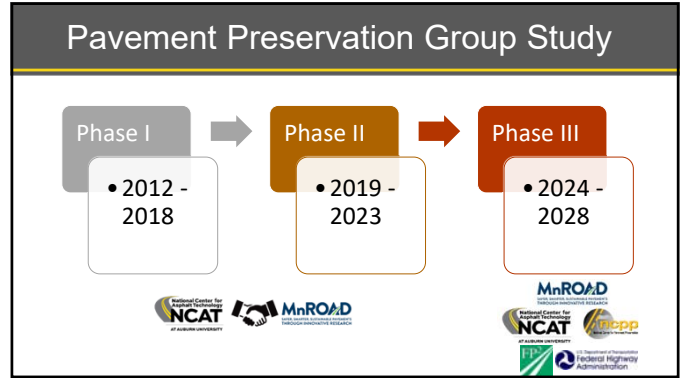





NCAT-MnROAD Pavement Preservation Group Study

Adriana Vargas




Background

- Pavement preservation benefits are well known, BUT...
- They depend on many variables
 - Treatment type
 - Existing pavement condition
 - Traffic level
 - Climate conditions



Pavement Preservation Group (PG) Study

- Phases I & II
 - TPF-5(267) – Led by ALDOT
 - TPF-5(375) – Led by MnDOT
- Objective was to quantify the life-extending benefits of various treatments

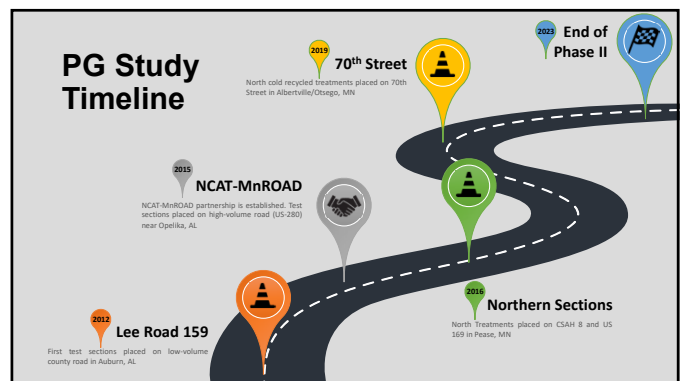


Pavement Preservation

Performance Information




Implementation





Pavement Preservation Group (PG) Study


- Phase III
 - TPF-5(522) – Led by MnDOT
Improving the Quality of Pavement Preservation Construction and Data Collection Practices
- Focus on State Implementation / agency demonstration projects




Current Status




145 Test Sections



~13 lane miles




>100 lane mile-years worth of data




Pavement Preservation Group (PG) Study

- Two consultants
 - NCAT (research) and NCPP (implementation)
- Scope of work
 - Performance monitoring of existing sections
 - Technical assistance for the construction of new sections
 - Development and revision of reporting requirements
 - Performance monitoring of new sections
 - Outreach and dissemination of results



Test Sections

<p>CRACK SEALING</p> <p>CHIP SEALS</p> <ul style="list-style-type: none"> Single layer Double layer Triple layer Single layers with crack sealing Fiber mat Scrub seals* 	<p>MICRO SURFACES</p> <ul style="list-style-type: none"> Single layer Double layer Single layers with crack sealing Fibers HIMA <p>FOG SEALS</p> <ul style="list-style-type: none"> Conventional Rejuvenating
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Phase III Sponsors




Test Sections

<p>THIN OVERLAYS</p> <ul style="list-style-type: none"> Virgin materials RAP/RAS Polymer modified binder HiMA UTBWC OGFC 	<p>COLD RECYCLING</p> <ul style="list-style-type: none"> Cold In-Place Cold Central Plant Full Depth Reclamation <p>COMBINATIONS</p>
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Data Collection

- Roughness (IRI)
- Rutting
- Crack mapping
- Macrotexture
- FWD
- Surface friction
- Permeability
- Moisture*



