INVENTORY FOR ROADS (1100 SERIES FMSS LOCATIONS)

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	FLTP	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)
0200ZZ	104928	6	1		SOUTH CAMPGROUND INSIDE ROADS	FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP)	THROUGH CAMPGROUND	YES	0.90	0.00	0.90	3	

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

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	FLTP	User Access	Area (SQ FT)
0946ZZ	231610	6	1		OAK CREEK DORM STREET PARKING AREAS	ADJACENT TO ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD) ON RIGHT		YES	PUBLIC	4,784

NPS / RIP Subcomponent Details for ZION

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ZION *Zion National Park*

ZION-0200ZZ Subcomponent Breakdown

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	FLTP	Paved Miles	Unpaved Miles	Total Mileage	Functional Class	Area (SQ FT)
0200AZ	104928	6	1		SOUTH CAMPGROUND INSIDE ROAD A (SITES 13-18)	FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.32 ON LEFT	TO ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.36 ON LEFT	YES	0.13	0.00	0.13	3	
0200BZ	104928	6	1		SOUTH CAMPGROUND INSIDE ROAD B (SITES 23-35)	FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.15 ON LEFT	TO ROUTE 0200AZ (SOUTH CAMPGROUND INSIDE ROAD A (SITES 13-18))	YES	0.15	0.00	0.15	3	
0200CZ	104928	6	1		SOUTH CAMPGROUND INSIDE ROAD C (SITES 36-57)	FROM ROUTE 0200EZ (SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124))	TO ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.38 ON LEFT	YES	0.17	0.00	0.17	3	
0200DZ	104928	6	1		SOUTH CAMPGROUND INSIDE ROAD D (SITES 64-67)	FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.45 ON LEFT	TO ROUTE 0200EZ (SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124))	YES	0.09	0.00	0.09	3	
0200EZ	104928	6	1		SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124)	FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.12 ON LEFT	TO ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.55 ON LEFT	YES	0.05	0.00	0.05	3	
0200FZ	104928	6	1		SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100)	FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.11 ON LEFT	TO ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.82 ON LEFT	YES	0.12	0.00	0.12	3	
0200GZ	104928	6	1		SOUTH CAMPGROUND INSIDE ROAD G (SITES 86-89)	FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.67 ON LEFT	TO ROUTE 0200FZ (SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100))	YES	0.06	0.00	0.06	3	
0200HZ	104928	6	1		SOUTH CAMPGROUND INSIDE ROAD H (SITES 103-113)	FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.68 ON LEFT	TO ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.81 ON LEFT	YES	0.09	0.00	0.09	3	
0200IZ	104928	6	1		SOUTH CAMPGROUND INSIDE ROAD I	FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP) AT MP 0.56 ON LEFT	TO ROUTE 0200FZ (SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100))	YES	0.04	0.00	0.04	3	

Report Date: 1/22/2018

NPS / RIP Subcomponent Details for ZION

(Numerical By Summary Route and Subcomponent #)

Federal Lands Highway
Road Inventory Program

Shading Color Key

White = Paved Routes, DCV Driven	Grey = Paved Routes, DCV not Driven	Black = Paved Routes, Non-NPS
Yellow = Unpaved Routes, DCV not Driven	Blue = Paved Parking Areas	Green = Unpaved Parking Areas

■ = Concession Route

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

DCV = Data Collection Vehicle
MRL = Manually Rated Line
MRP = Manually Rated Polygon
PKG = Parking Areas
NC = Not Collected

ZION *Zion National Park*

ZION-0946ZZ Subcomponent Breakdown

Route Number	FMSS Number	Cycle Collected	Iteration Collected	Concession	Route Name	Route Description From	Route Description To	FLTP	User Access	Area (SQ FT)
0946AZ	231610	6	1		OAK CREEK DORM STREET PARKING A	ADJACENT TO ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD) AT MP 0.17 ON RIGHT		YES	PUBLIC	1,004
0946BZ	231610	6	1		OAK CREEK DORM STREET PARKING B	ADJACENT TO ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD) AT MP 0.04 ON RIGHT		YES	PUBLIC	628
0946CZ	231610	6	1		OAK CREEK DORM STREET PARKING C	ADJACENT TO ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD) AT MP 0.03 ON RIGHT		YES	PUBLIC	704
0946DZ	231610	6	1		OAK CREEK DORM STREET PARKING D	ADJACENT TO ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD) AT MP 0.15 ON LEFT		YES	PUBLIC	2,448

Route Identification Changes to Paved Routes from Previous Cycle
Zion National Park

ROUTES MODIFIED FROM PREVIOUS INVENTORY:			
Route No.	**Route Name**	**Type of Change**	**Comments**
0202	WATCHMAN CAMPGROUND ROAD	REALIGNED	ROUTE 0202 WAS REALIGNED AT THE END OF THE LOOP.
0202F	WATCHMAN CAMPGROUND LOOP B (SIDE LOOP)	ROUTE NAME	ROUTE NAME WAS UPDATED FROM "WATCHMAN CAMPGROUND LOOP F" TO "WATCHMAN CAMPGROUND LOOP B (SIDE LOOP)" IN ORDER TO ALIGN WITH FMSS.
0207	WATCHMAN TRAIL ROAD	FUNCTIONAL CLASS CHANGE	FUNCTIONAL CLASS CHANGED FROM 3 TO 2 IN CYCLE 6.
0902	VISITOR CENTER PARKING	RECONSTRUCTED	GPS WAS RECOLLECTED TO SHOW CHANGES TO THE PARKING AREA GEOMETRY. THE PARKING AREA WAS RECENTLY EXPANDED AND AN ADDITIONAL ENTRANCE WAS ADDED.
0905	SOUTH CAMPGROUND DUMP STATION	SQ FEET CHANGE	IMPROVED GPS AND SQUARE FOOTAGE WERE COLLECTED IN CYCLE 6.
0908	ADMINISTRATION PARKING	SQ FEET CHANGE	IMPROVED GPS AND SQUARE FOOTAGE WERE COLLECTED IN CYCLE 6.
0909C	OAK CREEK MAINTENANCE YARD	SQ FEET CHANGE	UPDATED GPS AND SQ FT BY ADDING CONCRETE SECTIONS.
0910	WATCHMAN ADMINISTRATOR (HELIPAD) PARKING	SQ FEET CHANGE	GPS WAS RECOLLECTED TO SHOW SECTION OF PAVEMENT REMOVED ON THE SOUTH SIDE OF THE PARKING AREA.
0915	COURT OF THE PATRIARCHS PARKING	SQ FEET CHANGE	IMPROVED GPS AND SQUARE FOOTAGE WERE COLLECTED IN CYCLE 6.
0917	ZION LODGE CABIN PARKING	SQ FEET CHANGE	IMPROVED GPS AND SQUARE FOOTAGE WERE COLLECTED IN CYCLE 6.
0919	GROTTO PICNIC PARKING	SQ FEET CHANGE	IMPROVED GPS AND SQUARE FOOTAGE WERE COLLECTED IN CYCLE 6.
0920	WEEPING ROCK PARKING	SQ FEET CHANGE	IMPROVED GPS AND SQUARE FOOTAGE WERE COLLECTED IN CYCLE 6.
0922	BIG BEND BUS AND TRAILER PARKING	SQ FEET CHANGE	IMPROVED GPS AND SQUARE FOOTAGE WERE COLLECTED IN CYCLE 6.
0923	TEMPLE OF SINAWAVA PARKING	SQ FEET CHANGE	IMPROVED GPS AND SQUARE FOOTAGE WERE COLLECTED IN CYCLE 6.
0932	CANYON OVERLOOK PARKING	SQ FEET CHANGE	IMPROVED GPS AND SQUARE FOOTAGE WERE COLLECTED IN CYCLE 6.
0937	ZION CANYON VISITOR CENTER SHUTTLE BUS VISITOR PICK UP	SQ FEET CHANGE	GPS WAS RECOLLECTED TO SHOW AN ADDITIONAL SECTION OF PAVEMENT ON THE NORTH SIDE OF THE SHUTTLE LOOP.

Route Identification Changes to Paved Routes from Previous Cycle
Zion National Park

ROUTES MODIFIED FROM PREVIOUS INVENTORY:			
Route No.	**Route Name**	**Type of Change**	**Comments**
0938	KOLOB CANYON MAINTENANCE PARKING	SQ FEET CHANGE	IMPROVED GPS AND SQUARE FOOTAGE WERE COLLECTED IN CYCLE 6.
0946ZZ	OAK CREEK DORM STREET PARKING AREAS	SQ FEET CHANGE	CYCLE 5 ROUTE 0946 WAS COMBINED WITH THREE ADDITIONAL PARKING AREAS THAT ARE NEW TO THE RIP INVENTORY.
0953	VISITOR CENTER RV PARKING	SURFACE TYPE CHANGE	SURFACE TYPE CHANGED FROM GRAVEL TO ASPHALT.

Section 3
Park Summary Information

Zion National Park

Federal Lands Highway
Road Inventory Program

Parkwide Paved Route Condition Summary
Zion National Park

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

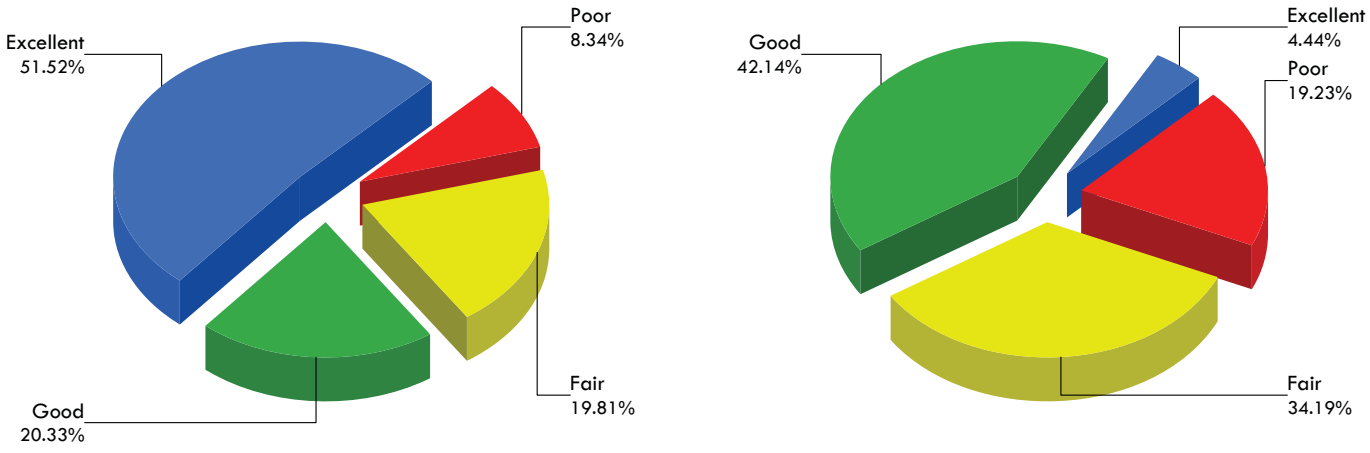
Breakdown of Pavement Condition Rating (PCR) Based on Access Level

	POOR (PCR of 0 - 60)	FAIR (PCR of 61 - 84)	GOOD (PCR of 85 - 94)	EXCELLENT (PCR of 95 -100)	
PAVED ROADS					
Functional Class	**Length (miles)**	**Length (miles)**	**Length (miles)**	**Length (miles)**	**Total Mileage by FC**
1	2.16	5.52	5.93	20.02	33.63
2	0.32	0.68	0.77	0.28	2.05
3	0.46	0.74	0.55	0.78	2.53
4					
5	0.04	0.95	0.91	0.04	1.94
6	0.44	0.23	0.18		0.85
7					
8					
Total Mileage by PCR	**3.42**	**8.12**	**8.34**	**21.12**	**41.00**
PAVED PARKING					
Access Level	**Area (sq. ft.)**	**Area (sq. ft.)**	**Area (sq. ft.)**	**Area (sq. ft.)**	**Total Area**
PUBLIC	153,684	240,612	370,455	48,872	813,623
NONPUBLIC	58,197	135,909	93,665		287,771
Total Area by PCR	**211,881**	**376,521**	**464,120**	**48,872**	**1,101,394**

NOTES:

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

Parkwide Condition Percentages



Road Condition Percentages

Parking Area Condition Percentages

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

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

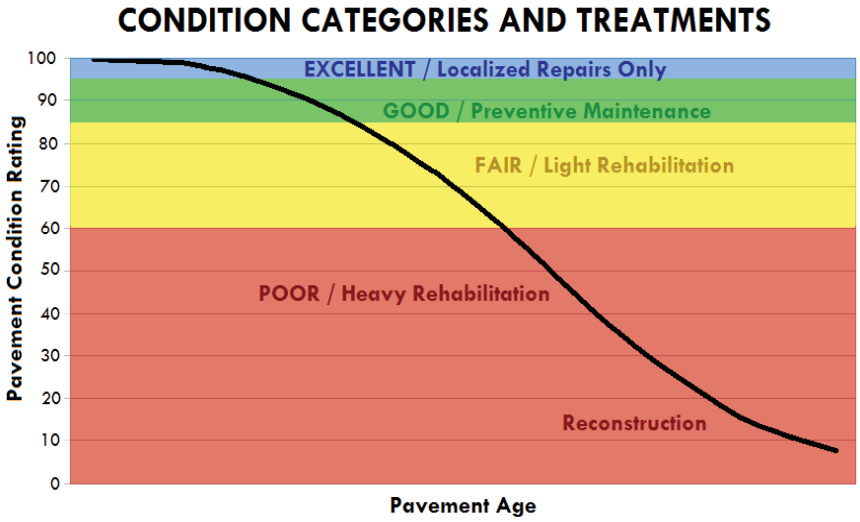
The Road Inventory Program aims to provide assistance in translating the excellent / good / fair / poor rating categories into pavement needs categories. The PCR can be used to indicate the place in the Pavement Life Cycle and the type of treatments that should be considered now and into the future.

- Excellent / New: PCR of 95-100
  - Pavements in this range will require only spot repairs

- Good: PCR of 85-94
  - Pavements in this range will likely be candidates for Preventive Maintenance. Examples include Chip and Slurry Seals, Micro Surfacing and Thin Overlays.

- Fair: PCR of 61-84
  - Pavements in this range will likely be candidates of Light Rehabilitation (L3R). Examples include singlelift overlays up to 2.5 inches in total thickness, milling and overlays.

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



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

Federal Lands Highway
Road Inventory Program

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

Zion National Park

Condition (Rating / Index) Legend

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

Notes:

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

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

Route No.	FMSS No.	Route Name	Functional Class	Surf. Type	Paved Length (Miles)	Pavement Condition Rating (PCR)	Roughness Condition Index (RCI)	Surface Condition Rating (SCR)	Structural Crack Index	Alligator Crack Index	Longitudinal Cracking Index	Transverse Cracking Index	Patch / Pothole Index	Rutting Index
ZION-0010	65424	SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)	1	AS	12.25	93	86	98	98	100	98	99	100	98
ZION-0011	65486	ZION CANYON SCENIC DRIVE	1	AS	6.19	97	100	95	100	100	100	100	100	95
ZION-0012	65631	KOLOB TERRACE ROAD SOUTH	1	AS	4.09	99	100	99	99	100	99	100	100	99
ZION-0013	65658	KOLOB CANYON ROAD	1	AS	5.32	71	69	73	81	100	81	73	100	91
ZION-0014	65633	KOLOB TERRACE ROAD NORTH	1	AS	5.88	99	100	99	99	100	99	100	100	100
ZION-0200	65428	SOUTH CAMPGROUND LOOP	2	AS	0.86	63	NR	63	70	97	73	63	95	86
ZION-0200AZ	104928	SOUTH CAMPGROUND INSIDE ROAD A (SITES 13-18)	3	AS	0.13	69	NR	69	76	100	76	69	93	86
ZION-0200BZ	104928	SOUTH CAMPGROUND INSIDE ROAD B (SITES 23-35)	3	AS	0.15	38	NR	38	73	98	75	38	97	92
ZION-0200CZ	104928	SOUTH CAMPGROUND INSIDE ROAD C (SITES 36-57)	3	AS	0.17	55	NR	55	75	100	75	55	97	89
ZION-0200DZ	104928	SOUTH CAMPGROUND INSIDE ROAD D (SITES 64-67)	3	AS	0.09	45	NR	45	68	98	70	45	96	83
ZION-0200EZ	104928	SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124)	3	AS	0.05	72	NR	72	76	99	77	72	97	89
ZION-0200FZ	104928	SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100)	3	AS	0.12	75	NR	75	75	100	75	81	98	89
ZION-0200GZ	104928	SOUTH CAMPGROUND INSIDE ROAD G (SITES 86-89)	3	AS	0.06	70	NR	70	84	100	84	70	98	93
ZION-0200HZ	104928	SOUTH CAMPGROUND INSIDE ROAD H (SITES 103-113)	3	AS	0.09	66	NR	66	83	100	83	66	94	86
ZION-0200IZ	104928	SOUTH CAMPGROUND INSIDE ROAD I	3	AS	0.04	62	NR	62	62	100	62	74	97	86
ZION-0202	65429	WATCHMAN CAMPGROUND ROAD	2	AS	0.82	93	NR	93	98	100	98	93	100	95
ZION-0202A	104978	WATCHMAN CAMPGROUND LOOP A	3	AS	0.26	98	NR	98	100	100	100	100	100	98
ZION-0202B	104983	WATCHMAN CAMPGROUND LOOP B	3	AS	0.40	88	NR	88	94	98	96	88	99	93
ZION-0202C	104985	WATCHMAN CAMPGROUND LOOP C	3	AS	0.29	96	NR	96	96	100	96	99	100	97

Data Collection Date: 04/2017

Federal Lands Highway
Road Inventory Program

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

Zion National Park

Condition (Rating / Index) Legend

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

Notes:

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

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

Route No.	FMSS No.	Route Name	Functional Class	Surf. Type	Paved Length (Miles)	Pavement Condition Rating (PCR)	Roughness Condition Index (RCI)	Surface Condition Rating (SCR)	Structural Crack Index	Alligator Crack Index	Longitudinal Cracking Index	Transverse Cracking Index	Patch / Pothole Index	Rutting Index
ZION-0202D	104989	WATCHMAN CAMPGROUND LOOP D	3	AS	0.28	95	NR	95	100	100	100	99	99	95
ZION-0202E	104993	WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS	3	AS	0.13	87	NR	87	89	99	90	87	100	95
ZION-0202F	231609	WATCHMAN CAMPGROUND LOOP B (SIDE LOOP)	3	AS	0.19	82	NR	82	96	100	96	82	99	88
ZION-0207	65469	WATCHMAN TRAIL ROAD	2	AS	0.37	93	NR	93	94	100	94	93	100	96
ZION-0208	65431	EAST RIM TRAIL ACCESS	3	AS	0.08	93	NR	93	98	100	98	94	100	93
ZION-0400	65432	WATCHMAN HOUSING COMPLEX ROAD	5	AS	0.18	88	NR	88	94	100	94	88	100	95
ZION-0401	90340	WATCHMAN RESIDENCE ROAD	5	AS	0.48	86	NR	86	93	100	93	86	100	95
ZION-0402	65433	MAINTENANCE ACCESS ROAD	5	AS	0.57	67	51	77	86	100	86	77	100	94
ZION-0403	65435	OAK CREEK HEADQUARTERS ROAD	5	AS	0.08	78	NR	78	92	100	92	78	100	93
ZION-0404	65436	PINE CREEK RESIDENTIAL ROAD	5	AS	0.07	80	NR	80	89	100	89	80	100	95
ZION-0407	65427	OAK CREEK RESIDENCE ROAD	5	AS	0.23	82	NR	82	85	100	85	82	100	93
ZION-0408	90348	OAK CREEK RESIDENCE SPUR ROAD	5	AS	0.18	87	NR	87	90	100	90	87	100	92
ZION-0409	65505	HORSE CORRAL ROAD	5	AS	0.15	92	NR	92	96	100	96	92	97	92
ZION-0410	65660	KOLOB SERVICE ROAD	6	AS	0.45	53	NR	53	53	77	76	69	100	90
ZION-0412	90351	CONCESSIONAIRE / DORM ACCESS ROAD	6	AS	0.35	79	NR	79	86	100	86	79	99	94

Data Collection Date: 04/2017

Federal Lands Highway
Road Inventory Program

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

Zion National Park

Condition (Rating / Index) Legend

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

Notes:

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

Route-Level Condition for Manually Rated Polygon (MRP) Roads

							Asphalt Surface Distresses						Concrete Surface Distresses				
Route No.	FMSS No.	Route Name	Functional Class	Surf. Type	Area (Sq. Ft.)	Pavement Condition Rating (PCR)	Alligator Cracking	Longitudinal / Tranverse Cracking	Rutting / Distortions	Potholes / Patching	HMA Patching	Surface Raveling / Bleeding	Joint Faulting	Slab Cracking	Joint Distresses	Delamination / Pop-Outs	Potholes / Patching
ZION-0411	90349	KOLOB RESIDENCE ROAD	6	AS	6,094	73	90	90	90	97	97	73					

Data Collection Date: 05/2016

Federal Lands Highway
Road Inventory Program

Cycle 6 - Road Inventory Program

Parking Area Condition Summary Report

Zion National Park

Condition (Rating / Index) Legend

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

Notes:

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

Condition Rating Details for Parking Areas

Route No.	FMSS No.	Route Name	User Access	Surf. Type	Area (Sq. Ft.)	Pavement Condition Rating (PCR)	Asphalt Surface Distresses: Alligator Cracking	Asphalt Surface Distresses: Longitudinal / Tranverse Cracking	Asphalt Surface Distresses: Rutting / Distortions	Asphalt Surface Distresses: Potholes / Patching	Asphalt Surface Distresses: HMA Patching	Asphalt Surface Distresses: Surface Raveling / Bleeding	Concrete Surface Distresses: Joint Faulting	Concrete Surface Distresses: Slab Cracking	Concrete Surface Distresses: Joint Distresses	Concrete Surface Distresses: Delamination / Pop-Outs	Concrete Surface Distresses: Potholes / Patching
ZION-0900	65438	SOUTH ENTRANCE PARKING	PUBLIC	AS	12,526	90	97	90	90	97	97	90					
ZION-0901	65470	EMPLOYEE VISITOR CENTER PARKING	PUBLIC	AS	5,900	90	97	90	90	97	97	90					
ZION-0902	65482	VISITOR CENTER PARKING	PUBLIC	AS	209,089	90	90	90	90	97	97	90					
ZION-0903	65483	WATCHMAN CAMPGROUND DUMP STATION PARKING	PUBLIC	AS	6,458	90	97	90	90	97	97	90					
ZION-0904	65471	WATCHMAN AMPHITHEATER LOOP B PARKING	PUBLIC	AS	3,334	90	97	90	90	97	97	90					
ZION-0905	65484	SOUTH CAMPGROUND DUMP STATION	PUBLIC	AS	4,305	73	90	90	73	97	97	90					
ZION-0906	65472	ZION NATURE CENTER PARKING	PUBLIC	AS	31,043	53	90	53	90	90	97	90					
ZION-0907	65474	SOUTH CAMPGROUND / AMPHITHEATER PARKING	PUBLIC	AS	25,326	73	90	90	73	97	97	90					
ZION-0908	65475	ADMINISTRATION PARKING	NONPUBLIC	AS	19,493	90	97	90	90	97	97	97					
ZION-0909A	65476	NORTH MAINTENANCE AREA PARKING A	NONPUBLIC	AS	2,928	90	97	97	97	97	97	90					
ZION-0909B	104999	OAK CREEK MAINTENANCE OVERFLOW PARKING B	NONPUBLIC	AS	8,282	73	97	97	97	97	97	73					
ZION-0909C	105003	OAK CREEK MAINTENANCE YARD	NONPUBLIC	AS	58,197	53	90	53	90	90	97	90					
ZION-0910	65485	WATCHMAN ADMINISTRATOR (HELIPAD) PARKING	NONPUBLIC	AS	6,010	90	97	90	97	97	97	90					
ZION-0911	65477	MUSEUM PARKING AREA	PUBLIC	AS	49,926	73	97	90	73	97	97	90					
ZION-0912	65478	TUNNEL EAST (CANYON OVERLOOK) PARKING	PUBLIC	AS	4,705	90	97	90	90	97	97	90					
ZION-0913	65479	CHECKERBOARD MESA VIEWPOINT PARKING	PUBLIC	AS	9,116	90	97	90	90	97	97	90					
ZION-0915	65491	COURT OF THE PATRIARCHS PARKING	PUBLIC	AS	4,724	90	90	90	90	97	97	90					
ZION-0916	65494	WYLIE PARKING	PUBLIC	AS	7,439	90	97	90	90	97	97	90					
ZION-0917	65496	ZION LODGE CABIN PARKING	PUBLIC	AS	85,246	53	90	53	90	97	90	73					
ZION-0918	65497	WEST RIM TRAILHEAD PARKING	PUBLIC	AS	3,628	90	97	97	90	97	97	90					
ZION-0919	65498	GROTTO PICNIC PARKING	PUBLIC	AS	17,141	73	97	90	73	97	97	90					
ZION-0920	65499	WEEPING ROCK PARKING	PUBLIC	AS	17,318	90	97	90	90	97	97	90					
ZION-0921	65500	THE GREAT WHITE THRONE PARKING	PUBLIC	AS	6,030	90	97	90	90	97	97	90					
ZION-0922	65501	BIG BEND BUS AND TRAILER PARKING	PUBLIC	CO	14,288	90							90	90	90	90	97
ZION-0923	65502	TEMPLE OF SINAWAVA PARKING	PUBLIC	AS	39,231	73	97	90	73	97	97	90					
ZION-0924	65503	EMERALD POOLS HORSE CORRAL PARKING	PUBLIC	AS	16,714	73	97	90	73	97	97	73					

Data Collection Date: 05/2016

Federal Lands Highway
Road Inventory Program

Cycle 6 - Road Inventory Program

Parking Area Condition Summary Report

Zion National Park

Condition (Rating / Index) Legend

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

Notes:

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

Condition Rating Details for Parking Areas

Route No.	FMSS No.	Route Name	User Access	Surf. Type	Area (Sq. Ft.)	Pavement Condition Rating (PCR)	Asphalt Surface Distresses: Alligator Cracking	Asphalt Surface Distresses: Longitudinal / Tranverse Cracking	Asphalt Surface Distresses: Rutting / Distortions	Asphalt Surface Distresses: Potholes / Patching	Asphalt Surface Distresses: HMA Patching	Asphalt Surface Distresses: Surface Raveling / Bleeding	Concrete Surface Distresses: Joint Faulting	Concrete Surface Distresses: Slab Cracking	Concrete Surface Distresses: Joint Distresses	Concrete Surface Distresses: Delamination / Pop-Outs	Concrete Surface Distresses: Potholes / Patching
ZION-0925A	65504	ZION LODGE VISITOR PARKING	PUBLIC	AS	41,491	90	97	90	90	97	90	90					
ZION-0925B	105002	ZION LODGE MAINTENANCE PARKING	NONPUBLIC	AS	5,495	90	97	90	90	90	90	90					
ZION-0926	65661	KOLOB VISITORS CENTER PARKING	PUBLIC	AS	41,277	73	90	90	73	97	97	90					
ZION-0927	65665	TAYLOR CREEK TRAILHEAD PARKING	PUBLIC	AS	16,227	73	90	90	73	97	97	90					
ZION-0928	65663	SOUTH FORK PARKING AREA	PUBLIC	AS	16,318	73	90	90	73	97	97	90					
ZION-0929	65664	LEE PASS TRAILHEAD PARKING	PUBLIC	AS	4,871	73	90	90	90	97	97	73					
ZION-0930	65662	KOLOB CANYON OVERLOOK PARKING	PUBLIC	AS	29,057	53	90	53	73	90	97	90					
ZION-0931A	90355	CONCESSIONAIRE / DORM PARKING A	NONPUBLIC	AS	1,376	90	97	90	90	97	97	90					
ZION-0931B	104971	CONCESSIONAIRE / DORM PARKING B	NONPUBLIC	AS	5,730	90	97	90	97	97	90	90					
ZION-0931C	104972	CONCESSIONAIRE / DORM PARKING C	NONPUBLIC	AS	2,453	90	97	90	90	97	90	90					
ZION-0932	90403	CANYON OVERLOOK PARKING	PUBLIC	AS	4,085	90	97	90	90	97	97	90					
ZION-0933A	90404	PINE CREEK OVERLOOK PARKING A	PUBLIC	AS	1,500	90	97	90	97	97	97	90					
ZION-0933B	104937	PINE CREEK OVERLOOK PARKING B	PUBLIC	AS	2,730	90	90	90	90	97	97	90					
ZION-0934	90405	PTI FACILITY PARKING	NONPUBLIC	AS	117,576	73	97	90	73	97	97	90					
ZION-0935	90406	WATCHMAN CAMPGROUND WALK-IN SITES PARKING	PUBLIC	AS	11,161	90	90	90	97	97	97	90					
ZION-0936	65437	ZION NATURE CENTER REAR PARKING	PUBLIC	AS	6,940	73	90	90	73	97	97	90					
ZION-0937	90407	ZION CANYON VISITOR CENTER SHUTTLE BUS VISITOR PICK UP	NONPUBLIC	AS	13,799	90	97	90	90	97	97	90					
ZION-0938	90409	KOLOB CANYON MAINTENANCE PARKING	NONPUBLIC	AS	8,565	73	73	90	73	90	97	73					
ZION-0939	65612	EAST ENTRANCE STATION PARKING AREA	PUBLIC	AS	4,933	90	97	90	97	97	97	90					
ZION-0940	65606	E.O.C. PARKING AREA	NONPUBLIC	AS	34,633	90	97	90	90	97	97	90					
ZION-0941	231229	HEADQUARTERS WATCHMAN JUNCTION PARKING	NONPUBLIC	AS	1,748	90	97	97	90	97	97	90					
ZION-0943	231581	UPPER LEE PASS PARKING	PUBLIC	AS	5,890	53	90	53	90	97	97	90					
ZION-0945	231580	SOUTH ENTRANCE STATION EMPLOYEE PARKING	NONPUBLIC	AS	1,486	73	97	97	90	97	97	73					
ZION-0946AZ	231610	OAK CREEK DORM STREET PARKING A	PUBLIC	AS	1,004	73	97	97	90	97	97	73					
ZION-0946BZ	231610	OAK CREEK DORM STREET PARKING B	PUBLIC	AS	628	73	97	97	90	97	97	73					
ZION-0946CZ	231610	OAK CREEK DORM STREET PARKING C	PUBLIC	AS	704	73	97	90	90	97	97	73					

Data Collection Date: 05/2016

Federal Lands Highway
Road Inventory Program

Cycle 6 - Road Inventory Program

Parking Area Condition Summary Report

Zion National Park

Condition (Rating / Index) Legend

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

Notes:

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

Condition Rating Details for Parking Areas

Route No.	FMSS No.	Route Name	User Access	Surf. Type	Area (Sq. Ft.)	Pavement Condition Rating (PCR)	Asphalt Surface Distresses: Alligator Cracking	Asphalt Surface Distresses: Longitudinal / Tranverse Cracking	Asphalt Surface Distresses: Rutting / Distortions	Asphalt Surface Distresses: Potholes / Patching	Asphalt Surface Distresses: HMA Patching	Asphalt Surface Distresses: Surface Raveling / Bleeding	Concrete Surface Distresses: Joint Faulting	Concrete Surface Distresses: Slab Cracking	Concrete Surface Distresses: Joint Distresses	Concrete Surface Distresses: Delamination / Pop-Outs	Concrete Surface Distresses: Potholes / Patching
ZION-0946DZ	231610	OAK CREEK DORM STREET PARKING D	PUBLIC	AS	2,448	0											
ZION-0953	231704	VISITOR CENTER RV PARKING	PUBLIC	AS	48,872	97	97	97	97	97	97	97					

