

# Moab City Roadway Evaluation & Facilities Plan



January 2020

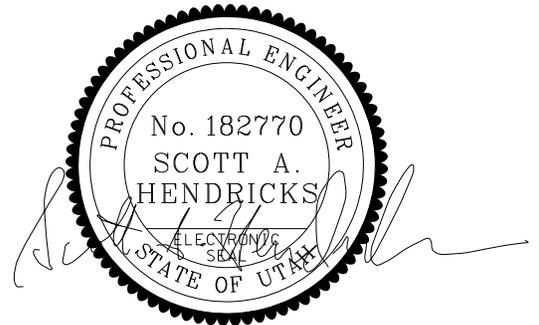


# Moab City Roadway Evaluation and Facilities Plan

Moab, Utah

*Prepared for:  
Moab City*

*January, 2020*



RB&G ENGINEERING, INC.

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## **EXECUTIVE SUMMARY**

### **Background**

Moab City has contracted with RB&G Engineering, Inc. to prepare an updated pavement condition evaluation for all streets within the jurisdiction of the City, and to prepare estimated costs for use in future planning and prioritizing improvements. The Report is intended to provide City staff with valuable information that can be used in preparing future budget requests and prioritizing future preservation and rehabilitation. As part of the update, RB&G reviewed the initial evaluation of pavement condition performed by Terracon Consultants under contract with Horrock's Engineers in 2014.

The goals of this evaluation and report are to provide an updated pavement condition evaluation for all noted streets, and also to document the existence and condition of curb and gutter and sidewalk along the streets. Using the information gathered, concept level cost estimates were prepared for the needed improvement and maintenance costs. With pavement condition and cost information determined, potential projects for five and 10-year capital improvement plans can be prioritized.

The purpose of the capital improvement plan is to create a tool for long-range budgetary projections. The five-year plan would be updated each year by City staff to remove projects that have been completed and to include additional projects based upon pressing development or other needs of the City. In general, the first year of the plan is fairly set in stone; the second and third years are relatively firm, but flexible; and the fourth and fifth years are fluid and can change based upon needs of the City. In the course of the update, priorities may change and projects may advance or move down in priority based upon the assessed condition of the facility or the demand of development pressures. The ten-year plan is a long range look at potential projects being considered for future years.

### **Pavement Evaluation**

This pavement condition evaluation reviewed the results of the study performed in 2014 by Terracon prior to conducting new field observations. Field observations to evaluate pavement condition, and the presence and condition of existing curb and gutter and sidewalk were performed August 12 through August 15, 2019. Field observations were reported on the Asphalt Pavement Distress Survey evaluation forms using the PASER (Pavement Surface Evaluation and Rating) methodology. 131 individual segments comprising the public roadways within the City limits were evaluated, which excluded State and County owned / maintained roadways.

Pavements with PASER ratings of 7 or better, (10 is considered excellent), are generally in good condition and should require only annual inspections and periodic routine maintenance (crack seal). Pavements with PASER condition ratings of 4 to 6 are generally still structurally sufficient, but will likely require more extensive treatments (chip seal, thin overlay, etc.) to address surface deterioration and to minimize moisture infiltration. It is noted that pavements with a PASER condition of 4 are showing early signs of structural deficiency, but may not yet

warrant extensive structural rehabilitation. Pavements with PASER ratings of 3 or less are approaching the end of their service life, and will require more extensive rehabilitation treatments such as milling and structural overlays (3 inches or greater) or complete reconstruction.

The table below summarizes observed conditions of arterial, collector, and local / residential roadways by the number of segments and, number of lane miles.

Roadway Condition/ PASER Rating	Very Good to Excellent	Fair to Good	Failed to Poor
	7-10	4-6	1-3
No. of Segments	29	74	28
Arterial (Lane Miles <sup>1</sup> )	6.29	8.12	1.66
Collector (Lane Miles <sup>1</sup> )	11.46	4.76	7.85
Local (Lane Miles <sup>1</sup> )	5.97	36.16	12.91
Total (Lane Miles <sup>1</sup> )	23.65	49.05	22.43

(1) Lane Miles. Lane Mile computed as follows: (Roadway Width in feet /12) X Segment Length

Figure 3 in the report shows the segments evaluated, and the PASER rating for each segment. Figure 4 shows the priority rating for each roadway segment evaluated based on the roadway classification, observed condition, and general cost / benefit achieved by performing the recommended rehabilitation.

To address all roadways within the City having PASER ratings of 3 or less would have an estimated 2019 cost of about \$7,000,000. To address only arterial and collector roadways with PASER ratings of 3 or less would have an estimated 2019 cost of about \$4,100,000. The total cost to rehabilitate all of the roadways with a PASER rating of 8 or less would have an estimated 2019 total cost of about \$8,700,000. Estimated costs to rehabilitate or reconstruct (as applicable) each roadway segment evaluated are shown in Tables 6-A through 6-C.

It is most cost effective to prioritize the maintenance and rehabilitation of roadways with PASER ratings of 5 or 6 to extend their life rather than delaying or deferring maintenance and rehabilitation until the PASER rating falls below 3 or 4, which will require much more costly and extensive work, including complete reconstruction in some cases. Recognizing capital improvement budgets are limited, priority should be given to preserving arterial and collector roadways that are still in good condition over reconstructing lower classifications of roadways that are already near the end of their service life.

A Capital Improvement Schedule with an anticipated annual budget of approximately \$1,000,000 was prepared, and is shown in Table 8. This schedule prioritizes arterial and collector roadways for capital improvement planning as described above.

# Moab City Roadway Evaluation and Facilities Plan

## 1.0 INTRODUCTION

The City of Moab has an estimated 29 miles of municipal streets within its boundaries. The majority of these streets are constructed of asphalt pavement. Figure 1 shows the current Moab City roadway network and identifies the classification of each road within the network. The City has contracted with RB&G Engineering, Inc. to prepare an updated pavement condition evaluation for all streets within the jurisdiction of the City, and to prepare estimated costs for use in future planning and prioritizing improvements. This report is intended to provide City staff with valuable information that can be used in preparing future budget requests and prioritizing future preservation and rehabilitation. Included in the scope of this updated evaluation is a review of the initial evaluation of pavement condition prepared by Terracon Consultants under contract with Horrock's Engineers in October, 2014.

### Objective

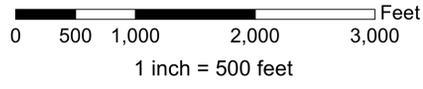
The goals of this evaluation are as follows:

- Perform an updated condition evaluation for all streets within the jurisdiction of the City of Moab. The evaluation will also consider pavement condition and the condition/existence of curb, gutter and sidewalk along the street.
- Identify preliminary/concept level costs for needed improvement/maintenance projects.
- Prioritize potential projects within a five-year and 10-year capital improvement plan.

The purpose of the capital improvement plan is to create a tool for long-range budgetary projections. The five-year plan would be updated each year by City staff to remove projects that have been completed and to include additional projects based upon pressing development or other needs of the City. In general, the first year of the plan is fairly set in stone; the second and third years are relatively firm, but flexible; and the fourth and fifth years are fluid and can change based upon needs of the City. In the course of the update, priorities may change and projects may advance or move down in priority based upon the assessed condition of the facility or the demand of development pressures. The ten-year plan is a long range look at potential projects being considered for future years, but is not broken down by specific year.

# Moab City Roads

July 9, 2019



**Legend**

- City Roads
- City Limits
- County Island

**Road Surface**

- Unpaved Road

**Classification**

- Principal Arterial
- Minor Arterial
- Minor Collector
- Major Collector

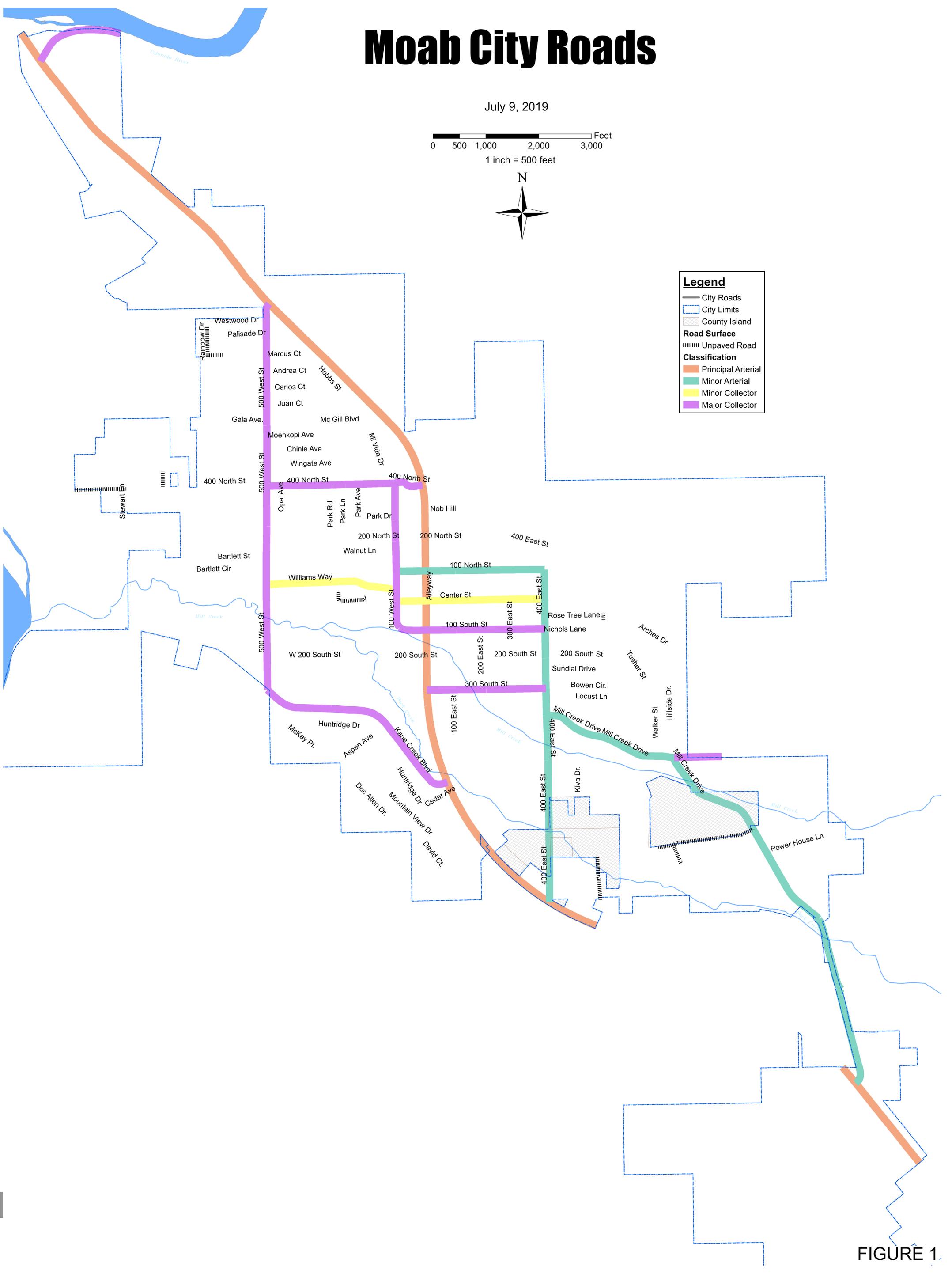


FIGURE 1.

## **2.0 PAVEMENT DETERIORATION AND AGING**

Asphalt pavement is, in general, a very durable and resilient product. This is evident as it is a building product of choice by many municipalities and highway agencies. However, like all products, it is subject to deterioration over time from the effects of man and nature. The typical causes of pavement deterioration include traffic loading, environmental and climate conditions such as temperature change, drainage deficiencies and water intrusion, the quality of construction materials and utility cuts. A pavement structure begins to deteriorate from the time of construction.

As pavements age and experience traffic repetitions, the surface becomes oxidized, brittle and distresses begin to become more evident. It is not uncommon for asphalt to begin to crack within 3 to 5 years of construction. Cracks that begin to develop allow water to enter the pavement structure, which further accelerates the deterioration process. The common types of pavement distresses include cracking, distortion; disintegration, skidding hazards and surface distresses. As pavements exhibit distress, ride quality and safety are affected.

However, as Pavement preservation includes activities and long-term strategies that enhance pavement performance, extend pavement life, improve safety and meet user expectations.

## **3.0 EVALUATION PROCEDURE**

A site reconnaissance was completed for all streets (approximately 29 miles) under the jurisdiction of the City of Moab. The roadway network was divided into representative management segments corresponding to those of the 2014 study for comparison and consistency. The reconnaissance included an initial identification of distressed areas and an evaluation of types of distress encountered and the approximate severity of the distress.

The pavement condition in each representative segment was evaluated and rated using the PASER (Pavement Surface Evaluation and Rating) system developed by the University of Wisconsin-Madison Transportation Information Center (UWMTIC) with support from the Federal Highway Administration (FHWA). PASER uses a visual inspection to evaluate pavement conditions. It is a simplified method of evaluation that can easily be updated periodically by City personnel. A condition rating from 1 to 10 is assigned to each management segment, with 1 representing a failed pavement and 10 representing a new pavement. Guidance for using the PASER methodology is found in the Asphalt PASER Manual, published by the UWMTIC.<sup>(1)</sup> The table on the following page describes the PASER rating system from the Manual.

Surface condition is often the most vital element in any pavement management system. The PASER rating, combined with other inventory data such as width, length, shoulders, pavement type, etc., can be very useful in development of pavement rehabilitation and maintenance strategies and planning budgets and priorities.

Types of distress that are normally evident in bituminous pavements include: *fatigue cracking, block cracking, edge cracking, longitudinal cracking, transverse cracking, potholes, rutting, shoving, bleeding, raveling, polished aggregates, lane to shoulder dropoff and water bleeding and pumping*. Following is a brief discussion of the various types of pavement distress and general rehabilitation strategies to address the distress.

**Alligator / Fatigue cracking** is usually the result of inadequate structural support for the pavement section, but can also be the result of weathering / environmental degradation. Fatigue cracking generally requires full depth reconstruction. Alligator cracking typically results in polygon (roughly pentagonal or hexagonal) shaped pieces bounded by intersecting cracks. If the area is localized and isolated within a pavement segment, it can be addressed as a spot repair.

**Block cracking** is usually the result of shrinkage of the asphalt layer, and can be minimized during initial construction by selecting the appropriate asphalt binder and mix design. Once block cracking begins to form (generally at 10 to 20 foot intervals) the cracks should be sealed to reduce moisture infiltration which can accelerate pavement deterioration. As block cracking progresses the interval between cracks will shorten to 5 to 10 feet but remain roughly rectangular, and a seal coat / micro surface should be placed in addition to crack sealing. Eventually block cracking will progress to the point where the blocks are one foot or smaller, and a mill and fill or reconstruction will be required.

