

ALDOT's Pavement Preservation Program



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ALDOT's Pavement Preservation Program

- What is pavement preservation?
- Why pavement preservation?
- ALDOT's Pavement Preservation Policy
- Pavement Preservation Training
- Interstate Maintenance Program
- Federal Maintenance Resurfacing Program



What is pavement preservation?

- The term “*Pavement Preservation Programs and Activities*” means programs and activities employing a network level, long-term strategy that enhances pavement performance by using an integrated, cost-effective set of practices that extend pavement life, improve safety, and meet road user expectations”.

Source: Section 1507 of Public Law 112-141, “Moving Ahead for Progress in the 21st Century” Act (MAP-21).



What is pavement preservation?

- FHWA's response to the MAP-21 Act on "What is preservation?"
- Preservation consists of work that is planned and performed to improve or sustain the condition of the transportation facility in a state of good repair. Preservation activities generally do not add capacity or structural value, but do restore the overall condition of the transportation facility.

Source: Memorandum from U.S. Department of Transportation Federal Highway Administration; dated February 25, 2016.

What is pavement preservation?

- When the right treatment is applied to the right road at the right time, roads can be kept in good condition instead of performing costly rehabilitation and reconstruction alternatives later in the pavement's life when the structure has deteriorated.

Source: National Center for Asphalt Technology (NCAT) at Auburn University.

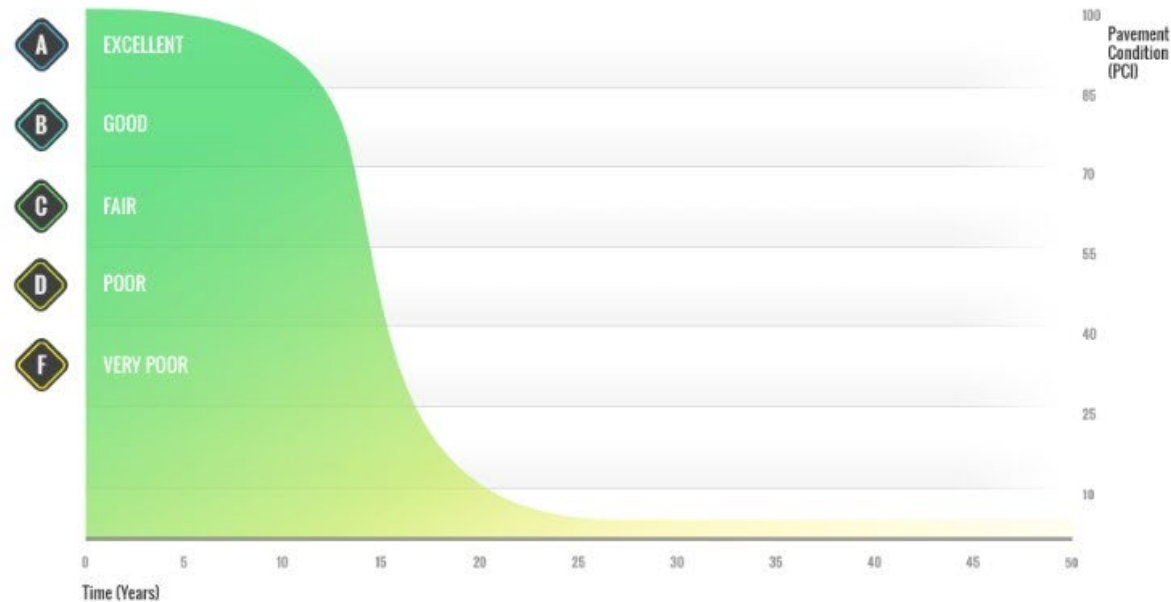
Why pavement preservation?

Stay ahead of the curve

Pavement preservation is a cost effective and greener approach to getting the most life out of your roads and making taxpayer dollars go further. In addition to cost efficiency, a pavement preservation approach is known to produce fewer greenhouse gas emissions, consume less energy, and provide faster application times than the alternative conventional approach.