Data Collection Date: 05/2016

Section 4
Park Route Location Maps

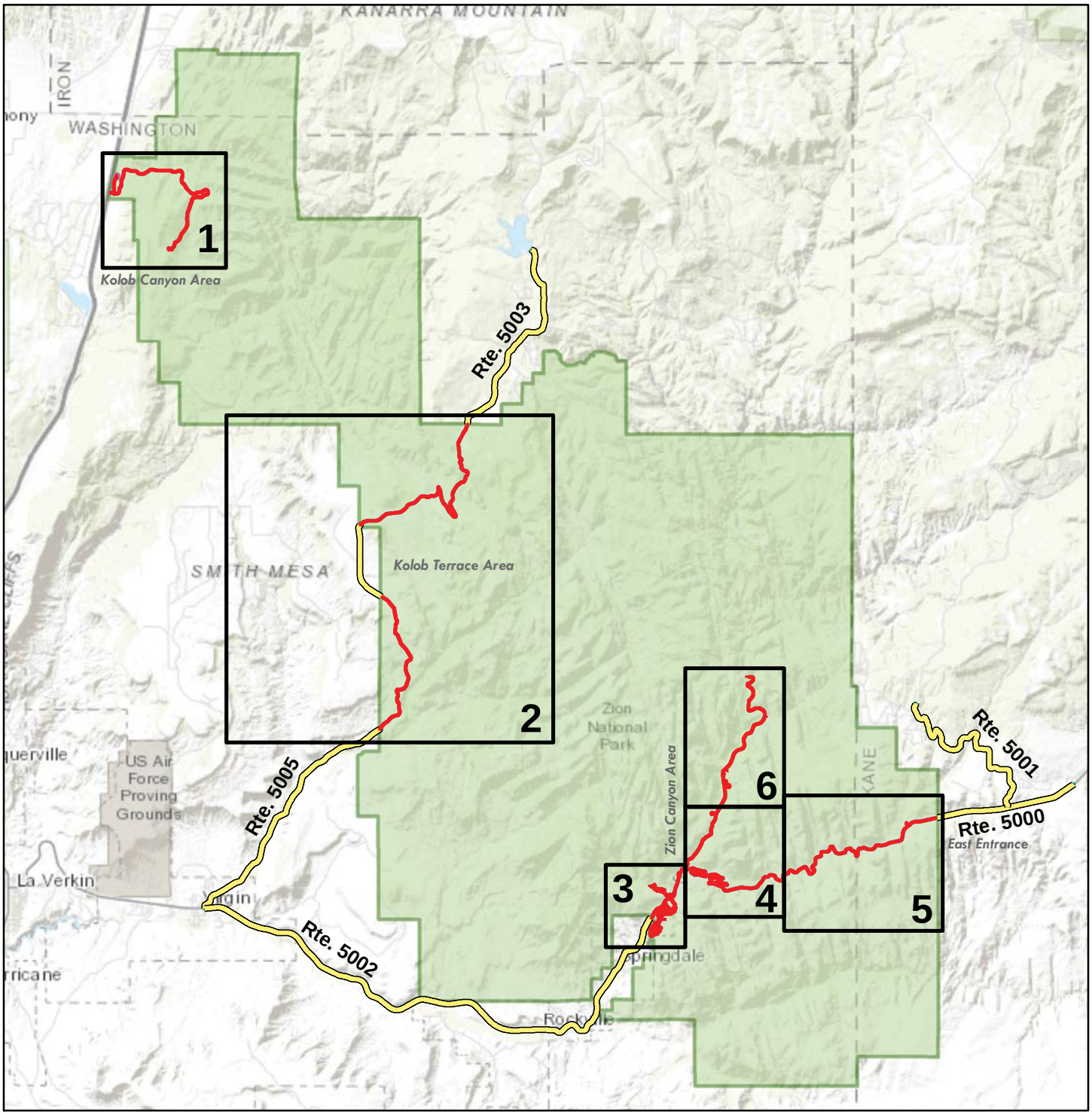
Zion National Park

Federal Lands Highway
Road Inventory Program

Zion National Park

ROUTE LOCATION MAP

Key Map



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

NPS Collected Routes

Non-NPS Collected Routes

Miles

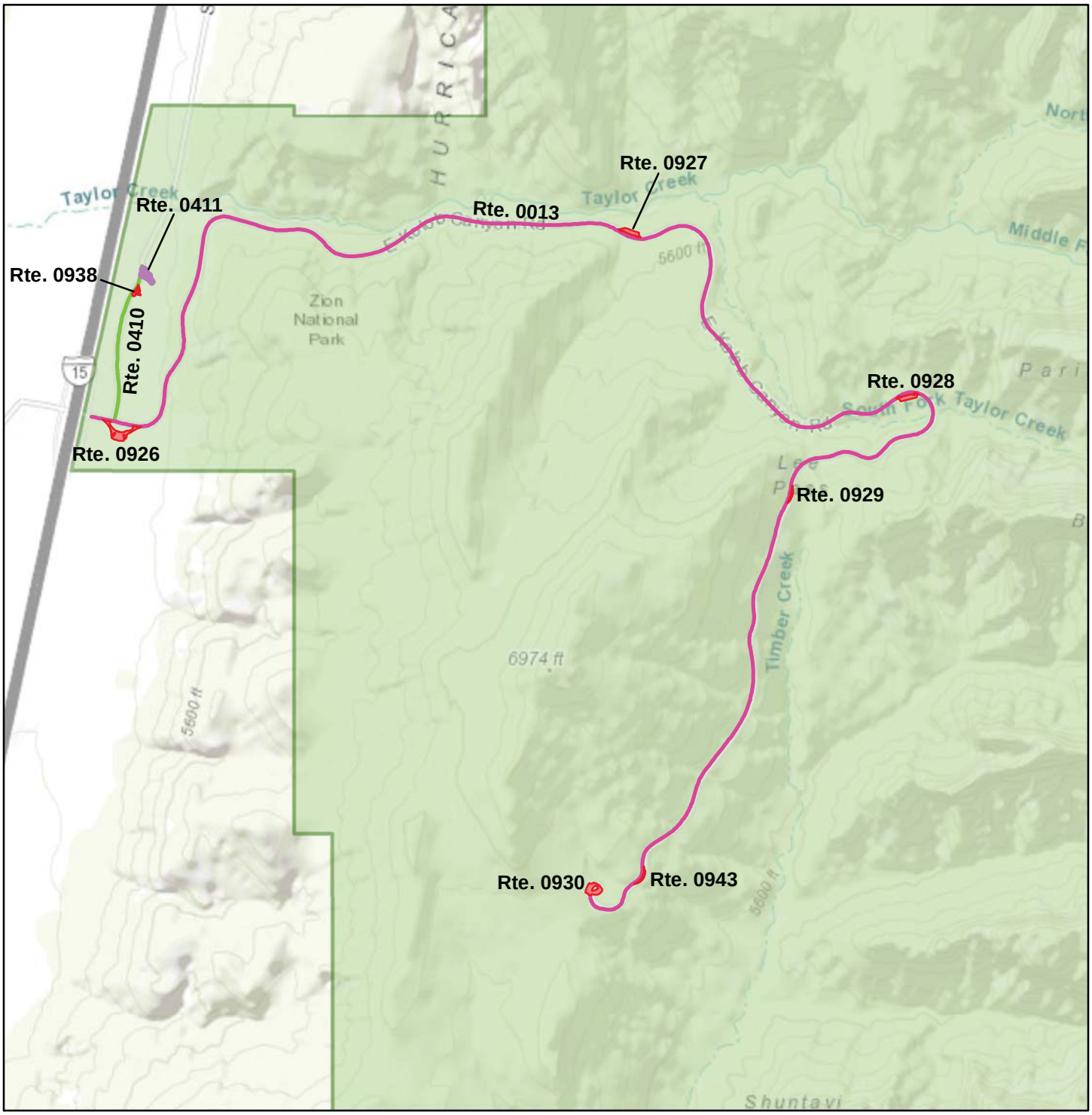
0 7 14

N

Zion National Park

ROUTE LOCATION MAP

Area Map 1



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

Note: Unique colors are used to differentiate roads

Non-NPS Collected Routes

Miles

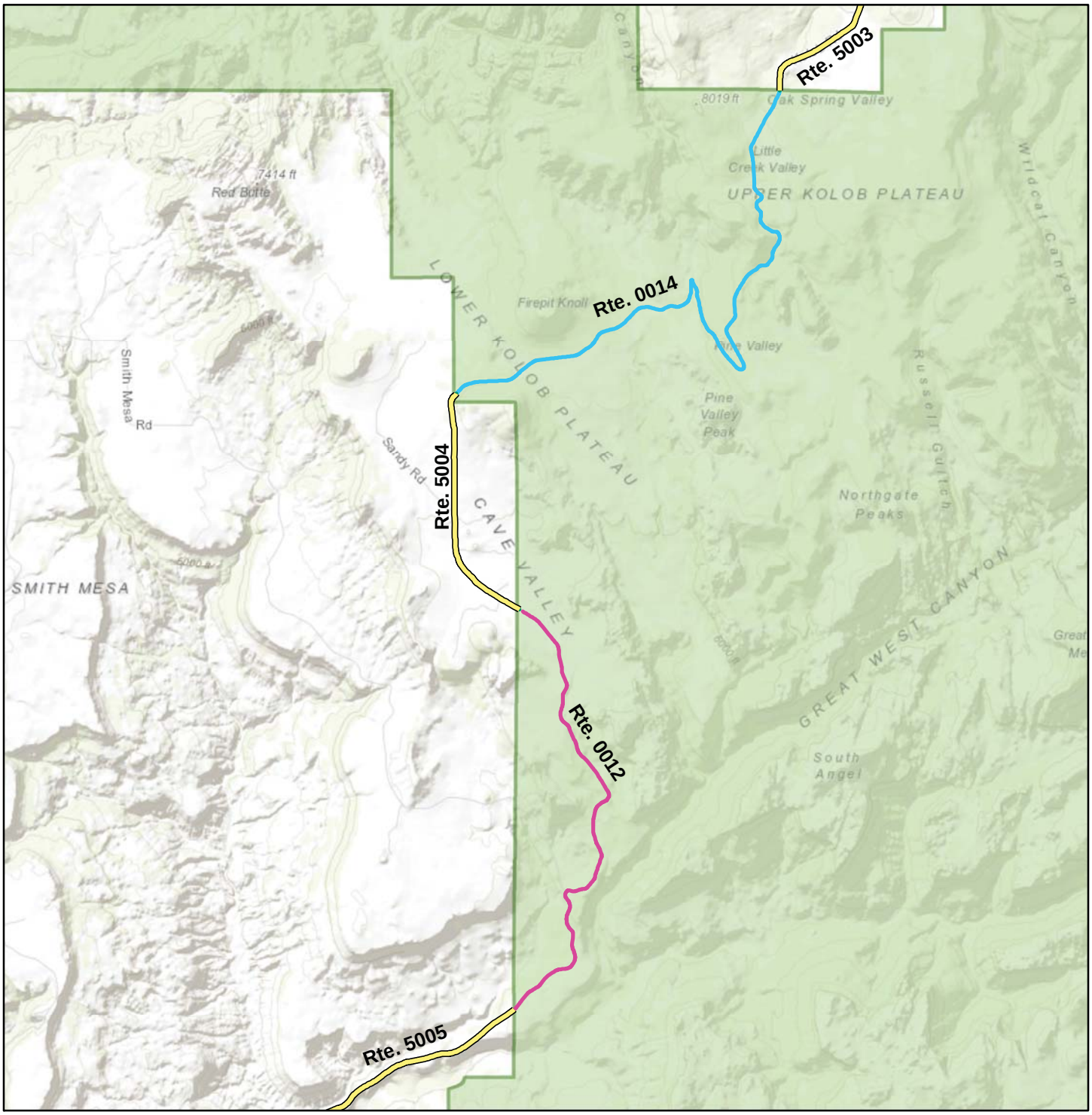
0 1 2

N

Zion National Park

ROUTE LOCATION MAP

Area Map 2



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

Note: Unique colors are used to differentiate roads

Non-NPS Collected Routes

Miles

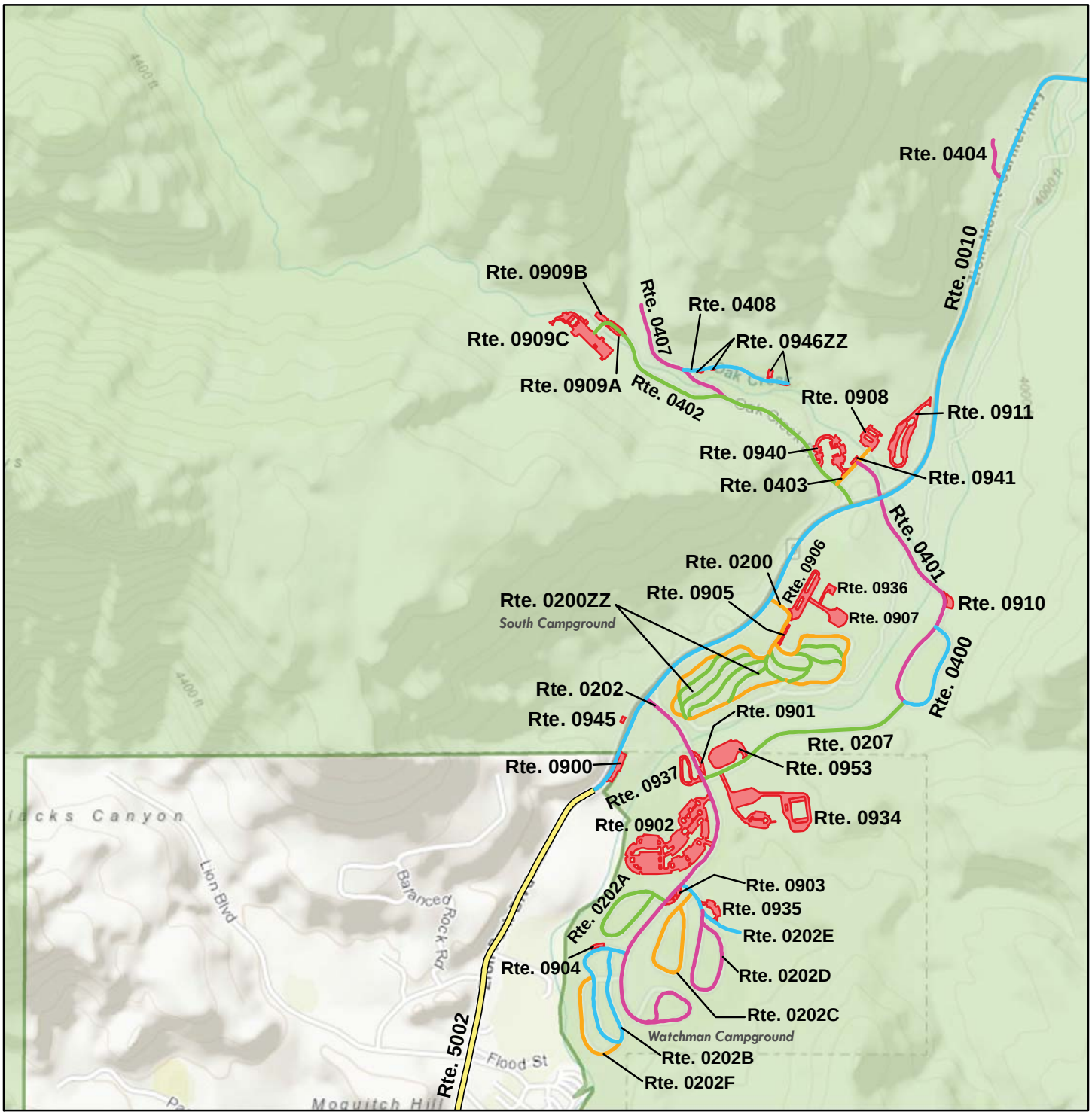
0 3 6

N

Zion National Park

ROUTE LOCATION MAP

Area Map 3



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

Note: Unique colors are used to differentiate roads

Non-NPS Collected Routes

Miles

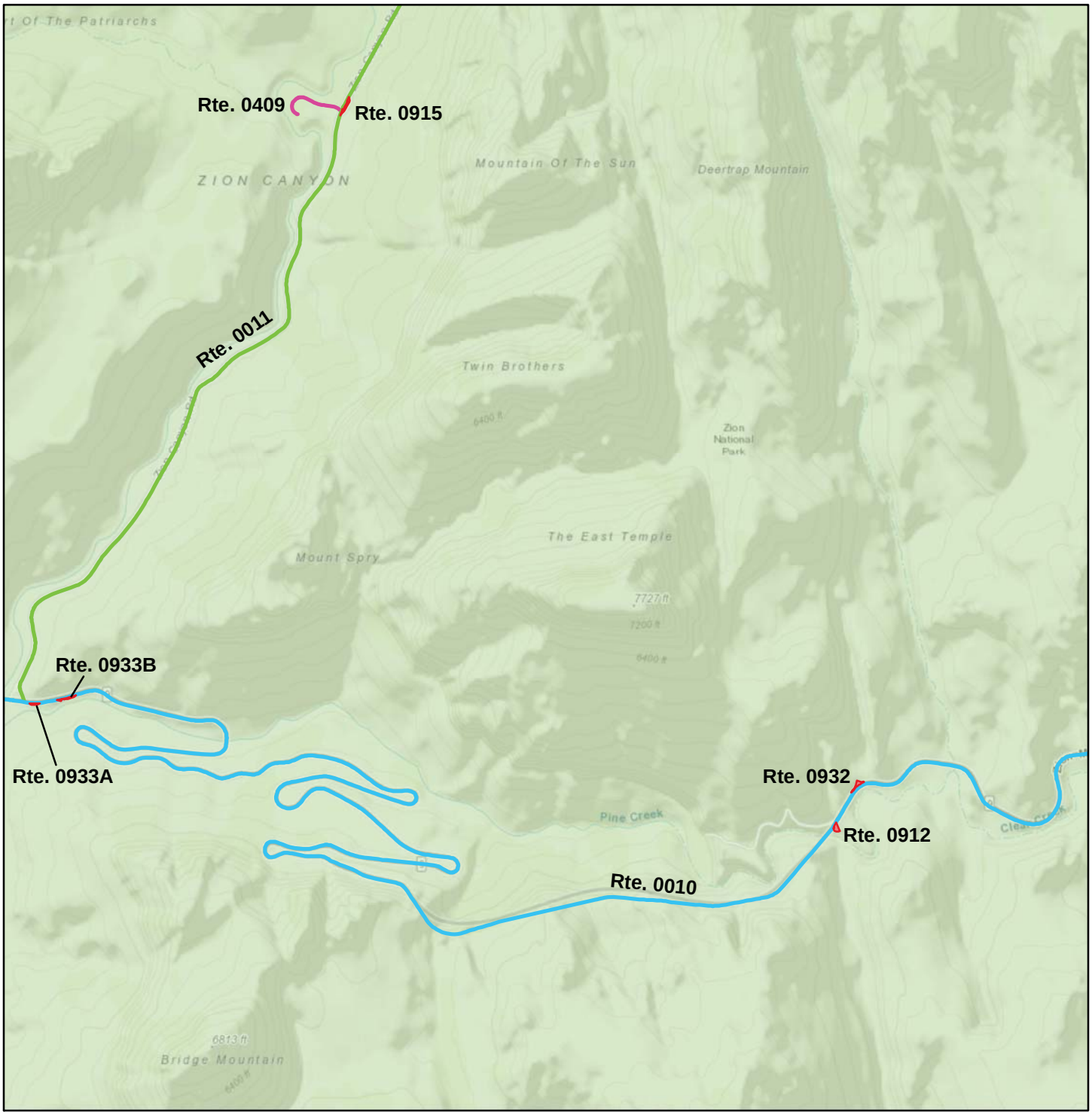
0 0.5 1

N

Zion National Park

ROUTE LOCATION MAP

Area Map 4



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

Note: Unique colors are used to differentiate roads

Non-NPS Collected Routes

Miles

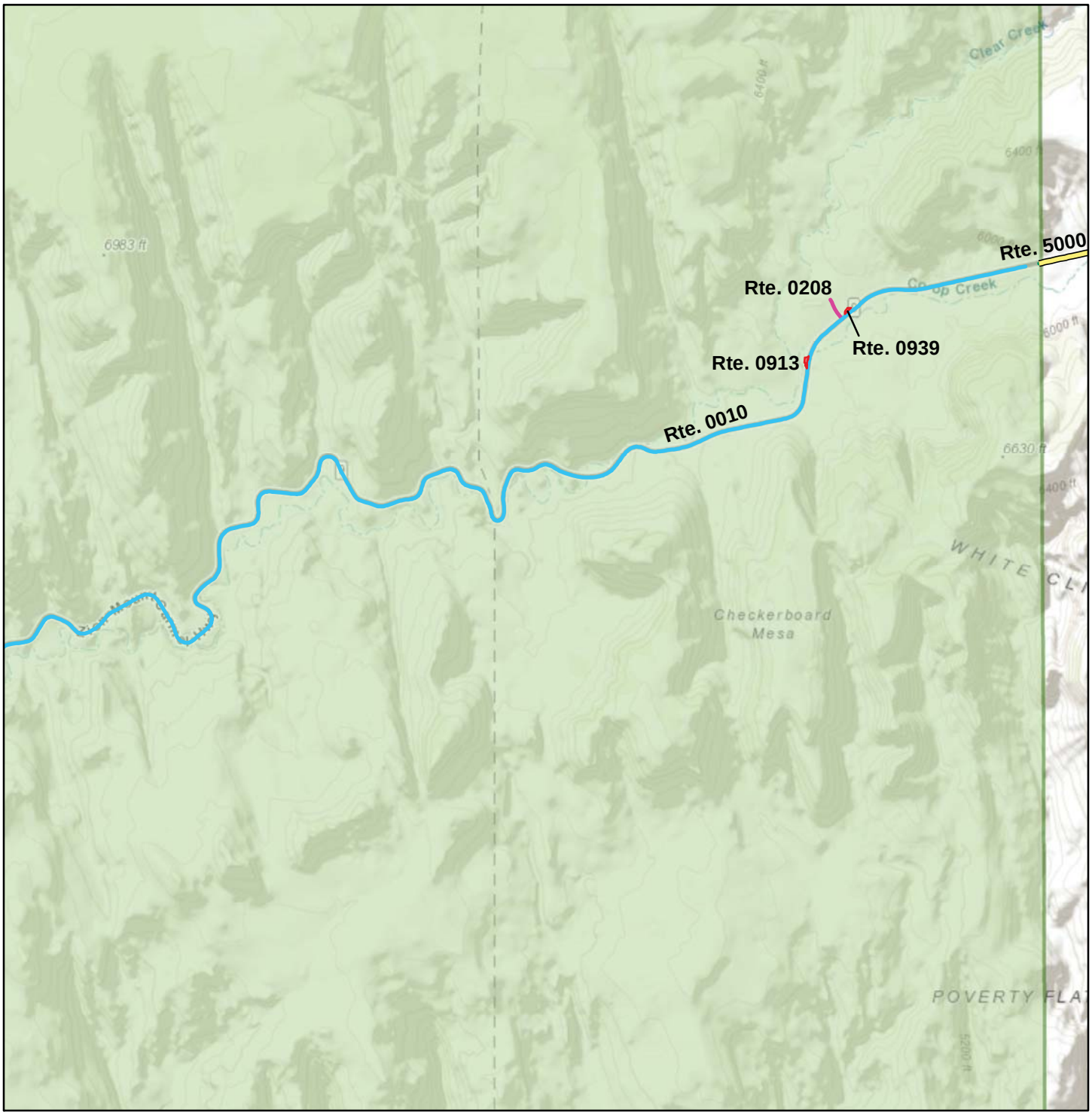
0 1 2

N

Zion National Park

ROUTE LOCATION MAP

Area Map 5



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

Note: Unique colors are used to differentiate roads

Non-NPS Collected Routes

Miles

0 1 2

N

Zion National Park

ROUTE LOCATION MAP

Area Map 6

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

Note: Unique colors are used to differentiate roads

Non-NPS Collected Routes

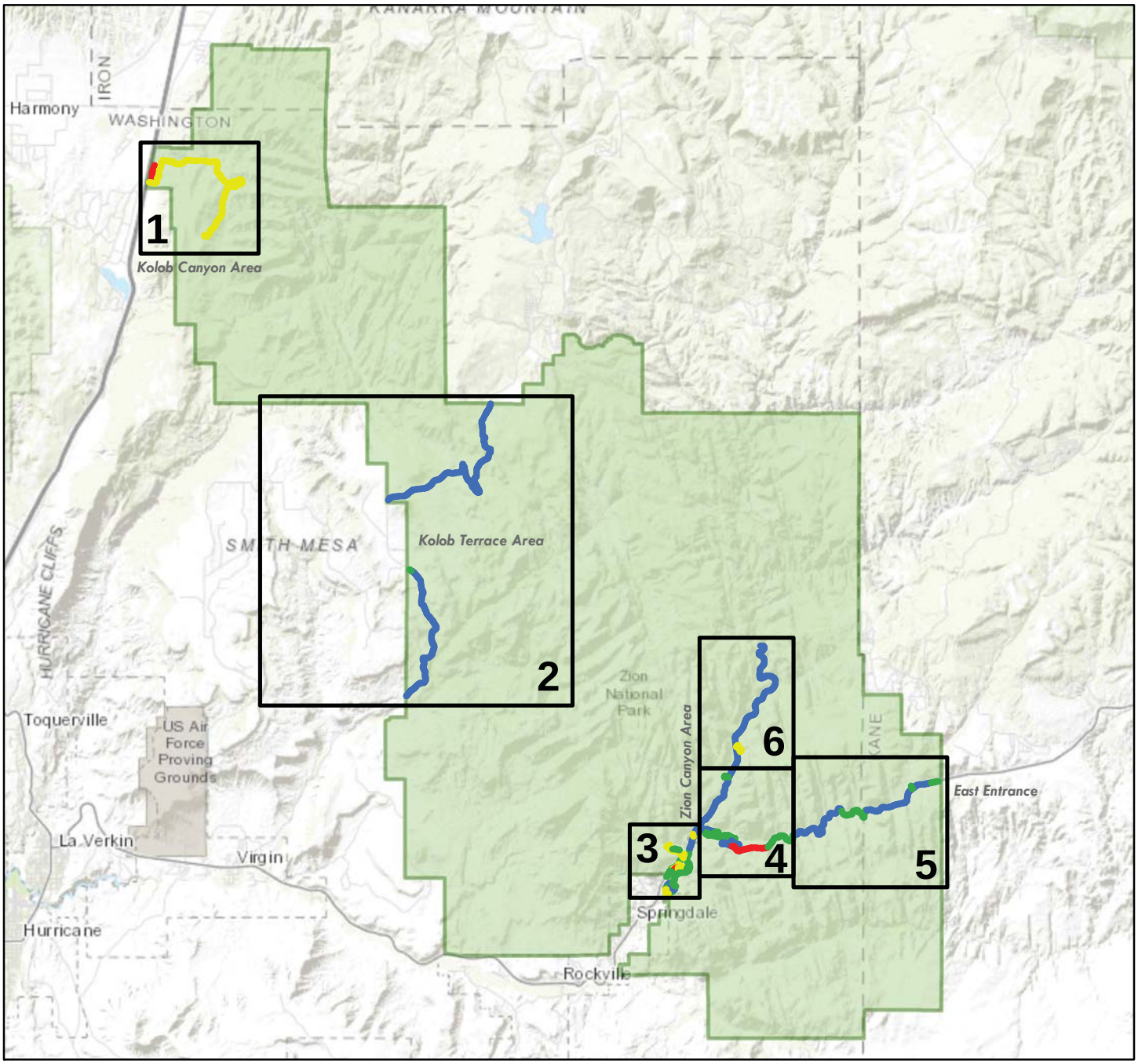
Miles

0 1 2

N

Zion National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
Key Map



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

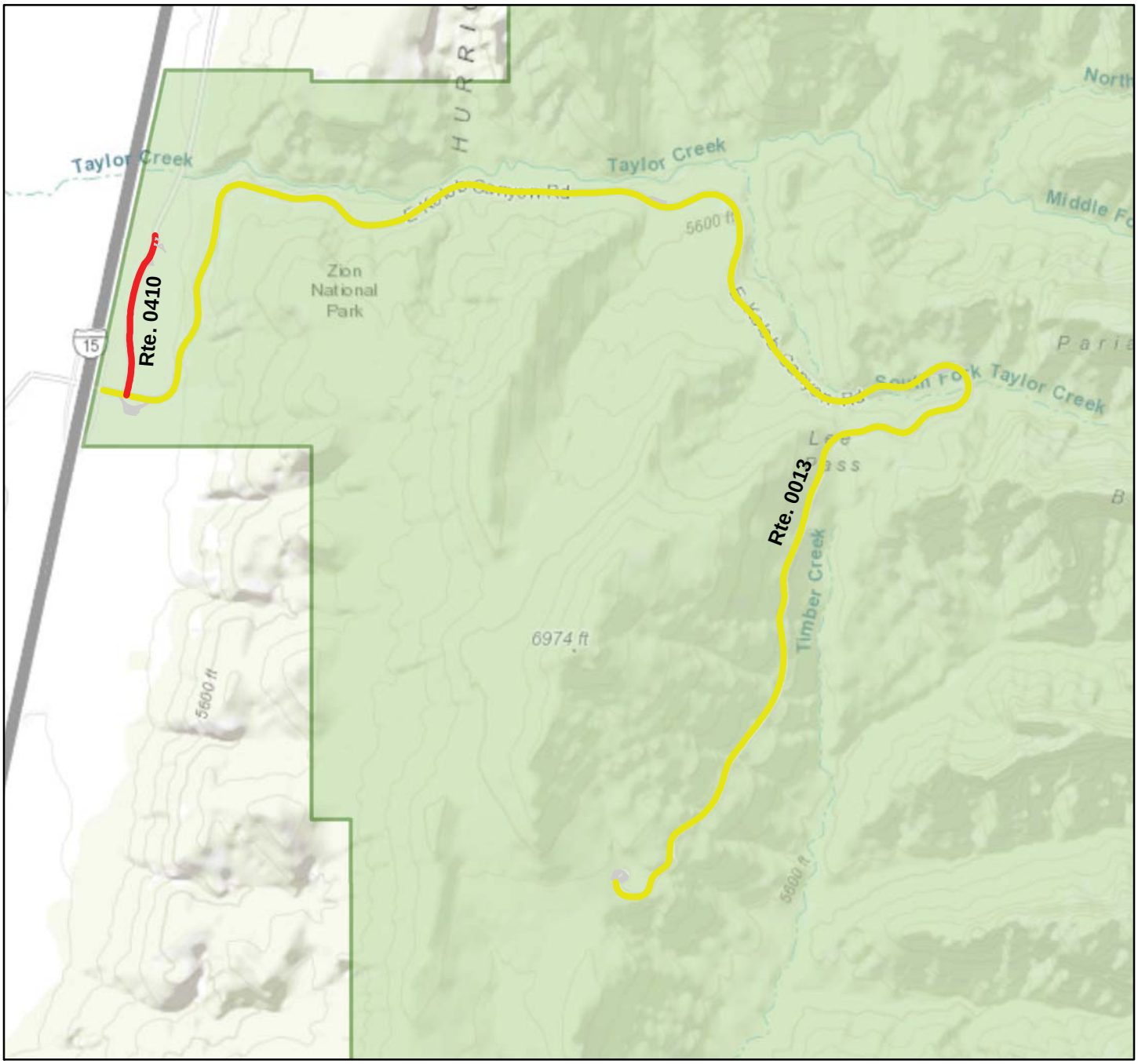
See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 7 14

N

Zion National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
Area Map 1



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

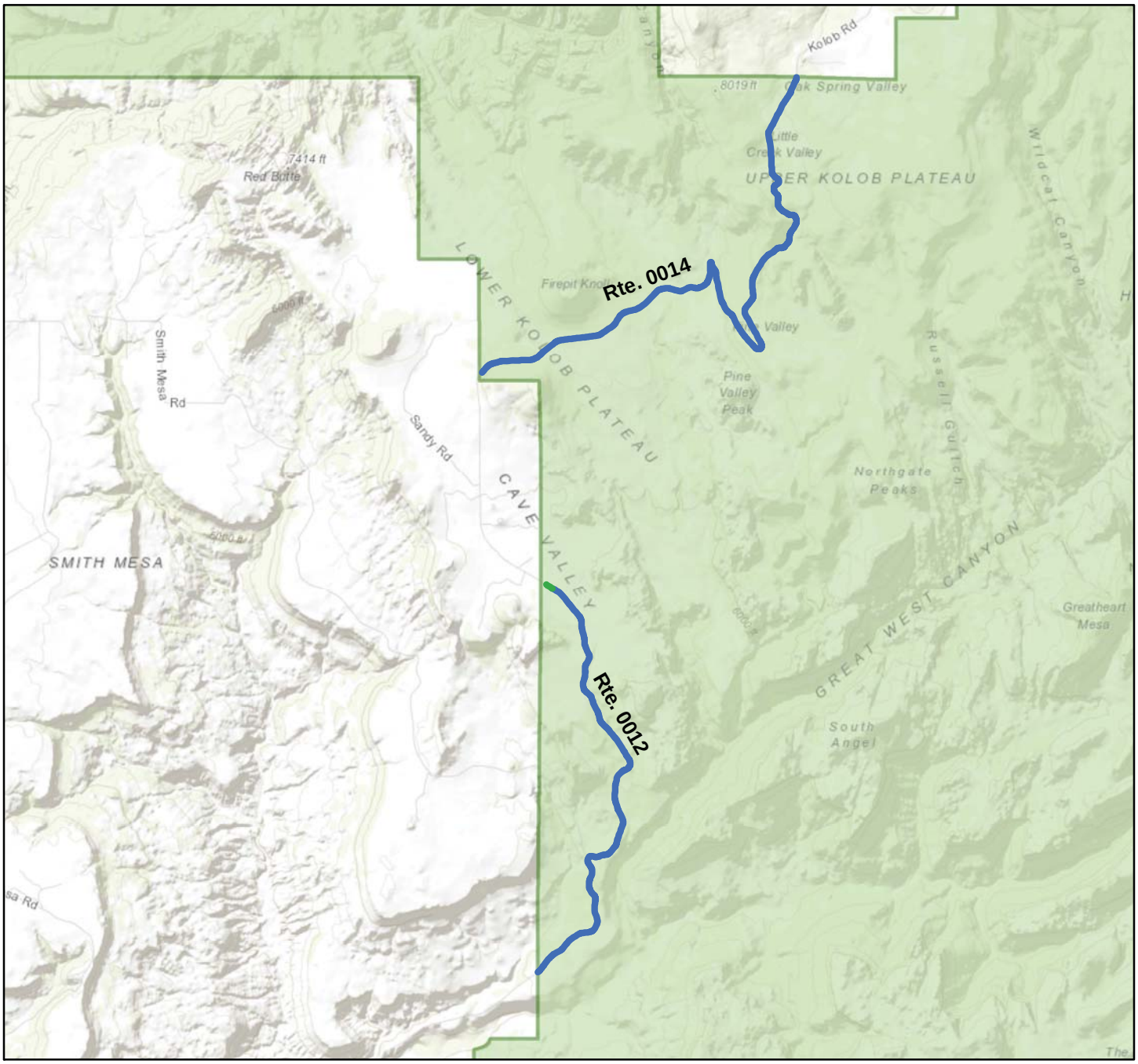
See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 1 2

N

Zion National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
Area Map 2



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

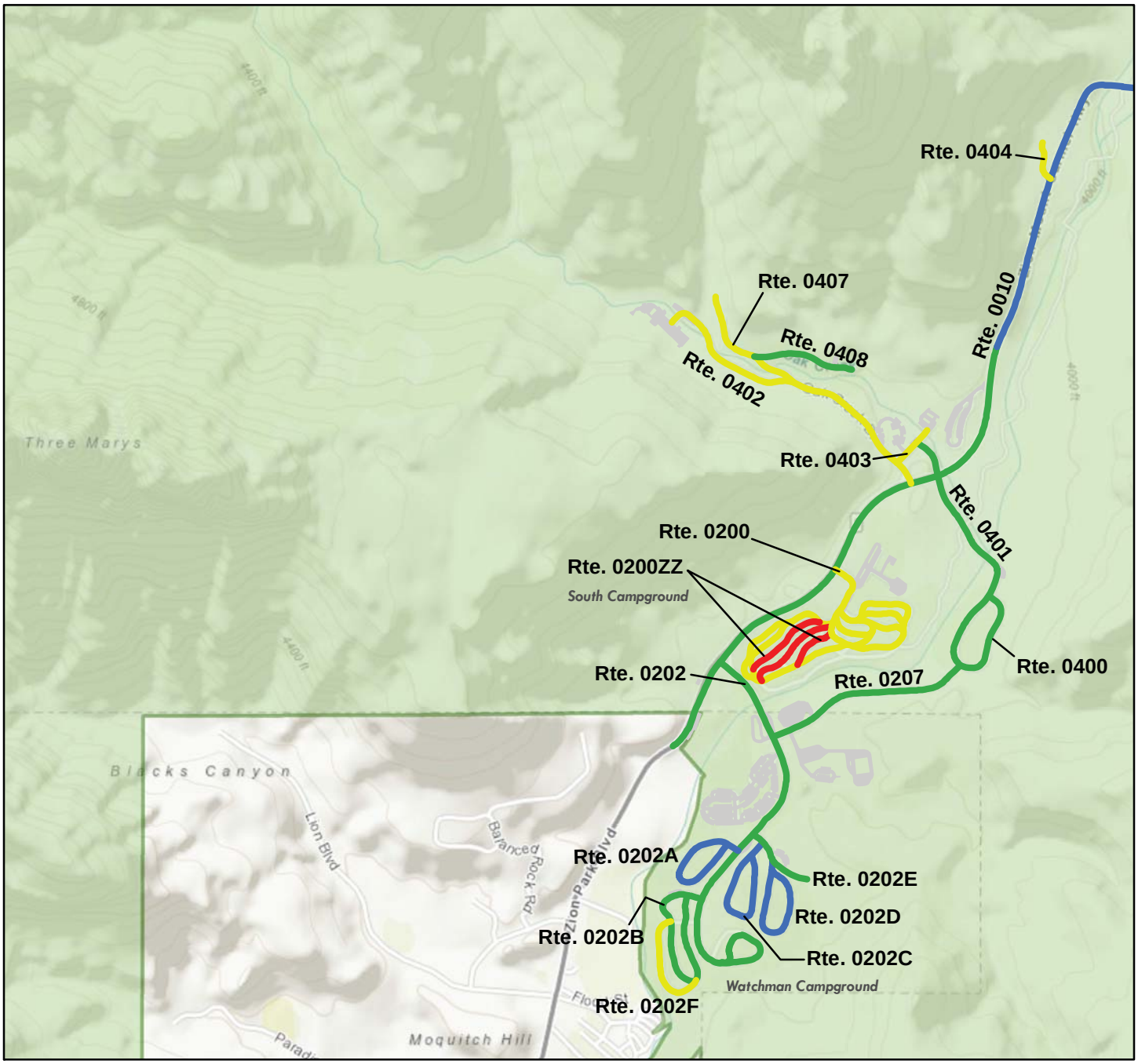
See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 3 6

N

Zion National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
Area Map 3



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

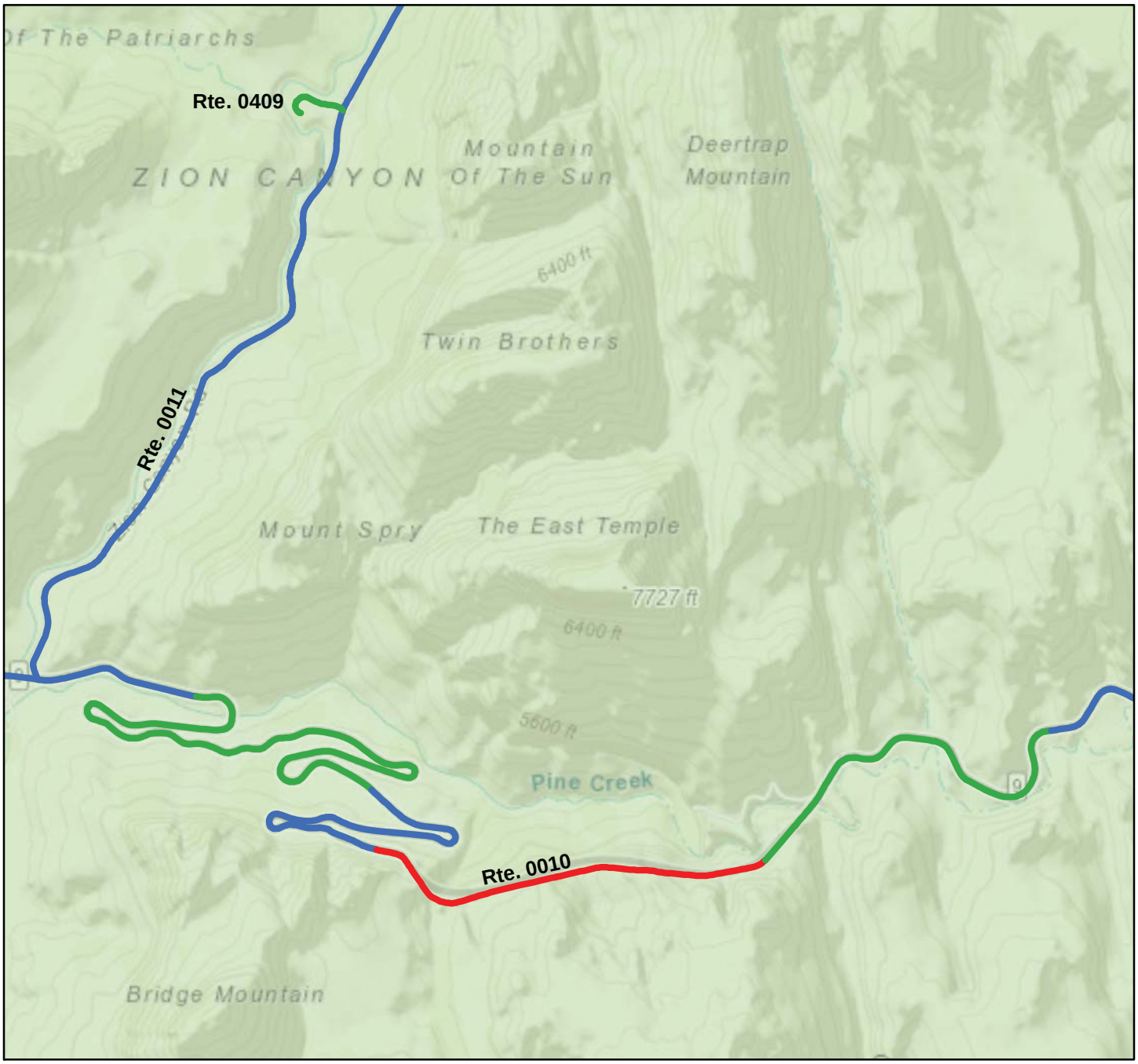
See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 0.5 1

N

Zion National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
Area Map 4



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

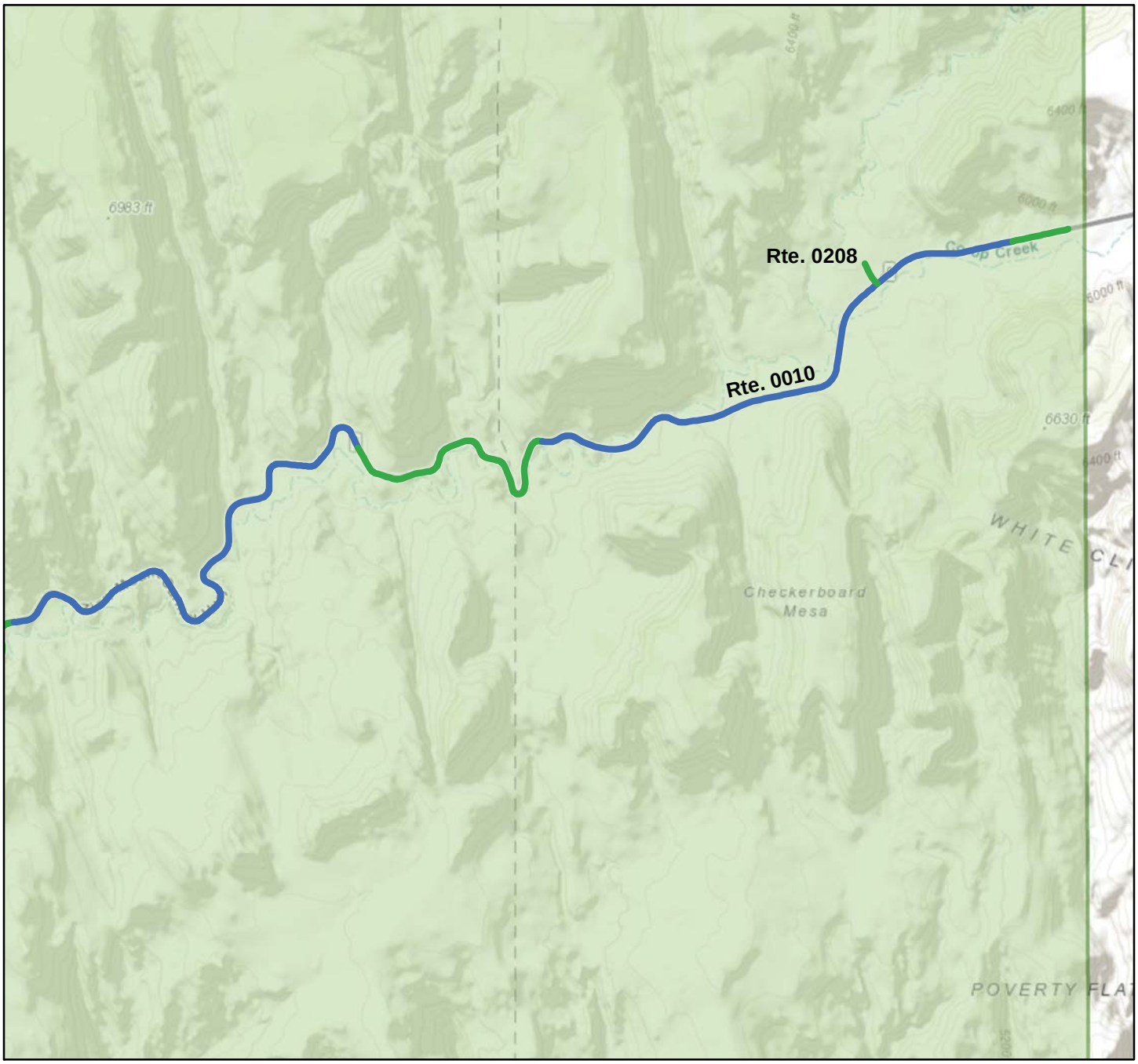
See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 1 2

N

Zion National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
Area Map 5



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

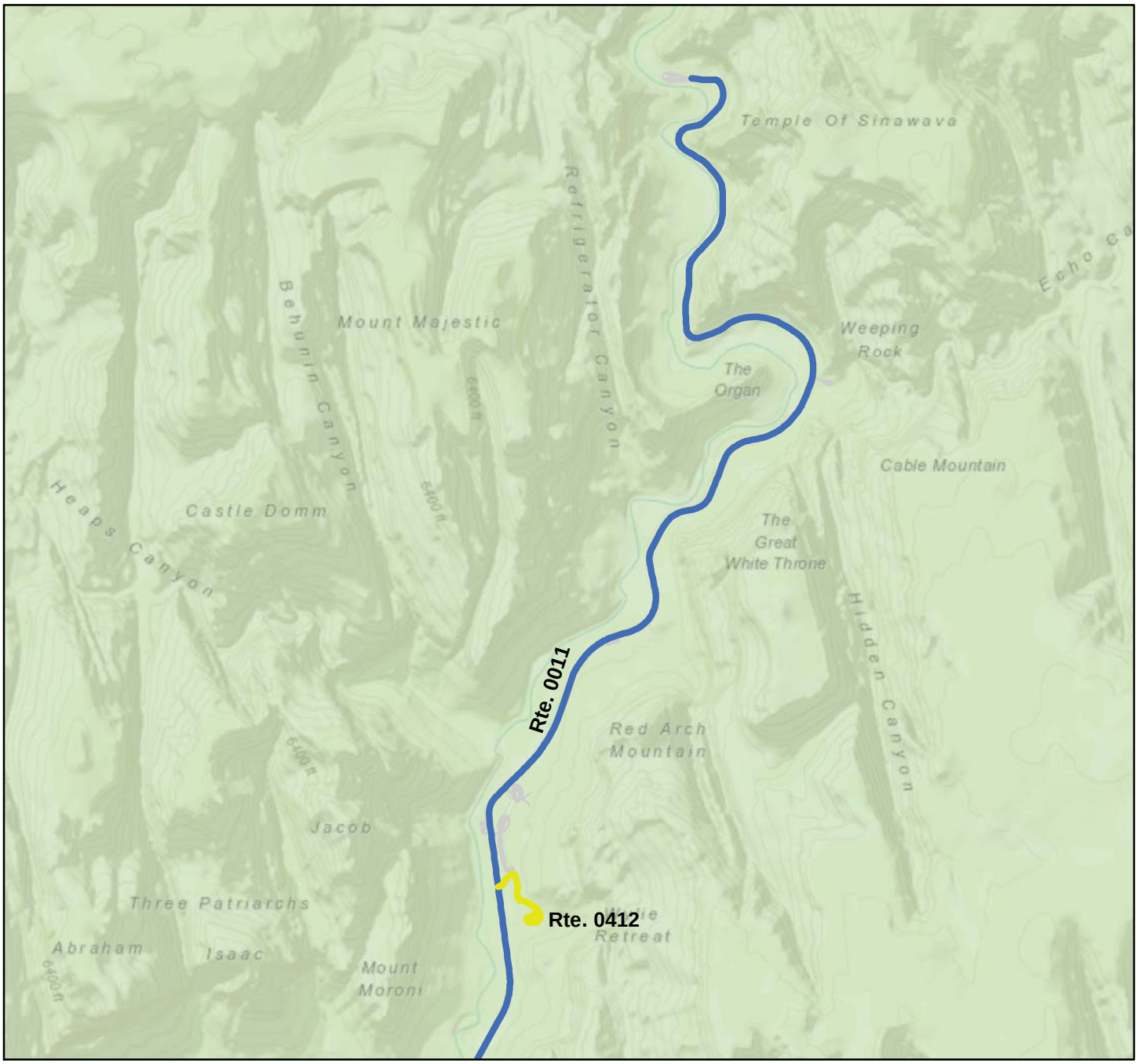
See Appendix for definitions and formulas
Only Data Collection Vehicle and Manually Rated Roads are displayed

Miles
0 1 2

N

Zion National Park

ROUTE CONDITION MAP
PCR - MILE BY MILE
Area Map 6



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

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

Miles
0 1 2

N

Section 5
Paved Road Condition Rating Sheets

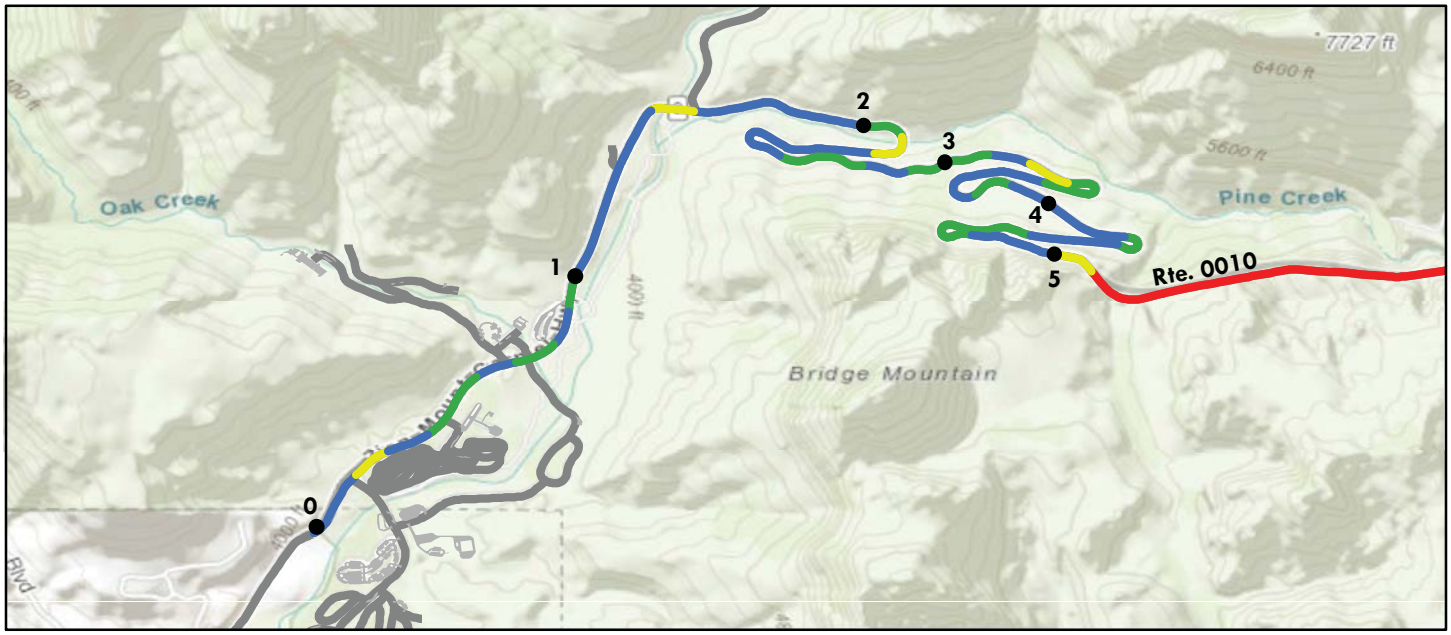
Zion National Park

Federal Lands Highway
Road Inventory Program

Zion National Park

ROUTE 0010: SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/21/2017	**Beginning Section MP**	0	1	2	3	4
Paved Length (Miles): 12.25	**Section Length (MI)**	1	1	1	1	1
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	93	93	99	93	94	97
Surface Condition Rating (SCR)	98	92	98	98	97	98
Roughness Condition Index (RCI)	86	94	100	85	89	96
Distress Index Values						
Structural Crack Index	98	100	100	100	97	99
Alligator Crack Index	100	100	100	100	100	100
Longitudinal Crack Index	98	100	100	100	97	99
Transverse Cracking Index	99	100	99	100	100	100
Patching Index	100	99	100	98	99	100
Rutting Index	98	92	98	99	97	98
International Roughness Index (IRI)	152	129	112	155	143	125
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	25.8	39.3	25.5	25.2	24.2	27.9
Lane Width (ft)	11.8	15.3	12.3	11.8	11.6	13.3

Zion National Park

ROUTE 0010: SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

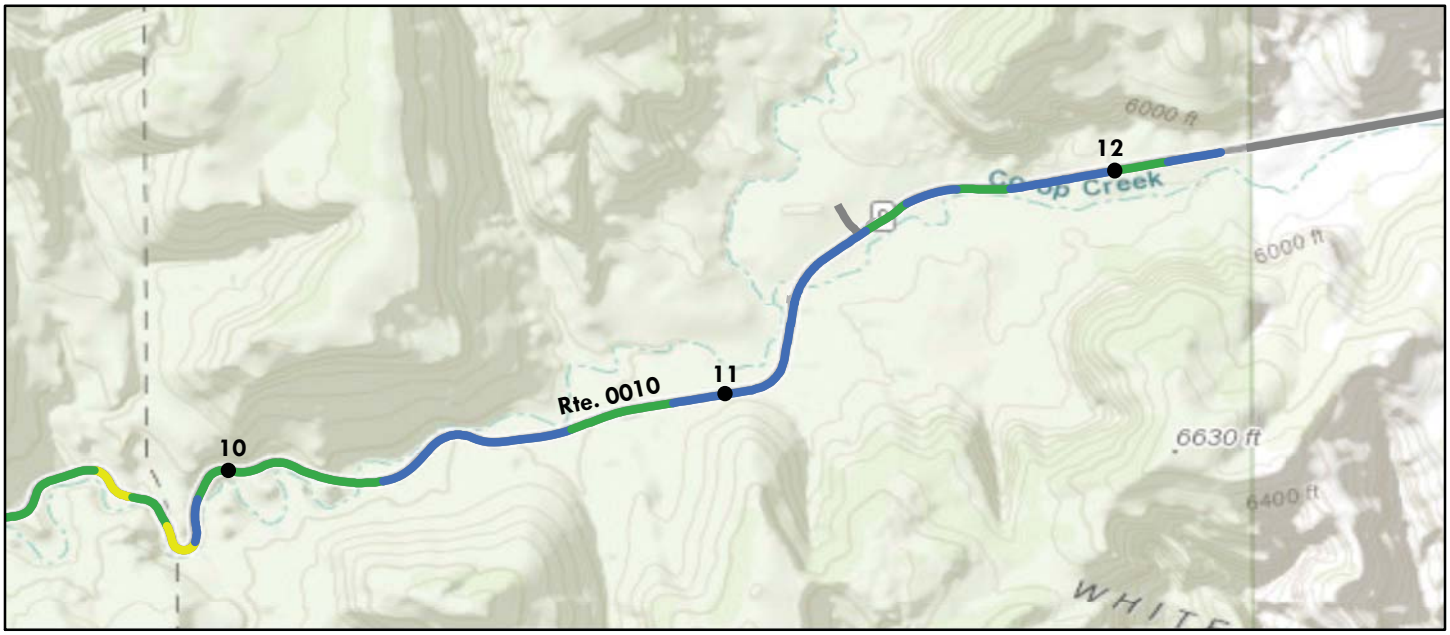
See Appendix for definitions and formulas

