



# ***Northeast Pavement Preservation Partnership***



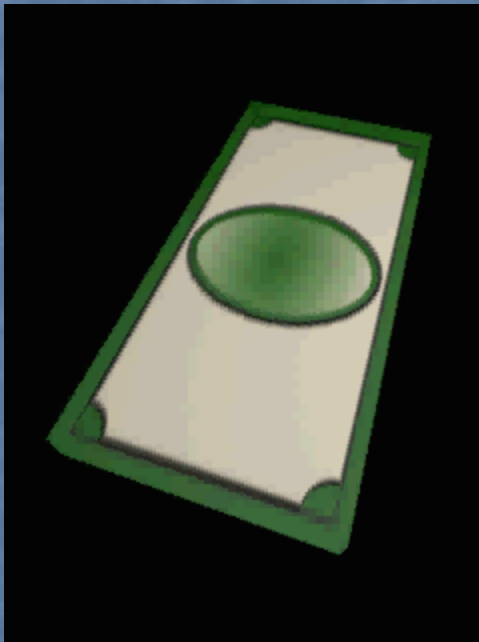
# Maryland Transportation Technology Transfer Center

# LTAP

- A network of centers in each state and Puerto Rico
- Regional centers serve American Indian tribal governments



# Local governments...



- Need to cut costs
- Want to increase quality
- Need to do more with less
- Want to work smarter

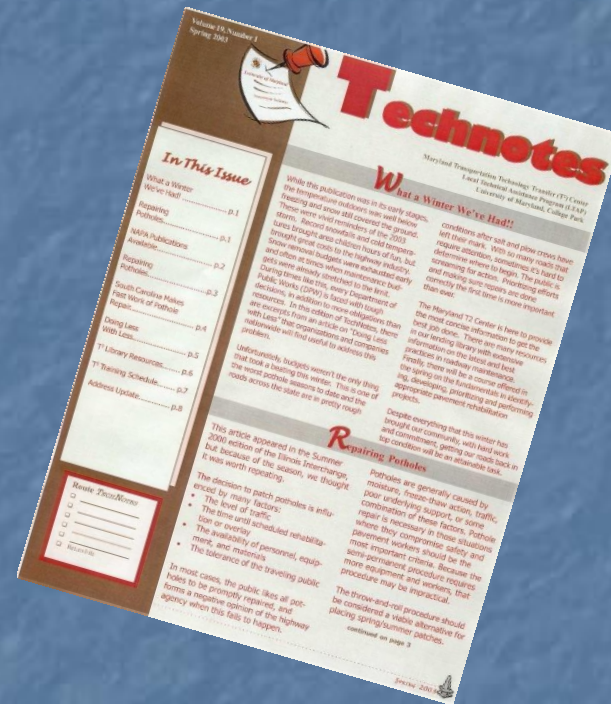
# T<sup>2</sup> Activities

- Mailing List
- Newsletter
- Provide Information
- Evaluation
- Outreach
- Training



# Newsletter Technotes

- Learn about upcoming workshops
- Keep up with new technologies and practices
- Alina Grant, Editor
- Ideas & Hot Topics...



# Training

- Began in 1984 with various instructors
- Alan Kercher of KEI started teaching various pavement preservation courses in 1995
- Ed Stellfox took over in 2003 til present