**Longitudinal cracking** results from inadequate compaction or bonding along longitudinal joints, or tension cracking associated with adjacent rutting in the wheel path. Longitudinal cracks should be crack sealed to reduce moisture infiltration which can accelerate pavement deterioration. If longitudinal cracks are related to adjacent rutting, a structural overlay may also be needed.

**Transverse cracking** results from expansion and contraction of the asphalt mat. Once transverse cracking begins to form and open (40 foot or greater intervals) the cracks should be sealed to reduce moisture infiltration which can accelerate pavement deterioration. Over time, the cracks will become more closely spaced, and a seal coat / micro surface should be placed in addition to crack sealing.

**Potholes and pavement patches** can result from any number of factors or combination of factors noted above should be identified and repaired regularly as part of routine maintenance operations. Particular attention should be paid to addressing the cause of potholes any time a resurfacing (micro surface, seal coat, or mill and fill) is planned for a roadway segment.

**Rutting and shoving** is the result of asphalt deformation due to traffic loading, and can result from selecting the wrong asphalt binder and/or mix design for the traffic loads being experienced. Rutting and shoving can be addressed with milling and/or lane leveling combined with a structural overlay.

**Raveling** can result from environmental weathering of the asphalt layer (asphalt stripping, UV exposure, freeze thaw), inadequate compaction, or placement during cold weather.

**Figure 2**  
**PASER Rating System**  
**(From Asphalt Roads PASER Manual)**

Surface Rating	Visible Distress	General Condition/ Treatment Measures
<b>10 Excellent</b>	None.	New Construction
<b>9 Excellent</b>	None.	Recent overlay. Like new.
<b>8 Very Good</b>	No longitudinal cracks except reflection of paving joints. Occasional transverse cracks, widely spaced (40' or greater). All cracks sealed or tight (open less than 1/4").	Recent sealcoat or new cold mix. Little or no maintenance required.
<b>7 Good</b>	Very slight or no raveling, surface shows some traffic wear. Longitudinal cracks (open 1/4") due to reflection or paving joints. Transverse cracks (open 1/4") spaced 10' or more apart, little or slight crack raveling. No patching or very few patches in excellent condition.	First signs of aging. Maintain with routine crack filling.
<b>6 Good</b>	Slight raveling (loss of fines) and traffic wear. Longitudinal cracks (open 1/4"-1/2"), some spaced less than 10'. First sign of block cracking. Slight to moderate flushing or polishing. Occasional patching in good condition.	Shows signs of aging. Sound structural condition. Could extend life with sealcoat.
<b>5 Fair</b>	Moderate to severe raveling (loss of fine and coarse aggregate). Longitudinal and transverse cracks (open 1/2") show first signs of slight raveling and secondary cracks. First signs of longitudinal cracks near pavement edge. Block cracking up to 50% of surface. Extensive to severe flushing or polishing. Some patching or edge wedging in good condition.	Surface aging. Sound structural condition. Needs sealcoat or thin non-structural overlay (less than 2").
<b>4 Fair</b>	Severe surface raveling. Multiple longitudinal and transverse cracking with slight raveling. Longitudinal cracking in wheel path. Block cracking (over 50% of surface). Patching in fair condition. Slight rutting or distortions (1/2" deep or less).	Significant aging and first signs of need for strengthening. Would benefit from a structural overlay (2" or more).
<b>3 Poor</b>	Closely spaced longitudinal and transverse cracks often showing raveling and crack erosion. Severe block cracking (less than 25% of surface). Patches in fair to poor condition. Moderate rutting or distortion (1" or 2" deep). Occasional potholes.	Needs patching and repair prior to major overlay. Milling and removal of deterioration extends the life of overlay.
<b>2 Very Poor</b>	Alligator cracking (over 25% of surface). Severe distortions (over 2" deep). Extensive patching in poor condition. Potholes	Severe deterioration. Needs reconstruction with extensive base repair. Pulverization of old pavement is effective.
<b>1 Failed</b>	Severe distress with extensive loss of surface integrity.	Failed. Needs total reconstruction.

\* Individual pavements will not have all of the types of distress listed for any particular rating. They may have only one or two types.

**Polishing** results from physical wearing of the pavement surface due to traffic, and can be more common in areas where softer aggregates are used in the asphalt mix. Both raveling and polishing can be addressed with a micro surface or thin overlay / mill and fill to restore the surface integrity and skid resistance.

#### 4.0 PAVEMENT EVALUATION RESULTS

A total of 131 roadway segments were evaluated and considered in the pavement evaluation process. The pavement evaluation considered the established classification of each roadway; the Average Daily Traffic (ADT) for the segment, if available; the length, width, total area of the segment, number of lane miles and types of distress and severity. Results of the evaluation were summarized on pavement evaluation forms prepared for this project and are included in Appendix A. In each case, a similar evaluation was made of curb and gutter and sidewalk. Locations where those features do not exist were also noted.

The data from the pavement evaluation is summarized on Table 1. Also included in the table are the applicable 2014 PASER evaluation ratings from the Terracon investigation for comparison. A summary of the evaluation by roadway classification is presented in Table 2.

**Table 2**  
**Moab 2019 Pavement Evaluation**  
**Summary of Pavement Condition by Roadway Classification**

Roadway Condition/ PASER Rating	Excellent		Very Good	Good		Fair		Poor	Very Poor	Failed
	10	9	8	7	6	5	4	3	2	1
No. of Segments	2	7	11	9	35	33	6	7	14	7
Arterial (Lane Miles <sup>1</sup> )	1.99	0	2.12	2.18	5.11	3.01	0	1.66	0	0
Collector (Lane Miles <sup>1</sup> )	1.70	0.36	8.83	0.56	1.22	3.54	0	0	2.47	5.38
Local (Lane Miles <sup>1</sup> )	-	1.80	0.87	3.23	15.81	15.39	4.96	4.98	5.41	2.53
Total (Lane Miles <sup>1</sup> )	3.69	2.17	11.82	5.98	22.15	21.94	4.96	6.64	7.88	7.90

(1) Lane Miles. Lane Mile computed as follows: (Roadway Width in feet /12) X Segment Length

It will be observed that, of the 95.13 lane miles of roadways in the City, approximately 19% of the lane miles rate in the Excellent to Very Good category, 30% rate as Good, 28% as Fair, 15% as Poor to Very Poor and 8% as Failed. The majority of roads rated as Fair, Poor and Very Poor are low volume, local roads that can be improved with overlays and maintenance efforts.

**TABLE 1  
MOAB 2019 PAVEMENT EVALUATION  
SUMMARY OF PAVEMENT CONDITION ASSESSMENT**

Road Segment	Classification	ADT	2014 PASER Condition	2019 PASER Condition	Length	Avg. Width (ft.)	Area (sq. ft.)	Lane Miles*	Curb, Gutter & Sidewalk	Curb, Gutter & Sidewalk Condition
Millcreek Dr (400 East to Sandflats)	Minor Arterial	5668	7	6	2650	40	11778	1.67	CG/S	10
400 East (300 South to Kiva Dr)	Minor Arterial	4136		6	2740	50	15222	2.16	CG/S	10
400 East (Kiva Dr to Main Street)	Minor Arterial	3889	4	3	2340	45	11700	1.66	CG/S	5
Millcreek Dr (South Murphy to Lasal Road)	Minor Arterial	3655		7	3450	40	15333	2.18	No CG/No S	-
Millcreek Dr (Lasal Road to Sandflats)	Minor Arterial	3316	7	6	725	35	2819	0.40	CG/S	10
100 North (Main St to 400 East)	Minor Arterial	3080		8	2240	60	14933	2.12	CG/S	10
100 North (100 West to Main St)	Minor Arterial	2327		5	485	70	3772	0.54	CG/S	3
400 East (100 North to 300 South)	Minor Arterial	2221	4	5	2240	70	17422	2.47	CG/S	10
Millcreek Dr (South Murphy to Spanish Valley Dr)	Minor Arterial	2117	7	6	1390	40	6178	0.88	No CG/No S	-
Millcreek Dr (Main St to Spanish Valley Dr)	Minor Arterial	836		10	1800	70	14000	1.99	CG/No S	10
100 West (400 North to Walnut Lane)	Major Collector	5441	3	1	1350	75	11250	1.60	CG/S	10
100 West (Walnut Lane to Main Street)	Major Collector	5441		10	1800	60	12000	1.70	CG/S	10
300 South (Main St to 400 East)	Major Collector	5118	5	8	2170	60	14467	2.05	CG/S	10
Kane Creek Blvd (Moab Maint. Station to Main St)	Major Collector	5011		1	3420	70	26600	3.78	CG/S	10
Kane Creek Blvd (500 West to Moab Maint. Station)	Major Collector	5011		9	575	40	2556	0.36	CG/S	10
500 West (400 North to Williams Way)	Major Collector	3982	8	8	1920	45	9600	1.36	CG/S	10
500 West (Byrd Ave to 400 North)	Major Collector	3954	8	8	1915	40	8511	1.21	CG/S	7
500 West (Williams Way to Kane Creek Blvd)	Major Collector	3193	2	8	1940	30	6467	0.92	CG/S	10
Sandflats	Major Collector	2865		5	795	25	2208	0.31	No CG/No S	-
500 West (Main Street to Byrd Ave)	Major Collector	2678	8	8	1560	40	6933	0.98	CG/S	7
400 North (500 West to Main Street)	Major Collector	2644	4	5	2920	70	22711	3.23	CG/S	10
100 South (Main St to 400 East)	Major Collector	2168	4	2	2230	60	14867	2.11	CG/S	5
Center Street (300 East to 400 East)	Minor Collector	-	7	7	550	65	3972	0.56	CG/S	10
Center Street (Main Street to 200 East)	Minor Collector	2780		6	1105	70	8594	1.22	CG/S	10
Williams Way	Minor Collector	2268	7	8	2420	45	12100	1.72	CG/S	10
Center Street (200 East to 300 East)	Minor Collector	1720	7	8	525	70	4083	0.58	CG/S	7
Center Street (100 West to Main St)	Minor Collector	1271	3	2	460	50	2556	0.36	CG/S	10
100 East (300 South to Uranium)	Local Road	2081		1	915	35	3558	0.51	CG/S	7
Uranium	Local Road	1649		6	450	35	1750	0.25	CG/S	10
400 North (End to 500 West)	Local Road	1625	5	5	1715	45	8575	1.22	CG/S	5
South Mivida Dr	Local Road	1302		6	1132	40	5031	0.71	CG/S	10
Grand Ave	Local Road	1107		6	515	50	2861	0.41	CG/S	10
Locust Lane (400 East to Tusher)	Local Road	948		5	1955	40	8689	1.23	CG/S	10
200 North (100 West to Main St)	Local Road	885		3	480	60	3200	0.45	CG/S	1
Walnut Lane	Local Road	710		4	1310	30	4367	0.62	Little CG/No S	10
Park Dr (End to 100 West)	Local Road	400		5	1240	45	6200	0.88	CG/No S	7
Powerhouse Lane	Local Road	400		9	1160	30	3867	0.55	No CG/No S	-
Aspen Ave (Huntridge Dr to Kane Creek Blvd)	Local Road	386		2	335	45	1675	0.24	CG/S	10
North Mivida Dr	Local Road	382		2	460	30	1533	0.22	Half CG/ Half S	10
Hospital Road	Local Road	233		8	1480	20	3289	0.47	CG/S	10
Crestview Dr	Local Road	77		1	800	35	3111	0.44	Half CG/ Half S	10
Center Street (End to 100 West)	Local Road	-	2	1	530	25	1472	0.21	No CG/No S	-
200 North (Main St to End)	Local Road	-		1	1050	55	6417	0.91	CG/S	5
W 200 South St	Local Road	-		1	1450	20	3222	0.46	No CG/No S	-
200 South (100 West to Main St)	Local Road	-		2	740	75	6167	0.88	CG/S	10

**TABLE 1**  
**MOAB 2019 PAVEMENT EVALUATION**  
**SUMMARY OF PAVEMENT CONDITION ASSESSMENT**

Road Segment	Classification	ADT	2014 PASER Condition	2019 PASER Condition	Length	Avg. Width (ft.)	Area (sq. ft.)	Lane Miles*	Curb, Gutter & Sidewalk	Curb, Gutter & Sidewalk Condition
300 East (200 North to 100 North)	Local Road	-		2	600	60	4000	0.57	CG/S	10
400 East Ct	Local Road	-		2	865	60	5767	0.82	CG/S	5
Bartlett Ct	Local Road	-		2	940	40	4178	0.59	CG/S	10
Cedar Ave	Local Road	-		2	360	40	1600	0.23	CG/S	7
Locust Lane (Hillside Dr to Crestview Dr)	Local Road	-		2	200	35	778	0.11	CG/S	10
Maxine Ave	Local Road	-		2	175	40	778	0.11	CG/S	10
Park Dr (500 West to End)	Local Road	-		2	635	35	2469	0.35	CG/S	5
Taylor Ave	Local Road	-		2	1070	35	4161	0.59	CG/S	3
Westwood	Local Road	-		2	1275	35	4958	0.70	CG/No S	7
McGill Blvd	Local Road	-		3	1765	35	6864	0.97	CG/S	5
Minor Ct	Local Road	-		3	295	45	1475	0.21	CG/S	3
North Palisade to Colorado St	Local Road	-		3	990	35	3850	0.55	CG/No S	3
Sundial Dr	Local Road	-		3	1290	35	5017	0.71	CG/No S	7
100 East (200 North to End)	Local Road	-		3	2030	65	14661	2.08	CG/S	10
200 North (End to 100 West)	Local Road	-		4	590	35	2294	0.33	Little CG/No S	10
Granny Ct	Local Road	-		4	165	55	1008	0.14	CG/S	10
200 East (Center St to 300 South)	Local Road	-		4	1600	60	10667	1.52	CG/S	10
300 East (100 North to 300 South)	Local Road	-		4	2190	60	14600	2.07	CG/S	3
100 North (400 East to End)	Local Road	-	7	4	600	30	2000	0.28	CG/S	10
Arches Dr	Local Road	-		5	855	35	3325	0.47	CG/S	5
Bartlett St	Local Road	-		5	1265	35	4919	0.70	CG/S	10
Carlos Ct	Local Road	-		5	450	35	1750	0.25	CG/No S	7
Kiva Dr and Kachina Way	Local Road	-		5	1670	30	5567	0.79	CG/S	7
Nob Hill	Local Road	-		5	610	35	2372	0.34	CG/No S	7
Rosalie Ct	Local Road	-		5	340	45	1700	0.24	CG/No S	3
West Mivida Dr	Local Road	-		5	705	35	2742	0.39	CG/S	5
Winesap	Local Road	-		5	705	35	2742	0.39	CG/S	10
Center Street (400 East to End)	Local Road	-	7	5	500	30	1667	0.24	CG/S	10
200 South (200 East to 400 East)	Local Road	-		5	1110	60	7400	1.05	CG/S	7
Birch Ave (End to Huntridge Dr)	Local Road	-		5	540	40	2400	0.34	CG/No S	10
East Hillside Dr	Local Road	-		5	785	35	3053	0.43	CG/S	5
Grand Circle Dr	Local Road	-		5	150	45	750	0.11	CG/No S	5
Huntridge Dr (End to Mountain View Dr)	Local Road	-		5	235	40	1044	0.15	CG/S	10
South Hillside Dr	Local Road	-		5	1270	35	4939	0.70	CG/S	10
Sunshine Cir	Local Road	-		5	295	50	1639	0.23	CG/S	10
Andrea Ct	Local Road	-		5	450	35	1750	0.25	CG/No S	7
Hobbs St	Local Road	-		5	880	40	3911	0.56	CG/S	10
Juan Ct	Local Road	-		5	450	35	1750	0.25	CG/No S	10
Moenkopi Dr	Local Road	-		5	1005	35	3908	0.56	CG/No S	5
Mountain View Dr (Birch Ave to Kane Creek Blvd)	Local Road	-		5	2025	40	9000	1.28	CG/No S	7
Mountain View Dr (Dogwood Ave to Birch Ave)	Local Road	-		5	1230	40	5467	0.78	CG/S	3
Navajo Cir	Local Road	-		5	220	50	1222	0.17	CG/No S	10
North Hillside Dr	Local Road	-		5	730	35	2839	0.40	CG/S	10
Park Road	Local Road	-		5	705	35	2742	0.39	CG/No S	10
Wingate Ave	Local Road	-		5	960	40	4267	0.61	CG/S	7

