



NORTH CAROLINA
Department of Transportation

North Carolina's Pavement Preservation Program

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Materials and Tests Unit

Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

Chip Seals are the Bread & Butter, but.... Some Divisions are beginning to branch out.

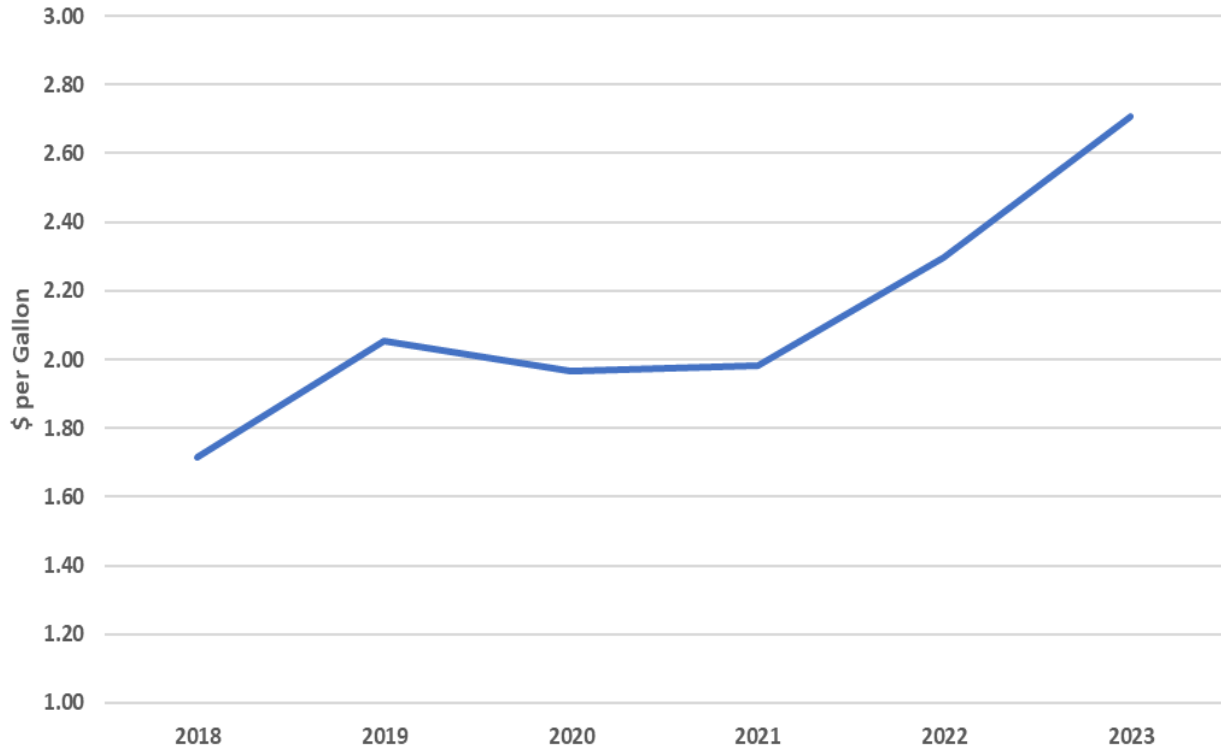
- **20,000,000 square yards of Chip Seals in 2023**
 - **Mostly Double Seals with Fog Seal**
- **1,500,000 square yards of Microsurfacing in '23**
 - **Up 50% from 2022**
- **72,000 tons of S4.75A**
- **900,000 pounds of Crack Seal**



