Maintenance Operation Research Program

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DEPARTMENT OF TRANSPORTATION

BACKGROUND

- Began in 1988
- 1991 New Technology Research and Equipment Committee (NTREC) was introduced
- Mid 90's NTREC evolved to encompass four key programs
  - Maintenance Operations Implementation Fund
  - Maintenance Operations New Equipment Technology Fund
  - Maintenance Operations Strategic Activities Fund
  - New Technology Research Equipment fund
- 2004 department wide budget cuts resulted in reductions to the Maintenance Operations Research Program (MOR)
- 2013 MnDOT's Office of Maintenance leveraged additional agency funds to add technology transfer positions to the MOR program
- 2018 The Program still operating strong but has been combined and streamlined under MOR Program

MnDOT's Maintenance Operations Research Program (MOR)

WHO WE ARE

Serve as a catalyst of collaboration and innovation for the Minnesota Department of Transportation

WHAT WE DO

Fund the testing and evaluation of innovative products and practices that have the potential to significantly improve the efficiency and safety of MnDOT maintenance activities

CORE FOCUS

Safety

Snow & Ice

Road & Roadside Maintenance

Bridge & Structures

Traffic Operations

Maintenance Operation Research Program Goals

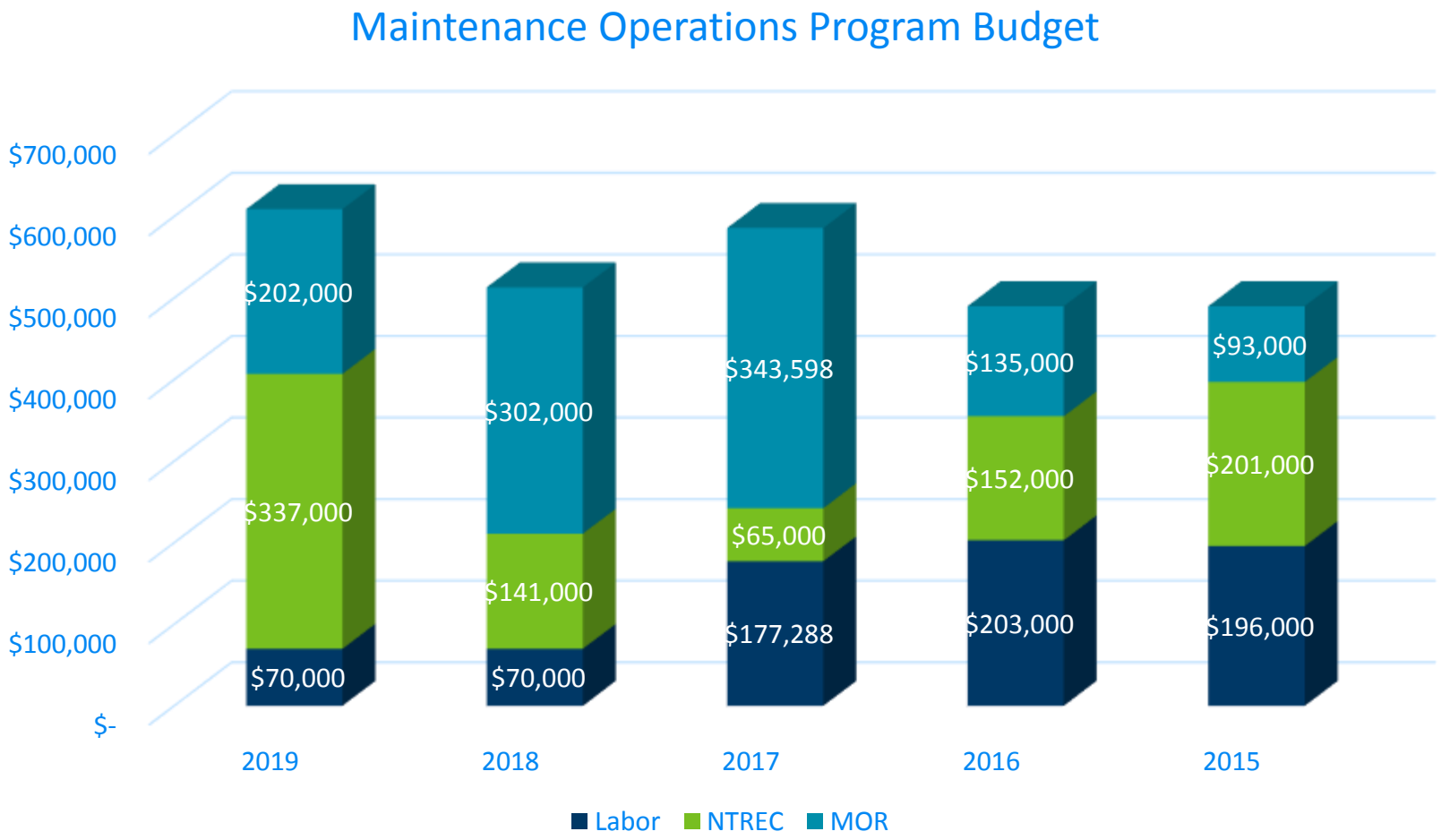
The goal of the Maintenance Operations Research program is to identify, develop and implement the most effective maintenance procedures, materials and equipment throughout the State of Minnesota.