**TABLE 1**  
**MOAB 2019 PAVEMENT EVALUATION**  
**SUMMARY OF PAVEMENT CONDITION ASSESSMENT**

Road Segment	Classification	ADT	2014 PASER Condition	2019 PASER Condition	Length	Avg. Width (ft.)	Area (sq. ft.)	Lane Miles*	Curb, Gutter & Sidewalk	Curb, Gutter & Sidewalk Condition
200 South (400 East to Tusher)	Local Road	-		6	1450	35	5639	0.80	CG/No S	10
200 South (Main St to 100 East)	Local Road	-		6	385	75	3208	0.46	CG/S	10
Birch Ave (Huntridge Dr to Kane Creek Blvd)	Local Road	-		6	375	40	1667	0.24	CG/S	10
Bowen Cir	Local Road	-		6	1305	40	5800	0.82	CG/No S	5
Huntridge Cir	Local Road	-		6	400	40	1778	0.25	CG/S	10
Locust Lane (Tusher to Hillside Dr)	Local Road	-		6	540	35	2100	0.30	CG/S	10
Nichols Lane	Local Road	-		6	760	35	2956	0.42	CG/No S	10
Oak St	Local Road	-		6	745	35	2897	0.41	CG/S	10
Oliver St	Local Road	-		6	380	40	1689	0.24	CG/No S	3
Opal Ave	Local Road	-		6	690	40	3067	0.44	CG/S	5
Park Ave	Local Road	-		6	640	55	3911	0.56	CG/S	3
Tusher	Local Road	-		6	1920	35	7467	1.06	CG/S	10
Marcus Ct	Local Road	-		6	860	35	3344	0.48	CG/No S	10
McCormick Blvd	Local Road	-		6	1210	35	4706	0.67	CG/No S	7
Park Lane	Local Road	-		6	695	35	2703	0.38	CG/No S	7
Ute Cir	Local Road	-		6	300	40	1333	0.19	CG/No S	10
Walker	Local Road	-		6	1930	35	7506	1.07	CG/S	10
Apache Cir	Local Road	-		6	180	55	1100	0.16	CG/No S	7
Aspen Ave (Doc Allen Dr to Huntridge Dr)	Local Road	-		6	840	40	3733	0.53	CG/No S	7
Chinle Ave	Local Road	-		6	670	40	2978	0.42	CG/No S	5
Cliffview Dr	Local Road	-		6	1110	40	4933	0.70	CG/No S	7
Cottonwood and Rowena Ct	Local Road	-		6	1100	45	5500	0.78	CG/S	5
Dogwood Ave	Local Road	-		6	735	40	3267	0.46	CG/S	7
Huntridge Dr (Aspen Ave to End)	Local Road	-		6	1660	40	7378	1.05	CG/No S	7
Huntridge Dr (Mountain View Dr to Aspen Ave)	Local Road	-		6	1010	35	3928	0.56	CG/No S	7
Loveridge Dr	Local Road	-		6	875	35	3403	0.48	CG/S	3
Rosetree Lane	Local Road	-		6	1325	25	3681	0.52	CG/No S	3
200 East (200 North to End)	Local Road	-		7	915	55	5592	0.79	CG/S	1
Byrd Ave and Blue Heron Ct	Local Road	-		7	830	35	3228	0.46	CG/S	7
David Ct	Local Road	-		7	550	40	2444	0.35	CG/S	7
Doc Allen Dr	Local Road	-		7	3135	25	8708	1.24	CG/S	10
McKay Place	Local Road	-		7	130	25	361	0.05	CG/S	10
Jonny Way	Local Road	-		7	340	35	1322	0.19	CG/S	10
Topaz Cir	Local Road	-		7	200	50	1111	0.16	CG/S	7
Gala Ave	Local Road	-		8	690	30	2300	0.33	CG/S	10
Shields Lane	Local Road	-		8	155	30	517	0.07	CG/S	10
Colorado Ave	Local Road	-		9	125	40	556	0.08	CG/S	10
Emma Blvd	Local Road	-		9	350	30	1167	0.17	CG/S	7
South Palisade from Colorado St	Local Road	-		9	600	30	2000	0.28	CG/S	10
West Byrd Ave	Local Road	-		9	320	25	889	0.13	CG/S	10
Bonita St	Local Road	-		9	950	40	4222	0.60	CG/S	10

\* Lane miles is calculated as follows: roadway segment length in miles x (pavement width in feet / 12 feet)

## 5.0 PAVEMENT REHABILITATION AND MAINTENANCE STRATEGIES

The following definition of pavement rehabilitation and pavement maintenance is obtained from *Rehabilitation Strategies for Highway Pavements*<sup>(2)</sup>, published by the NCHRP, Transportation Research Board.

*"Pavement rehabilitation is defined as a structural or functional enhancement of a pavement which produces a substantial extension in service life, by substantially improving pavement condition and ride quality. Pavement maintenance activities, on the other hand, are those treatments that preserve pavement condition, safety, and ride quality, and therefore aid a pavement in achieving its design life."*

Following are descriptions of several rehabilitation and maintenance strategies that are available for use in preserving and improving the Moab City roads identified in this evaluation.

**Seal Coats** are used when the pavement is in relatively good condition with no structural deficiencies, and only minor surface cracking, minor raveling, and/or minor rutting. The purpose of seal coats is threefold: (1) slows down the oxidation process keeping the asphalt surface from becoming brittle, (2) seals the surface to keep water out of the pavement section, and (3) fills in small voids. Seal coats are commonly placed after, or in conjunction with a crack seal as part of regularly schedule maintenance cycle. There are several seal coat options listed below to address a variety of distresses on different types of roadways.

**Fog Seal** – Fog seals are thin asphalt emulsions with relatively short cure times, and are well suited to low speed, low volume roadways. Fog seals can mitigate light to moderate raveling and surface weathering. A fog seal will rejuvenate the asphalt surface, provide a layer of UV protection, and seal the pavement to reduce moisture infiltration. Fog seals can result in a reduction of skid resistance.

**Asphalt Slurry** – Slurry seals are thick asphalt emulsions with well graded fine aggregate (generally #4 sand and smaller) better suited to roadways with higher speed and traffic volumes. In addition to providing a layer of UV protection and sealing the surface, it also provides additional wear resistance. Because slurry seals include fine aggregate and mineral fillers, they can address minor surface imperfections and improve ride quality.

**Micro Surfacing** – Micro Surfacing is similar to a slurry seal, but generally uses higher grade polymer modified asphalt binders with better performance characteristics for collector and arterial roadways. Micro surfacing includes well graded fine aggregate and mineral filler, and will seal the pavement surface and restore skid resistance.

**Chip Seal** – Chip seals consist of an asphalt emulsion applied to the pavement, and covered with uniformly graded 3/8 to 1/2 inch aggregate that is rolled into the surface. Chip seals can be placed up to 3 layers thick, and can be used to mitigate

minor rutting or surface deviations. In addition to sealing and protecting the pavement, chip seals provide a durable wearing surface with good skid resistance. Chip seals generally have longer cure times, and will result in increased road noise. Because of the placement process, loose aggregate or chips can remain on the surface for some time, which is a concern because it can result in broken windshields. The chips can also ravel in areas with high stress turning movements like intersections. As a result, chip seals are best suited for lower speed or lower volume roadways. To help mitigate the loose chips, and reduce road noise, a second layer of asphalt emulsion (cape seal) can be applied over the chips.

**Crack Seal** is appropriate for roadways that are in good condition, with no structural damage, to seal surface cracks to minimize moisture infiltration into the pavement section. Crack sealing and seal coating are often combined as part of a regular pavement preservation program activity.

**Thin Mill and Fill** (2 inches or less) is appropriate when the roadway is in good to fair condition with little to no structural damage, to repair surface deterioration, restore ride quality. A thin overlay or mill and fill will also restore pavement friction and seal and protect underlying asphalt layers.

**Structural Mill and Fill** (2.5 inches or more) is appropriate when the pavement is in poor to fair condition with some structural damage, and / or closely spaced transverse / longitudinal cracking, block cracking, and/or fatigue cracking to improve the structural capacity of the of the pavement section. As with the thin mill and fill or thin overlay, a structural overlay or mill and fill also restore pavement friction and seal and protect underlying asphalt layers.

**Full Reconstruction** is appropriate when the pavement has reached the end of its functional life. This can be evidenced by severe alligator and/or closely spaced block cracking, and can be accompanied by rutting. The reconstruction could be achieved using full depth reclamation (FDR) or complete removal and replacement of the pavement section. Where structural capacity is adversely affected by poor drainage, reconstruction should include drainage improvements to prolong the life of the new pavement.

**Localized Repairs** are appropriate to mitigate structural failure due to problem drainage areas, areas of soft subgrade, utility trench settlement, patches, and potholes. Localized repairs generally consist of excavating and reconstructing the full depth of the pavement, and in some cases may require additional mitigation to improve subgrade support.

## **6.0 PAVEMENT REHABILITATION AND MAINTENANCE RECOMMENDATIONS**

The objective of the techniques and strategies presented in this report are designed to provide Moab City with a capital facilities plan that can be used for forecast planning and future budget preparation. Consequently, it is not intended as a basis for final design and preparation of contract documents for construction. Therefore, a more broad-brush approach has been used. As a street is selected for rehabilitation or maintenance, it is recommended that a more specific, detailed analysis of issues relating to pavement performance of that particular street segment be undertaken in order to ensure that the most appropriate, cost-effective approach is selected and applied.

Treatment recommendations for rehabilitation or maintenance of each pavement segment evaluated in this study are presented in general terms in Table 3. It will be noted that many streets that have been evaluated to be in excellent or very good condition do not require maintenance or rehabilitative efforts at this time. It is recommended that an ongoing system of pavement monitoring be implemented, so that as those pavement segments age, they may be identified and added to future maintenance efforts.

Furthermore, maintenance costs are not generally included in capital facilities plans, but are budgeted separately through other budget categories. These efforts are usually considered to be less than \$100,000 in cost. Therefore, for the purposes of this study, full reconstruction projects or projects in excess of \$100,000 are included in the capital facilities plan, while those less than \$100,000 are generally considered to be maintenance and will be addressed by other budget means.

## **7.0 COST ESTIMATING AND CAPITAL FACILITIES PLANNING**

### **Cost Estimating**

In order to develop average unit costs that could be used in estimating the costs of potential roadway rehabilitation improvements, RB&G Engineering, Inc. surveyed several contractors who do work in the Moab Area, consulted UDOT average unit costs for the area and reviewed Federal Highway data that is applicable to the required work. Assumptions were made relative to the pavement thickness parameters that would be applicable to the various roadway classifications. The identified costs and selected parameters, along with costs per lane mile of roadway are presented in Table 4. Additional information included in the Lane Mile cost for the improvements are outlined in the footnote to the table. The total cost for each segment was then determined by multiplying the computed lane miles for each segment by the cost per lane mile based upon its classification.