A well-implemented pavement preservation approach achieves maximum efficiency by increasing the average condition of your pavement while decreasing your average spend per square yard.

The typical life of an untreated road is **20 years**

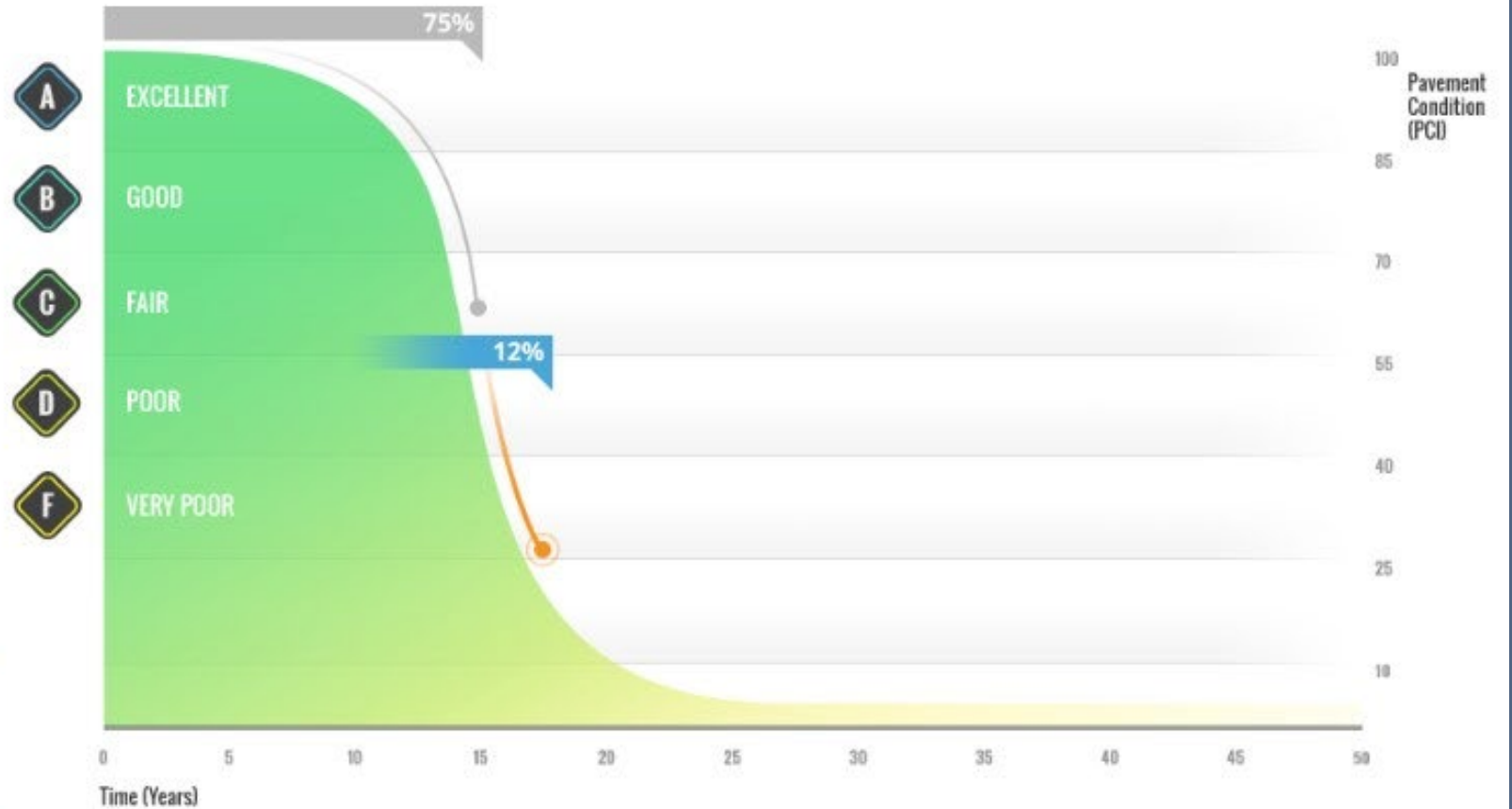


Source: RoadResource.org

Why pavement preservation?

