USTMA Full Corporate Members

- Bridgestone
- Continental
- Cooper Tires
- Giti
- Goodyear
- Hankook
- Kumho Tire
- Michelin
- Nokian Tyres
- Pirelli
- Sumitomo Rubber Industries
- Toyo Tires
- Yokohama
Setting context – the functions of the tire

- Support weight of the vehicle
- Provide precise/effortless everyday steering
- Provide stable & effective emergency steering
- Grip to accelerate
- Grip to brake
- Perform in wet conditions
- Perform in winter conditions
- Provide a quiet ride
- Absorb vibrations and impacts
- Provide long wear life
- Resist heat, overload, speed, low inflation
- Comply with Federal Motor Vehicle Safety Standards
Why do tires produce particles?

• Tires are a vehicle’s only connection to the road.
• The grip between a tire and the road surface is essential to tire safety and performance.
• The tire’s critical grip on the road creates tire and road wear particles (TRWP) due to abrasion that occurs during accelerating, braking and cornering.
• TRWP are a mixture of roughly 50% tire tread and 50% road surface.

Many factors impact the generation of particles from tires

- **Tire characteristics**
  - Tire type
  - Tire size
  - Tire design

- **Road characteristics**
  - Pavement type (rough road surface)
  - Curviness
  - Slopes up and downhill

- **Vehicle characteristics**
  - Vehicle weight (EVs)
  - Engine torque
  - Vehicle suspension type

- **Driving behavior**
  - Speed
  - Traffic
  - Acceleration
  - Tire maintenance (proper inflation)

- **Climate**
Tire and road wear particles – a complex sustainability challenge

The Challenge – How to balance safety and performance with environmental and human health impact?
Addressing TRWP

Increasing understanding

A holistic and multi-sector approach
Commitment to filling knowledge gaps

• The tire industry, through the World Business Council for Sustainable Development (WBCSD) Tire Industry Project (TIP) and other research institutions, such as The Center for Tire Research, and regional tire trade associations, are committed to additional research to understand and identify:
  o The degradation of TRWP in the environment
  o The presence & impacts of TRWP in different environmental compartments (air, soils, river & lake sediments, estuaries & oceans)
  o Solutions for mitigating TRWP generation
Addressing TRWP

Increasing understanding

A holistic and multisector approach
A holistic multisector approach is needed
Key takeaways

- TRWP present a complex sustainability challenge
- Tire industry is committed to understanding our products’ impact
- A comprehensive holistic approach is needed to address TRWP confidence
- Recognition of the need for action and desire to work collaboratively
THANK YOU

Sarah Amick
samick@ustires.org