Inspection Date: 4/21/2017	**Beginning Section MP**	5	6	7	8	9
Paved Length (Miles): 12.25	**Section Length (MI)**	1	1	1	1	1
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	93	0	89	97	97	91
Surface Condition Rating (SCR)	98	N/A	96	99	98	99
Roughness Condition Index (RCI)	86	0	78	95	96	79
Distress Index Values						
Structural Crack Index	98	N/A	96	99	98	99
Alligator Crack Index	100	N/A	100	100	100	100
Longitudinal Crack Index	98	N/A	96	99	98	99
Transverse Cracking Index	99	N/A	100	100	100	100
Patching Index	100	N/A	100	100	100	100
Rutting Index	98	N/A	99	99	99	99
International Roughness Index (IRI)	152	329	176	126	125	172
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	25.8	21	22.6	23.9	22.8	25.3
Lane Width (ft)	11.8	9.3	10.1	10.9	10.7	12.1

Zion National Park

ROUTE 0010: SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/21/2017	**Beginning Section MP**	10	11	12		
Paved Length (Miles): 12.25	**Section Length (MI)**	1	1	0.25		
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	93	97	97	92		
Surface Condition Rating (SCR)	98	95	96	91		
Roughness Condition Index (RCI)	86	99	99	94		
Distress Index Values						
Structural Crack Index	98	95	98	99		
Alligator Crack Index	100	100	100	100		
Longitudinal Crack Index	98	95	98	99		
Transverse Cracking Index	99	99	99	98		
Patching Index	100	100	100	100		
Rutting Index	98	98	96	91		
International Roughness Index (IRI)	152	118	117	130		
Lane & Width Information						
Number of Lanes	2	2	2	2		
Paved Width (ft)	25.8	24.7	28	25.7		
Lane Width (ft)	11.8	12	11.9	11.5		

Zion National Park

ROUTE 0011: ZION CANYON SCENIC DRIVE

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

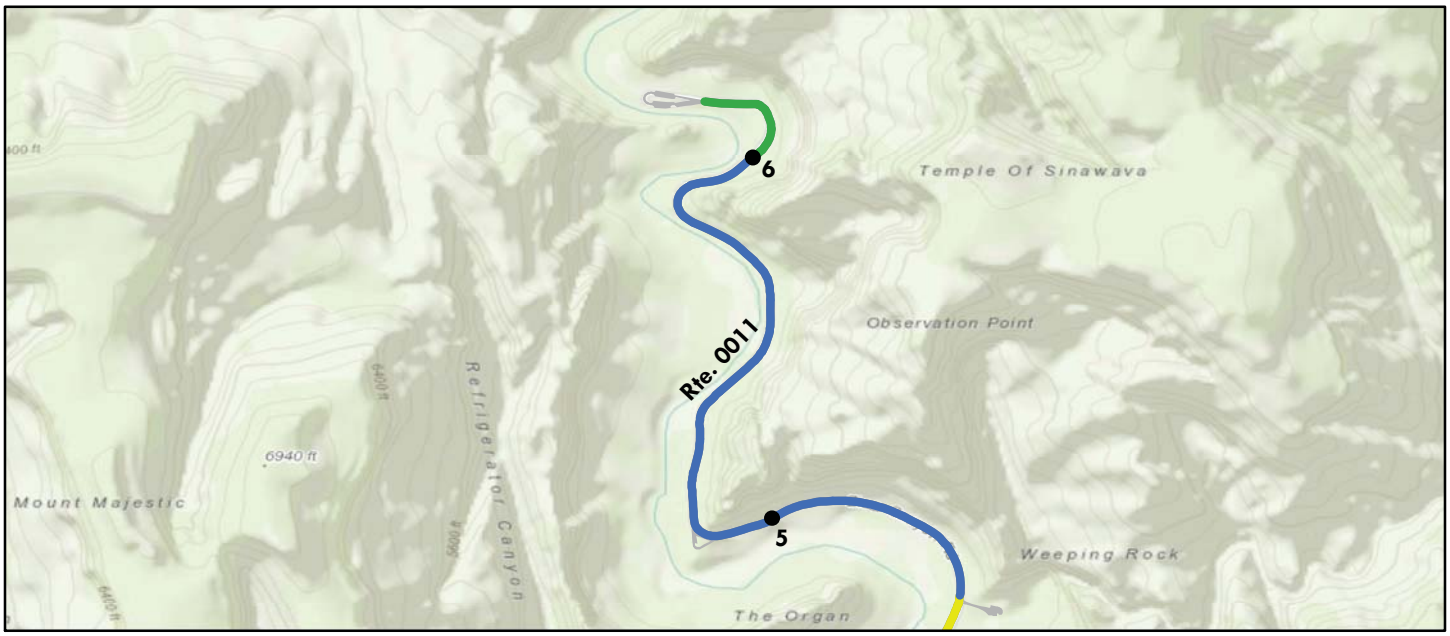
See Appendix for definitions and formulas

Inspection Date: 4/21/2017	**Beginning Section MP**	0	1	2	3	4
Paved Length (Miles): 6.19	**Section Length (MI)**	1	1	1	1	1
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	97	98	97	96	97	96
Surface Condition Rating (SCR)	95	96	95	93	97	94
Roughness Condition Index (RCI)	100	100	100	100	98	100
Distress Index Values						
Structural Crack Index	100	100	100	100	100	100
Alligator Crack Index	100	100	100	100	100	100
Longitudinal Crack Index	100	100	100	100	100	100
Transverse Cracking Index	100	100	100	100	100	100
Patching Index	100	100	100	100	100	100
Rutting Index	95	96	95	93	97	94
International Roughness Index (IRI)	107	97	93	111	121	114
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	25.3	26.7	26.7	24	25.2	24.4
Lane Width (ft)	12	12.6	12.4	11.5	12.1	11.7

Zion National Park

ROUTE 0011: ZION CANYON SCENIC DRIVE

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

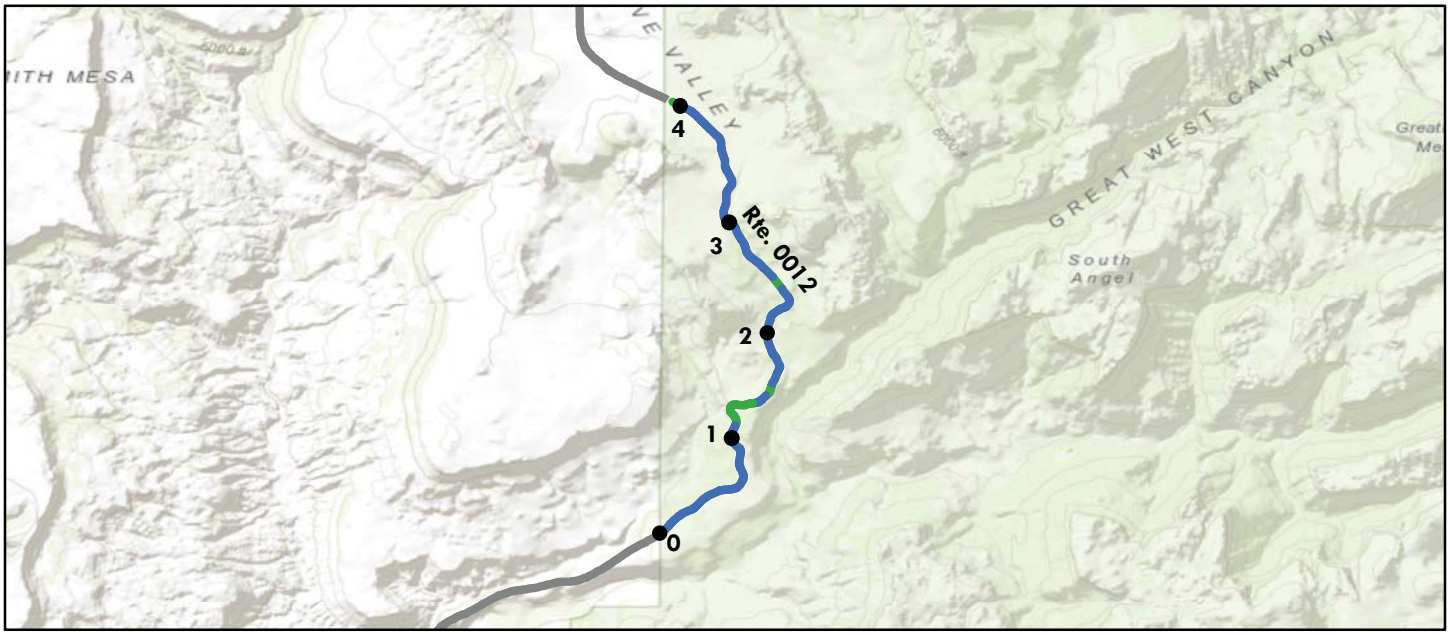
See Appendix for definitions and formulas

Inspection Date: 4/21/2017	**Beginning Section MP**	5	6			
Paved Length (Miles): 6.19	**Section Length (MI)**	1	0.19			
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	97	98	96			
Surface Condition Rating (SCR)	95	97	96			
Roughness Condition Index (RCI)	100	100	N/A			
Distress Index Values						
Structural Crack Index	100	100	100			
Alligator Crack Index	100	100	100			
Longitudinal Crack Index	100	100	100			
Transverse Cracking Index	100	100	100			
Patching Index	100	100	100			
Rutting Index	95	97	96			
International Roughness Index (IRI)	107	101	N/A			
Lane & Width Information						
Number of Lanes	2	2	2			
Paved Width (ft)	25.3	25	24			
Lane Width (ft)	12	12	11.4			

Zion National Park

ROUTE 0012: KOLOB TERRACE ROAD SOUTH

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

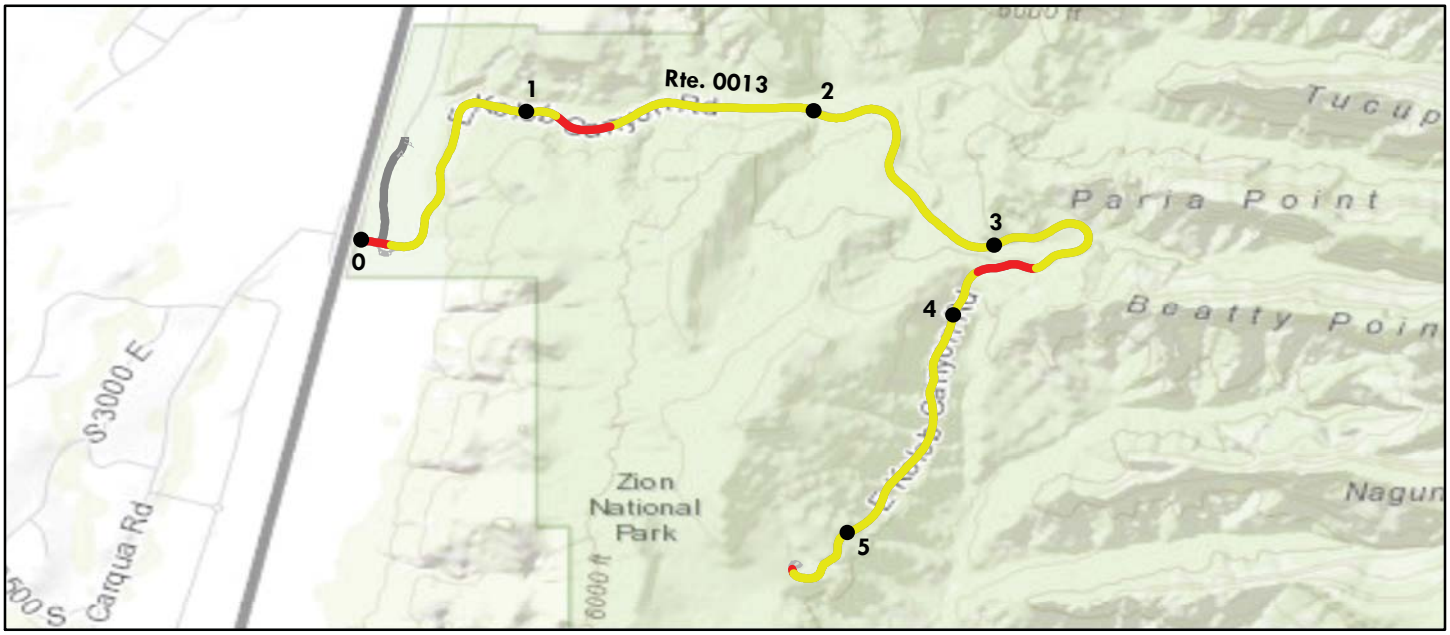
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0	1	2	3	4
Paved Length (Miles): 4.09	**Section Length (MI)**	1	1	1	1	0.09
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	99	99	98	99	100	94
Surface Condition Rating (SCR)	99	99	98	99	100	100
Roughness Condition Index (RCI)	100	100	97	100	100	85
Distress Index Values						
Structural Crack Index	99	99	98	99	100	100
Alligator Crack Index	100	100	100	100	100	100
Longitudinal Crack Index	99	99	98	99	100	100
Transverse Cracking Index	100	100	100	100	100	100
Patching Index	100	100	100	100	100	100
Rutting Index	99	99	99	100	100	100
International Roughness Index (IRI)	104	91	121	116	84	154
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	20.2	20.1	19.3	20.9	20.9	19.8
Lane Width (ft)	9.3	9.8	8.7	9.2	9.7	9.4

Zion National Park

ROUTE 0013: KOLOB CANYON ROAD

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

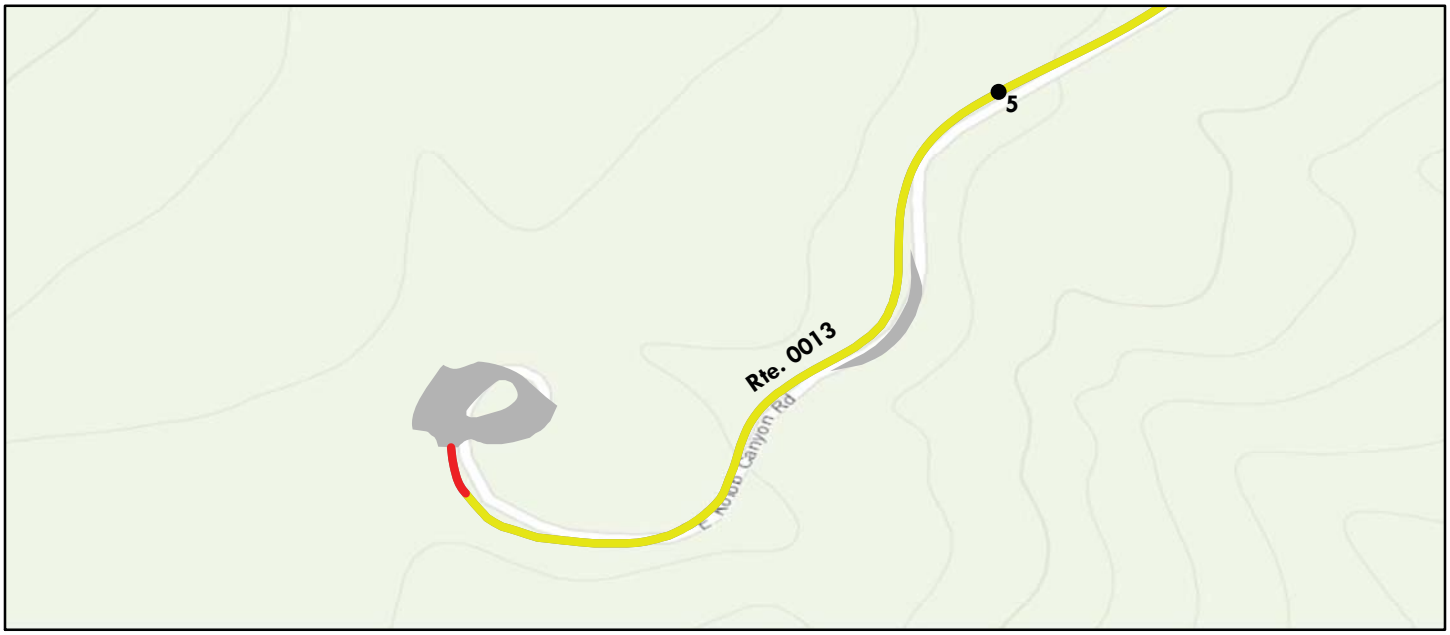
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0	1	2	3	4
Paved Length (Miles): 5.32	**Section Length (MI)**	1	1	1	1	1
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	71	69	66	75	68	73
Surface Condition Rating (SCR)	73	66	63	84	71	69
Roughness Condition Index (RCI)	69	73	70	61	64	80
Distress Index Values						
Structural Crack Index	81	90	88	84	75	69
Alligator Crack Index	100	100	100	100	100	100
Longitudinal Crack Index	81	90	88	84	75	69
Transverse Cracking Index	73	66	63	86	71	75
Patching Index	100	100	100	99	100	100
Rutting Index	91	91	91	91	93	90
International Roughness Index (IRI)	206	190	202	235	223	170
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	30.1	28.7	29.9	30.6	31	30
Lane Width (ft)	13.9	14.7	12.6	13.6	15.1	13.4

Zion National Park

ROUTE 0013: KOLOB CANYON ROAD

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

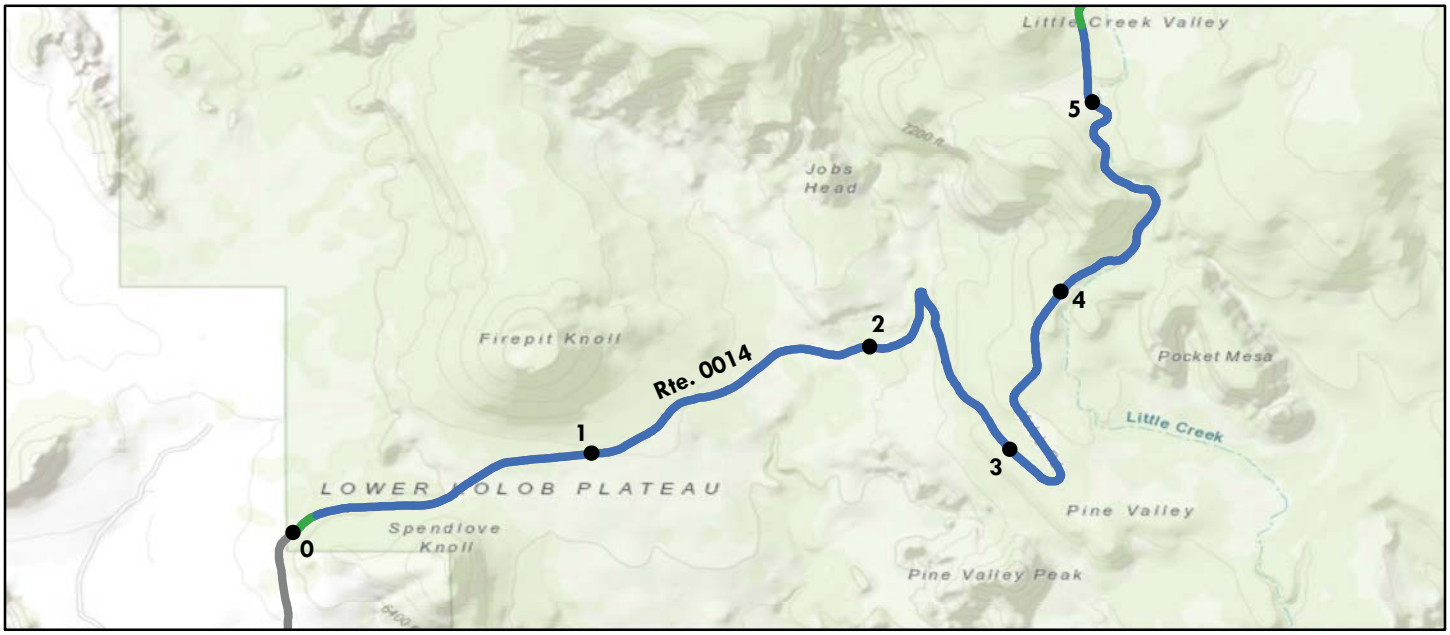
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	5				
Paved Length (Miles): 5.32	**Section Length (MI)**	0.32				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	71	67				
Surface Condition Rating (SCR)	73	69				
Roughness Condition Index (RCI)	69	63				
Distress Index Values						
Structural Crack Index	81	69				
Alligator Crack Index	100	100				
Longitudinal Crack Index	81	69				
Transverse Cracking Index	73	79				
Patching Index	100	100				
Rutting Index	91	91				
International Roughness Index (IRI)	206	228				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	30.1	32.4				
Lane Width (ft)	13.9	13.8				

Zion National Park

ROUTE 0014: KOLOB TERRACE ROAD NORTH

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

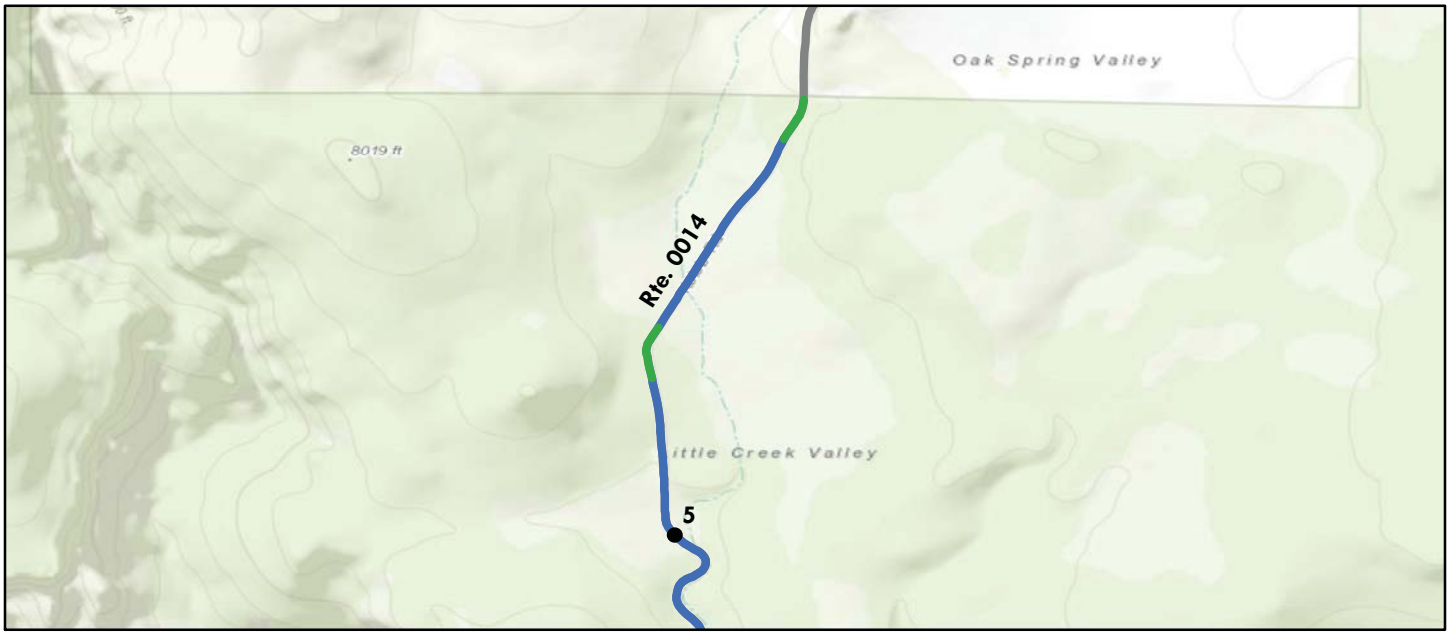
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0	1	2	3	4
Paved Length (Miles): 5.88	**Section Length (MI)**	1	1	1	1	1
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	99	99	100	100	99	100
Surface Condition Rating (SCR)	99	99	100	100	98	100
Roughness Condition Index (RCI)	100	100	100	100	100	100
Distress Index Values						
Structural Crack Index	99	99	100	100	98	100
Alligator Crack Index	100	100	100	100	100	100
Longitudinal Crack Index	99	99	100	100	98	100
Transverse Cracking Index	100	100	100	100	100	100
Patching Index	100	100	100	100	100	100
Rutting Index	100	99	100	100	100	100
International Roughness Index (IRI)	97	98	90	91	98	99
Lane & Width Information						
Number of Lanes	2	2	2	2	2	2
Paved Width (ft)	19.5	20.2	19.9	19	18.8	19.4
Lane Width (ft)	9.1	9.6	9.4	9	8.7	8.8

Zion National Park

ROUTE 0014: KOLOB TERRACE ROAD NORTH

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

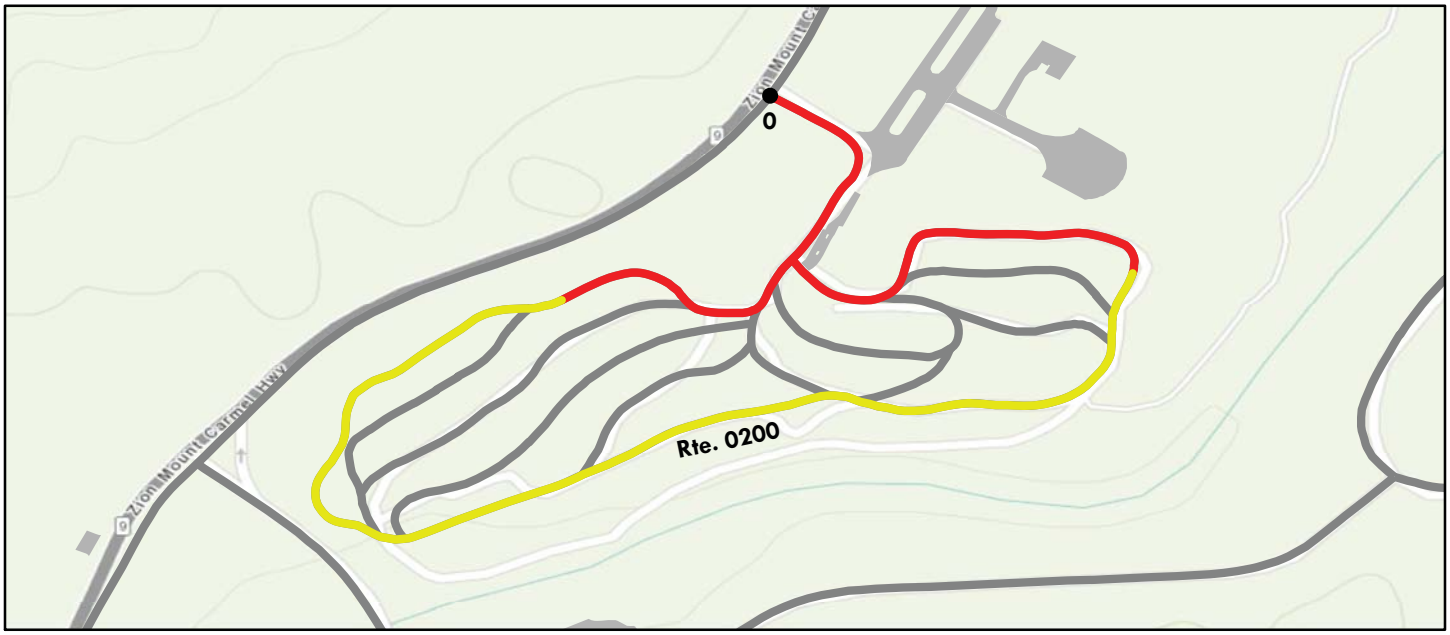
See Appendix for definitions and formulas

Inspection Date:	4/20/2017	**Beginning Section MP**	5				
Paved Length (Miles):	5.88	**Section Length (MI)**	0.88				
Surface Type:	ASPHALT	**Route Summary**					
Roadway Condition Information							
Pavement Condition Rating (PCR)		99	100				
Surface Condition Rating (SCR)		99	100				
Roughness Condition Index (RCI)		100	100				
Distress Index Values							
Structural Crack Index		99	100				
Alligator Crack Index		100	100				
Longitudinal Crack Index		99	100				
Transverse Cracking Index		100	100				
Patching Index		100	100				
Rutting Index		100	100				
International Roughness Index (IRI)		97	109				
Lane & Width Information							
Number of Lanes		2	2				
Paved Width (ft)		19.5	19.9				
Lane Width (ft)		9.1	9.1				

Zion National Park

ROUTE 0200: SOUTH CAMPGROUND LOOP

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

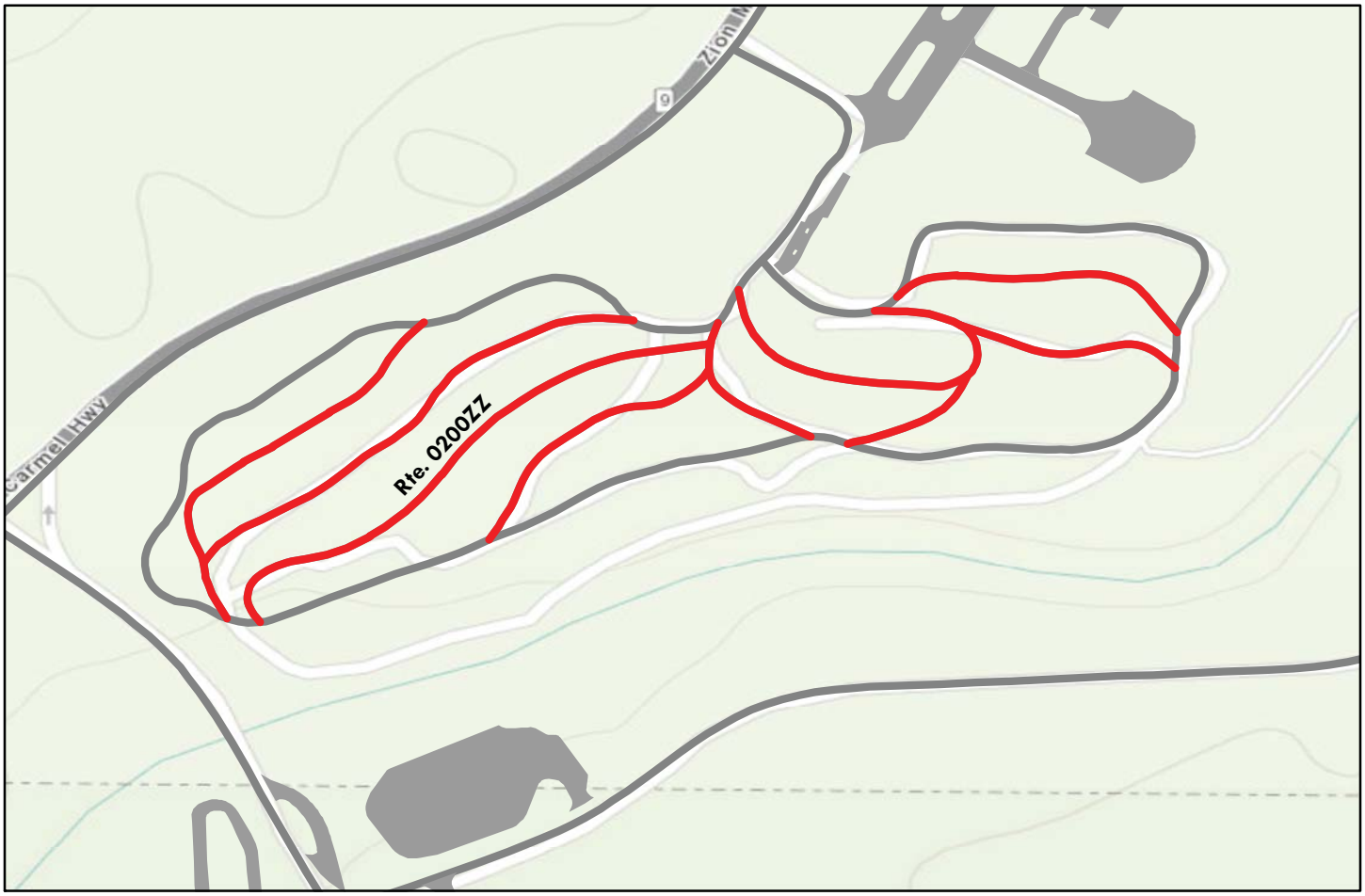
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.86	**Section Length (MI)**	0.86				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	63	63				
Surface Condition Rating (SCR)	63	63				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	70	70				
Alligator Crack Index	97	97				
Longitudinal Crack Index	73	73				
Transverse Cracking Index	63	63				
Patching Index	95	95				
Rutting Index	86	86				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	12.3	12.3				
Lane Width (ft)	10.8	10.8				

Zion National Park

ROUTE 0200ZZ: SOUTH CAMPGROUND INSIDE ROADS

Summary Route



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

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date:	4/20/2017
Paved Length (Miles):	0.9
Surface Type:	ASPHALT
Roadway Condition Information	
Pavement Condition Rating (PCR)	59
Lane & Width Information	
Number of Lanes	1
Paved Width (ft)	11.5
Lane Width (ft)	11.5

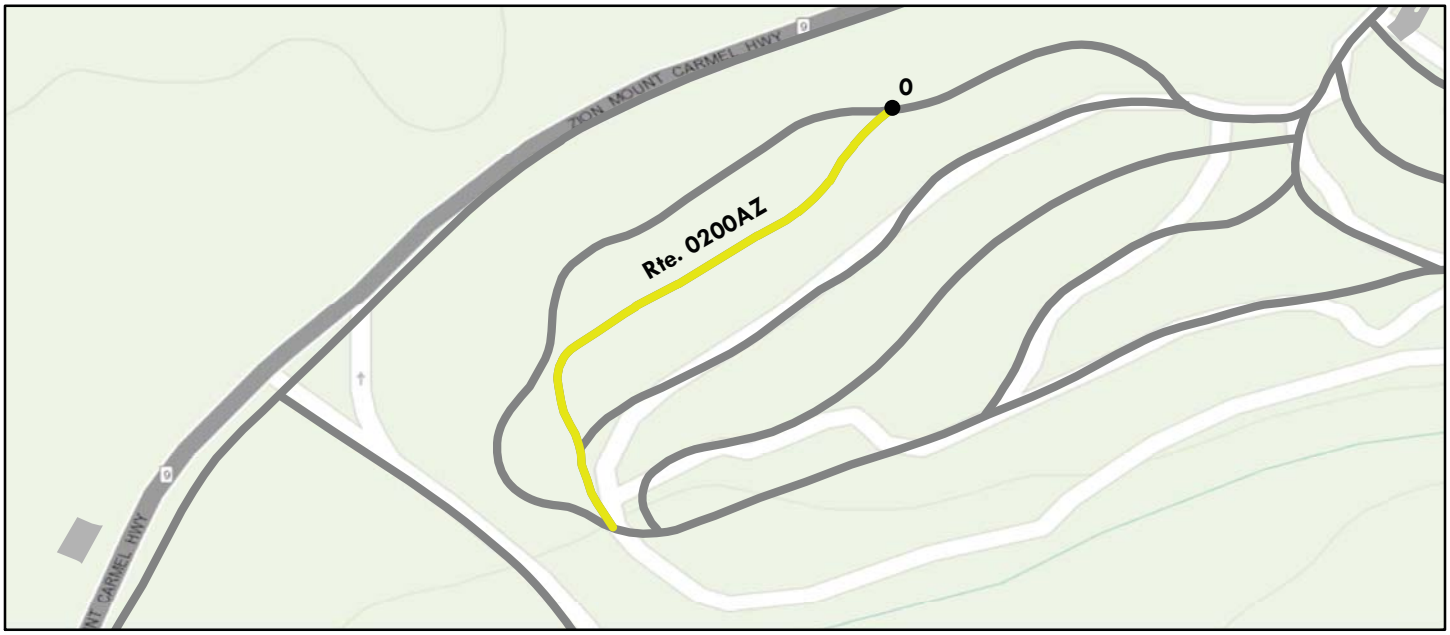
Route Summary

Zion National Park

ROUTE 0200AZ: SOUTH CAMPGROUND INSIDE ROAD A (SITES 13-18)

Subcomponent of Route ZION-0200ZZ

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

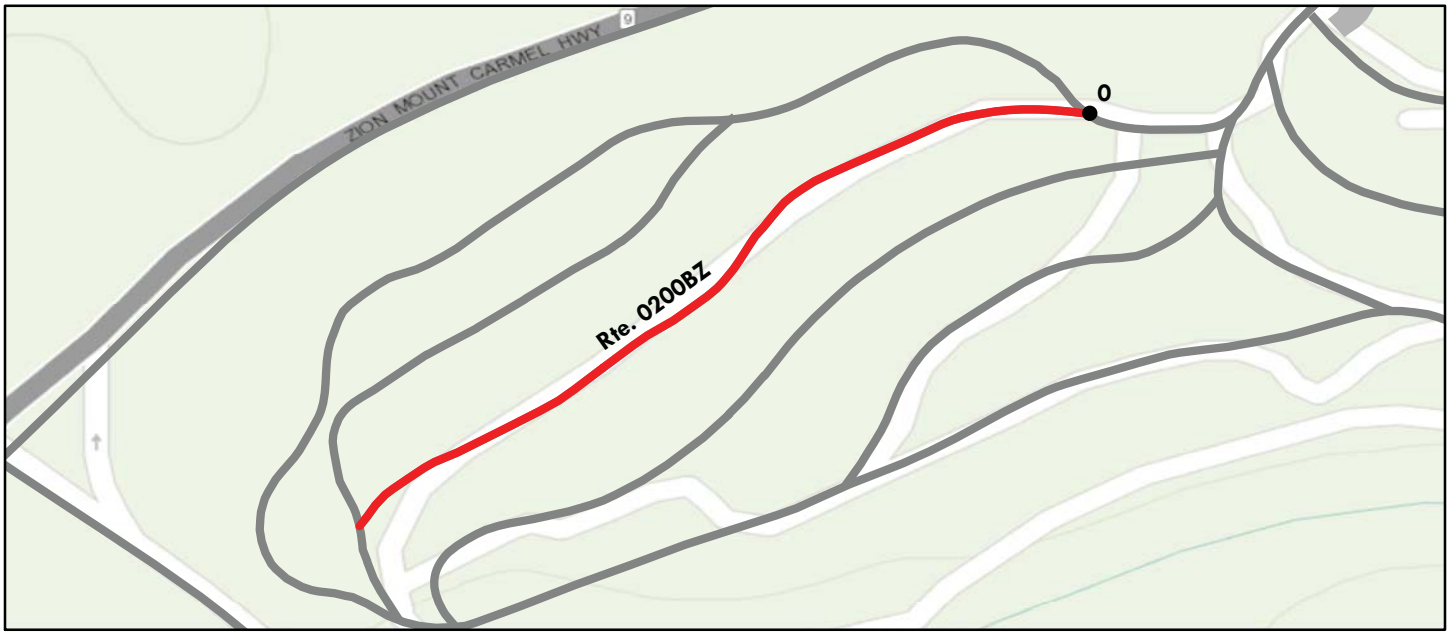
Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.13	**Section Length (MI)**	0.13				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	69	69				
Surface Condition Rating (SCR)	69	69				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	76	76				
Alligator Crack Index	100	100				
Longitudinal Crack Index	76	76				
Transverse Cracking Index	69	69				
Patching Index	93	93				
Rutting Index	86	86				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	11.6	11.6				
Lane Width (ft)	11.6	11.6				

Zion National Park

ROUTE 0200BZ: SOUTH CAMPGROUND INSIDE ROAD B (SITES 23-35)

Subcomponent of Route ZION-0200ZZ

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

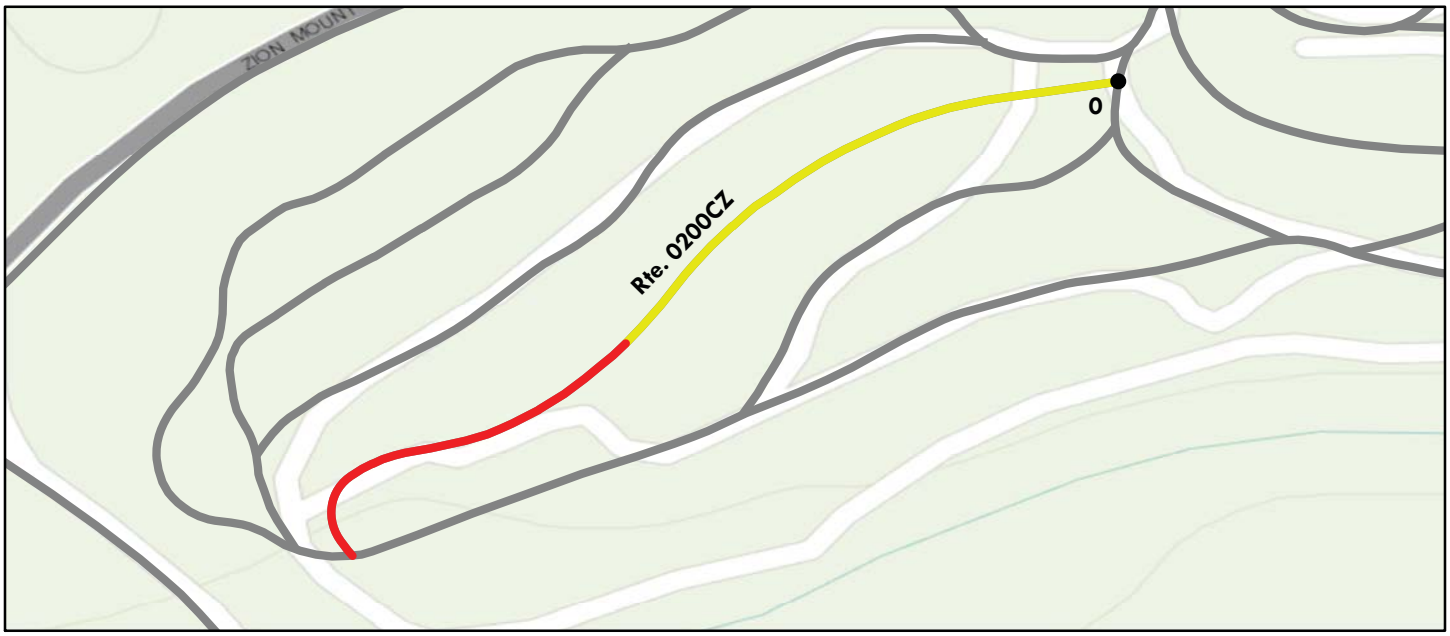
Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.15	**Section Length (MI)**	0.15				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	38	38				
Surface Condition Rating (SCR)	38	38				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	73	73				
Alligator Crack Index	98	98				
Longitudinal Crack Index	75	75				
Transverse Cracking Index	38	38				
Patching Index	97	97				
Rutting Index	92	92				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	11.9	11.9				
Lane Width (ft)	11.9	11.9				

Zion National Park

ROUTE 0200CZ: SOUTH CAMPGROUND INSIDE ROAD C (SITES 36-57)

