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## **States finally accepting rubberized asphalt**

By Miles Moore

It has taken rubberized asphalt more than 20 years to get over the onus placed on it by the Intermodal Surface Transportation Safety Act.

But now it seems ready to take its place as a useful, widely respected technology and the potential market leader for recycled rubber.

This was the consensus of speakers at the 2012 Rubber Recycling Symposium in Toronto, co-sponsored by the Rubber Association of Canada and the Rubber Manufacturers Association, Oct. 17-19.

"The time is right for rubberized asphalt, because the price of conventional asphalt has gone up," said RMA Vice President Michael Blumenthal.

Blumenthal expects to see significant growth in the rubberized asphalt market over the next two years, particularly with the establishment of the Rubberized Asphalt Foundation, a research foundation dedicated to the science of recycled tire rubber in asphalt.

Many of the board members of the RAF are university professors and state highway transportation officials, and much of the information it provides is from those disciplines, according to Blumenthal. "That gives the organization a lot more credibility than if it were a mere industry group," he said.

Passed in 1991, the Intermodal Surface Transportation Safety Act included a provision that required state highway transportation agencies to include an increasing percentage of rubberized asphalt in their road paving projects as a prerequisite for keeping their federal highway funds.

State highway officials resented the mandate, and early tests with rubberized asphalt—done without the input of the rubberized asphalt industry—failed.

Finally, Congress repealed the rubberized asphalt mandate, and to this day the industry has had to fight the bad impression the ISTEA provision created.

"It (rubberized asphalt) was ahead of its time," said Doug Carlson, vice president-asphalt products at Liberty Tire Recycling L.L.C. "Rubber was more expensive than asphalt, and it had a different cost structure."

The rising cost of conventional asphalt is not the only reason rubberized asphalt is gaining acceptance, according to Carlson. The material is also more resistant to cracking, has noise-dampening properties, provides better traction than conventional asphalt and can be laid in a thinner layer than conventional asphalt, he said.

Carlson showed cost comparisons between conventional asphalt and asphalt modified with recycled tire rubber. The latter today costs \$520 a ton, compared with \$550 a ton for the conventional material, he said.

The savings in maintenance costs over time are even more dramatic, Carlson said. Using figures from the Arizona DOT, he showed that average maintenance costs for rubberized asphalt were \$500 per lane mile over 10 years, compared with \$1,400 per lane mile for conventional asphalt.

Canadian provincial highway agencies are very interested in rubberized asphalt, according to speakers at the symposium. However, the states with the greatest experience in using rubberized asphalt—Arizona, California, Florida—are all hot-weather areas, and previous rubberized asphalt studies in the cold climate of Canada had varying success, they said.

There's no question rubberized asphalt is useful in cold climates because the Alaska DOT successfully used it in highway projects for years, said Gary Hicks, general manager of Hicks and Associates.

Hicks presented two papers at the symposium, dealing with testing of rubber-modified asphalt and rubberized asphalt cement in Ontario.

A few formulations have had emissions problems in being tested, Hicks said, but most have had no major problems at all. "Warm mix" rubber additives extend the road construction season in Ontario and actually reduce emissions, he said.

Also, high-binder-content chip seals and interlayers have proved extremely durable and effective in resisting reflective cracking, Hicks said.