Over the first 75% of a road's life, it will drop 40% in quality.

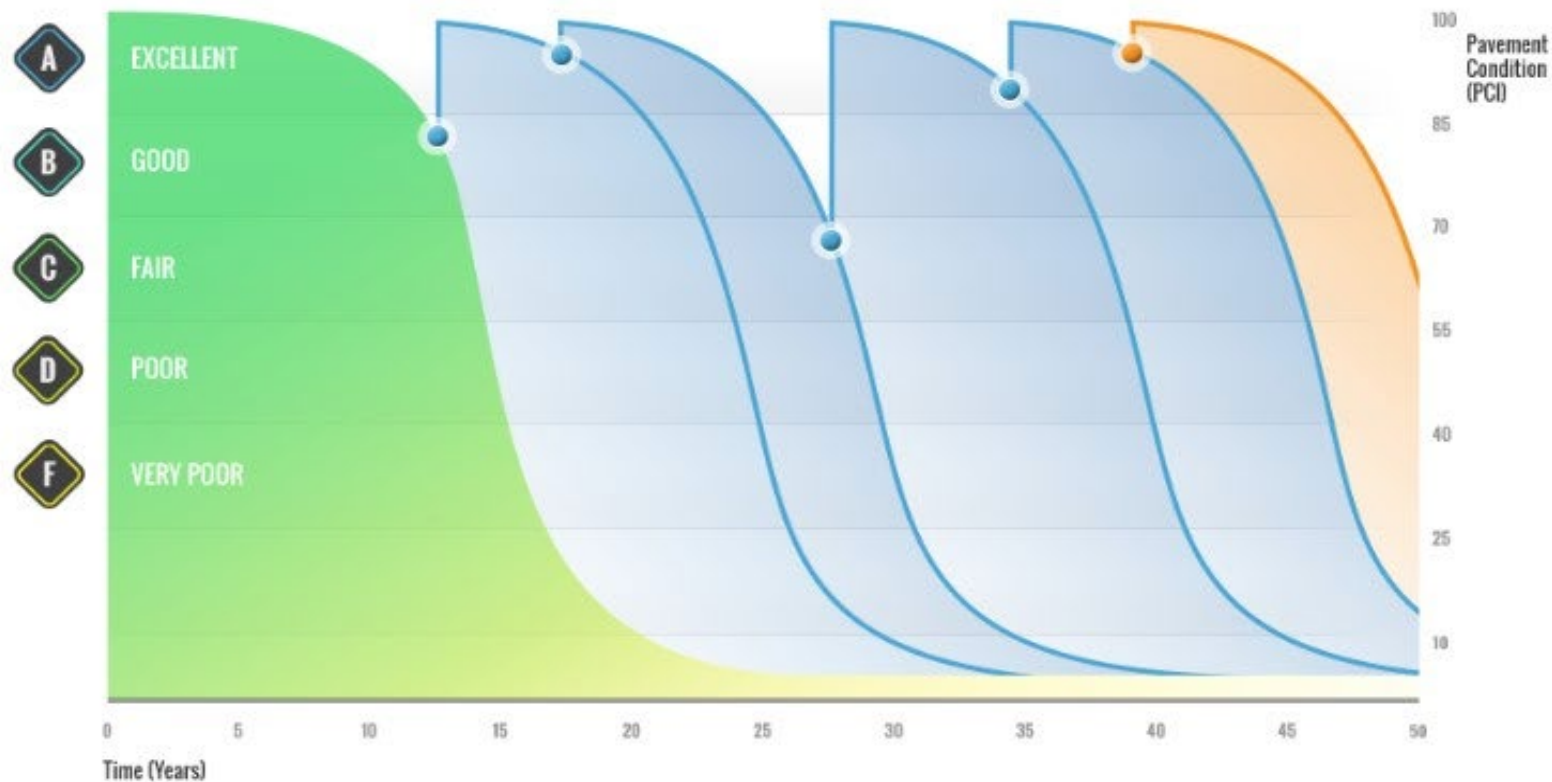
Over the **next 12%** of its life, it will drop **another 40%** in quality.



