

# *Iowa Update* **ITS → Traffic Operations**

National Rural ITS Conference / ITS Heartland  
Branson, MO

*August 26, 2014*

Tim Simodynes, ITS Engineer



# Background



Willy Sorenson





# Presentation Goals

For DOTs:

- What Iowa has done that you can learn from

For Consultants:

- What Iowa will be doing that you can help with

For Vendors:

- What products Iowa might want to purchase



# Iowa DOT Director

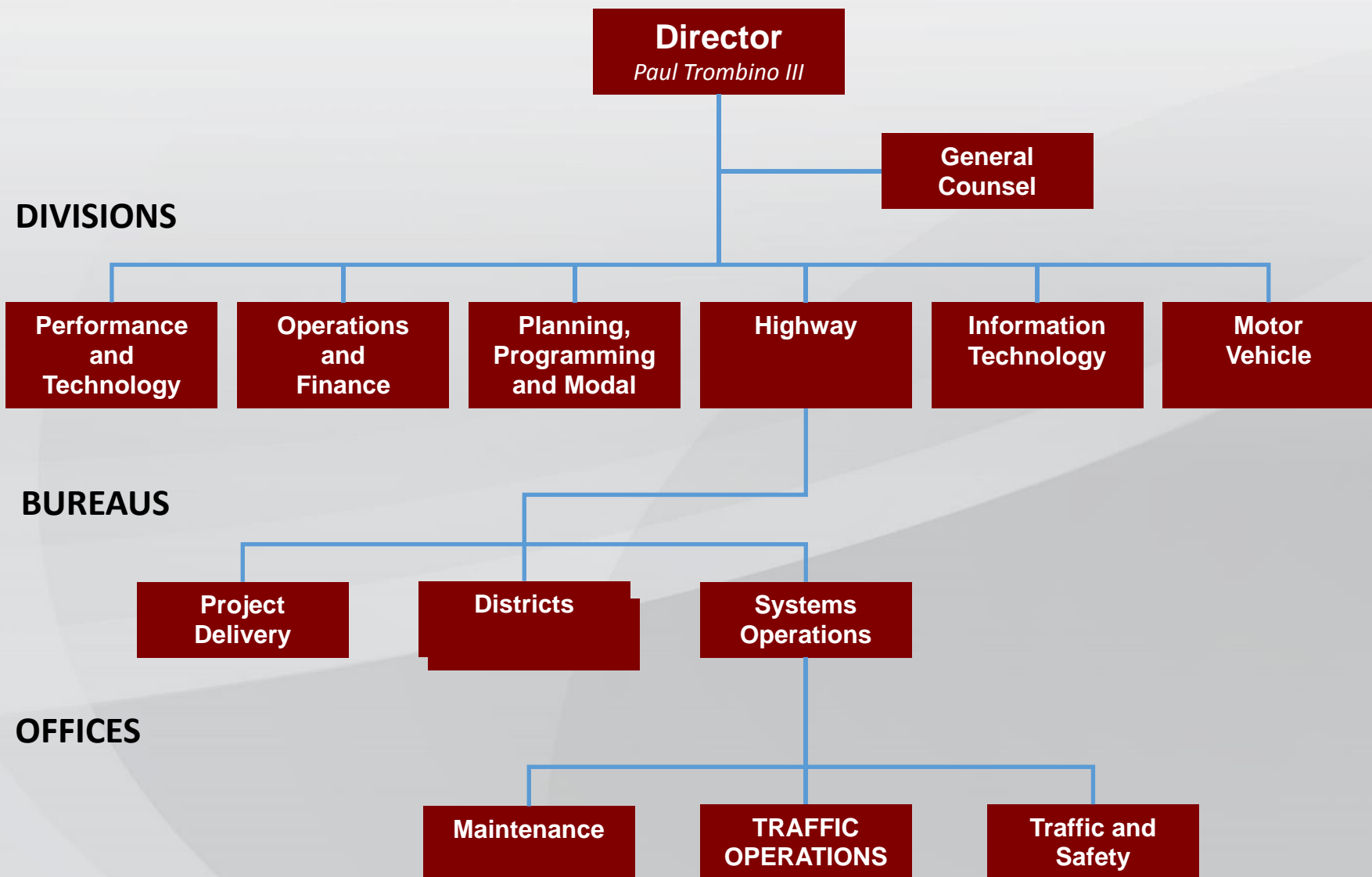
*“Our future will be in Information  
as much as it is today in  
Infrastructure.”*



**Focus on Information, Operations  
& Customer Service**

Paul Trombino, III





# Internal Relationships



# Office of Traffic Operations

- New Director, John Corbin, PE, PTOE
  - Previously with Wisconsin DOT
- Continued Expansion to many more areas





# Office of Traffic Operations

Office Director

John Corbin

~21 Employees

Statewide Emergency  
Operations

Bonnie Castillo

Traffic Operations Support

Mike Jackson

24-hr  
Traffic  
Operations  
Center

Emergency  
Transp.  
Operations

Traveler  
Information  
/ 511

Sinclair  
Stolle

Technical Services

Tim Simodynes

Traffic  
Incident  
Mgmt.

