

TIGER

Traveler Information Guidance and Evacuation Routing

Deploying ITS in a Rural Corridor - Partnership Experience

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Big Sky, MT

Project Partnerships

- Mn/DOT – SRF Consulting Group (TIGER)
- State Patrol - TOCC
- Mn/DOT Districts (RTMC – District 3)
- MnROAD
- Mn/DOT – Functional Area Offices
- University of Minnesota

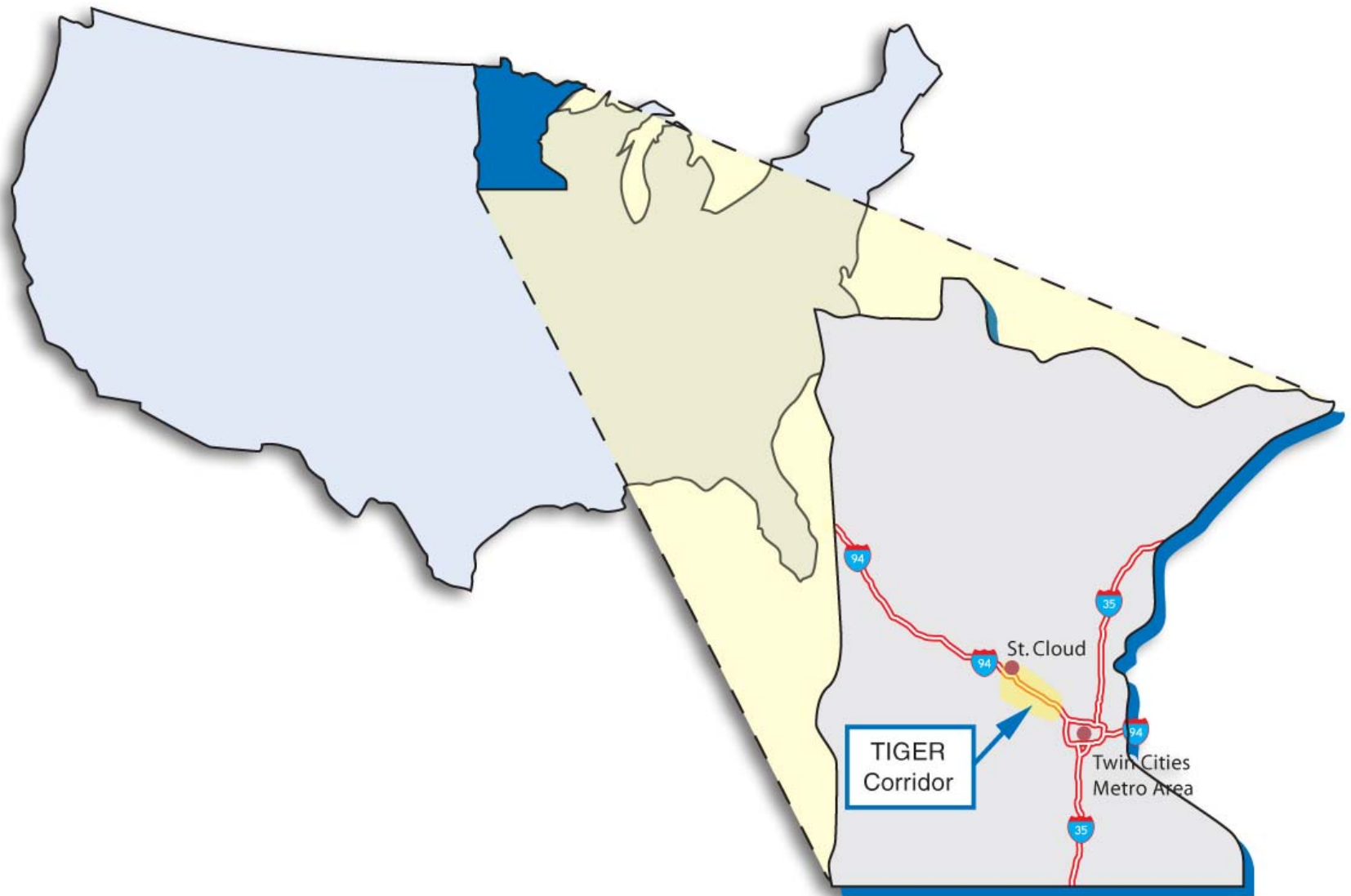
What Is **TIGER**?

