



Implementing PASER in a Rural Community

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Overview

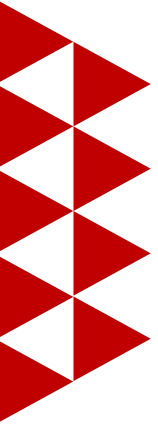
- ▶ Storey County
- ▶ What is PASER?
- ▶ Method
- ▶ Technology Transfer
- ▶ Unintended benefits
- ▶ Next steps



Storey County

- ▶ Established in 1859
- ▶ 2nd smallest county in Nevada (population)
- ▶ Home to Reno-Tahoe Industrial Center, the largest industrial park in the US
- ▶ 4,123 residents
- ▶ 264 square miles
- ▶ 77 centerline miles of paved roads





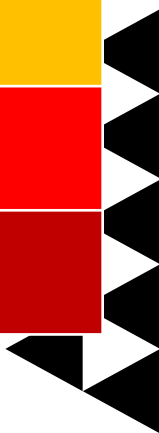
What is PASER?

Pavement Surface Evaluation Rating

Qualitative rating system for road pavement condition developed by the University of Wisconsin-Madison Transportation Information Center

- ▶ 1-10 rating scale

PASER Rating	PASER Category
10-9	Excellent
8	Very Good
7-6	Good
5-4	Fair
3	Poor
2	Very Poor
1	Failed



PASER

ADVANTAGES

- ▶ Quick
- ▶ “Windshield Survey”
- ▶ Treatment Options
- ▶ Maintenance Planning
- ▶ Minimal Staff

DISADVANTAGES

- ▶ Cannot be disaggregated into component distress data
- ▶ Limited detail
- ▶ Only surface distresses





Method

- ▶ Discuss *network segmentation* prior to data collection.
 - ▶ Shapefile OR Linework
- ▶ Evaluate and identify the predominant distress:
 - ▶ Type
 - ▶ Extent (estimated)
 - ▶ Severity
- ▶ Assign a PASER Rating





Technology Transfer

A simplified pavement management tool that predicts condition using simplified deterioration rates, assigns work and costs based on a simple decision tree, then allows the user to select projects to use the available budget.