The success of this program is a direct result of field involvement.

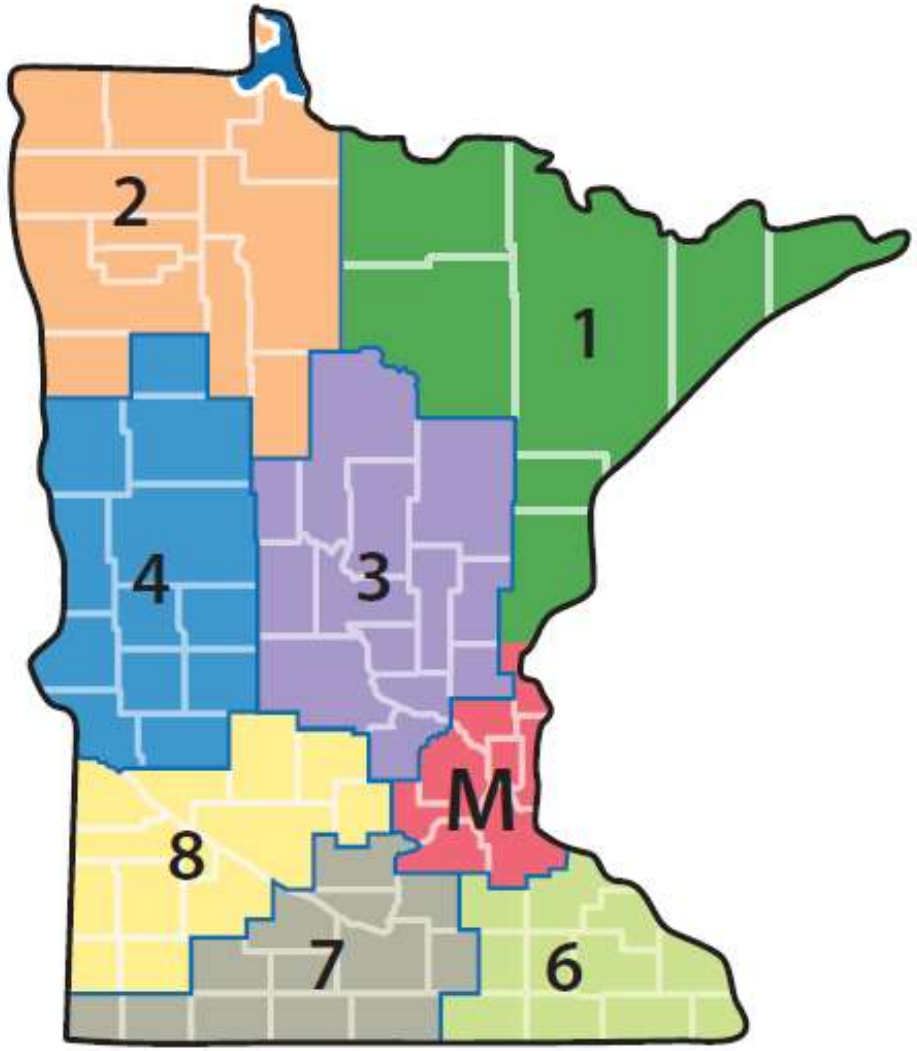
Many of the best ideas and implemented projects came from various dedicated district operations staff throughout the state