Subcomponent of Route ZION-0200ZZ

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

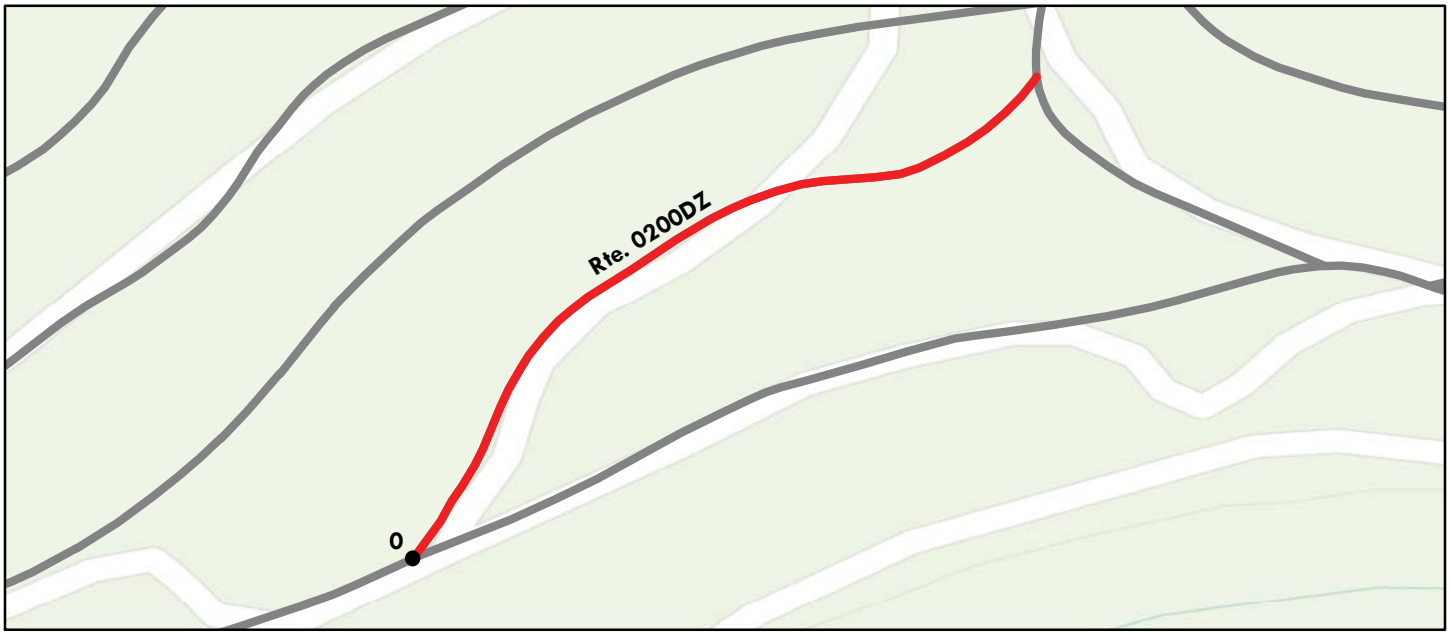
Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.17	**Section Length (MI)**	0.17				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	55	55				
Surface Condition Rating (SCR)	55	55				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	75	75				
Alligator Crack Index	100	100				
Longitudinal Crack Index	75	75				
Transverse Cracking Index	55	55				
Patching Index	97	97				
Rutting Index	89	89				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	12.2	12.2				
Lane Width (ft)	12.2	12.2				

Zion National Park

ROUTE 0200DZ: SOUTH CAMPGROUND INSIDE ROAD D (SITES 64-67)

Subcomponent of Route ZION-0200ZZ

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

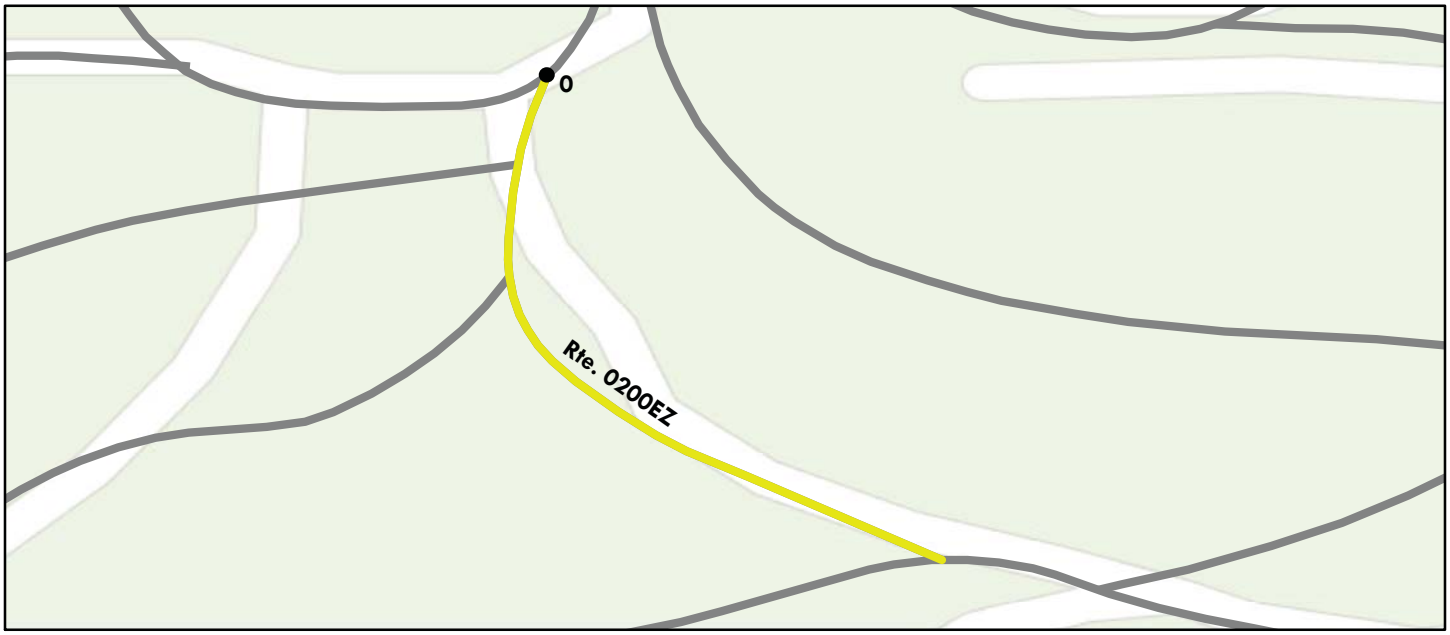
Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.09	**Section Length (MI)**	0.09				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	45	45				
Surface Condition Rating (SCR)	45	45				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	68	68				
Alligator Crack Index	98	98				
Longitudinal Crack Index	70	70				
Transverse Cracking Index	45	45				
Patching Index	96	96				
Rutting Index	83	83				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	12.1	12.1				
Lane Width (ft)	12.1	12.1				

Zion National Park

ROUTE 0200EZ: SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124)

Subcomponent of Route ZION-0200ZZ

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.05	**Section Length (MI)**	0.05				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	72	72				
Surface Condition Rating (SCR)	72	72				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	76	76				
Alligator Crack Index	99	99				
Longitudinal Crack Index	77	77				
Transverse Cracking Index	72	72				
Patching Index	97	97				
Rutting Index	89	89				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	9.6	9.6				
Lane Width (ft)	9.6	9.6				

Zion National Park

ROUTE 0200FZ: SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100)

Subcomponent of Route ZION-0200ZZ

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

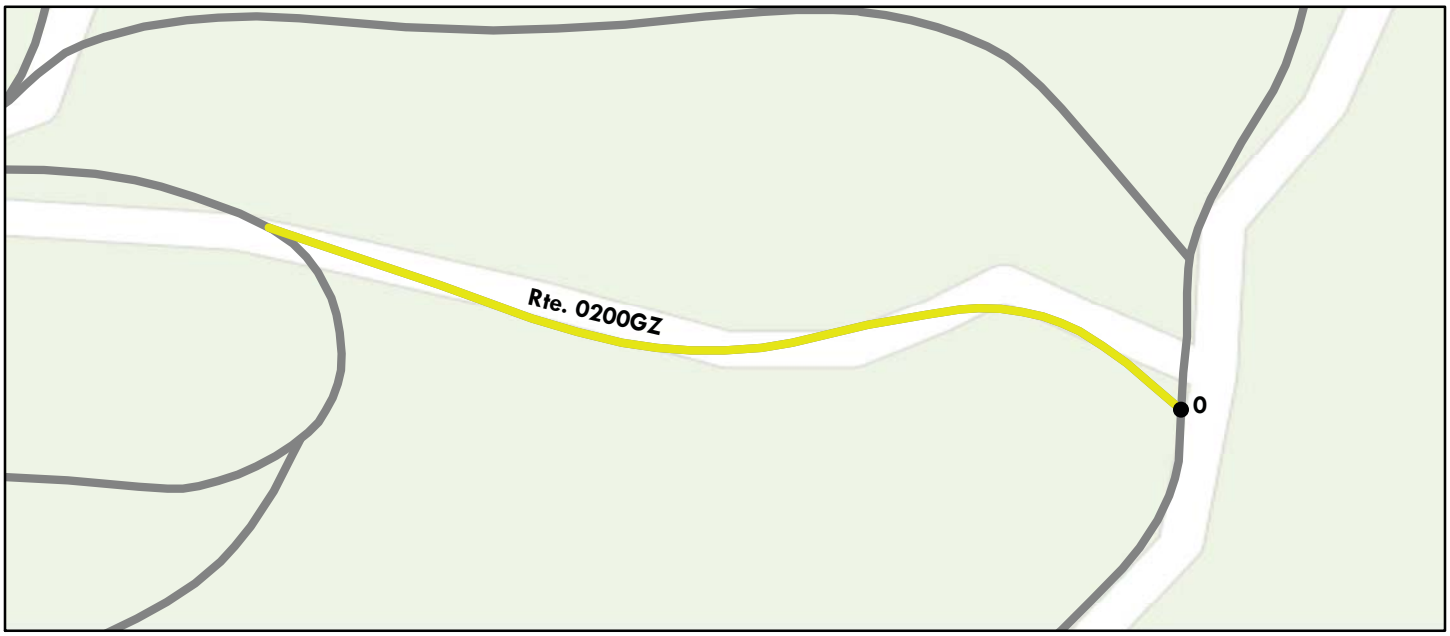
Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.12	**Section Length (MI)**	0.12				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	75	75				
Surface Condition Rating (SCR)	75	75				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	75	75				
Alligator Crack Index	100	100				
Longitudinal Crack Index	75	75				
Transverse Cracking Index	81	81				
Patching Index	98	98				
Rutting Index	89	89				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	11.4	11.4				
Lane Width (ft)	11.4	11.4				

Zion National Park

ROUTE 0200GZ: SOUTH CAMPGROUND INSIDE ROAD G (SITES 86-89)

Subcomponent of Route ZION-0200ZZ

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

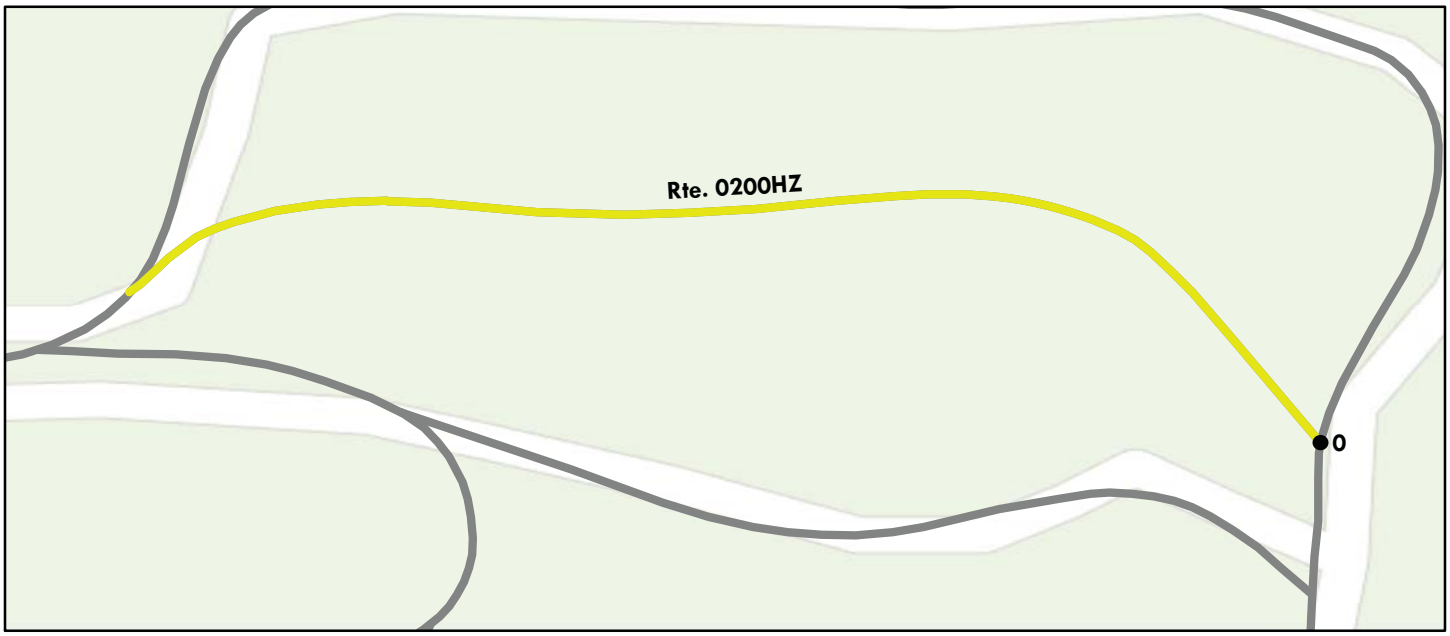
Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.06	**Section Length (MI)**	0.06				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	70	70				
Surface Condition Rating (SCR)	70	70				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	84	84				
Alligator Crack Index	100	100				
Longitudinal Crack Index	84	84				
Transverse Cracking Index	70	70				
Patching Index	98	98				
Rutting Index	93	93				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	10.8	10.8				
Lane Width (ft)	10.8	10.8				

Zion National Park

ROUTE 0200HZ: SOUTH CAMPGROUND INSIDE ROAD H (SITES 103-113)

Subcomponent of Route ZION-0200ZZ

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

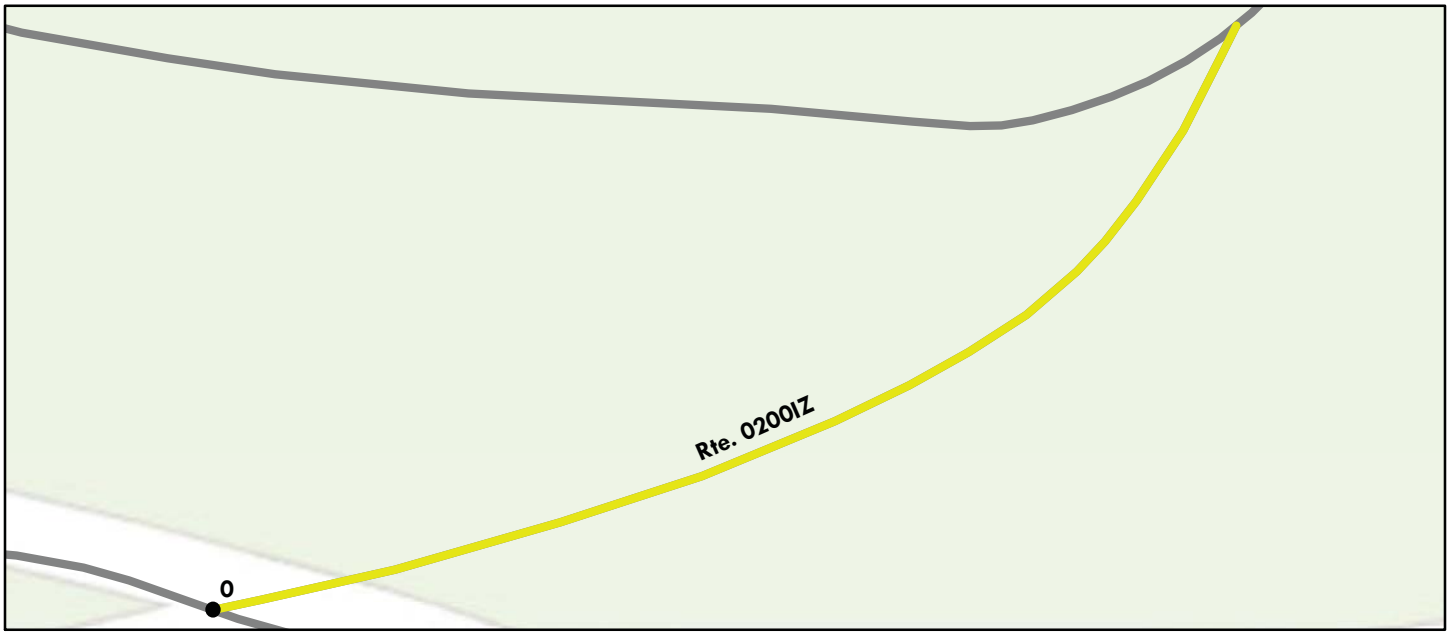
Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.09	**Section Length (MI)**	0.09				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	66	66				
Surface Condition Rating (SCR)	66	66				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	83	83				
Alligator Crack Index	100	100				
Longitudinal Crack Index	83	83				
Transverse Cracking Index	66	66				
Patching Index	94	94				
Rutting Index	86	86				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	11.5	11.5				
Lane Width (ft)	11.5	11.5				

Zion National Park

ROUTE 0200IZ: SOUTH CAMPGROUND INSIDE ROAD I

Subcomponent of Route ZION-0200ZZ

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

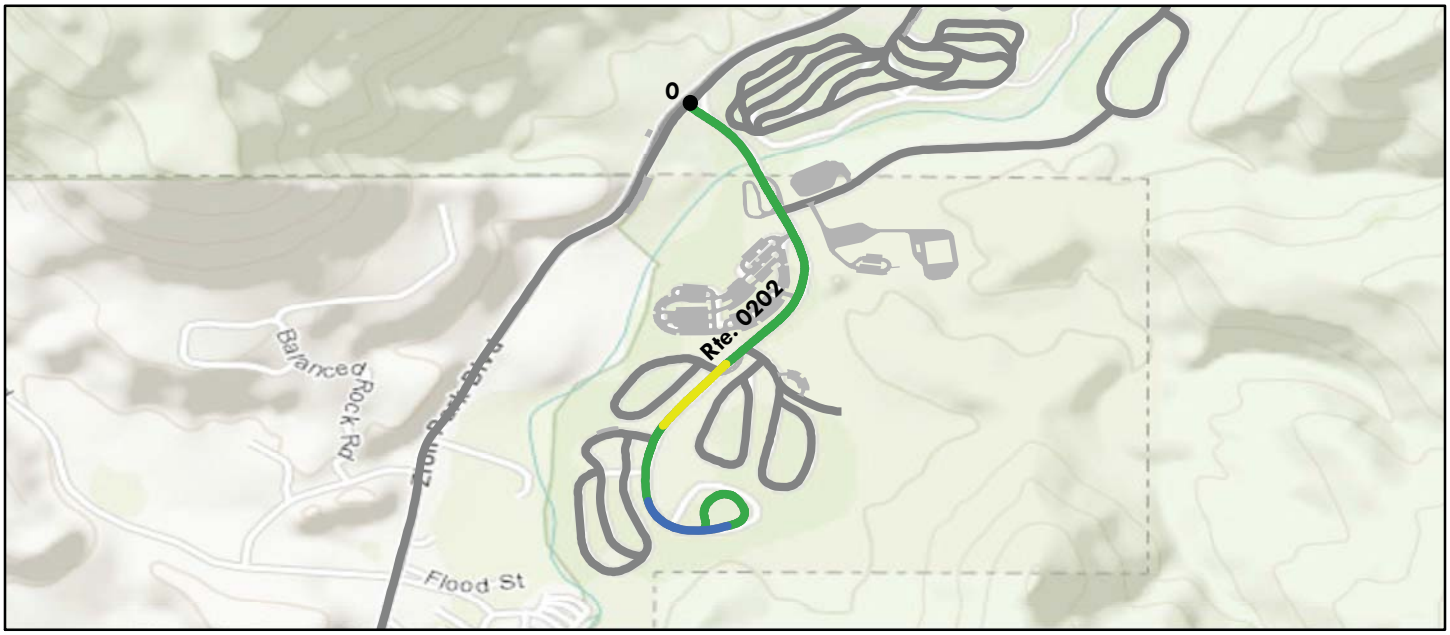
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.04	**Section Length (MI)**	0.04				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	62	62				
Surface Condition Rating (SCR)	62	62				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	62	62				
Alligator Crack Index	100	100				
Longitudinal Crack Index	62	62				
Transverse Cracking Index	74	74				
Patching Index	97	97				
Rutting Index	86	86				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	9.6	9.6				
Lane Width (ft)	9.6	9.6				

Zion National Park

ROUTE 0202: WATCHMAN CAMPGROUND ROAD

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.82	**Section Length (MI)**	0.82				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	93	93				
Surface Condition Rating (SCR)	93	93				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	98	98				
Alligator Crack Index	100	100				
Longitudinal Crack Index	98	98				
Transverse Cracking Index	93	93				
Patching Index	100	100				
Rutting Index	95	95				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	18	18				
Lane Width (ft)	9.1	9.1				

Zion National Park

ROUTE 0202A: WATCHMAN CAMPGROUND LOOP A

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.26	**Section Length (MI)**	0.26				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	98	98				
Surface Condition Rating (SCR)	98	98				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	100	100				
Alligator Crack Index	100	100				
Longitudinal Crack Index	100	100				
Transverse Cracking Index	100	100				
Patching Index	100	100				
Rutting Index	98	98				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	15.2	15.2				
Lane Width (ft)	15.2	15.2				

Zion National Park

ROUTE 0202B: WATCHMAN CAMPGROUND LOOP B

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

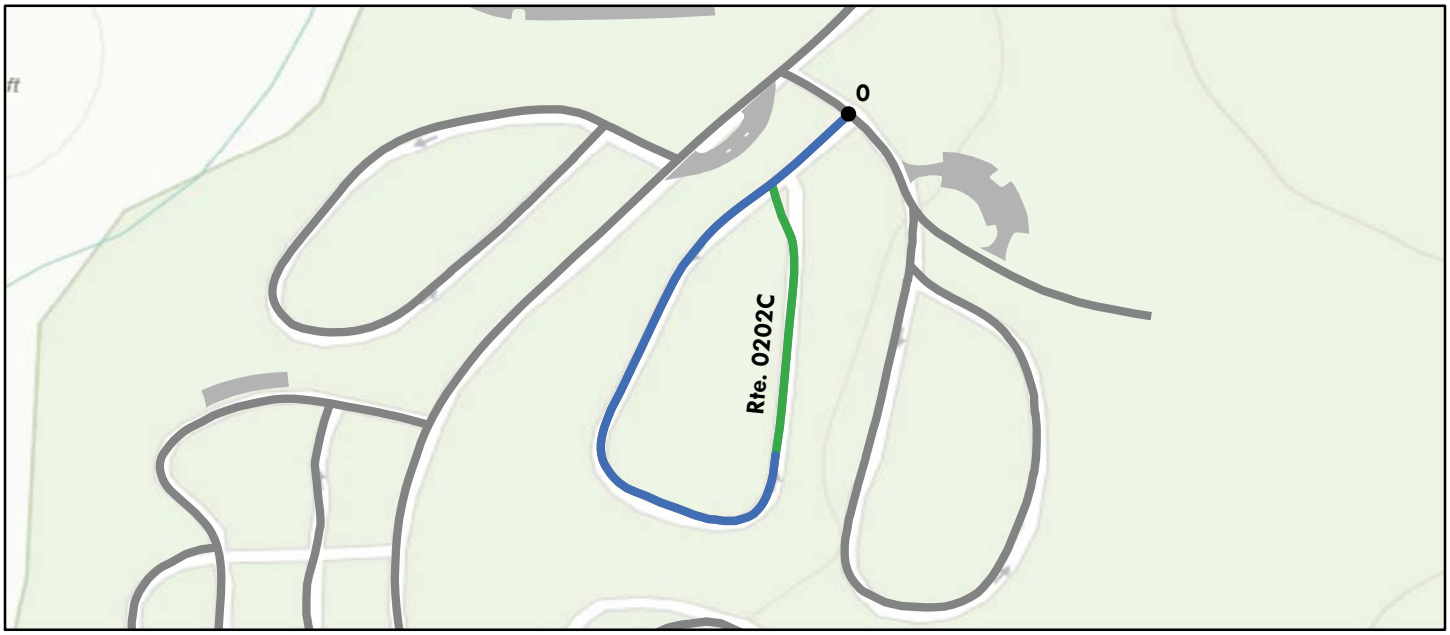
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.4	**Section Length (MI)**	0.4				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	88	88				
Surface Condition Rating (SCR)	88	88				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	94	94				
Alligator Crack Index	98	98				
Longitudinal Crack Index	96	96				
Transverse Cracking Index	88	88				
Patching Index	99	99				
Rutting Index	93	93				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	15.2	15.2				
Lane Width (ft)	15.2	15.2				

Zion National Park

ROUTE 0202C: WATCHMAN CAMPGROUND LOOP C

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

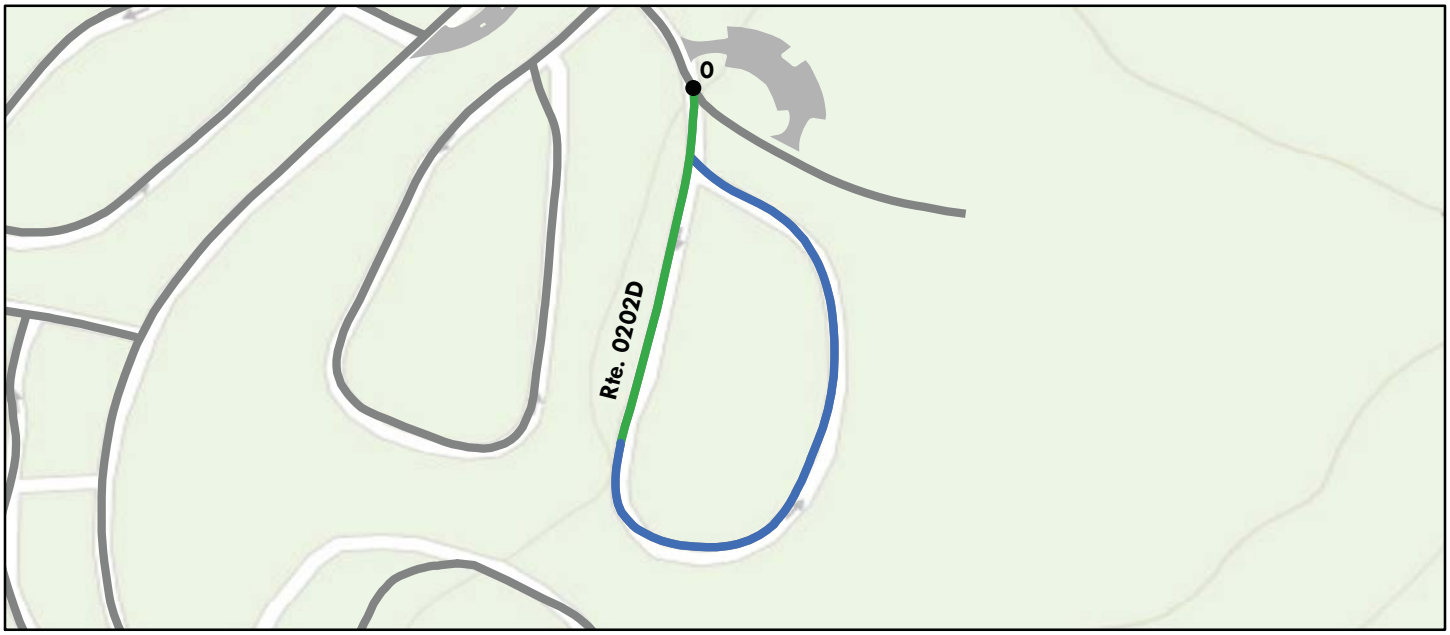
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.29	**Section Length (MI)**	0.29				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	96	96				
Surface Condition Rating (SCR)	96	96				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	96	96				
Alligator Crack Index	100	100				
Longitudinal Crack Index	96	96				
Transverse Cracking Index	99	99				
Patching Index	100	100				
Rutting Index	97	97				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	13.9	13.9				
Lane Width (ft)	13.9	13.9				

Zion National Park

ROUTE 0202D: WATCHMAN CAMPGROUND LOOP D

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.28	**Section Length (MI)**	0.28				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	95	95				
Surface Condition Rating (SCR)	95	95				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	100	100				
Alligator Crack Index	100	100				
Longitudinal Crack Index	100	100				
Transverse Cracking Index	99	99				
Patching Index	99	99				
Rutting Index	95	95				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	13.4	13.4				
Lane Width (ft)	13.4	13.4				

Zion National Park

ROUTE 0202E: WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.13	**Section Length (MI)**	0.13				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	87	87				
Surface Condition Rating (SCR)	87	87				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	89	89				
Alligator Crack Index	99	99				
Longitudinal Crack Index	90	90				
Transverse Cracking Index	87	87				
Patching Index	100	100				
Rutting Index	95	95				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	20.4	20.4				
Lane Width (ft)	11.2	11.2				

Zion National Park

ROUTE 0202F: WATCHMAN CAMPGROUND LOOP B (SIDE LOOP)

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

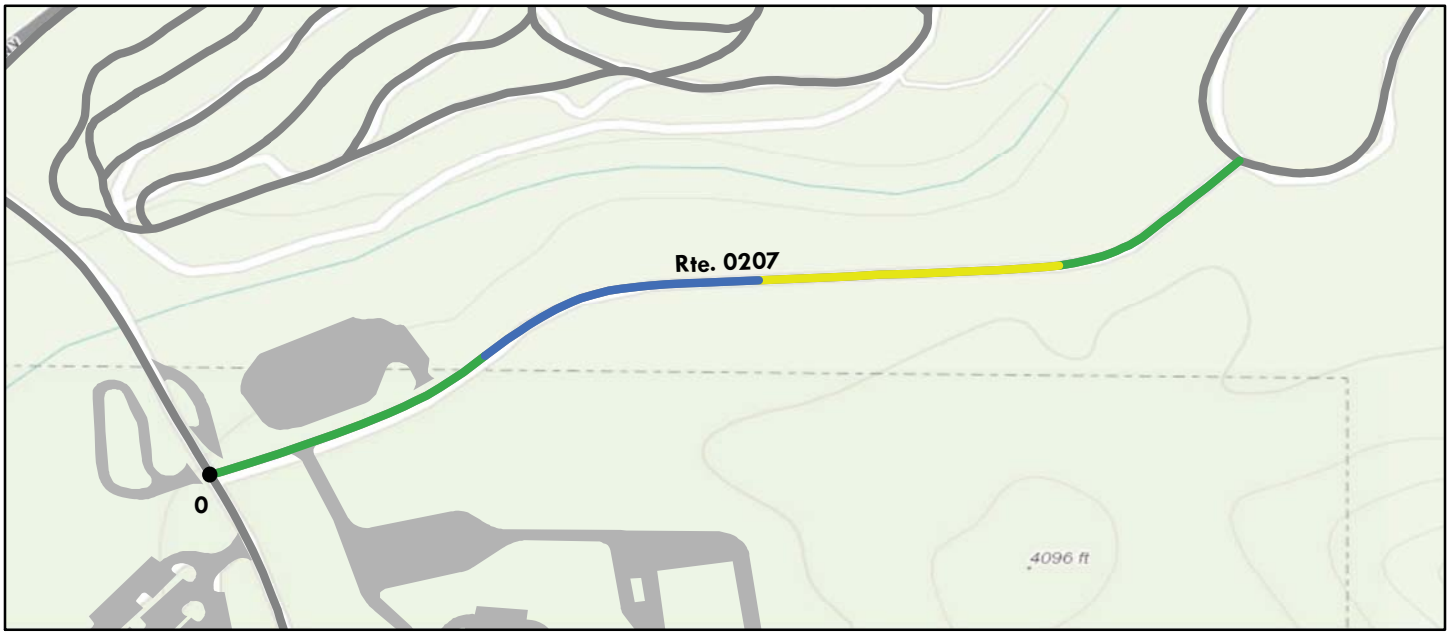
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.19	**Section Length (MI)**	0.19				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	82	82				
Surface Condition Rating (SCR)	82	82				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	96	96				
Alligator Crack Index	100	100				
Longitudinal Crack Index	96	96				
Transverse Cracking Index	82	82				
Patching Index	99	99				
Rutting Index	88	88				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	12.7	12.7				
Lane Width (ft)	12.7	12.7				

Zion National Park

ROUTE 0207: WATCHMAN TRAIL ROAD

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

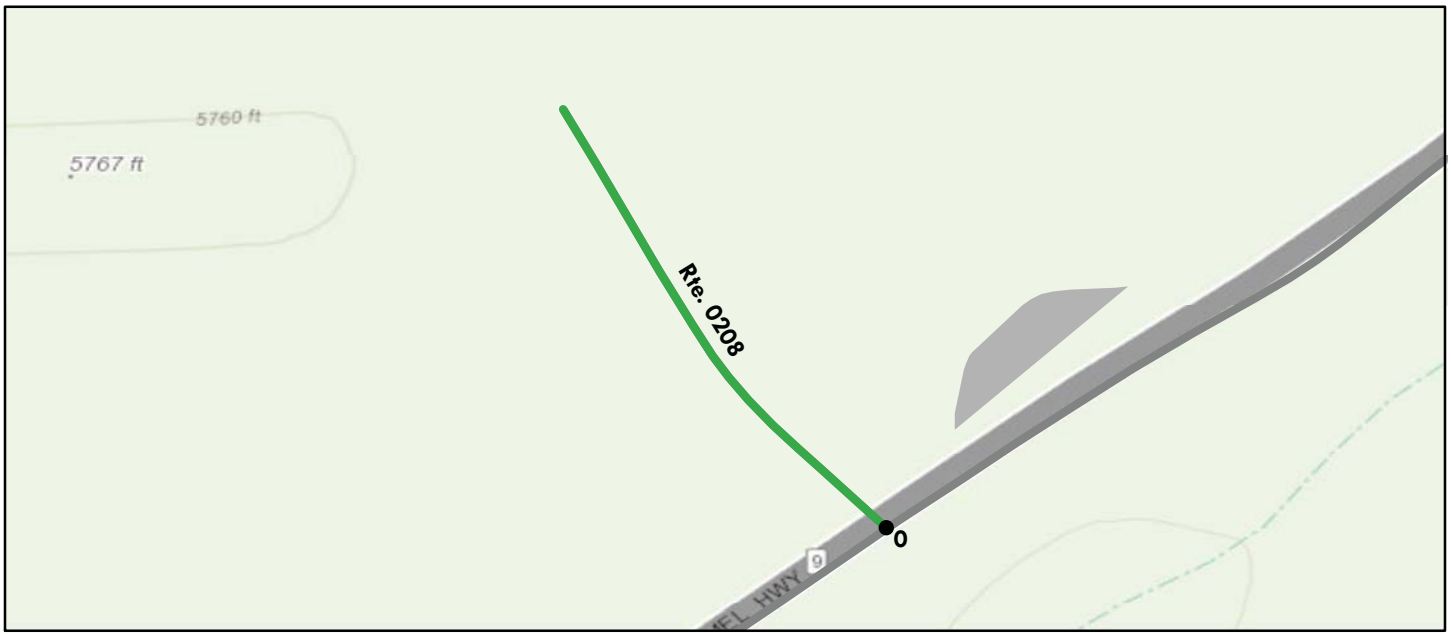
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.37	**Section Length (MI)**	0.37				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	93	93				
Surface Condition Rating (SCR)	93	93				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	94	94				
Alligator Crack Index	100	100				
Longitudinal Crack Index	94	94				
Transverse Cracking Index	93	93				
Patching Index	100	100				
Rutting Index	96	96				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	23.4	23.4				
Lane Width (ft)	12.2	12.2				

Zion National Park

ROUTE 0208: EAST RIM TRAIL ACCESS

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/21/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.08	**Section Length (MI)**	0.08				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	93	93				
Surface Condition Rating (SCR)	93	93				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	98	98				
Alligator Crack Index	100	100				
Longitudinal Crack Index	98	98				
Transverse Cracking Index	94	94				
Patching Index	100	100				
Rutting Index	93	93				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	13.8	13.8				
Lane Width (ft)	8.4	8.4				

Zion National Park

ROUTE 0400: WATCHMAN HOUSING COMPLEX ROAD

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

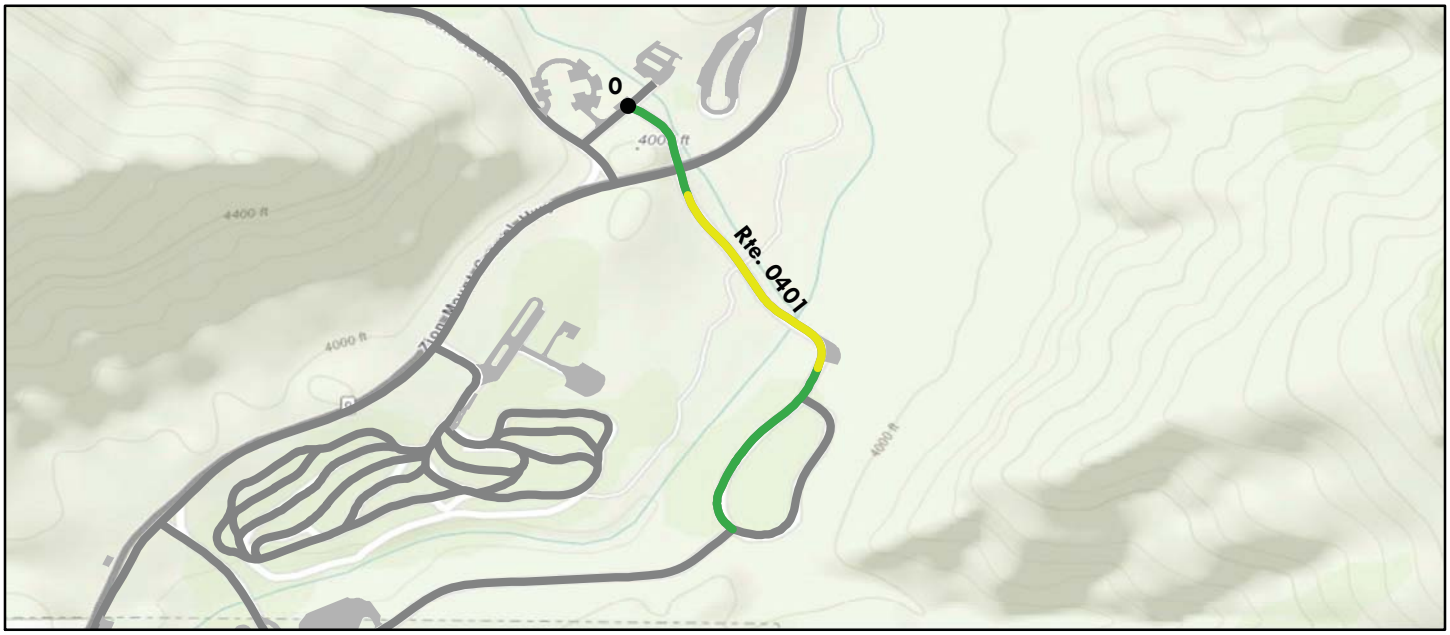
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.18	**Section Length (MI)**	0.18				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	88	88				
Surface Condition Rating (SCR)	88	88				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	94	94				
Alligator Crack Index	100	100				
Longitudinal Crack Index	94	94				
Transverse Cracking Index	88	88				
Patching Index	100	100				
Rutting Index	95	95				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	22.3	22.3				
Lane Width (ft)	11.2	11.2				

Zion National Park

ROUTE 0401: WATCHMAN RESIDENCE ROAD

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.48	**Section Length (MI)**	0.48				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	86	86				
Surface Condition Rating (SCR)	86	86				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	93	93				
Alligator Crack Index	100	100				
Longitudinal Crack Index	93	93				
Transverse Cracking Index	86	86				
Patching Index	100	100				
Rutting Index	95	95				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	21.5	21.5				
Lane Width (ft)	10.5	10.5				

Zion National Park

ROUTE 0402: MAINTENANCE ACCESS ROAD

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

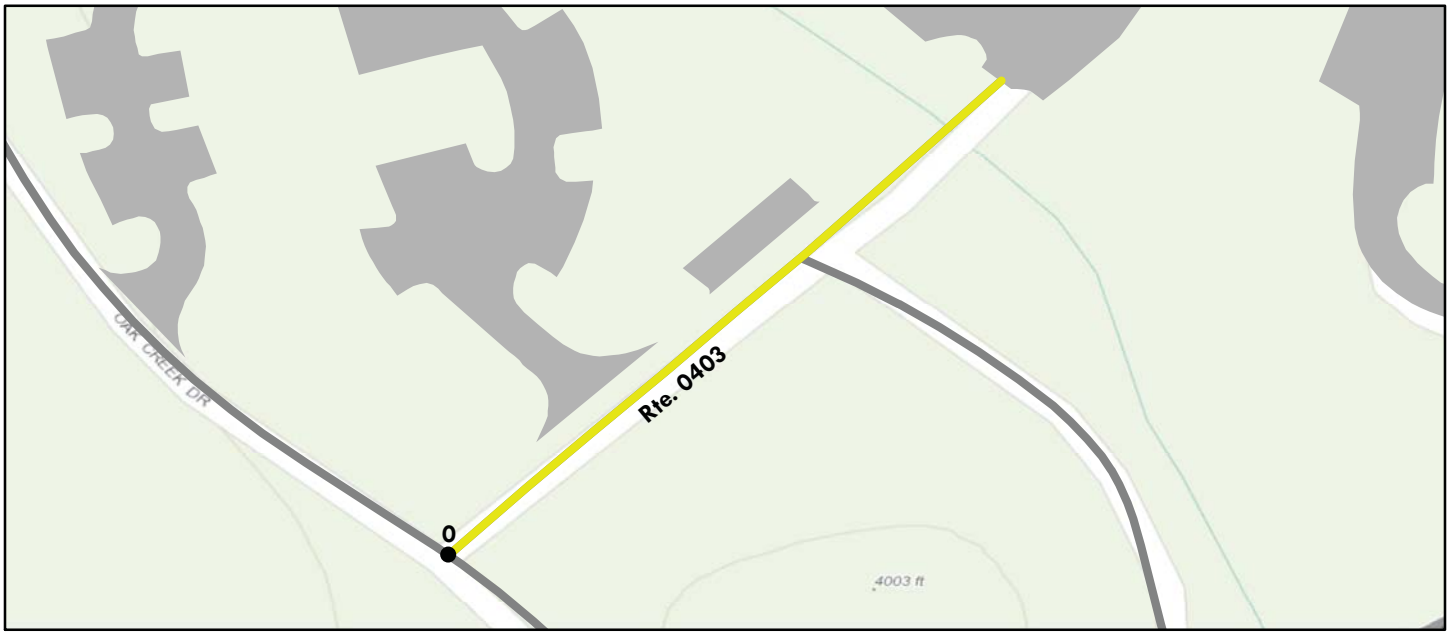
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.57	**Section Length (MI)**	0.57				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	67	67				
Surface Condition Rating (SCR)	77	77				
Roughness Condition Index (RCI)	51	51				
Distress Index Values						
Structural Crack Index	86	86				
Alligator Crack Index	100	100				
Longitudinal Crack Index	86	86				
Transverse Cracking Index	77	77				
Patching Index	100	100				
Rutting Index	94	94				
International Roughness Index (IRI)	279	279				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	21.6	21.6				
Lane Width (ft)	10.4	10.4				

Zion National Park

ROUTE 0403: OAK CREEK HEADQUARTERS ROAD

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.08	**Section Length (MI)**	0.08				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	78	78				
Surface Condition Rating (SCR)	78	78				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	92	92				
Alligator Crack Index	100	100				
Longitudinal Crack Index	92	92				
Transverse Cracking Index	78	78				
Patching Index	100	100				
Rutting Index	93	93				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	19.2	19.2				
Lane Width (ft)	8.9	8.9				