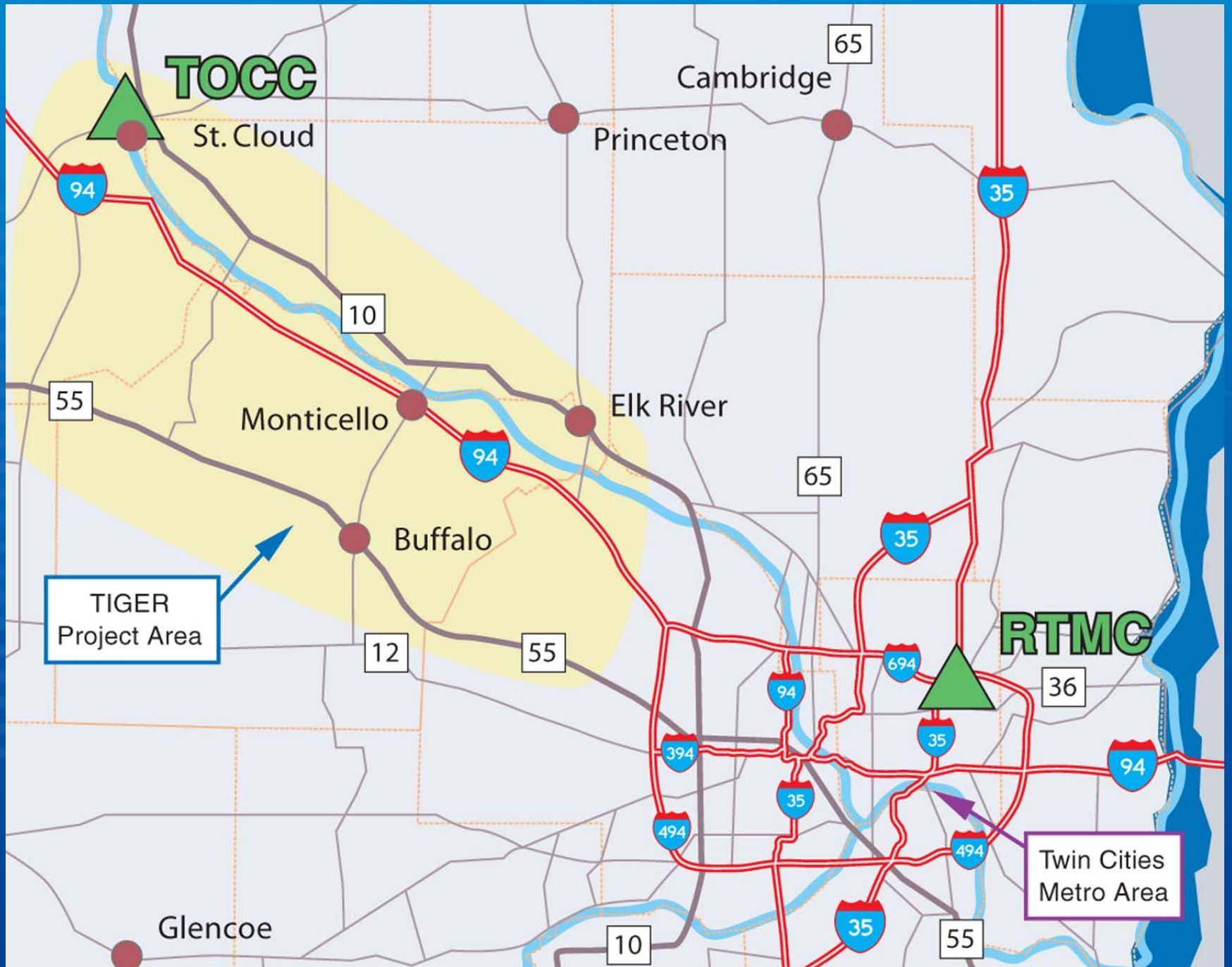
- Traveler Information Guidance and Evacuation Routing
- Began as a Transportation Security MDI Proposal
- Brings “Urban Style” Freeway Management to Suburban and Rural Areas

The **TIGER** Vision

To create a model corridor between regional centers that integrates existing and new ITS devices, operations centers and agency operations. The traffic management and traveler information strategies and tools employed will be used on a daily basis as well as during emergency situations. The corridor will provide a safe and efficient means to transport people and goods.

Where is TIGER?