They offer real life solutions to many of the challenges maintenance employees face in their work

PROGRAM BUDGET OVERVIEW



MNDOT MAINTENACE DISTRICTS



	FTE
District 1 – Duluth/Virginia	342
District 2 – Bemidji/Crookston	226
District 3 – Brainerd/St. Cloud	373
District 4 – Detroit Lakes/Morris	253
Metro District	1,200
District 6 – Rochester/Owatonna	401
District 7 – Mankato/Windom	295
District 8 – Willmar/Marshall	201

All MnDOT – 3,288

MOR's TRACKS

MOR

Maintenance Operations Research

- Projects $15,000 <
- Office of Maintenance Awards
- Multiple District Committees

NTREC

New Technology Research Equipment Committee

- Projects $15,000 >
- Statewide Committee Awards
- 1 Statewide Committee

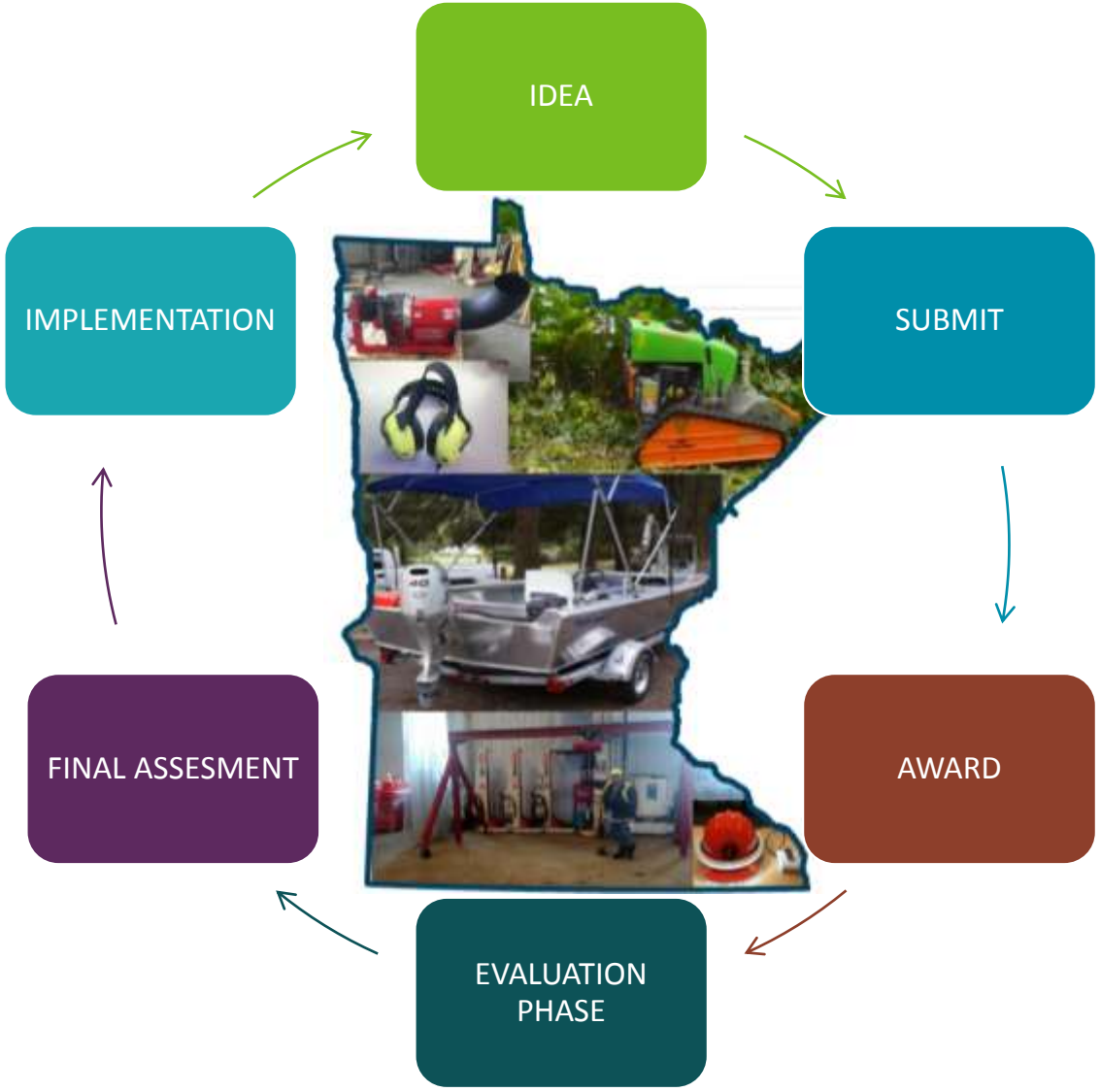
IMP

Implementation

- Projects deemed Successful
- Statewide input
- Multiple Funding Sources

** Awards & Recognition **

HOW IT WORKS


IDEA
SUBMIT
AWARD
EVALUATION PHASE
FINAL ASSESMENT
IMPLEMENTATION

GRASS ROOT PROJECT EXAMPLES

MASTIC LUTE SKID

Estimated Cost = $200

Key Features

- Reduces over exertion
- Cleaner end product
- Reduces waste
- Keep your boots cleaner

