



KANSAS CITY MISSOURI

Trash to Road Pilot Program



Waste Recovery & Road Longevity

- A road in our community will be repaved using innovative materials made from recycled waste as part of the Trash to Road Pilot Program
- Program inspired by successful projects around the country
 - Columbia, Missouri
 - New York
 - Texas
- Program in partnership with University of Missouri, LiveGreenUSA, and J.M. Fahey Construction



Waste Issues Worldwide

- Approximately 80% of the items buried in landfills could be diverted to extend the life of landfills, reduce the need for landfills, and reduce greenhouse gas emissions
- By 2040, there will be 1.3 billion tons of plastic waste present in the environment if we continue current habits

Road Material Issues

- The cost of roads are increasing while lifespan and quality stays the same
- Roads use liquid asphalt which is a material derived from **crude oil- like plastic and synthetic tires**
- Cracking and rutting issues increase with extreme temperatures as our climate changes

A Potential Solution

- **Pilot Program** will test **3 mix designs with .5% additive** of recycled tires, plastic, and a combination of both
- The purpose is to **divert waste from landfills** by utilizing materials for other useful purposes and possibly extending the life of infrastructure
- Under heat and stress, **polymers** form together to reduce rutting, reduce cracking, and increase overall life and health of the road

Why Polymers in Asphalt?

- Sustainable, Resilient, Economical, Durable
- Program provides a circular economic approach
- Lab studies measured very low microplastic emission potential
- Successful Demonstration: plant production, paving, good performance (3 yrs.)
- Studies Conducted in Missouri
 - Stadium Blvd. Demonstration project (2021) – dry process GTR and PCR-P sections
 - I-155 Interstate Study: 9 test sections (MU+MoDOT)

Circularity in Road Resurfacing

- **Building Resilience:** Utilizing local materials helps stabilize against global market fluctuations, promoting self-reliance
- **Innovation Leadership:** The goal isn't just the mix design, but Kansas City's leadership in trying new ideas and seeking solutions to aging infrastructure and localizing uses for our trash
- **Proven Success:** Road mixes using plastic and rubber additives have been successfully used in Columbia, MO by the MCTI team showing excellent road health while supporting local circular solutions. These materials form composites that can be reused indefinitely with RAP for future roads

Questions?

Stay updated on the program and provide feedback to us by visiting tinyurl.com/trash-to-road



Scan Me!



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