



# RESEARCH NEED STATEMENT

Call for Projects 2015

Project Research Title: Maintenance Strategies for Open-Graded Friction Course (OGFC) Pavements

TDOT Sponsor Director: Brian Egan/Jerry Hatcher

List TDOT Research Team Lead: Mark Woods

List TDOT Research Team Members: Hong J. Park, Jim Maxwell

1. Define the problem or research requested. What is the goal/objective of the research?

Historical data has proven that the use of Open-Graded Friction Course (OGFC) mixtures is a reliable method for reducing wet-weather accidents on the highway. In recent years, the Department has adopted OGFC as its standard pavement option for interstate resurfacing. It is anticipated that in the near future, this could also become one of the Department's primary options for resurfacing other non-interstate high traffic or high speed routes. As the department's network of highways paved with OGFC grows every year, so does its need for methods to maintain the roads. TDOT's oldest OGFC was placed in 2005 and will need to be preserved or repaired in the near future. Also, TDOT Operations forces have expressed a need for improved methods for snow and ice removal on these porous pavements, where traditional methods are not as effective.

A study on maintenance strategies for OGFC pavements should deliver recommendations on how pavement performance can be maintained and/or extended in order to provide optimal use of Department resources. Also, innovative strategies on winter maintenance should be recommended as well.

2. Is this research a continuation of a past or present project?

No  Yes

If yes, provide current research project title, RES # and reason for the project continuation.

3. Describe anticipated benefits/expected deliverables.

- Identify best practices for pavement preservation/maintenance strategies of open-graded mixtures throughout the entire life of the treatment including type of treatment and timing of treatment
- Make recommendations for state specifications and operational guidelines to optimize the Department's open-graded pavement program
- Identify potential methods for maintaining open-graded friction course mixtures during winter maintenance activities including anti/deicing strategies

4. What is your timeline for completion of the research?

3 years

5. List the anticipated tasks for this research.

- Conduct a literature review on OGFC maintenance methods
- place some test sections/ demonstration products in the field
- Make early recommendations for resurfacing and operational guidelines

6. Describe how the project results will be implemented?

Recommended TDOT specifications and guidelines.

7. Will this study produce software, web page or other technology that will involve the Information Technology Division?

No  Yes, please describe:

8. Will training be provided to employees as a result of this research?

No  Yes, please describe:

9. Will this research involve equipment or materials purchase?

No  Yes, please describe:

Possible materials purchases may be needed depending on field test sections/demonstrations to be placed

10. Research must support the Long Range Transportation Plan Policy Recommendations **and/or** TDOT Operational Goals and/or Strategic Initiative. *(See attachments for additional information)*

Please indicate which categories the research will support:

Transportation Long Range Plan Policy Recommendations

(A) Accessibility

(B) Safety, Security, and Transportation Resilience

(C) Coordination, Cooperation, and Consultation

(D) Demographic and Employment Changes and Trends

(E) Freight Logistics and Planning

(F) Financial

(G) Mobility

(H) Travel Trends and System Performance

TDOT Operational Goals and/or Strategic Initiative

(A) Deliver transportation projects on schedule and within budget

(B) Maintain the state transportation system to protect the long term investment in our infrastructure assets

(C) Operate and manage Tennessee's transportation system to provide a high level of safety and service to our customers and workers

(D) Expanding mobility choices to maximize access

(E) Dramatically change the paradigm for delivery of transportation products and service to improve the efficiency and effectiveness of Tennessee's transportation network

11. Please explain how the research supports the Long Range Transportation Plan Policy Recommendations **and/or** TDOT Operational Goals and/or Strategic Initiative selected above:

Recommended specifications and guidelines for maintaining OGFC mixtures will help the Department extend the life of these mixtures, ultimately helping the department maintain safety and economic efficiency. .

For additional information, please contact:

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