											2025 Treatment Selection				Budget Allocated		
											Area Weighted Average Rating	# treatment to highlight in DETAILED, if more a different treatment (possibly more expensive) will be necessary the following year.			Budget Allocated	Remaining Budget	
											3.62				\$50,000,000	\$50,000,000	
File #	Branch / Street Name	Section #	From	To	Surface Type	Current Rate	Pavement Condition	Length (ft)	Wth (ft)	True Area	Prior	Year 2 Rating	Pavement Condition Year 2	Maintenance Action	Estimated Cost	Select Treatment	\$
130	A ST	1	SOUTH ST	0.1 MI N. OF SOUTH ST	AC	0	OTHER	565	20	11,297		0		Gravel	\$0.00		
177	A ST	2	SOUTH ST	SOUTH END	AC	6	Good	1,365	25	34,236		6	Good	Localized repairs and surface treatment (5)	\$34,338.22		
178	A ST	3	NORTH ST	SOUTH END	AC	6	Good	1,353	24	42,066		6	Good	Localized repairs and surface treatment (5)	\$42,375.68		
3	ALEXANDRIA CT	4	WALTHAM	EOP	AC	7	Good	865	24	21,237		7	Good	Maintain with crack sealing (7)	\$0.00		
35	AMERICAN FLATS RD (LOWER)	5	AMERICAN FLATS RD (UPPER)	SR342	OTHER	0	OTHER	6,850	20	137,000		0		Gravel	\$0.00		
36	AMERICAN FLATS RD (UPPER)	6	AMERICAN FLATS RD (LOWER)	STILY COUNTY LINE	OTHER	0	OTHER	9,756	20	295,134		0		Gravel	\$0.00		
87	B ST	7	SILVER ST	TAYLOR ST	AC	5	Fair	507	32	16,230		5	Fair	Localized repairs and surface treatment (5)	\$1,716.94		
100	B ST	8	SILVER ST	TAYLOR ST	AC	3	Fair	750	32	24,012		4	Fair	Mil and overlay with localized patching (3)	\$24,519.08		
143	B ST	9	TAYLOR ST	MILL ST	AC	4	Fair	1,132	32	36,226		5	Fair	Mil and overlay with localized patching (4)	\$24,748.24		
144	B ST	10	TAYLOR ST	MILL ST	AC	5	Fair	461	32	14,753		5	Fair	Localized repairs and surface treatment (5)	\$17,438.38		
145	B ST	11	MILL ST	SR341	AC	3	Good	1,677	23	38,574		3	Good	Mil and overlay with localized patching (3)	\$32,011.12		
147	B ST	12	SR341	SILVER ST	AC	4	Fair	1,350	23	28,975		4	Fair	Mil and overlay with localized patching (4)	\$33,352.78		
150	BLANCHARD ST	13	TELEGRAPH ST	SR342	AC	1	Fair	325	25	3,137		1	Fair	AC - Reconstruction (1)	\$31,717.40		
9	BRITAIN DR	14	WALTHAM WAY	LONDON DR (WEST)	AC	3	Good	1,238	22	28,964		3	Good	Mil and overlay with localized patching (3)	\$29,078.59		
10	BRITAIN DR	15	LONDON DR (WEST)	LONDON DR (EAST)	AC	7	Good	2,727	22	59,302		7	Good	Maintain with crack sealing (7)	\$0.00		
14	BRITAIN DR	16	USA PKWY	USA PKWY	AC	8	Very Good	1,434	22	31,551		8	Very Good	Maintain with crack sealing (8)	\$38.94		
27	CANYON WAY	17	CERCLE DE LA CERISE	CERCLE DE LA CERISE	AC	4	Fair	491	24	3,330		4	Fair	Mil and overlay with localized patching (4)	\$64,266.62		
25	CANYON WAY	18	AVENUE DE LA COULEURS	CERCLE DE LA CERISE	AC	4	Fair	668	24	16,030		4	Fair	Mil and overlay with localized patching (4)	\$106,570.59		
95	CANYON WAY	19	ACCESS RD MUSTANG EXIT	0.44 MILES SE OF ACCESS RD MUSTANG EXIT	AC	3	Good	1,381	25	34,524		3	Good	Mil and overlay with localized patching (3)	\$35,564.38		
56	CANYON WAY	20	PERMANCH RD	28 MILES SE OF CANYON WAY BRIDGE INTERSECTION	AC	3	Excellent	1,753	24	42,070		3	Excellent	No action required	\$0.00		
57	CANYON WAY	21	28 MILES SE OF CANYON WAY BRIDGE INTERSECTION	0.44 MILES SE OF ACCESS RD MUSTANG EXIT	AC	2	Very Poor	5,210	24	221,945		2	Very Poor	AC - Reconstruction (2)	\$2,235,025.91		
58	CANYON WAY	22	0.44 MILES SE OF ACCESS RD MUSTANG EXIT	DIRT ROAD INTERSECTION	AC	2	Poor	1,016	25	49,376		2	Poor	AC - Reconstruction (2)	\$458,004.40		
