VERMONT
AGENCY OF TRANSPORTATION

FACT SHEET

Stone Matrix Asphalt and Advancement of Pavement Testing

PROJECT TITLE
Stone Matrix Asphalt and Advancement of Pavement Testing

STUDY TIMELINE
April 2021 – October 2023

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KEYWORDS
Pavement, Bituminous Concrete, Stone Matrix Asphalt

More information about the VTrans Research Program, including additional Fact Sheets, can be found at:
http://vtrans.vermont.gov/planning/research

Introduction or Problem Statement

Pavement distresses, rutting/cracking/raveling are an ever-present problem, caused by increase traffic loading, construction issues, and material weakness to the harsh Vermont Climate. Stone Matrix Asphalt (SMA) is a new pavement treatment that has the potential to provide greater durability to heavy traffic loading, and longer service life. In addition, advancements in pavement testing can serve to ensure quality construction, and better predict material quality.

Methodology or Action Taken

An experimental feature section of SMA was included in the Sharon-Bethel interstate project, so we can compare it to the traditional Superpave Type IV. Coinciding with the construction of the SMA section, the FHWA Mobile Asphalt Technology center was on site to demonstrate some new pavement testing technology. This included a density profilometer, pavement depth scanner, macrotexture scanner, performance testing equipment (AMPT, Ideal CT, Ideal RT) and a rapid binder scanner. These tests, an others will be run on SMA and HMA sampled from the project, to help compare the new treatment, to our traditional materials.

Conclusions or Next Steps

We are awaiting the results of the FHWA MATC testing. VTrans will be conducting periodic observational testing on this section to determine its aging performance, and help us determine the future application of SMA.

Potential Impacts and VTrans Benefits

If SMA is successful, it would serve as a new pavement treatment for the highest demand segments of Vermont's roads. Extending the lifespan of the highest demand segments would results in less frequent maintenance project, longer time till reconstruction, and could dramatically increase the return on investment in our paving program. New tests can help us better predict pavement life, and improve our existing treatment performance.