SANDER DISCONNECT

Estimated Cost = $130

Key Features

- Shuts off auger when parking brake is applied
- Wiring
- 1x software update

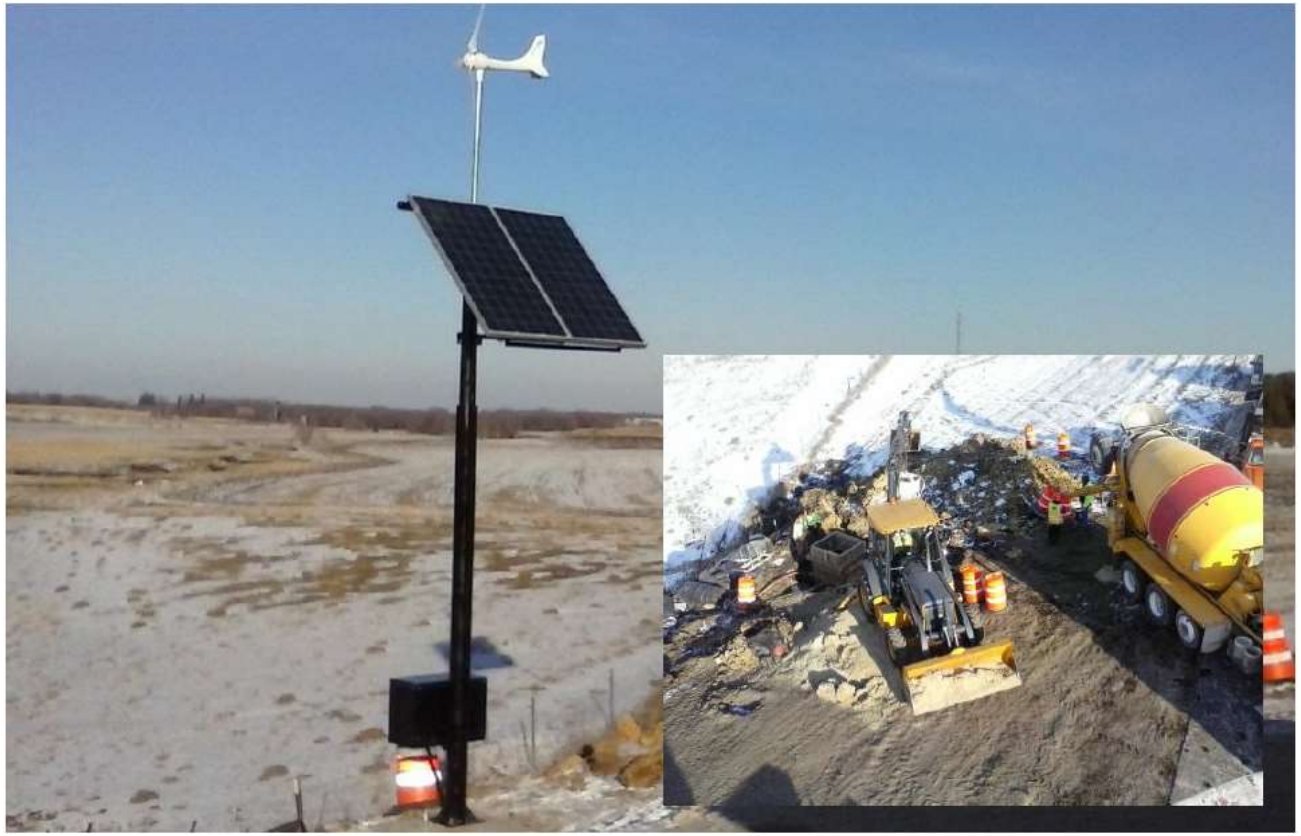
MOR PROJECT EXAMPLES

FLAGGERMATE

RUBBER TRACK BUGGY

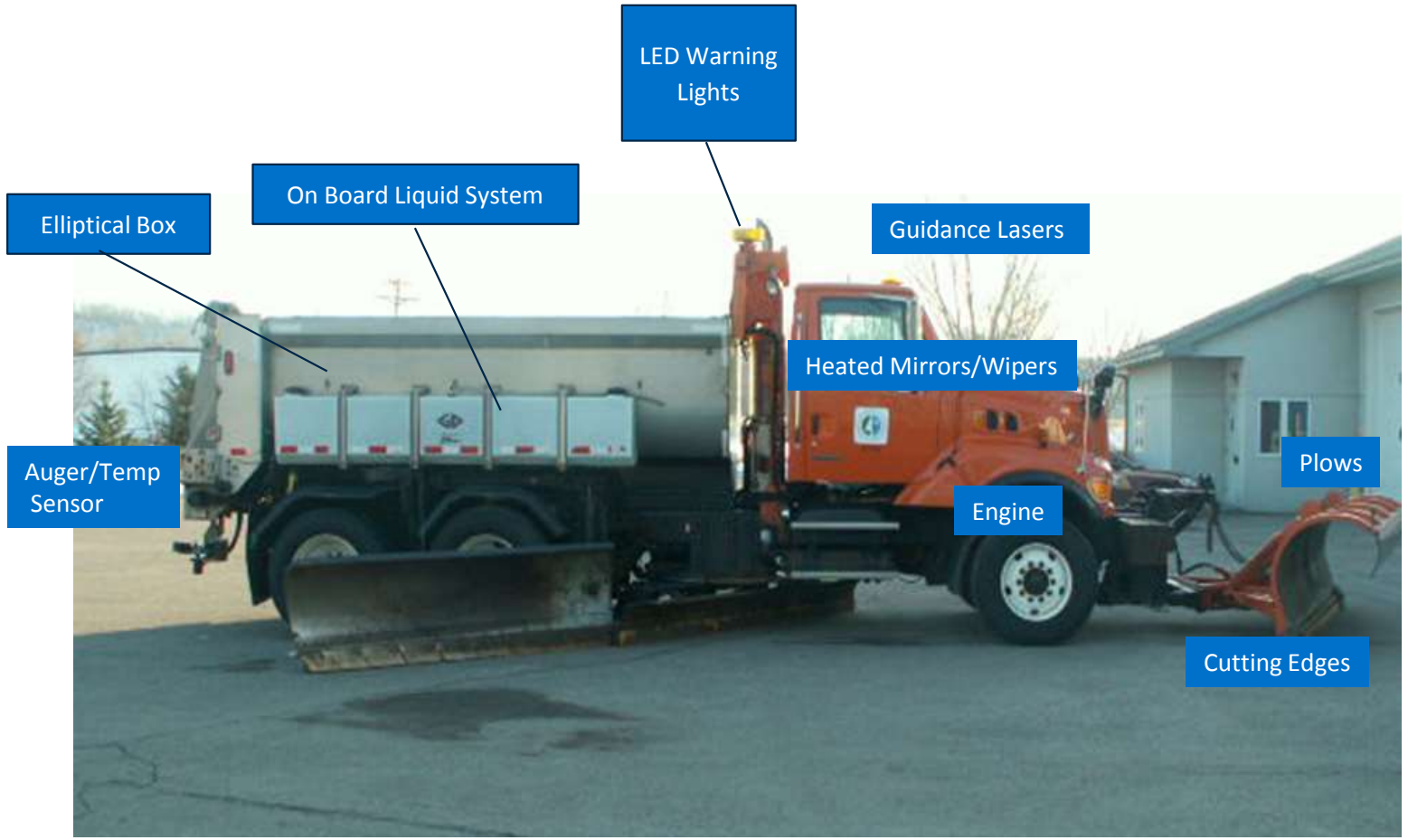
NTREC PROJECT EXAMPLES

SOLAR POWERED CULVERT TAPE



GRAPPLE SAW

EXAMPLES OF IMPLEMENTATION / STANDARDS



