# MDSS and Mobile Data Collection as an Integrated ITS Technology

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Intelligent Devices, Inc.

VP Business Development

# Intelligent Devices, Inc.

- Leader in NTCIP technology
- Legacy protocol translators
- Provider of NTCIP central software
- translators


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# MDC and Maintenance Decision Support

**If you know…**

- Road characteristics
- Current conditions
- Weather forecast
- Physics & chemistry of snow, ice, chemicals
- Available resources (material, equipment, schedule)

**…then you can recommend…**

- Treatment type
- Application rate
- Optimal timing

**…and predict**

- Future road conditions with or without treatments

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# SDDOT Pilot Project

- Assess suitability of SDDOT fleet for MDC
- Develop functional and physical specifications for MDC
- Define NTCIP-based protocols for truck-to-center communications
- Build & evaluate a functioning field controller
- Recommend a cost-effective deployment strategy

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# Mobile Data Collectors

- Light Weight
- Durable
- Remotely Updateable
- Windows Based
- Expandable
- Easy to Install in Vehicle


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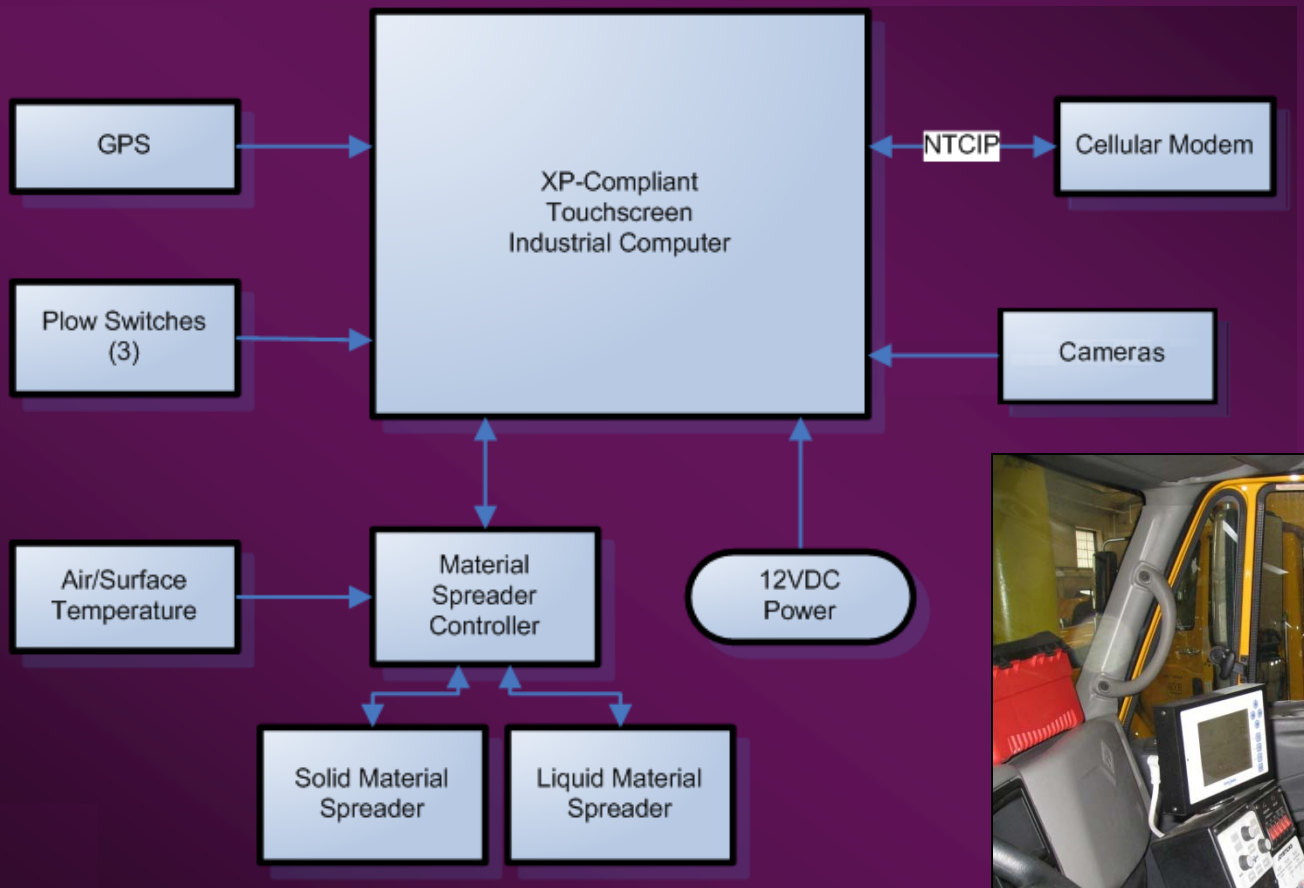
# MDC Truck Configuration

