May 4, 2022

The Honorable Mitchell J. Landrieu
Senior Advisor and Infrastructure Coordinator
The White House
1600 Pennsylvania Ave, NW
Washington, DC 20500

RE: Scrap Tire Technology for Bipartisan Infrastructure Law Implementation

Dear Mr. Landrieu:

As you begin the process of implementing the historic Bipartisan Infrastructure Law,[1] we write to share our appreciation for this important work and to offer you the full support and, as needed, technical expertise of America's tire manufacturers and recyclers. Our organizations work to keep end-of-life tires out of landfills by promoting strong, societally beneficial markets for scrap tires, and we support efforts to rebuild and improve America's roadways using technologies that will increase driver safety and ensure reductions in environmental impacts.

In that spirit, we wish to call your attention to two materials ideally suited to meeting the goals of the Bipartisan Infrastructure Law and to fulfilling the Biden Administration's mission

[1] https://www.congress.gov/bill/117th-congress/house-bill/3684

to minimize waste, advance pollution prevention, support markets for recycled products, and promote a transition to a circular economy:

Rubber-Modified Asphalt (RMA) is a mixture of asphalt with ground rubber from end-of-life scrap tires that delivers proven economic, environmental, and performance benefits in building better, longer lasting roads and highways. For example:

- RMA is a proven cost-effective option as it increases pavement service life and reduces the need for road maintenance activities. This leads to significant life-cycle cost savings compared to traditional asphalt.[2]
- The use of RMA results in a 32% reduction of CO_2 emissions and lower energy consumption over the lifetime of a pavement as compared to traditional asphalt.[3]
- RMA provides road performance benefits that include longer service life, increased skid resistance, significant noise reduction, and better ride quality.[4]
- RMA's relatively greater water permeability reduces water spray in wet conditions.[5]
- Tire rubber is designed to be a poor heat conductor; as a result, RMA retains less heat and can help to control urban heat islands.[6]
- Asphalt is one of the most recycled materials, further reinforcing the circularity of RMA.[7]
- The use of ground tire rubber in RMA has increased roughly 50% since 2017[8] and RMA is already in use in 30 states. Nevertheless, the U.S. Tire Manufacturers Association (USTMA), in partnership with the University of Missouri and The Ray,[9] published a report evaluating the state of knowledge on modern RMA highlighted a need for additional research and improved sharing of best practices, underscoring the importance of a federal role in advancing the use of this beneficial, circular resource.[10]

[2] *State of Knowledge Report on Rubber Modified Asphalt*, Buttlar and Rath (2021)
[3] *The environmental impact assessment of Asphalt Rubber: Life Cycle Assessment*. Bartolozzi et al. (2012)
[4] *State of Knowledge Report on Rubber Modified Asphalt*, Buttlar and Rath (2021)
[5] *Use of PFC to Improve the Performance of CRPC,* Texas Department of Transportation. (2003)
[6] *Chemical, thermophysical, rheological, and microscopic characterisation of rubber modified asphalt binder exposed to UV radiation.* Zadshir et al. (2020)
[7] National Asphalt Pavement Association https://www.asphaltpavement.org/uploads/documents/09-28-2020_Press_Release_2019_WMA_Survey_Final_Draft.pdf
[8] *2019 U.S. Scrap Tire Management Report*, U.S. Tire Manufacturers Association (2019)
[9] https://theray.org/
[10] Buttlar (n 1)

Tire-Derived Aggregate (TDA) is made from recycled scrap tires and is a cost-effective infill material for roadside embankments, retaining walls, and stormwater infiltration galleries.

