



Methyl Methacrylate Pavement Marking

VTrans uses 5 principal tiers of effort for its research delivery: **Product evaluations** or Experimental Features; **VT Research Advisory Council (RAC)** projects; **New England Transportation Consortium (NETC)** projects; **Pooled Fund Studies** (states joining together to pool resources) and the **National Cooperative Research Program (NCHRP)** and Transportation Research Board

Product Evaluation or Experimental Features are competed to assess the reliability, applicability or performance of new or innovative materials and processes in VT. Costs are in the range \$2-45K with durations of 3 months to 5 years depending on the complexity and scope of study. The Experimental Features program assures that the FHWA will participate in repairing or replacing the new technology, limiting VTrans financial exposure. Approx 12 % budget share

VTrans RAC meets quarterly as needed to discuss research projects, evaluate proposals for an annual research program. Projects are routine in the \$50-125k price range, with delivery times of 12-24 months. Many research projects are conducted by VTrans staff, while others are contracted out to academia or specialized research consultants. These projects are applied research, which answer a specific need that VTrans expresses. Approx 55% budget share

New England Transportation Consortium is a 6 state collaboration on research, with a common goal of stimulating DOT-State Land Grant University relationships in its charter. NETC was begun in 1994, with the administration of the Consortium moving among the different state universities as a result of contracting processes. The University of Vermont is the current NETC administrator. Research project that are specific to the New England States are solicited annually. Approx 10% budget share

Pooled Fund Studies are projects that are managed by FHWA or a lead State within the study program. Pooled fund studies are posted with a solicitation for participation by any state, in response to a focused research problem statement. The work is completed under the auspices of a steering committee from the funding partners. Costs are in the \$200k to 5M with duration from 18 months to 5 years. These projects allow states with common problems to leverage small individual contributions to larger problems. Approx 6% budget share

Cooperative Research Programs and TRB are leveraged research programs that address Aviation, Rail, Highway and Transit issues in an annual project solicitation process. The Transportation Research Board (TRB), an adjunct to the National Academies administers the Cooperative programs. Each project has an expert panel chosen nationally to guide it to a practical, scientific conclusion. VTrans participates in problem statement submittal, ranking process and expert panels in support of our needs. Current high priority projects and proposals for VTrans are related to Salt remediation on Bridge Structures and Changes in Asphalt Manufacturing processes Approx 17%budget share

2014 Reports

- 2014-01 Travel Importance and Strategic Investment in Vermont's Transportation Assets
- 2014-02 Ennis Paint, Inc. Tyregrip High Friction Surface System
- 2014-03 Centerline Rumble Stripes – Cambridge, Vermont
- 2014-04 Cargill SafeLane HDX Overlay
- 2014-05 Work Zones and Travel Speeds: The Effects of Uniform Traffic Officers and Other Speed Management Measures
- 2014-06 Epoplex Glomarc 90 Polyurea Pavement Marking
- 2014-07 Performance Monitoring of Jointless Bridges – Phase III
- 2014-08 Assessment of ASTM D 6690-12 Type II and Type IV Crack Fill
- 2014-09 Evaluation of Concrete Bridge Mix Designs for Control of Cracking, Phase I
- 2014-10 Pedestrian Hybrid Beacon Crosswalk System (PHB) or High-Intensity Activated Crosswalk (HAWK)
- 2014-11 Harvesting Data from Advanced Technologies
- 2014-12 Assessment of the Bridge in a Backpack Bridge System from Advanced Infrastructure Technologies (AIT)
- 2014-13 Evaluation of BlinkerSign Crosswalk Lighting System
- 2014-14 Statistical Analysis of Weigh-in-Motion Data for Bridge Design in Vermont
- 2014-15 Aexcel Roadzilla Methyl Methacrylate Pavement Marking
- U2014-01 Assessment of Extendo-Pave, a Polymer Crumb Rubber Crack Fill vs. Standard Type II and Type IV Crack Fill
- U2014-02 50-Gyratation SuperPave Mix, Rochester-Granville



British Pendulum Testing on a Friction Surface Overlay