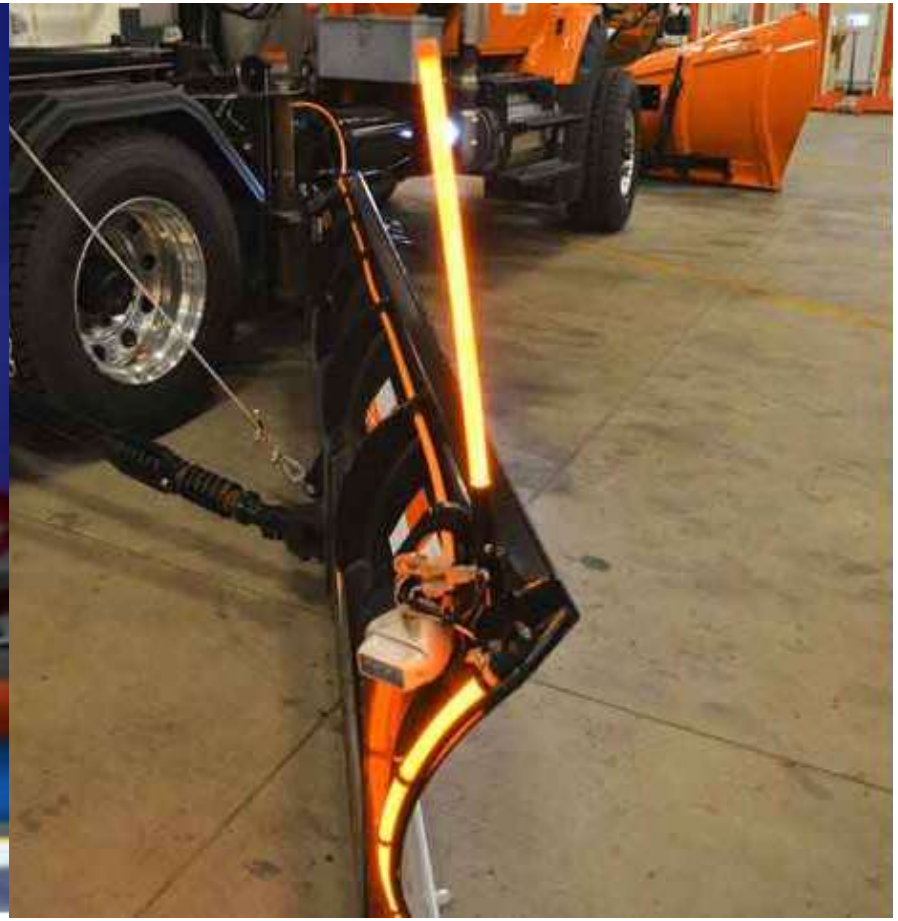
Standard Items

Auger/Temp Sensors
Temp Sensor
LED Lights
Elliptical Box
On Board Liquid System
MDSS/AVL
Hoists
Guidance Lasers (Tow Plows)
Striker Fog Lights
Aluminum Rims
Engines
Carbides

District Specific Items

Chutes/Skirts
Slurry Augers
Tailgates / Sanders
Air Foils
Pressure Safety Caps
Auto Greasing Systems
Stainless Steel Hydraulic Couplers
Valve Extenders

SAFETY INNOVATION TEAMS



GETTING THE WORD OUT

Reoccurring Meetings

Reports / Catalogs

Presentations / Events

Monthly Bulletins

News Releases/Articles

Documents available at: http://www.dot.state.mn.us/maintenance/research/research.html

THANK YOU

MnDOT's Office of Maintenance

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