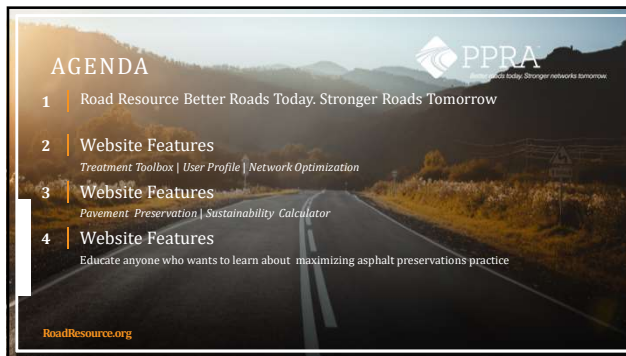




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Better roads today. Stronger networks tomorrow.

**RoadResource.org**  
A COMPREHENSIVE RESOURCE FOR  
OPTIMIZING NETWORK MANAGEMENT

Melynda Boswell | Super User | Hot Wheel Asphalt Paving Solutions, Inc.



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**AGENDA**

- 1 | Road Resource Better Roads Today. Stronger Roads Tomorrow
- 2 | Website Features  
*Treatment Toolbox | User Profile | Network Optimization*
- 3 | Website Features  
*Pavement Preservation | Sustainability Calculator*
- 4 | Website Features  
Educate anyone who wants to learn about maximizing asphalt preservation practice


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The Situation:

**Demand** is increasing for asphalt emulsions, preservation and recycling.

However, many city and county agencies are still unaware of benefits and best practices to successfully choose and apply these treatments.

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Three Associations Join Together to Support the Industry at Large



FORMING THE PAVEMENT PRESERVATION & RECYCLING ALLIANCE




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Two Guiding Questions

- 1 How do we equip road owners & end users with **tools to increase the successful use** of pavement preservation and recycling?
- 2 How do we better disseminate research, success stories, and learning across all agencies, **making information more accessible**?


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Research & Collaboration

Competitive exploration & Industry affiliations	International data survey	Retreats with ISSA, AEMA & ARRA leadership
Input from over 45 agency and industry leaders	Interviews & beta-testing with agency-level users, pavement managers, DOTs, & roadway engineers	Page by page technical review from multiple committees

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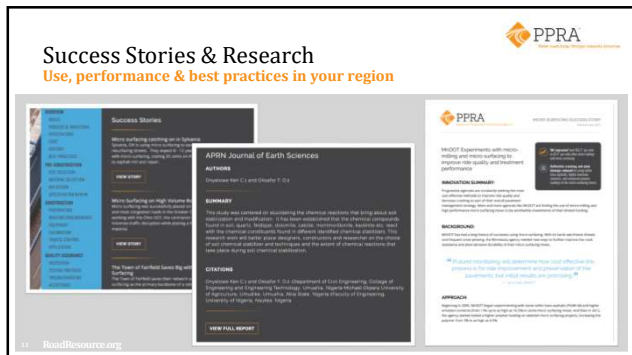
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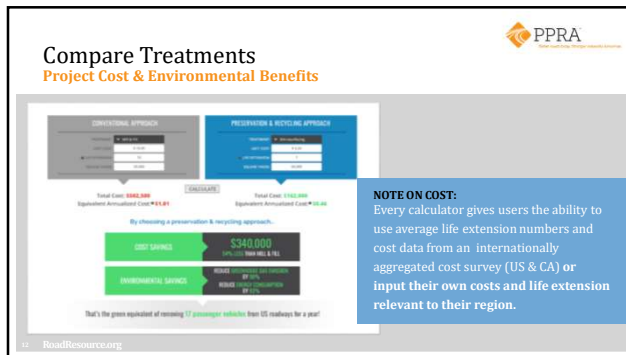
Which treatment is best for my road?  
Input pavement criteria or select photos for treatment options



Treatment Resource Center  
Ensure treatment success with comprehensive information on 18 treatments



Success Stories & Research  
Use, performance & best practices in your region



Compare Treatments  
Project Cost & Environmental Benefits



### Cost-Benefit Value

Which projects will give the "biggest bang for the buck?"