Zion National Park

ROUTE 0404: PINE CREEK RESIDENTIAL ROAD

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

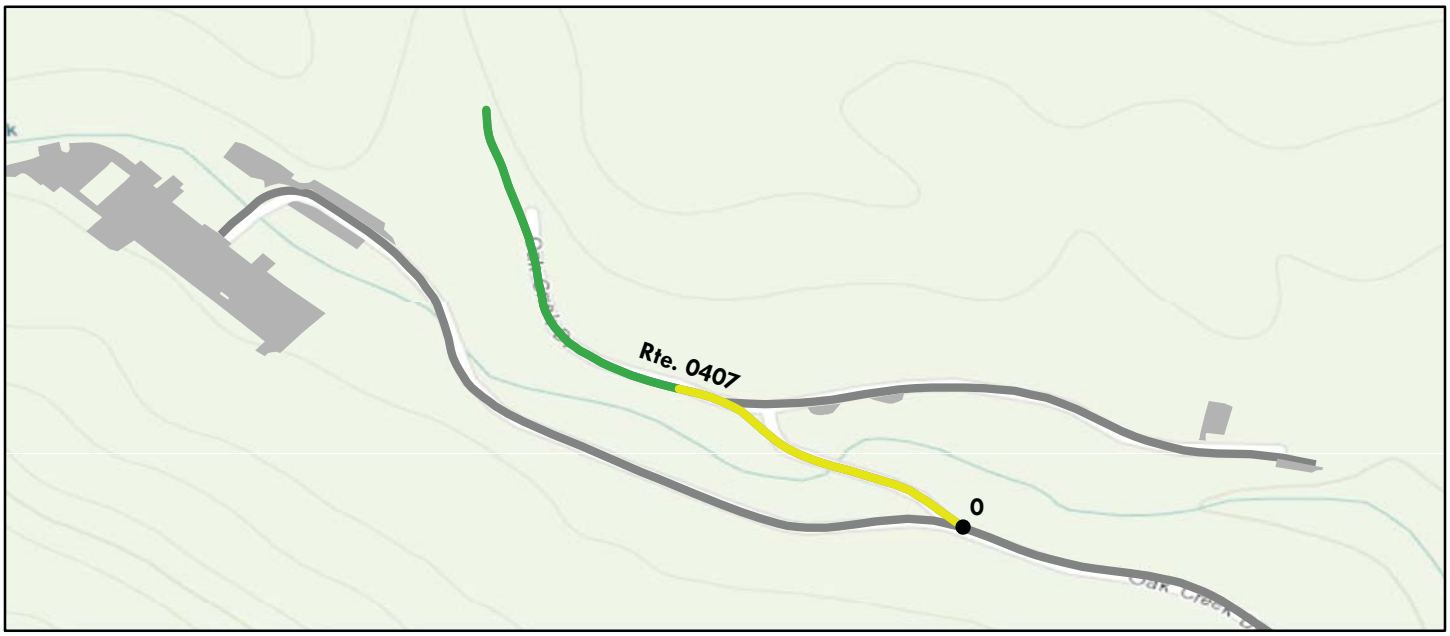
See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.07	**Section Length (MI)**	0.07				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	80	80				
Surface Condition Rating (SCR)	80	80				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	89	89				
Alligator Crack Index	100	100				
Longitudinal Crack Index	89	89				
Transverse Cracking Index	80	80				
Patching Index	100	100				
Rutting Index	95	95				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	15.3	15.3				
Lane Width (ft)	11.4	11.4				

Zion National Park

ROUTE 0407: OAK CREEK RESIDENCE ROAD

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.23	**Section Length (MI)**	0.23				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	82	82				
Surface Condition Rating (SCR)	82	82				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	85	85				
Alligator Crack Index	100	100				
Longitudinal Crack Index	85	85				
Transverse Cracking Index	82	82				
Patching Index	100	100				
Rutting Index	93	93				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	17.7	17.7				
Lane Width (ft)	8.9	8.9				

Zion National Park

ROUTE 0408: OAK CREEK RESIDENCE SPUR ROAD

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0					
Paved Length (Miles): 0.18	**Section Length (MI)**	0.18					
Surface Type: ASPHALT	**Route Summary**						
Roadway Condition Information							
Pavement Condition Rating (PCR)	87	87					
Surface Condition Rating (SCR)	87	87					
Roughness Condition Index (RCI)	N/A	N/A					
Distress Index Values							
Structural Crack Index	90	90					
Alligator Crack Index	100	100					
Longitudinal Crack Index	90	90					
Transverse Cracking Index	87	87					
Patching Index	100	100					
Rutting Index	92	92					
International Roughness Index (IRI)	N/A	N/A					
Lane & Width Information							
Number of Lanes	2	2					
Paved Width (ft)	22.4	22.4					
Lane Width (ft)	11.2	11.2					

Zion National Park

ROUTE 0409: HORSE CORRAL ROAD

Data Collection Vehicle (DCV) Rating

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

Route Condition Legend – Pavement Condition Rating (PCR)

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

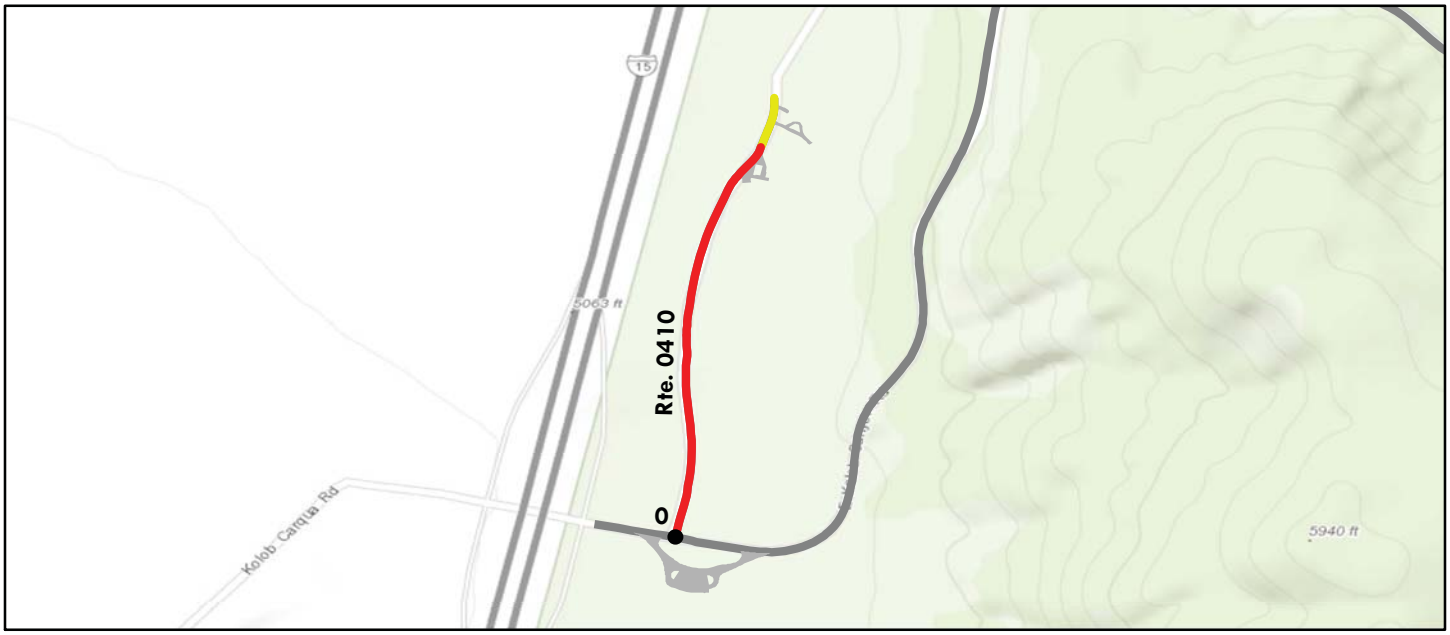
See Appendix for definitions and formulas

Inspection Date: 4/21/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.15	**Section Length (MI)**	0.15				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	92	92				
Surface Condition Rating (SCR)	92	92				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	96	96				
Alligator Crack Index	100	100				
Longitudinal Crack Index	96	96				
Transverse Cracking Index	92	92				
Patching Index	97	97				
Rutting Index	92	92				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	1	1				
Paved Width (ft)	12.8	12.8				
Lane Width (ft)	12.8	12.8				

Zion National Park

ROUTE 0410: KOLOB SERVICE ROAD

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/20/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.45	**Section Length (MI)**	0.45				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	53	53				
Surface Condition Rating (SCR)	53	53				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	53	53				
Alligator Crack Index	77	77				
Longitudinal Crack Index	76	76				
Transverse Cracking Index	69	69				
Patching Index	100	100				
Rutting Index	90	90				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	14.8	14.8				
Lane Width (ft)	7.4	7.4				

Zion National Park

ROUTE 0411: KOLOB RESIDENCE ROAD

Manual Rating

FROM ROUTE 0410 (KOLOB SERVICE ROAD)

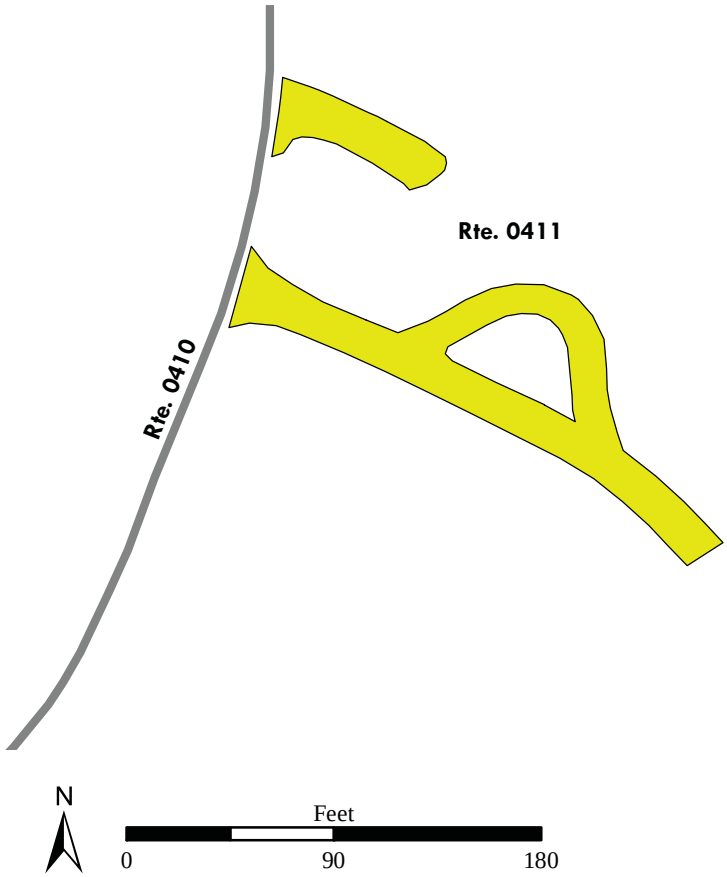
TO ROUTE 0410 (KOLOB SERVICE ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	90349	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Pavement Recommendation**	
6,094	0.105	LIGHT 3R TREATMENTS	
Condition Rating / PCR			
FAIR / 73			

Route Condition Legend – Pavement Condition Rating (PCR)

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

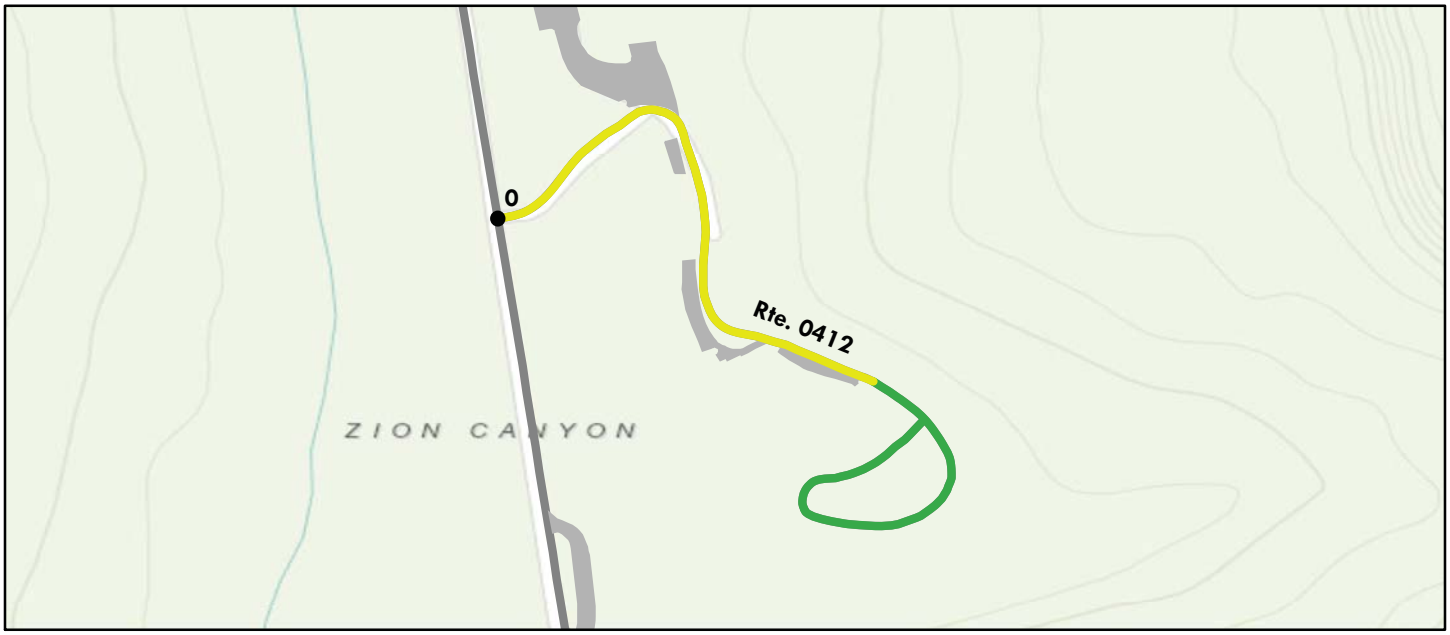
See Appendix for definitions and formulas



Zion National Park

ROUTE 0412: CONCESSIONAIRE / DORM ACCESS ROAD

Data Collection Vehicle (DCV) Rating



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

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Inspection Date: 4/21/2017	**Beginning Section MP**	0				
Paved Length (Miles): 0.35	**Section Length (MI)**	0.35				
Surface Type: ASPHALT	**Route Summary**					
Roadway Condition Information						
Pavement Condition Rating (PCR)	79	79				
Surface Condition Rating (SCR)	79	79				
Roughness Condition Index (RCI)	N/A	N/A				
Distress Index Values						
Structural Crack Index	86	86				
Alligator Crack Index	100	100				
Longitudinal Crack Index	86	86				
Transverse Cracking Index	79	79				
Patching Index	99	99				
Rutting Index	94	94				
International Roughness Index (IRI)	N/A	N/A				
Lane & Width Information						
Number of Lanes	2	2				
Paved Width (ft)	17.5	17.5				
Lane Width (ft)	8.7	8.7				

Section 6
Paved Parking Area Condition Rating Sheets

Zion National Park

Federal Lands Highway
Road Inventory Program

Zion National Park

ROUTE 0900: SOUTH ENTRANCE PARKING

Manual Rating

FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))

TO ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65438	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
12,526	0.216	5	DO NOTHING
Curb Type		**Curb & Gutter Type**	
STONE		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Zion National Park

ROUTE 0901: EMPLOYEE VISITOR CENTER PARKING

Manual Rating

FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.12 ON LEFT

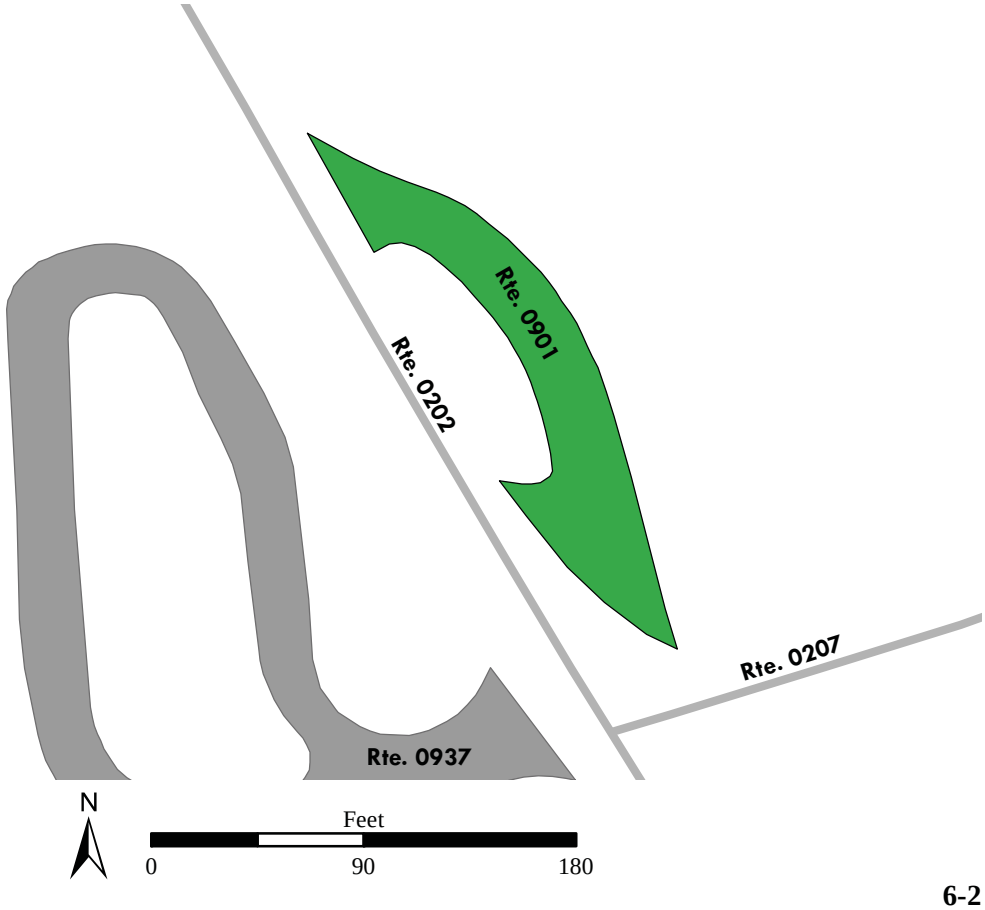
TO ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.15 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	65470	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
5,900	0.102	4	MODERATE REPAIR
Curb Type		**Curb & Gutter Type**	
CONCRETE AND STONE		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0902: VISITOR CENTER PARKING

Manual Rating

FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.20 ON RIGHT

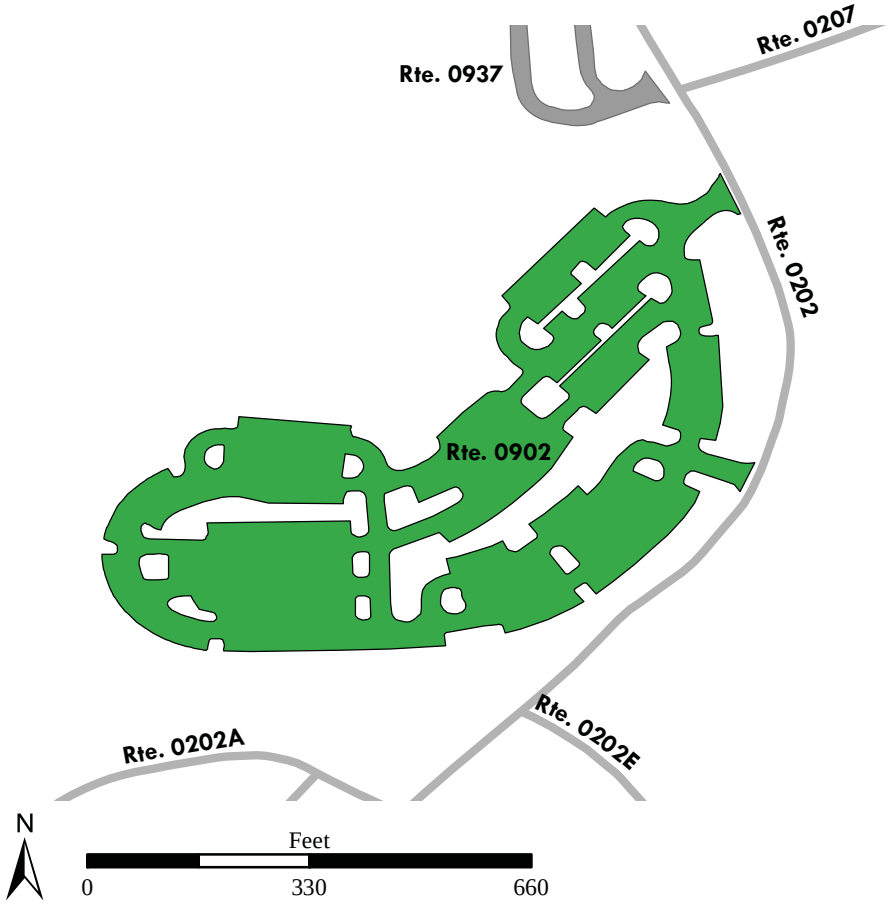
TO PARKING AND ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65482	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
209,089	3.6	5	DO NOTHING
Curb Type		**Curb & Gutter Type**	
CONCRETE		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0903: WATCHMAN CAMPGROUND DUMP STATION PARKING

Manual Rating

FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.38 ON LEFT

TO INTERSECTION OF ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.41 ON LEFT
AND ROUTE 0202A (WATCHMAN CAMPGROUND LOOP A)

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65483	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
6,458	0.111	7	DO NOTHING
Curb Type		**Curb & Gutter Type**	
CONCRETE		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 4,805 square feet; 1 part Concrete at 1,653 square feet.

Zion National Park

ROUTE 0904: WATCHMAN AMPHITHEATER LOOP B PARKING

Manual Rating

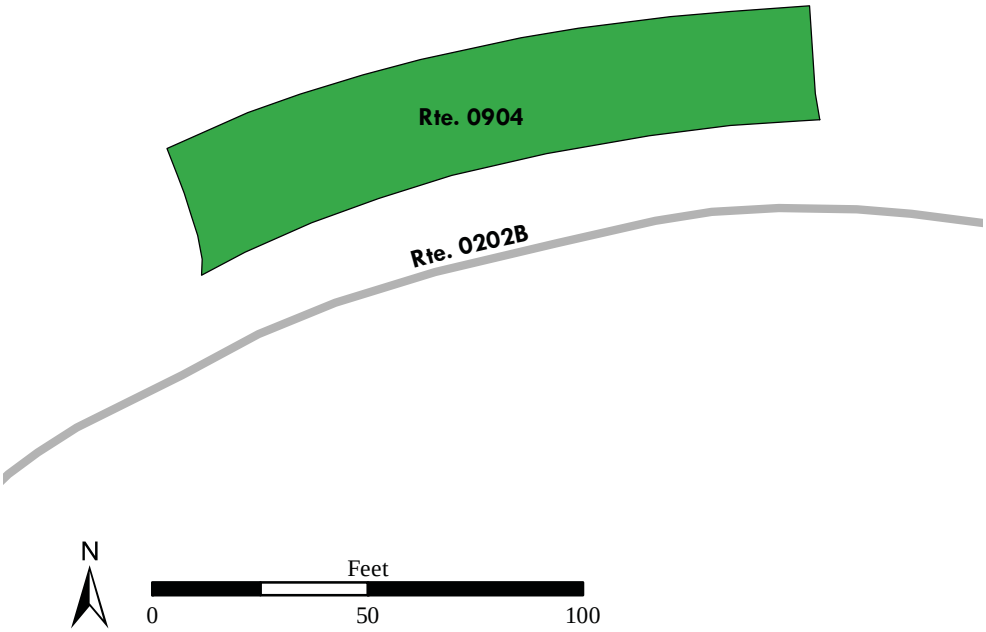
ADJACENT TO ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	65471	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
3,334	0.057	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0905: SOUTH CAMPGROUND DUMP STATION

Manual Rating

ADJACENT TO ROUTE 0200 (SOUTH CAMPGROUND LOOP) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	65484	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,305	0.074	6	MODERATE REPAIR
Curb Type		**Curb & Gutter Type**	
CONCRETE		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 3,437 square feet; 1 part Concrete at 868 square feet.

Zion National Park

ROUTE 0906: ZION NATURE CENTER PARKING

Manual Rating

FROM ROUTE 0200 (SOUTH CAMPGROUND LOOP) ON LEFT

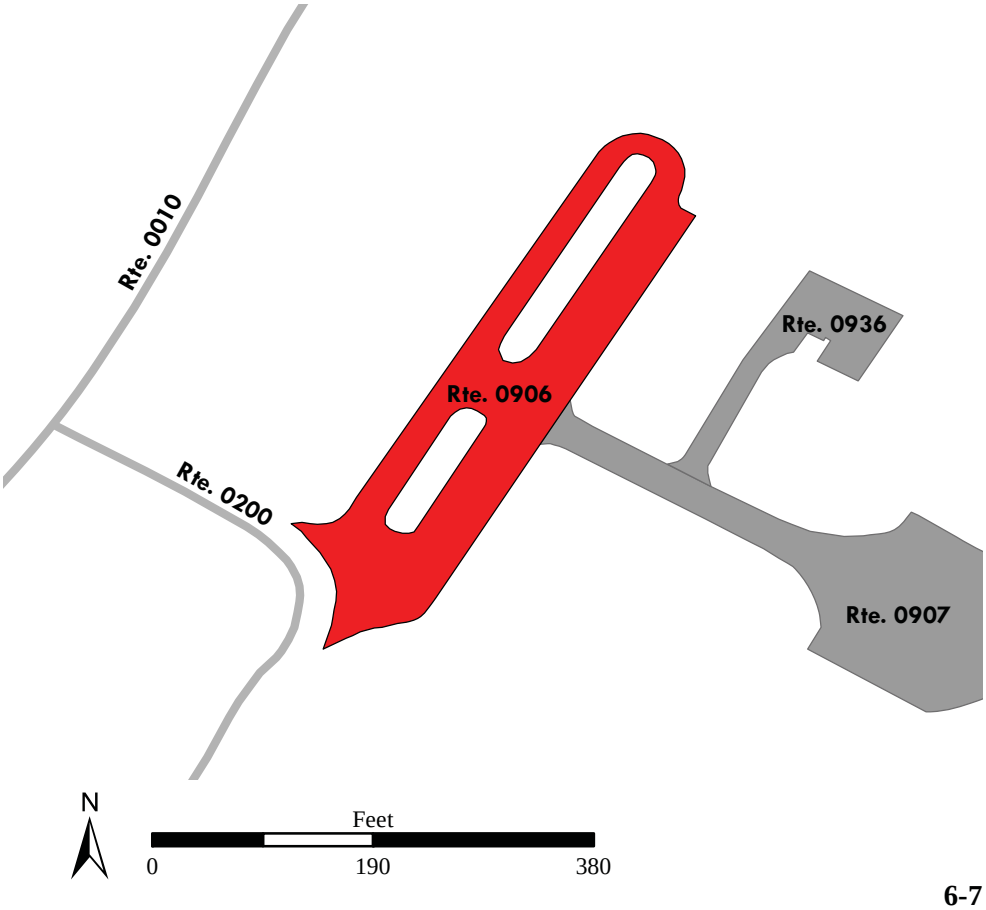
TO ROUTE 0907 (SOUTH CAMPGROUND / AMPHITHEATER PARKING)

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	65472	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
31,043	0.534	NOT APPLICABLE	DO NOTHING
Curb Type		**Curb & Gutter Type**	
NO CURB		STONE	
Pavement Recommendation		**Condition Rating / PCR**	
HEAVY 3R TREATMENTS		POOR / 53	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0907: SOUTH CAMPGROUND / AMPHITHEATER PARKING

Manual Rating

FROM ROUTE 0906 (ZION NATURE CENTER PARKING)

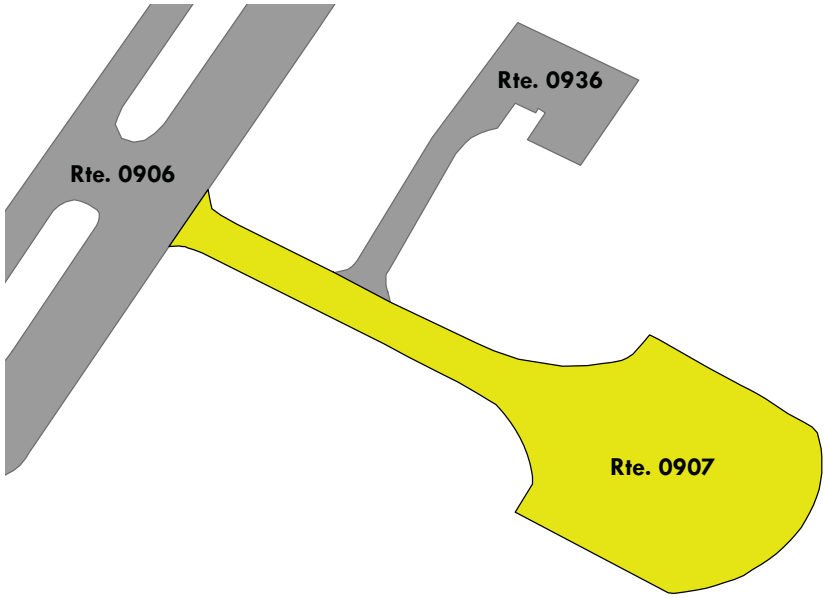
TO PARKING

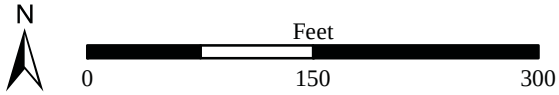
Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	65474	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
25,326	0.436	3	MODERATE REPAIR
Curb Type		**Curb & Gutter Type**	
STONE		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas





Zion National Park

ROUTE 0908: ADMINISTRATION PARKING

Manual Rating

FROM END OF ROUTE 0403 (OAK CREEK HEADQUARTERS ROAD)

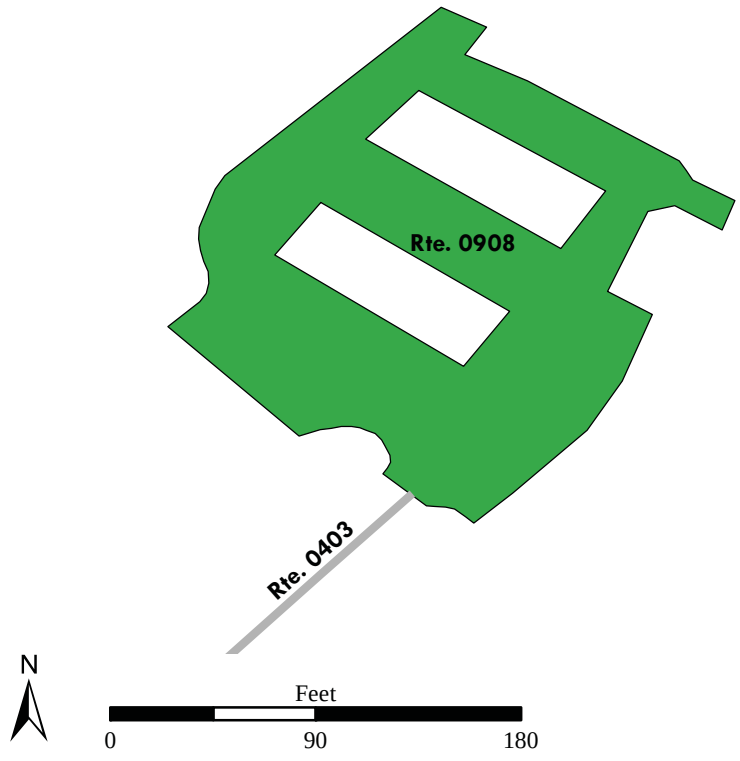
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	65475	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
19,493	0.336	NOT APPLICABLE	DO NOTHING
Curb Type		**Curb & Gutter Type**	
NO CURB		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0909A: NORTH MAINTENANCE AREA PARKING A

Manual Rating

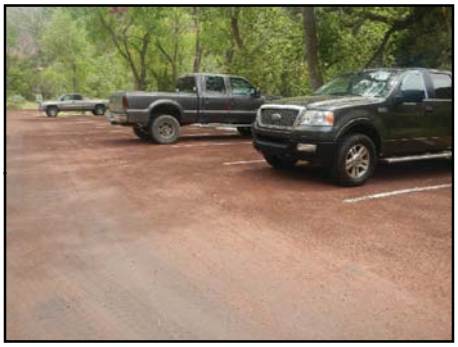
ADJACENT TO ROUTE 0402 (MAINTENANCE ACCESS ROAD) ON LEFT

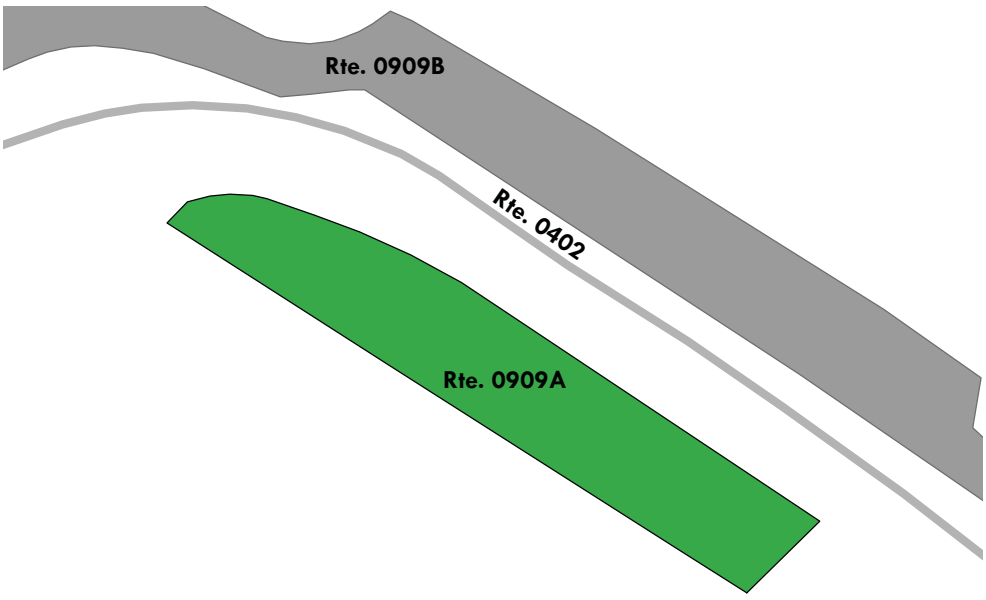
Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	65476	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,928	0.05	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas





Zion National Park

ROUTE 0909B: OAK CREEK MAINTENANCE OVERFLOW PARKING B

Manual Rating

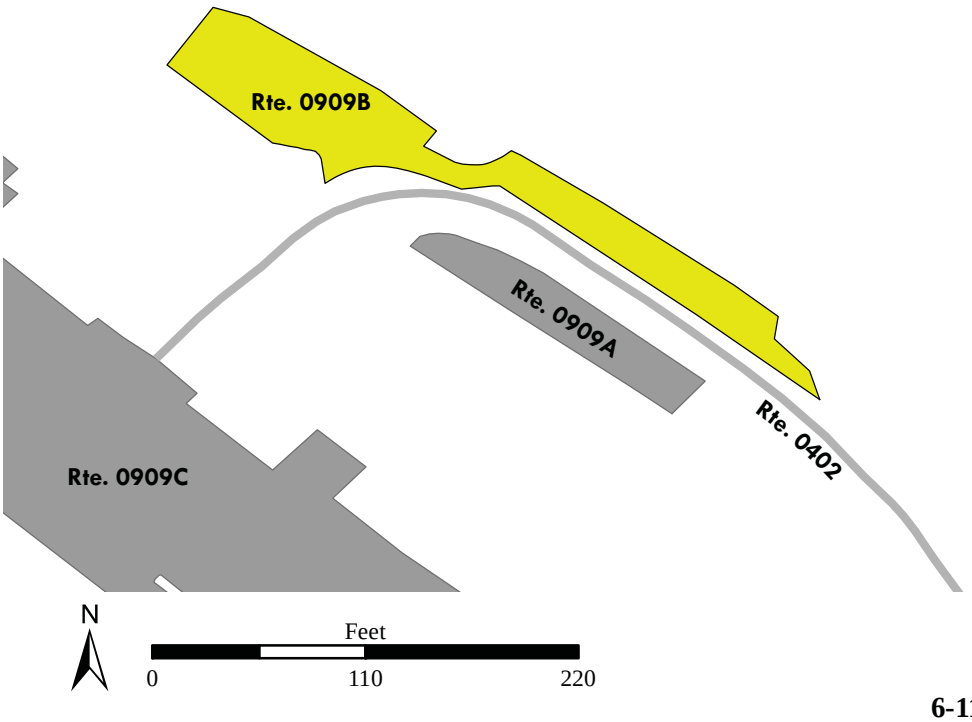
ADJACENT TO ROUTE 0402 (MAINTENANCE ACCESS ROAD) ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	104999	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
8,282	0.143	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0909C: OAK CREEK MAINTENANCE YARD

Manual Rating

FROM END OF ROUTE 0402 (MAINTENANCE ACCESS ROAD)

TO PARKING

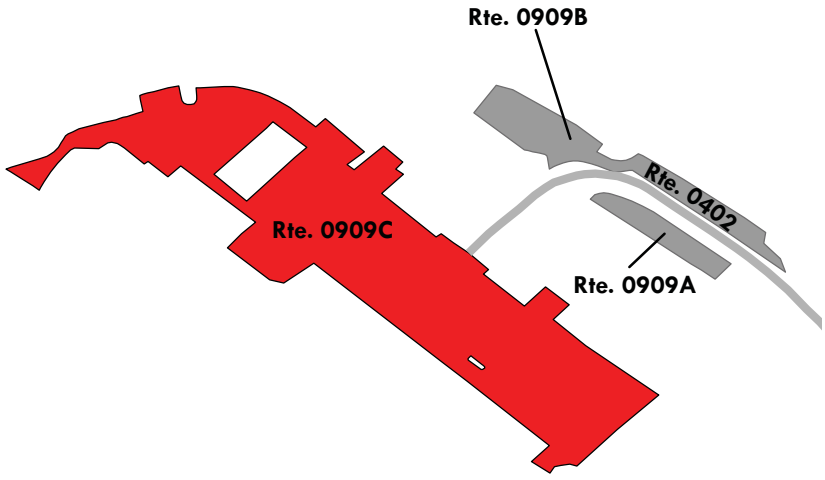
Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	105003	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
58,197	1.002	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
HEAVY 3R TREATMENTS		POOR / 53	

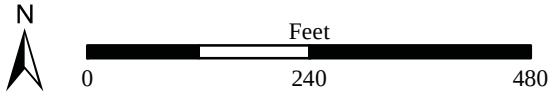
Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 52,146 square feet; 6 parts Concrete at 6,051 square feet.





Zion National Park

ROUTE 0910: WATCHMAN ADMINISTRATOR (HELIPAD) PARKING

Manual Rating

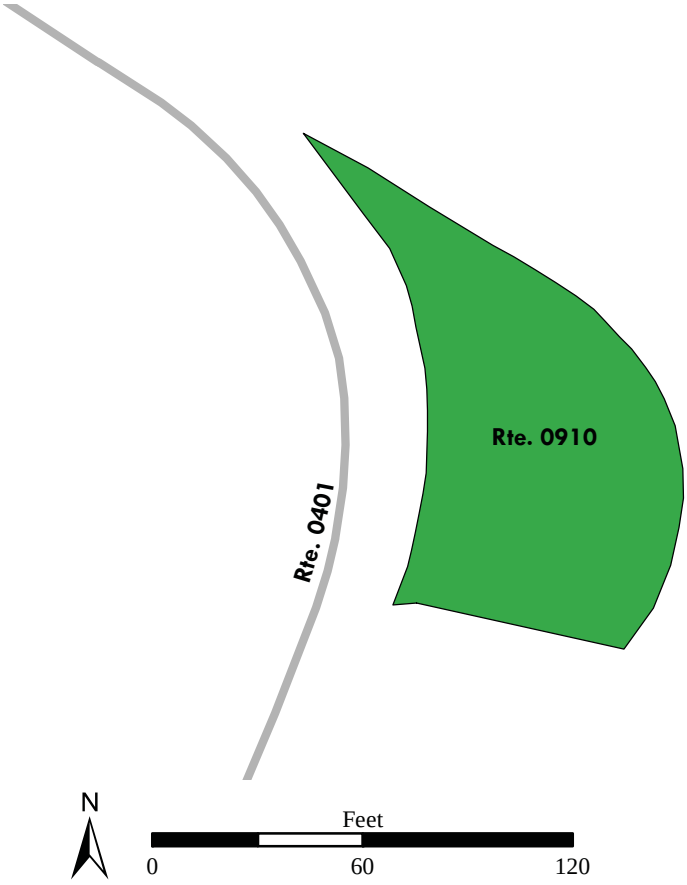
ADJACENT TO ROUTE 0401 (WATCHMAN RESIDENCE ROAD) AT MP 0.27 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	65485	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
6,010	0.103	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0911: MUSEUM PARKING AREA

Manual Rating

FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 0.93 ON LEFT

TO PARKING

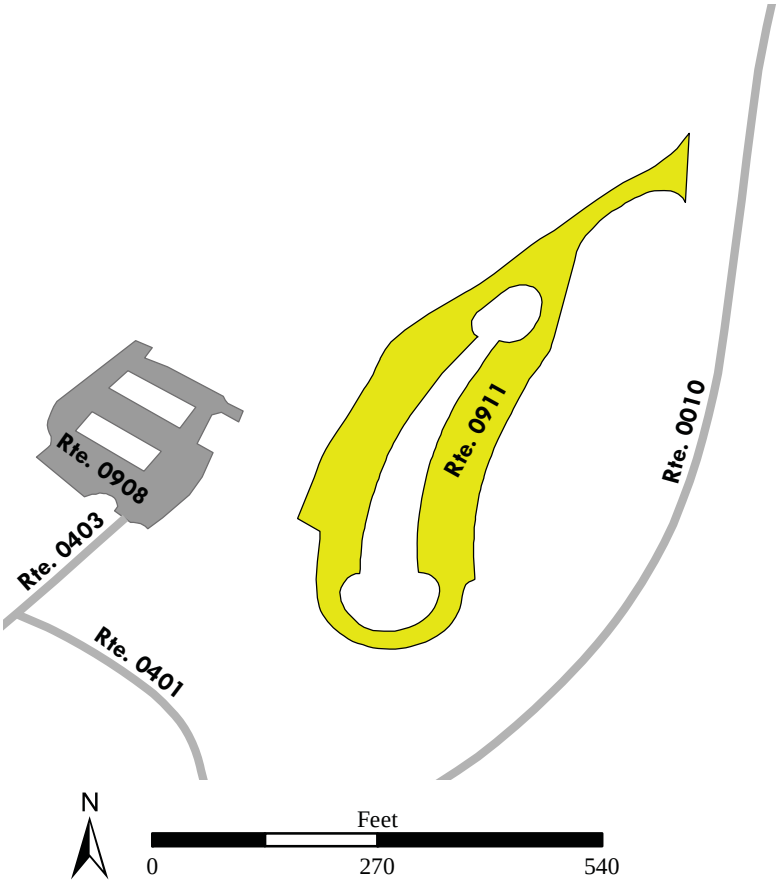
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65477	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
49,926	0.86	NOT APPLICABLE	DO NOTHING
Curb Type		**Curb & Gutter Type**	
NO CURB		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 47,899 square feet; 2 parts Concrete at 2,037 square feet.



