



Can paving projects be more sustainable, reduce waste, and lead to cost savings?

THE ANSWER IS YES!

Using recycled asphalt shingles (RAS) in pavement can advance sustainability goals, divert valuable resources from landfills, and lead to cost savings. Since 2006, King County LinkUp has been working with stakeholders to support the use of RAS in local asphalt pavements. Here is what we have found:

There is strong precedent.

Today, 27 states are using RAS in asphalt pavements. These states have evaluated the use of RAS in paving at levels ranging from 3%-5% of the mix and found it to be a proven product that performs to specifications over time. The State of Missouri indicates that using RAS in paving offers a very durable and more rut-resistant asphalt at a lower price.

After positive results from a 2009 paving demonstration to evaluate the use of RAS, the King County Solid Waste Division and King County Parks are now starting to specify recycled asphalt shingles in paving projects.

The Washington State Department of Transportation (WSDOT) and the Washington Asphalt Pavement Association (WAPA) recently drafted a new special provision (specification) to monitor the use of RAS in select state paving contracts in 2012. While Washington State is on the path to developing a pavement specification that allows for RAS, King County urges local jurisdictions to join dozens of state transportation agencies and specify this proven technology in paving mixes now.

There is significant waste diversion potential.

More than 40,000 tons of asphalt shingles are generated annually in Seattle and King County. An increasing amount of this material is being locally processed for use in pavements. With asphalt shingles comprising approximately 10-12% of the construction and demolition (C&D) waste being disposed, this material represents a key waste diversion opportunity. Plus, with an average landfill fee of over \$100 per ton, there are substantial savings that could benefit the construction industry due to reduced fees for recycling.



"Black Gold"

The asphalt content in a roofing shingle typically ranges from 20-30%, depending on age and other factors. Reclaiming the asphalt from shingles offers a cost-effective alternative to the costly virgin asphalt used in paving mixes.



Cost Savings in Missouri

Missouri found that the use of recycled shingles saves \$3 to \$5 per ton of finished asphalt mix. A typical resurfacing project in Missouri uses about 30,000 tons of asphalt, for a savings of \$90,000 to \$150,000 per project.

LinkUp can help!

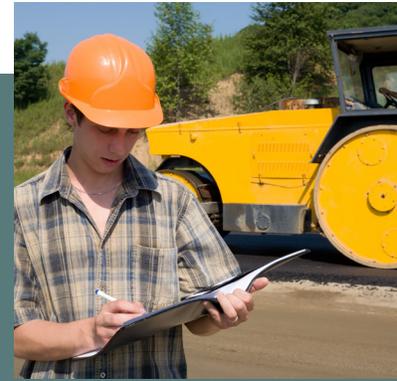
If you're interested in using recycled asphalt shingles in paving projects, contact **Kris Beatty** with the **King County Solid Waste Division**
kris.beatty@kingcounty.gov

206.296.3740



Reducing Greenhouse Gas Emissions

According to EPA, recycling one ton of shingles reduces greenhouse gas (GHG) emissions by 287 lbs of carbon dioxide equivalents (CO₂e). The Texas Department of Transportation estimates that for each ton of hot mix asphalt produced with 5% recycled asphalt shingles, it can reduce GHG emissions by 7% (or 100 lbs of CO₂e).



There are sustainability benefits.

States using RAS in roadways estimate that they save millions of dollars each year. One local paving company estimates that using RAS may reduce overall paving costs by up to \$5 per ton. As the local market for hot mix asphalt containing RAS grows, those savings could eventually be reflected in bid prices.

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Let us assist you.

If you are interested in using RAS in your community, King County LinkUp can help. We have technical experts and resources to support the use of recycled asphalt shingles in paving, including:

- Easy access to information about the successes other states have had with using RAS in pavements.
- Contacts with local transportation and materials engineers about their experience testing and using RAS in hot mix asphalt.
- Industry publications that document the benefits of using RAS in paving.
- Paving specifications to serve as templates for specifying RAS in paving projects.
- A listing of local and regional recyclers and pavers that are collecting and processing asphalt shingles for road paving applications.
- Guidance to ensure that recyclers and paving contractors meet health, safety, and environmental requirements when recycling and using shingles in asphalt pavements.

To discuss how your community can get started with using recycled asphalt shingles in paving projects, contact Kris Beatty with the **King County Solid Waste Division** at kris.beatty@kingcounty.gov or **206.296.3740**.

Building Partnerships to Expand Markets for Recycled Materials.