**TABLE 3  
MOAB 2019 PAVEMENT EVALUATION  
SUMMARY OF RECOMMENDED PAVEMENT TREATMENT**

Road Segment	Classification	ADT	Priority Rating	Avg. Width (ft.)	Area (sq. ft.)	Lane Miles*	Curb, Gutter & Sidewalk	Curb, Gutter & Sidewalk Condition	Recommended Treatment
Millcreek Dr (400 East to Sandflats)	Minor Arterial	5668	5	40	11778	1.67	CG/S	10	Fog Seal
400 East (300 South to Kiva Dr)	Minor Arterial	4136	2	50	15222	2.16	CG/S	10	Fog Seal
400 East (Kiva Dr to Main Street)	Minor Arterial	3889	2	45	11700	1.66	CG/S	5	Full Reconstruction
Millcreek Dr (South Murphy to Lasal Road)	Minor Arterial	3655		40	15333	2.18	No CG/No S	-	Annual Evaluation
Millcreek Dr (Lasal Road to Sandflats)	Minor Arterial	3316	3	35	2819	0.40	CG/S	10	Slurry Seal
100 North (Main St to 400 East)	Minor Arterial	3080		60	14933	2.12	CG/S	10	Annual Evaluation
100 North (100 West to Main St)	Minor Arterial	2327	6	70	3772	0.54	CG/S	3	Chip Seal
400 East (100 North to 300 South)	Minor Arterial	2221	2	70	17422	2.47	CG/S	10	Chip Seal
Millcreek Dr (South Murphy to Spanish Valley Dr)	Minor Arterial	2117	6	40	6178	0.88	No CG/No S	-	Fog Seal
Millcreek Dr (Main St to Spanish Valley Dr)	Minor Arterial	836		70	14000	1.99	CG/No S	10	Annual Evaluation
100 West (400 North to Walnut Lane)	Major Collector	5441	3	75	11250	1.60	CG/S	10	Full Reconstruction
100 West (Walnut Lane to Main Street)	Major Collector	5441		60	12000	1.70	CG/S	10	Annual Evaluation
300 South (Main St to 400 East)	Major Collector	5118	4	60	14467	2.05	CG/S	10	Annual Evaluation
Kane Creek Blvd (Moab Maint. Station to Main St)	Major Collector	5011	1	70	26600	3.78	CG/S	10	Full Reconstruction
Kane Creek Blvd (500 West to Moab Maint. Station)	Major Collector	5011		40	2556	0.36	CG/S	10	Annual Evaluation
500 West (400 North to Williams Way)	Major Collector	3982		45	9600	1.36	CG/S	10	Annual Evaluation
500 West (Byrd Ave to 400 North)	Major Collector	3954		40	8511	1.21	CG/S	7	Annual Evaluation
500 West (Williams Way to Kane Creek Blvd)	Major Collector	3193		30	6467	0.92	CG/S	10	Annual Evaluation
Sandflats	Major Collector	2865	5	25	2208	0.31	No CG/No S	-	Chip Seal
500 West (Main Street to Byrd Ave)	Major Collector	2678		40	6933	0.98	CG/S	7	Annual Evaluation
400 North (500 West to Main Street)	Major Collector	2644	5	70	22711	3.23	CG/S	10	Chip Seal
100 South (Main St to 400 East)	Major Collector	2168	4	60	14867	2.11	CG/S	5	Full Reconstruction
Center Street (300 East to 400 East)	Minor Collector	-	7	65	3972	0.56	CG/S	10	Slurry Seal
Center Street (Main Street to 200 East)	Minor Collector	2780	6	70	8594	1.22	CG/S	10	Slurry Seal
Williams Way	Minor Collector	2268		45	12100	1.72	CG/S	10	Annual Evaluation
Center Street (200 East to 300 East)	Minor Collector	1720		70	4083	0.58	CG/S	7	Annual Evaluation
Center Street (100 West to Main St)	Minor Collector	1271	5	50	2556	0.36	CG/S	10	Full Reconstruction
100 East (300 South to Uranium)	Local Road	2081	6	35	3558	0.51	CG/S	7	Full Reconstruction
Uranium	Local Road	1649	8	35	1750	0.25	CG/S	10	Chip Seal
400 North (End to 500 West)	Local Road	1625	8	45	8575	1.22	CG/S	5	Chip Seal
South Mivida Dr	Local Road	1302	7	40	5031	0.71	CG/S	10	Slurry Seal
Grand Ave	Local Road	1107	7	50	2861	0.41	CG/S	10	Slurry Seal
Locust Lane (400 East to Tusher)	Local Road	948	8	40	8689	1.23	CG/S	10	Fog Seal
200 North (100 West to Main St)	Local Road	885	7	60	3200	0.45	CG/S	1	3" Overlay
Walnut Lane	Local Road	710	7	30	4367	0.62	Little CG/No S	10	3" Overlay
Park Dr (End to 100 West)	Local Road	400	8	45	6200	0.88	CG/No S	7	Fog Seal
Powerhouse Lane	Local Road	400	10	30	3867	0.55	No CG/No S	-	Annual Evaluation
Aspen Ave (Huntridge Dr to Kane Creek Blvd)	Local Road	386	6	45	1675	0.24	CG/S	10	Full Reconstruction
North Mivida Dr	Local Road	382	6	30	1533	0.22	Half CG/ Half S	10	Full Reconstruction
Hospital Road	Local Road	233	10	20	3289	0.47	CG/S	10	Annual Evaluation
Crestview Dr	Local Road	77	6	35	3111	0.44	Half CG/ Half S	10	Full Reconstruction
Center Street (End to 100 West)	Local Road	-	7	25	1472	0.21	No CG/No S	-	Full Reconstruction
200 North (Main St to End)	Local Road	-	7	55	6417	0.91	CG/S	5	Full Reconstruction
W 200 South St	Local Road	-	7	20	3222	0.46	No CG/No S	-	Full Reconstruction
200 South (100 West to Main St)	Local Road	-	7	75	6167	0.88	CG/S	10	Full Reconstruction

**TABLE 3**  
**MOAB 2019 PAVEMENT EVALUATION**  
**SUMMARY OF RECOMMENDED PAVEMENT TREATMENT**

Road Segment	Classification	ADT	Priority Rating	Avg. Width (ft.)	Area (sq. ft.)	Lane Miles*	Curb, Gutter & Sidewalk	Curb, Gutter & Sidewalk Condition	Recommended Treatment
300 East (200 North to 100 North)	Local Road	-	7	60	4000	0.57	CG/S	10	Full Reconstruction
400 East Ct	Local Road	-	7	60	5767	0.82	CG/S	5	Full Reconstruction
Bartlett Ct	Local Road	-	7	40	4178	0.59	CG/S	10	Full Reconstruction
Cedar Ave	Local Road	-	7	40	1600	0.23	CG/S	7	Full Reconstruction
Locust Lane (Hillside Dr to Crestview Dr)	Local Road	-	7	35	778	0.11	CG/S	10	Full Reconstruction
Maxine Ave	Local Road	-	7	40	778	0.11	CG/S	10	Full Reconstruction
Park Dr (500 West to End)	Local Road	-	7	35	2469	0.35	CG/S	5	Full Reconstruction
Taylor Ave	Local Road	-	7	35	4161	0.59	CG/S	3	Full Reconstruction
Westwood	Local Road	-	7	35	4958	0.70	CG/No S	7	Full Reconstruction
McGill Blvd	Local Road	-	7	35	6864	0.97	CG/S	5	3" Mill and Overlay
Minor Ct	Local Road	-	7	45	1475	0.21	CG/S	3	3" Mill and Overlay
North Palisade to Colorado St	Local Road	-	7	35	3850	0.55	CG/No S	3	3" Mill and Overlay
Sundial Dr	Local Road	-	7	35	5017	0.71	CG/No S	7	3" Mill and Overlay
100 East (200 North to End)	Local Road	-	7	65	14661	2.08	CG/S	10	3" Mill and Overlay
200 North (End to 100 West)	Local Road	-	7	35	2294	0.33	Little CG/No S	10	3" Overlay
Granny Ct	Local Road	-	7	55	1008	0.14	CG/S	10	3" Overlay
200 East (Center St to 300 South)	Local Road	-	8	60	10667	1.52	CG/S	10	3" Overlay
300 East (100 North to 300 South)	Local Road	-	7	60	14600	2.07	CG/S	3	Chip Seal
100 North (400 East to End)	Local Road	-	7	30	2000	0.28	CG/S	10	Chip Seal
Arches Dr	Local Road	-	7	35	3325	0.47	CG/S	5	Slurry Seal
Bartlett St	Local Road	-	8	35	4919	0.70	CG/S	10	Chip Seal
Carlos Ct	Local Road	-	8	35	1750	0.25	CG/No S	7	Chip Seal
Kiva Dr and Kachina Way	Local Road	-	8	30	5567	0.79	CG/S	7	Chip Seal
Nob Hill	Local Road	-	8	35	2372	0.34	CG/No S	7	Chip Seal
Rosalie Ct	Local Road	-	8	45	1700	0.24	CG/No S	3	Slurry Seal
West Mivida Dr	Local Road	-	8	35	2742	0.39	CG/S	5	Chip Seal
Winesap	Local Road	-	8	35	2742	0.39	CG/S	10	Fog Seal
Center Street (400 East to End)	Local Road	-	8	30	1667	0.24	CG/S	10	Chip Seal
200 South (200 East to 400 East)	Local Road	-	8	60	7400	1.05	CG/S	7	Fog Seal
Birch Ave (End to Huntridge Dr)	Local Road	-	8	40	2400	0.34	CG/No S	10	Fog Seal
East Hillside Dr	Local Road	-	8	35	3053	0.43	CG/S	5	Fog Seal
Grand Circle Dr	Local Road	-	8	45	750	0.11	CG/No S	5	Slurry Seal
Huntridge Dr (End to Mountain View Dr)	Local Road	-	8	40	1044	0.15	CG/S	10	Chip Seal
South Hillside Dr	Local Road	-	8	35	4939	0.70	CG/S	10	Fog Seal
Sunshine Cir	Local Road	-	8	50	1639	0.23	CG/S	10	Slurry Seal
Andrea Ct	Local Road	-	8	35	1750	0.25	CG/No S	7	Fog Seal
Hobbs St	Local Road	-	8	40	3911	0.56	CG/S	10	Chip Seal
Juan Ct	Local Road	-	8	35	1750	0.25	CG/No S	10	Slurry Seal
Moenkopi Dr	Local Road	-	8	35	3908	0.56	CG/No S	5	Fog Seal
Mountain View Dr (Birch Ave to Kane Creek Blvd)	Local Road	-	8	40	9000	1.28	CG/No S	7	Fog Seal
Mountain View Dr (Dogwood Ave to Birch Ave)	Local Road	-	8	40	5467	0.78	CG/S	3	Fog Seal
Navajo Cir	Local Road	-	8	50	1222	0.17	CG/No S	10	Slurry Seal
North Hillside Dr	Local Road	-	8	35	2839	0.40	CG/S	10	Fog Seal
Park Road	Local Road	-	8	35	2742	0.39	CG/No S	10	Fog Seal
Wingate Ave	Local Road	-	8	40	4267	0.61	CG/S	7	Slurry Seal

**TABLE 3  
MOAB 2019 PAVEMENT EVALUATION  
SUMMARY OF RECOMMENDED PAVEMENT TREATMENT**

Road Segment	Classification	ADT	Priority Rating	Avg. Width (ft.)	Area (sq. ft.)	Lane Miles*	Curb, Gutter & Sidewalk	Curb, Gutter & Sidewalk Condition	Recommended Treatment
200 South (400 East to Tusher)	Local Road	-	9	35	5639	0.80	CG/No S	10	Fog Seal
200 South (Main St to 100 East)	Local Road	-	9	75	3208	0.46	CG/S	10	Fog Seal
Birch Ave (Huntridge Dr to Kane Creek Blvd)	Local Road	-	9	40	1667	0.24	CG/S	10	Fog Seal
Bowen Cir	Local Road	-	9	40	5800	0.82	CG/No S	5	Slurry Seal
Huntridge Cir	Local Road	-	9	40	1778	0.25	CG/S	10	Fog Seal
Locust Lane (Tusher to Hillside Dr)	Local Road	-	9	35	2100	0.30	CG/S	10	Fog Seal
Nichols Lane	Local Road	-	9	35	2956	0.42	CG/No S	10	Fog Seal
Oak St	Local Road	-	9	35	2897	0.41	CG/S	10	Fog Seal
Oliver St	Local Road	-	9	40	1689	0.24	CG/No S	3	Fog Seal
Opal Ave	Local Road	-	9	40	3067	0.44	CG/S	5	Fog Seal
Park Ave	Local Road	-	9	55	3911	0.56	CG/S	3	Fog Seal
Tusher	Local Road	-	9	35	7467	1.06	CG/S	10	Fog Seal
Marcus Ct	Local Road	-	9	35	3344	0.48	CG/No S	10	Fog Seal
McCormick Blvd	Local Road	-	9	35	4706	0.67	CG/No S	7	Fog Seal
Park Lane	Local Road	-	9	35	2703	0.38	CG/No S	7	Fog Seal
Ute Cir	Local Road	-	9	40	1333	0.19	CG/No S	10	Chip Seal
Walker	Local Road	-	9	35	7506	1.07	CG/S	10	Fog Seal
Apache Cir	Local Road	-	9	55	1100	0.16	CG/No S	7	Slurry Seal
Aspen Ave (Doc Allen Dr to Huntridge Dr)	Local Road	-	9	40	3733	0.53	CG/No S	7	Fog Seal
Chinle Ave	Local Road	-	9	40	2978	0.42	CG/No S	5	Chip Seal
Cliffview Dr	Local Road	-	9	40	4933	0.70	CG/No S	7	Chip Seal
Cottonwood and Rowena Ct	Local Road	-	9	45	5500	0.78	CG/S	5	Slurry Seal
Dogwood Ave	Local Road	-	9	40	3267	0.46	CG/S	7	Fog Seal
Huntridge Dr (Aspen Ave to End)	Local Road	-	9	40	7378	1.05	CG/No S	7	Fog Seal
Huntridge Dr (Mountain View Dr to Aspen Ave)	Local Road	-	9	35	3928	0.56	CG/No S	7	Fog Seal
Loveridge Dr	Local Road	-	9	35	3403	0.48	CG/S	3	Slurry Seal
Rosetree Lane	Local Road	-	9	25	3681	0.52	CG/No S	3	Fog Seal
200 East (200 North to End)	Local Road	-		55	5592	0.79	CG/S	1	Annual Evaluation
Byrd Ave and Blue Heron Ct	Local Road	-		35	3228	0.46	CG/S	7	Annual Evaluation
David Ct	Local Road	-		40	2444	0.35	CG/S	7	Annual Evaluation
Doc Allen Dr	Local Road	-		25	8708	1.24	CG/S	10	Annual Evaluation
McKay Place	Local Road	-		25	361	0.05	CG/S	10	Annual Evaluation
Jonny Way	Local Road	-		35	1322	0.19	CG/S	10	Annual Evaluation
Topaz Cir	Local Road	-	10	50	1111	0.16	CG/S	7	Crack Seal
Gala Ave	Local Road	-		30	2300	0.33	CG/S	10	Annual Evaluation
Shields Lane	Local Road	-		30	517	0.07	CG/S	10	Annual Evaluation
Colorado Ave	Local Road	-		40	556	0.08	CG/S	10	Annual Evaluation
Emma Blvd	Local Road	-		30	1167	0.17	CG/S	7	Annual Evaluation
South Palisade from Colorado St	Local Road	-		30	2000	0.28	CG/S	10	Annual Evaluation
West Byrd Ave	Local Road	-		25	889	0.13	CG/S	10	Annual Evaluation
Bonita St	Local Road	-		40	4222	0.60	CG/S	10	Annual Evaluation

\* Lane miles is calculated as follows: roadway segment length in miles x (pavement width in feet / 12 feet)

## Project Prioritization

In an effort to assist the City in determining those roadway segments that are most valuable and important, the projects were evaluated and priorities were established. The identified projects were prioritized based upon the average daily traffic (ADT), the classification of the roadway and the condition rating given to the roadway segment in the initial evaluation process. Arterial streets were given the highest priority, followed by collector streets and local streets. Cost was not included in this initial prioritization. Projects were rated from 1 to 10, with 1 being the highest priority and 10 having the lowest priority. Figures 3 and 4 show the roadway segments evaluated, the PASER rating for each segment, and the assigned priority rating.