Zion National Park

ROUTE 0912: TUNNEL EAST (CANYON OVERLOOK) PARKING

Manual Rating

FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 6.20 ON RIGHT

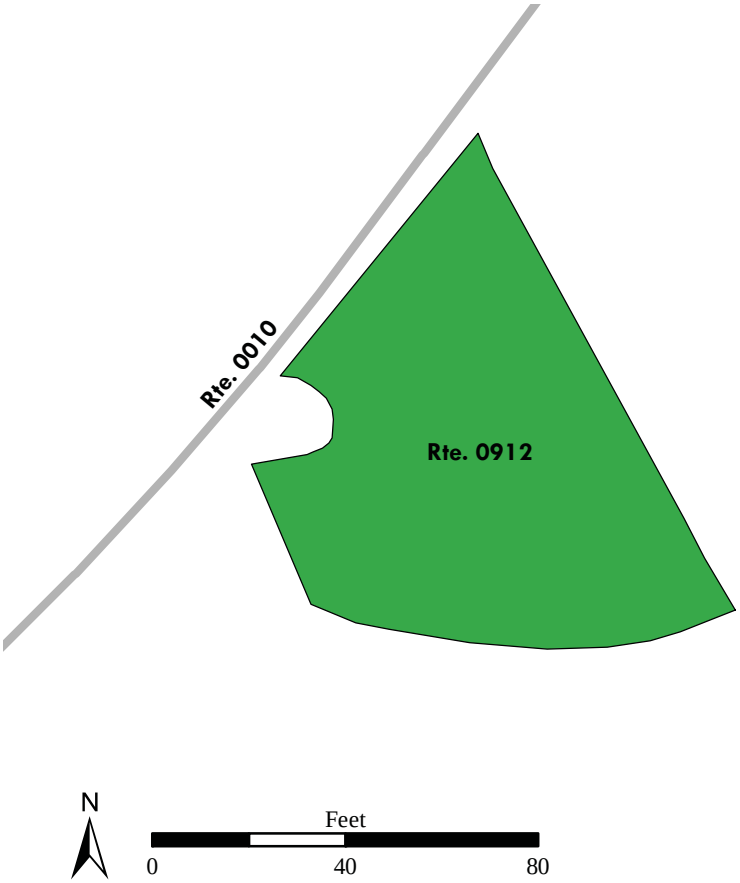
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65478	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,705	0.081	4	DO NOTHING
Curb Type		**Curb & Gutter Type**	
STONE		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0913: CHECKERBOARD MESA VIEWPOINT PARKING

Manual Rating

FROM ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) AT MP 11.28 ON LEFT

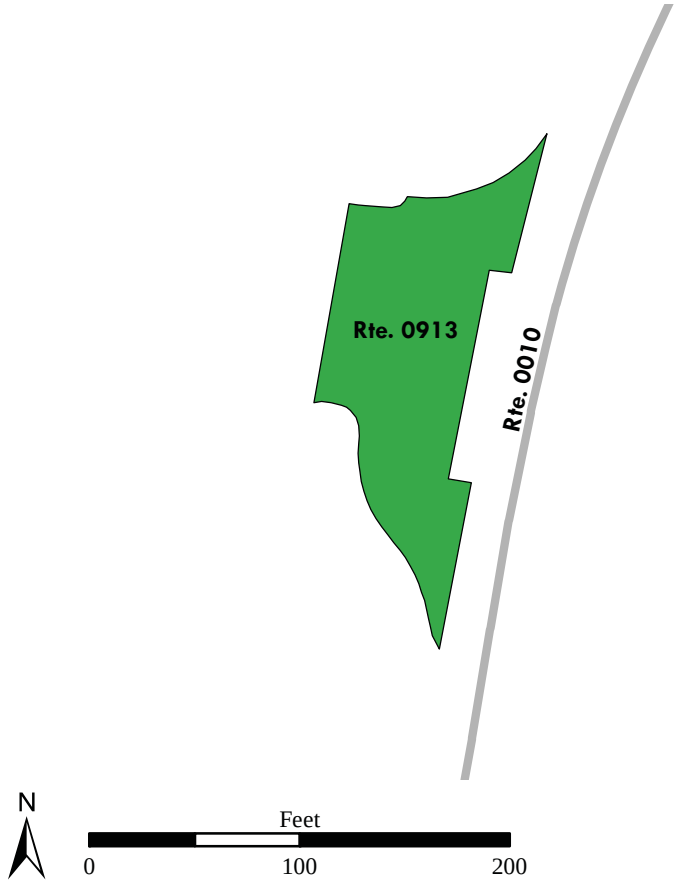
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65479	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
9,116	0.157	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0915: COURT OF THE PATRIARCHS PARKING

Manual Rating

FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 1.64 ON RIGHT

TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 1.67 ON RIGHT

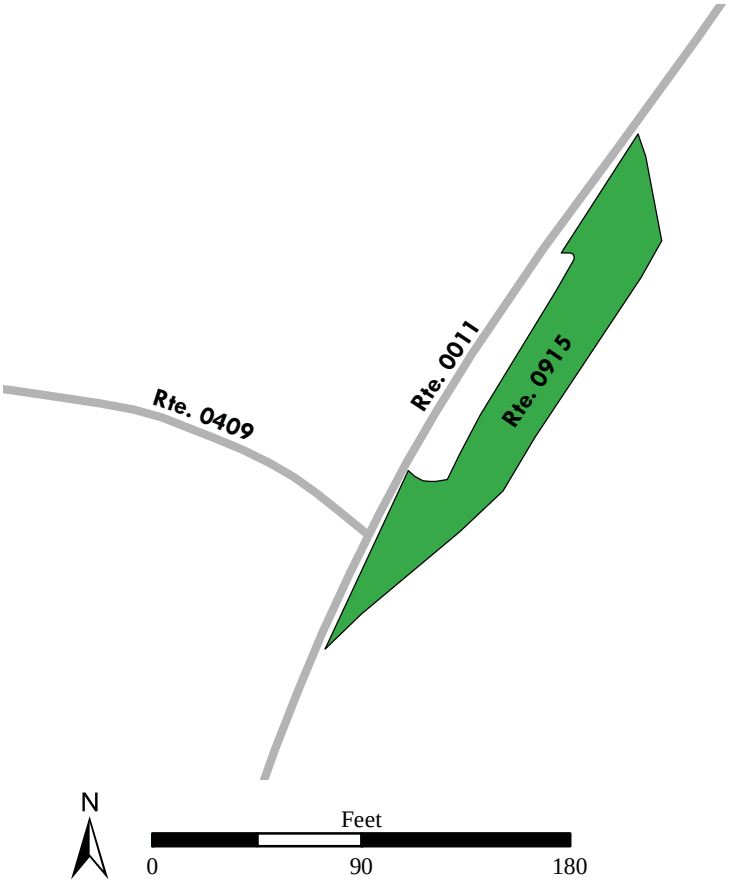
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65491	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,724	0.081	7	DO NOTHING
Curb Type		**Curb & Gutter Type**	
STONE		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 3,219 square feet; 1 part Concrete at 1,505 square feet.



Zion National Park

ROUTE 0916: WYLIE PARKING

Manual Rating

FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 2.31 ON RIGHT

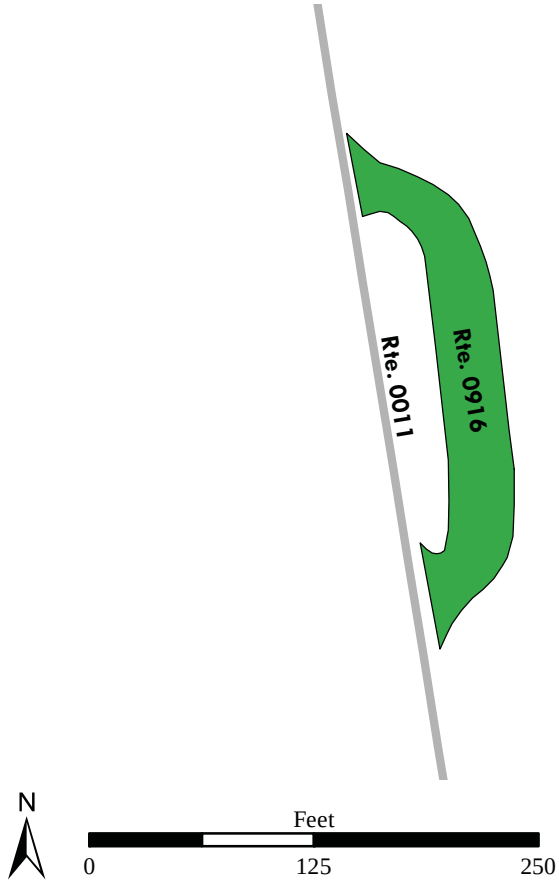
TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 2.36 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65494	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
7,439	0.128	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0917: ZION LODGE CABIN PARKING

Manual Rating

FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 2.65 ON RIGHT
AND ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD) ON LEFT

TO ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD)

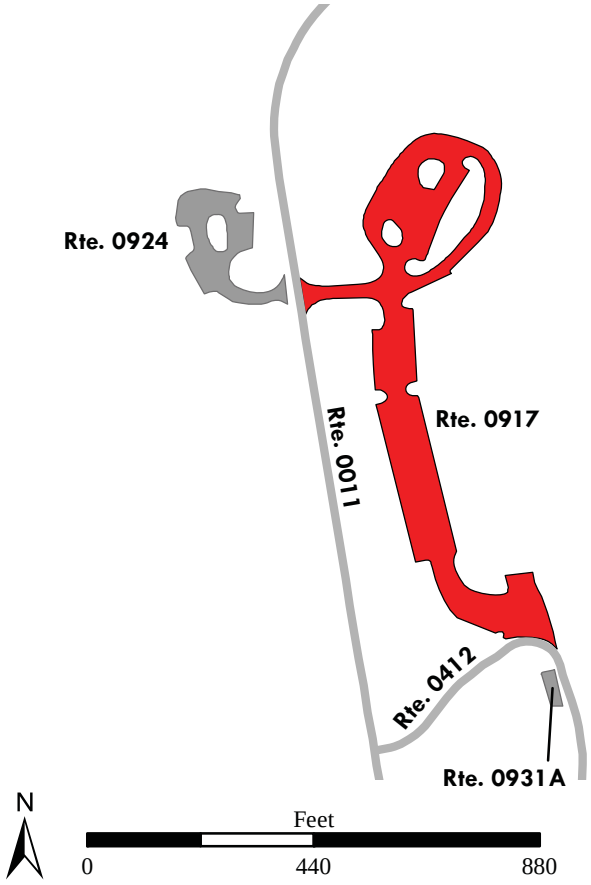
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65496	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
85,246	1.468	5	DO NOTHING
Curb Type		**Curb & Gutter Type**	
STONE		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
HEAVY 3R TREATMENTS		POOR / 53	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 84,450 square feet; 1 part Concrete at 796 square feet.



Zion National Park

ROUTE 0918: WEST RIM TRAILHEAD PARKING

Manual Rating

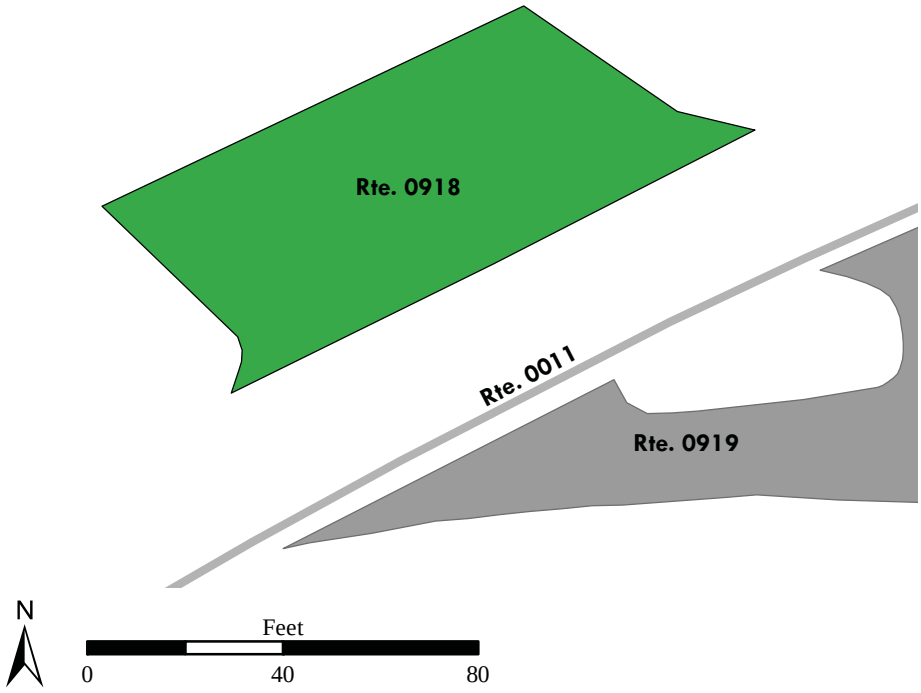
ADJACENT TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 3.37 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65497	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
3,628	0.062	3	DO NOTHING
Curb Type		**Curb & Gutter Type**	
STONE		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0919: GROTTO PICNIC PARKING

Manual Rating

FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 3.37 ON RIGHT

TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 3.44 ON RIGHT

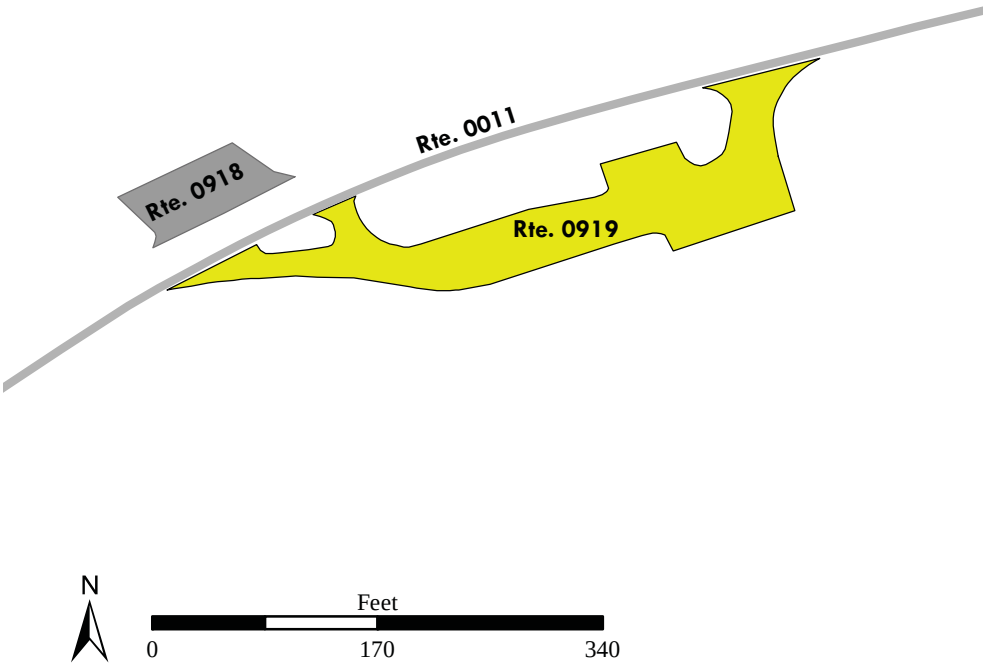
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65498	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
17,141	0.295	5	DO NOTHING
Curb Type		**Curb & Gutter Type**	
CONCRETE		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 13,915 square feet; 1 part Concrete at 3,226 square feet.



Zion National Park

ROUTE 0920: WEEPING ROCK PARKING

Manual Rating

FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 4.58 ON RIGHT

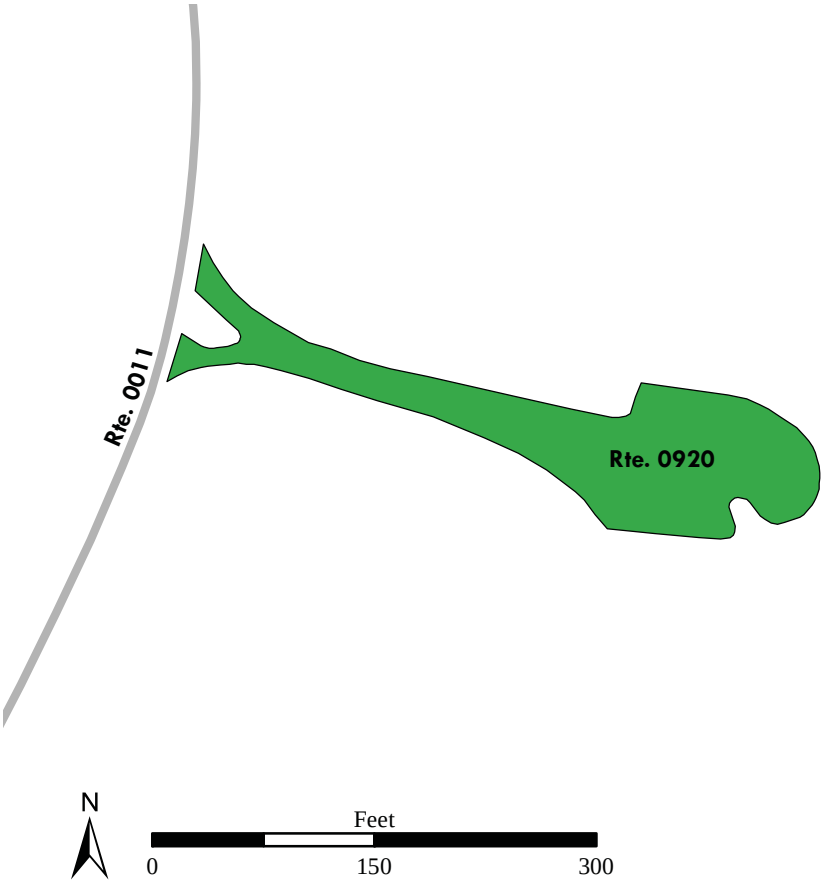
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65499	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
17,318	0.298	6	DO NOTHING
Curb Type		**Curb & Gutter Type**	
STONE		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0921: THE GREAT WHITE THRONE PARKING

Manual Rating

FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 4.82 ON LEFT

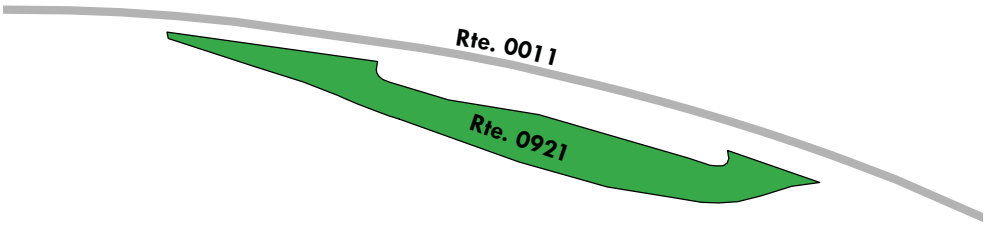
TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 4.86 ON LEFT

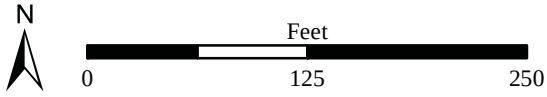
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65500	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
6,030	0.104	6	DO NOTHING
Curb Type		**Curb & Gutter Type**	
STONE		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas





Zion National Park

ROUTE 0922: BIG BEND BUS AND TRAILER PARKING

Manual Rating

FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 5.09 ON LEFT

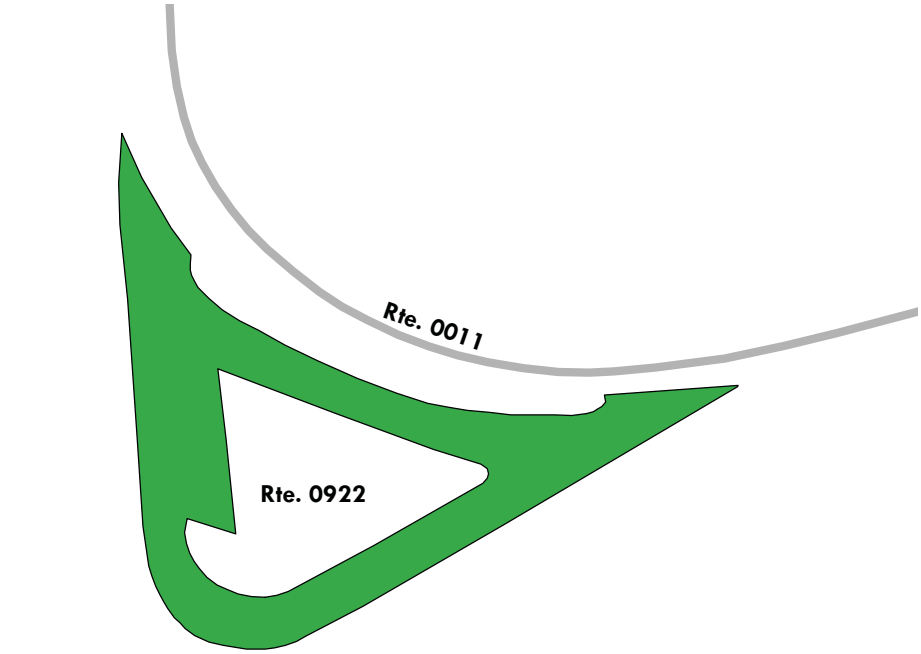
TO ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 5.13 ON LEFT

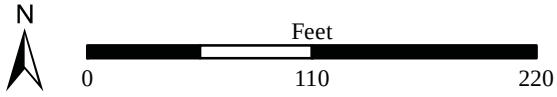
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65501	PUBLIC	CONCRETE
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
14,288	0.246	6	DO NOTHING
Curb Type		**Curb & Gutter Type**	
STONE		NOT APPLICABLE	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas





Zion National Park

ROUTE 0923: TEMPLE OF SINAWAVA PARKING

Manual Rating

FROM END OF ROUTE 0011 (ZION CANYON SCENIC DRIVE)

TO PARKING

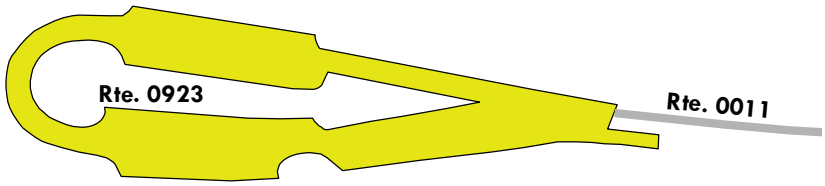
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65502	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
39,231	0.675	5	DO NOTHING
Curb Type		**Curb & Gutter Type**	
STONE		NOT APPLICABLE	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 37,459 square feet; 1 part Concrete at 1,772 square feet.



Zion National Park

ROUTE 0924: EMERALD POOLS HORSE CORRAL PARKING

Manual Rating

FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 2.65 ON LEFT

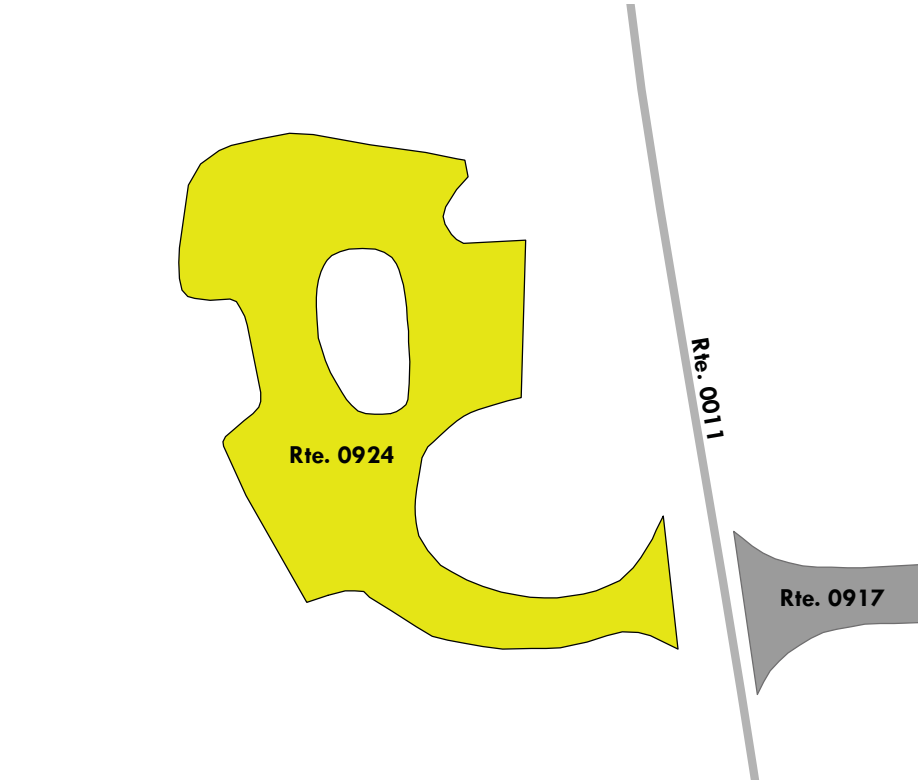
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65503	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
16,714	0.288	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0925A: ZION LODGE VISITOR PARKING

Manual Rating

FROM ROUTE 0011 (ZION CANYON SCENIC DRIVE) AT MP 2.81 ON RIGHT

TO ROUTE 0925B (ZION LODGE MAINTENANCE PARKING)

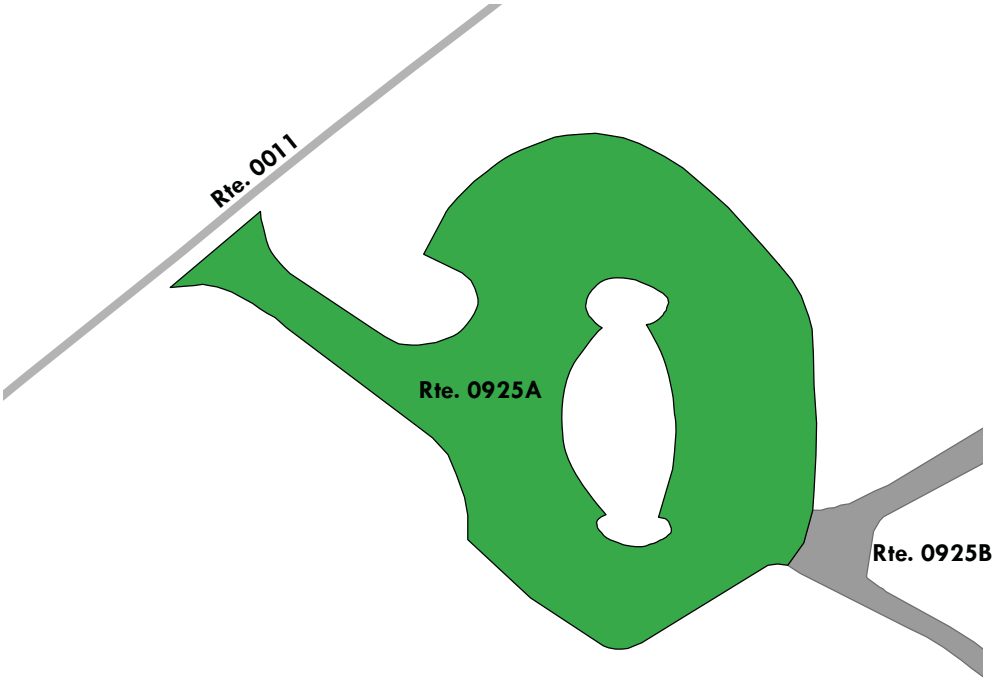
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65504	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
41,491	0.714	NOT APPLICABLE	DO NOTHING
Curb Type		**Curb & Gutter Type**	
NO CURB		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

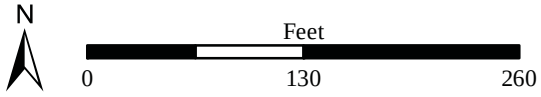
Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 38,082 square feet; 1 part Concrete at 3,409 square feet.





Zion National Park

ROUTE 0925B: ZION LODGE MAINTENANCE PARKING

Manual Rating

FROM ROUTE 0925A (ZION LODGE VISITOR PARKING)

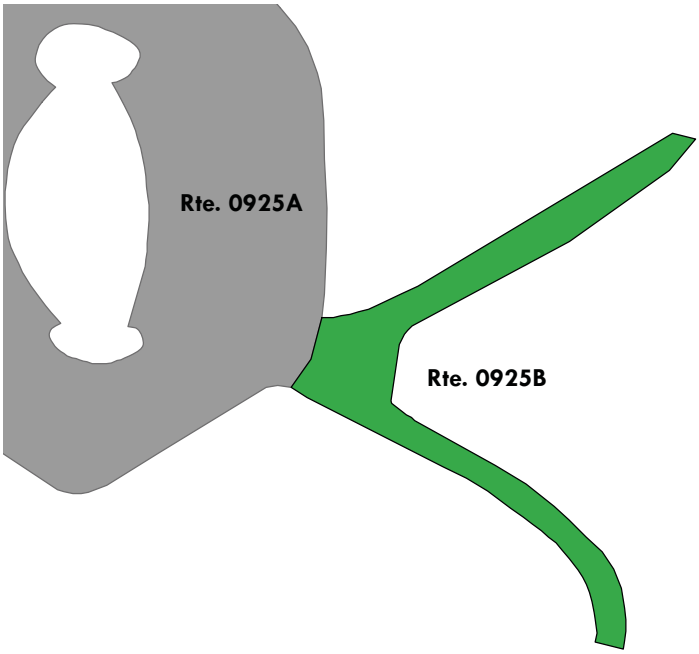
TO PARKING

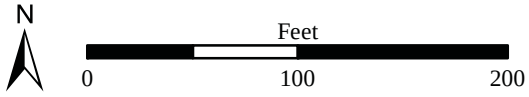
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	105002	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
5,495	0.095	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas





Zion National Park

ROUTE 0926: KOLOB VISITORS CENTER PARKING

Manual Rating

FROM ROUTE 0013 (KOLOB CANYON ROAD) AT MP 0.05 ON RIGHT

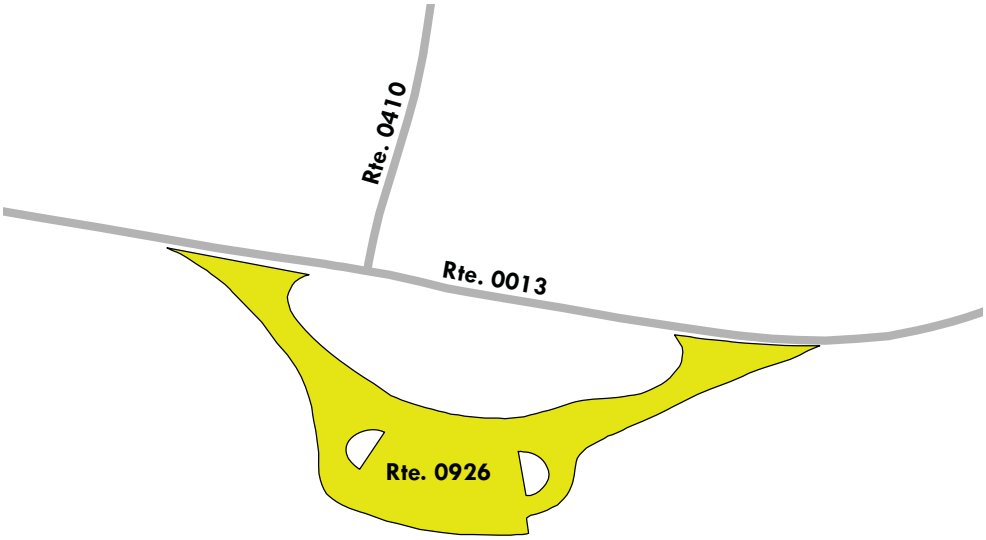
TO ROUTE 0013 (KOLOB CANYON ROAD) AT MP 0.13 ON RIGHT

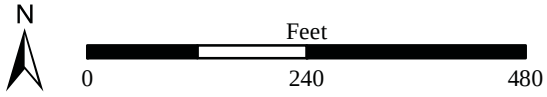
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65661	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
41,277	0.711	6	DO NOTHING
Curb Type		**Curb & Gutter Type**	
CONCRETE		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas





Zion National Park

ROUTE 0927: TAYLOR CREEK TRAILHEAD PARKING

Manual Rating

FROM ROUTE 0013 (KOLOB CANYON ROAD) AT MP 2.02 ON LEFT

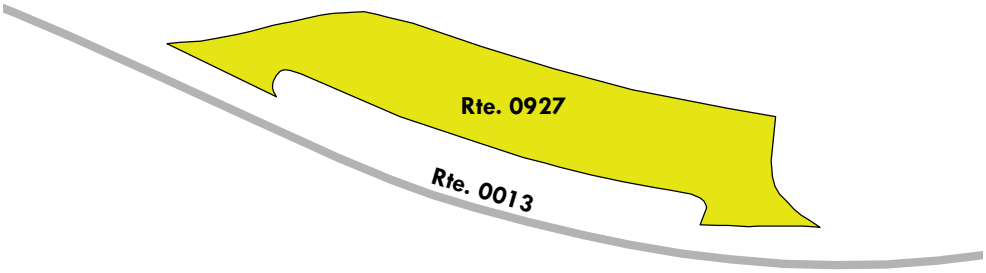
TO ROUTE 0013 (KOLOB CANYON ROAD) AT MP 2.07 ON LEFT

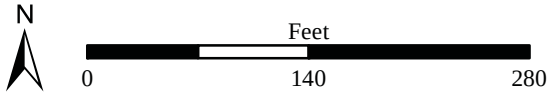
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65665	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
16,227	0.279	NOT APPLICABLE	LIGHT REPAIR
Curb Type		**Curb & Gutter Type**	
NO CURB		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas





Zion National Park

ROUTE 0928: SOUTH FORK PARKING AREA

Manual Rating

FROM ROUTE 0013 (KOLOB CANYON ROAD) AT MP 3.24 ON RIGHT

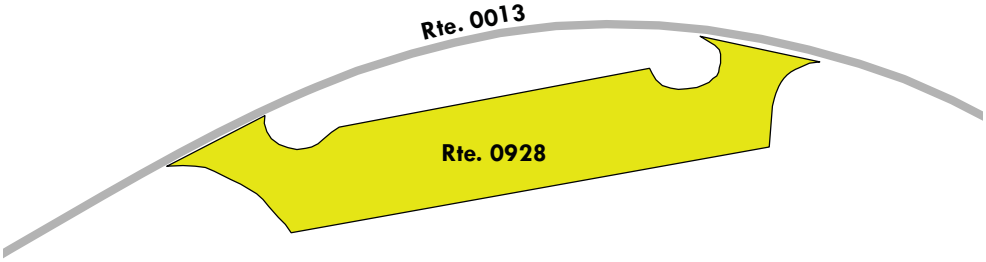
TO ROUTE 0013 (KOLOB CANYON ROAD) AT MP 3.29 ON RIGHT

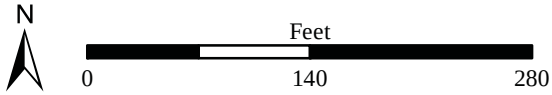
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65663	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
16,318	0.281	NOT APPLICABLE	LIGHT REPAIR
Curb Type		**Curb & Gutter Type**	
NO CURB		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas





Zion National Park

ROUTE 0929: LEE PASS TRAILHEAD PARKING

Manual Rating

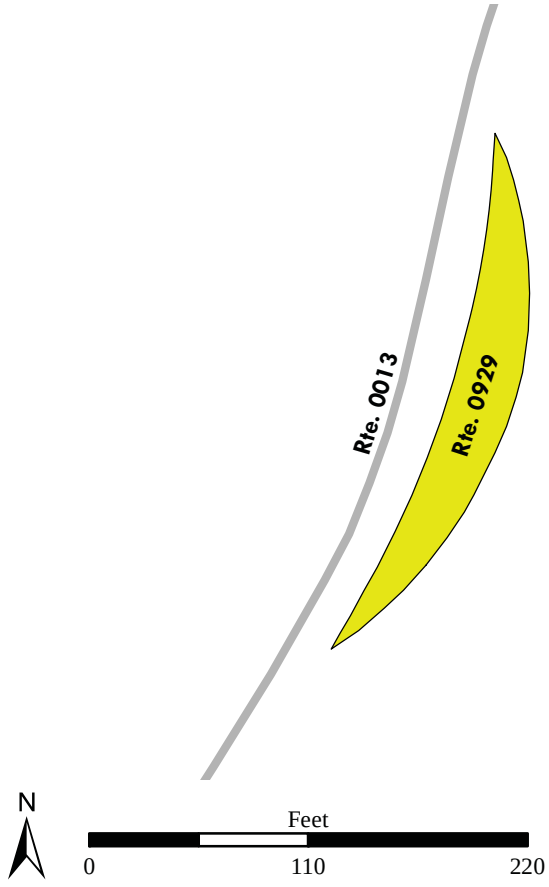
ADJACENT TO ROUTE 0013 (KOLOB CANYON ROAD) AT MP 3.91 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65664	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,871	0.084	5	DO NOTHING
Curb Type		**Curb & Gutter Type**	
ASPHALT		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0930: KOLOB CANYON OVERLOOK PARKING

Manual Rating

FROM END OF ROUTE 0013 (KOLOB CANYON ROAD)

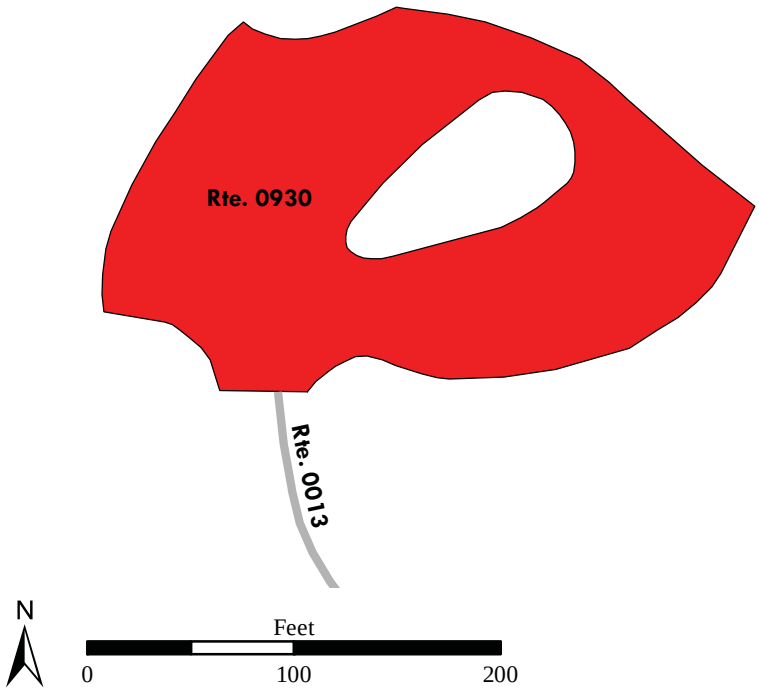
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65662	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
29,057	0.5	6	DO NOTHING
Curb Type		**Curb & Gutter Type**	
CONCRETE		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
HEAVY 3R TREATMENTS		POOR / 53	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0931A: CONCESSIONAIRE / DORM PARKING A

Manual Rating

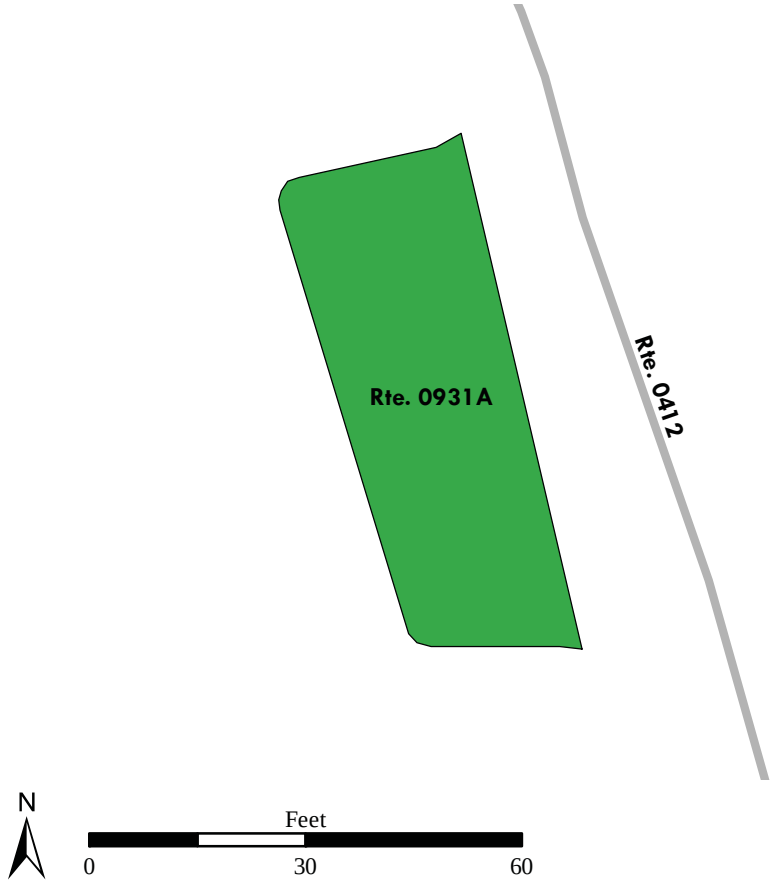
ADJACENT TO ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD) AT MP 0.08 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	90355	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,376	0.024	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0931B: CONCESSIONAIRE / DORM PARKING B

Manual Rating

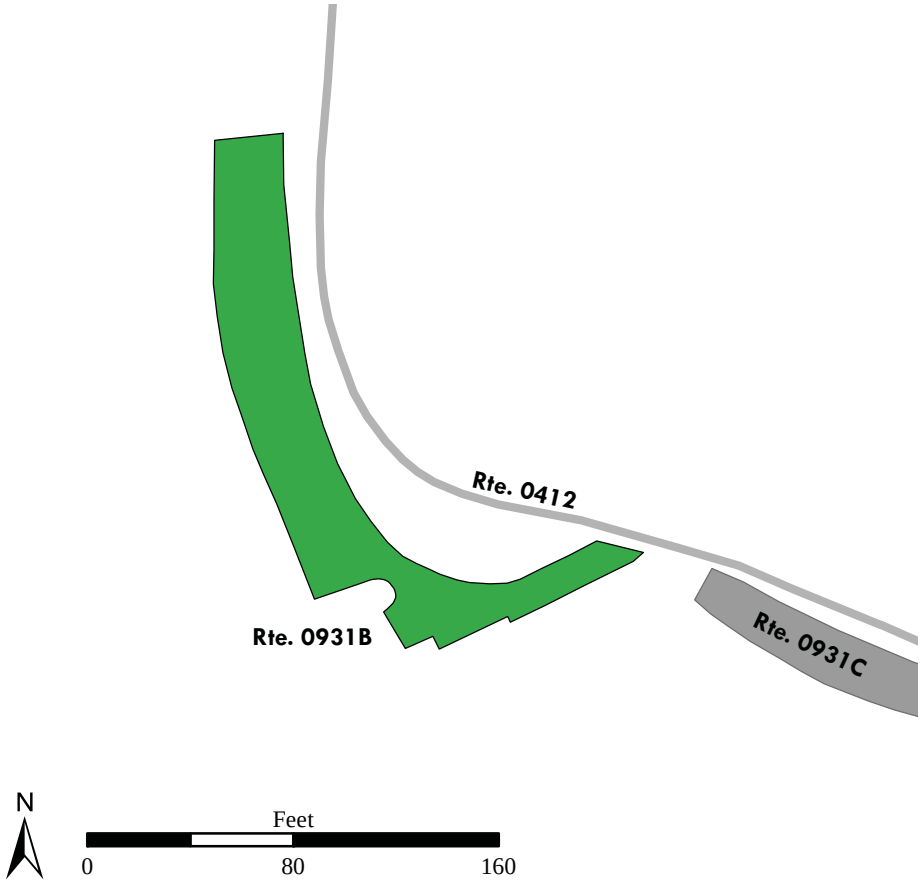
ADJACENT TO ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD) AT MP 0.15 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	104971	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
5,730	0.099	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0931C: CONCESSIONAIRE / DORM PARKING C

Manual Rating

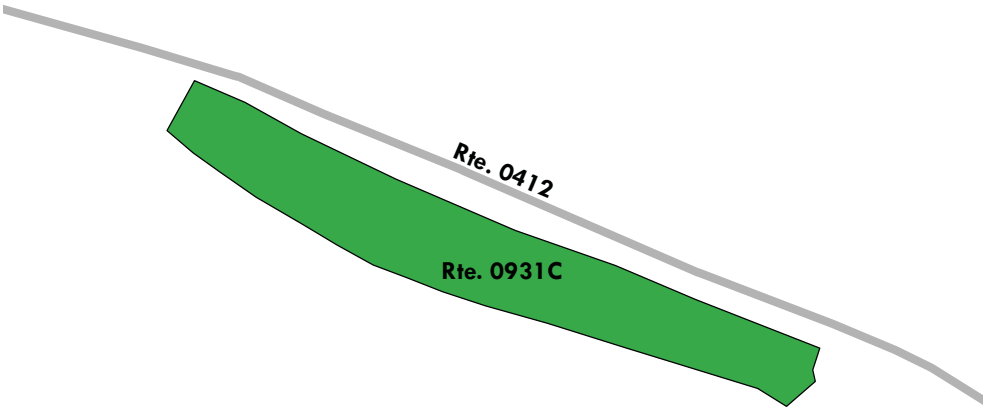
ADJACENT TO ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD) AT MP 0.19 ON RIGHT