# Pavement Preservation Study

- Quick and Dirty Survey
- Three Governments respond using none of these

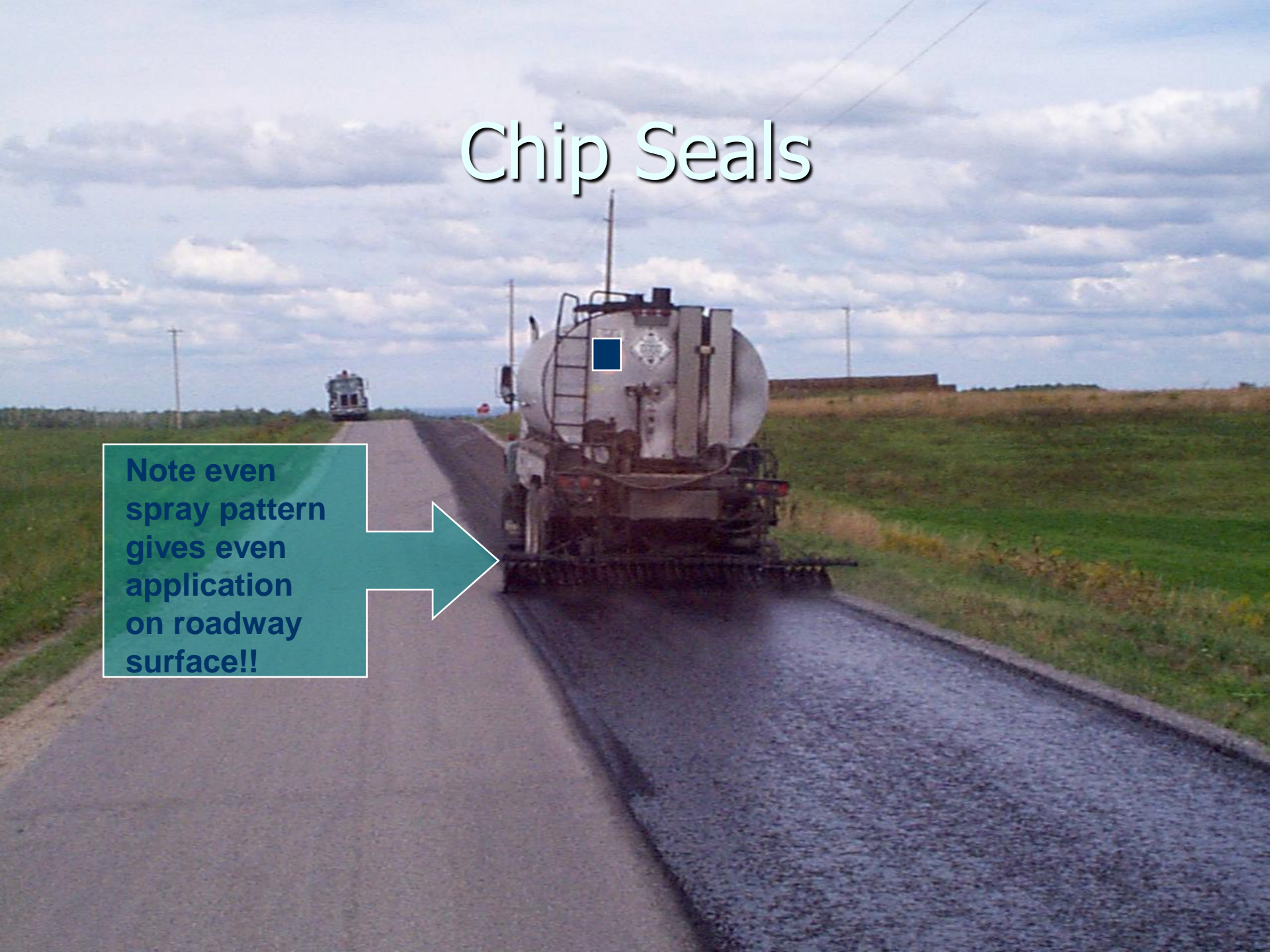


# Pavement Preservation Techniques in Use

- Chip Seals
- Slurry Seals
- Microsurfacing
- Ultrathin Bonded Wearing Course (NovaChip)
- Very Thin Overlays (< 1 in)
- Cold In Place Recycling

# Chip Seals

**Note even  
spray pattern  
gives even  
application  
on roadway  
surface!!**







Good aggregate allows  
even spreading with no  
gate or spreader  
blockages and low dust