**Table 4**  
**Moab 2019 Pavement Evaluation**  
**Full Reconstruction Parameters by Classification**

Roadway Classification	Hot Mix Asphalt (ton)	Untreated Base Course (CY)	Granular Borrow (Cu. Yd.)	Roadway Excavation (Cu. Yd.)	Total Cost per Lane Mile <sup>(1,2)</sup>
Material Cost	\$80.00	\$35.00	\$30.00	\$20.00	
<b>Pavement Section Layer Thickness (Inches)</b>					
Local Street	3	8	0	11	\$ 194,100.00
Minor Collector	3.5	6	8	17.5	\$ 268,800.00
Major Collector	4	8	8	20	\$ 308,320.00
Minor Arterial	5	8	12	25	\$ 383,450.00
Major Arterial	6	8	16	30	\$ 458,570.00

(1) Includes Additional Costs as follows:

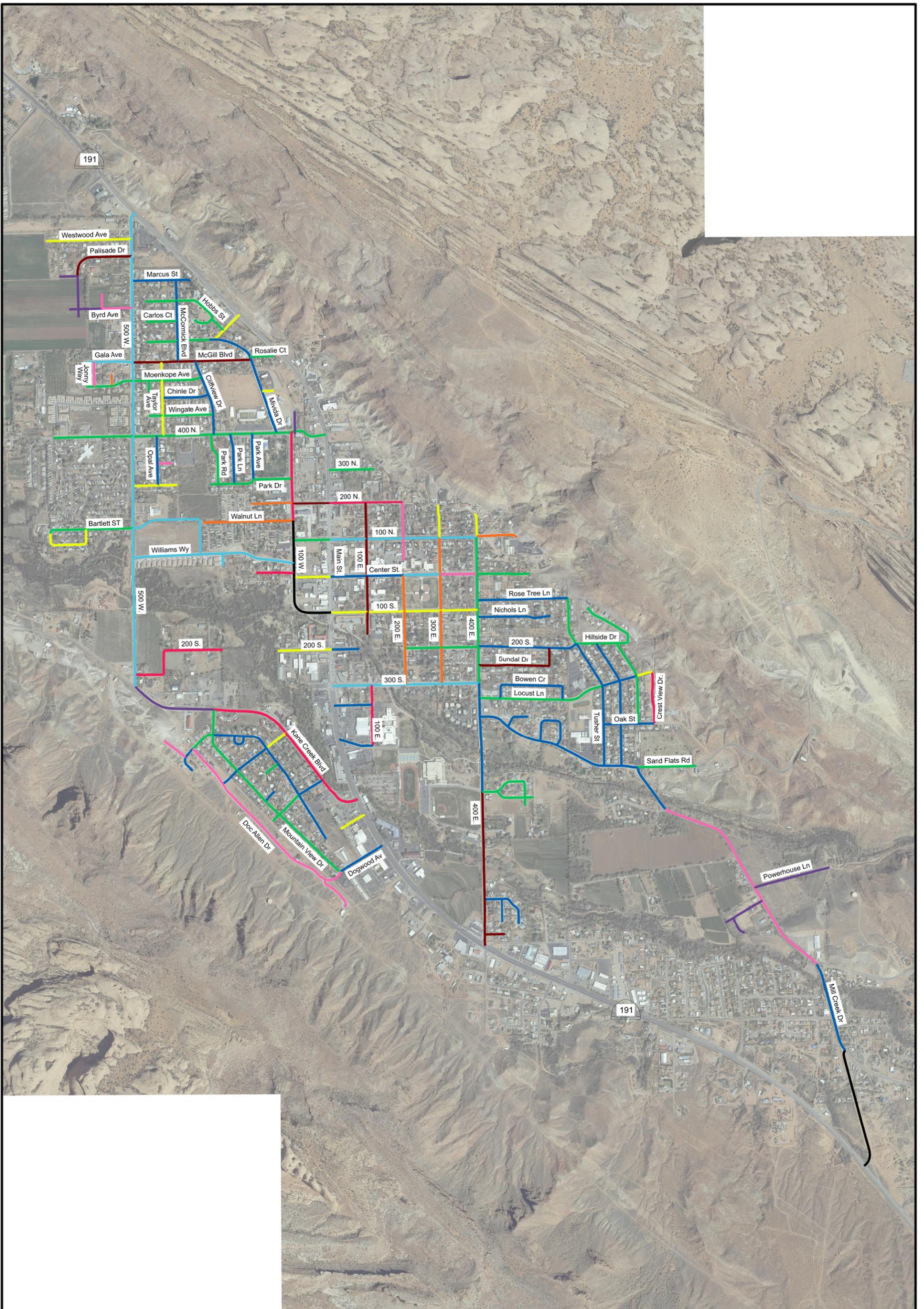
- Traffic Control (3.5% of Construction)
- Mobilization (6.0% of Construction)
- Design Engineering (10% of Construction)
- Construction Engineering (8.0% of Construction)
- Raise Manholes to Grade (\$800 per each, 2 per 400 feet)
- Raise Valve Lids to Grade (\$650 per each, 3 per 400 feet)
- Pavement Marking Paint (4-inch solid stripe per 11 foot of width, 190 lf/gallon @ \$55/gallon)

(2) Lane Mile computed as follows: (Roadway Width/12) X Segment Length

*Sample Lane Mile Calculation; Segment Length = 2500 ft., Pavement Width = 48 ft.*  
*Lane Miles = 2500 ft X (1 mile / 5280 ft.) X 48 ft. / (12 ft. / Lane) X = 1.89 Lane Miles*

## Capital Improvement Costs

Estimated project costs have been developed using a concept of a 3-Year Facilities Plan, a 5-Year Facilities Plan and a 10-Year Facilities Plan. Present (2019) project costs were developed using the above described procedure. The costs were then projected to future years using the inflation rates shown in Table 5. A capital improvement schedule reflecting an annual budget of approximately \$1,000,000 is shown in Table 8. Project costs shown in Table 8 include inflation at the rates shown in Table 5.



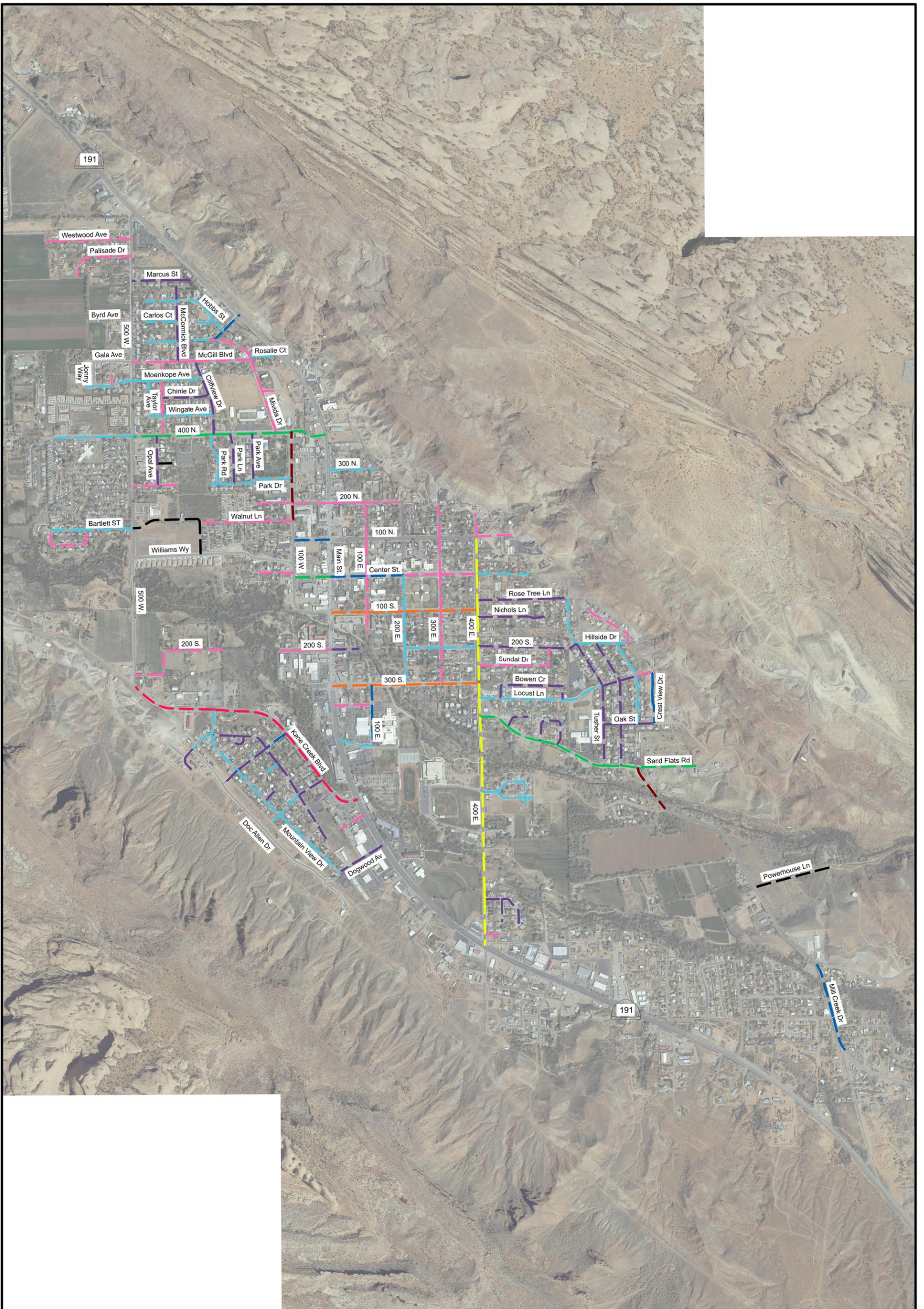
**LEGEND**

	PASER Index 1
	PASER Index 2
	PASER Index 3
	PASER Index 4
	PASER Index 5
	PASER Index 6
	PASER Index 7
	PASER Index 8
	PASER Index 9
	PASER Index 10



Figure 3

**Paser Condition Index Map  
Pavement Condition Report  
Moab City**



**LEGEND**

	Priority Rating 1
	Priority Rating 2
	Priority Rating 3
	Priority Rating 4
	Priority Rating 5
	Priority Rating 6
	Priority Rating 7
	Priority Rating 8
	Priority Rating 9
	Priority Rating 10



Figure 4  
**Priority Rating for  
 Pavement Condition Report  
 Moab City**

**Table 5**  
**Moab 2019 Pavement Evaluation**  
**Projected Inflation Rates for Future Costs**

Project Year	2022	2024	2029
Inflation Rate*	4.0%	3.5%	3.0%

\* Projected Inflation Rate per UDOT, Estimator's Corner

The estimated capital improvement costs for the present (2019) project year, the 3-year (2022) project year, the 5-year (2024) project year and the 10-year (2029) project year are presented in Tables 6-A through 6-B. Table 6-A summarizes capital projects on arterial and collector roadways with project costs in excess of \$100,000. Table 6-B summarizes capital projects on local roadways with project costs in excess of \$100,000. Table 6-C summarizes projects on both major roadways and local roads with project costs less than \$100,000. It is anticipated these projects would be performed as part of a regular maintenance program. We note the projects on arterials and collectors shown on Table 6-C fall below the \$100,000 threshold, but should be given high priority for maintenance and preservation, even before the local roadway projects shown on Table 6-B because of the long term savings associated with maintaining roadways that are still in good condition.

The projects are ordered by priority so that the project with highest priority, Kane Creek Boulevard, Moab Maintenance Station to Main Street, is listed first, with the remaining segments listed in order of descending priority.

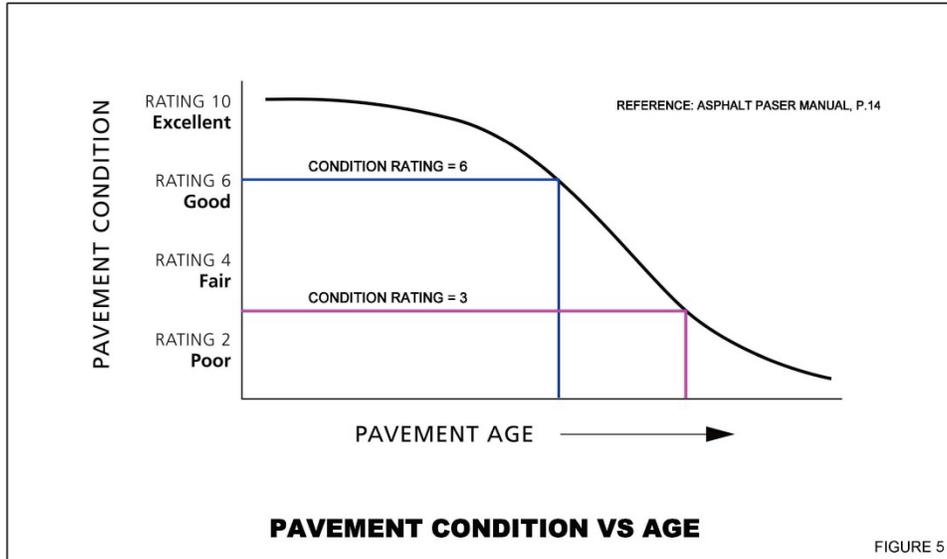
It is recognized that the municipal budgets for all communities are limited. The combined 2019 cost for the five projects on Arterial/Collector streets, those with the highest priority, is about \$4.1 million and the total cost for all 20 capital projects is approximately \$6.9 million. However, it is also evident that delaying the projects to year 10 would result in a projected cost of \$5.5 million dollars for capital projects on arterial/collector streets and \$9.3 million for all 19 identified projects based only upon inflation.

A further consideration of importance is that as rehabilitation and maintenance are delayed, the pavement continues to age. Figure 5 shows the general result of continued deterioration over time. As the pavement ages, a more rigorous and expensive rehabilitation/maintenance application will be necessary, which will increase the future cost of the work significantly beyond a simple application of the inflation rate.