Engineering  
Services

Work Zones

ATMS /  
TransSuite

Urban/  
Rural ITS

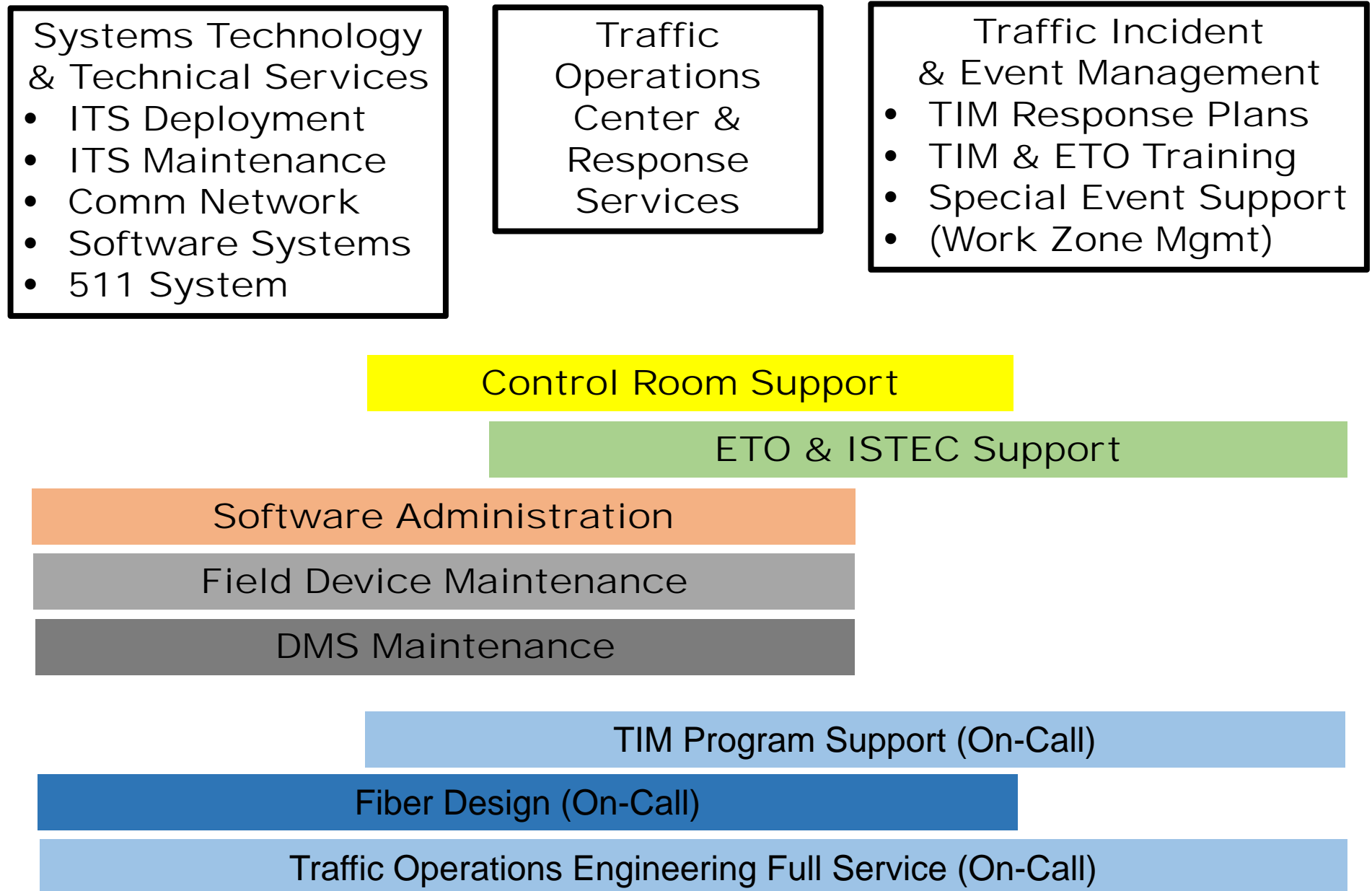
Roadside  
Traveler  
Assistance

Traditional "ITS"





# Office of Traffic Operations Organizational Concept



# Traffic Operations Program Areas

Active Traffic Management &  
Integrated Corridor Management  
(ATM/ICM)

Road Weather  
Management

★  
Traffic Operations  
Center

Traffic Incident Management/  
Emergency Traffic Operations  
(TIM/ETO)

Work Zone and  
Planned Event Management



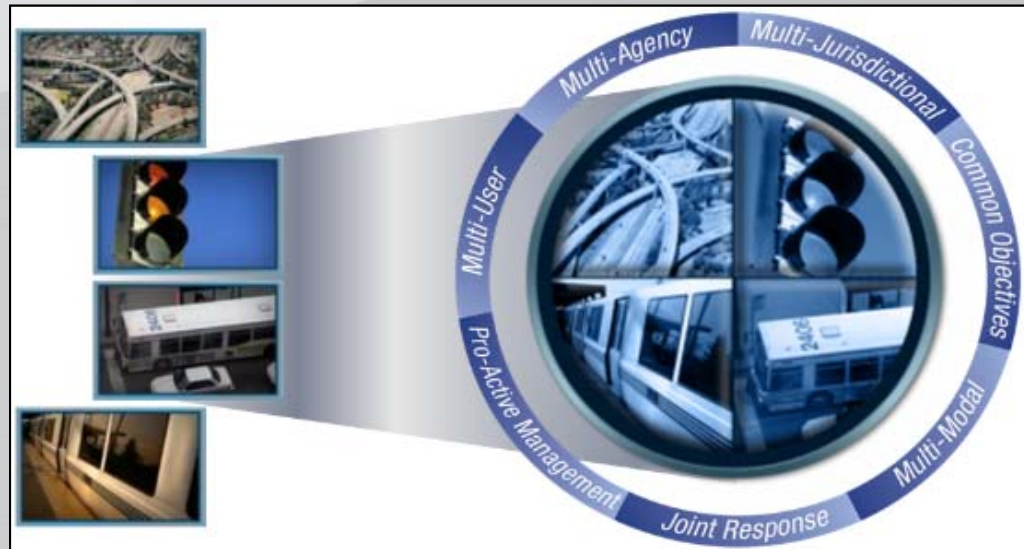
# Traffic Incident Management/ Emergency Traffic Operations (TIM/ETO)

- Regional TIM Plans
- Electronic Incident Notifications
- ETO Plan, Training , & Exercises
- TIM On-Call Contracts
- Highway Helper RFP Pending



# Active Traffic Management & Integrated Corridor Management (ATM/ICM)

- Ramp Metering and Managed Lanes Studies - Council Bluffs & Des Moines
- Adaptive Signal System Deployment Program (Office of Traffic & Safety)





# Planned Event Management



# Road Weather Management

- 511 Winter Road Reporting in coordination with Maintenance staff
- Plow Cams available to public





# External Relationships



IOWA STATE UNIVERSITY  
Institute for Transportation





# Connected and Automated Vehicles

- Supporting Automated Vehicle efforts (UoI, InTrans)
- Convening stakeholder group to develop Iowa's Connected Vehicle Strategy





U.S. Department of Transportation  
Office of the Assistant Secretary for Research and Technology

