

OHIO DEPARTMENT OF TRANSPORTATION

Improvements for Winter Roadway Maintenance



JOHN R. KASICH, GOVERNOR JERRY WRAY, DIRECTOR

WWW.TRANSPORTATION.OHIO.GOV

Welcome



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Your Agenda April 7, 2011 9:15 to 10:30

- Your winter accomplishments
- Best technologies
- Innovative equipment
- Winter materials
- Leadership and management practices
- Future of winter maintenance
- Contacts locally to help us all
- Contact me anytime Dave Ray 614-644-7105

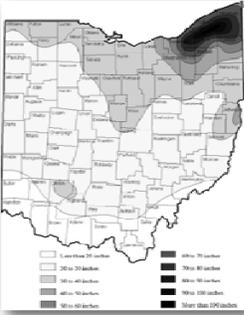
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Learning Objectives

- Achieve better results in your agency through improvements for winter roadway maintenance
- Assess your knowledge on what research is ongoing and what areas still need to be developed
- Determine how some technologies might work in your agency
- Hear from those in attendance what innovative winter practices they use

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Why is This Important?



Safety 33,000+ winter crashes

40 – 45% operating budget

2500+ employees

680,000 tons of salt

1700 plow trucks

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Innovative equipment



 **TOW FLOW** 6

Innovative equipment



ODOT's first Tow Plow on I-90 and SR 11 in Ashtabula County
Salting (6 ton) & plowing
Pushback for drifting
Opens up the road

 Tow Plow 7

Innovative equipment

- GPS Pilot
- Tracks vehicles & salt
- Pilot Goals include determining should we move forward with full scale implementation
- Automate daily logs for drivers
- Estimate potential savings it may provide based on salt, fuel, & labor



 GPS 8

Innovative equipment



Three Items for Success
Give the driver a sense of knowing where co-workers are
Let the driver know what weather is coming
Help the driver with real time information such as usage rates and suggested application rates

 GPS 9

Innovative equipment



ALTERNATE COLOR STROBE LIGHTS

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Innovative equipment



ON-BOARD WETTING AND DIRECT APPLICATION SYSTEMS

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Innovative equipment



**Wetting Systems
(70 to 280 Gallon Tanks)**

ON-BOARD WETTING AND DIRECT APPLICATION SYSTEMS

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Innovative equipment

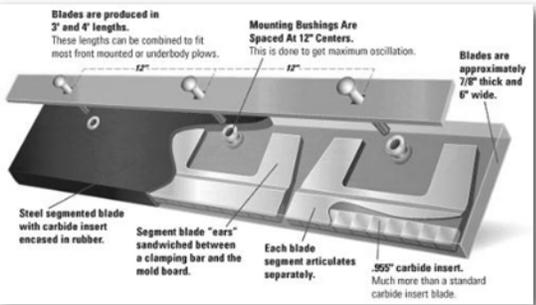


Rubber Slush Blade Scarifier Blade Olofsfors P300

Flexible Cutting Edge Designed by Henke Mfg

MULTIPLE-BLADE SNOW PLOW 13

Innovative equipment



Blades are produced in 3' and 4' lengths. These lengths can be combined to fit most front mounted or underbody plows.

Mounting Bushings Are Spaced At 12" Centers. This is done to get maximum oscillation.

Blades are approximately 7/8" thick and 6" wide.

Steel segmented blade with carbide insert encased in rubber.

Segment blade "ears" sandwiched between a clamping bar and the mold board.

Each blade segment articulates separately.

.995" carbide insert. Much more than a standard carbide insert blade.

JOMA RUBBER AND CARBIDE BLADE 14

Innovative equipment



UTAH FOG BUSTERS 15

Innovative equipment



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Innovative equipment



Snow Vehicle 1924

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Winter Materials

Salt contracts have grown in size
 Before 2008 less than 200 locals to nearly 470 local entities
 1.25 million tons in 2008 to over 2.7 million tons this season's contracts
 To participate on the salt contract contact Jim Schurch Office of Contracts 614- 644-7870



SALT CONTRACT 18

Winter Materials



Last winter we used
 5,731,423 gal. of brine
 854,301 gal. of liquid calcium chloride
 41,077 gal. of corrosion inhibited calcium chloride
 24,174 gal. of Geomelt
 Allows us to be proactive anti-icing before snow falls or ice forms
 Testing blended products



BRINE/ LIQUID DEICERS

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Leadership and Management Practices



ROAD AND WEATHER INFORMATION SYSTEMS

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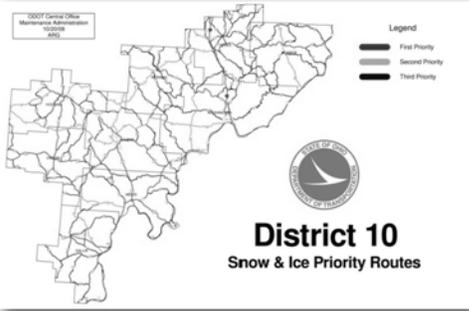
Leadership and Management Practices