The following statement from the Minnesota Department of Transportation addresses this concept:

*"Pavement Preservation is a program employing a network level, long-term strategy that enhances pavement performance by using an integrated, cost effective set of practices that extend pavement life, improve safety and meet motorist expectations. An effective preservation program addresses pavements while they are still in good*

*condition. A cost-effective treatment in a timely manner will restore the pavement almost to its original condition. By doing so, the cumulative costs of such treatment are substantially less than reconstruction or major rehabilitation over the life of the pavement. In addition, the disruption of traffic is less for more frequent and minimal treatments in comparison to larger construction treatments."*



*Cost Effective Pavement Preservation Solutions for the Real World, p.3*

It will be observed from Figure 5, that the most opportune time to preserve a roadway pavement would be when the condition rating is still fair to good, in the range of 4 to 7. In that range, preservation strategies are less expensive and the preserved condition of the pavement extends the life of the pavement before it has serious problems. Therefore, allocation of funding for pavement preservations throughout the life of the pavement pays great dividends over time.

The condition of sidewalk and curb and gutter along each roadway segment was also reviewed as part of this evaluation. For each segment, the presence (or lack of) and existing condition rating for the sidewalk and curb and gutter is presented on Table 7 as a percentage of the roadway segment length. Estimated costs to remove and replace damaged and deteriorated areas are also shown. For convenience, the recommended roadway treatment and cost for each segment is also shown.

## 8.0 SUMMARY AND CONCLUSIONS

The results of the Pavement Evaluation and Capital Improvement Cost analysis presented in this report will be of value to Moab City staff as future budgets are developed. The evaluation shows that 67% of Moab City Roads are rated as Good , Very Good and Excellent, 13% are rated in fair condition and the remaining 20% fall into the poor to failed categories.

We recommend that Moab City continue with past maintenance efforts to crack seal, chip seal and seal coat existing roadways. A comprehensive maintenance program should be established and budget funds provided to allow for preservation treatments while pavements are still in good

condition. These efforts will extend the life of those pavements and will pay great dividends in the long run.

A number of roads will require reconstruction. We recommend that the City use the results of this study to prioritize capital improvement budgets and, when possible, increase available funding to accelerate the reconstruction of key collector and arterial City streets. Increased funding in the short term while construction costs are lower, will save money as the costs continue to rise.

**TABLE 6-A**  
**MOAB 2019 PAVEMENT EVALUATION**  
**SUMMARY OF RECOMMENDED PAVEMENT TREATMENT**  
**Arterials and Collectors, 2019 Cost Greater Than \$100,000**

Road Segment	Classification	ADT	Priority Rating	2019 PASER Condition	Lane Miles*	Recommended Treatment	2019 Cost	2022 Cost	2024 Cost	2029 Cost
Kane Creek Blvd (Moab Maint. Station to Main St)	Major Collector	5011	1	1	3.78	Full Reconstruction	\$1,532,807.27	\$1,724,199.71	\$1,820,494.20	\$2,059,964.79
400 East (Kiva Dr to Main Street)	Minor Arterial	3889	2	3	1.66	Full Reconstruction	\$843,118.58	\$948,393.74	\$1,001,360.39	\$1,133,080.87
100 West (400 North to Walnut Lane)	Major Collector	5441	3	1	1.60	Full Reconstruction	\$647,936.55	\$728,840.49	\$769,545.36	\$870,772.54
100 South (Main St to 400 East)	Major Collector	2168	4	2	2.11	Full Reconstruction	\$860,588.74	\$968,045.29	\$1,022,109.46	\$1,156,559.30
Center Street (100 West to Main St)	Minor Collector	1271	5	2	0.36	Full Reconstruction	\$219,464.47	\$246,867.69	\$260,654.95	\$294,941.90
<b>SUBTOTAL BY YEAR</b>							<b>\$4,103,915.60</b>	<b>\$4,616,346.92</b>	<b>\$4,874,164.36</b>	<b>\$5,515,319.40</b>

**TABLE 6-B**  
**MOAB 2019 PAVEMENT EVALUATION**  
**SUMMARY OF RECOMMENDED PAVEMENT TREATMENT**  
**Local Roads, 2019 Cost Greater Than \$100,000**

Road Segment	Classification	ADT	Priority Rating	2019 PASER Condition	Lane Miles*	Recommended Treatment	2019 Cost	2022 Cost	2024 Cost	2029 Cost
100 East (300 South to Uranium)	Local Road	2081	6	1	0.51	Full Reconstruction	\$135,977.85	\$152,956.59	\$161,499.03	\$182,742.86
Crestview Dr	Local Road	77	6	1	0.44	Full Reconstruction	\$118,409.09	\$133,194.13	\$140,632.86	\$159,131.92
200 North (Main St to End)	Local Road	-	7	1	0.91	Full Reconstruction	\$238,297.97	\$268,052.81	\$283,023.24	\$320,252.55
W 200 South St	Local Road	-	7	1	0.46	Full Reconstruction	\$130,538.44	\$146,837.99	\$155,038.71	\$175,432.74
200 South (100 West to Main St)	Local Road	-	7	2	0.88	Full Reconstruction	\$225,812.89	\$254,008.79	\$268,194.88	\$303,473.64
400 East Ct	Local Road	-	7	2	0.82	Full Reconstruction	\$213,601.51	\$240,272.64	\$253,691.58	\$287,062.56
Westwood	Local Road	-	7	2	0.70	Full Reconstruction	\$189,714.57	\$213,403.09	\$225,321.40	\$254,960.52
Taylor Ave	Local Road	-	7	2	0.59	Full Reconstruction	\$159,843.19	\$179,801.85	\$189,843.57	\$214,815.88
Bartlett Circle	Local Road	-	7	2	0.59	Full Reconstruction	\$158,580.28	\$178,381.25	\$188,343.63	\$213,118.64
300 East (200 North to 100 North)	Local Road	-	7	2	0.57	Full Reconstruction	\$147,805.08	\$166,260.62	\$175,546.07	\$198,637.67
100 East (200 North to End)	Local Road	-	7	3	2.08	3" Mill and Overlay	\$329,833.04	\$371,017.32	\$391,738.19	\$443,268.03
McGill Blvd	Local Road	-	7	3	0.97	3" Mill and Overlay	\$163,739.56	\$184,184.74	\$194,471.23	\$220,052.28
Sundial Dr	Local Road	-	7	3	0.71	3" Mill and Overlay	\$119,911.70	\$134,884.35	\$142,417.48	\$161,151.29
Granny Ct	Local Road	-	7	4	0.14	3" Overlay	\$191,029.77	\$214,882.51	\$226,883.45	\$256,728.04
200 East (Center St to 300 South)	Local Road	-	8	4	1.52	3" Overlay	\$275,912.17	\$310,363.67	\$327,697.11	\$370,802.89
<b>SUBTOTAL BY YEAR</b>							<b>\$2,799,007.12</b>	<b>\$3,148,502.35</b>	<b>\$3,324,342.43</b>	<b>\$3,761,631.52</b>

\* Lane miles is calculated as follows: roadway segment length in miles x (pavement width in feet / 12 feet)

**TABLE 6-C**  
**MOAB 2019 PAVEMENT EVALUATION**  
**SUMMARY OF RECOMMENDED PAVEMENT TREATMENT**  
**All Other Roads, 2019 Cost Less Than \$100,000**

Road Segment	Classification	ADT	Priority Rating	2019 PASER Condition	Lane Miles*	Recommended Treatment	2019 Cost	2022 Cost	2024 Cost	2029 Cost
400 East (100 North to 300 South)	Minor Arterial	2221	2	5	2.47	Chip Seal	\$60,178.22	\$67,692.32	\$71,472.85	\$80,874.50
400 East (300 South to Kiva Dr)	Minor Arterial	4136	2	6	2.16	Fog Seal	\$53,301.53	\$59,956.97	\$63,305.50	\$71,632.80
Millcreek Dr (Lasal Road to Sandflats)	Minor Arterial	3316	3	6	0.40	Slurry Seal	\$9,738.66	\$10,954.67	\$11,566.48	\$13,087.95
Millcreek Dr (400 East to Sandflats)	Minor Arterial	5668	5	6	1.67	Fog Seal	\$41,240.60	\$46,390.06	\$48,980.89	\$55,423.92
100 North (100 West to Main St)	Minor Arterial	2327	6	5	0.54	Chip Seal	\$13,029.66	\$14,656.60	\$15,475.15	\$17,510.77
Millcreek Dr (South Murphy to Spanish Valley Dr)	Minor Arterial	2117	6	6	0.88	Fog Seal	\$21,631.86	\$24,332.90	\$25,691.87	\$29,071.41
Sandflats	Major Collector	2865	5	5	0.31	Chip Seal	\$7,879.32	\$8,863.16	\$9,358.16	\$10,589.15
400 North (500 West to Main Street)	Major Collector	2644	5	5	3.23	Chip Seal	\$78,446.61	\$88,241.77	\$93,169.97	\$105,425.69
Center Street (Main Street to 200 East)	Minor Collector	2780	6	6	1.22	Slurry Seal	\$29,686.13	\$33,392.86	\$35,257.81	\$39,895.68
Center Street (300 East to 400 East)	Minor Collector	-	7	7	0.56	Slurry Seal	\$13,807.48	\$15,531.54	\$16,398.95	\$18,556.10
Aspen Ave (Huntridge Dr to Kane Creek Blvd)	Local Road	386	6	2	0.24	Full Reconstruction	\$63,403.06	\$71,319.82	\$75,302.94	\$85,208.41
North Mivida Dr	Local Road	382	6	2	0.22	Full Reconstruction	\$60,272.18	\$67,798.00	\$71,584.44	\$81,000.77
Center Street (End to 100 West)	Local Road	-	7	1	0.21	Full Reconstruction	\$58,124.10	\$65,381.71	\$69,033.20	\$78,113.93
Park Dr (500 West to End)	Local Road	-	7	2	0.35	Full Reconstruction	\$95,025.55	\$106,890.82	\$112,860.54	\$127,706.39
Cedar Ave	Local Road	-	7	2	0.23	Full Reconstruction	\$60,766.78	\$68,354.37	\$72,171.88	\$81,665.48
Locust Lane (Hillside Dr to Crestview Dr)	Local Road	-	7	2	0.11	Full Reconstruction	\$30,016.65	\$33,764.65	\$35,650.36	\$40,339.87
Maxine Ave	Local Road	-	7	2	0.11	Full Reconstruction	\$30,016.65	\$33,764.65	\$35,650.36	\$40,339.87
North Palisade to Colorado St	Local Road	-	7	3	0.55	3" Mill and Overlay	\$91,915.55	\$103,392.49	\$109,166.84	\$123,526.81
Minor Ct	Local Road	-	7	3	0.21	3" Mill and Overlay	\$35,246.69	\$39,647.73	\$41,862.01	\$47,368.60
200 North (100 West to Main St)	Local Road	885	7	3	0.45	3" Overlay	\$62,880.68	\$70,732.22	\$74,682.52	\$84,506.38
300 East (100 North to 300 South)	Local Road	-	7	4	2.07	Chip Seal	\$46,273.08	\$52,050.92	\$54,957.91	\$62,187.15
200 North (End to 100 West)	Local Road	-	7	4	0.33	3" Overlay	\$25,008.93	\$28,131.64	\$29,702.76	\$33,609.90
100 North (400 East to End)	Local Road	-	7	4	0.28	Chip Seal	\$6,338.78	\$7,130.26	\$7,528.48	\$8,518.79
Walnut Lane	Local Road	710	7	4	0.62	3" Overlay	\$92,534.21	\$104,088.40	\$109,901.62	\$124,358.24
Arches Dr	Local Road	-	7	5	0.47	Slurry Seal	\$10,538.22	\$11,854.06	\$12,516.10	\$14,162.49
South Mivida Dr	Local Road	1302	7	6	0.71	Slurry Seal	\$15,945.55	\$17,936.57	\$18,938.31	\$21,429.48
Grand Ave	Local Road	1107	7	6	0.41	Slurry Seal	\$9,067.97	\$10,200.24	\$10,769.91	\$12,186.60
Mountain View Dr (Birch Ave to Kane Creek Blvd)	Local Road	-	8	5	1.28	Fog Seal	\$28,524.50	\$32,086.19	\$33,878.16	\$38,334.55
200 South (200 East to 400 East)	Local Road	-	8	5	1.05	Fog Seal	\$23,453.48	\$26,381.98	\$27,855.38	\$31,519.52
Kiva Dr and Kachina Way	Local Road	-	8	5	0.79	Chip Seal	\$17,642.93	\$19,845.90	\$20,954.27	\$23,710.63
Mountain View Dr (Dogwood Ave to Birch Ave)	Local Road	-	8	5	0.78	Fog Seal	\$17,325.99	\$19,489.39	\$20,577.85	\$23,284.69
South Hillside Dr	Local Road	-	8	5	0.70	Fog Seal	\$15,653.26	\$17,607.79	\$18,591.16	\$21,036.67
Bartlett St	Local Road	-	8	5	0.70	Chip Seal	\$15,591.63	\$17,538.47	\$18,517.97	\$20,953.85
Wingate Ave	Local Road	-	8	5	0.61	Slurry Seal	\$13,522.73	\$15,211.23	\$16,060.76	\$18,173.41
Hobbs St	Local Road	-	8	5	0.56	Chip Seal	\$12,395.83	\$13,943.63	\$14,722.36	\$16,658.96
Moenkopi Dr	Local Road	-	8	5	0.56	Fog Seal	\$12,387.03	\$13,933.72	\$14,711.91	\$16,647.13
East Hillside Dr	Local Road	-	8	5	0.43	Fog Seal	\$9,675.44	\$10,883.56	\$11,491.39	\$13,002.98
North Hillside Dr	Local Road	-	8	5	0.40	Fog Seal	\$8,997.54	\$10,121.01	\$10,686.26	\$12,091.95
West Mivida Dr	Local Road	-	8	5	0.39	Chip Seal	\$8,689.41	\$9,774.40	\$10,320.29	\$11,677.84
Winesap	Local Road	-	8	5	0.39	Fog Seal	\$8,689.41	\$9,774.40	\$10,320.29	\$11,677.84
Park Road	Local Road	-	8	5	0.39	Fog Seal	\$8,689.41	\$9,774.40	\$10,320.29	\$11,677.84
Birch Ave (End to Huntridge Dr)	Local Road	-	8	5	0.34	Fog Seal	\$7,606.53	\$8,556.32	\$9,034.18	\$10,222.55
Nob Hill	Local Road	-	8	5	0.34	Chip Seal	\$7,518.50	\$8,457.28	\$8,929.61	\$10,104.23
Carlos Ct	Local Road	-	8	5	0.25	Chip Seal	\$5,546.43	\$6,238.98	\$6,587.42	\$7,453.94
Andrea Ct	Local Road	-	8	5	0.25	Fog Seal	\$5,546.43	\$6,238.98	\$6,587.42	\$7,453.94

