Maintenance Decision and Support System (MDSS)

For Winter Road Maintenance
Road Friction
Good

Current Time
10:15 am
Monday
Road Friction
Good

Current Time
10:15 am
Monday
**RECOMMENDED TREATMENT**

No Treatment Needed

Play Movie to look ahead!
**Road Friction**

*Good*

Current Time
10:15 am
Monday

RECOMMENDED TREATMENT

No Treatment Needed

Play Movie to look ahead!
**Road Friction**

**Good**

Current Time
10:15 am Monday

**RECOMMENDED TREATMENT**

No Treatment Needed

Play Movie to look ahead!

---

**Roads**

**17**

**Round Road**

**15**

**INTERSTATE**

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**Map Overlays**

- Current Depth, in.
- New Depth, in.
- Rate, in./hr
- Water Equivalent, in.
- Drift Depth, in.
- Road Temperature, F
- Salt Conc., %
- Fog
- Cloud Cover
- High Wind, mph
- Truck Routes

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**Game Plan**

**Prediction Background**

1 2 3 4

**Trucks**

**Crew**

**Material Stocks**

**Movie**

**Time Window**

mid 2 4 6 8 10 noon 2 4 6 8 10

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**Current Depth, in.**

**New Depth, in.**

**Rate, in./hr**

**Water Equivalent, in.**

**Drift Depth, in.**

**Road Temperature, F**

**Salt Conc., %**

**Fog**

**Cloud Cover**

**High Wind, mph**

**Truck Routes**
RECOMMENDED TREATMENT

Treatment will be needed soon
Play Movie to look ahead!
Road Friction

Poor!

Current Time
10:15 am
Monday

PREDICTION
Ice Forming at 3:30 am Tuesday

RECOMMENDED TREATMENT
Initial

Treatment Time: 3:15 am Tuesday

Material: Abrasive
Application (per two-lane mile): 1200 lbs
Pre-wet:

Road Friction Graph
Game Plan
Prediction Background 1 2 3 4
Trucks
Crew
Material Stocks

Movie

Time Window

Monday
10:15 am
Current Time
**RECOMMENDED TREATMENT**

**Initial**

Treatment Time: **3:15 am Tuesday**

Material: **Abrasives**

Application (per two-lane mile): **1200 lbs**

Pre-wet:

- Good
- Fair
- Poor
PREDICTION
1” Snow accum. by 1:30 pm Tuesday

RECOMMENDED TREATMENT
Subsequent

Treatment Time: **1:15 pm Tuesday**

Material: Sodium Chloride

Application (per two-lane mile): **400 lbs**

Pre-wet: Calcium Chloride, 8 gals./ton

Road Friction Map

Game Plan

Prediction Background

Trucks

Crew

Material Stocks
**PREDICTION**

1” Snow accum. by 1:30 pm Tuesday

**DELAYED TREATMENT BY 1.25 HRS!**

Subsequent

Delayed Treatment Time: 2:30 pm Tuesday

Material: Sodium Chloride

Application (per two-lane mile): **800 lbs**

Pre-wet: Calcium Chloride, 8 gals./ton

1.25 hr delay causes higher treatment rate. You may run out of sodium chloride – check Material Stocks.

DELAYED TREATMENT BY 1.25 HRS!

Subsequent

Delayed Treatment Time: 2:30 pm Tuesday

Material: Sodium Chloride

Application (per two-lane mile): **800 lbs**

Pre-wet: Calcium Chloride, 8 gals./ton

1.25 hr delay causes higher treatment rate. You may run out of sodium chloride – check Material Stocks.
Game Plan

- Crew
- Trucks
- Material Stocks
  - Truck Routes
  - Standard
  - Custom
- Road Status
- Logistics Matrix

Roads Overlays Treatments TimeLine Resources
### Game Plan – Initial

#### Based on Recommended Treatments

<table>
<thead>
<tr>
<th>Call @</th>
<th>Route</th>
<th>Segment</th>
<th>Driver</th>
<th>Truck ID</th>
<th>Dress &amp; Load</th>
<th>Treat. Rate/TLM</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 pm Monday</td>
<td>A 2,3,4</td>
<td>Sam Salter</td>
<td>Mack X</td>
<td>NaCl, pw-8g. CaCl</td>
<td>400 lbs</td>
<td>midnight Mon/Tue 3:15 am Tuesday</td>
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<td>Notes: Drive reverse route</td>
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<tr>
<td>9:00 pm Monday</td>
<td>C 8,9,10</td>
<td>Polly Plowgirl</td>
<td>Mack Z</td>
<td>Sand (ballast)</td>
<td>Plow only</td>
<td>1:00 am Tuesday 3:15 am Tuesday</td>
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<tr>
<td>9:00 pm Monday</td>
<td>B 6,7</td>
<td>Gary Grippy</td>
<td>Mack Y</td>
<td>Engine blown</td>
<td>1200 lbs</td>
<td>1:30 am Tuesday 3:30 am Tuesday</td>
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<tr>
<td>Notes:</td>
<td></td>
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#### Material Stocks