3 Performance indicators help us see the "big picture"

MAP-21 criteria

Category	% Cracking	Rutting, mm	IRI, in/mi
Good	< 5	< 5	< 95
Fair	5 – 20	5 – 10	95 – 170
Poor	> 20	> 10	> 170




From data to implementation

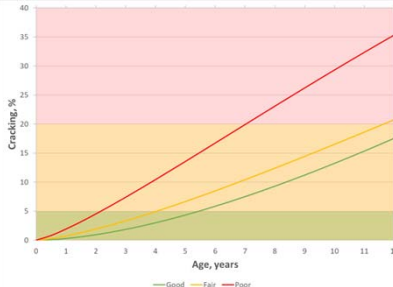



Pavement Preservation Group (PG) Study


- What is the best treatment?
- How does each treatment perform under different conditions?



Double Chip Seal




Low traffic volume
Wet – No Freeze climate

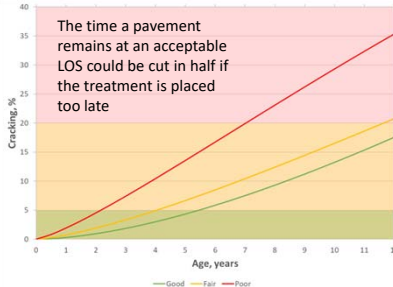


Some Key Takeaways

- Importance of pre-treatment condition – timing is everything
- Treatment combinations: 1+1=3
- What matters to YOU?
- Exceeding expectations
- Best practices lead to good performance