Stakeholders

Mn/DOT

RTMC

Metro – Maintenance

Metro – Signal Operations

Metro – Signal Design

Central Office

District 3

District 1

TOCC

OEC

ESS

Department of Administration

State Patrol

Aeronautics

FAA

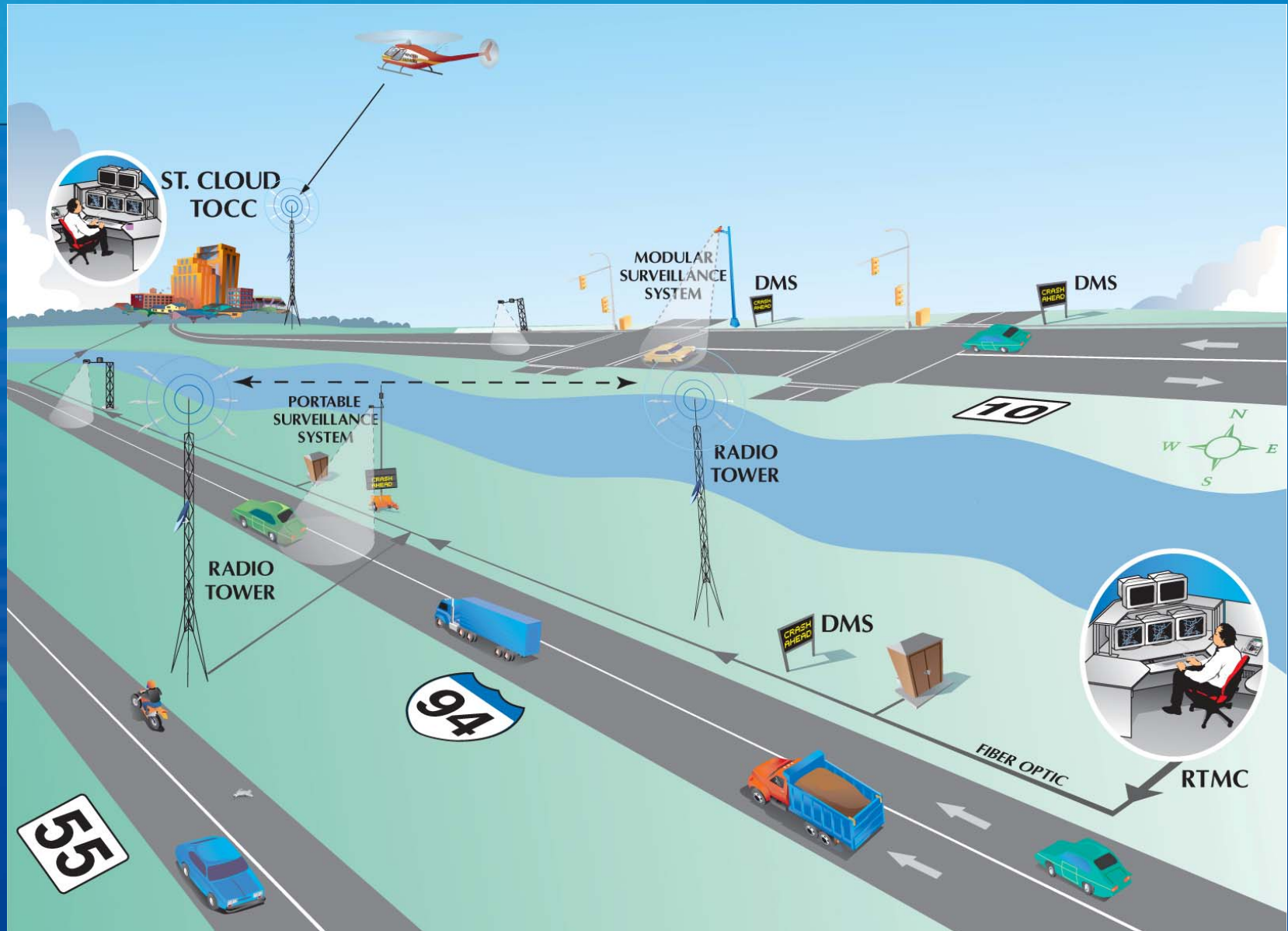
FHWA

Local Governments

Project Partners

- SRF Consulting Group, Inc.
- ADDCO
- Electronic Design Company
- Collisys Electric
- Saturn Systems
- Castle Rock Consultants
- International Idea Institute

