



# South Dakota DOT Report

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- 2015 Legislature

- State

- 6 cent gas tax increase 41.3 million
- 1% increase excise tax 27.2 million

- Counties and townships

- Comm. Reg. incr. 60 to 80% 3yrs 2.5 to 5 million
- 20% motor vehicle registration increase 14.8 million
- Wheel tax increase
- County property tax increase allowed
- Township property tax increase allowed



# • Pavement Preservation Program

- FY 2014 - \$34.7 million for preserving 1,166 miles
  - FY 2015 - \$50.7 million for preserving 1,398 miles
  - FY 2016 - \$33.6 million for preserving 1,070 miles
  - FY 2017 - \$40.6 million for preserving 1,136 miles
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- SDDOT Pavement Preservation Guidelines are located on our web site at the following address: <http://www.sddot.com/resources/manuals>



# Preservation 2015



- Chip seals 789 miles
- Crack sealing/crack leveling 345 miles
- Concrete pavement repair 264 miles
- SDDOT Maintenance forces do chip seals and crack sealing



## Successes on saving money winter maintenance

- ❖ Maintenance Decision Support System since 2009.
  - Predict weather and road conditions
  - Track maintenance treatments
  - Consider available resources
  - Mobile data collection in most trucks 8:1 benefit ratio
  - Recommend:
    - Treatment type
    - Treatment rate
    - Best time to apply
  - Cameras and pavement instrumentation at remote sites





# more efficient summer maintenance

- ❖ Pavement preservation training geared towards highway maintenance staff has been developed and the first 3 day training class was held in the spring of 2014.
  - This training will be presented yearly to @ 24-30 individuals from our maintenance staff.
  - Major Topics Covered
    - ✓ Patching
    - ✓ Crack Treating
    - ✓ Seal Coats
    - ✓ Rutfilling
    - ✓ Shouldering
    - ✓ Joint Repair
    - ✓ Traffic Control
    - ✓ Safety Procedures
  - Includes a Pocket Guide Maintenance Pavement Preservation Decision Guide detailing distresses and a decision matrix to allow for a quick field identification of the distress and its treatment.



## Maintenance Decision Matrix for Flexible Pavements

Flexible Pavement Distresses	Low - Isolated	Medium - Moderate	High - Frequent
Transverse Cracking	1,2	2,3,4	2,8,10
Fatigue Cracking (Alligator)	1,2,3,4	2,3,4,8	6,8
Block Cracking	1,2,3,4	2,3,4,8	8
Rutting	1	1,6	4,5,6,8
Edge Cracking	1	1,2	8,9
Longitudinal Cracking	1,2	2	2,8,9,10
Raveling/Weathering	1,3	3,4,10	4,8,9
Potholes	9,10	9,10	8,9
Patch Deterioration	1,3,4	3,4,5,8,9	8
Distortion	1,2	2,6,8	5,8

### Pavement Treatments

1. Do Nothing
2. Crack Seal / Crack Fill
3. Fog Seal
4. Chip Seal / Spot Seal
5. Profile Mill
6. Rut Filling
7. Thin Cold Mix Overlay
8. Thin Hot Mix Overlay (1.5" or Less)
9. Hand Patching
10. Spray Patching (Asphalite Machine)



## **FATIGUE CRACKING (ALLIGATOR)**

### **• APPEARANCE:**

- Appears initially as a single longitudinal crack in the wheel path. Later appears as a series of interconnected cracks resembling alligator skin or chicken wire.

### **• CAUSES:**

- Fatigue failure of the asphalt concrete surface
- Temperature and moisture may accelerate the initiation and propagation of the cracks.

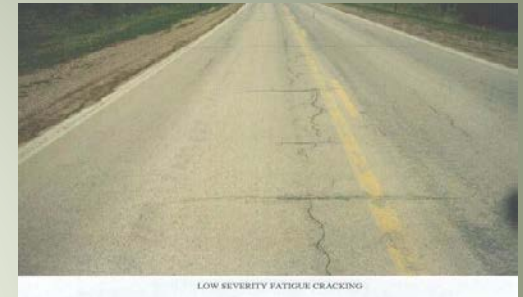
### **• LOCATION:**

- Found in the wheel paths and turning movement locations

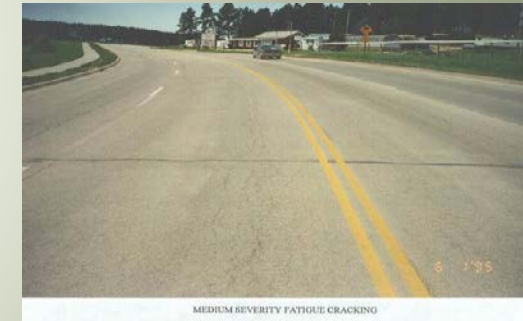
### **• Maintenance Treatments**

- ✓ Do Nothing
- ✓ Crack Seal/Crack Fill
- ✓ Fog Seal
- ✓ Chip Seal
- ✓ Patching
- ✓ Thin Hot Mix Overlay (1.5" or Less)

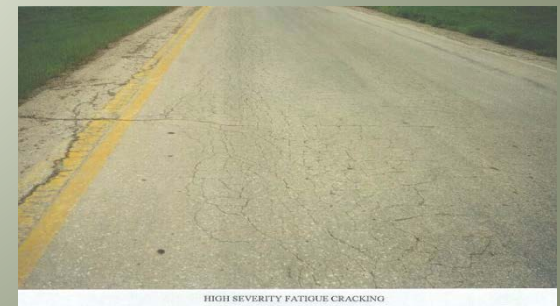
LOW -  
Occasional



MEDIUM -  
Moderate



HIGH -  
Frequent







# Preservation 2016



- Chip seals 476 miles
- Crack sealing/crack leveling 454 miles
- Microsurfacing 47 miles
- Concrete pavement repair 93 miles
- Crack leveling and rut filling
- SDDOT Maintenance forces can do chip seals, fog seals, crack sealing, crack leveling and rut filling



# New treatments



- High friction surface treatments
- Hot In place Recycling
- Central Plant Cold Recycling
- Microsurfacing using softer emulsion