



MNDOT use of Mastics and Microsurfacing in Maintenance

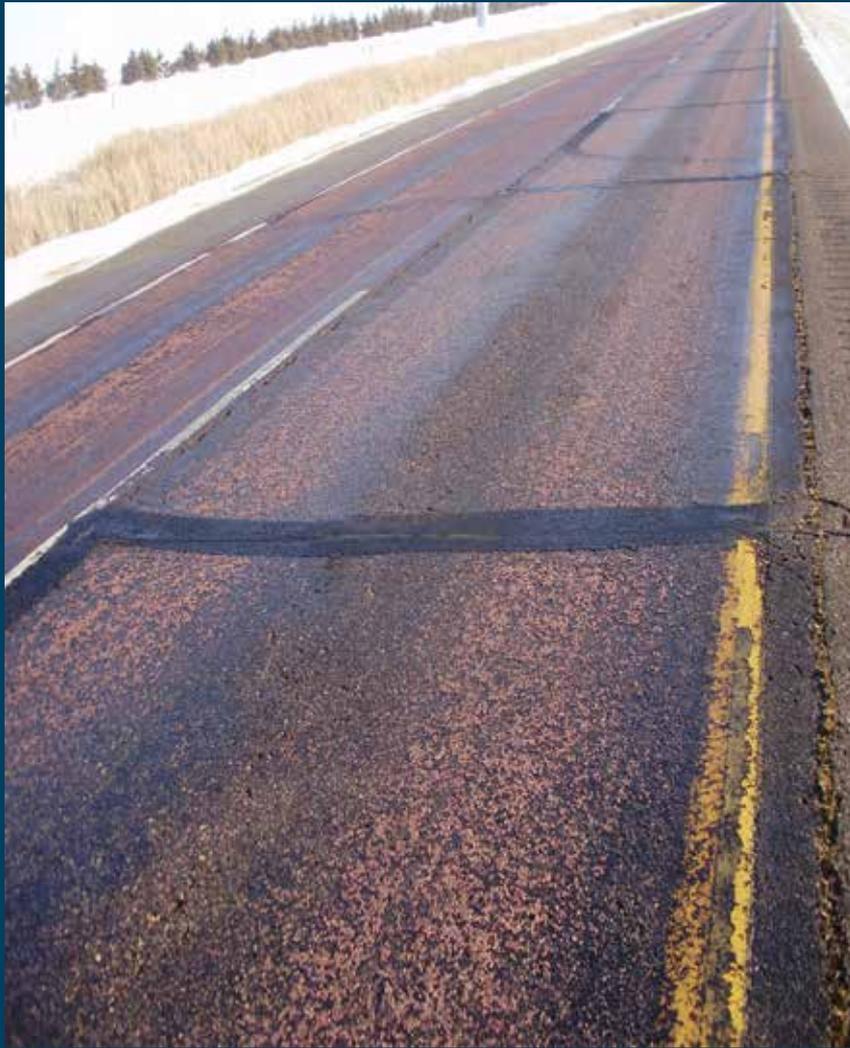
We all have a stake in **A**  **B**



“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.....”





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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...