**TABLE 6-C**  
**MOAB 2019 PAVEMENT EVALUATION**  
**SUMMARY OF RECOMMENDED PAVEMENT TREATMENT**  
**All Other Roads, 2019 Cost Less Than \$100,000**

Road Segment	Classification	ADT	Priority Rating	2019 PASER Condition	Lane Miles*	Recommended Treatment	2019 Cost	2022 Cost	2024 Cost	2029 Cost
Juan Ct	Local Road	-	8	5	0.25	Slurry Seal	\$5,546.43	\$6,238.98	\$6,587.42	\$7,453.94
Rosalie Ct	Local Road	-	8	5	0.24	Slurry Seal	\$5,387.96	\$6,060.72	\$6,399.21	\$7,240.97
Center Street (400 East to End)	Local Road	-	8	5	0.24	Chip Seal	\$5,282.32	\$5,941.89	\$6,273.73	\$7,098.99
Sunshine Cir	Local Road	-	8	5	0.23	Slurry Seal	\$5,194.28	\$5,842.85	\$6,169.17	\$6,980.67
Navajo Cir	Local Road	-	8	5	0.17	Slurry Seal	\$3,873.70	\$4,357.38	\$4,600.74	\$5,205.93
Huntridge Dr (End to Mountain View Dr)	Local Road	-	8	5	0.15	Chip Seal	\$3,310.25	\$3,723.58	\$3,931.54	\$4,448.70
Grand Circle Dr	Local Road	-	8	5	0.11	Slurry Seal	\$2,377.04	\$2,673.85	\$2,823.18	\$3,194.55
400 North (End to 500 West)	Local Road	1625	8	5	1.22	Chip Seal	\$27,177.51	\$30,571.01	\$32,278.36	\$36,524.30
Locust Lane (400 East to Tusher)	Local Road	948	8	5	1.23	Fog Seal	\$27,538.47	\$30,977.03	\$32,707.06	\$37,009.40
Park Dr (End to 100 West)	Local Road	400	8	5	0.88	Fog Seal	\$19,650.21	\$22,103.82	\$23,338.29	\$26,408.24
Uranium	Local Road	1649	8	6	0.25	Chip Seal	\$5,546.43	\$6,238.98	\$6,587.42	\$7,453.94
Walker	Local Road	-	9	6	1.07	Fog Seal	\$23,788.03	\$26,758.29	\$28,252.71	\$31,969.19
Tusher	Local Road	-	9	6	1.06	Fog Seal	\$23,664.77	\$26,619.65	\$28,106.33	\$31,803.48
Huntridge Dr (Aspen Ave to End)	Local Road	-	9	6	1.05	Fog Seal	\$23,383.05	\$26,302.75	\$27,771.73	\$31,424.86
Bowen Cir	Local Road	-	9	6	0.82	Slurry Seal	\$18,382.46	\$20,677.76	\$21,832.59	\$24,704.49
200 South (400 East to Tusher)	Local Road	-	9	6	0.80	Fog Seal	\$17,871.83	\$20,103.38	\$21,226.13	\$24,018.25
Cottonwood and Rowena Ct	Local Road	-	9	6	0.78	Slurry Seal	\$17,431.64	\$19,608.23	\$20,703.32	\$23,426.67
Cliffview Dr	Local Road	-	9	6	0.70	Chip Seal	\$15,635.65	\$17,587.98	\$18,570.25	\$21,013.01
McCormick Blvd	Local Road	-	9	6	0.67	Fog Seal	\$14,913.74	\$16,775.93	\$17,712.84	\$20,042.82
Huntridge Dr (Mountain View Dr to Aspen Ave)	Local Road	-	9	6	0.56	Fog Seal	\$12,448.66	\$14,003.05	\$14,785.10	\$16,729.95
Park Ave	Local Road	-	9	6	0.56	Fog Seal	\$12,395.83	\$13,943.63	\$14,722.36	\$16,658.96
Aspen Ave (Doc Allen Dr to Huntridge Dr)	Local Road	-	9	6	0.53	Fog Seal	\$11,832.39	\$13,309.83	\$14,053.16	\$15,901.74
Rosetree Lane	Local Road	-	9	6	0.52	Fog Seal	\$11,665.11	\$13,121.67	\$13,854.50	\$15,676.94
Loveridge Dr	Local Road	-	9	6	0.48	Slurry Seal	\$10,784.73	\$12,131.35	\$12,808.87	\$14,493.77
Marcus Ct	Local Road	-	9	6	0.48	Fog Seal	\$10,599.85	\$11,923.39	\$12,589.29	\$14,245.31
Dogwood Ave	Local Road	-	9	6	0.46	Fog Seal	\$10,353.34	\$11,646.10	\$12,296.52	\$13,914.02
200 South (Main St to 100 East)	Local Road	-	9	6	0.46	Fog Seal	\$10,168.46	\$11,438.13	\$12,076.94	\$13,665.56
Opal Ave	Local Road	-	9	6	0.44	Fog Seal	\$9,719.46	\$10,933.07	\$11,543.67	\$13,062.14
Chinle Ave	Local Road	-	9	6	0.42	Chip Seal	\$9,437.74	\$10,616.17	\$11,209.07	\$12,683.53
Nichols Lane	Local Road	-	9	6	0.42	Fog Seal	\$9,367.31	\$10,536.95	\$11,125.42	\$12,588.88
Oak St	Local Road	-	9	6	0.41	Fog Seal	\$9,182.42	\$10,328.98	\$10,905.84	\$12,340.41
Park Lane	Local Road	-	9	6	0.38	Fog Seal	\$8,566.15	\$9,635.76	\$10,173.90	\$11,512.20
Locust Lane (Tusher to Hillside Dr)	Local Road	-	9	6	0.30	Fog Seal	\$6,655.72	\$7,486.78	\$7,904.90	\$8,944.73
Huntridge Cir	Local Road	-	9	6	0.25	Fog Seal	\$5,634.47	\$6,338.01	\$6,691.98	\$7,572.26
Oliver St	Local Road	-	9	6	0.24	Fog Seal	\$5,352.75	\$6,021.11	\$6,357.38	\$7,193.64
Birch Ave (Huntridge Dr to Kane Creek Blvd)	Local Road	-	9	6	0.24	Fog Seal	\$5,282.32	\$5,941.89	\$6,273.73	\$7,098.99
Ute Cir	Local Road	-	9	6	0.19	Chip Seal	\$4,225.85	\$4,753.51	\$5,018.99	\$5,679.19
Apache Cir	Local Road	-	9	6	0.16	Slurry Seal	\$3,486.33	\$3,921.65	\$4,140.66	\$4,685.33
Topaz Cir	Local Road	-	10	7	0.16	Crack Seal	\$1,207.39	\$1,358.15	\$1,434.00	\$1,622.63
<b>SUBTOTAL BY YEAR</b>							<b>\$1,784,093.23</b>	<b>\$2,006,862.25</b>	<b>\$2,118,943.10</b>	<b>\$2,397,672.11</b>

\* Lane miles is calculated as follows: roadway segment length in miles x (pavement width in feet / 12 feet)

**TABLE 7  
MOAB 2019 PAVEMENT EVALUATION  
SUMMARY OF COST TO ADD OR REPAIR SIDEWALK AND CURB GUTTER**

Road Segment	Classification	Length	Avg. Width (ft.)	Curb, Gutter & Sidewalk	Curb, Gutter & Sidewalk Condition	Estimated Percent Needing New or Replaced Curb and Gutter & Sidewalk	2019 Cost to Repair Curb and Gutter & Sidewalk	Recommended Roadway Treatment	2019 Roadway Cost
Millcreek Dr (400 East to Sandflats)	Minor Arterial	2650	40	CG/S	10	0	-	Fog Seal	\$41,240.60
400 East (300 South to Kiva Dr)	Minor Arterial	2740	50	CG/S	10	0	-	Fog Seal	\$53,301.53
400 East (Kiva Dr to Main Street)	Minor Arterial	2340	45	CG/S	5	50	-	Full Reconstruction	\$843,118.58
Millcreek Dr (South Murphy to Lasal Road)	Minor Arterial	3450	40	No CG/No S	-	100	-	Annual Evaluation	\$0.00
Millcreek Dr (Lasal Road to Sandflats)	Minor Arterial	725	35	CG/S	10	0	-	Slurry Seal	\$9,738.66
100 North (Main St to 400 East)	Minor Arterial	2240	60	CG/S	10	0	-	Annual Evaluation	\$0.00
100 North (100 West to Main St)	Minor Arterial	485	70	CG/S	3	75	-	Chip Seal	\$13,029.66
400 East (100 North to 300 South)	Minor Arterial	2240	70	CG/S	10	0	-	Chip Seal	\$60,178.22
Millcreek Dr (South Murphy to Spanish Valley Dr)	Minor Arterial	1390	40	No CG/No S	-	100	-	Fog Seal	\$21,631.86
Millcreek Dr (Main St to Spanish Valley Dr)	Minor Arterial	1800	70	CG/No S	10	0	-	Annual Evaluation	\$0.00
100 West (400 North to Walnut Lane)	Major Collector	1350	75	CG/S	10	0	-	Full Reconstruction	\$647,936.55
100 West (Walnut Lane to Main Street)	Major Collector	1800	60	CG/S	10	0	-	Annual Evaluation	\$0.00
300 South (Main St to 400 East)	Major Collector	2170	60	CG/S	10	0	-	Annual Evaluation	\$0.00
Kane Creek Blvd (Moab Maint. Station to Main St)	Major Collector	3420	70	CG/S	10	0	-	Full Reconstruction	\$1,532,807.27
Kane Creek Blvd (500 West to Moab Maint. Station)	Major Collector	575	40	CG/S	10	0	-	Annual Evaluation	\$0.00
500 West (400 North to Williams Way)	Major Collector	1920	45	CG/S	10	0	-	Annual Evaluation	\$0.00
500 West (Byrd Ave to 400 North)	Major Collector	1915	40	CG/S	7	25	-	Annual Evaluation	\$0.00
500 West (Williams Way to Kane Creek Blvd)	Major Collector	1940	30	CG/S	10	0	-	Annual Evaluation	\$0.00
Sandflats	Major Collector	795	25	No CG/No S	-	100	-	Chip Seal	\$7,879.32
500 West (Main Street to Byrd Ave)	Major Collector	1560	40	CG/S	7	25	-	Annual Evaluation	\$0.00
400 North (500 West to Main Street)	Major Collector	2920	70	CG/S	10	0	-	Chip Seal	\$78,446.61
100 South (Main St to 400 East)	Major Collector	2230	60	CG/S	5	50	-	Full Reconstruction	\$860,588.74
Center Street (300 East to 400 East)	Minor Collector	550	65	CG/S	10	0	-	Slurry Seal	\$13,807.48
Center Street (Main Street to 200 East)	Minor Collector	1105	70	CG/S	10	0	-	Slurry Seal	\$29,686.13
Williams Way	Minor Collector	2420	45	CG/S	10	0	-	Annual Evaluation	\$0.00
Center Street (200 East to 300 East)	Minor Collector	525	70	CG/S	7	25	-	Annual Evaluation	\$0.00
Center Street (100 West to Main St)	Minor Collector	460	50	CG/S	10	0	-	Full Reconstruction	\$219,464.47
100 East (300 South to Uranium)	Local Road	915	35	CG/S	7	25	-	Full Reconstruction	\$135,977.85
Uranium	Local Road	450	35	CG/S	10	0	-	Chip Seal	\$5,546.43
400 North (End to 500 West)	Local Road	1715	45	CG/S	5	50	-	Chip Seal	\$27,177.51
South Mivida Dr	Local Road	1132	40	CG/S	10	0	-	Slurry Seal	\$15,945.55
Grand Ave	Local Road	515	50	CG/S	10	0	-	Slurry Seal	\$9,067.97
Locust Lane (400 East to Tusher)	Local Road	1955	40	CG/S	10	0	-	Fog Seal	\$27,538.47
200 North (100 West to Main St)	Local Road	480	60	CG/S	1	100	-	3" Overlay	\$62,880.68
Walnut Lane	Local Road	1310	30	Little CG/No S	10	0	-	3" Overlay	\$92,534.21
Park Dr (End to 100 West)	Local Road	1240	45	CG/No S	7	25	\$26,660	Fog Seal	\$19,650.21
Powerhouse Lane	Local Road	1160	30	No CG/No S	-	100	-	Annual Evaluation	\$0.00
Aspen Ave (Huntridge Dr to Kane Creek Blvd)	Local Road	335	45	CG/S	10	0	-	Full Reconstruction	\$63,403.06
North Mivida Dr	Local Road	460	30	Half CG/ Half S	10	0	-	Full Reconstruction	\$60,272.18
Hospital Road	Local Road	1480	20	CG/S	10	0	-	Annual Evaluation	\$0.00
Crestview Dr	Local Road	800	35	Half CG/ Half S	10	0	-	Full Reconstruction	\$118,409.09
Center Street (End to 100 West)	Local Road	530	25	No CG/No S	-	100	-	Full Reconstruction	\$58,124.10
200 North (Main St to End)	Local Road	1050	55	CG/S	5	50	-	Full Reconstruction	\$238,297.97
W 200 South St	Local Road	1450	20	No CG/No S	-	100	-	Full Reconstruction	\$130,538.44
200 South (100 West to Main St)	Local Road	740	75	CG/S	10	0	-	Full Reconstruction	\$225,812.89