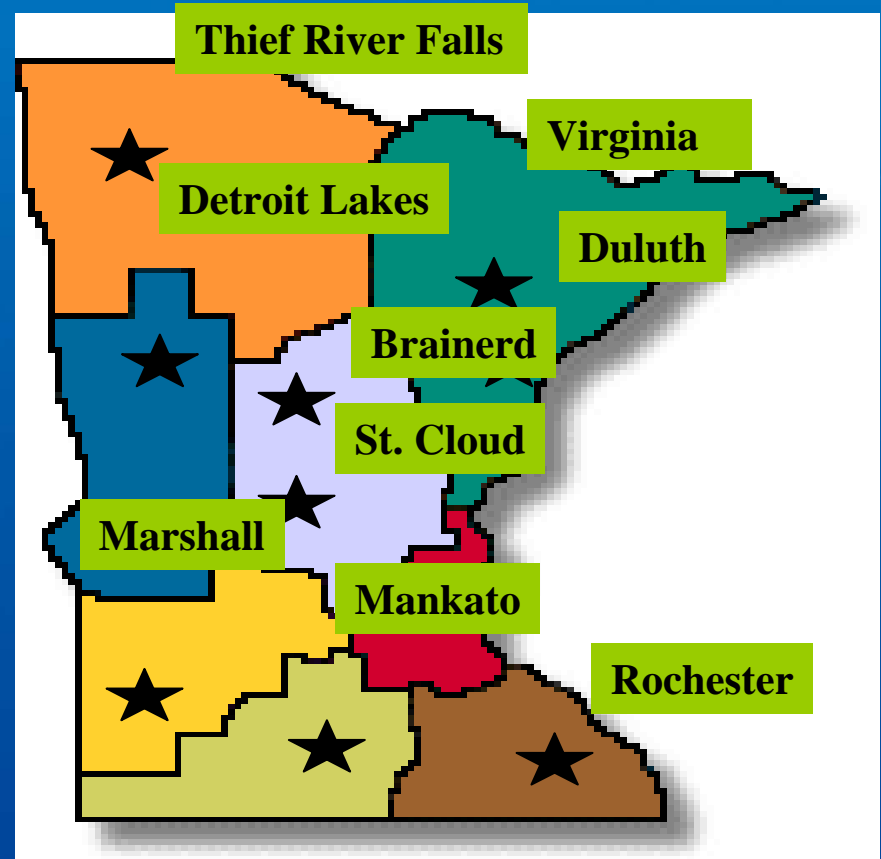
TIGER Concept



Mn/DOT – Mn/State Patrol Partnership

Traffic Operations and Communications Centers

- Mn/DOT Maintenance Dispatch
- State Patrol Dispatch
- Transportation Operations
- Traveler Information
- ITS in Greater MN



Mn/DOT – Mn/State Patrol Partnership

Regional Transportation Management Center (RTMC)

- **Co-location of:**
 - **Freeway Operations**
 - **Maintenance Dispatch**
 - **State Patrol Dispatch**
 - **Signal Operations**