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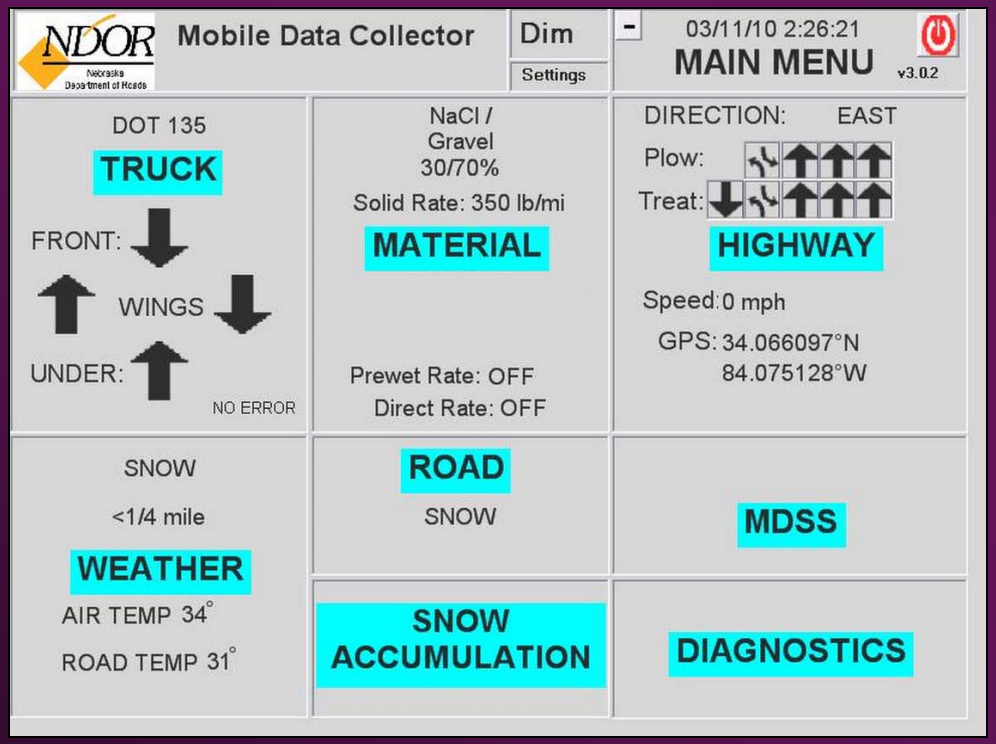
# Mobile Data Collection




- Automatically Collected:
  - Vehicle Location
  - Speed
  - Direction
  - Material Application Rate
    - Solid
    - Pre-Wet
    - Liquid
  - Plow Blade Position
  - Road Temperature
  - Air Temperature