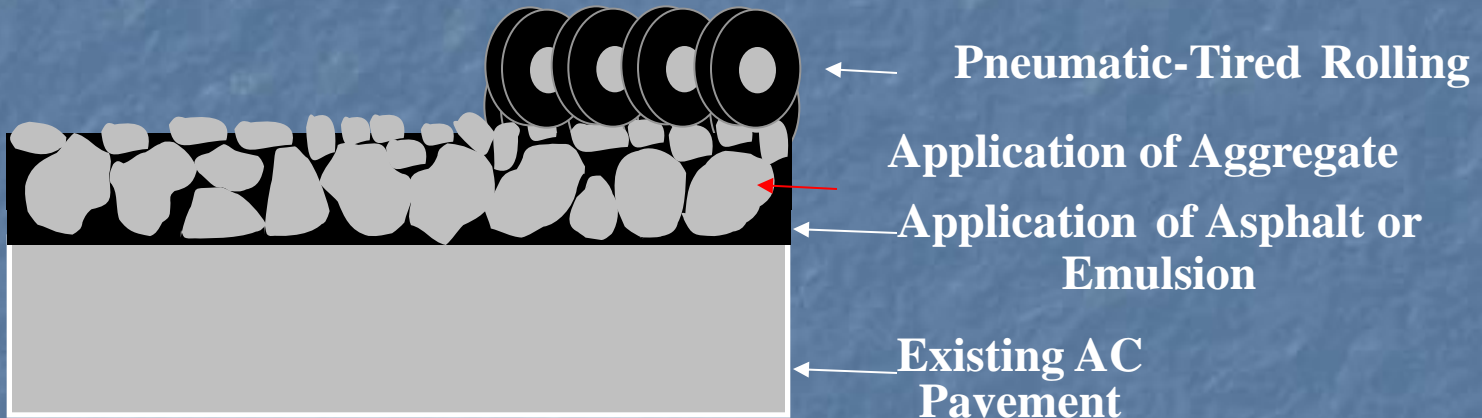


# Chip Seal Operation



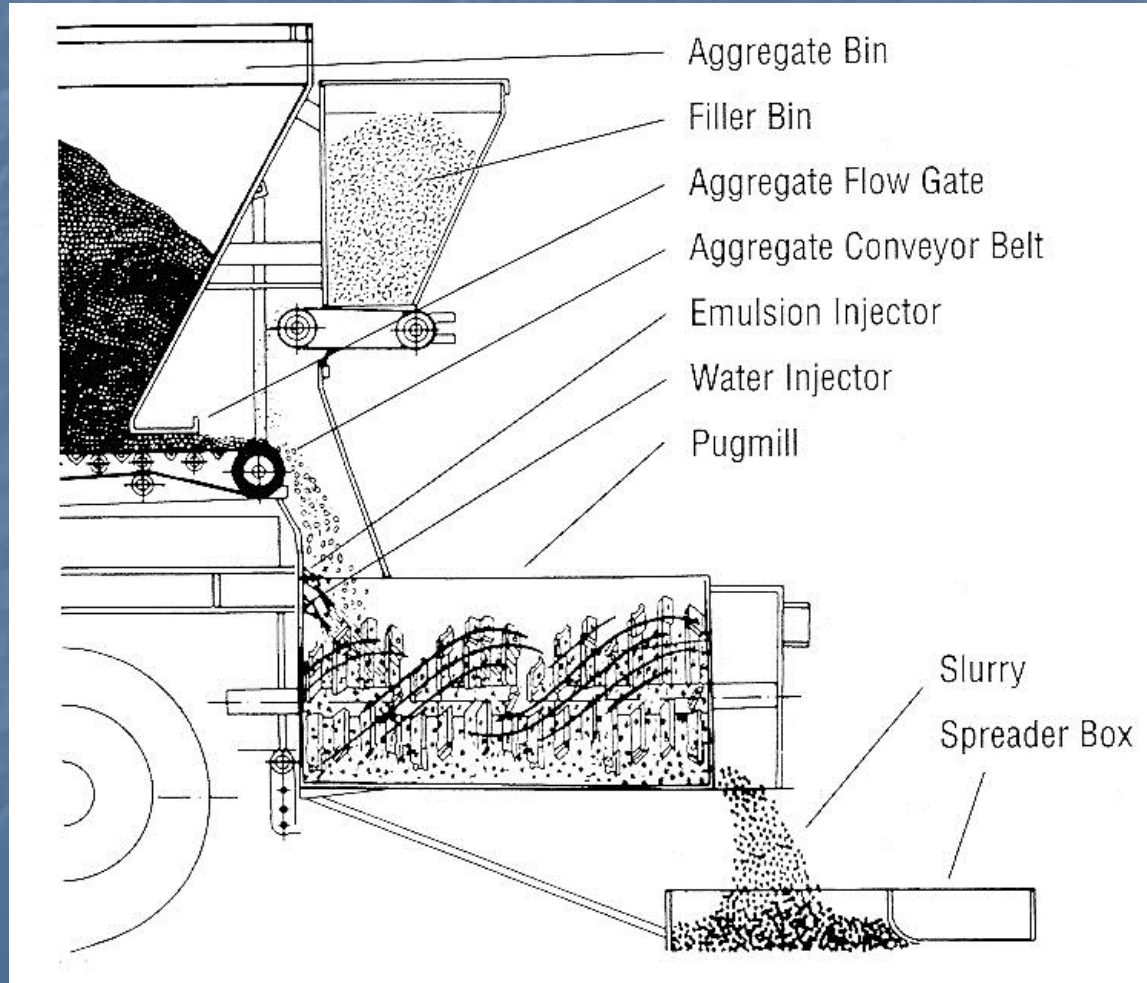


# Application of Chip Seals

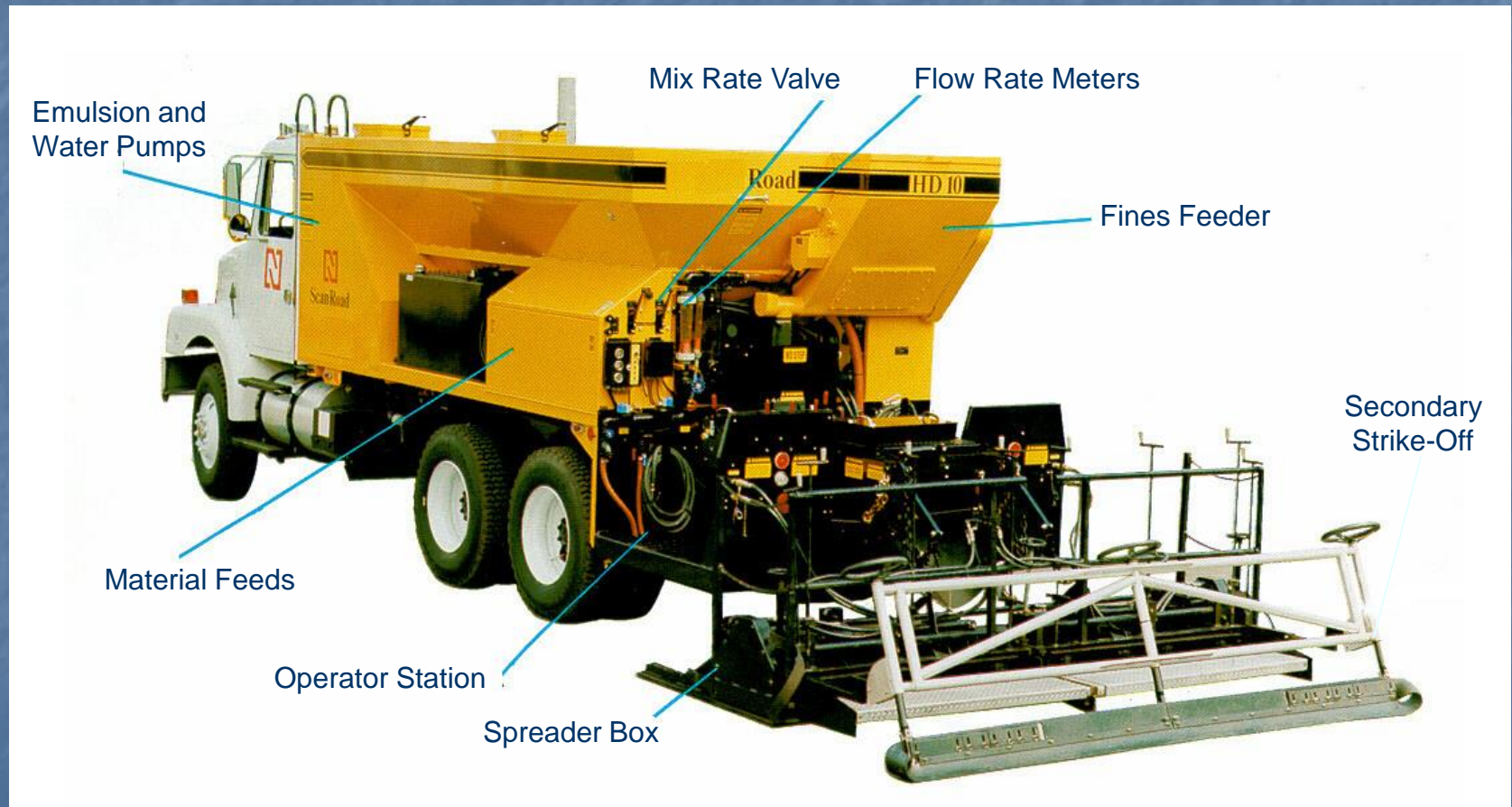


Single Chip Seal  
Double Chip Seal

# Slurry Seal Operation



# Slurry Seal Equipment