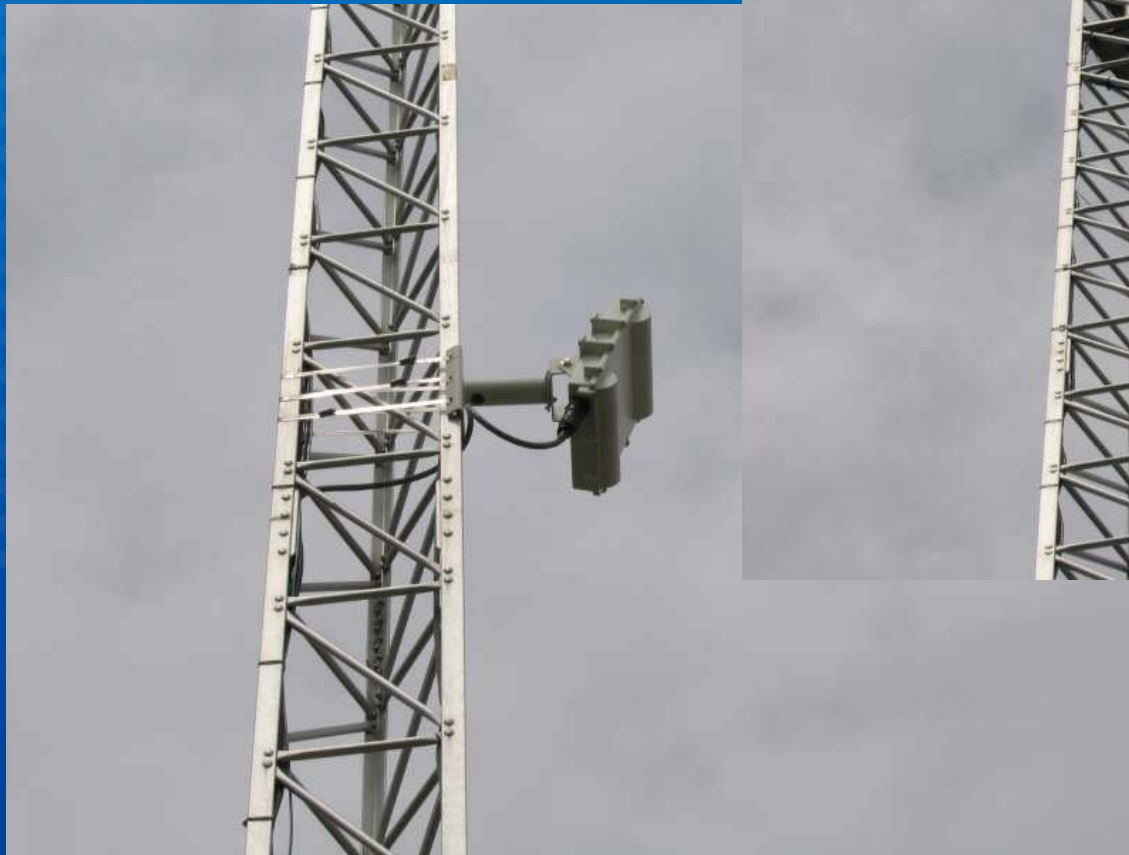
TIGER Devices

Modular Detection System



- Modular System
- CCTV
- Traffic Detection
- Communications:
 - Wireless
 - Fiber Optic
 - POTS

Modular Detection System



Dynamic Message Signs



Mobile System

- Mobile, lightweight system
- CCTV
- Traffic Detection
- DMS
- Wireless Communications