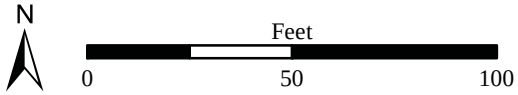
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	104972	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,453	0.042	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas





Zion National Park

ROUTE 0932: CANYON OVERLOOK PARKING

Manual Rating

ADJACENT TO ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))

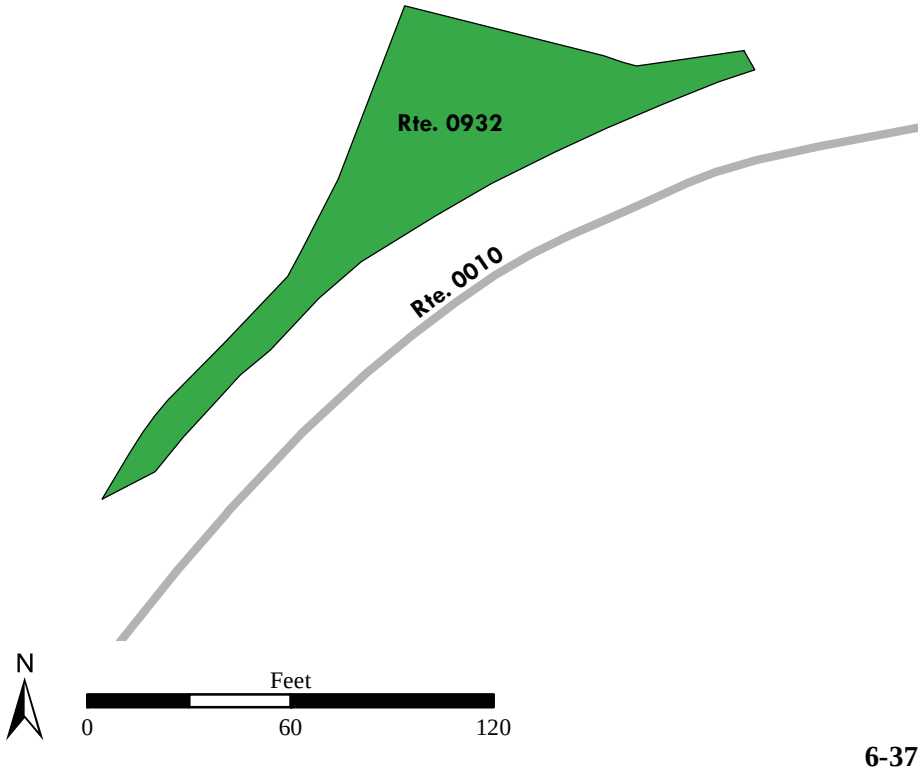
AT MP 6.30 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	90403	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,085	0.07	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0933A: PINE CREEK OVERLOOK PARKING A

Manual Rating

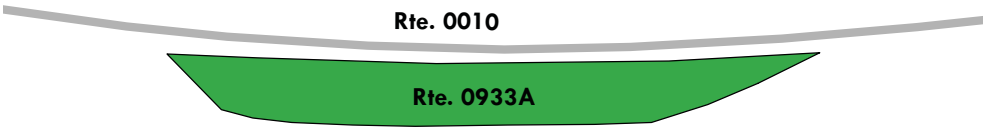
ADJACENT TO ROUTE 0010 (SOUTH TO EAST ENTRANCE
(ZION-MT CARMEL HIGHWAY)) AT MP 1.63 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	90404	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,500	0.026	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0933B: PINE CREEK OVERLOOK PARKING B

Manual Rating

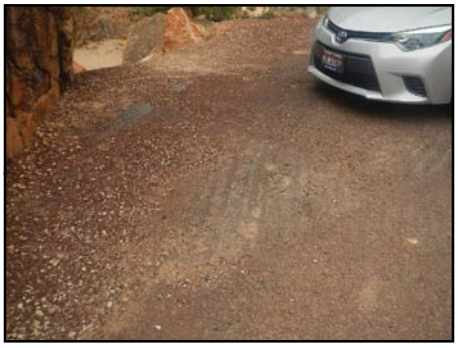
ADJACENT TO ROUTE 0010 (SOUTH TO EAST ENTRANCE
(ZION-MT CARMEL HIGHWAY)) AT MP 1.71 ON RIGHT

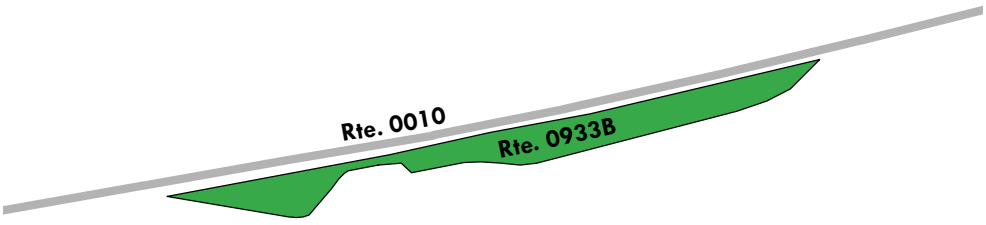
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	104937	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,730	0.047	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

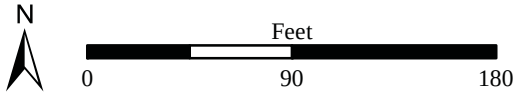
Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas







Zion National Park

ROUTE 0934: PTI FACILITY PARKING

Manual Rating

FROM ROUTE 0207 (WATCHMAN TRAIL ROAD) AT MP 0.03 ON RIGHT

TO PARKING

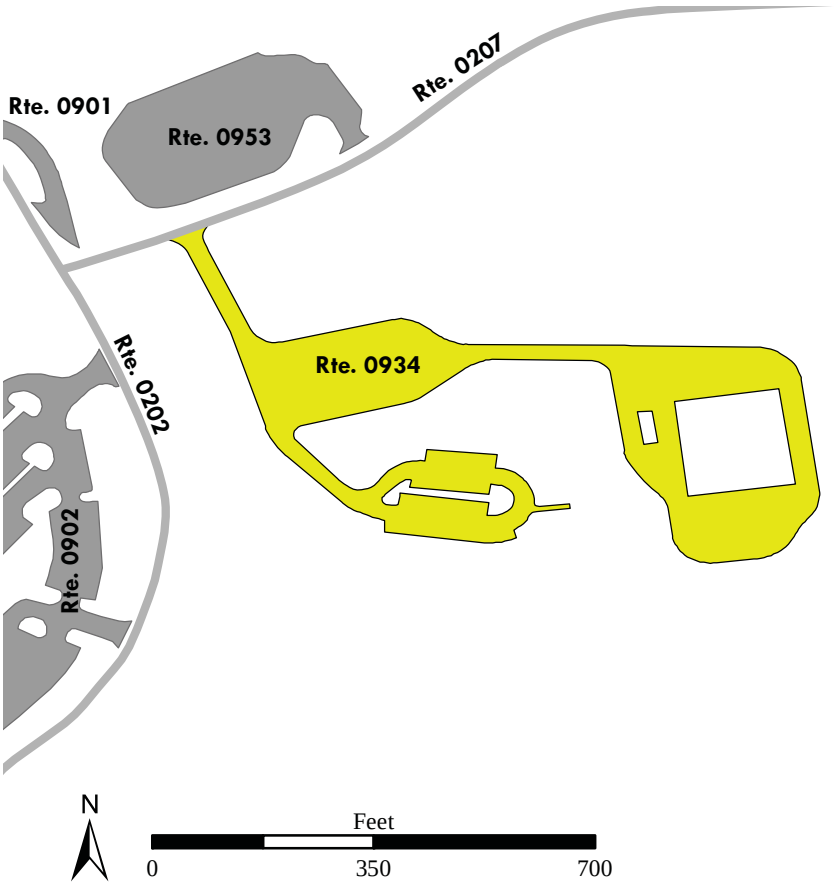
Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	90405	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
117,576	2.024	NOT APPLICABLE	DO NOTHING
Curb Type		**Curb & Gutter Type**	
NO CURB		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 108,312 square feet; 2 parts Concrete at 9,264 square feet.



Zion National Park

ROUTE 0935: WATCHMAN CAMPGROUND WALK-IN SITES PARKING

Manual Rating

FROM ROUTE 0202E (WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS) AT MP 0.04 ON LEFT

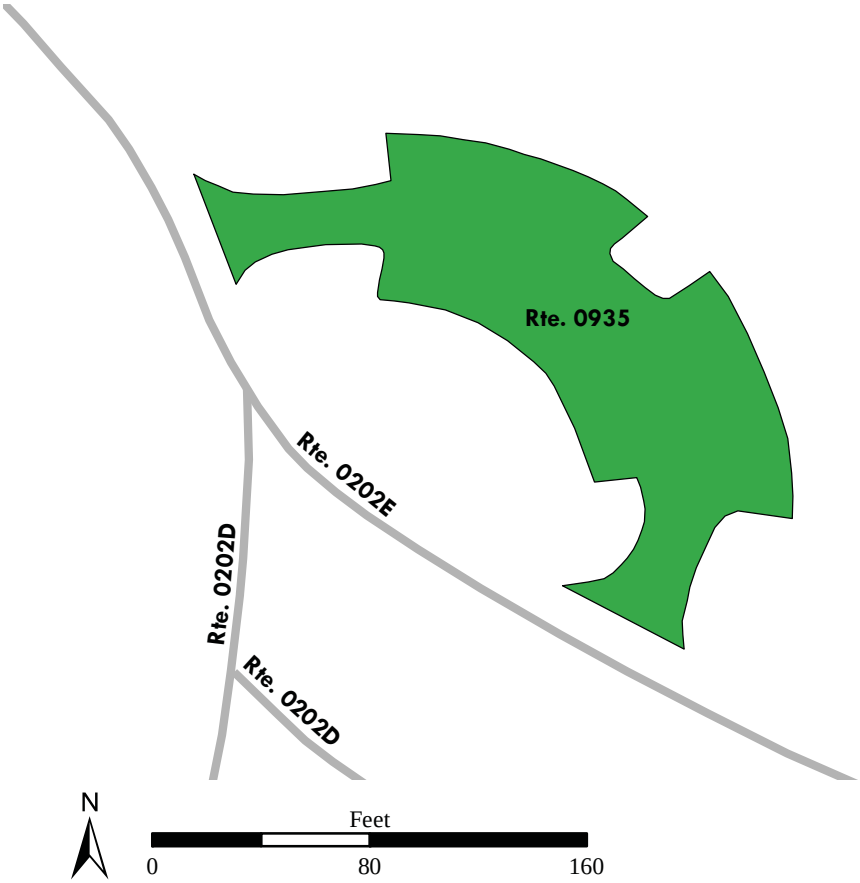
TO ROUTE 0202E (WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS) AT MP 0.09 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	90406	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
11,161	0.192	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0936: ZION NATURE CENTER REAR PARKING

Manual Rating

FROM ROUTE 0907 (SOUTH CAMPGROUND / AMPHITHEATER PARKING)

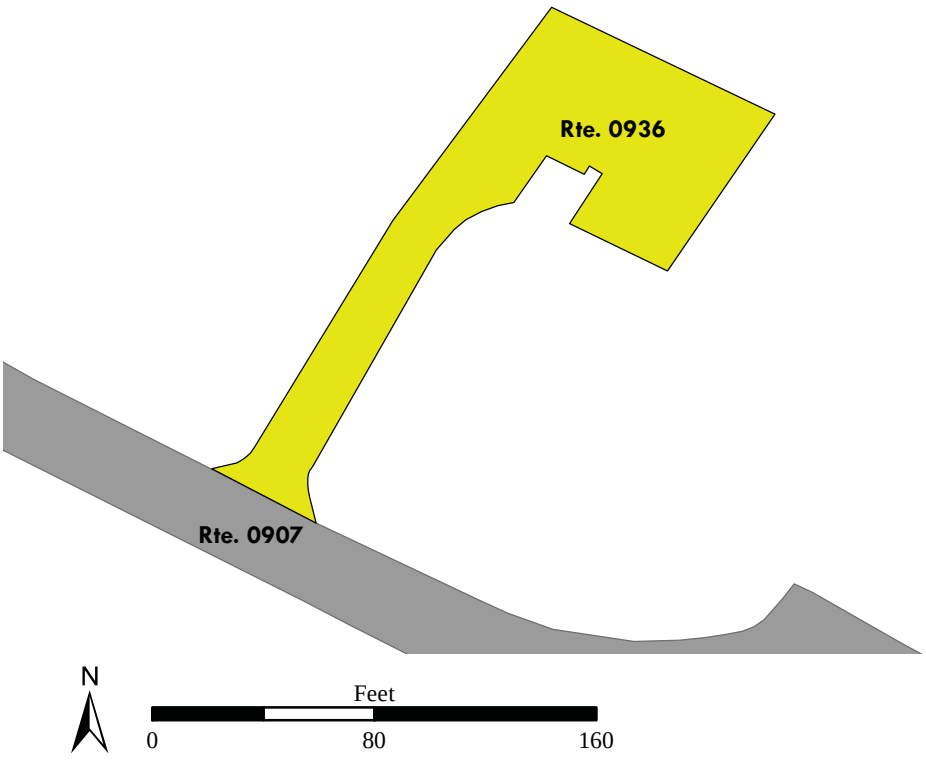
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	65437	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
6,940	0.119	7	DO NOTHING
Curb Type		**Curb & Gutter Type**	
STONE		STONE	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0937: ZION CANYON VISITOR CENTER SHUTTLE BUS VISITOR PICK UP

Manual Rating

FROM ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) AT MP 0.17 ON RIGHT

TO PARKING

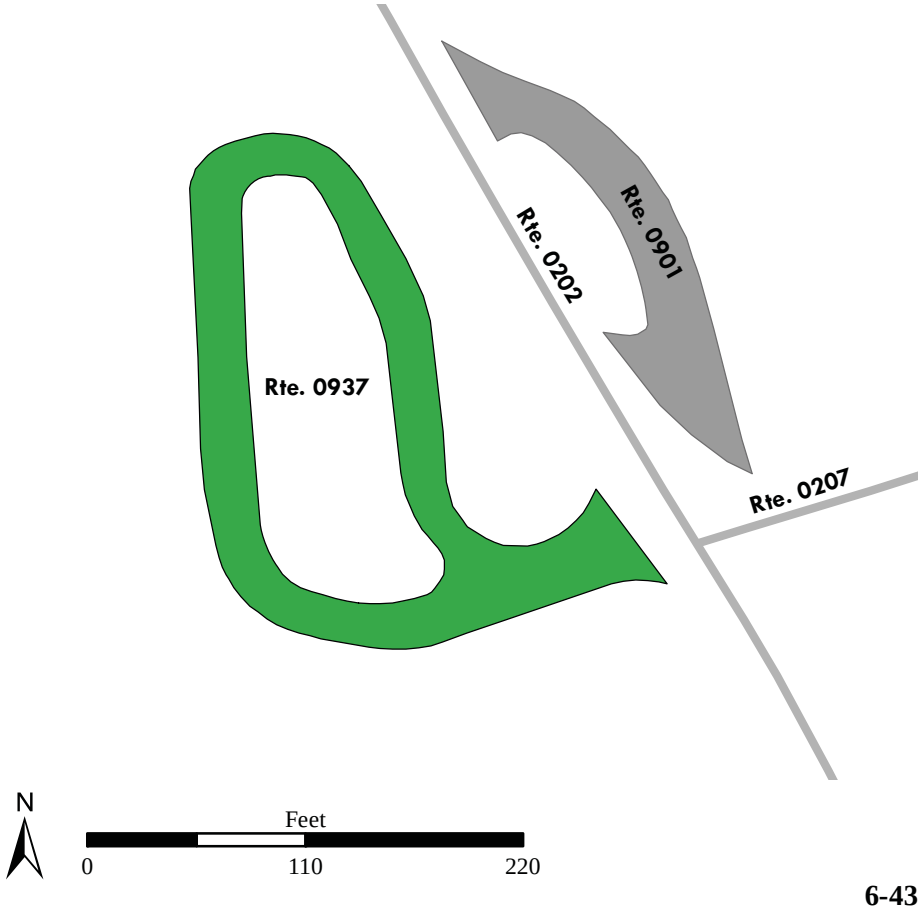
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	90407	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
13,799	0.238	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 10,199 square feet; 1 part Concrete at 3,600 square feet.



Zion National Park

ROUTE 0938: KOLOB CANYON MAINTENANCE PARKING

Manual Rating

FROM ROUTE 0410 (KOLOB SERVICE ROAD) AT MP 0.38 ON RIGHT

TO PARKING

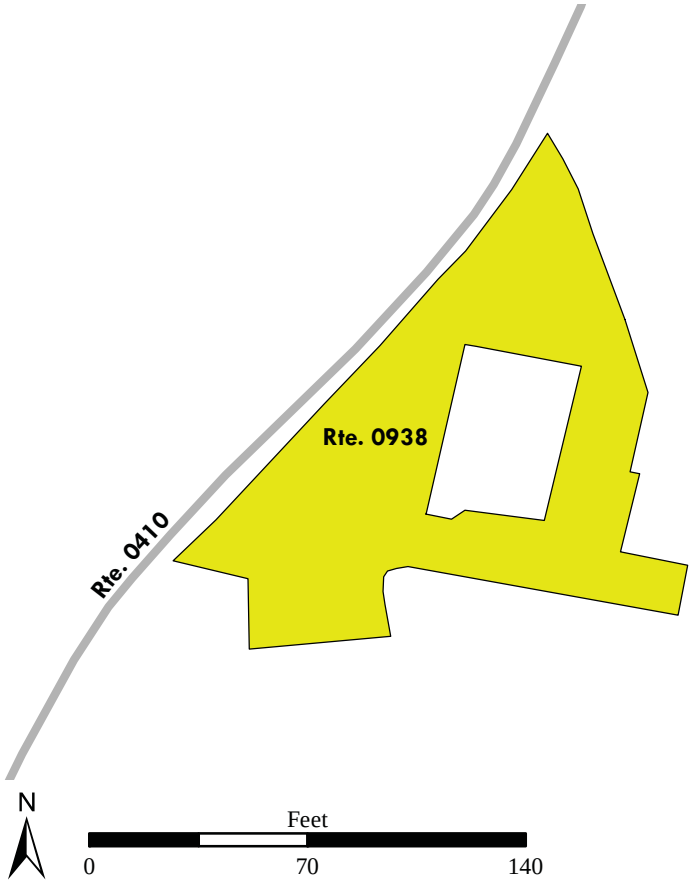
Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	90409	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
8,565	0.147	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 7,373 square feet; 2 parts Concrete at 1,192 square feet.



Zion National Park

ROUTE 0939: EAST ENTRANCE STATION PARKING AREA

Manual Rating

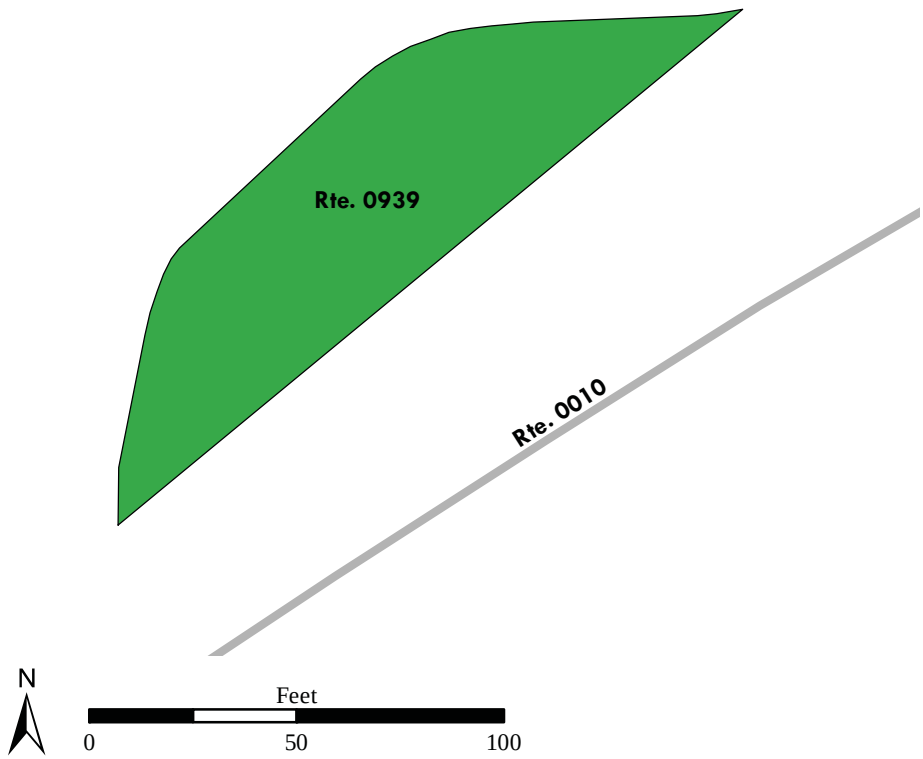
ADJACENT TO ROUTE 0010 (SOUTH TO EAST ENTRANCE
(ZION-MT CARMEL HIGHWAY)) AT MP 11.52 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	65612	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
4,933	0.085	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0940: E.O.C. PARKING AREA

Manual Rating

FROM ROUTE 0402 (MAINTENANCE ACCESS ROAD) AT MP 0.08 ON RIGHT

TO ROUTE 0403 (OAK CREEK HEADQUARTERS ROAD) AT MP 0.02 ON LEFT

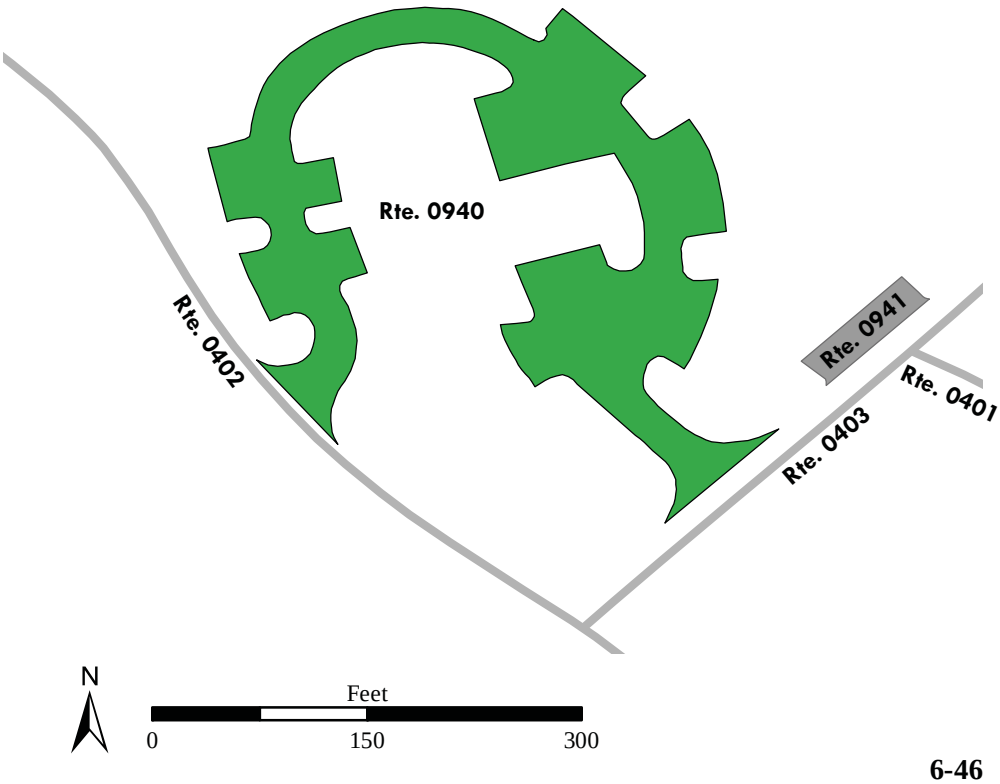
Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	65606	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
34,633	0.596	5	DO NOTHING
Curb Type		**Curb & Gutter Type**	
CONCRETE		CONCRETE	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

Note: Parking area consists of multiple surface types: 1 part Asphalt at 32,421 square feet; 2 parts Concrete at 2,212 square feet.



Zion National Park

ROUTE 0941: HEADQUARTERS WATCHMAN JUNCTION PARKING

Manual Rating

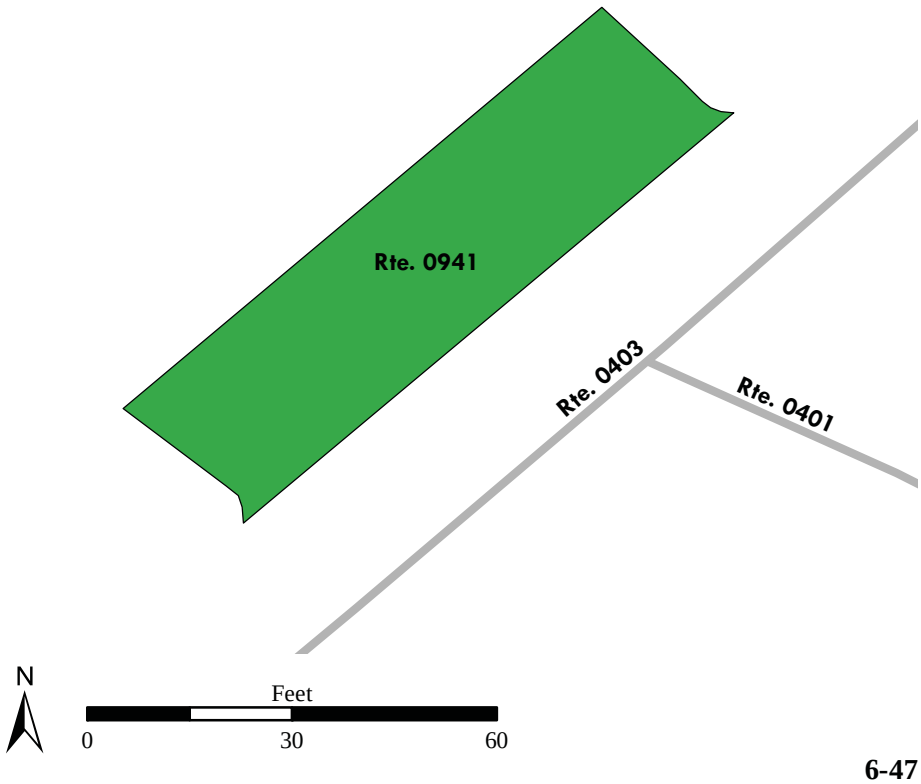
ADJACENT TO ROUTE 0403 (OAK CREEK HEADQUARTERS ROAD) AT MP 0.05 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	231229	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,748	0.03	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
PREVENTIVE MAINTENANCE		GOOD / 90	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0943: UPPER LEE PASS PARKING

Manual Rating

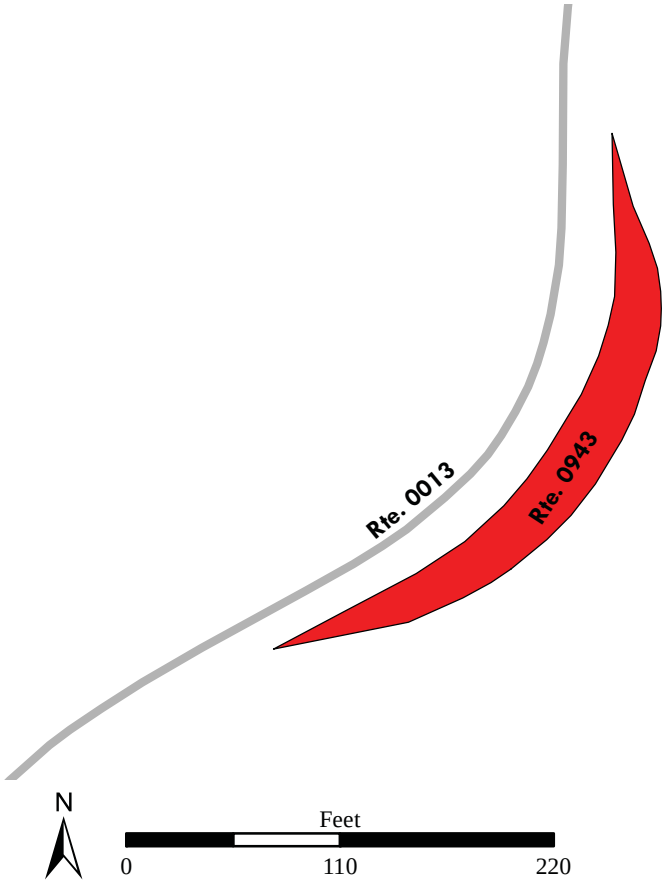
ADJACENT TO ROUTE 0013 (KOLOB CANYON ROAD) AT MP 4.49 ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	231581	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
5,890	0.101	6	LIGHT REPAIR
Curb Type		**Curb & Gutter Type**	
ASPHALT		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
HEAVY 3R TREATMENTS		POOR / 53	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0945: SOUTH ENTRANCE STATION EMPLOYEE PARKING

Manual Rating

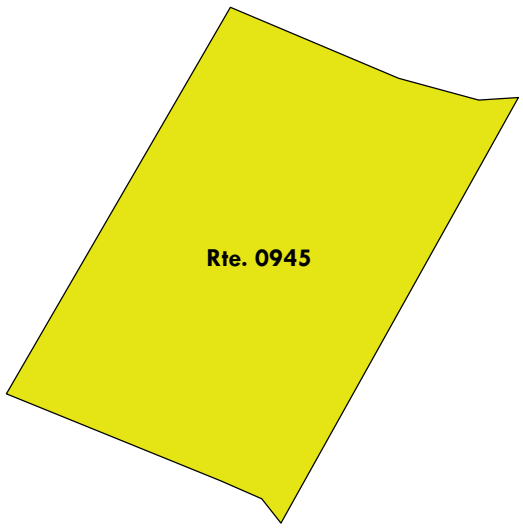
ADJACENT TO ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) ON LEFT

Inspection Date	FMSS Number	User Access	Surface Type
5/21/2016	231580	NONPUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,486	0.026	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0946ZZ: OAK CREEK DORM STREET PARKING AREAS

Summary Route

Manual Rating

ADJACENT TO ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD)

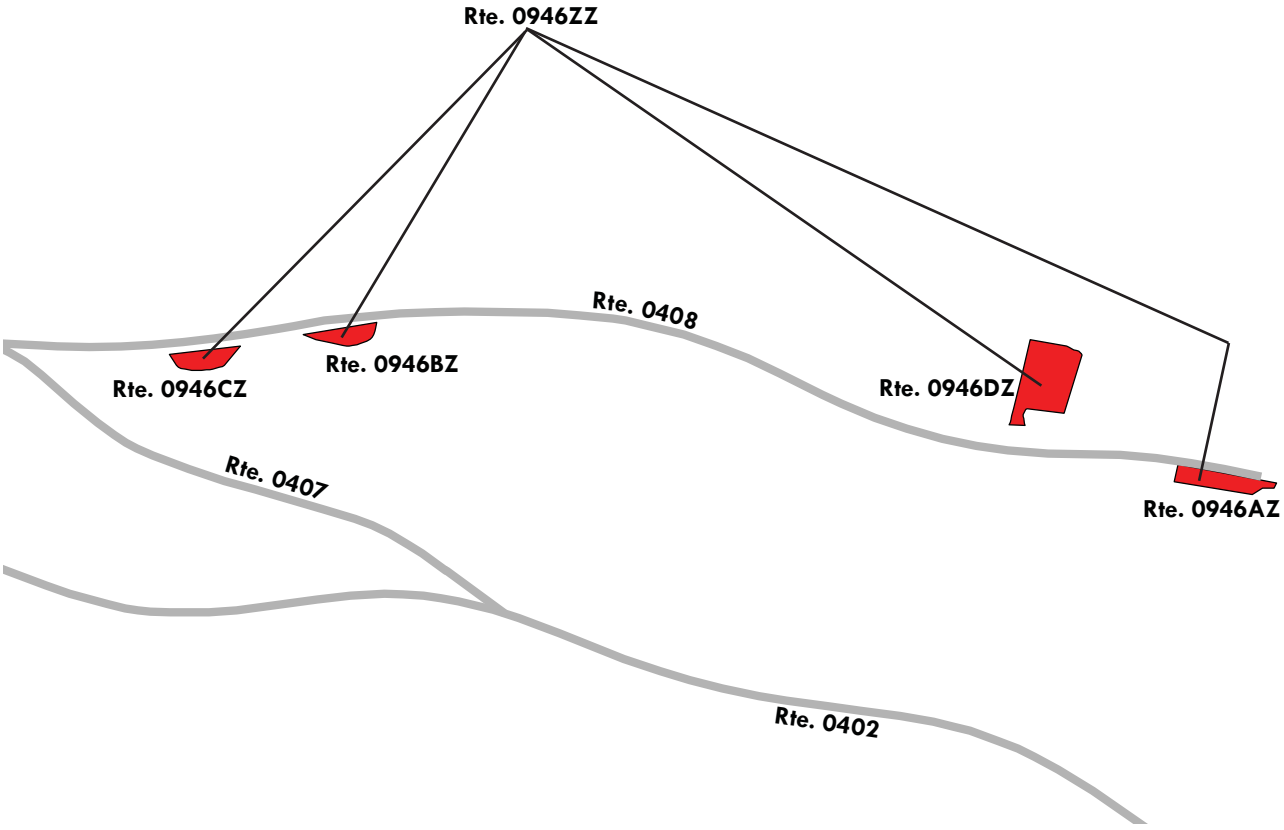
Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	231610	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Condition Rating / PCR**	
4,784	0.082	SUMMARY / 36	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

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



Zion National Park

ROUTE 0946AZ: OAK CREEK DORM STREET PARKING A

Subcomponent of Route ZION-0946ZZ
Manual Rating

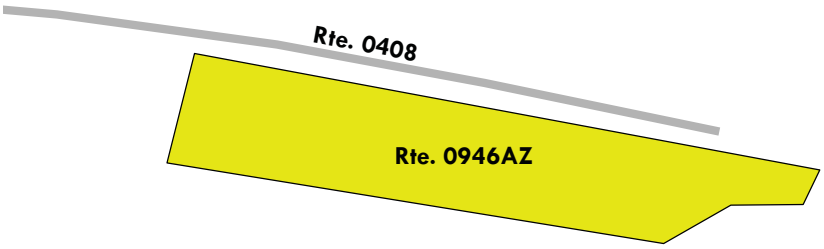
ADJACENT TO ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD) AT MP 0.17 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	231610	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
1,004	0.017	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0946BZ: OAK CREEK DORM STREET PARKING B

Subcomponent of Route ZION-0946ZZ
Manual Rating

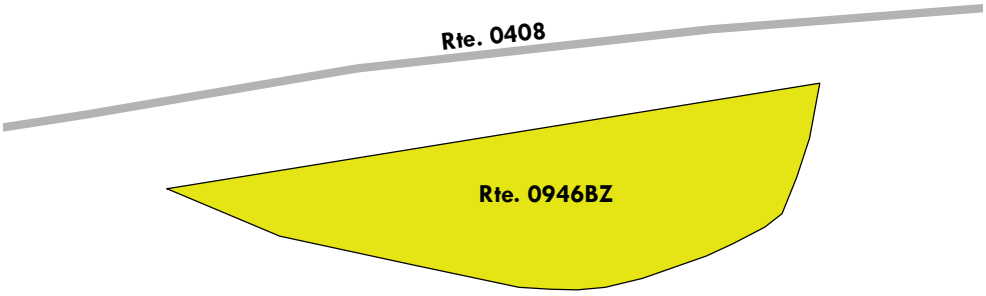
ADJACENT TO ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD) AT MP 0.04 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	231610	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
628	0.011	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0946CZ: OAK CREEK DORM STREET PARKING C

Subcomponent of Route ZION-0946ZZ
Manual Rating

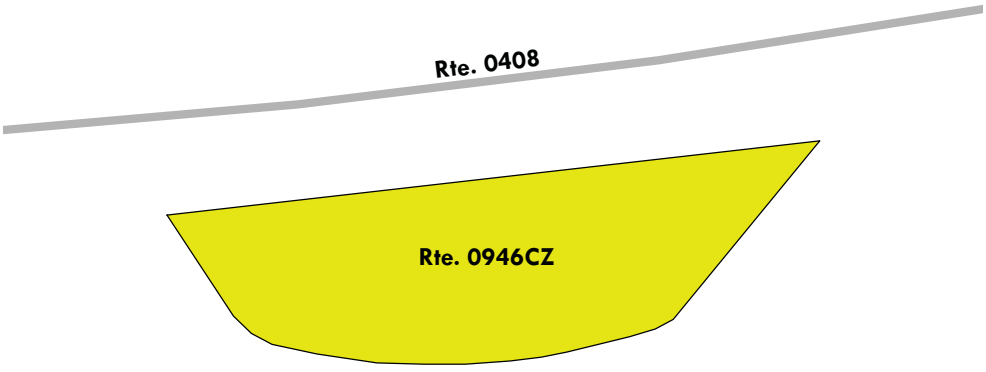
ADJACENT TO ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD) AT MP 0.03 ON RIGHT

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	231610	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
704	0.012	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
LIGHT 3R TREATMENTS		FAIR / 73	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Zion National Park

ROUTE 0946DZ: OAK CREEK DORM STREET PARKING D

Subcomponent of Route ZION-0946ZZ
Manual Rating

ADJACENT TO ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD) AT MP 0.15 ON LEFT

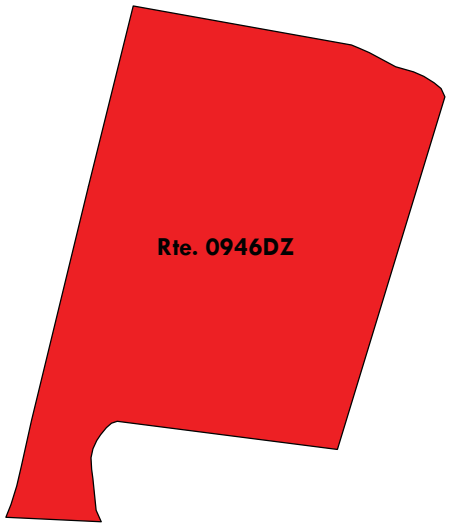
Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	231610	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
2,448	0.042	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
RECONSTRUCTION		POOR / 0	

Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas

No condition photos available.



Zion National Park

ROUTE 0953: VISITOR CENTER RV PARKING

Manual Rating

FROM ROUTE 0207 (WATCHMAN TRAIL ROAD)

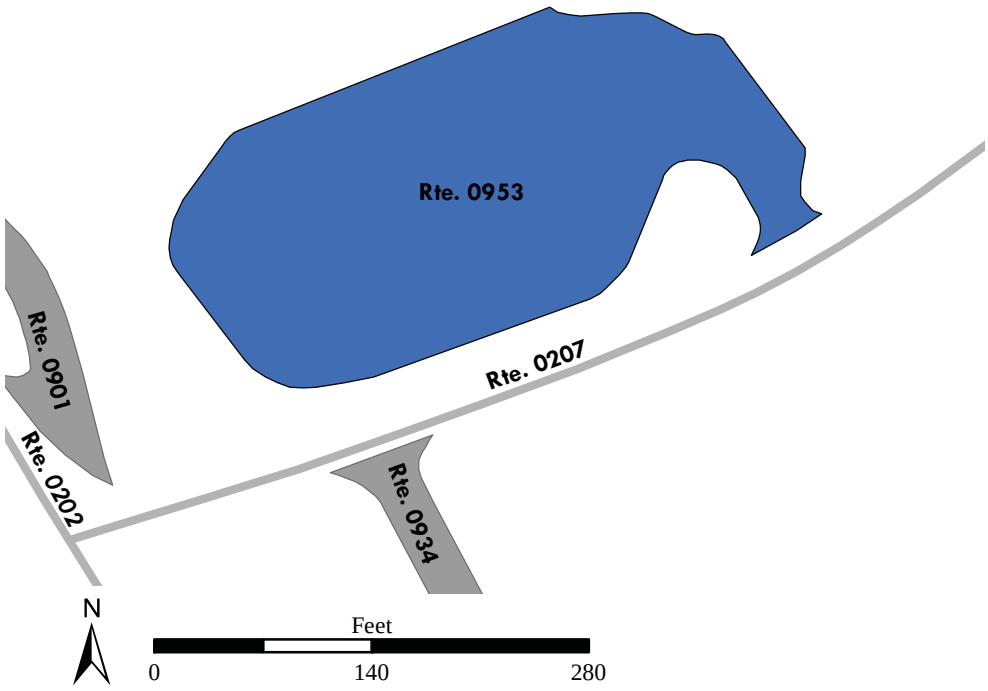
TO PARKING

Inspection Date	FMSS Number	User Access	Surface Type
5/20/2016	231704	PUBLIC	ASPHALT
Area (Sq. Ft.)	**Lane Miles (11' Widths)**	**Curb Reveal (Inches)**	**Curb Recommendation**
48,872	0.841	NOT APPLICABLE	NOT APPLICABLE
Curb Type		**Curb & Gutter Type**	
NO CURB		NO CURB AND GUTTER	
Pavement Recommendation		**Condition Rating / PCR**	
DO NOTHING		EXCELLENT / 97	

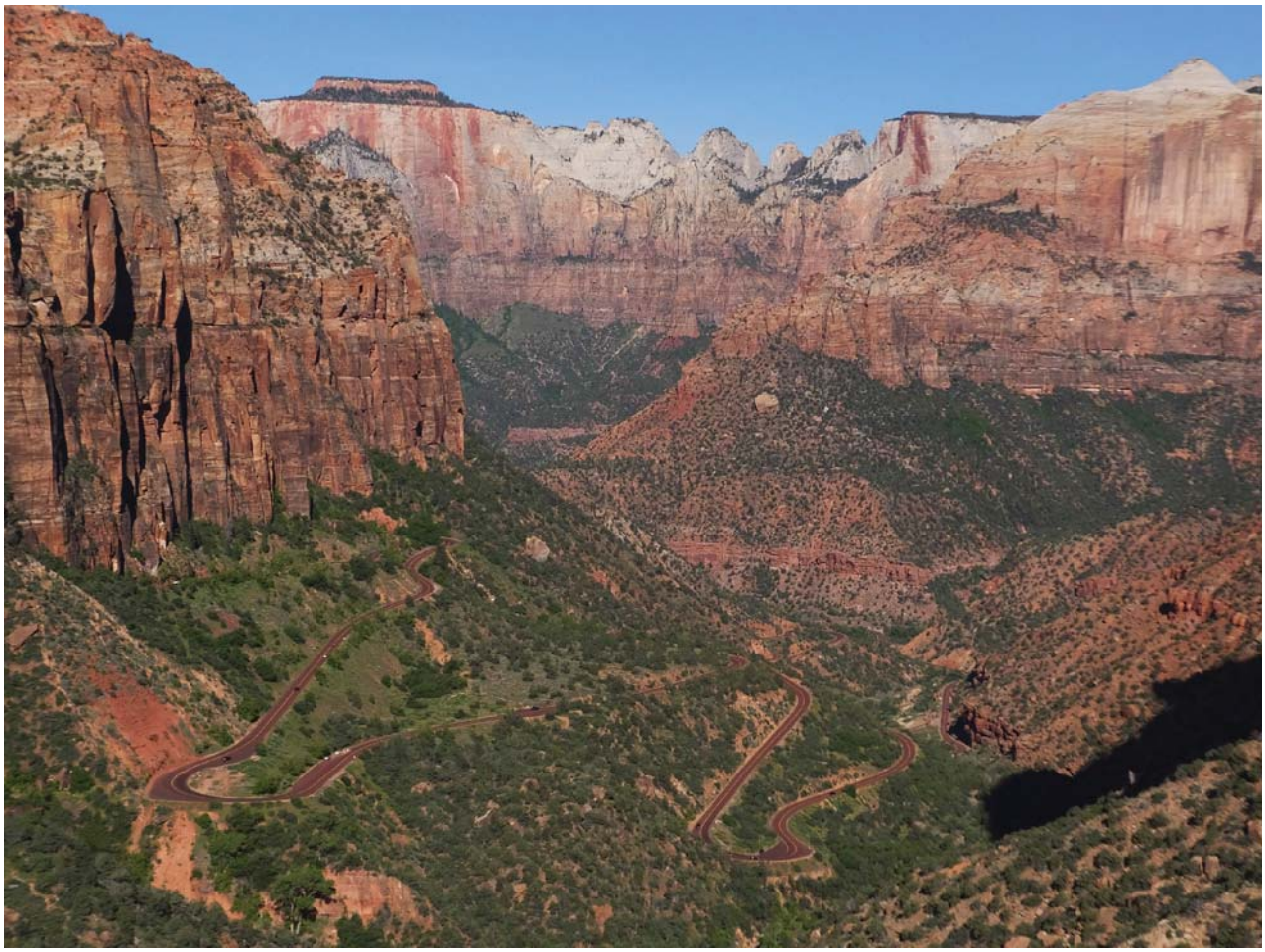
Route Condition Legend – Pavement Condition Rating (PCR)

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

See Appendix for definitions and formulas



Section 7
Road Milepost Information



Zion National Park

Federal Lands Highway
Road Inventory Program

Road Milepost Information

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

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

Where to find the latest Features Inventories for NPS Parks:

- For Small Parks (parks with less than 10 miles of paved roads):
    - Refer to Cycle 5 data (collected 2010 - 2014)
        - Features were reported in Section 9 of the ***Cycle 5*** RIP report
        - Video of features can be viewed using the ***PathViewVO*** program and ***Cycle 5*** data

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

Milepost Events Verified in Cycle 6

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

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

GPS Mileage Matching

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

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

Locating Mile Marker Signs

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

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

1. Mileposts from Cycle 6 GIS: the official RIP milepost taken from the features inventories and the matching GPS/mileage cycle as described above. This is the milepost that should be used on project plans and when finding locations in the field

2. Mileposts from Cycle 6 Video: milepost shown to help locate the mile marker sign in the latest ***PathView VO*** video.