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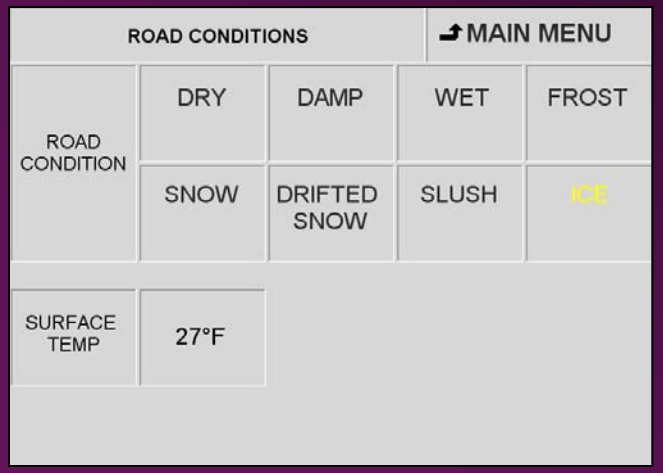
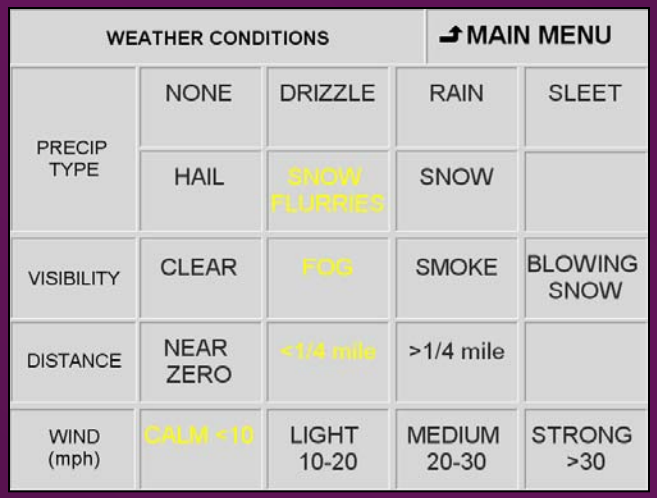
# Mobile Data Collection

- Operator Enters:
  - Plow/Treat Lanes
  - Material Application
  - Visibility
  - Precipitation
  - Road Condition
  - Snow Accumulation

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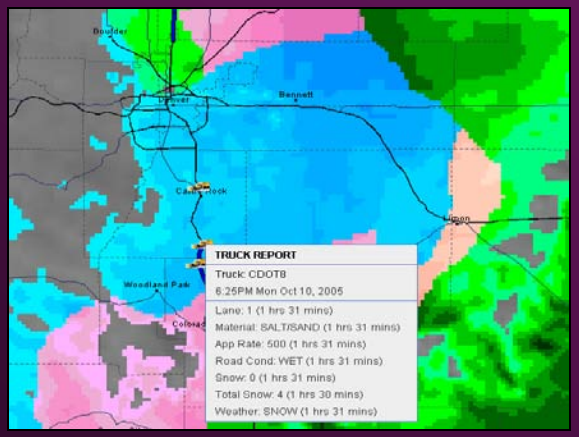
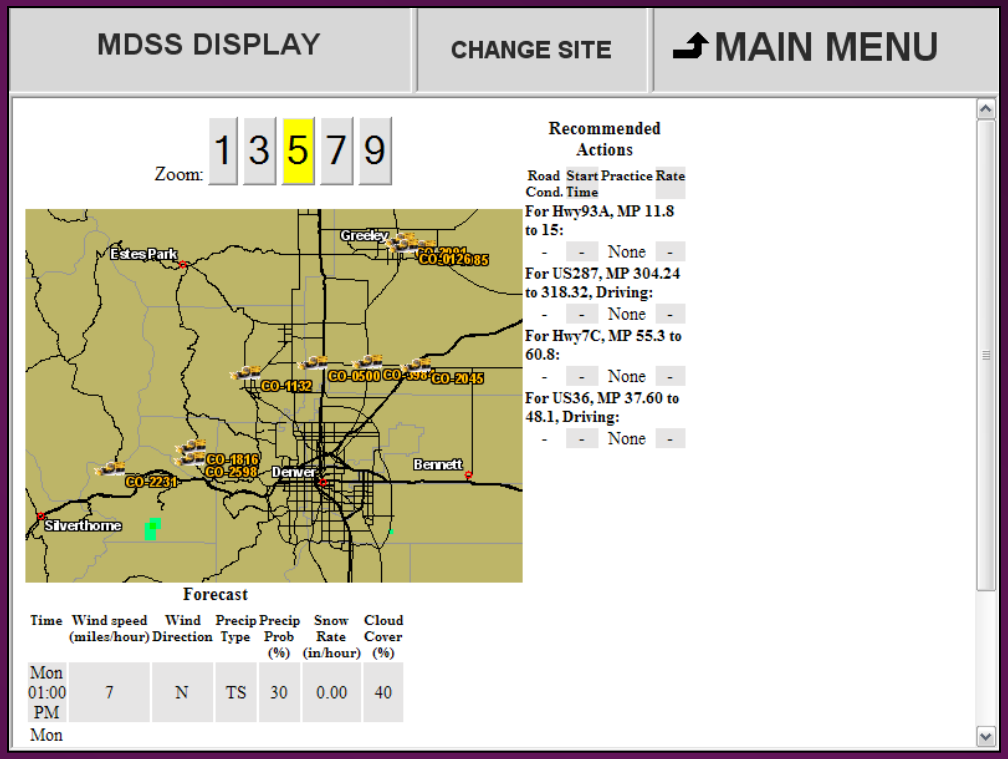
# Maintenance Decision Support