59	CANYON WAY	23	DIRT ROAD INTERSECTION	EOP	AC	4	Fair	1,320	25	33,090		4	Fair	Mil and overlay with localized patching (4)	\$220,297.19		
93	CARSON ST	24	SR341	H ST	AC	6	Good	808	27	21,814		6	Good	Localized repairs and surface treatment (6)	\$22,851.46		
180	CARSON ST	25	EOP	SR341	AC	6	Good	491	22	10,583		6	Good	Localized repairs and surface treatment (6)	\$11,307.53		
182	CARSON ST	26	EOP	SR341	AC	6	Good	773	22	3,913		6	Good	Localized repairs and surface treatment (6)	\$4,361.66		
30	CARTWRIGHT RD	27	PANAMINT RD	SR341	AC	3	Good	1,046	25	25,311		3	Good	Mil and overlay with localized patching (3)	\$25,578.23		
91	CARTWRIGHT RD	28	1057 SOUTH OF BUCKEYE RD & CARTWRIGHT RD	PANAMINT RD	AC	3	Poor	1,511	21	31,740		3	Poor	Mil and overlay with localized patching (3)	\$32,318.88		
92	CARTWRIGHT RD	29	SADDLEBACK RD	1057 SOUTH OF BUCKEYE RD & CARTWRIGHT RD	AC	3	Poor	2,261	23	52,003		3	Poor	Mil and overlay with localized patching (3)	\$52,566.56		
33	CARTWRIGHT RD	30	SARAZAC RD	SADDLEBACK RD	AC	3	Poor	1,781	22	39,160		3	Poor	Mil and overlay with localized patching (3)	\$39,983.86		
93	CARTWRIGHT RD	31	SR341	380 FEET OF LOOSE TOWN RD @ EOP	AC	3	Poor	10,225	24	245,417		3	Poor	Mil and overlay with localized patching (3)	\$2,493,857.32		
169	CERISE RD	32	CARSON ST	EOP	AC	1	Good	749	27	20,224		1	Good	AC - Reconstruction (1)	\$34,462.70		
26	CERCLE DE LA CERISE	33	CANYON WAY	AVE DE LA BLEU DE CLAIR	AC	4	Fair	1,534	20	30,683		4	Fair	Mil and overlay with localized patching (4)	\$204,756.71		
51	CERCLE DE LA CERISE	34	AVE DE LA BLEU DE CLAIR	AVENUE DE LA COULEURS	AC	4	Fair	695	20	13,895		4	Fair	Mil and overlay with localized patching (4)	\$32,751.33		
82	CON STOGA WAY	35	ROWANS GULCH	SAN CLEMENTIS AVE	OTHER	0	Good	362	20	19,235		0		Gravel	\$0.00		
153	COUR DE LA ARGENT	36	AVENUE DE LA ARGENT	END	AC	5	Fair	326	20	3,643		5	Good	Maintain with crack sealing (7)	\$0.00		
34	COULE DE LA COULEUR	37	AVENUE DE LA ARGENT	END	AC	5	Fair	326	20	4,821		5	Fair	Localized repairs and surface treatment (5)	\$5,944.31		
121	CROWN POINT ST	38	SR342	0.088 MI SE OF SR342	OTHER	0	OTHER	533	20	10,661		0		Gravel	\$0.00		
32	D ST	39	MILL ST	SR341	AC	4	Fair	499	27	13,475		4	Fair	Mil and overlay with localized patching (4)	\$89,925.43		
113	D ST	40	TAYLOR ST	MILL ST	AC	3	Good	1,106	29	32,081		3	Good	Mil and overlay with localized patching (3)	\$326,694.66		
123	D ST	41	MILL ST	SR341	AC	6	Good	732	21	20,295		6	Good	Localized repairs and surface treatment (6)	\$20,262.39		
127	D ST	42	SR341	E ST	AC	4	Fair	1,415	25	39,739		4	Fair	Mil and overlay with localized patching (4)	\$425,334.30		
137	D ST	43	SR341	DAYTON TOLL RD	AC	1	Good	1,795	29	52,046		1	Good	AC - Reconstruction (1)	\$52,237.37		
139	D ST	44	E ST	TAYLOR ST	AC	5	Fair	433	31	13,433		5	Fair	Localized repairs and surface treatment (5)	\$16,404.24		
140	D ST	45	E ST	TAYLOR ST	AC	7	Good	646	31	20,076		7	Good	Maintain with crack sealing (7)	\$0.00		
343	D ST	46	E ST	TAYLOR ST	AC	4	Fair	235	31	7,266		4	Fair	Mil and overlay with localized patching (4)	\$48,011.52		
142	D ST	47	TAYLOR ST	MILL ST	AC	7	Good	466	29	14,094		7	Good	Maintain with crack sealing (7)	\$0.00		
132	DAYTON TOLL RD	48	0.244 MI E OF SR342	SR342	AC	1	Good	855	22	18,818		1	Good	AC - Reconstruction (1)	\$19,268.39		
24	DENMARK DR	49	PERUDR	USA PKWY	AC	5	Fair	1,205	24	29,008		5	Fair	Localized repairs and surface treatment (5)	\$33,317.07		
25	DENMARK DR	50	USA PKWY	670 FEET WEST OF VENICE DR	AC	5	Fair	3,542	24	85,012		5	Fair	Localized repairs and surface treatment (5)	\$94,815.36		