# Microsurfacing

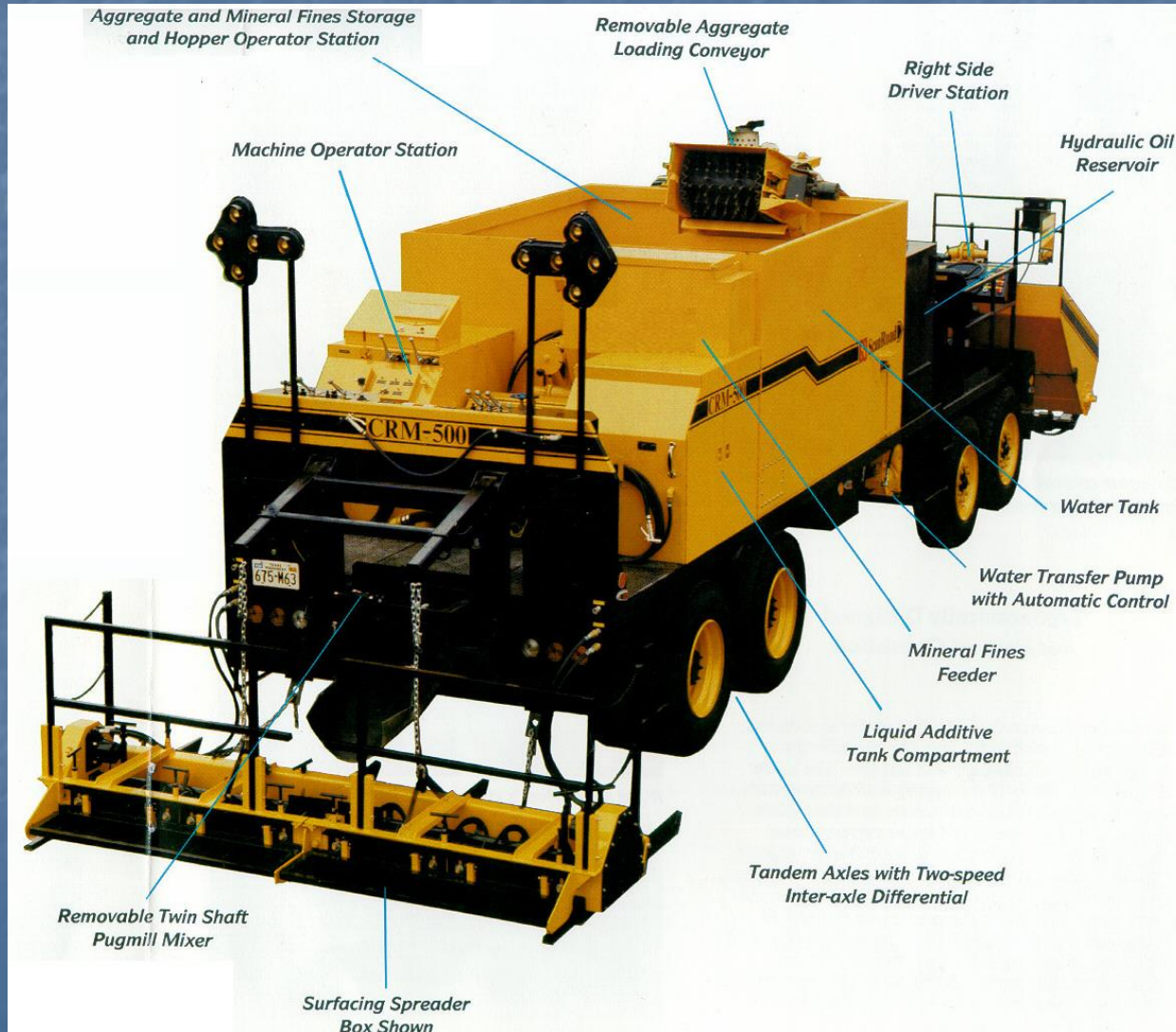
- Mixture of materials
  - Polymer-modified emulsion binder
  - High-quality aggregates
- Thicknesses of 10 to 20 mm (0.4 to 0.8 in)



- Purpose
  - Improve surface friction
  - Fill ruts/minor surface irregularities
  - Seal pavement surface
- Open to traffic in 1



# Microsurfacing Equipment



# Ultra Thin Friction Course (UTFC) What is it?

- Maintenance Surface Treatment
- Single Pass System that combines...
  - Thin gap-graded hot mix
  - Specialized Membrane for Bonding
  - Innovative Equipment