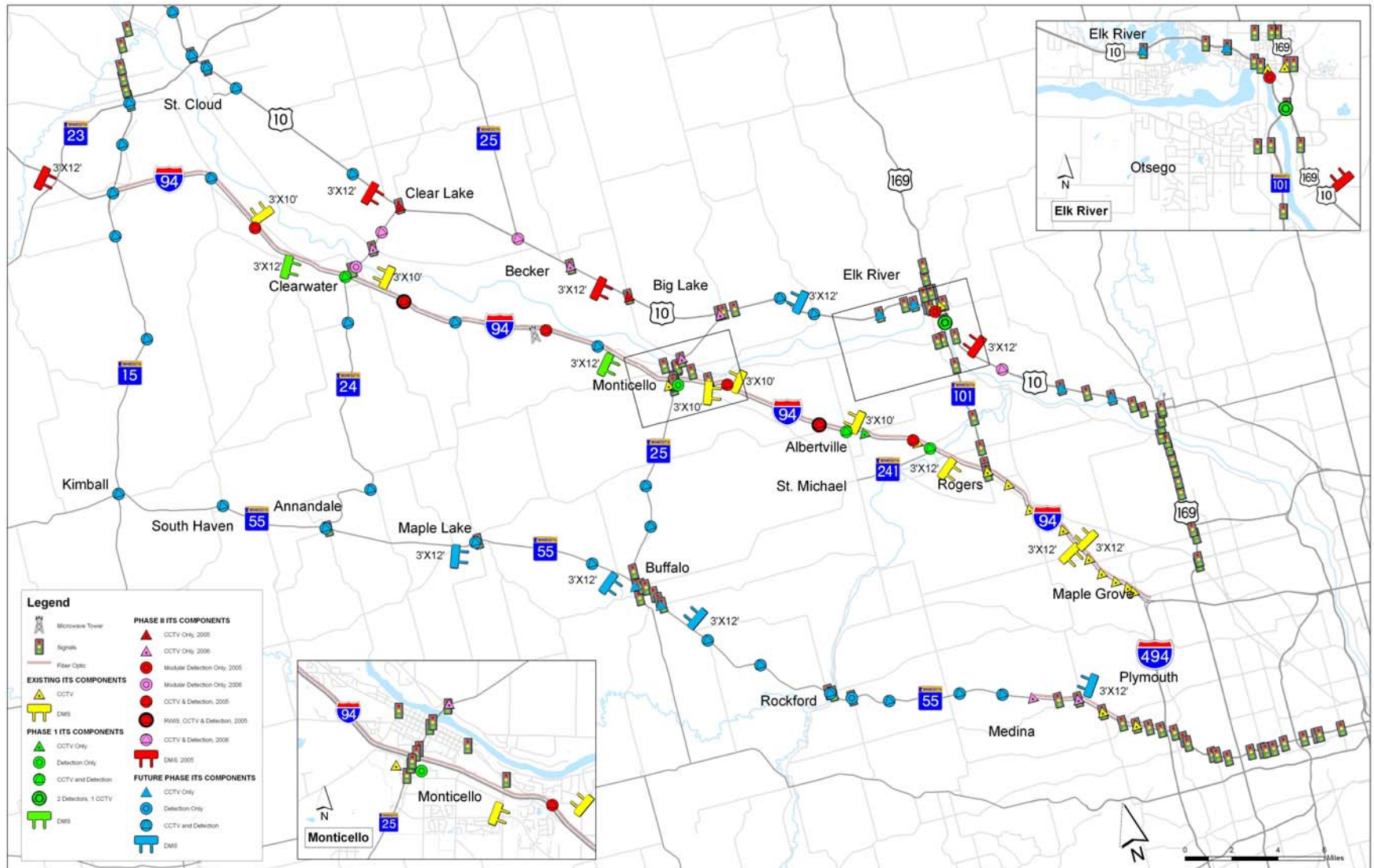


Mobile System- Transport Mode



Back View

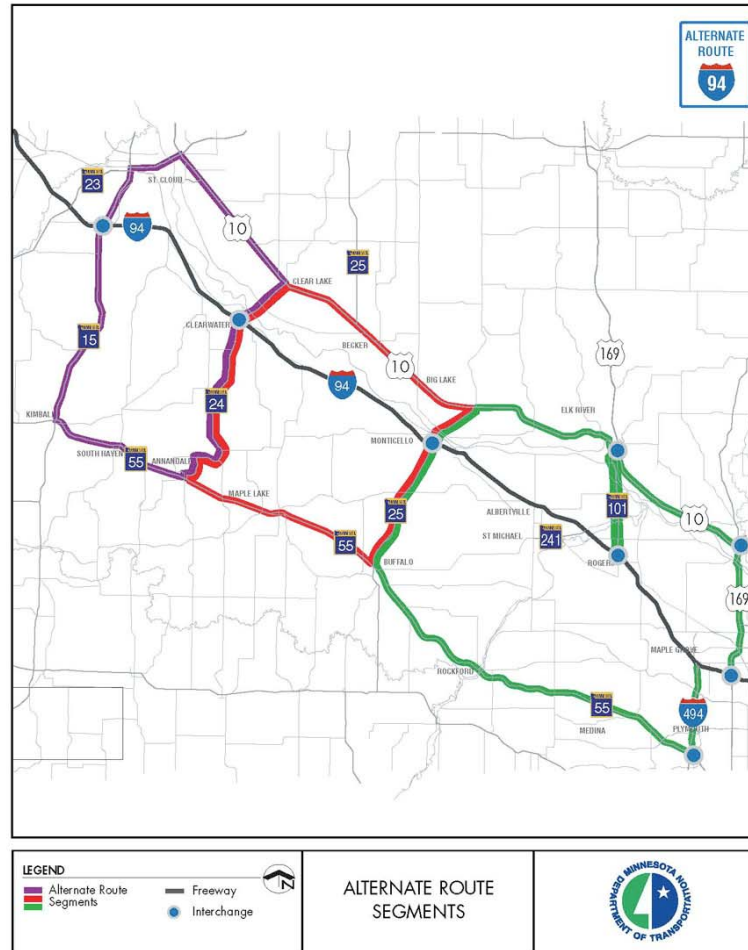
TIGER Corridor – Device Locations



Alternate Route Operations

I-94 CORRIDOR ALTERNATE ROUTE GUIDE






DRAFT



Alternate Route Operations I-94

DRAFT

I-94 ALTERNATE ROUTE PURPLE ROUTE WB SEGMENT M.P. # -

LEGEND	
	Existing DMS
	Phase I DMS
	Phase II DMS, 2005
	Future phase DMS
	Closure post
	Traffic signal

