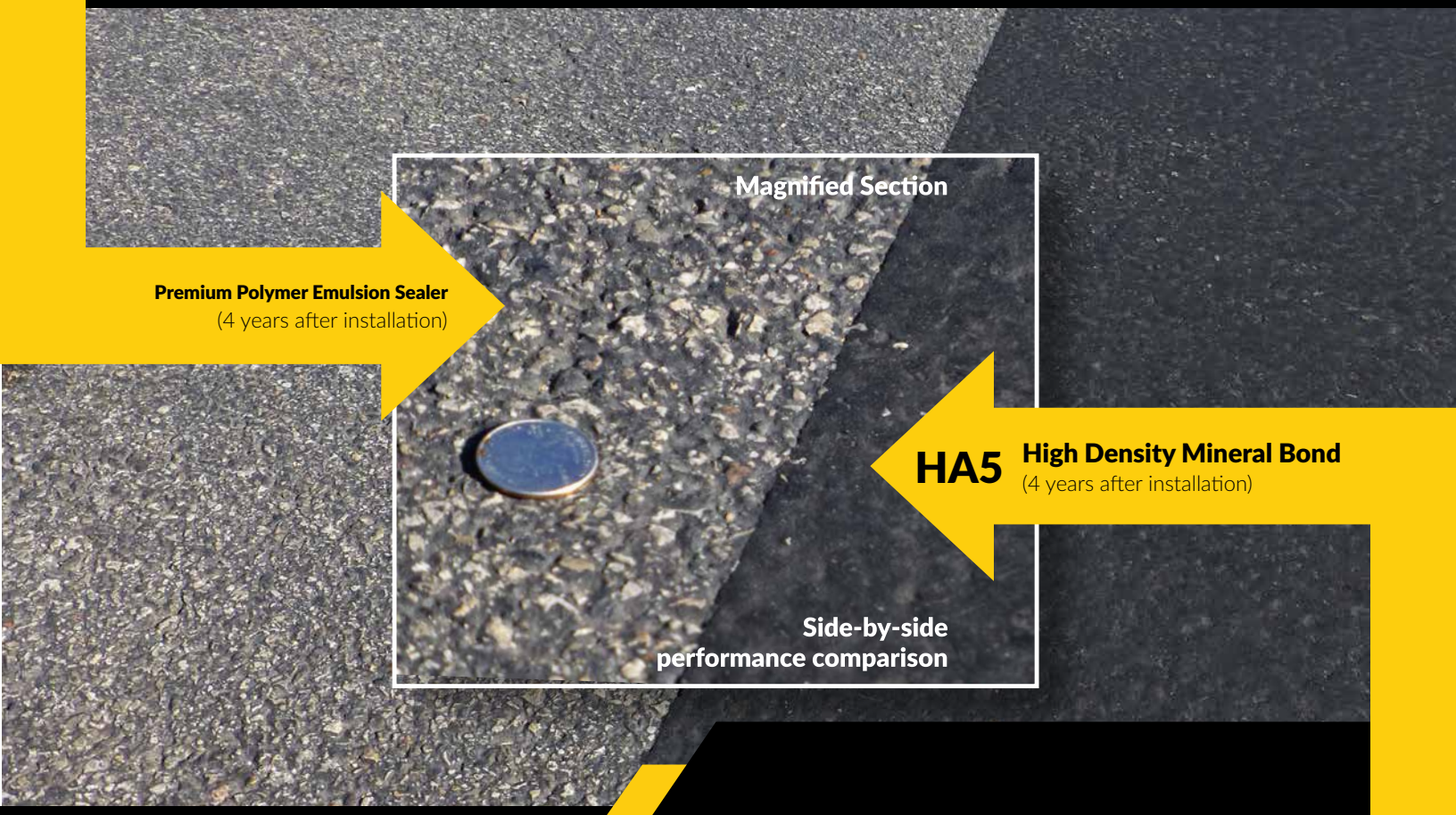
STREETS LAST LONGER
& COST LESS TO OWN



HA5™ High Density Mineral Bond

The tested and proven reliable choice for preserving our roadways

HA5 High Density Mineral Bond

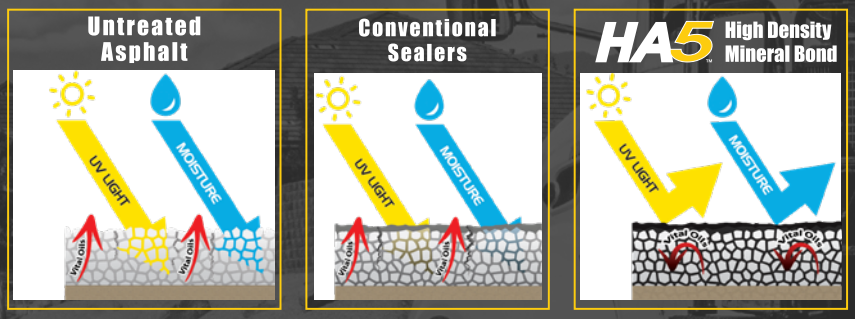
A breakthrough that is changing the aging characteristics of asphalt, and confirmed by a university testing, is igniting enthusiasm for a profound reduction in pavement life-cycle costs.

