Accelerated Research on the Potential for Recycling Plastics in Asphalt

In late 2018, media reports and online networks began generating an interest in the possibility of using recycled plastic waste in asphalt mixtures. The idea was marketed as an opportunity to simultaneously improve the quality of asphalt pavements and solve the problem of growing piles of waste plastic in cities and towns across the U.S. While magazine articles and videos have trumpeted potential positive impacts of using recycled plastic modified (RPM) asphalt, such as increased service life and reduced need for oil-derived polymers to modify asphalt binders, and while preliminary research suggests some of these benefits maybe realized, a full set of research to confidently back these claims is lacking.

The current waste plastic crisis is a critical concern; however, there is equal concern about the current state of the U.S.'s aging transportation infrastructure. Investment in maintenance, improvement, and expansion of transportation infrastructure in the U.S. must focus on delivering long-lasting, high-performing pavements as cost-effectively as possible. Any action taken to change the way an asphalt mixture is designed, produced, and constructed must demonstrate through independent, third-party research that there will be no negative impact to pavement performance or unintended consequences that could impact the health safety of plant operators or construction crews. If that can be demonstrated, RPM will serve as a mutually reinforcing solution; helping to bolster the recycling of plastics as well as improve performance of the transportation infrastructure.

A systematic accelerated research program designed to answer critical questions regarding long-term performance, health and safety, plant emissions, binder aging, construction and production best practices, and re-recyclability of RPM asphalt mixtures should be implemented. NAPA recognizes the current challenges associated with plastic waste and believes establishing a well-funded, comprehensive, accelerated research program led by the U.S. Department of Transportation that brings together all the stakeholders is the most effective and expeditious way to evaluate the long-term performance and feasibility for widespread adoption of RPM asphalt mixtures as a solution to creating a much needed end market to support the expansion of plastics recycling.

Sec. ###. ***Accelerated Research on the Potential for Recycling Plastics in Asphalt***

(a) *IN GENERAL. —The Secretary shall conduct research for the purpose of evaluating the use of Recycled Plastic Modified (RPM) Asphalt Mixtures.*

(b) *ACTIVITIES. —In carrying out subsection (a), the Secretary shall—*

1. *seek input and guidance from, and work in collaboration with, the asphalt pavement and plastic industries, American State Highway and Transportation Officials, state Departments of Transportation, and academia;*
2. *evaluate the effects of RPM asphalt mixtures on long-term pavement performance, emissions, binder aging, plant and construction operations, and re-recyclability;*
3. *utilize experimental test sections at test tracks and accelerated loading facilities to quickly gain an understanding of long-term performance for RPM asphalt mixtures;*
4. *enter into cooperative agreements with institutions of higher education and non-profit organizations for research and technology deployment; and*
5. *conduct demonstrations and open houses of technologies incorporating RPM Asphalt Mixtures.*

(c) *REPORT. —Not later than 1 year after the date of enactment of this Act, and annually thereafter, the Secretary shall submit a report to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a report on the status of the research conducted under this section.*

(d) *FUNDING. —From amounts authorized to carry out the Highway Research and Development Program, the Secretary shall use not less than $2 million for each of the fiscal years 2020 through 2026 to carry out this section.*

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