NOTIFICATIONS

ACTIONS



Freeway – Arterial Corridor Integration

**HEAVY
CONGESTION
HWY 10**

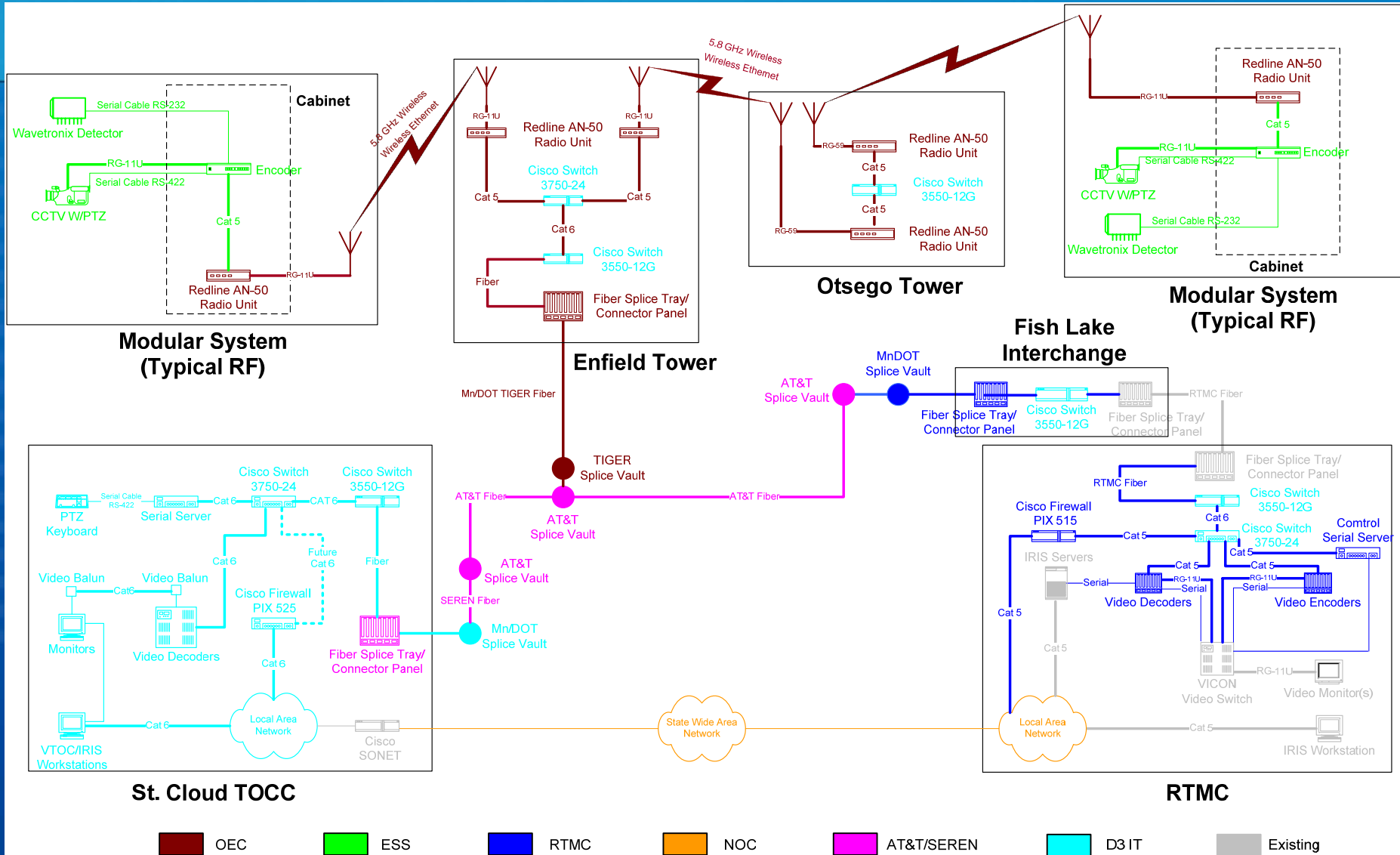
**MODERATE
CONGESTION
I-94**

**HEAVY
CONGESTION
NORTH HWY 101**

**CONSIDER
HWY 25
TO HWY 10**

Mn/DOT Functional Area Office Partnerships

System Maintenance Responsibilities





MnROAD Partnership



A long-term pavement testing facility that gives researchers a unique, real-life laboratory to study and evaluate the performance of materials used in roadway construction

MnROAD Research Partnerships

- Non-Pavement Research
 - Intelligent Transportation Systems (ITS)
 - Lane Marking
 - Arrow Boards – Message Signs
 - 60 inch Plastic Culverts
 - Roadside Vegetation Study
 - Michelin and Toyo Tire Demos
 - SRF Consultants (Sensor Evaluation)
 - University of Minnesota Human Factor Study (Nissan)
 - Homeland Security Evacuation “TIGER” Project



