



# MNDOT use of Mastics and Microsurfacing in Maintenance

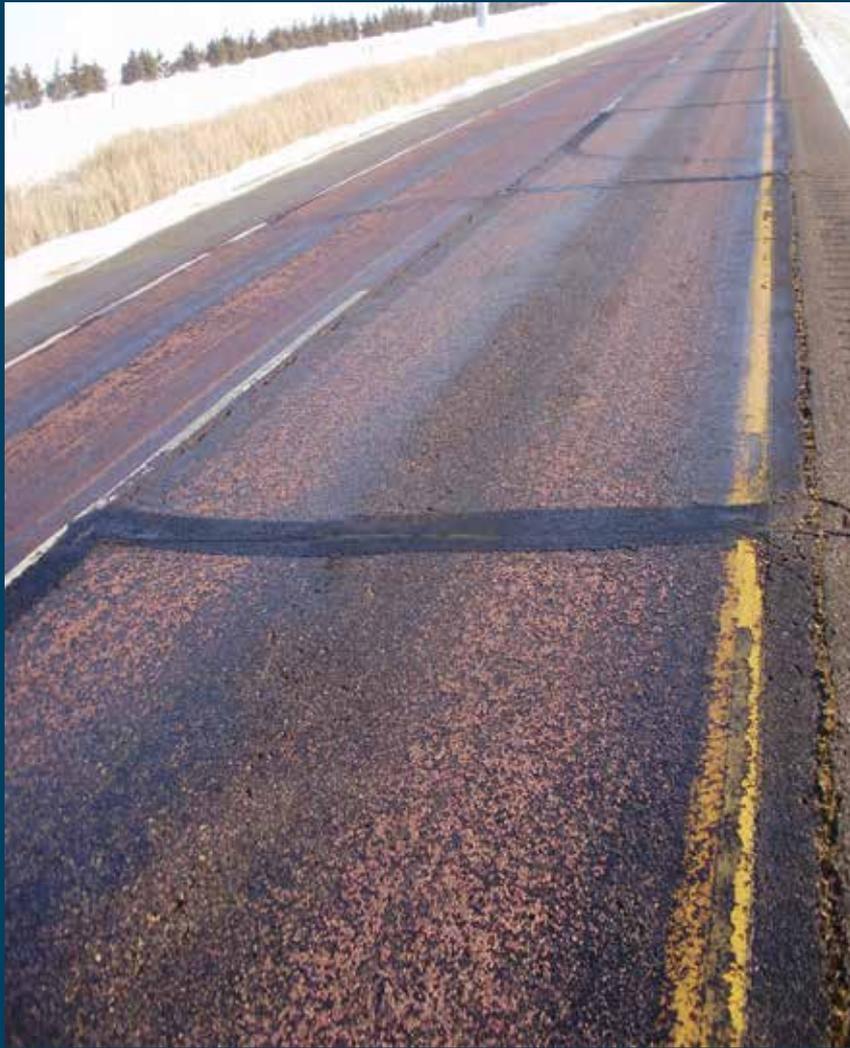
We all have a stake in **A**  **B**



# “The Good OL’ Days....

- ▶ Dig out the bad stuff and patch...
- ▶ Brittle pavements
- ▶ Patching materials were all the same...
- ▶ “Get them patched before winter...”





- ▶ Treating cracks on bituminous was viewed as “fill-in” work during the winter
- ▶ The use of road oil, RC or MC type, was the material of choice..
  - Easily stored
  - Had the equipment
  - Tar kettles were



cheap



# A Changing Philosophy....

- ▶ We thought we were doing good...
- ▶ When they got too rough, cover them up with a cheap overlay....
- ▶ More emphasis placed on preventative maintenance...
- ▶ Over the past several years, we've started to pay more attention to ride data....



# Our Toolbox for Patching....



- ▶ AC Crew patching still affective
  - Labor intensive
  - Covers a lot of ground
  - Relatively inexpensive



- ▶ Air Patching
  - Longer lasting patches
  - Smaller crew needed
  - Material readily available
  - Daily production slower than other methods



# Our Toolbox for Patching.... Cont'd

- ▶ “Wedge Paving”
  - Great for filling ruts, drop-offs along concrete pavements and bituminous shoulders
  - Reduces the amount of hand labor needed
  - Moves down the road pretty quickly
  - Provides for a smooth ride *initially*
  - Dependent on mix availability



# Recent Additions to Our Toolbox

- ▶ Mastic – Initial Impressions
  - Until recently, not used regularly at MNDOT
  - Production perceived to be slow
  - Machines expensive to rent
  - Reports appeared to be positive from those who had tried it
  - “We tried that before.....”





09/22/2011 14:05:33



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09/19/2011 16:03:17







03/13/2012



It's not  
the  
"complete  
answer to  
all our  
patching  
needs



Don't  
judge  
the  
method  
by the  
quality  
of  
work!!!!



# Measuring Cost Effectiveness

PER 12' LANE MILE	Mastic Patching	Blow Patching	Hot Mix - Full Crew
EQUIPMENT	\$511.00	\$750	\$1,355
MATERIAL	3062 POUNDS \$2012	200 GALLONS OIL= \$454 8 TON FA-2 = \$156.40 \$610.40	6 TON 3/8 = \$400.80 CRS2=\$68.10 \$468.90
LABOR	26.78 HOURS \$557.00	6 PEOPLE + 9 HOURS= 54 HOURS \$1123.2	12 PERSON CREW COVERING 3 MILES IN 9 HOURS = 36 HOURS \$478.00
TOTAL	\$3,080.00	\$2,483.40	\$2,301.90



# MNDOT's MiniMac MicroSufacing Machine



# Micro Surfacing with the MiniMac



- ▶ The MiniMac is used for rut filling and, like wedge paving, for filling in the paver joint at the centerline.





7/15/2003



# The “Newest” Additions!!!

- ▶ Micro-Surfacing
  - Been done on a smaller scale within the Department in the past
  - Provides for a smooth, rut-free ride
  - Durability has been good









# Summary of Our Practices

- ▶ We still need all of the types/methods
- ▶ Try and make the right decisions based on the goal for the specific road
- ▶ Our goal has changed from just getting it patched to providing a smooth ride
- ▶ The less often we have to be out there, the better it is for everyone
- ▶ Keeping our eyes open for the next greatest product....



# Thank You...

