



Bio-based product means it's safer handling for work crews

No heating required, can be applied at ambient temperatures

Lower emissions

Zero PAH's  
(Polycyclic Aromatic Hydrocarbons)

## Advantages of Revolution™ Asphalt Rejuvenator

Revolution™ asphalt rejuvenator is a cost effective approach to maintaining the rheological properties of asphalt binder in top-of-curve pavements at a level necessary to retain relaxation properties and drastically slow the oxidation, raveling and propagation of cracks in asphalt surfaces.

Rejuvenators create an enormous economic value to agencies struggling to maintain their streets and road networks with declining budgets and increased fuel and hot mix asphalt costs.

- ◆ For use on county roads, city streets, interstate shoulders, longitudinal joints, rumble strips and paved trail systems
- ◆ No aggregate or sand cover required
- ◆ Dries clear eliminating the need to restripe
- ◆ For agencies that require minimal traffic interruption, Revolution™ penetrates and cures in approximately 1 hour depending on temperatures and humidity levels on the day of application
- ◆ Very stable emulsion, NO agitation required

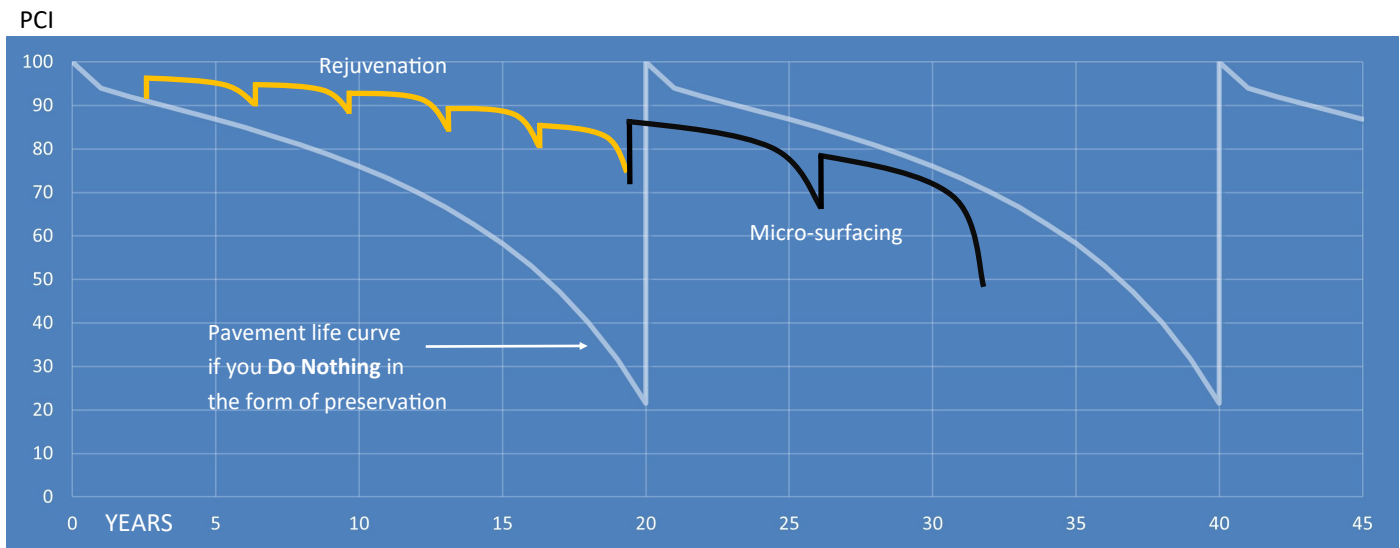


# Our Strategy

A simplified strategy to include early stage and low-cost crack fill, followed in year 2-4 with rejuvenation of the asphalt binder with perpetual treatments every 3-4 years while maintaining an average Pavement Condition Index (PCI) of 85 and a PASER rating of high 7 to 8.

Followed by an initial micro-surface treatment in years 18-19 with a second micro-surface treatment in years 25-26 extending the useful service life of the asphalt pavement.

We have five (5) decades of experience in pavement management and preservation, let us help you take your streets and roads to a 32-35+ year useful service life. It starts with a low cost early-stage preservation and maintenance plan to avoid premature milling and resurfacing your streets and roads.



◆ Climate regions subject to freeze-thaw will experience Poor-Very Poor PCI's in the 40's - low 50's in 8-10 years if No Preservation is utilized

## Cost Savings and Return on Investment

Treatment Strategy	Unit Cost	Year Performed	\$/Centerline Mile	Useful Service Life	Annualized Cost
Crack Fill					
Rejuvenation	\$1.20-\$1.60 SY	Yrs 3,6,10,13,16	\$ 121,086.00	32 Years	\$ 3,783.94
Micro-surfacing	\$3.80-\$4.80 SY	Yr 19 and Yr 26	\$ 204,581.00	32 Years	\$ 6,393.16
<i>Average Rejuvenator cost used \$1.40/SY      Average Micro cost used \$4.25/SY</i>					
1.5" Mill / Re-surface	\$16.00-\$21.00 SY	initial Yr and Yr 16	\$ 684,288.00	32 Years	\$ 21,384.00
<i>Average Mill &amp; Re-surface cost used \$19.00/SY</i>					

- ◆ Annualized cost of preservation treatments versus new HMA replacement costs include a 3% annual inflation factor.
- ◆ Useful service life references surface asphalt behavior without base or other structural failure.



**The use of Revolution™ rejuvenator cost of ownership SAVINGS per centerline mile for an 1.5" overlay is 73%!**

**The use of Revolution™ rejuvenator cost of ownership SAVINGS per centerline mile for an 1.5" mill and resurface is 81%!**