# CONNECTED VEHICLE PILOT Deployment Program

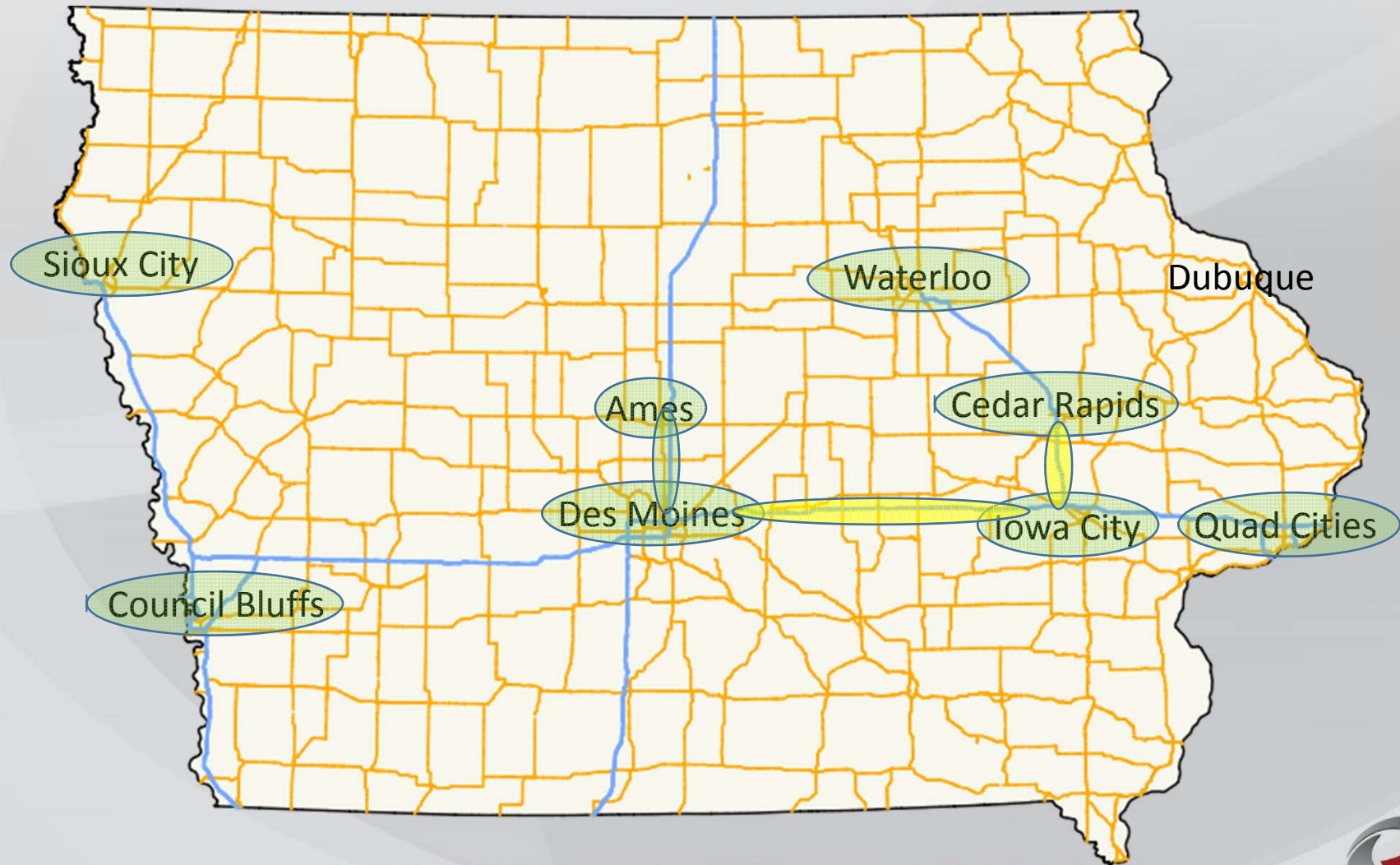


ITS Joint Program Office



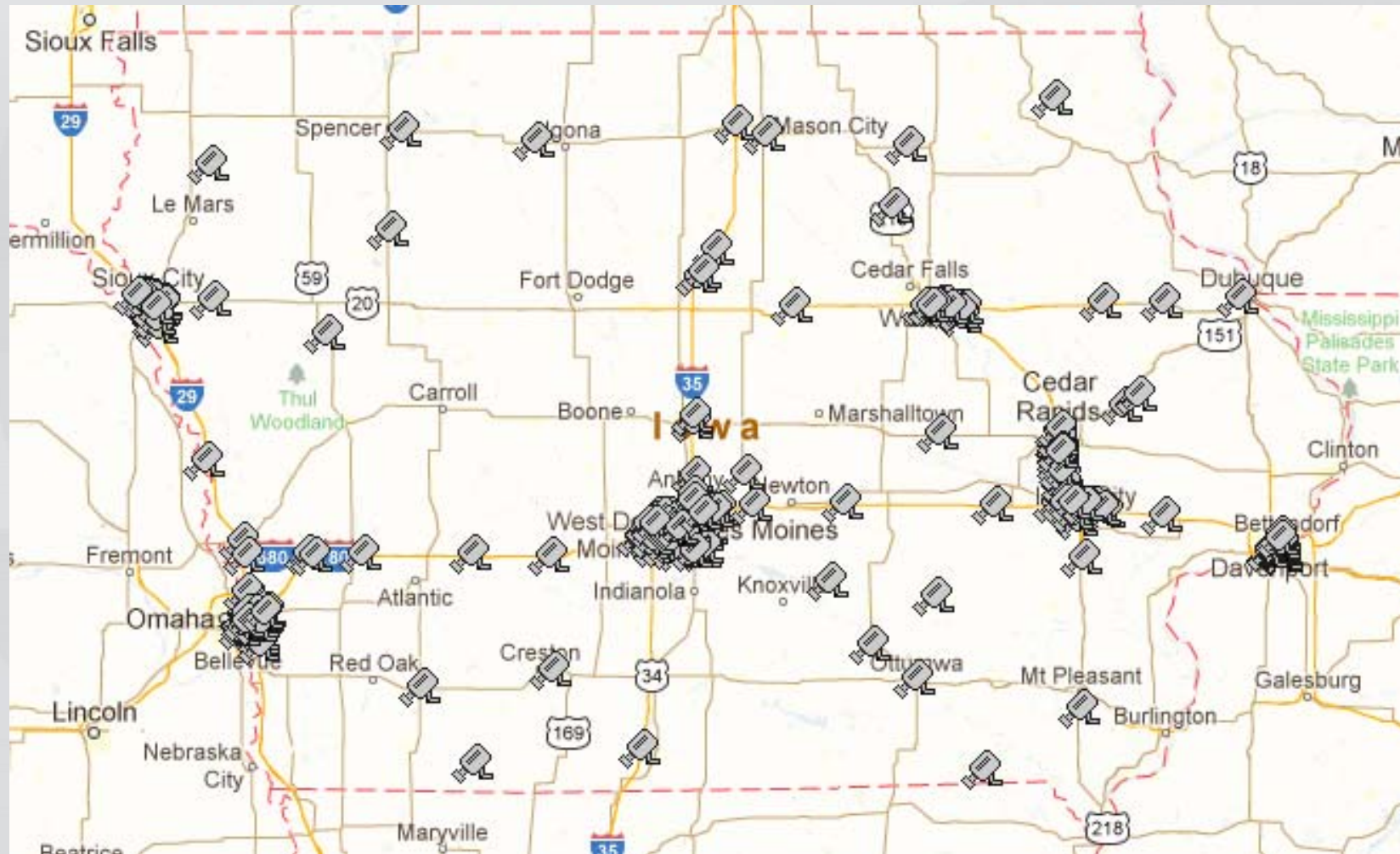
# Iowa Inventory

## 9 “Metro” Areas (over 50,000)



# ITS Inventory

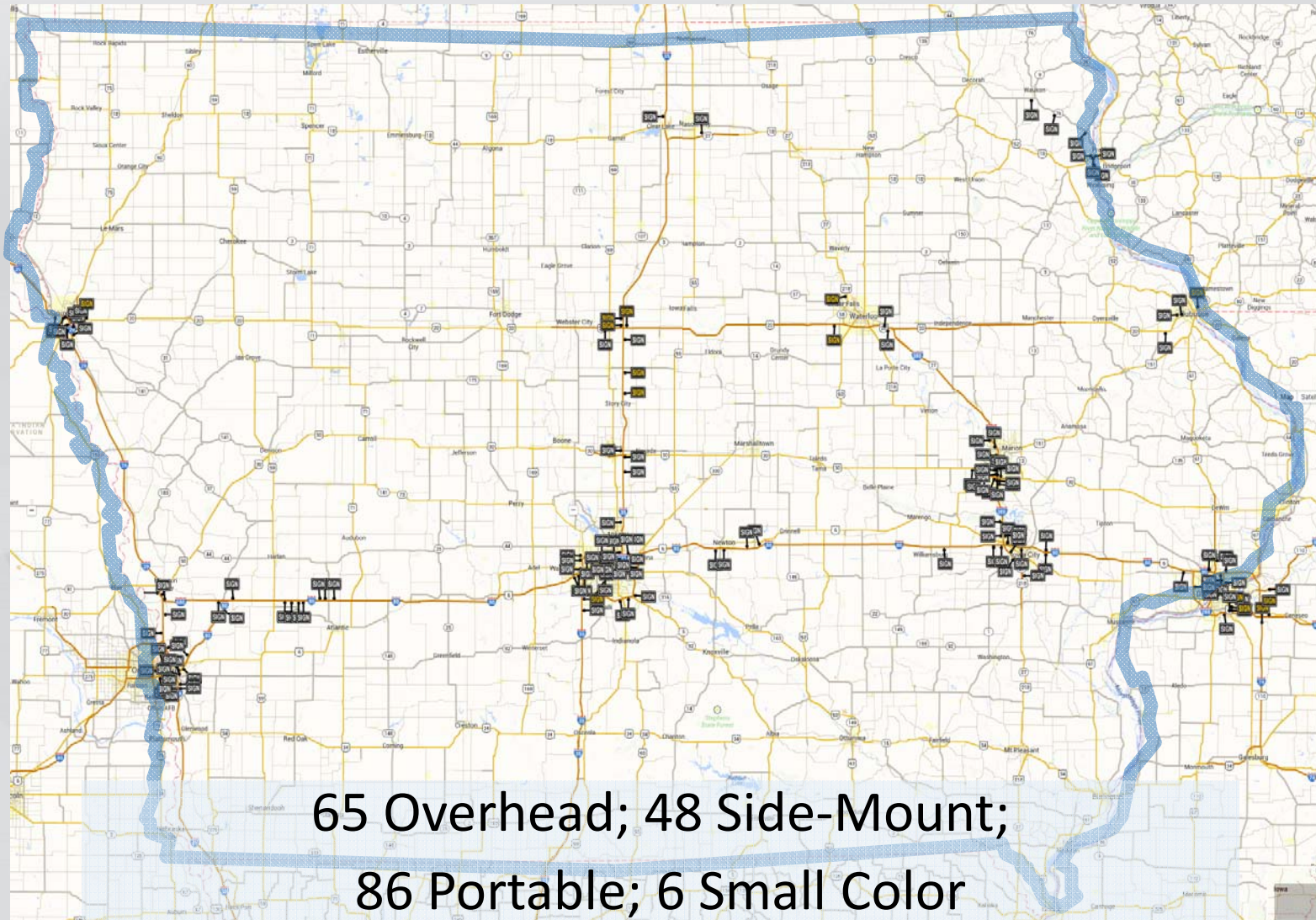
## 300+ Cameras





# ITS Inventory

## Dynamic Message Signs



# DMS

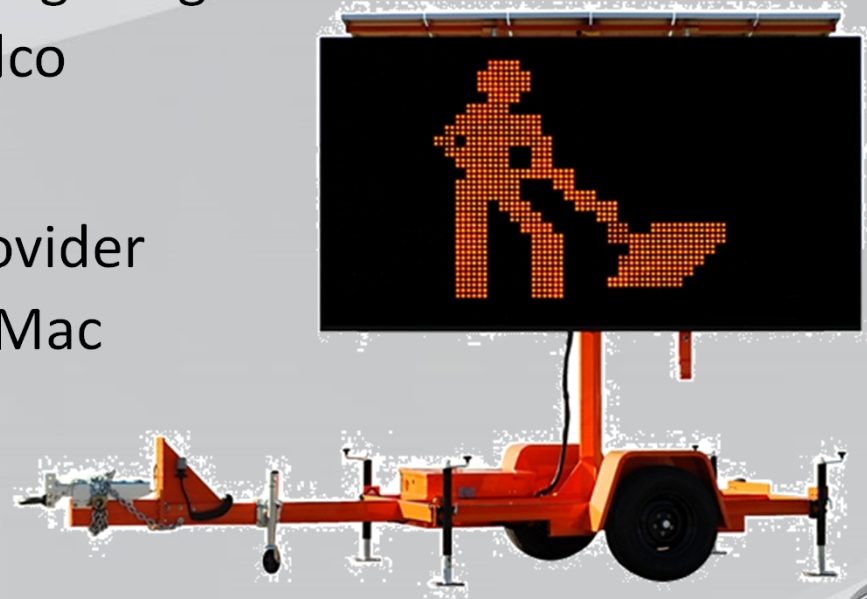




# ITS Inventory

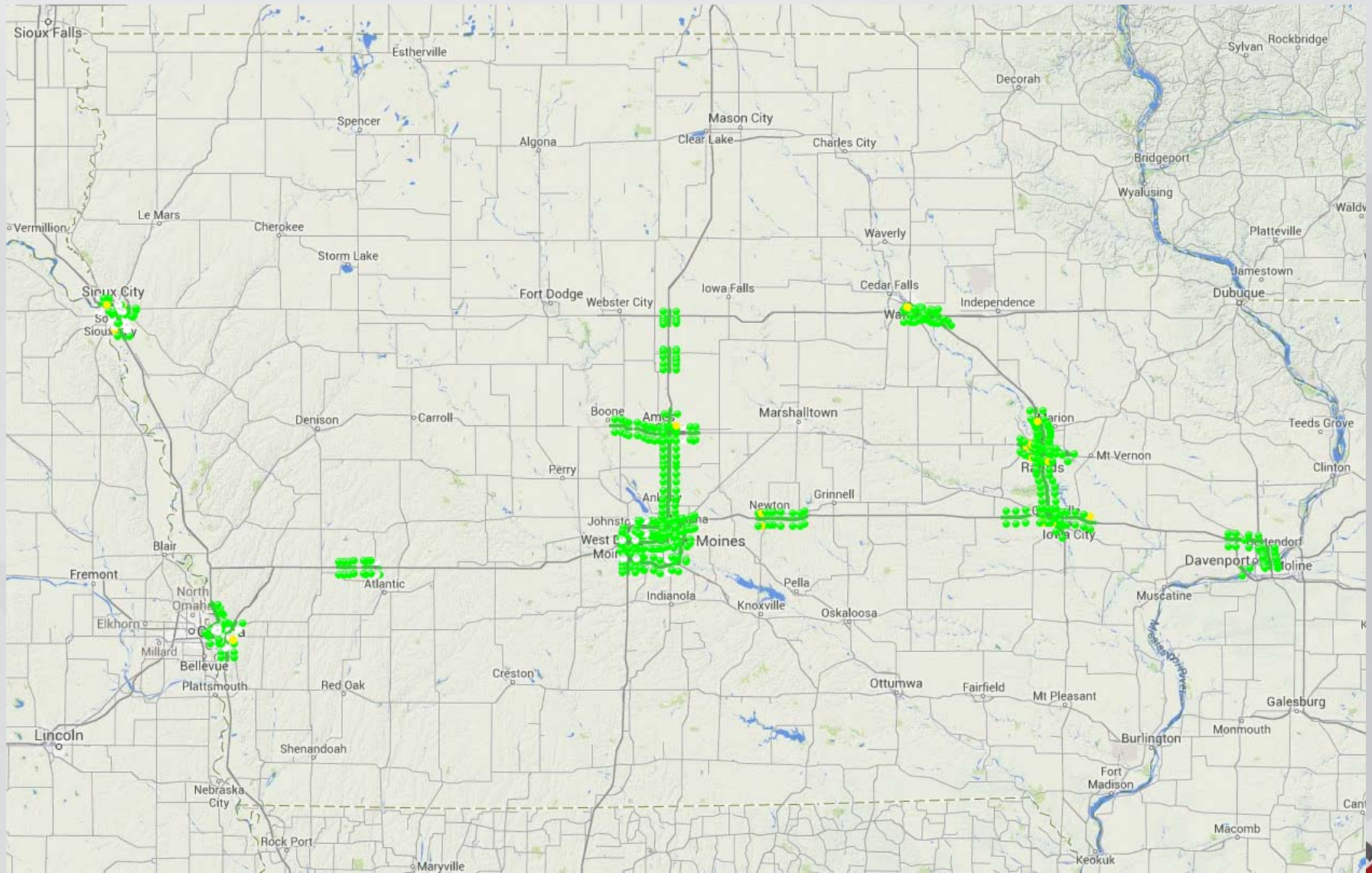
## Dynamic Message Signs

- Overhead DMS
  - Currently Skyline; previously Daktronics & Skyline
- Side-Mount DMS
  - In process of designing larger sign
  - previously Skyline & Addco
- Portable DMS
  - Need to select a new provider
  - Previously Addco & Ver-Mac





# Resources: Traffic Sensors



# Wrong Way Detection

- US 30 in Vicinity of Ames
- 20 Wavetronix HD Sensors on mainline
- Verify with Camera Recordings
- Monitor and Study only at this point
- Way too many False Positives





# Wrong Way Vehicle



# 3<sup>rd</sup> Party Probe Data

- Iowa has INRIX Traffic Data and Analytics
- Still working on
  - Full integration into TransSuite
  - Real-time information and alerts for TOC
  - Analysis of Work Zones
  - Identification of DMS needs
  - Traffic incident trends
  - Historical analysis of winter event recovery



