

## Implementation of New OGFC Specification

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### Problem

Open-graded friction course (OGFC) is a porous, gap-graded, predominantly single-size aggregate bituminous mixture that contains a high percentage of air voids. The high air void content and the open structure of this mix promote the effective drainage of rainwater, which also minimizes hydroplaning during wet weather. This characteristic also reduces splash and spray behind vehicles and improves wet weather skid resistance. Other purported benefits of OGFC are

lower pavement noise and reduced roadway glare during wet weather, which improves the night visibility of pavement markings. Although OGFC has been used throughout the United States with positive results since the 1950s, Louisiana has encountered problems with its usage. While these problems have been addressed, DOTD's negative perception regarding the construction and life expectancy of OGFC needs to be reversed. In addition, Department and contractor personnel need to



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OGFC provides glare and overspray reduction

become familiar with current mix design and OGFC construction practices.

## Objectives

The objective of this research is to monitor and document the construction and performance of OGFC on actual field projects. Subsequently, Louisiana's OGFC specifications and mix design procedures will be modified as necessary based on the monitoring of each field project. Evaluation of the OGFC mixture performance will include permeability, smoothness, film thickness, and durability.

## Description

The investigator will examine OGFC specifications used in other states along with published recommended mix design procedures and documents. Draft specifications and mix design procedures have been written for Louisiana using performance graded asphalt cements and/or fiber additives to enhance OGFC mixture performance. A minimum of nine OGFC projects, one per District, will be constructed, monitored, and evaluated for mixture performance.

## Implementation Potential

This research will develop OGFC specifications and mix design procedures for Louisiana, based on field performance, to further enhance safety by improving roadway surface drainage, minimizing hydroplaning, reducing splash/spray and roadway glare, and improving wet weather visibility and visibility of traffic striping. These specifications and mix design procedures will be recommended to DOTD for incorporation into the latest edition of the Louisiana Standard Specifications for Roads and Bridges.