3. Latitude / Longitude: a constant way of locating a mile marker sign so long as the park has not moved the sign

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

ZION: Route Milepost Log

ROUTE 0010: SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 5002 (SOUTH ROAD 9)
0.00	0.00	PARK BOUNDARY	N/A	N/A
0.03	0.03	INTERSECTION	R	ROUTE 0900 (SOUTH ENTRANCE PARKING)
0.08	0.08	INTERSECTION	R	ROUTE 0900 (SOUTH ENTRANCE PARKING)
0.14	0.14	INTERSECTION	L	ROUTE 0945 (SOUTH ENTRANCE STATION EMPLOYEE PARKING)
0.19	0.19	INTERSECTION	R	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)
0.21	0.21	INTERSECTION	R	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD) SPUR
0.37	0.37	MILE MARKER	R	MILE MARKER 33
0.39	0.39	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) OPPOSITE LANE
0.46	0.46	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.52	0.52	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) OPPOSITE LANE
0.66	0.66	INTERSECTION	L	ROUTE 0402 (MAINTENANCE ACCESS ROAD)
0.68	0.68	INTERSECTION	L	ROUTE 0402 (MAINTENANCE ACCESS ROAD)
0.72	0.74	BRIDGE	N/A	1590-003 (OAK CREEK BRIDGE)
0.87	0.87	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) OPPOSITE LANE
0.93	0.93	INTERSECTION	L	ROUTE 0911 (MUSEUM PARKING AREA)
0.98	0.98	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) OPPOSITE LANE
1.32	1.32	INTERSECTION	L	ROUTE 0404 (PINE CREEK RESIDENTIAL ROAD)
1.51	1.51	INTERSECTION	L	UNPAVED ROUTE (GATED)
1.53	1.56	BRIDGE	N/A	1590-004 (VIRGIN RIVER BRIDGE)
1.58	1.58	INTERSECTION	L	ROUTE 0011 (ZION CANYON SCENIC DRIVE) SPUR
1.60	1.60	INTERSECTION	L	ROUTE 0011 (ZION CANYON SCENIC DRIVE)
1.63	1.63	INTERSECTION	R	ROUTE 0933A (PINE CREEK OVERLOOK PARKING A)
1.71	1.71	INTERSECTION	R	ROUTE 0933B (PINE CREEK OVERLOOK PARKING B)
2.11	2.13	BRIDGE	N/A	1590-005 (PINE CREEK SANDSTONE ARCH)
5.07	6.15	TUNNEL	N/A	1590-012 (ZION - MOUNT CARMEL TUNNEL)
6.16	6.17	BRIDGE	N/A	1590-006 (EAST PORTAL BRIDGE)

Data Collected on 4/2017

ZION: Route Milepost Log

ROUTE 0010: SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
6.19	6.19	INTERSECTION	R	ROUTE 0912 (TUNNEL EAST (CANYON OVERLOOK) PARKING)
6.30	6.30	INTERSECTION	L	ROUTE 0932 (CANYON OVERLOOK PARKING)
7.49	7.58	TUNNEL	N/A	1590-013 (SHORT TUNNEL)
10.25	10.28	BRIDGE	N/A	1590-007 (CLEAR CREEK BRIDGE)
11.28	11.28	INTERSECTION	L	ROUTE 0913 (CHECKERBOARD MESA VIEWPOINT PARKING)
11.31	11.33	BRIDGE	N/A	1590-008 (CO-OP CREEK BRIDGE)
11.49	11.49	INTERSECTION	L	ROUTE 0208 (EAST RIM TRAIL ACCESS)
11.52	11.52	INTERSECTION	L	ROUTE 0939 (EAST ENTRANCE STATION PARKING AREA)
11.54	11.54	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) OPPOSITE LANE
11.57	11.57	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) OPPOSITE LANE
12.25	12.25	PARK BOUNDARY	N/A	N/A
12.25	12.25	INTERSECTION	N/A	ROUTE 5000 (EAST HIGHWAY 9)

ZION: Route Milepost Log

ROUTE 0011: ZION CANYON SCENIC DRIVE

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.00	0.00	INTERSECTION	R	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.02	0.02	INTERSECTION	L	ROUTE 0011 (ZION CANYON SCENIC DRIVE) CUT-THRU
0.04	0.04	INTERSECTION	L	ROUTE 0011 (ZION CANYON SCENIC DRIVE) OPPOSITE LANE
1.64	1.64	INTERSECTION	L	ROUTE 0409 (HORSE CORRAL ROAD)
1.64	1.64	INTERSECTION	R	ROUTE 0915 (COURT OF THE PATRIARCHS PARKING)
1.66	1.66	INTERSECTION	L	ROUTE 0409 (HORSE CORRAL ROAD) SPUR
1.67	1.67	INTERSECTION	R	ROUTE 0915 (COURT OF THE PATRIARCHS PARKING)
2.31	2.31	INTERSECTION	R	ROUTE 0916 (WYLIE PARKING)
2.36	2.36	INTERSECTION	R	ROUTE 0916 (WYLIE PARKING)
2.48	2.48	INTERSECTION	R	ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD)
2.65	2.65	INTERSECTION	L	ROUTE 0924 (EMERALD POOLS HORSE CORRAL PARKING)
2.65	2.65	INTERSECTION	R	ROUTE 0917 (ZION LODGE CABIN PARKING)
2.81	2.81	INTERSECTION	R	ROUTE 0925A (ZION LODGE VISITOR PARKING)
3.35	3.35	INTERSECTION	R	UNPAVED PARKING
3.37	3.37	INTERSECTION	R	ROUTE 0919 (GROTTO PICNIC PARKING)
3.37	3.37	INTERSECTION	L	ROUTE 0918 (WEST RIM TRAILHEAD PARKING)
3.39	3.39	INTERSECTION	R	ROUTE 0919 (GROTTO PICNIC PARKING)
3.44	3.44	INTERSECTION	R	ROUTE 0919 (GROTTO PICNIC PARKING)
4.52	4.52	BRIDGE	N/A	1590-009 (CABLE CREEK BRIDGE)
4.58	4.58	INTERSECTION	R	ROUTE 0920 (WEEPING ROCK PARKING)
4.59	4.59	INTERSECTION	R	ROUTE 0920 (WEEPING ROCK PARKING)
4.82	4.82	INTERSECTION	L	ROUTE 0921 (THE GREAT WHITE THRONE PARKING)
4.86	4.86	INTERSECTION	L	ROUTE 0921 (THE GREAT WHITE THRONE PARKING)
5.09	5.09	INTERSECTION	L	ROUTE 0922 (BIG BEND BUS AND TRAILER PARKING)
5.13	5.13	INTERSECTION	L	ROUTE 0922 (BIG BEND BUS AND TRAILER PARKING)
6.19	6.19	INTERSECTION	N/A	ROUTE 0923 (TEMPLE OF SINAWAVA PARKING)

Data Collected on 4/2017

ZION: Route Milepost Log

ROUTE 0012: KOLOB TERRACE ROAD SOUTH

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 5005 (KOLOB TERRACE ROAD SOUTH (NON NPS))
0.00	0.00	PARK BOUNDARY	N/A	N/A
0.45	0.45	INTERSECTION	R	ROUTE 0947 (RIGHT FORK TRAILHEAD PARKING)
0.80	0.80	INTERSECTION	R	ROUTE 0948 (GRAPEVINE TRAILHEAD PARKING)
1.20	1.20	INTERSECTION	L	ROUTE 0206 (SMITH MESA ROAD)
1.74	1.74	INTERSECTION	R	ROUTE 0949 (LEFT FORK TRAILHEAD PARKING)
3.38	3.38	INTERSECTION	R	UNPAVED ROUTE
4.09	4.09	PARK BOUNDARY	N/A	N/A
4.09	4.09	INTERSECTION	N/A	ROUTE 5004 (KOLOB TERRACE ROAD NORTH (NON NPS))

ZION: Route Milepost Log

ROUTE 0013: KOLOB CANYON ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	PAVED ROUTE (KOLAB CANYON ROAD / NON NPS)
0.00	0.00	PARK BOUNDARY	N/A	N/A
0.01	0.01	INTERSECTION	R	UNPAVED ROUTE
0.05	0.05	INTERSECTION	R	ROUTE 0926 (KOLOB VISITORS CENTER PARKING)
0.07	0.07	INTERSECTION	L	ROUTE 0410 (KOLOB SERVICE ROAD)
0.13	0.13	INTERSECTION	R	ROUTE 0926 (KOLOB VISITORS CENTER PARKING)
2.02	2.02	INTERSECTION	L	ROUTE 0927 (TAYLOR CREEK TRAILHEAD PARKING)
2.07	2.07	INTERSECTION	L	ROUTE 0927 (TAYLOR CREEK TRAILHEAD PARKING)
3.24	3.24	INTERSECTION	R	ROUTE 0928 (SOUTH FORK PARKING AREA)
3.29	3.29	INTERSECTION	R	ROUTE 0928 (SOUTH FORK PARKING AREA)
3.91	3.91	INTERSECTION	L	ROUTE 0929 (LEE PASS TRAILHEAD PARKING)
4.49	4.49	INTERSECTION	L	ROUTE 0943 (UPPER LEE PASS PARKING)
5.32	5.32	INTERSECTION	N/A	ROUTE 0930 (KOLOB CANYON OVERLOOK PARKING)

ZION: Route Milepost Log

ROUTE 0014: KOLOB TERRACE ROAD NORTH

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	PARK BOUNDARY	N/A	N/A
0.00	0.00	INTERSECTION	N/A	ROUTE 5004 (KOLOB TERRACE ROAD NORTH (NON NPS))
0.28	0.28	INTERSECTION	L	ROUTE 0950 (HOP VALLEY TRAILHEAD PARKING)
0.63	0.63	INTERSECTION	L	UNPAVED ROUTE (GATED)
0.86	0.86	INTERSECTION	R	UNPAVED ROUTE (GATED)
0.93	0.93	INTERSECTION	L	UNPAVED ROUTE
1.71	1.71	INTERSECTION	L	UNPAVED ROUTE (PRIVATE ACCESS)
3.18	3.18	INTERSECTION	R	ROUTE 0952 (WILDCAT CANYON TRAILHEAD PARKING)
3.35	3.35	INTERSECTION	L	ROUTE 0951 (THREE PINES PICNIC AREA PARKING)
3.37	3.37	INTERSECTION	L	ROUTE 0951 (THREE PINES PICNIC AREA PARKING)
5.88	5.88	PARK BOUNDARY	N/A	N/A
5.88	5.88	INTERSECTION	N/A	ROUTE 5003 (UPPER KOLOB PLATEAU ROAD)

ZION: Route Milepost Log

ROUTE 0200: SOUTH CAMPGROUND LOOP

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.00	0.00	INTERSECTION	R	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.04	0.04	INTERSECTION	L	ROUTE 0906 (ZION NATURE CENTER PARKING)
0.07	0.07	INTERSECTION	L	ROUTE 0905 (SOUTH CAMPGROUND DUMP STATION)
0.09	0.09	ONE-WAY START	N/A	N/A
0.09	0.09	INTERSECTION	L	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.11	0.11	INTERSECTION	L	ROUTE 0200FZ (SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100))
0.12	0.12	INTERSECTION	L	ROUTE 0200EZ (SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124))
0.15	0.15	INTERSECTION	L	ROUTE 0200BZ (SOUTH CAMPGROUND INSIDE ROAD B (SITES 23-35))
0.21	0.21	INTERSECTION	L	ROUTE 0200AZ (SOUTH CAMPGROUND INSIDE ROAD A (SITES 13-18))
0.32	0.32	INTERSECTION	L	ROUTE 0200AZ (SOUTH CAMPGROUND INSIDE ROAD A (SITES 13-18))
0.36	0.36	INTERSECTION	L	ROUTE 0200AZ (SOUTH CAMPGROUND INSIDE ROAD A (SITES 13-18))
0.38	0.38	INTERSECTION	L	ROUTE 0200CZ (SOUTH CAMPGROUND INSIDE ROAD C (SITES 36-57))
0.45	0.45	INTERSECTION	L	ROUTE 0200DZ (SOUTH CAMPGROUND INSIDE ROAD D (SITES 64-67))
0.55	0.55	INTERSECTION	L	ROUTE 0200EZ (SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124))
0.56	0.56	INTERSECTION	L	ROUTE 0200IZ (SOUTH CAMPGROUND INSIDE ROAD I)
0.67	0.67	INTERSECTION	L	ROUTE 0200GZ (SOUTH CAMPGROUND INSIDE ROAD G (SITES 86-89))
0.68	0.68	INTERSECTION	L	ROUTE 0200HZ (SOUTH CAMPGROUND INSIDE ROAD H (SITES 103-113))
0.81	0.81	INTERSECTION	L	ROUTE 0200HZ (SOUTH CAMPGROUND INSIDE ROAD H (SITES 103-113))
0.82	0.82	INTERSECTION	L	ROUTE 0200FZ (SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100))
0.86	0.86	ONE-WAY END	N/A	N/A
0.86	0.86	INTERSECTION	R	ROUTE 0905 (SOUTH CAMPGROUND DUMP STATION)

Data Collected on 4/2017

ZION: Route Milepost Log

ROUTE 0200: SOUTH CAMPGROUND LOOP

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.86	0.86	INTERSECTION	L	ROUTE 0200 (SOUTH CAMPGROUND LOOP)

ZION: Route Milepost Log

ROUTE 0200AZ: SOUTH CAMPGROUND INSIDE ROAD A (SITES 13-18)

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.09	0.09	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.11	0.11	INTERSECTION	L	ROUTE 0200BZ (SOUTH CAMPGROUND INSIDE ROAD B (SITES 23-35))
0.13	0.13	ONE-WAY END	N/A	N/A
0.13	0.13	INTERSECTION	N/A	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.13	0.13	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)

ZION: Route Milepost Log

ROUTE 0200BZ: SOUTH CAMPGROUND INSIDE ROAD B (SITES 23-35)

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.00	0.00	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.00	0.00	ONE-WAY START	N/A	N/A
0.15	0.15	INTERSECTION	R	ROUTE 0200AZ (SOUTH CAMPGROUND INSIDE ROAD A (SITES 13-18))
0.15	0.15	ONE-WAY END	N/A	N/A
0.15	0.15	INTERSECTION	L	ROUTE 0200AZ (SOUTH CAMPGROUND INSIDE ROAD A (SITES 13-18))

ZION: Route Milepost Log

ROUTE 0200CZ: SOUTH CAMPGROUND INSIDE ROAD C (SITES 36-57)

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	L	ROUTE 0200EZ (SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124))
0.00	0.00	INTERSECTION	R	ROUTE 0200EZ (SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124))
0.17	0.17	ONE-WAY END	N/A	N/A
0.17	0.17	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.17	0.17	INTERSECTION	L	ROUTE 0200 (SOUTH CAMPGROUND LOOP)

ZION: Route Milepost Log

ROUTE 0200DZ: SOUTH CAMPGROUND INSIDE ROAD D (SITES 64-67)

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	N/A	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.00	0.00	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.09	0.09	INTERSECTION	R	ROUTE 0200EZ (SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124))
0.09	0.09	ONE-WAY END	N/A	N/A
0.09	0.09	INTERSECTION	L	ROUTE 0200EZ (SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124))

ZION: Route Milepost Log

ROUTE 0200EZ: SOUTH CAMPGROUND INSIDE ROAD E (SITES 76-124)

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.00	0.00	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.00	0.00	ONE-WAY START	N/A	N/A
0.01	0.01	INTERSECTION	R	ROUTE 0200CZ (SOUTH CAMPGROUND INSIDE ROAD C (SITES 36-57))
0.02	0.02	INTERSECTION	R	ROUTE 0200DZ (SOUTH CAMPGROUND INSIDE ROAD D (SITES 64-67))
0.05	0.05	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.05	0.05	INTERSECTION	N/A	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.05	0.05	ONE-WAY END	N/A	N/A

ZION: Route Milepost Log

ROUTE 0200FZ: SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100)

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	N/A	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.07	0.07	INTERSECTION	R	ROUTE 0200IZ (SOUTH CAMPGROUND INSIDE ROAD I)
0.09	0.09	INTERSECTION	R	ROUTE 0200GZ (SOUTH CAMPGROUND INSIDE ROAD G (SITES 86-89))
0.12	0.12	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.12	0.12	INTERSECTION	N/A	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.12	0.12	ONE-WAY END	N/A	N/A

ZION: Route Milepost Log

ROUTE 0200GZ: SOUTH CAMPGROUND INSIDE ROAD G (SITES 86-89)

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.00	0.00	INTERSECTION	N/A	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.06	0.06	ONE-WAY END	N/A	N/A
0.06	0.06	INTERSECTION	N/A	ROUTE 0200FZ (SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100))
0.06	0.06	INTERSECTION	L	ROUTE 0200FZ (SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100))

ZION: Route Milepost Log

ROUTE 0200HZ: SOUTH CAMPGROUND INSIDE ROAD H (SITES 103-113)

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	N/A	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.09	0.09	ONE-WAY END	N/A	N/A
0.09	0.09	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.09	0.09	INTERSECTION	L	ROUTE 0200 (SOUTH CAMPGROUND LOOP)

ZION: Route Milepost Log

ROUTE 0200IZ: SOUTH CAMPGROUND INSIDE ROAD I

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.00	0.00	INTERSECTION	L	ROUTE 0200 (SOUTH CAMPGROUND LOOP)
0.00	0.00	ONE-WAY START	N/A	N/A
0.04	0.04	INTERSECTION	N/A	ROUTE 0200FZ (SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100))
0.04	0.04	INTERSECTION	L	ROUTE 0200FZ (SOUTH CAMPGROUND INSIDE ROAD F (SITES 91-100))
0.04	0.04	ONE-WAY END	N/A	N/A

ZION: Route Milepost Log

ROUTE 0202: WATCHMAN CAMPGROUND ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.00	0.00	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.02	0.02	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) SPUR
0.09	0.11	BRIDGE	N/A	1590-001 (VISITOR CENTER BRIDGE)
0.12	0.12	INTERSECTION	L	ROUTE 0901 (EMPLOYEE VISITOR CENTER PARKING)
0.15	0.15	INTERSECTION	L	ROUTE 0901 (EMPLOYEE VISITOR CENTER PARKING)
0.17	0.17	INTERSECTION	L	ROUTE 0207 (WATCHMAN TRAIL ROAD)
0.17	0.17	INTERSECTION	R	ROUTE 0937 (ZION CANYON VISITOR CENTER SHUTTLE BUS VISITOR PICK UP)
0.20	0.20	INTERSECTION	R	ROUTE 0902 (VISITOR CENTER PARKING)
0.30	0.30	INTERSECTION	R	ROUTE 0902 (VISITOR CENTER PARKING)
0.37	0.37	INTERSECTION	L	ROUTE 0202E (WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS)
0.38	0.38	INTERSECTION	L	ROUTE 0903 (WATCHMAN CAMPGROUND DUMP STATION PARKING)
0.41	0.41	INTERSECTION	L	ROUTE 0903 (WATCHMAN CAMPGROUND DUMP STATION PARKING)
0.41	0.41	INTERSECTION	R	ROUTE 0202A (WATCHMAN CAMPGROUND LOOP A)
0.52	0.52	INTERSECTION	R	ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B)
0.64	0.64	INTERSECTION	L	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)
0.64	0.64	ONE-WAY START	N/A	N/A
0.82	0.82	INTERSECTION	R	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)
0.82	0.82	ONE-WAY END	N/A	N/A
0.82	0.82	INTERSECTION	L	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)

ZION: Route Milepost Log

ROUTE 0202A: WATCHMAN CAMPGROUND LOOP A

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)
0.00	0.00	INTERSECTION	N/A	ROUTE 0903 (WATCHMAN CAMPGROUND DUMP STATION PARKING)
0.02	0.02	ONE-WAY START	N/A	N/A
0.02	0.02	INTERSECTION	L	ROUTE 0202A (WATCHMAN CAMPGROUND LOOP A)
0.26	0.26	INTERSECTION	L	ROUTE 0202A (WATCHMAN CAMPGROUND LOOP A)
0.26	0.26	ONE-WAY END	N/A	N/A
0.26	0.26	INTERSECTION	R	ROUTE 0202A (WATCHMAN CAMPGROUND LOOP A)

ZION: Route Milepost Log

ROUTE 0202B: WATCHMAN CAMPGROUND LOOP B

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)
0.02	0.02	ONE-WAY START	N/A	N/A
0.02	0.02	INTERSECTION	L	ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B)
0.04	0.04	INTERSECTION	R	ROUTE 0904 (WATCHMAN AMPHITHEATER LOOP B PARKING)
0.11	0.11	INTERSECTION	R	ROUTE 0202F (WATCHMAN CAMPGROUND LOOP B (SIDE LOOP))
0.12	0.13	LOW WATER CROSSING	N/A	HIGH WATER FLOW AREA
0.17	0.17	LOW WATER CROSSING	N/A	HIGH WATER FLOW AREA
0.24	0.24	INTERSECTION	R	ROUTE 0202F (WATCHMAN CAMPGROUND LOOP B (SIDE LOOP))
0.40	0.40	INTERSECTION	L	ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B)
0.40	0.40	INTERSECTION	R	ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B)
0.40	0.40	ONE-WAY END	N/A	N/A

ZION: Route Milepost Log

ROUTE 0202C: WATCHMAN CAMPGROUND LOOP C

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0202E (WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS)
0.00	0.00	INTERSECTION	R	ROUTE 0202E (WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS)
0.03	0.03	ONE-WAY START	N/A	N/A
0.03	0.03	INTERSECTION	L	ROUTE 0202C (WATCHMAN CAMPGROUND LOOP C)
0.29	0.29	ONE-WAY END	N/A	N/A
0.29	0.29	INTERSECTION	L	ROUTE 0202C (WATCHMAN CAMPGROUND LOOP C)
0.29	0.29	INTERSECTION	R	ROUTE 0202C (WATCHMAN CAMPGROUND LOOP C)

ZION: Route Milepost Log

ROUTE 0202D: WATCHMAN CAMPGROUND LOOP D

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0202E (WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS)
0.00	0.00	INTERSECTION	L	ROUTE 0202E (WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS)
0.02	0.02	INTERSECTION	L	ROUTE 0202D (WATCHMAN CAMPGROUND LOOP D)
0.02	0.02	ONE-WAY START	N/A	N/A
0.28	0.28	INTERSECTION	R	ROUTE 0202D (WATCHMAN CAMPGROUND LOOP D)
0.28	0.28	ONE-WAY END	N/A	N/A
0.28	0.28	INTERSECTION	L	ROUTE 0202D (WATCHMAN CAMPGROUND LOOP D)

ROUTE 0202E: WATCHMAN CAMPGROUND LOOPS C AND D MAINTENANCE ACCESS

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)
0.02	0.02	INTERSECTION	R	ROUTE 0202C (WATCHMAN CAMPGROUND LOOP C)
0.04	0.04	INTERSECTION	L	ROUTE 0935 (WATCHMAN CAMPGROUND WALK-IN SITES PARKING)
0.06	0.06	INTERSECTION	R	ROUTE 0202D (WATCHMAN CAMPGROUND LOOP D)
0.09	0.09	INTERSECTION	L	ROUTE 0935 (WATCHMAN CAMPGROUND WALK-IN SITES PARKING)
0.13	0.13	INTERSECTION	N/A	UNPAVED ROUTE (WATCHMAN MAINTENANCE STORE AREA)

ZION: Route Milepost Log

ROUTE 0202F: WATCHMAN CAMPGROUND LOOP B (SIDE LOOP)

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B)
0.00	0.00	ONE-WAY START	N/A	N/A
0.00	0.00	INTERSECTION	R	ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B)
0.19	0.19	INTERSECTION	L	ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B)
0.19	0.19	INTERSECTION	N/A	ROUTE 0202B (WATCHMAN CAMPGROUND LOOP B)
0.19	0.19	ONE-WAY END	N/A	N/A

ZION: Route Milepost Log

ROUTE 0207: WATCHMAN TRAIL ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0202 (WATCHMAN CAMPGROUND ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0901 (EMPLOYEE VISITOR CENTER PARKING)
0.03	0.03	INTERSECTION	R	ROUTE 0934 (PTI FACILITY PARKING)
0.04	0.04	INTERSECTION	L	ROUTE 0953 (VISITOR CENTER RV PARKING)
0.08	0.08	INTERSECTION	L	ROUTE 0953 (VISITOR CENTER RV PARKING)
0.09	0.10	LOW WATER CROSSING	N/A	HIGH WATER FLOW AREA
0.21	0.21	INTERSECTION	R	UNPAVED PARKING
0.35	0.36	LOW WATER CROSSING	N/A	HIGH WATER FLOW AREA
0.37	0.37	INTERSECTION	L	ROUTE 0401 (WATCHMAN RESIDENCE ROAD)
0.37	0.37	INTERSECTION	R	ROUTE 0400 (WATCHMAN HOUSING COMPLEX ROAD)

ZION: Route Milepost Log

ROUTE 0208: EAST RIM TRAIL ACCESS

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.00	0.00	INTERSECTION	R	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.08	0.08	INTERSECTION	N/A	ROUTE 0914 (EAST RIM TRAIL HEAD PARKING)

ZION: Route Milepost Log

ROUTE 0400: WATCHMAN HOUSING COMPLEX ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0401 (WATCHMAN RESIDENCE ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0401 (WATCHMAN RESIDENCE ROAD)
0.18	0.18	INTERSECTION	N/A	ROUTE 0401 (WATCHMAN RESIDENCE ROAD)
0.18	0.18	INTERSECTION	L	ROUTE 0207 (WATCHMAN TRAIL ROAD)

ZION: Route Milepost Log

ROUTE 0401: WATCHMAN RESIDENCE ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0403 (OAK CREEK HEADQUARTERS ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0403 (OAK CREEK HEADQUARTERS ROAD)
0.07	0.07	OVERPASS	N/A	1590-003 (OAK CREEK BRIDGE)
0.08	0.08	INTERSECTION	L	UNPAVED PARKING
0.24	0.26	BRIDGE	N/A	1590-002 (WATCHMAN RESIDENCE BRIDGE)
0.27	0.27	INTERSECTION	L	ROUTE 0910 (WATCHMAN ADMINISTRATOR (HELIPAD) PARKING)
0.29	0.29	INTERSECTION	L	ROUTE 0910 (WATCHMAN ADMINISTRATOR (HELIPAD) PARKING)
0.33	0.33	INTERSECTION	L	ROUTE 0400 (WATCHMAN HOUSING COMPLEX ROAD)
0.48	0.48	INTERSECTION	R	ROUTE 0207 (WATCHMAN TRAIL ROAD)
0.48	0.48	INTERSECTION	N/A	ROUTE 0400 (WATCHMAN HOUSING COMPLEX ROAD)

ZION: Route Milepost Log

ROUTE 0402: MAINTENANCE ACCESS ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.00	0.00	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.02	0.02	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY)) SPUR
0.04	0.04	INTERSECTION	R	ROUTE 0403 (OAK CREEK HEADQUARTERS ROAD)
0.08	0.08	INTERSECTION	R	ROUTE 0940 (E.O.C. PARKING AREA)
0.30	0.30	INTERSECTION	R	ROUTE 0407 (OAK CREEK RESIDENCE ROAD)
0.53	0.53	INTERSECTION	L	ROUTE 0909A (NORTH MAINTENANCE AREA PARKING A)
0.54	0.54	INTERSECTION	R	ROUTE 0909B (OAK CREEK MAINTENANCE OVERFLOW PARKING B)
0.57	0.57	INTERSECTION	N/A	ROUTE 0909C (OAK CREEK MAINTENANCE YARD)

ZION: Route Milepost Log

ROUTE 0403: OAK CREEK HEADQUARTERS ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0402 (MAINTENANCE ACCESS ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0402 (MAINTENANCE ACCESS ROAD)
0.02	0.02	INTERSECTION	L	ROUTE 0940 (E.O.C. PARKING AREA)
0.05	0.05	INTERSECTION	L	ROUTE 0941 (HEADQUARTERS WATCHMAN JUNCTION PARKING)
0.05	0.05	INTERSECTION	R	ROUTE 0401 (MAINTENANCE ACCESS ROAD)
0.07	0.08	BRIDGE	N/A	1590-010 (OAK CREEK SERVICE BRIDGE)
0.08	0.08	INTERSECTION	N/A	ROUTE 0908 (ADMINISTRATION PARKING)

ZION: Route Milepost Log

ROUTE 0404: PINE CREEK RESIDENTIAL ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.00	0.00	INTERSECTION	L	ROUTE 0010 (SOUTH TO EAST ENTRANCE (ZION-MT CARMEL HIGHWAY))
0.07	0.07	INTERSECTION	N/A	DEAD END (DRIVEWAY)

ZION: Route Milepost Log

ROUTE 0407: OAK CREEK RESIDENCE ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0402 (MAINTENANCE ACCESS ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0402 (MAINTENANCE ACCESS ROAD)
0.08	0.08	INTERSECTION	R	ROUTE 0408 (OAK CREEK RESIDENCE SPUR ROAD)
0.23	0.23	INTERSECTION	N/A	DEAD END (DRIVEWAY)

ZION: Route Milepost Log

ROUTE 0408: OAK CREEK RESIDENCE SPUR ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	N/A	ROUTE 0407 (OAK CREEK RESIDENCE ROAD)
0.00	0.00	INTERSECTION	R	ROUTE 0407 (OAK CREEK RESIDENCE ROAD)
0.03	0.03	INTERSECTION	R	ROUTE 0946CZ (OAK CREEK DORM STREET PARKING C)
0.04	0.04	INTERSECTION	R	ROUTE 0946BZ (OAK CREEK DORM STREET PARKING B)
0.17	0.17	INTERSECTION	R	ROUTE 0946AZ (OAK CREEK DORM STREET PARKING A)
0.18	0.18	INTERSECTION	N/A	DEAD END (PROPANE TANK)

ZION: Route Milepost Log

ROUTE 0409: HORSE CORRAL ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0011 (ZION CANYON SCENIC DRIVE)
0.00	0.00	INTERSECTION	N/A	ROUTE 0915 (COURT OF THE PATRIARCHS PARKING)
0.00	0.00	INTERSECTION	L	ROUTE 0011 (ZION CANYON SCENIC DRIVE)
0.01	0.01	INTERSECTION	R	ROUTE 0011 (ZION CANYON SCENIC DRIVE) SPUR
0.07	0.07	INTERSECTION	L	UNPAVED PARKING
0.15	0.15	INTERSECTION	N/A	DEAD END (HORSE CORRAL)

ZION: Route Milepost Log

ROUTE 0410: KOLOB SERVICE ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	R	ROUTE 0013 (KOLOB CANYON ROAD)
0.00	0.00	INTERSECTION	L	ROUTE 0013 (KOLOB CANYON ROAD)
0.38	0.38	INTERSECTION	R	ROUTE 0938 (KOLOB CANYON MAINTENANCE PARKING)
0.43	0.43	INTERSECTION	R	ROUTE 0411 (KOLOB RESIDENCE ROAD)
0.44	0.44	INTERSECTION	R	ROUTE 0411 (KOLOB RESIDENCE ROAD)
0.45	0.45	INTERSECTION	N/A	UNPAVED ROUTE

ZION: Route Milepost Log

ROUTE 0412: CONCESSIONAIRE / DORM ACCESS ROAD

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

FROM MILEPOST	TO MILEPOST	FEATURE	SIDE	COMMENT
0.00	0.00	INTERSECTION	L	ROUTE 0011 (ZION CANYON SCENIC DRIVE)
0.00	0.00	INTERSECTION	R	ROUTE 0011 (ZION CANYON SCENIC DRIVE)
0.06	0.06	INTERSECTION	L	ROUTE 0917 (ZION LODGE CABIN PARKING)
0.08	0.08	INTERSECTION	R	ROUTE 0931A (CONCESSIONAIRE / DORM PARKING A)
0.15	0.15	INTERSECTION	R	ROUTE 0931B (CONCESSIONAIRE / DORM PARKING B)
0.19	0.19	INTERSECTION	R	ROUTE 0931C (CONCESSIONAIRE / DORM PARKING C)
0.22	0.22	INTERSECTION	R	ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD)
0.35	0.35	INTERSECTION	R	ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD)
0.35	0.35	INTERSECTION	L	ROUTE 0412 (CONCESSIONAIRE / DORM ACCESS ROAD)

Section 8
Appendix

Zion National Park

Federal Lands Highway
Road Inventory Program

Improvements to the RIP Index Equations and Determination of PCR

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

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

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

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

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

Description of the Rating System

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

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

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

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

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

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

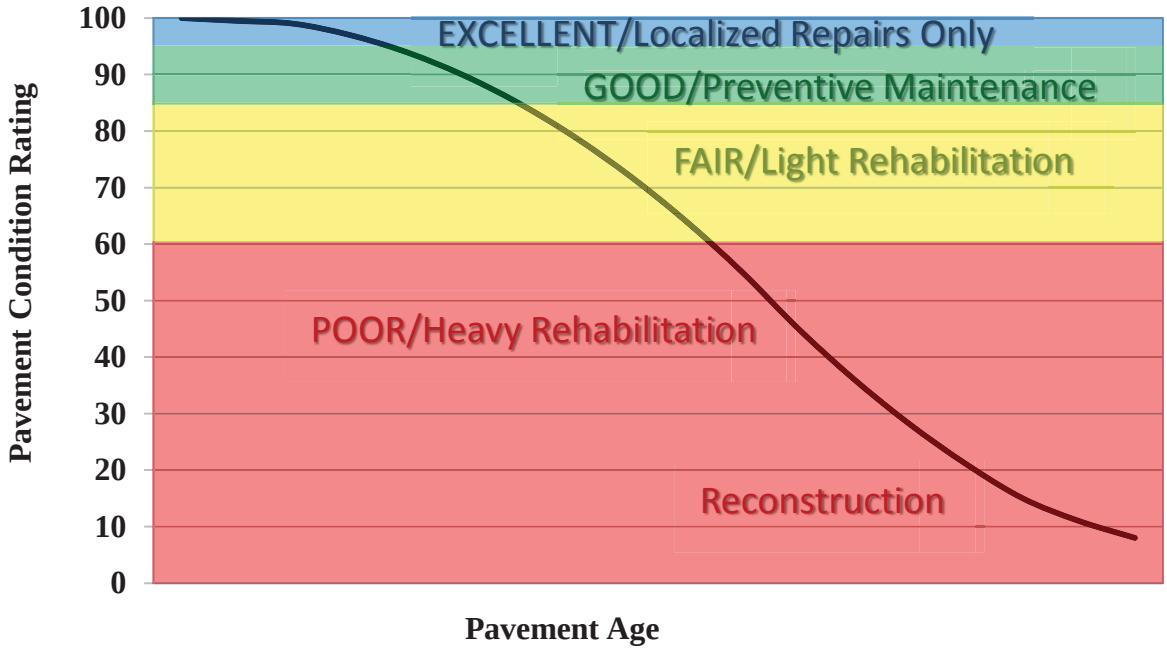
Explanation of the Condition Descriptions

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

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

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

Condition Categories and Treatments



Description of Pavement Treatment Types

1. **Preventive Maintenance** is a planned strategy of cost-effective treatments to an existing roadway system and its appurtenances that preserves the system, retards future deterioration, and maintains or improves the functional condition of the system (without significantly increasing the structural capacity). Preventive maintenance is typically applied to pavements in good condition having significant remaining service life. As a major component of pavement preservation, preventive maintenance is a strategy of extending the service life by applying cost-effective treatments to the surface or near-surface of structurally sound pavements. Examples of preventive treatments include asphalt crack sealing, chip sealing, slurry or micro-surfacing, thin and ultra-thin hot-mix asphalt overlay, concrete joint sealing, diamond grinding, dowel-bar retrofit, and isolated, partial and/or full-depth concrete repairs to restore functionality of individual slabs.

2. Pavement Rehabilitation consists of structural enhancements that extend the service life of an existing pavement and/or improve its load carrying capacity. Rehabilitation techniques include restoration treatments and structural overlays. Rehabilitation projects extend the life of existing pavement structures either by restoring existing structural capacity through the elimination of age-related, environmental cracking of embrittled pavement surface or by increasing pavement thickness to strengthen existing pavement sections to accommodate existing or projected traffic loading conditions. Two sub-categories result from these distinctions, which are directly related to the restoration or increase of structural capacity.

    - **Light Rehabilitation (L3R)** - Examples include single-lift overlays up to 2.5 inches in total thickness and milling and overlays for flexible pavements

    - **Heavy Rehabilitation (H3R)** – Requires rehabilitation with grade improvement. H3R stands for resurfacing, restoration, and rehabilitation projects. H3R projects typically involve multi-depth (overlays greater than 2.5 inches) pavement improvement work (short of full-depth replacement) and targeted safety improvements. H3R projects generally involve retention of the existing three-dimensional alignment.

3. **Reconstruction (4R)** is defined as the replacement of the entire existing pavement structure by the placement of the equivalent or increased pavement structure. Reconstruction usually requires the complete removal and replacement of the existing pavement structure. Reconstruction may utilize either new or recycled materials incorporated into the materials used for the reconstruction of the complete pavement section. Reconstruction is required when a pavement has either failed or has become functionally obsolete.

Appendix A

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

Surface Distresses Identified by the Data Collection Vehicle

Surface Condition Rating – SCR

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

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

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

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

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

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

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

Roughness Condition Index - RCI

Additional condition data measured by DCV (lasers and accelerometers)

- Roughness (IRI)

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

Pavement Condition Rating - PCR

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

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

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

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

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

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

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

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

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

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

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

Table 1. Distress summary

Alligator Cracking

Description:

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

Severity Levels:

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

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

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

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

ALLIGATOR CRACKING SEVERITY LEVELS				
	CRACK SEVERITY	**CRACK PATTERN**		
		LOW	**MED**	**HIGH**
CRACK WIDTH	LOW	LOW	MED	HIGH
	MED	MED	MED	HIGH
	HIGH	HIGH	HIGH	HIGH

Table 2. Alligator Crack Severity Levels

Longitudinal Cracking

Description:

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

Severity Levels:

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

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

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

Transverse Cracking

Description:

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

Severity Levels:

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

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

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

Patching and Potholes

Description:

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

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

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

Speed bumps should not be rated as patches

Severity Levels:

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

RUTTING

Description:

Rutting is a longitudinal surface depression in the wheelpath.

Severity Levels:

LOW

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

MEDIUM

Ruts with a measured depth of 0.50 inches to 0.99 inches

HIGH

Ruts with a measured depth greater than 1.00 inch

ROUGHNESS

Description:

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

Severity Levels:

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

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

Table 3. International Roughness Index

Roughness Collection Parameters

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

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

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

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

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

Index Formulas

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

Alligator Crack Index

AC_INDEX = 100 – 40 * [(%LOW / 35) + (%MED / 15) + (%HI / 5)]

Where:

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

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

Percent of total area is computed as:

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

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

Longitudinal Crack Index

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

Where:

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

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

Percent of interval length is computed as:

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

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

Structural Crack Index

SC_INDEX = [100 - ((100 - AC_INDEX) + (100 - LC_INDEX))]

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

Transverse Crack Index

TC_INDEX = 100 – 40 * [(LOW / 21.1) + (MED / 4.4) + (HI / 2.6)]

Where:

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

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

Number of cracks is computed as:

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

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

Patching Index

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

Where:

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

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

Percent of total area is computed as:

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

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

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

Rutting Index

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

Where:

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

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

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

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

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

Roughness Condition Index (Asphalt)

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

Where:

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

Average IRI is computed as:

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

There is no applicable threshold for failure for this index.

Roughness Condition Index (Concrete)

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

For concrete, PCR = RCI

Surface Condition Rating Index

SCR = Lowest Index Value Of: [SC_INDEX, TC_INDEX, PATCH_INDEX, RUT_INDEX]

Note: *The modified SCR equation above combines AC_INDEX and LC_INDEX, and considers that a single AC/LC index value of the Structural Crack Index (SC_INDEX). The lowest of the four computed index values (SC_INDEX, TC_INDEX, PATCH_INDEX, or RUT_INDEX) becomes the SCR.*

Where:

See above for determinations of SC_INDEX, TC_INDEX, PATCH_INDEX and RUT_INDEX.

The threshold for failure for this index is SCR = 60.Data Collection Vehicle Subsystems

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

Cameras

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

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

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

Pavement Imaging and Rutting

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

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

Distance Measuring Instrument (DMI)

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

Roughness (IRI)

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

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

GPS & Inertial Systems

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

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

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

Appendix B

Methodology for Determining Condition Ratings Using Manual Rating Procedures

Description of Manual Rating Methods

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

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

- The first of the two manual evaluation methods for roads uses rating criteria to assign index values to each distress type based on a visual evaluation of severity and extent.

- The second manual evaluation method for roads is very time demanding and is best employed on only a select set of routes which may have the highest visitor use and require a more intensive assessment. This method will be used for the Manual Rating of Function Class 1, 2, 7, and 8 Roads. This method is based on measurements that are recorded for each instance of a surface distress. These measurements are converted into index values using conversion formulas.

- Parking areas and non-linear roads are rated similar to the first method shown above, however, there are some slight differences due to the non-linear nature.

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

Visual Inspection Method for Manually Rating Secondary Roads

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

Rating Section Lengths

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

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

Rating Criteria

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

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

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

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

Distress Measurement Method for Manually Rating Primary Roads

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

Rating Section Lengths

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

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

Manual Distress Measurements

Alligator Cracking

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

Longitudinal Cracking

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

Transverse Cracking

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

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

Patching and Potholes

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

Rutting

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

Roughness

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

Index Formulas for Distress Measurement Method:

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

Alligator Crack Index for Manual Rating:

AC_INDEX = 100 – 40 * (%ALLIGATOR / 15)

Where:

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

Longitudinal Crack Index for Manual Rating:

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

Where:

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

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

Transverse Crack Index for Manual Rating:

TC_INDEX = (100 – 40) * [(LOW / 21.1) + (MED / 4.4)]

Where:

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

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

Number of cracks is computed as:

Total length of transverse cracks/Lane width

Patching Index for Manual Rating:

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

Where:

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

Rutting Index for Manual Rating:

RUT_INDEX = 100 – 40 * (%RUTTING / 40)

Where:

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

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

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

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

Rating Criteria:

Asphalt Parking Distress Types

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

Concrete Parking Distress Types

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

Curb Inspection and Treatments

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

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

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

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

GPS for Manually Rated Roads and Parking

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

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

Appendix C

Description of Cycle 6 Deliverables

Interim Report Delivery

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

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

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

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

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

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

Final Report Delivery

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

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

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

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

Partial DCV Collections

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

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

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

Appendix D

Glossary of Terms and Abbreviations

Glossary of Terms and Abbreviations

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