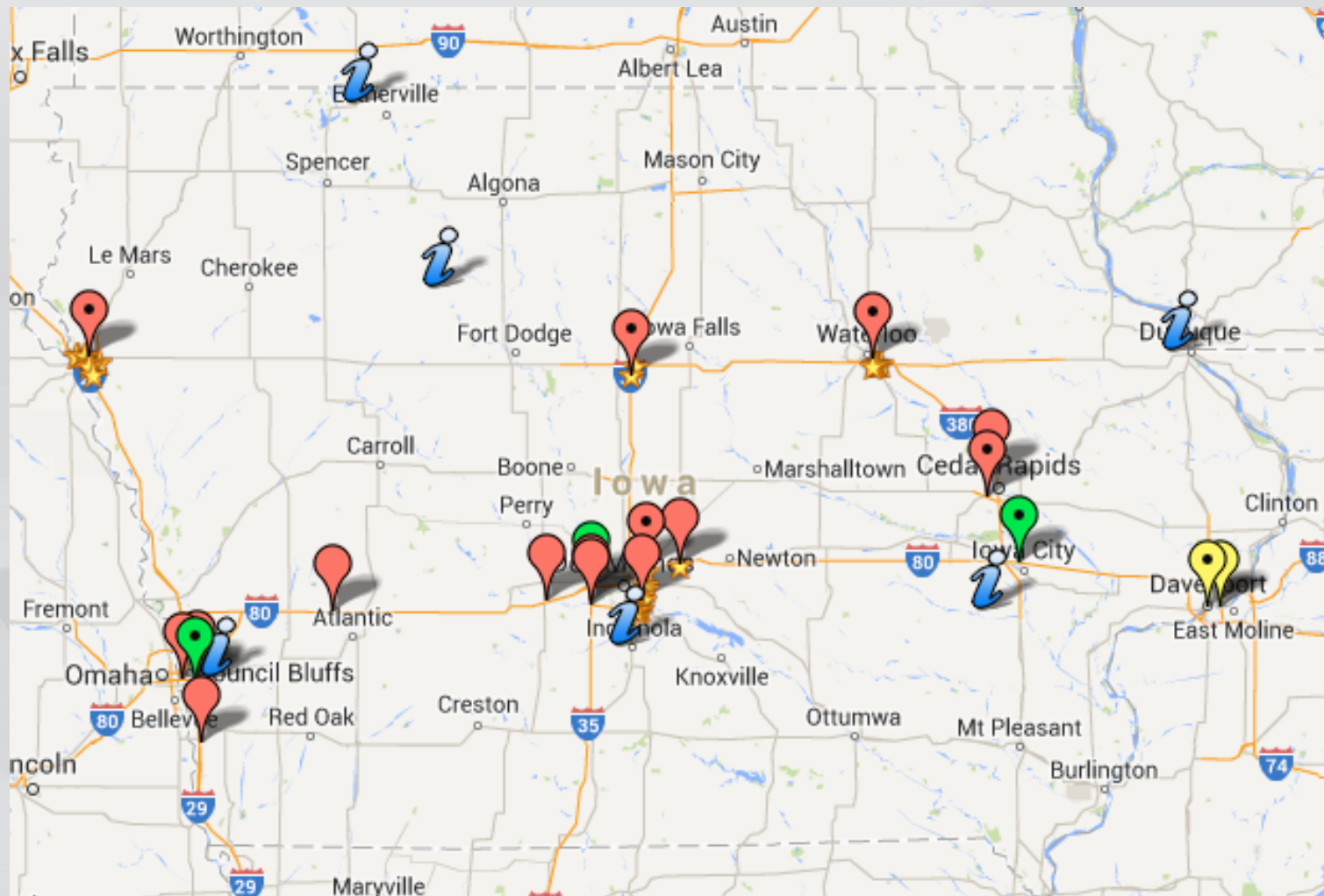
# Intelligent Work Zones on Traffic Critical Projects

- TOC Monitoring with Traffic Sensors and Cameras
- Automated Queue Detection and Warning Systems with DMS
- Traffic Signal Preemptions