- Driver receives MDSS recommendation
- Driver receives regional weather

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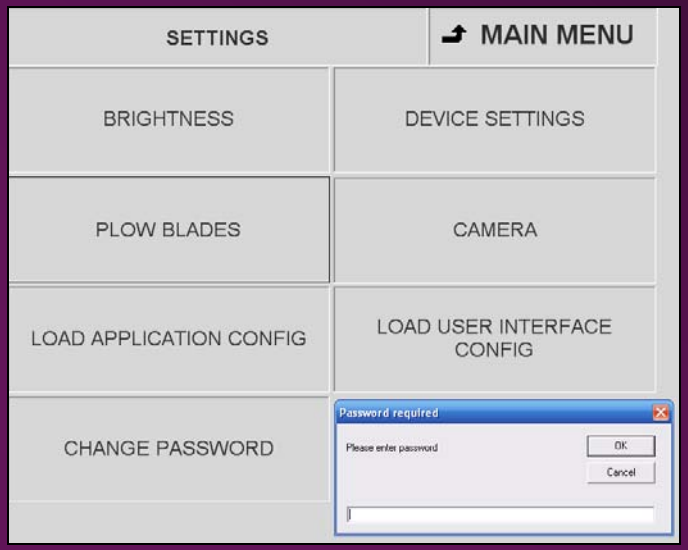
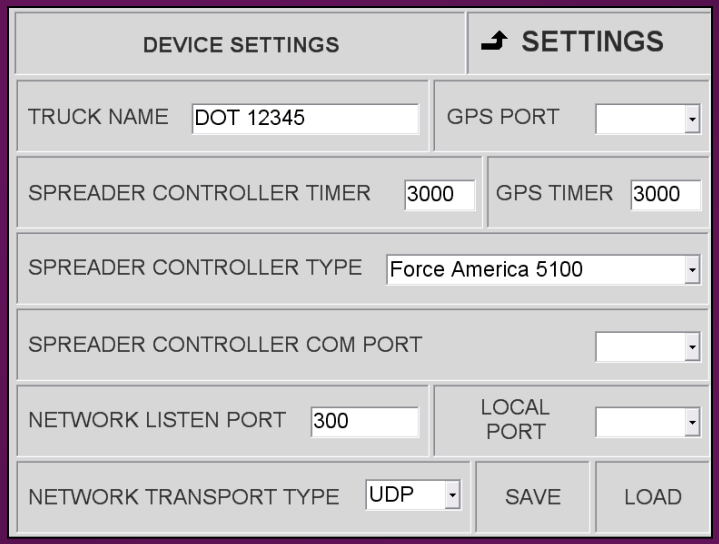
# Configurability