Technology Transfer

Input

- Network Information (e.g., length, width, surface type).
- Deterioration Rate
- Treatment Strategy and Unit Costs



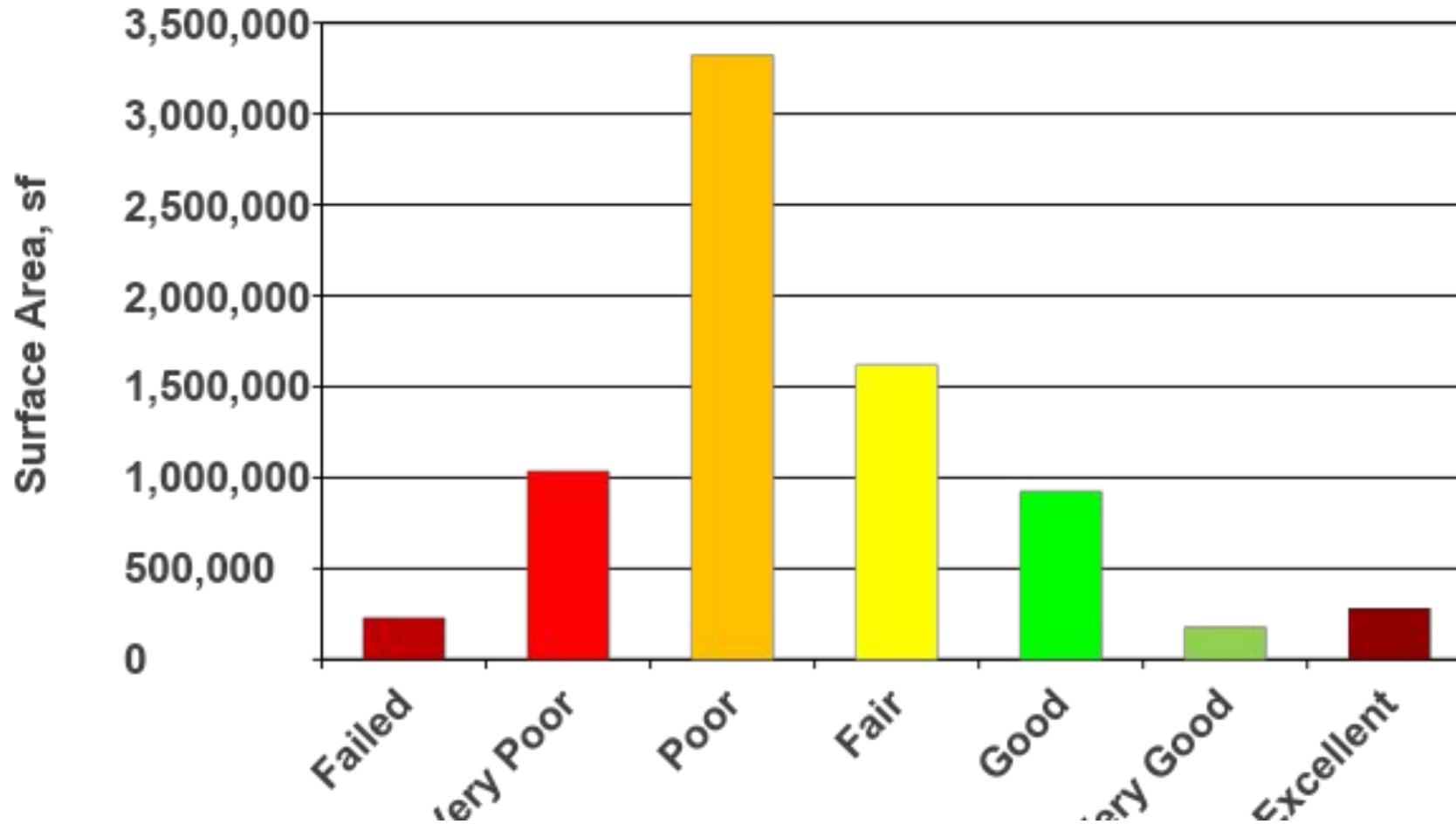
Technology Transfer

Output

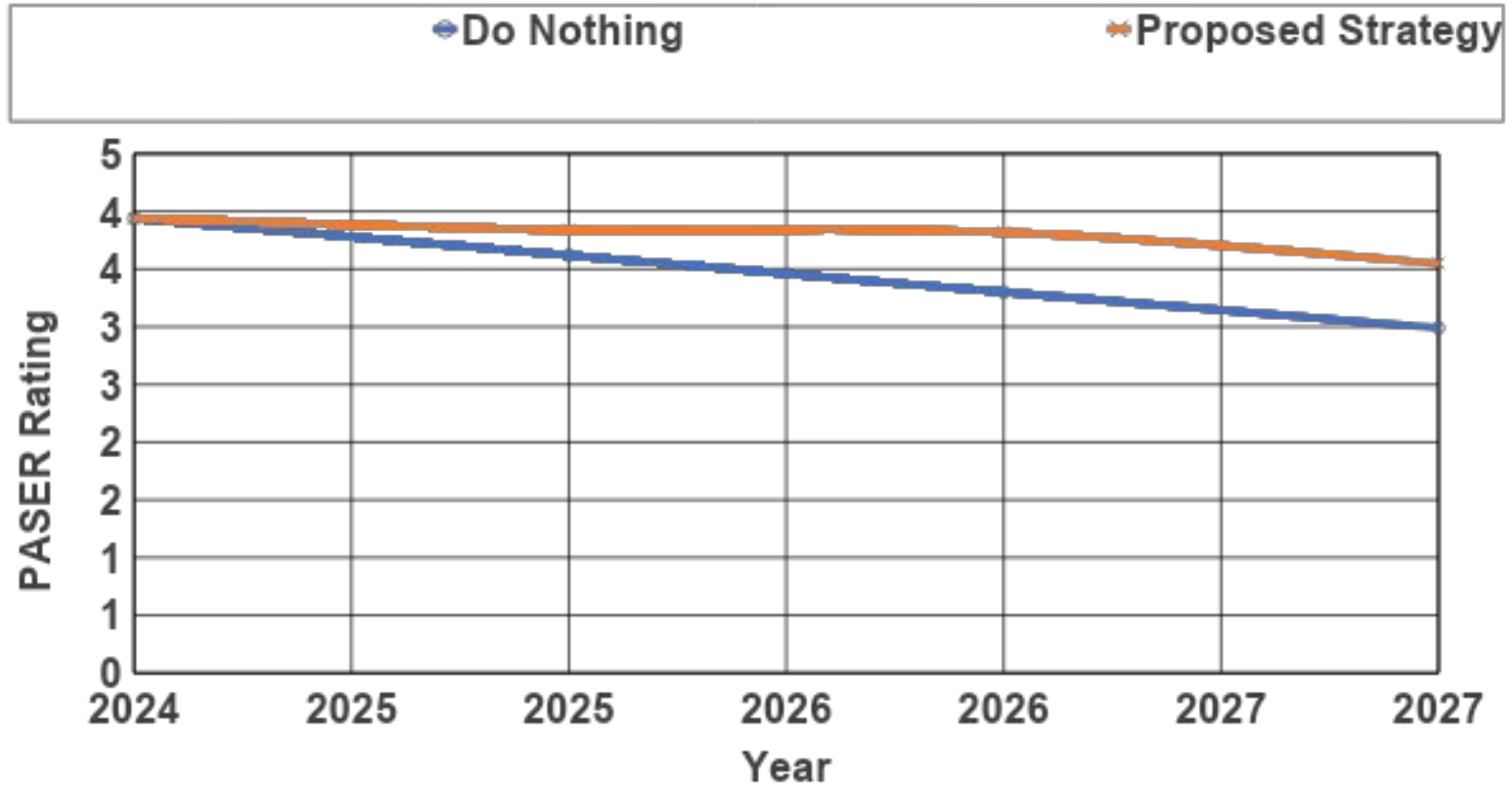
- ▶ View maintenance actions and estimated cost per section
- ▶ Select treatments to be carried out every year
- ▶ Track remaining budget based on selected treatments
- ▶ View sections that may require a more expensive treatment if work is deferred
- ▶ Track change in overall network condition
- ▶ Summary Plots and Tables for non-technical audiences