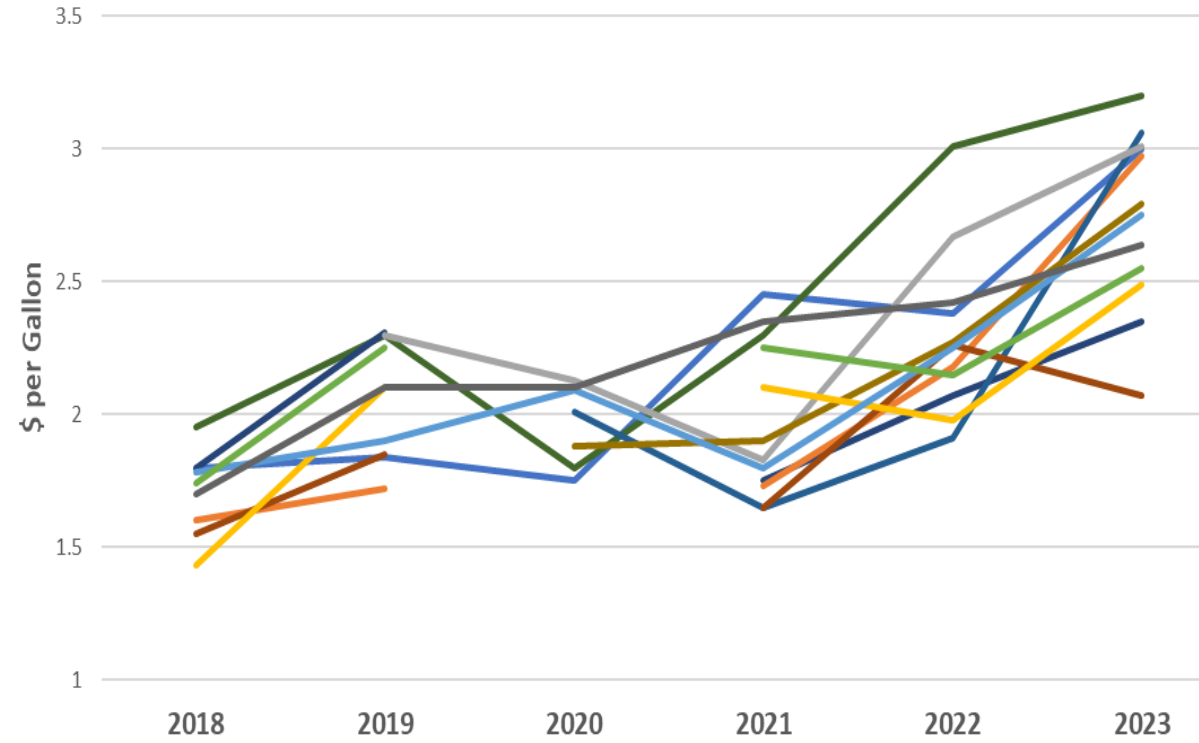
Costs have Skyrocketed

Over 20M Sq Yards, a \$1 per Gal increase is a \$5M increase Statewide in cost on Emulsion alone

Avg Emulsion Cost per Gallon



Emulsion Cost per Gallon



Success is often preceded by...

Issue we saw on at least 25% of Field Visits: Dirty Aggregate

Which can lead to:

- Excessive Raveling
- Bleeding
- Delamination



WONDERLAND DRIVE
MAP 74 DK00285
WATAUGA COUNTY

What was NCAA's response?

9s and 14s are not products we want to make.

They are primarily AST products, and the Preservation pie is not large.

In many cases, we get materials that look like this:



What was our solution?

2 Layers of 78s + A Fog Seal.

A Top Layer of 78s is larger than a typical choke stone, however with proper rolling and fine-tuned rates, we produced a quality seal.

The Fog Seal keeps the public happy and locks in any marginally bonded stone.

78s are produced on a much larger scale. Quarries don't have to make a "specialty product", we get higher quality material at reasonable cost.

Construction Results



Statewide Impact

- **Divisions 4, 8, 11 and 13 have implemented Double 78s with Fog Seal**
- **Contractors don't have to clean out their spreaders – decreasing waste and increasing efficiency**
- **In some cases, like Div 4, we are shooting the heavier rate on the top**
- **NCAA is much happier making 78M for us than #9 or #14**

Thank you!