Source: RoadResource.org

Why pavement preservation?

By performing the right treatments over time, pavement owners can get **40 years or more** of life from their roads.

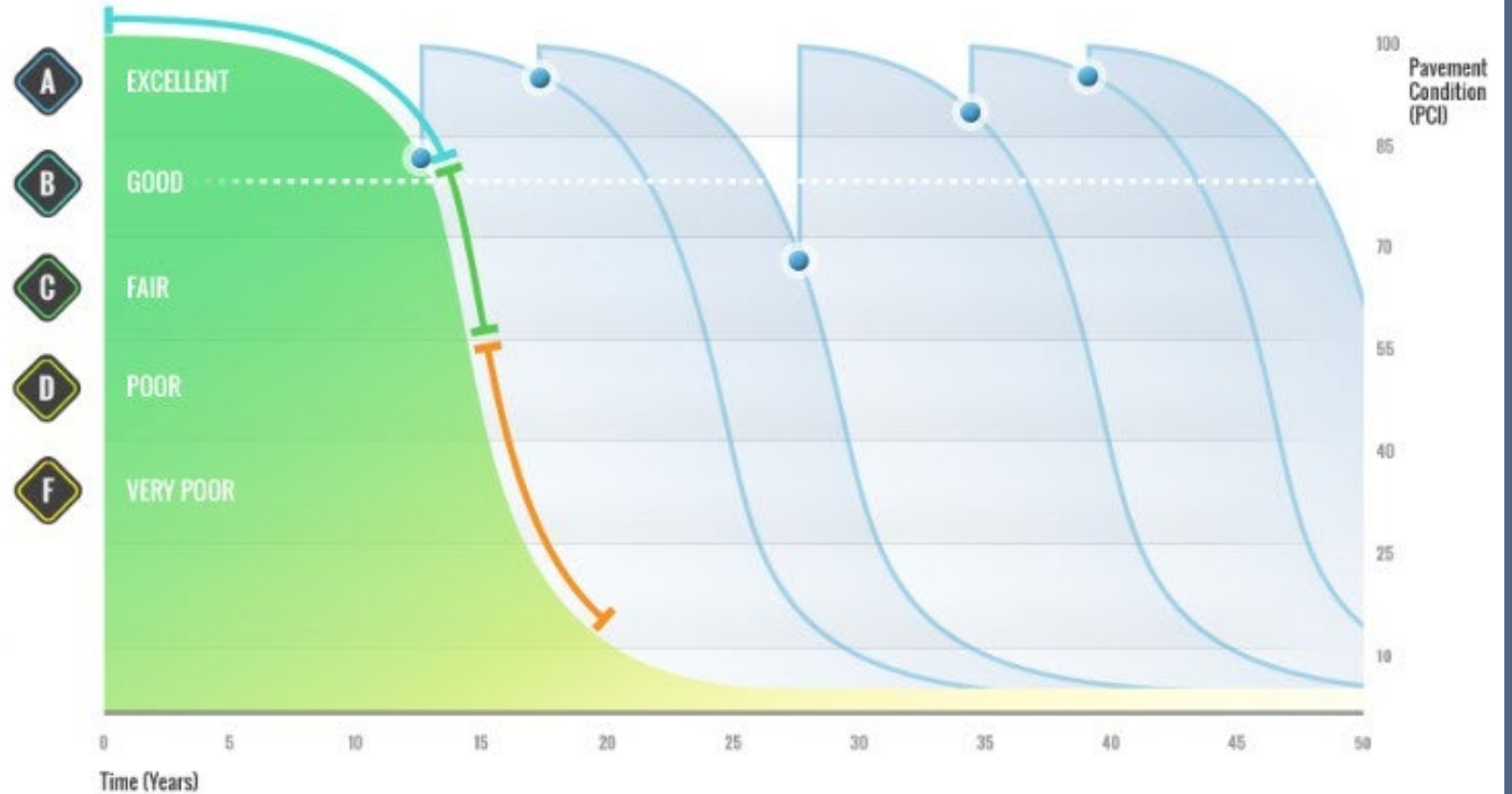


Source: RoadResource.org

Why pavement preservation?

A investment in preservation pays off.

Every \$2 here...
or \$4-8 here
saves \$12-18 here



Source: RoadResource.org

Why pavement preservation?

- PM 1
 - Micro-mill 0.80"
 - Micro-surfacing – Type III at 20 lb/sy & Type II at 20 lb/sy
 - Approximately \$360k per Interstate centerline mile
- PM 2
 - Plane 1.75"
 - SMA Wearing Layer at 195 lb/sy
 - OGFC Layer at 90 lb/sy
 - Approximately \$868k per Interstate centerline mile

Why pavement preservation?

- Reconstruct
 - Plane 2.75”
 - SMA Binder Layer at 165 lb/sy
 - Superpave Upper Binder Leveling Layer at 68 – 225 lb/sy
 - SMA Wearing Layer at 135 lb/sy
 - OGFC Layer at 90 lb/sy
 - Approximately \$1.6 million per Interstate centerline mile
- In conclusion...
 - Four PM 1 projects for the cost of one Reconstruct
 - Two PM 2 projects for the cost of one Reconstruct

ALDOT's Pavement Preservation Policy

- Original policy was signed in 2012
- Current policy put into place in 2019
- Between ALDOT and Alabama Division of FHWA
- Purpose is to define the eligibility of two preservation strategies: Preventative Maintenance (PM) and Minor Rehabilitation (MR)
- Interstate Maintenance Review Committee
- Provides decision-making matrices for PM 1, PM 2, and MR projects
- Maximizes eligible funding sources for pavement management

ALDOT's Pavement Preservation Policy

