Recycled Rubber Raises the Road

When the new Mud Pond Inlet Bridge was constructed, it was described as an application of "ingenuity to provide a realistic, innovative, affordable solution." The bridge is located in a rural area, connecting Maine's third largest city, Bangor, to summer cottages along the shore of Pushaw Lake. Built in the 1930s, the bridge traditionally flooded a couple days a year, prohibiting travel in both directions. The recent conversion of seasonal homes to year-round residences has increased public demand for something more reliable.

MaineDOT was determined to build a new roadway on the old structure, bringing it well above water level without significantly increasing the weight on the existing bridge timbers. The project was estimated to cost $10 million if constructed by traditional methods, yet state planners could not justify this price tag for a rural road with a relatively low volume of traffic.

The bridge's design team came up with a plan to reduce the cost to only $1.3 million, saving a whopping $8.7 million, by building with waste! To support the roadbed, the design team called for nearly 170,000 previously used shredded tires—20 percent of the waste tires generated in Maine in a year—along with geotextiles, a synthetic material that allows the exchange of water and air. The designers also incorporated old bridge railings and roadside guard rails from an ongoing highway bridge rehabilitation project rather than using new metal.

MaineDOT was excited by the cost savings generated from reusing materials for the new Mud Pond Inlet Bridge, and local residents were ecstatic with permanent roadway access. MaineDOT commissioner John G. Melrose described the project as "exactly the kind of creative, innovative thinking today's transportation environment demands."

For more information, go to the Web site of American Association of State Highway & Transportation Officials at: <www.transportation.org/aashto/success.nsf/allpages/08MEBridge>.