**TABLE 7  
MOAB 2019 PAVEMENT EVALUATION  
SUMMARY OF COST TO ADD OR REPAIR SIDEWALK AND CURB GUTTER**

Road Segment	Classification	Length	Avg. Width (ft.)	Curb, Gutter & Sidewalk	Curb, Gutter & Sidewalk Condition	Estimated Percent Needing New or Replaced Curb and Gutter & Sidewalk	2019 Cost to Repair Curb and Gutter & Sidewalk	Recommended Roadway Treatment	2019 Roadway Cost
300 East (200 North to 100 North)	Local Road	600	60	CG/S	10	0	-	Full Reconstruction	\$147,805.08
400 East Ct	Local Road	865	60	CG/S	5	50	-	Full Reconstruction	\$213,601.51
Bartlett Ct	Local Road	940	40	CG/S	10	0	-	Full Reconstruction	\$158,580.28
Cedar Ave	Local Road	360	40	CG/S	7	25	-	Full Reconstruction	\$60,766.78
Locust Lane (Hillside Dr to Crestview Dr)	Local Road	200	35	CG/S	10	0	-	Full Reconstruction	\$30,016.65
Maxine Ave	Local Road	175	40	CG/S	10	0	-	Full Reconstruction	\$30,016.65
Park Dr (500 West to End)	Local Road	635	35	CG/S	5	50	-	Full Reconstruction	\$95,025.55
Taylor Ave	Local Road	1070	35	CG/S	3	75	-	Full Reconstruction	\$159,843.19
Westwood	Local Road	1275	35	CG/No S	7	25	\$27,413	Full Reconstruction	\$189,714.57
McGill Blvd	Local Road	1765	35	CG/S	5	50	-	3" Mill and Overlay	\$163,739.56
Minor Ct	Local Road	295	45	CG/S	3	75	-	3" Mill and Overlay	\$35,246.69
North Palisade to Colorado St	Local Road	990	35	CG/No S	3	75	\$63,855	3" Mill and Overlay	\$91,915.55
Sundial Dr	Local Road	1290	35	CG/No S	7	25	\$27,735	3" Mill and Overlay	\$119,911.70
100 East (200 North to End)	Local Road	2030	65	CG/S	10	0	-	3" Mill and Overlay	\$329,833.04
200 North (End to 100 West)	Local Road	590	35	Little CG/No S	10	25	\$6,343	3" Overlay	\$25,008.93
Granny Ct	Local Road	165	55	CG/S	10	0	-	3" Overlay	\$191,029.77
200 East (Center St to 300 South)	Local Road	1600	60	CG/S	10	0	-	3" Overlay	\$275,912.17
300 East (100 North to 300 South)	Local Road	2190	60	CG/S	3	75	-	Chip Seal	\$46,273.08
100 North (400 East to End)	Local Road	600	30	CG/S	10	0	-	Chip Seal	\$6,338.78
Arches Dr	Local Road	855	35	CG/S	5	50	-	Slurry Seal	\$10,538.22
Bartlett St	Local Road	1265	35	CG/S	10	0	-	Chip Seal	\$15,591.63
Carlos Ct	Local Road	450	35	CG/No S	7	25	\$11,869	Chip Seal	\$5,546.43
Kiva Dr and Kachina Way	Local Road	1670	30	CG/S	7	25	-	Chip Seal	\$17,642.93
Nob Hill	Local Road	610	35	CG/No S	7	25	\$13,115	Chip Seal	\$7,518.50
Rosalie Ct	Local Road	340	45	CG/No S	3	75	\$26,903	Slurry Seal	\$5,387.96
West Mivida Dr	Local Road	705	35	CG/S	5	50	-	Chip Seal	\$8,689.41
Winesap	Local Road	705	35	CG/S	10	0	-	Fog Seal	\$8,689.41
Center Street (400 East to End)	Local Road	500	30	CG/S	10	0	-	Chip Seal	\$5,282.32
200 South (200 East to 400 East)	Local Road	1110	60	CG/S	7	25	-	Fog Seal	\$23,453.48
Birch Ave (End to Huntridge Dr)	Local Road	540	40	CG/No S	10	0	-	Fog Seal	\$7,606.53
East Hillside Dr	Local Road	785	35	CG/S	5	50	-	Fog Seal	\$9,675.44
Grand Circle Dr	Local Road	150	45	CG/No S	5	50	\$7,913	Slurry Seal	\$2,377.04
Huntridge Dr (End to Mountain View Dr)	Local Road	235	40	CG/S	10	0	-	Chip Seal	\$3,310.25
South Hillside Dr	Local Road	1270	35	CG/S	10	0	-	Fog Seal	\$15,653.26
Sunshine Cir	Local Road	295	50	CG/S	10	0	-	Slurry Seal	\$5,194.28
Andrea Ct	Local Road	450	35	CG/No S	7	25	\$11,869	Fog Seal	\$5,546.43
Hobbs St	Local Road	880	40	CG/S	10	0	-	Chip Seal	\$12,395.83
Juan Ct	Local Road	450	35	CG/No S	10	0	-	Slurry Seal	\$5,546.43
Moenkopi Dr	Local Road	1005	35	CG/No S	5	50	\$43,215	Fog Seal	\$12,387.03
Mountain View Dr (Birch Ave to Kane Creek Blvd)	Local Road	2025	40	CG/No S	7	25	\$31,388	Fog Seal	\$28,524.50
Mountain View Dr (Dogwood Ave to Birch Ave)	Local Road	1230	40	CG/S	3	75	-	Fog Seal	\$17,325.99
Navajo Cir	Local Road	220	50	CG/No S	10	0	-	Slurry Seal	\$3,873.70
North Hillside Dr	Local Road	730	35	CG/S	10	0	-	Fog Seal	\$8,997.54
Park Road	Local Road	705	35	CG/No S	10	0	-	Fog Seal	\$8,689.41
Wingate Ave	Local Road	960	40	CG/S	7	25	-	Slurry Seal	\$13,522.73

**TABLE 7  
MOAB 2019 PAVEMENT EVALUATION  
SUMMARY OF COST TO ADD OR REPAIR SIDEWALK AND CURB GUTTER**

Road Segment	Classification	Length	Avg. Width (ft.)	Curb, Gutter & Sidewalk	Curb, Gutter & Sidewalk Condition	Estimated Percent Needing New or Replaced Curb and Gutter & Sidewalk	2019 Cost to Repair Curb and Gutter & Sidewalk	Recommended Roadway Treatment	2019 Roadway Cost
200 South (400 East to Tusher)	Local Road	1450	35	CG/No S	10	0	-	Fog Seal	\$17,871.83
200 South (Main St to 100 East)	Local Road	385	75	CG/S	10	0	-	Fog Seal	\$10,168.46
Birch Ave (Huntridge Dr to Kane Creek Blvd)	Local Road	375	40	CG/S	10	0	-	Fog Seal	\$5,282.32
Bowen Cir	Local Road	1305	40	CG/No S	5	50	\$40,455	Slurry Seal	\$18,382.46
Huntridge Cir	Local Road	400	40	CG/S	10	0	-	Fog Seal	\$5,634.47
Locust Lane (Tusher to Hillside Dr)	Local Road	540	35	CG/S	10	0	-	Fog Seal	\$6,655.72
Nichols Lane	Local Road	760	35	CG/No S	10	0	-	Fog Seal	\$9,367.31
Oak St	Local Road	745	35	CG/S	10	0	-	Fog Seal	\$9,182.42
Oliver St	Local Road	380	40	CG/No S	3	75	\$30,068	Fog Seal	\$5,352.75
Opal Ave	Local Road	690	40	CG/S	5	50	-	Fog Seal	\$9,719.46
Park Ave	Local Road	640	55	CG/S	3	75	-	Fog Seal	\$12,395.83
Tusher	Local Road	1920	35	CG/S	10	0	-	Fog Seal	\$23,664.77
Marcus Ct	Local Road	860	35	CG/No S	10	0	-	Fog Seal	\$10,599.85
McCormick Blvd	Local Road	1210	35	CG/No S	7	25	\$26,015	Fog Seal	\$14,913.74
Park Lane	Local Road	695	35	CG/No S	7	25	\$14,943	Fog Seal	\$8,566.15
Ute Cir	Local Road	300	40	CG/No S	10	0	-	Chip Seal	\$4,225.85
Walker	Local Road	1930	35	CG/S	10	0	-	Fog Seal	\$23,788.03
Apache Cir	Local Road	180	55	CG/No S	7	25	\$4,748	Slurry Seal	\$3,486.33
Aspen Ave (Doc Allen Dr to Huntridge Dr)	Local Road	840	40	CG/No S	7	25	\$18,060	Fog Seal	\$11,832.39
Chinle Ave	Local Road	670	40	CG/No S	5	50	\$28,810	Chip Seal	\$9,437.74
Cliffview Dr	Local Road	1110	40	CG/No S	7	25	\$23,865	Chip Seal	\$15,635.65
Cottonwood and Rowena Ct	Local Road	1100	45	CG/S	5	50	-	Slurry Seal	\$17,431.64
Dogwood Ave	Local Road	735	40	CG/S	7	25	-	Fog Seal	\$10,353.34
Huntridge Dr (Aspen Ave to End)	Local Road	1660	40	CG/No S	7	25	\$25,730	Fog Seal	\$23,383.05
Huntridge Dr (Mountain View Dr to Aspen Ave)	Local Road	1010	35	CG/No S	7	25	\$21,715	Fog Seal	\$12,448.66
Loveridge Dr	Local Road	875	35	CG/S	3	75	-	Slurry Seal	\$10,784.73
Rosetree Lane	Local Road	1325	25	CG/No S	3	75	\$61,613	Fog Seal	\$11,665.11
200 East (200 North to End)	Local Road	915	55	CG/S	1	100	-	Annual Evaluation	\$0.00
Byrd Ave and Blue Heron Ct	Local Road	830	35	CG/S	7	25	-	Annual Evaluation	\$0.00
David Ct	Local Road	550	40	CG/S	7	25	-	Annual Evaluation	\$0.00
Doc Allen Dr	Local Road	3135	25	CG/S	10	0	-	Annual Evaluation	\$0.00
McKay Place	Local Road	130	25	CG/S	10	0	-	Annual Evaluation	\$0.00
Jonny Way	Local Road	340	35	CG/S	10	0	-	Annual Evaluation	\$0.00
Topaz Cir	Local Road	200	50	CG/S	7	25	-	Crack Seal	\$1,207.39
Gala Ave	Local Road	690	30	CG/S	10	0	-	Annual Evaluation	\$0.00
Shields Lane	Local Road	155	30	CG/S	10	0	-	Annual Evaluation	\$0.00
Colorado Ave	Local Road	125	40	CG/S	10	0	-	Annual Evaluation	\$0.00
Emma Blvd	Local Road	350	30	CG/S	7	25	-	Annual Evaluation	\$0.00
South Palisade from Colorado St	Local Road	600	30	CG/S	10	0	-	Annual Evaluation	\$0.00
West Byrd Ave	Local Road	320	25	CG/S	10	0	-	Annual Evaluation	\$0.00
Bonita St	Local Road	950	40	CG/S	10	0	-	Annual Evaluation	\$0.00
<b>SUBTOTAL OF COSTS</b>							<b>\$594,295</b>		<b>\$8,687,016</b>

\* Lane miles is calculated as follows: roadway segment length in miles x (pavement width in feet / 12 feet)

**TABLE 8**  
**MOAB 2019 PAVEMENT EVALUATION**  
**RECOMMENDED CAPITAL IMPROVEMENT SCHEDULE AND COSTS**

ROADWAY SEGMENT	COST
<b>YEAR 1 - 2020</b>	
*KANE CREEK BLVD. PHASE 1; UDOT MAINT. STATION TO ASPEN AVE.	\$944,994
400 EAST (100 NORTH TO 300 SOUTH)	\$65,089
<i>*FUNDING COULD BE SET ASIDE TO CONSTRUCT PHASE 1 AND PHASE 2 TOGETHER IN 2021</i>	
<b>YEAR 1 TOTAL</b>	<b>\$1,010,083</b>
<b>YEAR 2 - 2021</b>	
KANE CREEK BLVD. PHASE 1; ASPEN AVE. TO MAIN STREET	\$712,890
CENTER STREET; 100 WEST TO MAIN STREET	\$237,373
MILLCREEK DRIVE (400 EAST TO SANDFLATS)	\$10,533
MILLCREEK DRIVE (SOUTH MURPHY TO SPANISH VALLEY DRIVE)	\$44,606
<b>YEAR 2 TOTAL</b>	<b>\$1,005,402</b>
<b>YEAR 3 - 2022</b>	
400 EAST (KIVA DRIVE TO MAIN STREET)	\$948,394
100 NORTH (100 WEST TO MAIN STREET)	\$14,657
MILLCREEK DRIVE (LASAL ROAD TO SANDFLATS)	\$24,333
SANDFLATS	\$88,242
CENTER STREET (300 EAST TO 400 EAST)	\$15,532
<b>YEAR 3 TOTAL</b>	<b>\$1,091,157</b>
<b>YEAR 4 - 2023</b>	
100 WEST (400 NORTH TO WALNUT LANE)	\$754,350
100 EAST (300 SOUTH TO URANIUM)	\$158,310
400 SOUTH (300 SOUTH TO KIVA DRIVE)	\$62,055
CENTER STREET (MAIN STREET TO 200 EAST)	\$34,562
<b>YEAR 4 TOTAL</b>	<b>\$1,009,277</b>
<b>YEAR 5 - 2024</b>	
100 SOUTH (MAIN STREET TO 400 EAST)	\$1,022,109
<b>YEAR 5 TOTAL</b>	<b>\$1,022,109</b>
<b>YEAR 6 - 2025</b>	
CENTER STREET (100 WEST TO MAIN)	\$269,778
CRESTVIEW DRIVE	\$145,555
100 EAST (200 NORTH TO END)	\$292,929
CRESTVIEW DRIVE	\$145,555
<b>YEAR 6 TOTAL</b>	<b>\$853,817</b>
<b>YEAR 7 - 2026</b>	
CENTER STREET (100 WEST TO MAIN)	\$279,220
200 NORTH (MAIN STREET TO END)	\$166,081
200 SOUTH 100 WEST TO MAIN	\$287,297
WEST 200 SOUTH STREET	\$152,561
<b>YEAR 7 TOTAL</b>	<b>\$885,160</b>

**TABLE 8  
MOAB 2019 PAVEMENT EVALUATION  
RECOMMENDED CAPITAL IMPROVEMENT SCHEDULE AND COSTS**

ROADWAY SEGMENT	COST
<b>YEAR 8 - 2027</b>	
GRANNY COURT	\$281,272
WESTWOOD	\$249,818
MCGILL BOULEVARD	\$210,483
TAYLOR AVENUE	\$208,820
<b>YEAR 8 TOTAL</b>	<b>\$950,393</b>
<b>YEAR 9 - 2028</b>	
400 EAST COURT	\$307,760
BARTLET COURT	\$449,529
300 EAST (200 NORTH TO 100 NORTH)	\$223,160
SUNDIAL DRIVE	\$260,354
PARK DRIVE (500 WEST TO END)	\$86,412
<b>YEAR 9 TOTAL</b>	<b>\$1,327,214</b>
<b>YEAR 10 - 2029</b>	
200 EAST (CENTER STREET TO 300 SOUTH)	\$337,528
WALNUT LANE	\$81,001
NORTH PALISADE TO COLORADO STREET	\$78,114
ASPEN AVENUE (HUNTRIDGE DRIVE TO KANE CREEK BOULEVARD)	\$127,706
200 NORTH (100 WEST TO MAIN STREET)	\$81,665
CEDAR AVENUE	\$40,340
NORTH MIVIDA DRIVE	\$40,340
CENTER STREET (END TO 400 WEST)	\$123,527
<b>YEAR 10 TOTAL</b>	<b>\$910,221</b>

## 9.0 REFERENCES

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