- TDA allows for cost savings when compared to traditional mined minerals, such as gravel, since the lightweight recycled material costs less to transport.[11]
- TDA has a larger void space compared to gravel, offering improved drainage and, in stormwater infiltration galleries, the potential to capture greater water volume with a smaller gallery footprint.[12]
- Studies show TDA successfully captures potentially harmful pollutants from roadway runoff, including heavy metals, before they reach groundwater.[13, 14]
- TDA has proven effective and cost-efficient in mitigating ground vibrations from rail lines, a significant benefit to neighboring communities.[15]

The scrap tire recycling success story – and the challenges ahead

Tires remain one of the most recycled and reclaimed products in the U.S. Since 1990 — through the combined efforts of USTMA, state and federal regulators, recyclers and other stakeholders — 94% of the scrap tires stockpiled in the U.S. have been recovered for new uses. However, USTMA's 2018 Sustainability Report warned that scrap tire markets needed to grow to accommodate growth in new tire shipments. Data contained in the 2019 USTMA Scrap Tire Summary Report[16] show that scrap tire markets have not kept up.

Although the total number of scrap tires going to recycle and reclaim markets has not significantly changed since 2017, the beneficial end use rate for U.S. scrap tires is now just under 76%, down from its 2013 peak of 96%, as scrap tire generation grew 7% (by weight) between 2017 and 2019.

USTMA is currently working with stakeholders on multiple fronts to encourage the growth of circular, sustainable markets for scrap tires. The inclusion of RMA and TDA as appropriate in the Bipartisan Infrastructure Law is essential to this effort.

[11] https://www.calrecycle.ca.gov/tires/greenroads/tda
[12] CalRecycle Presentation "Civil Engineering Applications Using TDA" at 12, 16 (2017). https://www.green-technology.org/gcsummit17/images/LID_with_TDA_tires_Joaquin_wright.pdf.
[13] Properties of Tire Derived Aggregate for Engineering Applications. Chandler (2013)
[14] University of Minnesota Report: "The Impact of Stormwater Infiltration Practices on Groundwater Quality" (2014) http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.739.3625&rep=rep1&type=pdf
[15] https://www.calrecycle.ca.gov/Tires/TDA/Uses
[16] https://sustainability.ustires.org/environment/#vision-6

RMA and TDA Applications in the Bipartisan Infrastructure Law

The following are specific provisions of the Bipartisan Infrastructure Law where Rubber-Modified Asphalt and Tire-Derived Aggregate can play an integral role in achieving program goals:

BIPARTISAN INFRASTRUCTURE LAW PROVISION	SUMMARY	RMA	TDA	COMMENTS
Sec. 13006 Research and Technology Development and Deployment	This section extends the authorization for the Accelerated Implementation and Deployment of Pavement Technologies program and adds pavement-related considerations to enhance the environment and promote sustainability in the reporting under this program.	X		• RMA supports sustainability by providing an essential market for end-of-life scrap tires. • RMA contributes to reductions in CO_2 emissions and fuel consumption. • RMA contributes to societal sustainability goals, reducing ambient noise and preventing urban heat islands.
Sec. 70402 Consumer Recycling Education and Outreach Grant Program; Federal Procurement	Requires the EPA Administrator to consult with procuring agencies to clarify their responsibilities to procure products made with recycled materials.	X		• RMA is an essential recycling market for end-of-life tires, as well as a proven societally and environmentally beneficial material. It should be supported through federal sourcing policies.
Sec. 11520 Study On Stormwater Best Management Practices	Requires the Secretary and Administrator of EPA to offer to enter into an agreement with Transportation Research Board (TRB) to conduct a study on stormwater runoff from highways and pedestrian facilities and provide recommendations regarding potential stormwater management recommendations for State departments of transportation.	X	X	• Water infiltration galleries using TDA are a proven technology that should be included among the strategies evaluated for qualification as a best practice. • The required study should include further exploration of RMA's effectiveness in reducing stormwater runoff from road surfaces.

