Open-Graded Crack Relief (OGCR)

Experimental Project Interim Report
Project Description

<table>
<thead>
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<th>District</th>
<th>7</th>
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<tr>
<td>County</td>
<td>Hernando</td>
</tr>
<tr>
<td>Financial Project</td>
<td>431143-1-52-01</td>
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<tr>
<td>Roadway ID</td>
<td>08010000</td>
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<tr>
<td>State Road No.</td>
<td>45</td>
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<tr>
<td>US Road No.</td>
<td>41</td>
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<tr>
<td>Lane(s) Tested</td>
<td>L1</td>
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Objective
The objective of this study is to evaluate the relative long-term performance and effectiveness of an open-graded crack relief (OGCR) layer in mitigating reflective cracking.

Background
In 2015, two test sections were constructed as part of a 0.951 mile milling and resurfacing project (FIN 431143-1-52-01) which was completed on November 6, 2015. The test sections are located in the Southbound passing lane (L1) of SR-45 /US-41 in Hernando County, between milepost 4.645 and milepost 5.422. The section to the South (Section 1) received an OGCR and the section to the North (Section 2) received an overbuild as part of the structural layer.

Description
Each test section is 1,200 feet long. The design specified milling 3.25 inches of the existing asphalt and leaving 1.35 inches in place. The structure consists of 12 inches of Type B stabilization (LBR 40), 12 inches of Limerock base, about 1.4 inches remaining asphalt after milling, 1 inch OGCR or Overbuild, 2 inches SP-12.5, and 0.75 inch FC-5. Pavement performance is evaluated in terms of pavement deflection, cracking, rutting, and smoothness.
Project Layout

Test Section 1

Sta 236+30 (MP 4.645)

1,200 ft.

Sta 248+30 (MP 4.872)

Brookhaven Dr. (MP 4.935)

Hernando Oaks Blvd. (MP 5.057)

Sta 265+35 (MP 5.195)

1,200 ft.

Sta 277+35 (MP 5.591)

Test Section 2

Test Section 1 (OGCR)

Test Section 2 (Overbuild, Control)

Median

L1

L2

L3

R1

R2

R3
Pavement Thickness

Section 1

Sta. 236+30  (EMP 4.645)
Sta. 248+30  (BMP 4.872)

0.75" FC-5
2" SP-12.5
1.0" OGCR
~ 1.4" AC Remaining After Milling

12" Limerock Base

12" Type B Stabilization (LBR 40)

Section 2

Sta. 265+35  (EMP 5.195)
Sta. 277+35  (BMP 5.422)

0.75" FC-5
2" SP-12.5
1.0" Overbuild
~ 1.4" AC Remaining After Milling

12" Limerock Base

12" Type B Stabilization (LBR 40)
Traffic Count Site #085102

Pre-construction

Cumulative ESALs in Design Lane (x10^3)

Traffic
Cracking

Note: No cracks were observed on either test section
Smoothness

![Graph showing Smoothness](image)

- Section 1 OGCR
- Section 2 Overbuild

Pre-construction

Mean Roughness Index (inch/mile)

- 2015
- 2016
Deflection

Key

Section 1 OGCR
Section 2 Overbuild
Average

Pre-construction

Overall Response $D_0$ (mils)

Pre-construction

Embankment Response $D_{60}$ (mils)

2015 2016

Max
Median
Min
Q1
Q3