Mn/ROAD Lane Control System: Current System



Mn/ROAD Lane Control System: Proposed System

- Lane Control System Components
 - Brighter overhead lane control signals with double-stroke LEDs
 - In-pavement LEDs to illuminate the proper skip striping
 - Gate arms to replace the barricades



In-pavement LED



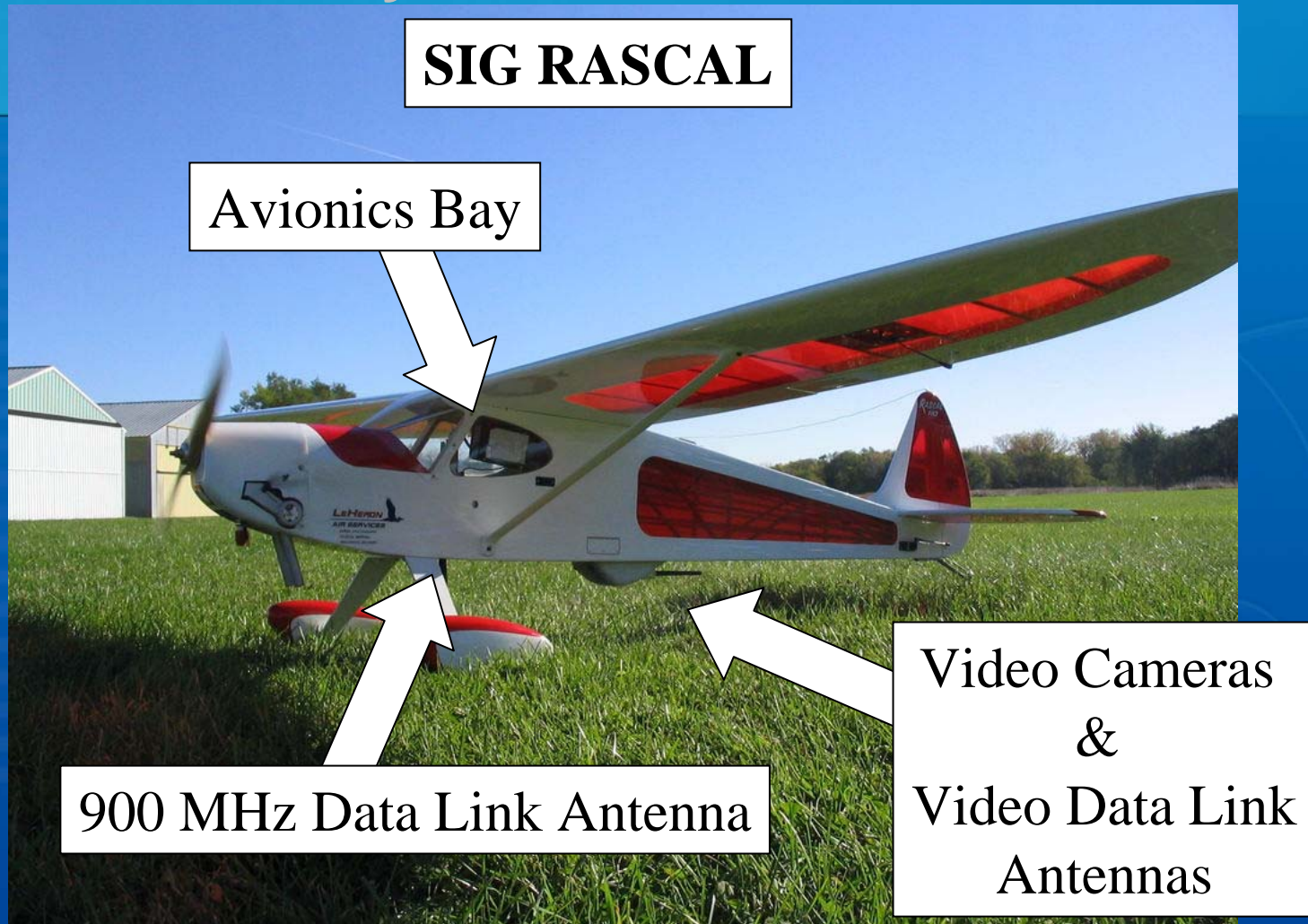
Gate Arm

Mn/ROAD Lane Control System



University of Mn Partnership

Remotely Piloted Vehicle Test Bed





$\Lambda = 44.981562$ (N)

$\lambda = -93.23928$ (W)



Thank You

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