Sec. 11521 Stormwater Best Management Practices Reports	Requires the Administrator of Federal Highway Administration (FHWA) to update and reissue two existing stormwater best management practices reports to reflect new information and advancements in the field.	**X**	**X**	• Water infiltration galleries using TDA are a proven technology that should be included among recommended strategies. • Should research supported through the Act (and other testing) yield the expected results, RMA as a stormwater management technology should be included in the required 5-year best practices updates.
Sec. 50204 Sewer Overflow and Stormwater Reuse Municipal Grants	These grants may be used for the planning, construction and design of treatment works for municipal combined sewer overflows, sanitary sewer overflows, or stormwater, and any measures to manage, reduce, or recapture stormwater or subsurface drainage.		**X**	• Water infiltration galleries using TDA are a proven technology that should be recommended for use in funded projects.
Sec. 50217(b) Stormwater Infrastructure Technology	Eligible research includes stormwater and sewer overflow reduction, project enhancement, and other infrastructure.	**X**	**X**	• Water infiltration galleries using TDA are a proven technology; additional development research could optimize their benefits. • Research demonstrating RMA's effectiveness in reducing stormwater runoff from road surfaces would further support its profile as an environmentally beneficial, cost-effective, and high-performance material.

Sec. 50217(c) Stormwater Infrastructure Technology	Provides competitive grants for eligible entities to carry out stormwater control infrastructure projects that incorporate new and emerging, but proven, stormwater control technologies.		**X**	• Water infiltration galleries using TDA are a proven technology that should be included among recommended strategies.
Sec. 11110 Nationally Significant Freight and Highway Projects.	Expands eligibility to include projects to reduce stormwater runoff.		**X**	• Water infiltration galleries using TDA are a proven technology that should be included among recommended strategies.
Sec. 11405 Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program	Eligible activities for resilience improvement grants include upgrades to and installation of structural stormwater controls.		**X**	• Water infiltration galleries using TDA are a proven technology that should be included among recommended strategies.
Sec. 11518 Permeable Pavements Study	Requires the Secretary to conduct a study on the effects of permeable pavements on flood control and to develop related models and best practices.	**X**		• RMA's greater void space versus traditional asphalt is known to lead to reduced water spray in wet road conditions; its predicted benefits in reducing stormwater runoff should be confirmed through research.
Secs. 22101, 22103, 22105, 22106 Various Grants to Amtrak	Provides grants to Amtrak for programs including: Consolidated Rail Infrastructure & Safety, Restoration & Enhancement, and Federal-State Partnership for Intercity Passenger Rail		**X**	• TDA has proven effective and cost-efficient in mitigating ground vibrations from rail lines, a significant benefit to neighboring communities.
Secs. 22102(b), (c) and (d) Railroad Research and Development	Provides funding towards Railroad Research & Development, Transportation technology Center, and Rail Research & Development Center of Excellence		**X**	• TDA has proven effective and cost-efficient in mitigating ground vibrations from rail lines, a significant benefit to neighboring communities.

RMA, TDA and the road forward to a sustainable American infrastructure

As we have laid out in the table above, we believe materials made from scrap tires can not only play a vital role in meeting the goals of the Bipartisan Infrastructure Law but also represent useful tools for Biden Administration priorities such as waste reduction, recycling, and the transition to a circular economy. Members of the scrap tire value chain are willing and eager to support the Administration's incorporation of these technologies in the implementation of the Bipartisan Infrastructure Law and hope to serve as a resource for technological expertise moving forward.

We welcome the opportunity to meet with you to discuss the opportunities offered by RMA and TDA and answer questions you may have about the research and utilization of these technologies. We know how important it is for the United States to meet its goals in sustainability and infrastructure resiliency, and we are ready to play our part in that mission.

To that end, we will follow up with your office to coordinate a meeting. In the meantime, if you have any immediate questions, please reach out to USTMA Senior Director of Government Relations, Sean Moore, at smoore@ustires.org.

Sincerely,

American Bus Association
Asphalt Plus
CM Shredders
Crumb Rubber Manufacturers
EcoGreen Equipment
First State Tire Recycling
Institute of Scrap Recycling Industries, Inc.
International Institute of Synthetic Rubber Producers, Inc.
Liberty Tire Recycling
Missouri Center for Transportation Innovation
The Ray
TDA Manufacturing
Tiger Eye Engineering
Tire Industry Association
United Motorcoach Association
U.S. Tire Manufacturers Association

cc: The Honorable Joseph R. Biden, President of the United States
The Honorable Pete Buttigieg, Secretary, U.S. Department of Transportation
Katie Thomson, Director of Bipartisan Infrastructure Law Implementation, U.S. Department of Transportation