- Preventative Maintenance (PM)
 - This policy subdivides preventative maintenance into two categories: Preventative Maintenance 1 (PM 1) and Preventative Maintenance 2 (PM 2). See the Pavement Preservation Policy Matrix for the specific requirements associated with each category.
- Minor Rehabilitation (MR)
 - Minor rehabilitation projects extend the useful life of pavements through treatments that are more involved than those used for preventative maintenance. See the Pavement Preservation Policy Matrix for the specific requirements associated with each category.

ALDOT's Pavement Preservation Policy

- Example matrix for decision-making

	Preventative Maintenance 1 (PM 1)	Preventative Maintenance 2 (PM 2)	Minor Rehabilitation (MR)
Flexible Pavement Selection of Treatments	<ul style="list-style-type: none">• Crack Filling and Sealing• Fog Seal• Scrub Seal• Chip Seal• Double Surface Treatment• Triple Surface Treatment• Slurry Seal• Micro-surfacing• Surface Sealing• High Friction Surface Treatment• Thin Lift Asphalt Concrete Layer (not to exceed 110 lbs./sy.)• Safety Layer• Cape Seals	<ul style="list-style-type: none">• PM 1 eligible treatments• Asphalt Concrete pavement should not exceed 2.0" in total thickness (excluding any safety layer).	<ul style="list-style-type: none">• PM 1 and PM 2 eligible treatments• Adjustment layer (as needed for cross-slope and/or superelevation correction)• The combination of Asphalt Concrete binder and wearing surface layers should not exceed 5.0" in total thickness (excluding any safety layer or adjustment layers).