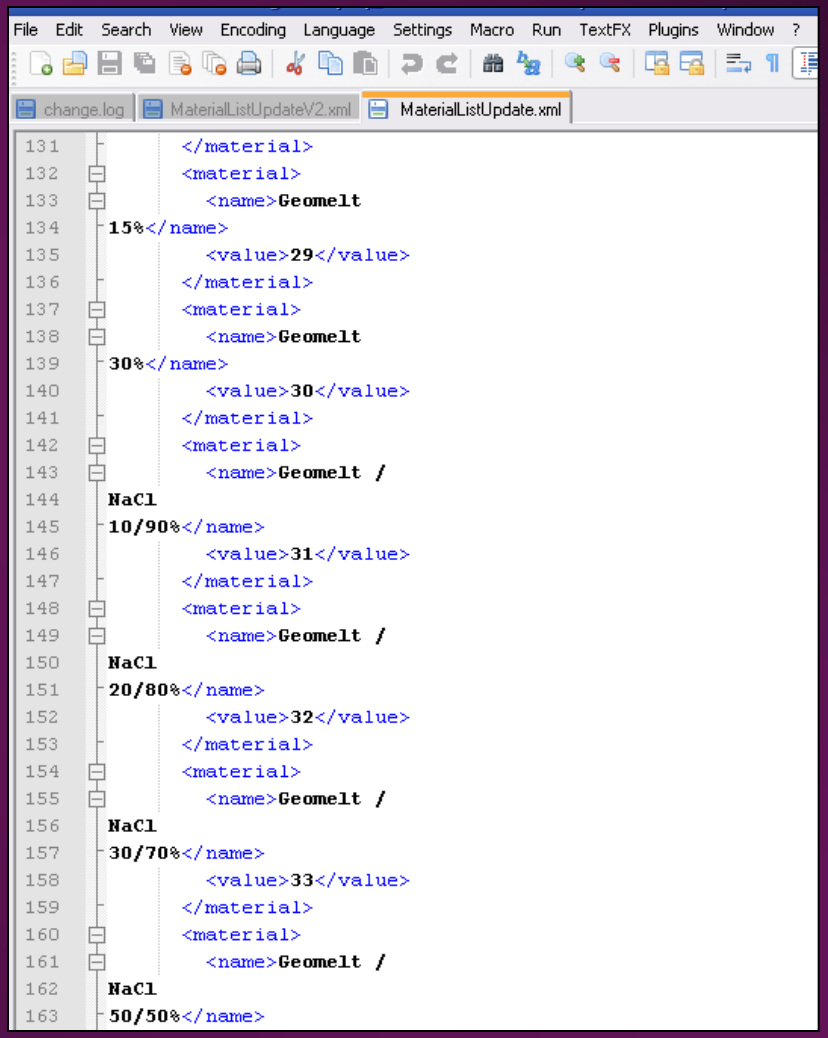
- Screen brightness
- Plow blade
  - Automatic monitoring
  - Manual monitoring
- Device password
- Device settings
- On board camera



# Configurability

- XML configurable
- Uses Windows XP
- Support for any NTCIP objects
- Materials list and URL list fully configurable by agency

