



Pavement Preservation

Illinois DOT Update

Successes and Future Directions

Midwestern Pavement Preservation Partnership September 3, 2014





Successes

- Districts recognizing limitations on treatments.
- Use of micro-surfacing on centerline and edgeline to counteract spalling due to low density at the joint.
- Use of ultra-thin bonded wearing course (UTBWC) on bare concrete for highvolume roadways.





Ultra-Thin Bonded Wearing Course

- First project on bridge deck in District 3 during reconstruction efforts.
- District 3 then used on I-80 to hold pavement together as a stop-gap measure.
- District 8 used on high-volume roadway to slow PCC distresses and give surface uniform appearance (UTBWC & Micro).





District 3, I-80

- Originally constructed in 1993
 - Open-graded drainage layer (OGDL) for subbase
 - Lime-modified subgrade
 - Separation layer removed during design phase
 - Concrete material quality issues
- During first year, soil subgrade infiltrated open-graded drainage layer
- Longitudinal cracking developed from uneven support





District 3, I-80

- Filled OGDL with grout to create support
 - Slowed distress development
 - Inadvertently filled underdrains
 - Long wave-lengths induced in pavement
- Placed UTBWC to hold surface together as stop-gap
- Eastbound in 2008, Westbound in 2009
- High traffic volume
 - ADT = 30,200
 - HCV = 41.39%





Pavement Preservation

District 3, I-80, Eastbound



2008 - Just Before





Pavement Preservation

District 3, I-80, Eastbound



2009 - 1 Year After





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District 3, I-80, Eastbound



2014 – Today





Pavement Preservation

District 3, I-80, Condition

Year	CRS	IRI, in./mi	Rut Depth, in.
2006	7.0	93	0.0
2008	No rating, predicted value Low – Mid 6's	89	0.0
2010	8.0	65	0.1
2012	7.4	68	0.1
2014	Not rated yet	67	0.1





District 8, I-270

- Originally constructed in 1963 with four lanes
- Overlays placed throughout the years
- Added a PCC median lane for each direction in late 1980s
- Slow PCC cracking and create uniform appearance, micro-surfacing on HMA lanes and UTBWC on PCC lane
- Eastbound 2.08 miles, Westbound 2.04 miles
- High traffic volume
 - ADT = 53,300
 - HCV = 18.57%





Pavement Preservation

District 8, I-270, Westbound



2013 – Before





Pavement Preservation

District 8, I-270, Westbound



2014 – Today





Pavement Preservation

District 8, I-270, Westbound



2013 – Before





Pavement Preservation

District 8, I-270, Westbound



2014 – Today





Future Directions

- Monitor performance of micro-surfacing and UTBWC on I-270.
- Increase use of pavement preservation on high-volume roadways.
- Improved performance models of pavement preservation treatments.