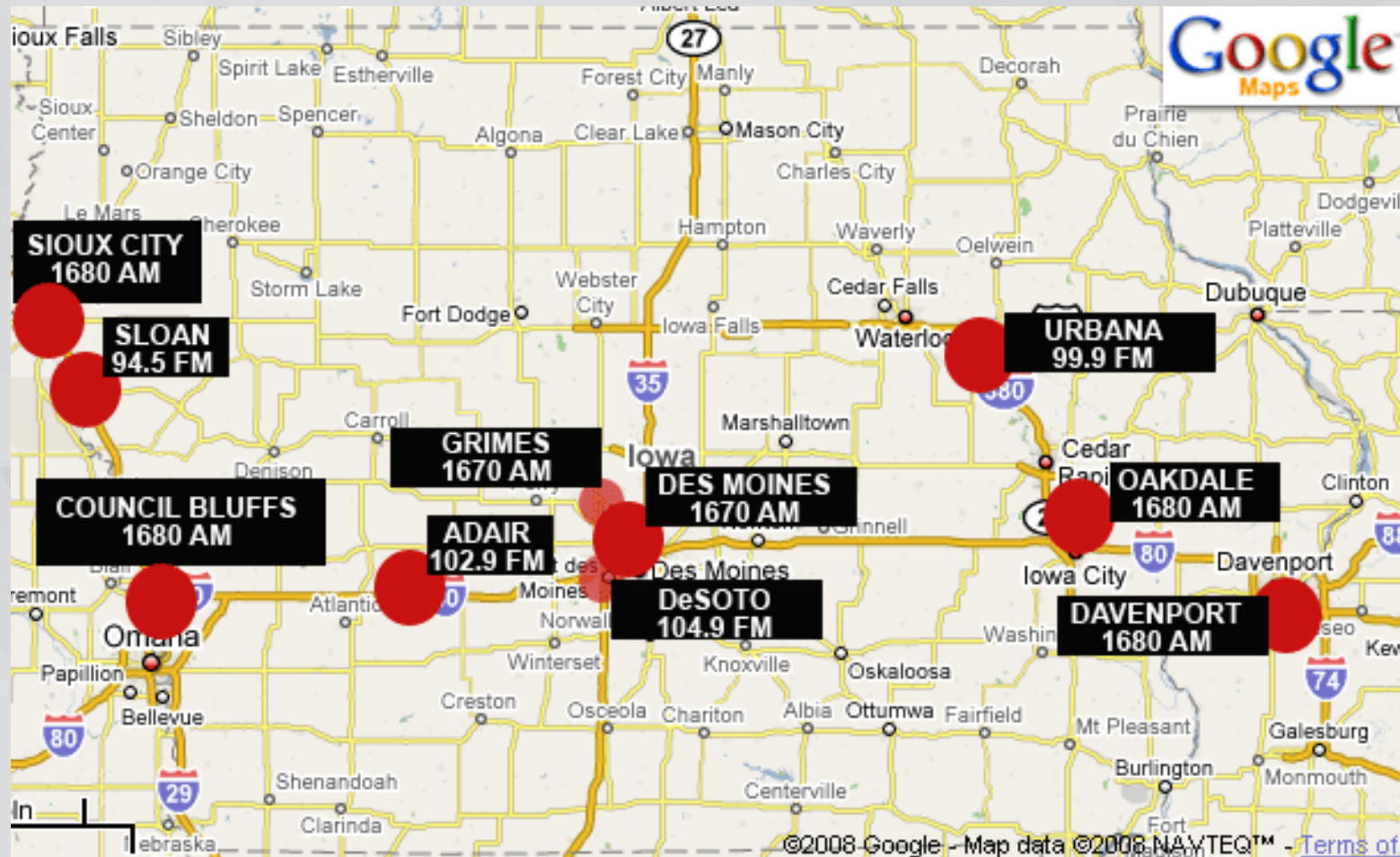
# 2014 IWZ Locations



# Highway Advisory Radio (HAR)

10 Permanent

2 Portable





# Iowa Statewide Traffic Operations Center (TOC)

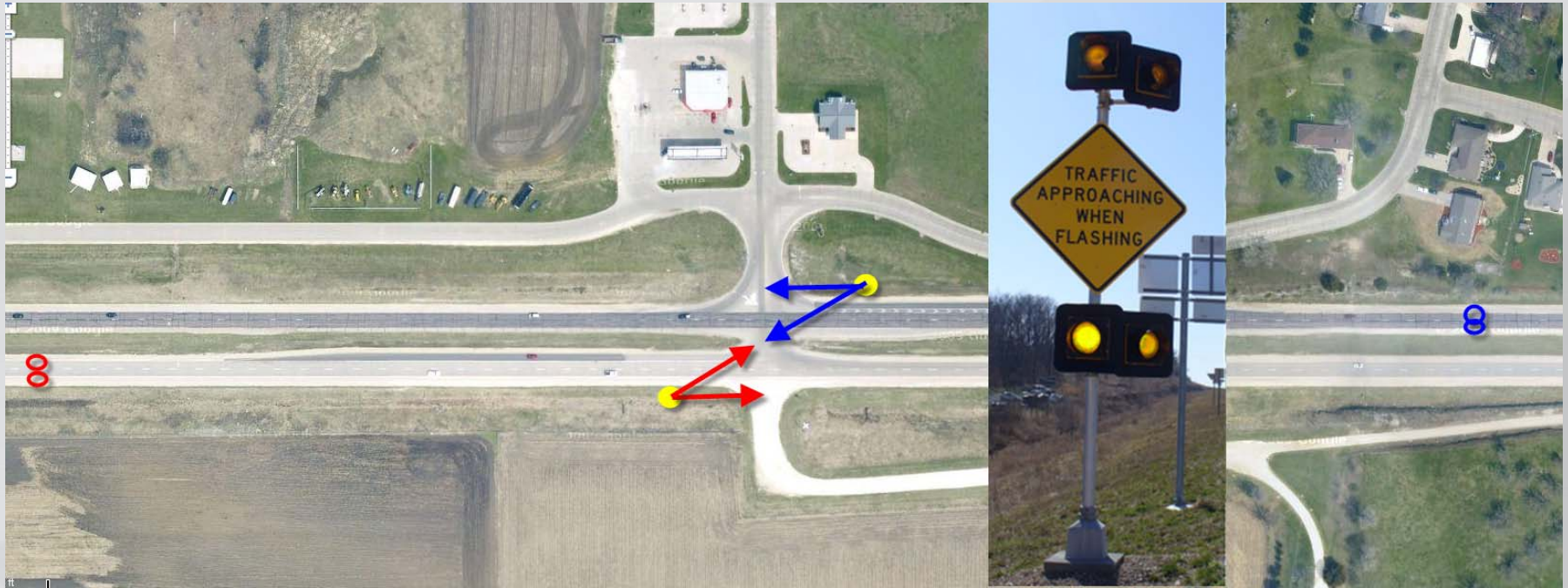
*New (Draft)  
Video Recording  
Policy*



- Outsourced 2013
- Moving Ames-to-Ankeny



# Intersection Conflict Warning Systems, ICWS



- 5 Installed Now
- 6<sup>th</sup> Will include new design to include warning mainline traffic



# Winter Variable Speed Limit Pilot Project

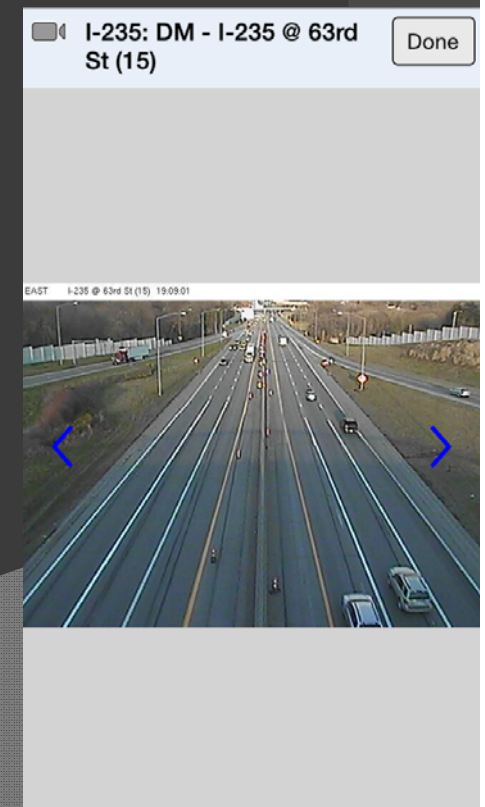
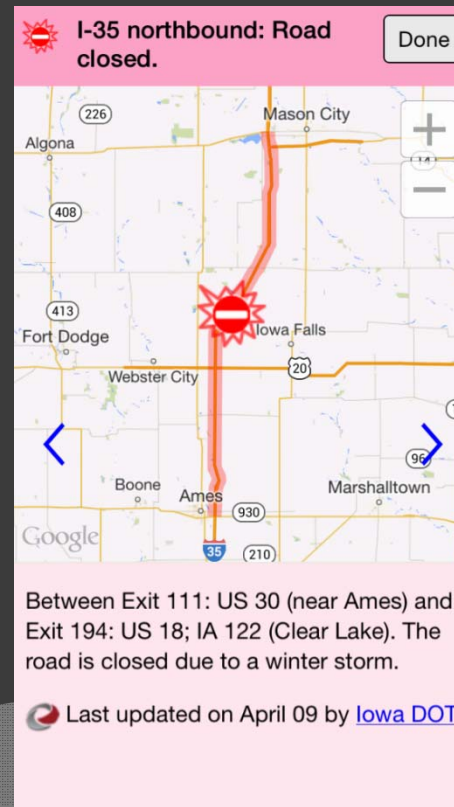
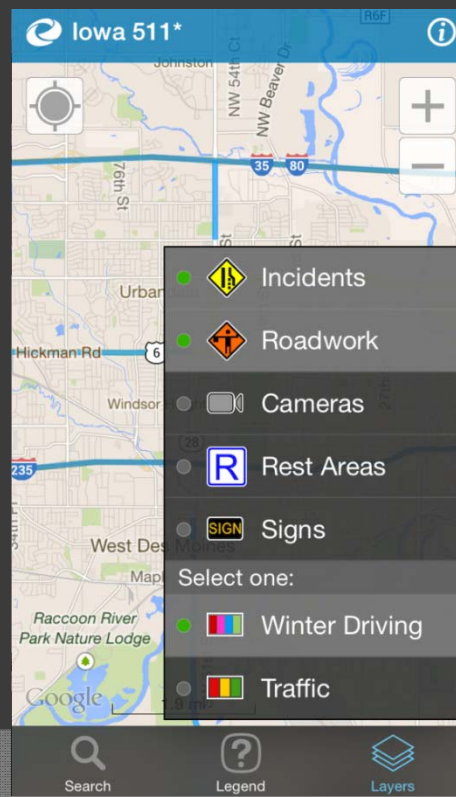
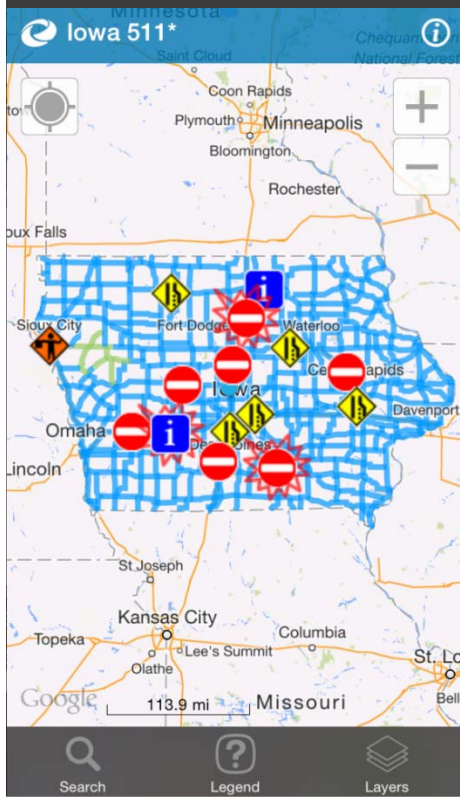
- Based on Weather and Surface Friction Sensors
- I-35, One direction
- Portable DMS for advisory signs