RESEARCH PROVES HA5 DELAYS AGE HARDENING

67%

DELAY IN ASPHALT AGING

HOW HA5 IMPACTS ASPHALT AGING



"Using conventional as well as leading-edge testing methods to identify the age hardening of the asphalt binders, researchers have identified a 67% delay in the age hardening of the asphalt binder with HA5 installed as a pavement preservation strategy. This ability to reduce flexibility loss supports an in-field case study where after just a four-year period a side-by-side comparison identified cracking to be reduced by nearly 9 times with HA5 installed."

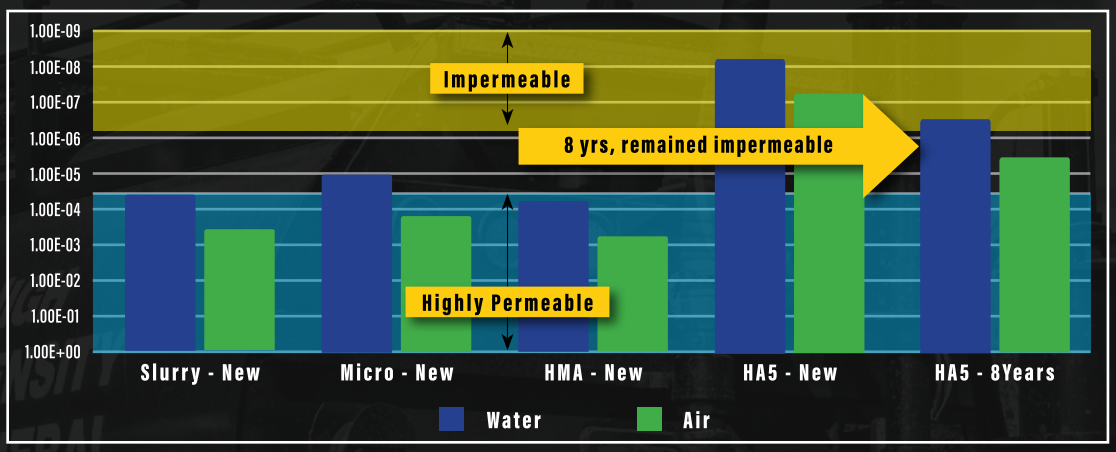
"Transportation Research 2020" Dr. Shakir Shatnawi, P.h.D., P.E. Former State Pavement Engineer and Division Chief at Caltrans with 30 years of experience in pavement design, management, and preservation.

CORE SAMPLE COMPARISONS

The HA5 treatment is 4 years older than the other two treatments, and it still maintained a like new condition many years after application with visible oils keeping the asphalt resistant to oxidative aging from air, water and UV ray.

HA5™ High Density Mineral Bond

AIR & WATER PERMEABILITY COMPARISON



Research on binder elasticity and pavement permeability proves that asphalt treated with HA5 significantly increases the useful life of asphalt pavement and therefore dramatically lowers the cost of transportation infrastructure.

ROI

Primary Treatment Strategy	Avg PCI	(Subdivision Public Acceptance Rating) PAR	$/Centerline Mile*	Cost of Ownership Savings
1. Do Nothing	70	4	$5,642,846.54	0%
2. Partial Recon/ Surface removal	73	4	$3,612,576.63	36%
3. Mill & Overlay	76	6	$3,099,706.96	45%
4. Thin Overlay	75	6	$2,961,391.49	48%
5. Seal Coat/Mastic Sealer	79	7	$2,639,047.53	53%
6. FOG/Rejuvenator	81	7	$2,590,647.40	54%
7. Type II Slurry	86	4	$1,281,249.01	77%
8. Micro Surface	80	5	$1,247,331.18	78%
9. Chip Seal	80	2	$1,115,431.75	80%
10. High Density Mineral Bond (HA5)	88	9	$954,838.49	83%

- Highest Return on Investment (ROI)
- Highest Pavement Condition Index (PCI)
- Highest Public Acceptance Rating (PAR)

Every agency's design specifications and goals are different but HA5 has proven its effectiveness at extending design life no matter what your goals look like.

RAS Roadway Asset Services

Data analysis provided by Scot Gordon, PE, IAM, President, Roadway Asset Services, LLC. Scot has a Bachelor's and Master's degree in civil engineering from Texas A&M University with 30 years experience involving design of major highway infrastructure, evaluation and research of pavements, soil stabilization, and pavement management plan development.

Wheeling, IL

Wesley Chapel, FL

St George, UT

Spartanburg, SC

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Scottsdale, AZ

Rocklin City, CA

Nashville, TN

Mathews, NC

Pleasant Grove, UT

Las Vegas, NV - Red Rock

Dallas, TX

Kent Nobis

Integrated Pavement Solutions (IPS)

214-935-2042

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Commercial Complex

Alabama DOT