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Leadership and Management Practices



SNOW & ICE PRIORITY ROUTES

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Leadership and Management Practices



Our leaders know:
 Lower priority roads must remain safe and passable
 Level of service between priorities must remain consistent
 Good communications with our customers must be maintained



SNOW & ICE PRIORITY ROUTES

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Leadership and Management Practices

Ohio Department of Transportation
Materials Application Guidelines

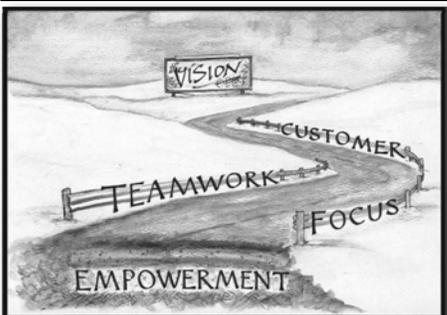
Conditions	Equipment	Pre-Treat	Light Snowfall		Heavy Snowfall		Freezing Rain	
			Material	Rate	Material	Rate	Material	Rate
Clear	None	None	None	None	None	None	None	None
Light Snow	SP-1000	None	SP-1000	100 lbs/1000 sq ft	None	None	None	None
Medium Snow	SP-1000	None	SP-1000	200 lbs/1000 sq ft	SP-1000	100 lbs/1000 sq ft	None	None
Heavy Snow	SP-1000	None	SP-1000	300 lbs/1000 sq ft	SP-1000	200 lbs/1000 sq ft	SP-1000	100 lbs/1000 sq ft
Freezing Rain	SP-1000	None	SP-1000	100 lbs/1000 sq ft	SP-1000	100 lbs/1000 sq ft	SP-1000	100 lbs/1000 sq ft



ROUTE APPLICATION GUIDELINES AND GOALS

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Leadership and Management Practices



A ROAD TO LEADERSHIP 25

Future of Winter Maintenance



THE NATIONAL ACADEMIES OF SCIENCE, ENGINEERING, & MEDICINE 26

Future of Winter Maintenance

- Recruiting, development, and retention of winter maintenance work force
- Increasing the recognition of the value of winter maintenance
- Determining technologies for travelers to have a consistent and reliable highway system
- Developing comprehensive communication capabilities
- Developing tools to determine the effectiveness of new technologies
- Creating pathways from research to full deployment
- Seamless integration of environmental issues into all areas of winter maintenance development

THE NATIONAL ACADEMIES OF SCIENCE, ENGINEERING, & MEDICINE 27

Future of Winter Maintenance



MIAMI UNIVERSITY "REDGLADE" PLACED 2ND IN THE SNOWPLOW COMPETITION 28

Your Best Practices



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<p>Northwest APWA Snow and Ice Conference 9/28/11</p> <p>Location to be determined</p> <p>Dennis Boyle 419-373-4476 Dennis.Boyle@dot.state.oh.us</p>	<p>Northeast Ohio Snow & Ice Technologies Workshop 5/12/11</p> <p>Solon Community Center, 35000 Portz Parkway, Solon, OH 44139</p> <p>Cheryl Musarra at 440-337-1531 CMusarra@solonohio.org</p> <p>www.BuckeyeTraffic.org/NEO</p>
<p>Southwest OH Snow and Ice Conference 3/31/11</p> <p>Butler Technology Regional Public Safety Complex 5140 Princeton-Glendale Road Liberty Township, Ohio 45011</p> <p>Angie Weber 513-785-4157</p>	<p>Snow -N- Ohio Workshop 6/23/11</p> <p>Ohio Expo Center Rhodes Center 717 E. 17th Ave Columbus, Ohio 43211</p> <p>Clyde Seidle 614-334-2443 cseidle@hilliardohio.gov Jean Amicon 614-334-2435 Jamicon@hilliardohio.gov</p> <p>http://ohio.apwa.net/events/7106/</p>



SNOW AND ICE TRAINING 30

Local Contacts

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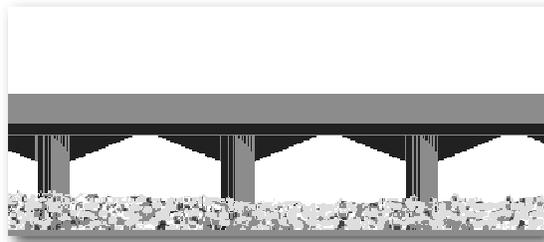

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Thank You




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Questions




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