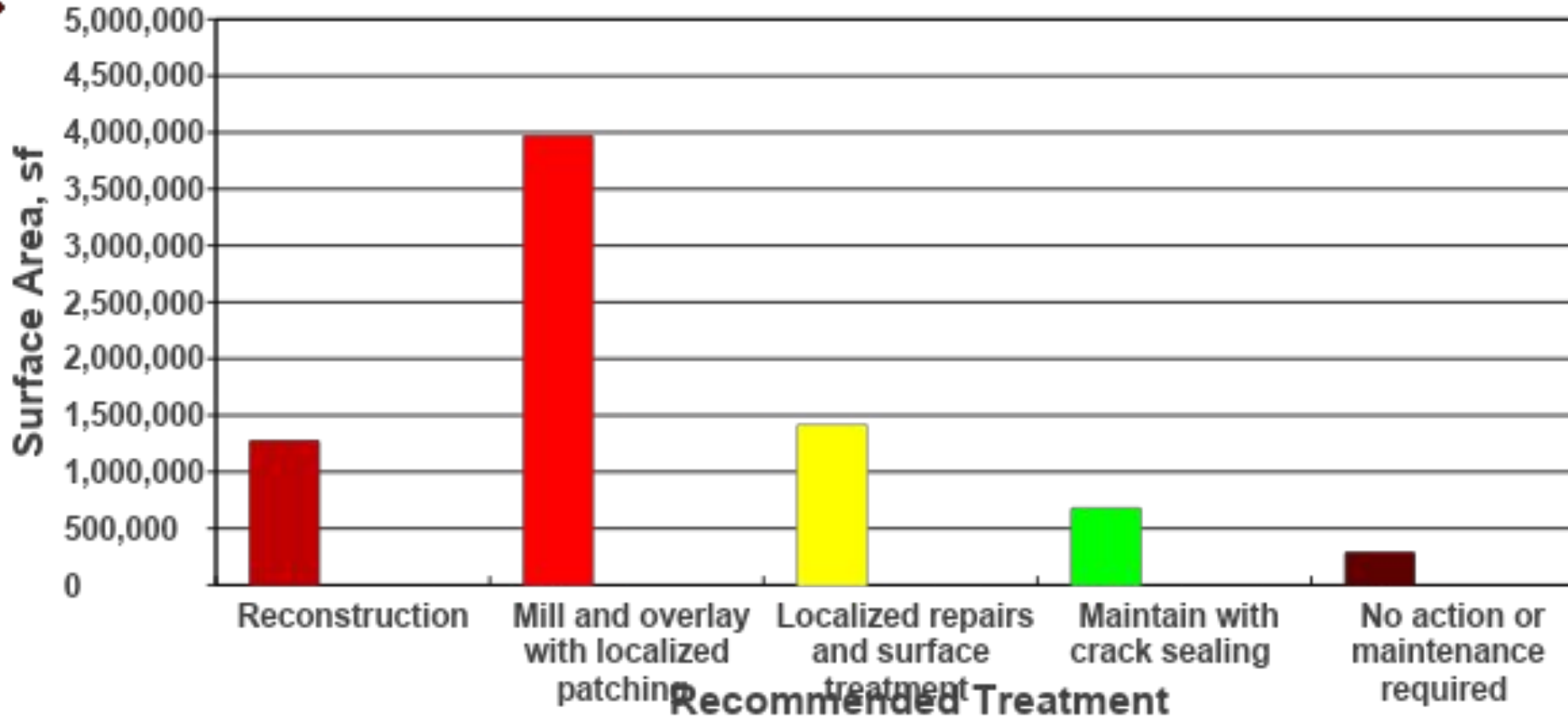
Pavement Condition



Change in Condition



Required Work Per Year





Unintended Benefits

- ▶ Accurate inventory of road dimensions and surface types will allow for better management of their network.
- ▶ Shapefile of their paved network.
- ▶ Updated condition rating for the entire network.
- ▶ Trained in-house surveyors that will be able to do future assessments.
- ▶ Simplified pavement management tool for budget forecasting and project planning



Next Steps

- ▶ Yearly updating of the database
 - ▶ Work History
 - ▶ Unit Costs
 - ▶ Network segmentation
- ▶ Reassessing the conditions every 3 to 5 years
- ▶ Updating deterioration rates upon completion of the data collection
- ▶ Incorporating new treatments when necessary
- ▶ Is the tool still providing the agency with what it needs or is a more robust pavement management tool required.



THANK YOU!

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