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Work Zone Accident Reduction Deployment (WZARD)

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Your Destination...Our Priority

WZARD is a part of a Destination Innovation Project; Safe Corridor Enhancement (SCorE)

- ❏ Three SCorE projects on eastbound I-94.

  - ❏ RTMC Backbone Extension
  - ❏ CITE
  - ❏ WZARD

- ❏ The projects are interrelated and designed to reduce crashes and improve safety.

SCorE Location

All projects are located on the Eastbound I-94 Corridor from the Twin Cities to St. Cloud (45miles).
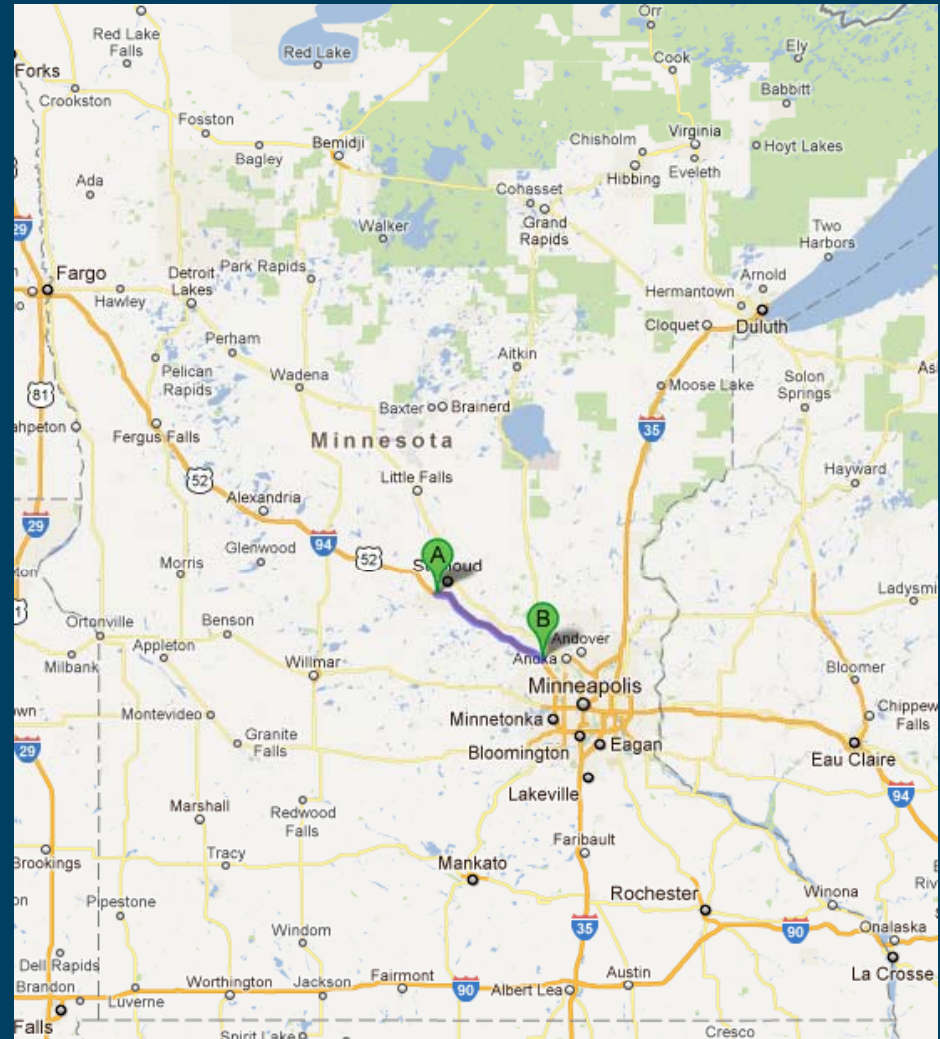
RTMC Backbone Extension Project

❑ Provides for
  ❑ Fiber optic communication
  ❑ Power
  ❑ 13 changeable message signs
  ❑ Detection
    • Radar
    • CCTV

Corridor Enhancement via Technical Enforcement (CITE)

Roadside mounted license plate readers (LPR's) installed along the corridor.

WZARD

□ Provides automated dynamic warning to approaching vehicles of current snow plow and or maintenance operations upstream.