# NovaChip Paver





NovaBond is sprayed onto road surface inches in front of the hot mix





# Back of tamping screed





# Roller only 'seats' the aggregate in the NovaChip







# Cold-in-place Asphalt Recycling

Rebuilding asphalt roadways with existing materials





# The Operation

Paver

Windrow Elevator

Mill

Tanker





## Compaction

25 Ton  
Rubber Tired

CATERPILLAR

10-12 Ton Steel Vibratory



# Pavement Preservation Techniques in Use

<u>Treatment Type</u>	Yes or No	Avg. No. of Yrs Used	Currently using this treatment
Chip Seal	70%	19	60%
Slurry Seal	60%	12	11%
Microsurfacing	40%	7	11%
Ultrathin Bonded Wearing Course (Novachip)	20%	1	
Very Thin Overlays (less Than 1-1/2")	10%	5	10%
Cold In-place Recycling	40%	3	

# Pavement Preservation Techniques in Use

<u>Treatment Type</u>	<u>General Performance of the Treatment</u>				
	Very Good	Good	Fair	Poor	Very Poor
Chip Seal	40%	60%			
Slurry Seal		80%	20%		
Microsurfacing		100%			
Ultrathin Bonded Wearing Course (Novachip)	100%				
Very Thin Overlays (less Than 1-1/2")		100%			
Cold In-place Recycling	67%	33%			

# Pavement Preservation Techniques in Use

<u>Treatment Type</u>	<u>Primary Decision Factor</u>	
	<b>Pavement Condition (Distresses)</b>	<b>Age of Pavement</b>
<b>Chip Seal</b>	<b>80%</b>	<b>20%</b>
<b>Slurry Seal</b>	<b>33%</b>	<b>66%</b>
<b>Microsurfacing</b>	<b>33%</b>	<b>66%</b>
<b>Ultrathin Bonded Wearing Course (Novachip)</b>	<b>100%</b>	<b>100%</b>
<b>Very Thin Overlays (less Than 1-1/2")</b>	<b>33%</b>	<b>66%</b>
<b>Cold In-place Recycling</b>	<b>66%</b>	<b>33%</b>



# Pavement Preservation Techniques in Use

<u>Treatment Type</u>	<u>Type of Preparation</u>				
	<b>Crack Sealing</b>	<b>Patching</b>	<b>Use of Fabrics</b>	<b>Wedge/ Leveling</b>	<b>Drainage Upgrades</b>
<b>Chip Seal</b>		<b>86%</b>	<b>10%</b>	<b>57%</b>	<b>100%</b>
<b>Slurry Seal</b>	<b>43%</b>	<b>57%</b>			<b>14%</b>
<b>Microsurfacing</b>	<b>43%</b>	<b>57%</b>	<b>14%</b>	<b>28%</b>	<b>43%</b>
<b>Ultrathin Bonded Wearing Course (Novachip)</b>	<b>100%</b>	<b>100%</b>			
<b>Very Thin Overlays (less Than 1-1/2")</b>		<b>100%</b>	<b>100%</b>	<b>67%</b>	<b>67%</b>
<b>Cold In-place Recycling</b>					<b>50%</b>

# Cecil County Seal Coat on Fabric



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# Cecil County Seal Coat on Fabric





# Cecil County Seal Coat on Fabric



# Cecil County Seal Coat on Fabric





# Cecil County Seal Coat on Fabric





# Cecil County Seal Coat on Fabric





# Upcoming Events

## **Signal Warrant and Intersection Control Analysis Course**

Wednesday, May 8, 2013

8:30 a.m.-4:00 p.m., College Park, Maryland [More»](#)

## **Basic Drainage Course**

Thursday, May 9, 2013

8:30 a.m.-3:00 p.m., College Park, Maryland [More»](#)

## **Traffic Engineering Fundamentals (5/21 - 5/22)**

Tuesday, May 21, 2013

8:00 a.m.-4:00 p.m., College Park, Maryland [More»](#)

## **Preventive Pavement Maintenance Course**

Thursday, May 23, 2013

 8:30 a.m.-3:30 p.m., College Park, Maryland [More»](#)

# MD T2 Center

- Phone            301-405-6535
- URL              [www.MDT2Center.umd.edu](http://www.MDT2Center.umd.edu)