ALDOT's Pavement Preservation Policy

- Example matrix for decision-making

	Preventative Maintenance 1 (PM 1)	Preventative Maintenance 2 (PM 2)	Minor Rehabilitation (MR)
Flexible Pavement Milling	<p>Single layer of any existing safety surface may be milled. Micro milling is required for milling depths of 1.0" or less. Milling of the safety layer may extend into the wearing layer between 0.25" and 0.50" (maximum) to scarify the surface and to ensure that no remnant "scabs" remain.</p> <p>If a safety layer is not present a milling depth of 1.0" or less is acceptable to remove the oxidized surface and/or existing traffic striping or markings that could create conflicts with selected treatments.</p>	<p>Establish a depth of milling that is sufficient to remove the oxidized and deteriorated wearing surface layer. Typical milling depths will be determined based on crack depth and other pavement condition data and should not exceed 2.0" in depth (excluding any safety layer).</p>	<p>Establish a depth of milling that is sufficient to remove the oxidized and deteriorated layer(s) of pavement. Typical milling depths will be determined based on crack depth and other pavement condition data and should not exceed 5.0" in depth (including any safety layer).</p>

ALDOT's Pavement Preservation Policy

- Other matrices
 - ADA
 - Safety
 - Superelevation/Cross-Slope
 - Pavement Width
 - Bridge Rails and Guardrail to Bridge Rail Connections
 - Guardrail End Treatments
 - Guardrail
 - Rigid Pavement Selection of Treatments
 - Rigid Pavement Grinding/Grooving
 - Rigid Pavement Overlays
- ALDOT's Intranet – Maintenance Bureau – Roadway – Summary Links

Pavement Preservation Training

- National Center for Asphalt Technology (NCAT) – Opelika, AL
 - Great resource for pavement preservation treatments
 - Training held in 2019
- Alabama Transportation Assistance Program (ATAP)
 - Training held in August
 - Topics:
 - Distress identification
 - Treatments available
 - Selecting the right treatment for the right road at the right time

Pavement Preservation Training

- ALDOT Area Offices – Lunch and Learn
 - Industry and ALDOT personnel
 - November 2023 – January 2024
 - Topics:
 - Do's and Don'ts
 - Identifying the appropriate treatment
 - Statewide project illustrations
 - Crack sealing

Pavement Preservation Training

- ALDOT Area Offices
 - NCAT representatives and ALDOT personnel
 - Fall/Winter 2024
 - Topics:
 - How to develop a pavement preservation program
 - Different applications that are available to ALDOT
 - How to select the correct application for a specific roadway
 - Train designers to implement the Pavement Preservation Policy into plan development

Interstate Maintenance Program

- FY 2019 – FY 2023 Overview

IM Resurfacing Program			
	PM 1	PM 2	MR
FY 2019	11	4	6
Amount Spent	\$39,100,000	\$44,700,000	\$89,900,000
FY 2020	7	6	5
Amount Spent	\$39,700,000	\$42,800,000	\$63,500,000
FY 2021	6	5	3
Amount Spent	\$25,200,000	\$53,400,000	\$41,900,000
FY 2022	8	8	2
Amount Spent	\$30,000,000	\$54,600,000	\$44,700,000
FY 2023	6	5	2
Amount Spent	\$26,200,000	\$28,900,000	\$18,700,000

- FY 2023 IM program budgeted at \$195.0 million
 - Spent \$55.1 million on pavement preservation projects (PM 1 and PM 2)

Federal Maintenance Resurfacing Program

- FY 2023 let 92 projects totaling \$276.0 million
 - 9 PM 1 projects – \$15.4 million
 - 63 PM 2 projects – \$185.0 million
 - 20 MR projects – \$75.6 million

FM Resurfacing Program			
	PM 1	PM 2	MR
FY 2019	7	55	45
FY 2020	10	76	19
FY 2021	15	70	24
FY 2022	11	72	14
FY 2023	9	63	20

Questions?

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