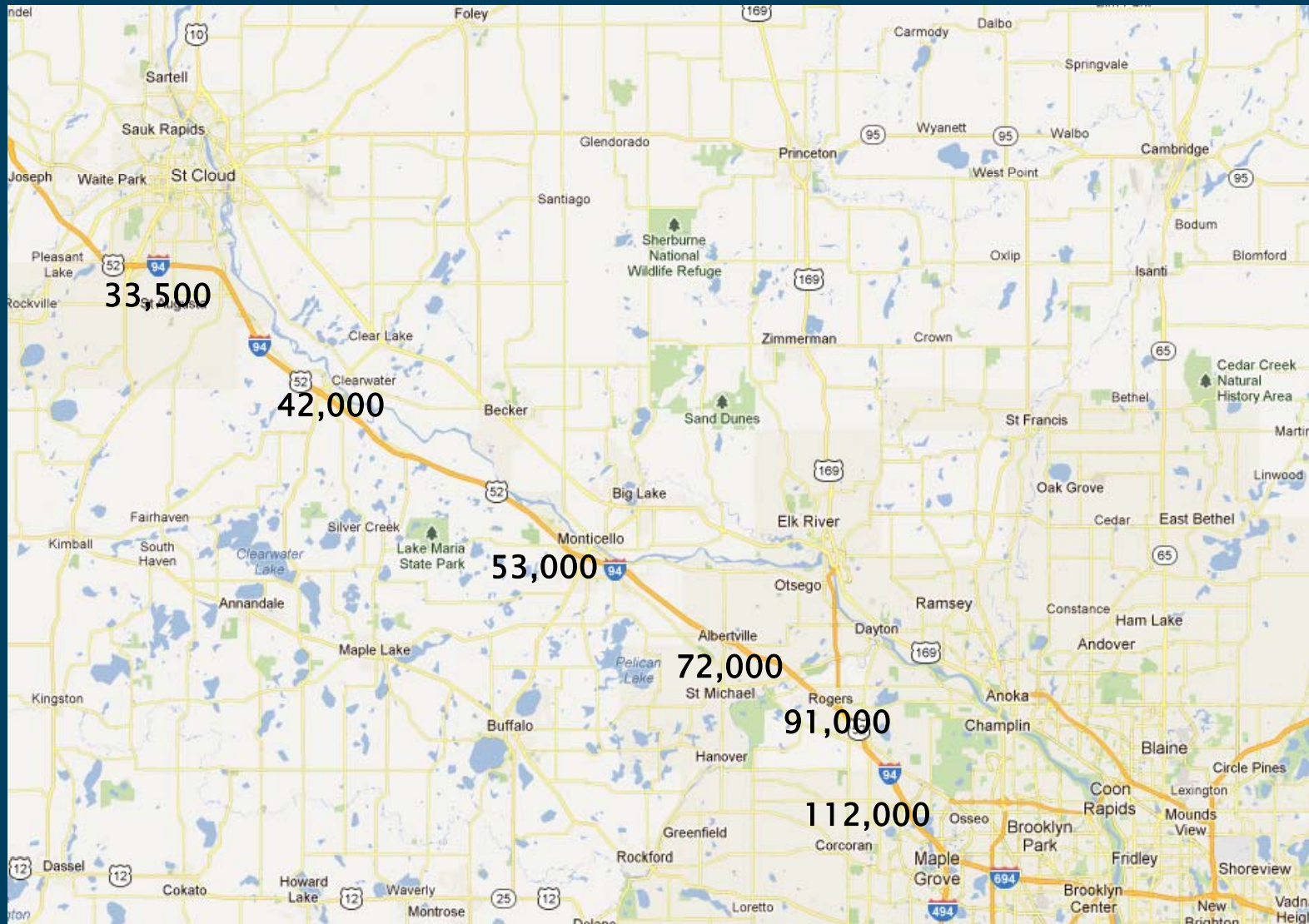# Concerns Leading to WZARD

Snow Events
- Reduced visibility
- Reduced roadway friction
- Unexpected change in conditions
  - Snow cloud due to plow

Roadway Characteristics
- High speeds
- Increasing volumes

AADT

WZARD Goals

To improve safety for snow and ice and other work zone operations by providing advanced notification of:

- Maintenance
- Work zone
- Incident management
- Law enforcement

WZARD Operation

Infrastructure
- Fiber optics and wireless communications
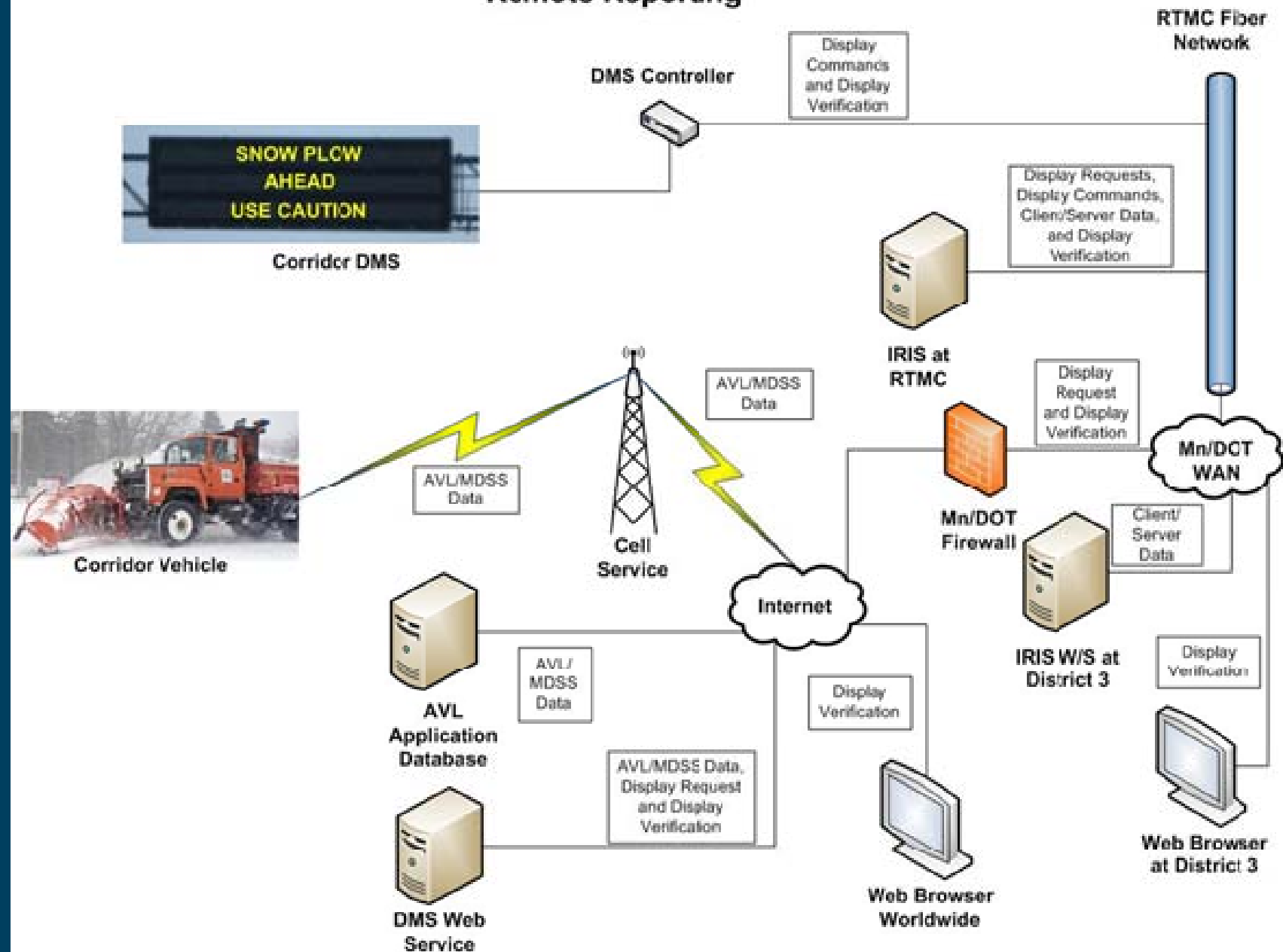- Changeable message signs
- IRIS

Plows
- AVL equipped

Zone
- Geofence

Remote Reporting

RTMC Fiber Network

DMS Controller

Display Commands and Display Verification

SNOW PLCW AHEAD USE CAUTION

Corridor DMS

Display Requests, Display Commands, Client/Server Data, and Display Verification

IRIS at RTMC

AVL/MDSS Data

Corridor Vehicle

AVL/MDSS Data

Cell Service

Mn/DOT Firewall

Display Request and Display Verification

Mn/DOT WAN

Client/Server Data

AVL/ MDSS Data

AVL Application Database

Internet

Display Verification

IRIS W/S at District 3

Display Verification

AVL/MDSS Data, Display Request and Display Verification

DMS Web Service

Web Browser Worldwide

Web Browser at District 3

WZARD Benefits

Improve
- Corridor safety during maintenance operations
- Traffic incidents
- Traffic enforcement activities

Reduce the occurrence of
- Snow plow/vehicle crashes.
- Occurrence of secondary incidents.

Next Steps

WZARD lessons learned can be applied to future deployments
  - Other corridors with AADT issues such as I-35

Public Communications/Traveler Information
  - Provide real-time traveler information
  - Provide travelers with advance warning of maintenance operations upstream

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