- **NaCl**: 10 tons (5 tons to be used initial treatment)
- **CaCl**: 40 tons
- **CaCl liquid**: 250 gallons (30 gallons to be used initial treatment)
- **Abrasives**: 120 tons (11 tons to be used initial treatment)
Prediction Background

Temperature (F)

Road Friction

Good
Fair
Poor

Movie

Time Window

Mile Marker 245

10:00 pm

10:15 am

10:15 am

Monday

Tuesday

Wednesday

Thursday
<table>
<thead>
<tr>
<th>Temperature (F)</th>
<th>Depth On Road (in.) of Snow, Ice, Water</th>
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<tbody>
<tr>
<td>40</td>
<td>2.25</td>
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<tr>
<td>38</td>
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<td>34</td>
<td>1.50</td>
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<td>1.25</td>
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<td>16</td>
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</tr>
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</table>

**Prediction Background 2**

**Mile Marker 245**

**Roads** | **Overlays** | **Treatments** | **Timeline** | **Resources**

**Tuesday**

- Movie

**Time Window**

- 10:00 pm

**Movie**

10:15 am Monday

**Current Time**

10:15 am Monday
### Conditions Summary and Forecast - Text

**Conditions at Interstate 15, Mile Marker 245**

#### Current
- **Time:** 11:53 PM Feb 07, 2001
- **Temperature:** 35.1°F (1.7°C)
- **Dew Point:** 28.0°F (-2.2°C)
- **Relative Humidity:** 75%
- **Pressure (altimeter):** 29.72 in. Hg (1006 hPa)
- **Pressure tendency:** 0.02 inches (0.6 hPa) higher than three hours ago
- **Maximum and Minimum Temperatures F (C):**
  - In the **6 hours** preceding Feb 06, 2001 - 12:53 PM
    - 28.0 (-2.2) / 21.0 (-6.1)
  - In the **24 hours** preceding Feb 05, 2001 - 11:53 PM
    - 28.0 (-2.2) / 21.0 (-6.1)
- **Accumulation:** A trace
- **Precipitation History**
  - A trace Last hour
  - A trace In the **6 hours** preceding Feb 06, 2001 - 12:53 PM
  - 0.01 inches In the **24 hours** preceding Feb 05, 2001 - 06:53 AM
- **Wind:** from the NW (310 degrees) at 5 MPH (5 KT)
- **Visibility:** 10 mile(s)
- **Sky conditions:** partly cloudy

#### 24 Hour Summary

- **1PM (18) Feb 06:** 35.1°F (1.7°C)
- **Noon (17) Feb 06:** 34.0°F (1.1°C)
- **8 AM (16) Feb 06:** 33.1°F (0.6°C)
- **7 AM (15) Feb 06:** 30.0°F (-1°C)
- **6 AM (14) Feb 06:** 28.9°F (-1.7°C)
- **5 AM (13) Feb 06:** 30.0°F (-1°C)
- **4 AM (12) Feb 06:** 30.0°F (-1°C)
- **3 AM (11) Feb 06:** 30.0°F (-1°C)
- **2 AM (10) Feb 06:** 30.0°F (-1°C)
- **1 AM (9) Feb 06:** 30.0°F (-1°C)
- **Noon (8) Feb 06:** 30.0°F (-1°C)
- **Midnight (7) Feb 06:** 30.0°F (-1°C)
- **11 PM (6) Feb 05:** 28.9°F (-1.7°C)
- **10 PM (5) Feb 05:** 27.0°F (-2.8°C)

#### Forecast
- **Time:** 12:53 PM Feb 05, 2001
- **Temperature:** 34.7°F (1.5°C)
- **Dew Point:** 28.0°F (-2.2°C)
- **Relative Humidity:** 75%

- **Wind:** from the NW (310 degrees) at 5 MPH (5 KT)
- **Visibility:** 10 mile(s)
- **Sky conditions:** partly cloudy