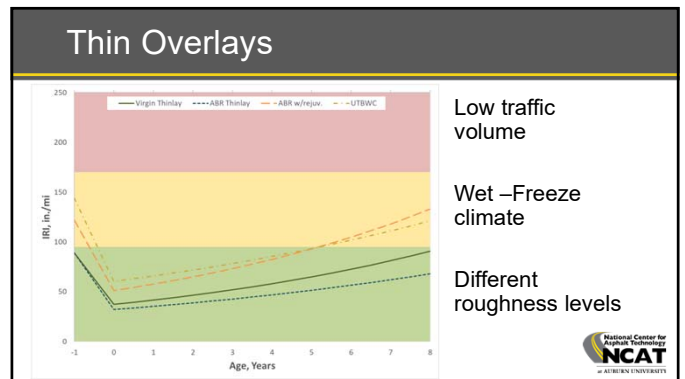
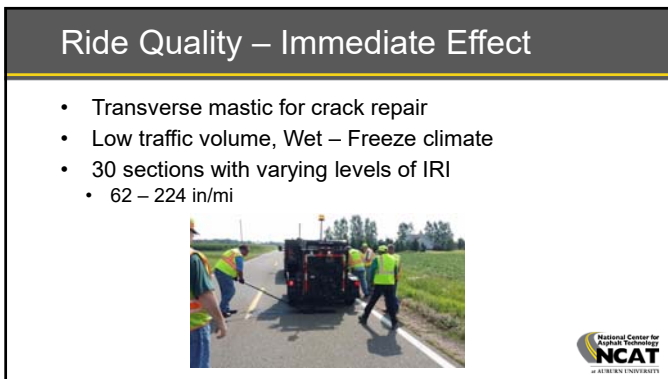
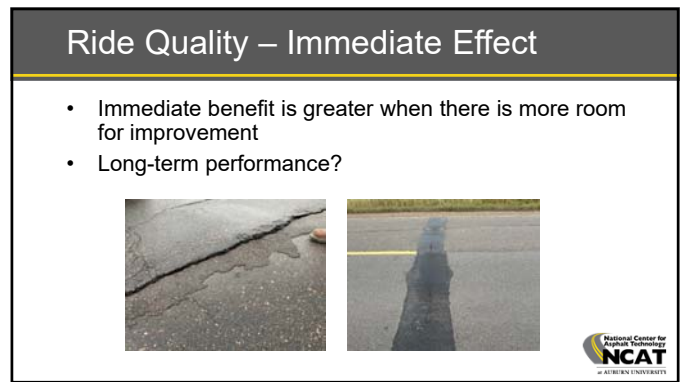
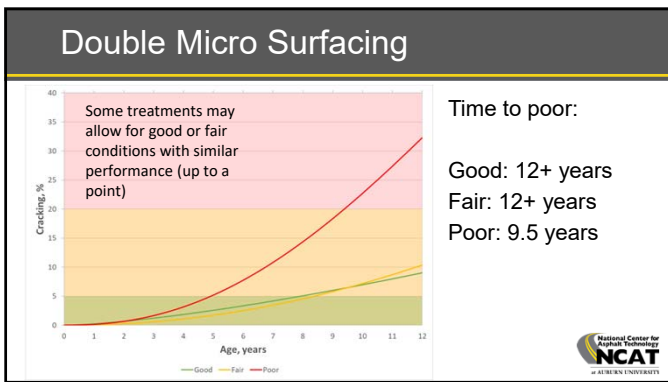
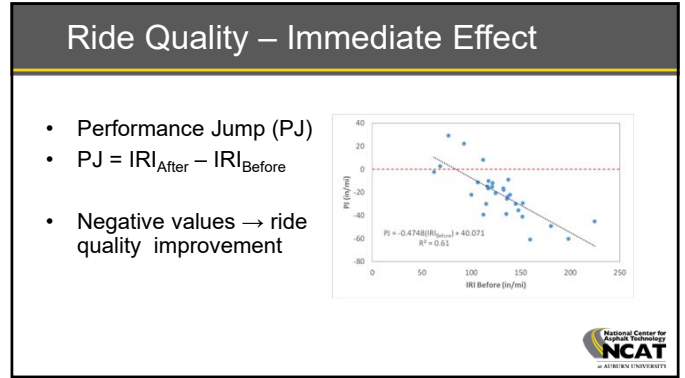
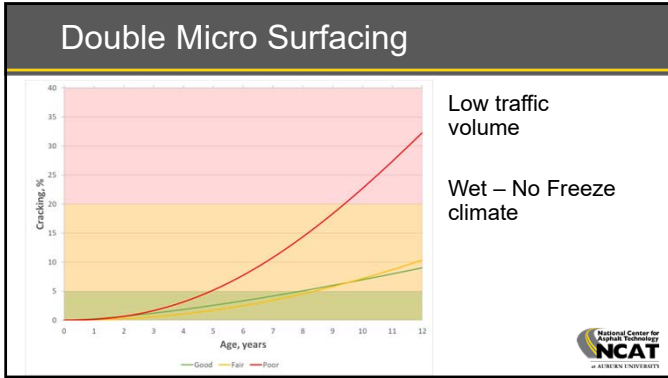
Double Chip Seal

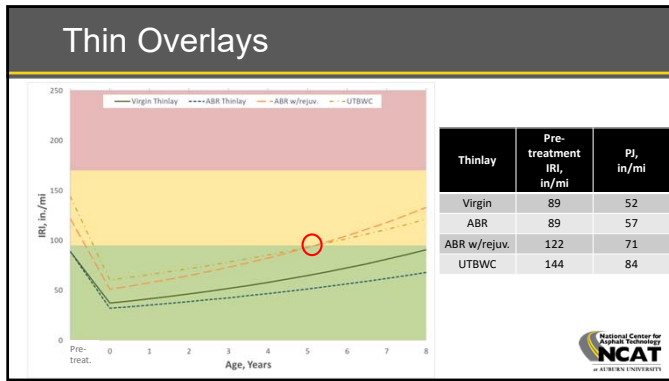


The time a pavement remains at an acceptable LOS could be cut in half if the treatment is placed too late

Time to poor:
Good: 12+ years
Fair: 11.5 years
Poor: 7 years







aub.ie/PG-webinars

Resources

aub.ie/PG-Report

Final Remarks

- Treatment performance depends on many variables
 - Existing pavement condition is critical
- Effect may be more evident in the long term
- Proper timing for improved cost-effectiveness
- NCAT resources available

aub.ie/PG-tool

Questions?