Rubber Modified Asphalt: State Of Knowledge Report Highlights

RECYCLED RUBBER COALITION

The U.S. Tire Manufacturers Association (USTMA), in partnership with the University of Missouri and The Ray, published a peer-reviewed report assessing the potential economic, performance, and environmental benefits of rubber-modified asphalt (RMA). The report finds that RMA is not only a viable end-of-life market for scrap tires—it has significant potential to improve infrastructure. When applied, RMA provides significant public benefits in sustainability, performance and safety, and cost-efficiency.

Key findings from the report are summarized below:

Environment And Sustainability

-34%
CO2 Emissions

-38%
Ozone Depletion

-30%
Water Depletion

Performance And Safety

2X
Lifetime Extension

Additional Benefits

- Extends pavement life (reduced cracking and rutting)
- Improved tire grip (skid resistance)
- Improved pavement smoothness
- Safer for travel during heavy rain (reduced hydroplaning)
- Reduces roadway noise (1–10 decibels)

Economics

- RMA is less expensive than traditional polymer-modified asphalt, with comparable performance
- Thinner designs provide comparable performance to traditional asphalt, at lower cost (40-50% Reduction)

Compared to traditional asphalt, RMA provides cost savings over the lifecycle of the pavement, extends pavement life, improves fuel economy, and reduces noise, CO2 emissions and tire and road wear particles.

> This research provides those who make infrastructure decisions—road operators, state and federal regulators and legislators, pavement and road construction contractors and researchers—with important information on the effectiveness and environmental impact of rubber modified asphalt. It outlines why states should review and expand asphalt specifications to incorporate this proven alternative.
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> **Dr. Bill Buttlar, lead researcher and Director of the Missouri Center for Transportation Innovation**