PLASTIC PAVEMENT

OVERVIEW OF INNOVATION

Caltrans, in partnership with a construction contractor and materials supplier, constructed a test section of pavement with a plasticized binder. A plasticized binder had never been used on a California State Highway before. According to the manufacturer, the binder contains recycled plastic bottles which can be incorporated at various quantities, up to 150,000 bottles per lane mile.

The purpose of the test section was to observe if the material could be placed using a Cold-in Place Recycling Process and paving machine as well as curing quickly enough to allow public traffic onto the section within 4 hours. On site to witness the operation were various testing labs, universities, technical experts, and researchers. Some evaluation factors for the test section included cure time, pavement smoothness, production rate, and overall constructability.

Moving forward, testing, and evaluation of the existing test section will continue. An additional test section will be constructed in the Spring of 2021, incorporating any lessons learned from the prior test section. Coordination with several laboratories is ongoing, including preparation and testing of lab samples to assess performance, explore and improve construction techniques, evaluate materials, and improve test methods. Also, development and investigation of methods to increase the amount of recycled plastic bottles into the pavement mix is being explored.

Source: Caltrans

BENEFITS

Supports intelligent risk taking and innovation in our work. “Plastic roads” aside from the obvious benefits of removing plastic from the waste stream, it also reduces our reliance on oil for use in flexible pavements. The application of plastic asphalt could reduce material costs by 25 percent, and its high level of durability would significantly reduce maintenance costs over time.

FIND OUT MORE . . .

Plastics Pavements Article:
https://archpaper.com/2019/10/los-angeles-roads-recycled-plastic-technisoil

Press Release:
https://dot.ca.gov/news-releases/news-release-2020-024

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Products, Process, Environment, Pavement, Materials, Maintenance, Sustainability, Flexible Pavements, Plastics, Recycle, Reduce Materials Costs, Cost Savings