



## ASPHALT RUBBER PAVEMENT PRESERVATION PROJECT

On August 8, 2006 Barre Town, Vermont continued its pavement maintenance program by applying a mixture of asphalt and 20% rubber to approximately 2 miles of pavement in less than one day in a residential neighborhood without any disruption to traffic. Twenty-two road foremen from surrounding areas were there to observe the process and ask questions of the representatives from All States Asphalt, project contractor, who conducted the demonstration.

This is Barre Town's first experience with the mixture. Harry Hinrichsen, Town Engineer, explained that the pavement had been "reclaimed and paved in 2004" in preparation for this product that has an average life cycle of 7-10 years.

Literature distributed by All States Asphalt describes the process: "The hot rubberized asphalt blend is applied to the clean, dry road surface and immediately covered with the pre-coated aggregate. The aggregate is placed, producing a dense one aggregate thick layer with no bald spots or bleeding areas. The aggregate is then oriented and seated with pneumatic tire and steel wheel rollers. The surface is swept as soon as the placed surface has cooled sufficiently." To speed cooling the surface may be sprayed with water. The temperature of the blend is 300 degrees Fahrenheit from truck to surface.

Much discussion was centered on whether crack sealing was necessary prior to this process. The consensus was that it depended on the size of the cracks. The aggregate itself is 3/8" to 1/2" size stone. Mr. Hinrichsen opted not to seal the cracks prior to the treatment because the cracks were small. Certainly, large cracks and pot holes must be patched at least 3 weeks before the treatment for the process to work as designed.



The stated advantages of asphalt rubber include increased expansion and contraction of the asphalt, the higher softening point of asphalt (no bleeding), a greater amount of asphalt gets

applied, there's no loose aggregate, rubber has natural anti-oxidants, there's a longer lifecycle, and lifetime costs are reduced. Class 2 roads in Vermont are eligible for state grants for this process because it falls under "maintenance."

Consider the following additional benefit. There are about 10 pounds of recyclable rubber in one passenger size tire. 1,306 passenger size tires are recycled in the process of a 20% asphalt rubber surface application per mile at 24 feet wide.

This treatment's not for every road. It's recommended for rural roads with traffic volumes up to 25,000 annual average daily traffic if the 20% mixture is used; 8,000 for the 10% mixture. Truck traffic should be low to moderate (less than 10%). All epoxy, polyester, thermoplastic and preformed striping must be removed. (All types of traffic markings can be applied.) Weather and seasonal limitations must be considered before applying the mixture.

Jeff Williams, Manchester Town Highway Superintendent, was contacted for this article because of his experience with the 10% mixture in 2005. Good early results prompted him to use the 20% this year. "It's working out real well," was his comment. He would recommend that all cracks be sealed prior to the application. He agrees that the process is not for every road, but that it has its place "in the tool box" alongside other options. Jeff believes in the long run he will save "\$15,000 per mile."

Communicating with the public is important to the success of every public works project. Mr. Hinrichsen said the project has been discussed at Select Board meetings and an article is being written for their quarterly newsletter. Mike Garand, East Montpelier Road Foreman, said that depending on the nature and size of the project he'll "go door to door" explaining what's happening and answer any questions prior to starting work.

This is not new technology. It's been used extensively in some states for more than 30 years. In addition to Manchester and Barre Town, Vernon and Norwich have projects scheduled for this year. There's lots of information, contractors, suppliers, and experience to draw upon. But the success of any road project can be summed up in a few words succinctly stated by Bill Ellis, Mendon Road Commissioner: "Everything depends on what's underneath."



Reference: Vermont Local Roads, September 2006