February 22, 2024

The Honorable Marc Korman
Chair, House Environment and Transportation Committee
251 House Office Building
Annapolis MD 21401

RE: Letter of Concern – House Bill 781 – Transportation – State Highways – Rubber Modified Asphalt

Dear Chair Korman and Committee Members:

The Maryland Department of Transportation (MDOT) offers the following letter of concern for the Committee's consideration on House Bill 781.

House Bill 781 establishes a mandate that the State Highway Administration (SHA) use rubber modified asphalt (RMA) in the construction, reconstruction, and repair of State highways. As defined, RMA means an alternative road pavement material produced by mixing crumb rubber[1] with conventional asphalt. The bill further requires SHA to (1) consider the use of various types of RMA when planning the construction, reconstruction, and repair of State highways, and (2) adopt regulations to carry out these requirements.

The SHA notes that higher energy use and environmental impacts tied to production have been mentioned as other disadvantages of RMA. However, some research suggests there are methodologies to reduce these impacts based on the production methods. Finally, assessing how RMA wears down over time and the service needs of RMA is critical to assessing the cost and environmental impacts of this product; this factor may depend on the conditions where the product is applied.

Additionally, research indicates that use of RMA is more expensive than conventional asphalt by an estimated 10 to 30 percent. As such, SHA will be required to reduce its paving projects to reflect increased costs or redirect funds from other capital projects to meet the higher paving costs. However, SHA notes that some studies suggest these initial costs may be offset by lower maintenance costs, and that application plays a role in the total cost of a project.

Finally, research studies indicate certain technical constructability challenges with the use of RMA. Developing RMA requires a higher mixing temperature and a longer mixing time; RMA cannot, in some cases, be stored in a stable manner; and vulcanizing the crumb rubber requires advanced techniques to break down into devulcanized rubber for it to be properly incorporated.

[1] As defined in the bill, "crumb rubber" means the granules that result from grinding up whole scrap tires from automobiles, trucks, and buses.

While advanced supplier techniques may be feasible to mitigate these challenges, SHA is concerned that not all Maryland asphalt suppliers and installers will have these capabilities, exposing SHA to a less competitive asphalt market and potential quality risks.

SHA notes that the Federal Highway Administration *encourages*[2] the use of waste tire rubber in engineering applications, including asphalt paving, where it is both cost effective and can be properly engineered. Generally, SHA is authorized to use any material for paving, so long as it meets required specifications for use. However, as drafted, SHA would be required to utilize RMA and precluded from utilizing competing sustainability products (e.g., fly ash byproducts, recycled pavement millings, warm mix technologies, etc.) along with new and potentially innovative technologies moving forward.

Given the unsettled nature of the benefits and detriments to RMA use in paving applications, SHA believes that further research on applications is needed before establishing requirements as to RMA use. SHA is committed to staying current on the latest pavement research and will consider future opportunities for RMA use.

The Maryland Department of Transportation respectfully requests the Committee consider this information when deliberating House Bill 781.

Sincerely,

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[2] Notably, the Intermodal Surface Transportation Efficiency Act (ISTEA) originally required that states use quantities of asphalt pavement containing recycled rubber; however, this was subsequently repealed by the NHS Designation Act of 1995, including the associated penalties, in favor of a standard requiring research and development of tests on the use of RMA.