

Recycled Asphalt Shingles (RAS) in Town Gravel Roads

PROJECT TITLE

Recycled Asphalt Shingles (RAS)
in Town Gravel Roads

STUDY TIMELINE

Summer 2018 – Current

VTRANS CONTACTS

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ANR CONTACTS

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More information about the VTrans
Research Program, including
additional Fact Sheets, can be
found at:

<http://vtrans.vermont.gov/planning/research>

Problem Statement

The State of Vermont is encouraging the recycling of asphalt shingles and will be instituting statewide shingle collection in July 2021. Gravel roads are well documented to have issues with rutting, potholing, washboarding, airborne dust and the repeated need for maintenance. Several states have implemented the use of Recycled Asphalt Shingles (RAS) in gravel roads and seen improvement in performance as compared to conventional aggregate.



Methodology

VTrans and ANR DEC worked with six town DPWs to coordinate the installation of RAS on short sections of an unpaved road. The towns obtained <math><1/8\text{ inch}</math> ground RAS from a local shingle recycler and mixed it with their gravel source at an 80/20 gravel to RAS ratio. The towns each used their standard unpaved road resurfacing techniques when installing the RAS/gravel mix. VTrans and ANR DEC observed installations, provided guidance, and continue to conduct periodic site visits and obtain feedback from the towns to document the condition of the roads and the effectiveness of RAS. Additionally, RAS/gravel mix samples have been collected for sieve analysis from each test site.

Next Steps

The majority of towns have reported a decrease in potholing, washboarding, rutting, and airborne dust. Preliminary indications are that RAS/gravel requires less regrading and less frequent reapplication of liquid calcium chloride, resulting in cost savings. VTrans and ANR DEC will continue to monitor the project roads and solicit comments from the Towns. If successful, RAS/gravel best management practices will be developed.

Potential Benefits

If effective, RAS/gravel may provide Towns with an unpaved road system that requires less maintenance, less aggregate, with commensurate lower cost. A productive use of RAS would divert from disposal a portion of the estimated 25,000 tons of waste asphalt shingles that are generated in Vermont yearly.