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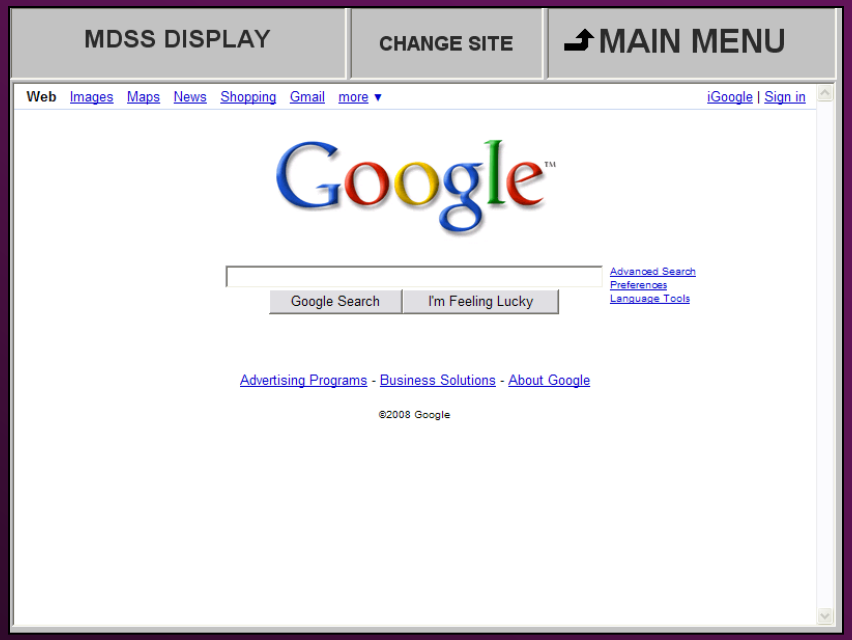
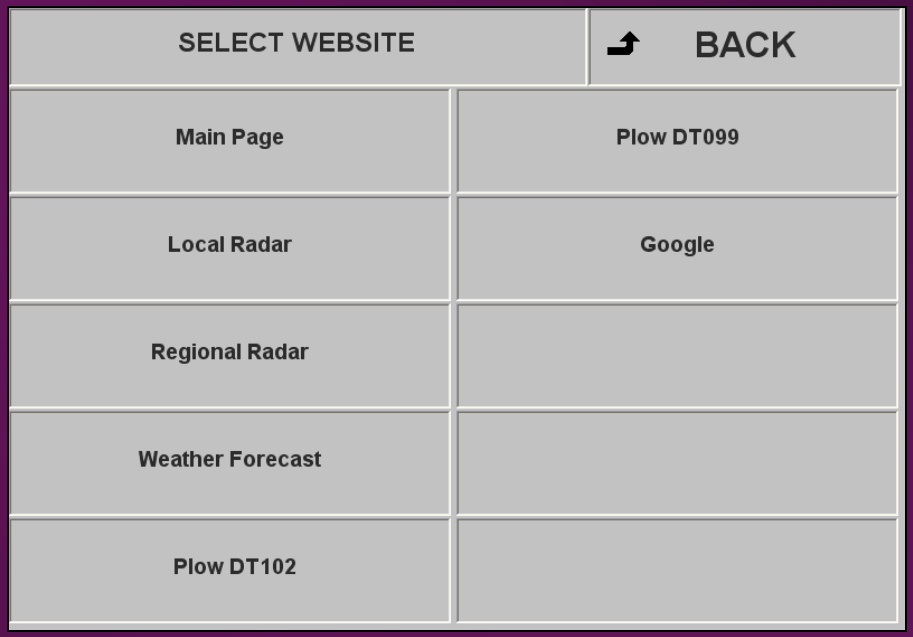
# Web Services