Cost-Benefit Value

CBV =  $\frac{\text{Traffic} \times \text{Constraint Factor} \times \text{L} \times \text{Life Extension}}{\text{Unit Cost} \times \text{PCI}}$

Total Network Lane-Miles: 500 | ADOT Constraint: 7 | Total Budget: \$ 2900000

Item	Category	Unit	Quantity	Unit Cost	Total Cost	Benefit	CBV
ROAD 1	Reconstruction	1000 sq yd	10	\$200,000	\$2,000,000	15	15
ROAD 2	Preservation	1000 sq yd	20	\$145,000	\$2,900,000	29	29

ROAD 1: Worst First @ Reconstruction = 15 CBV

ROAD 2: Preservation = 29 CBV

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### RSL Calculator | Worst First Approach

Total Network Lane-Miles: 500 | Average Lane Width (ft): 12 | Total Budget: \$ 2,900,000 | Remaining Budget: \$ 1,920,000

Treatment Type	Category	Life Extension (Years)	Lane-Miles Treated	Lane-Miles/Year	Unit Cost	Total Cost
Reconstruction	Reconstruction	25	2	50	\$28.54	\$570.80
Major M&F	Rehabilitation	15	2	30	\$16.64	\$332.80
Minor M&F	Rehabilitation	11	2	22	\$9.80	\$196.00
Crack Seal	Preservation	2	8	16	\$0.48	\$3.84
<b>TOTALS</b>			<b>12</b>	<b>118</b>		<b>\$803.44</b>

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### RSL Calculator | Optimized Approach

Total Network Lane-Miles: 500 | Average Lane Width (ft): 12 | Total Budget: \$ 2,900,000 | Remaining Budget: \$ 1,312,000

Treatment Type	Category	Life Extension (Years)	Lane-Miles Treated	Lane-Miles/Year	Unit Cost	Total Cost
Full Depth Reclamation	Reconstruction	25	1	25	\$18.54	\$185.40
Major M&F	Rehabilitation	15	1	15	\$16.64	\$166.40
Minor M&F	Rehabilitation	11	1	11	\$9.80	\$98.00
Crack Seal	Preservation	2	8	16	\$0.48	\$3.84
Chip Seal	Preservation	6	8	48	\$2.06	\$164.80
Micro-surface lift	Preservation	6	6	36	\$2.77	\$166.20
Crack Seal	Preservation	10	2	20	\$5.20	\$104.00
<b>TOTALS</b>			<b>25</b>	<b>219</b>		<b>\$798.64</b>

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### RSL Example to Plug Into RoadResource.org Interactive Calculator

January 31, 2019 for Indus Sales Team

200 lane-mile network with avg. 12' width (equates to 2,400,000 sq yd) and \$800,000 budget

**Worst First Approach:**

Treatment Type	Category	Life Extension	Lane-Miles Treated	Lane-Miles/Year	Unit Cost	Total Cost
Full Depth Reclamation = 4' PMMA	Reconstruction	25	2	50	\$28.54	\$570.80
Major M&F & F&B	Rehabilitation	15	2	30	\$16.64	\$332.80
Minor M&F & F&B	Rehabilitation	11	2	22	\$9.80	\$196.00
Crack Seal	Preservation	2	8	16	\$0.48	\$3.84
<b>TOTALS</b>			<b>12</b>	<b>118</b>		<b>\$803.44</b>

Program results: 97% of funds spent on Reconstruction & Rehabilitation such that only 14 lane-miles were treated (7% of the network) and a net loss of 83 lane-miles/year of network service life (200 lane-miles approx. 7-year span)

**Optimized Approach:**

Treatment Type	Category	Life Extension	Lane-Miles Treated	Lane-Miles/Year	Unit Cost	Total Cost
Full Depth Reclamation = 4' PMMA	Reconstruction	25	1	25	\$18.54	\$185.40
Major M&F & F&B	Rehabilitation	15	1	15	\$16.64	\$166.40
Minor M&F & F&B	Rehabilitation	11	1	11	\$9.80	\$98.00
Crack Seal	Preservation	2	20	40	\$0.48	\$9.60
Resurfacing Fog Seal	Preservation	3	8	24	\$5.67	\$136.08
Chip Seal	Preservation	6	8	48	\$2.06	\$164.80
Micro-surface lift	Preservation	6	6	36	\$2.77	\$166.20
Crack Seal	Preservation	10	2	20	\$5.20	\$104.00
<b>TOTALS</b>			<b>25</b>	<b>219</b>		<b>\$798.64</b>

Program results: Reconst/Rehab program cut in half such that 52% of funds could be spent on keeping good roads in good condition and 47 lane-miles could be treated (24% of the network) and a net gain in network service life of 13 lane-miles/year could be achieved.

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**FOR MORE INFORMATION**

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