- Limited or full web browser
- Ease of navigation through touch screen

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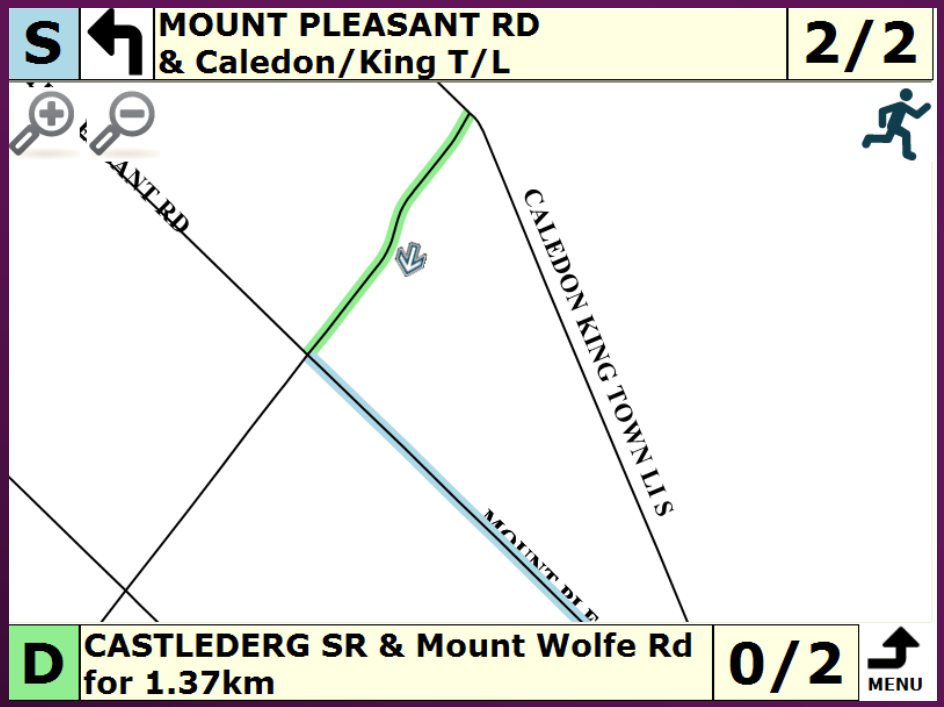
# Route Optimization – Map View




- Displays turn by turn instructions for full route
- Color coded actions
  - Blue – Spreading
  - Green – Deadheading
  - Red – Plowing
- 7 Zoom Levels
- Text to Speech

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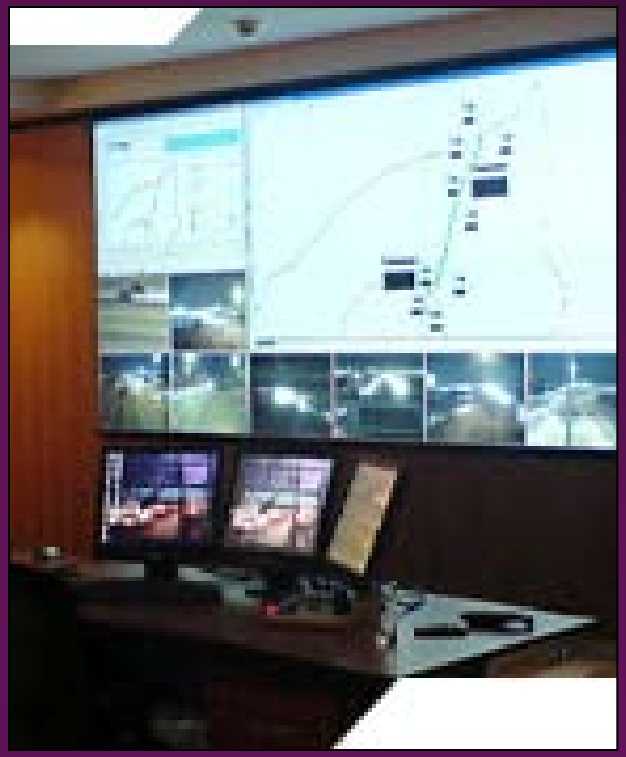
# MDSS and MDC as an Integrated ITS Technology

- Open standard
- Integration with TMC
- Combined fleet and traffic management
- Works with any NTCIP-compliant central software
- Motorists are provided more information on current driving conditions
  - DMS Signs
  - Highway Advisory Radios (HAR)
  - Public Website



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# Questions?

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