# What's new with 511?

- Redesigned our mobile app (switched vendors) in May 2014
- Over 100,000 downloads



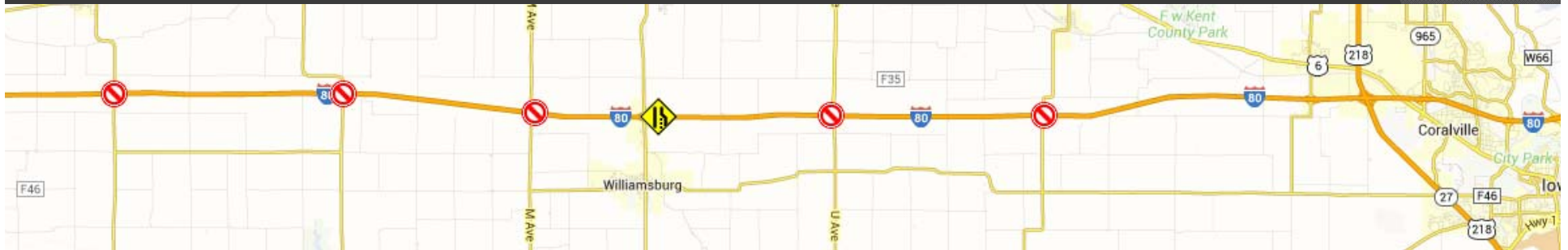
# Launched a 511 Trucker Page

- Includes things like restriction-only events, weigh scales, Towing Prohibited and rest areas (coming this fall).
- Restriction-only events are no longer on general 511 website
- Special Personalized Alerts for truckers.
- Site: <http://tr.511ia.org>

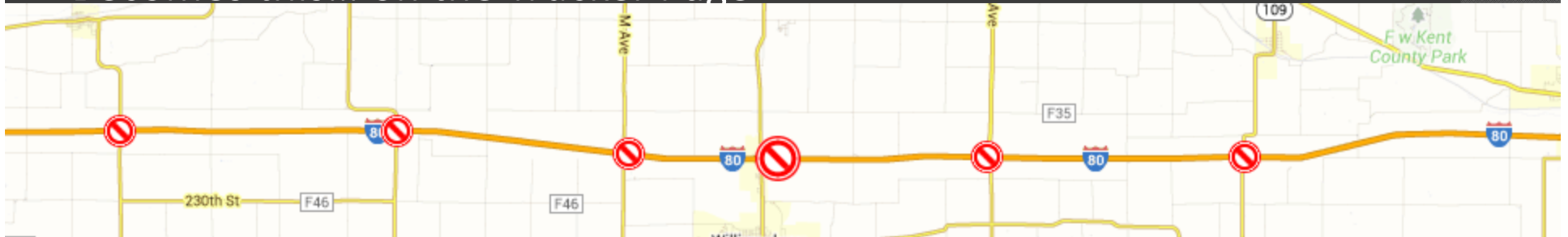
# Trucker Page - Restrictions

## ● Restriction-Only Events *(no longer on general 511 page)*

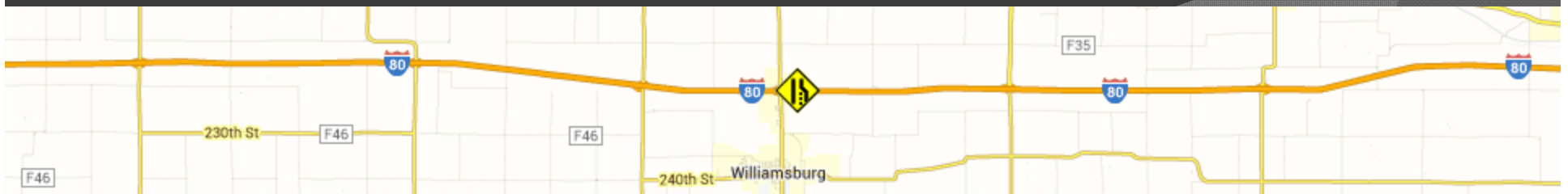
This... (originally on General 511 Page)



Becomes this... on the Trucker Page



And this... on the General 511 Page





# Traveler Information



Iowa Department  
of Transportation

Your Trucker 511 (sign in)

Help

Iowa Truck Guide

Permits

CDL Info

IFTA & IRP

Streamlined Site

Weather

DOT Home

Contact Us

Show List Views >>

Iowa

Go

Future Info:

## ☒ --- Trucker Reports ---

Closure

Restriction

## ☐ --- Towing Prohibited ---

Towing Prohibited

## ☒ --- Road Reports ---

Warning

Lane Closure

Roadwork

Info

## ☒ --- More Info ---

Weigh Stations

## ☒ --- Weather Reports ---

Weather Warnings

## ☒ --- Road Conditions ---

Normal or Wet

Partially or Mostly  
Covered

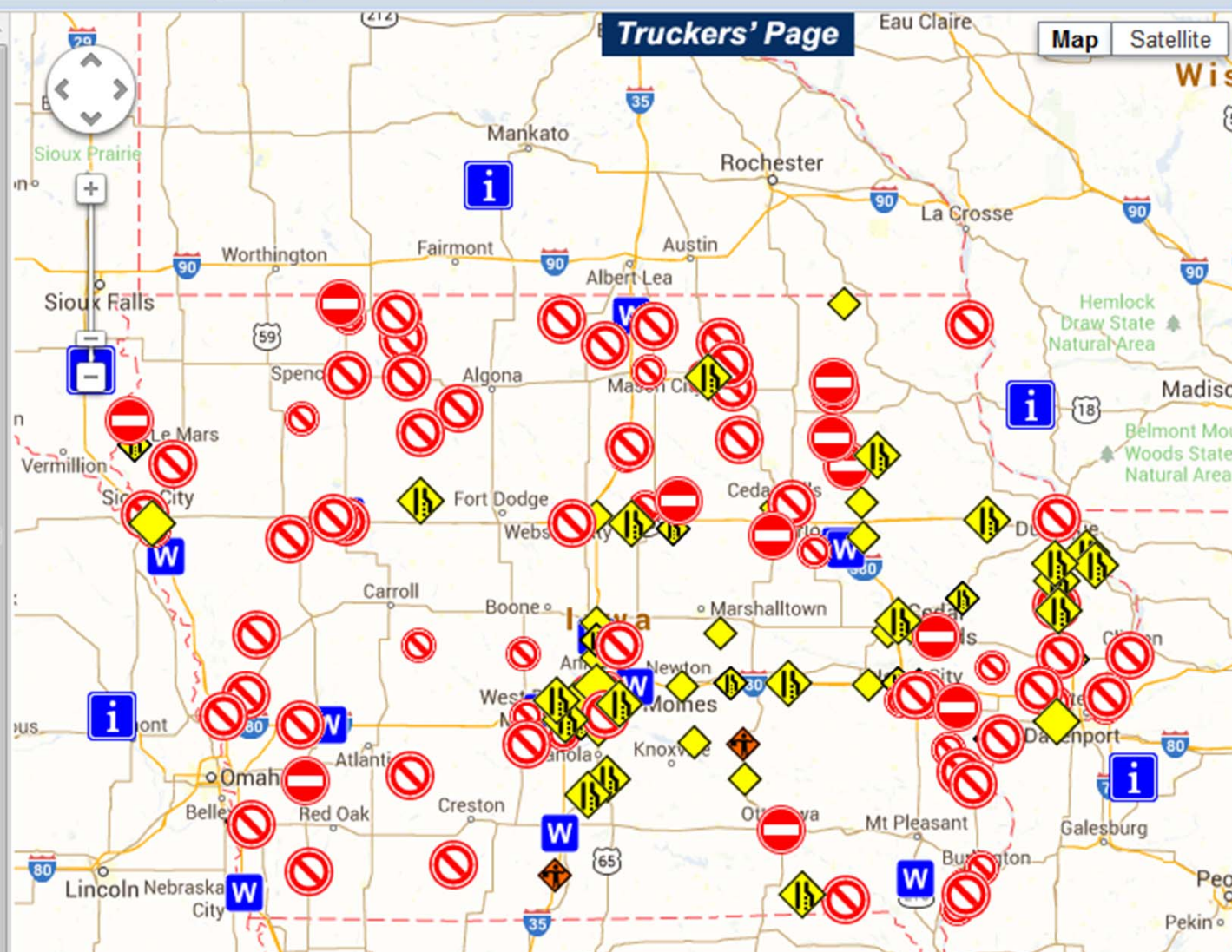
Completely Covered

Impassable

## Truckers' Page

Map

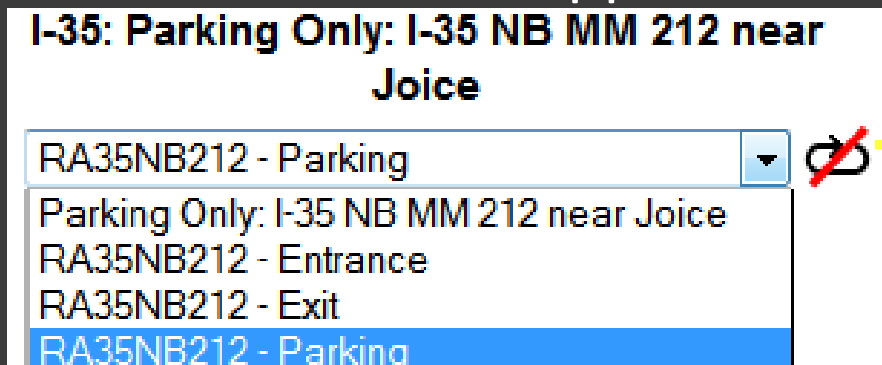
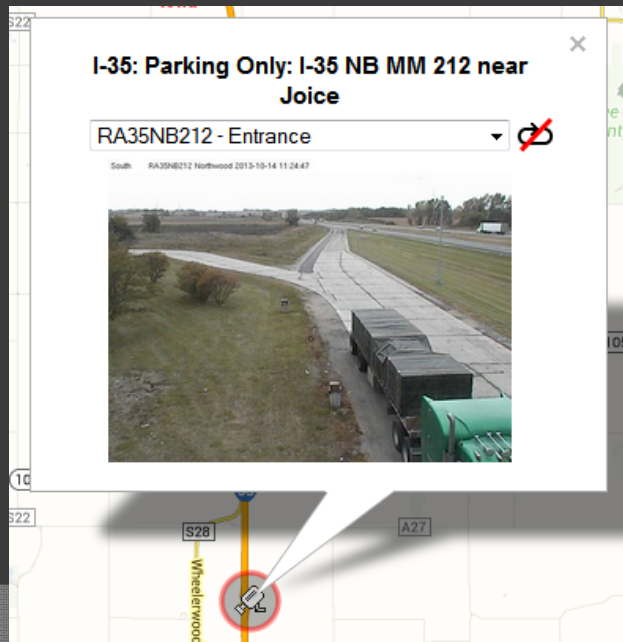
Satellite





# Truck Parking Cameras

- Pilot project on I-35 – Fall 2013
- Installed cameras:
  - 9 rest area cameras
  - 5 parking-only cameras
- Multiple views per camera – still images
- Available on all website versions and mobile app



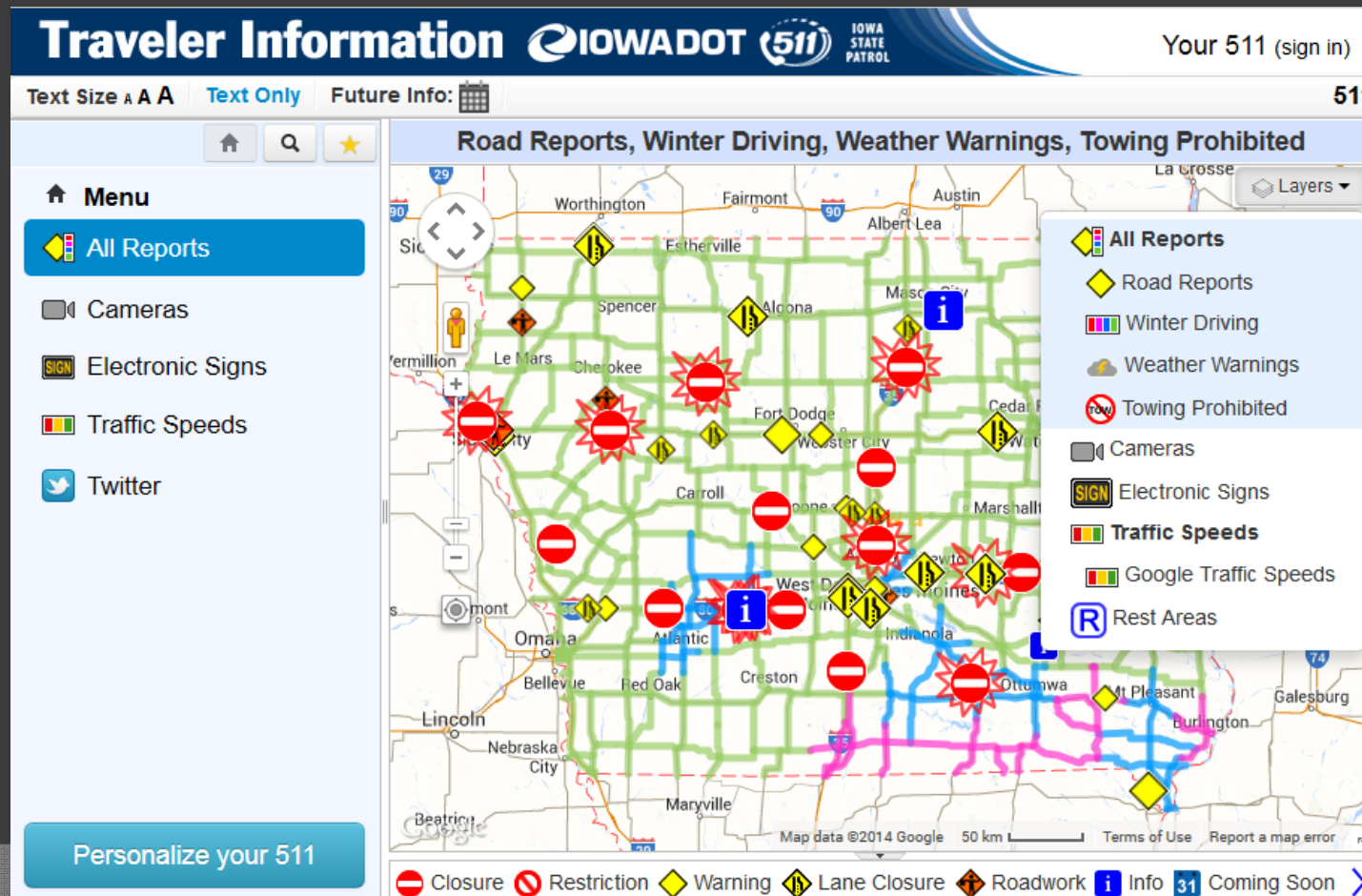
# To be launched winter 2014-2015

## Citizen Reporting - Tell us more....

- ⦿ Integrates citizen reporting information on winter road conditions into the 511 system.
- ⦿ Enables members of the public to submit winter driving conditions for publication on the 511 system.

# To be launched in Oct/Nov

- Complete update of our Full-Featured 511 website.



# On-Call Consultants

- Fall 2012, 3 contracts (<\$100,000/yr)
- 2013 Traffic Incident Management, 4 contracts
- 2014 Fiber & ITS Design, 3 contracts
- 2014 Full-Service Traffic Operations Support, 5 contracts

*All contracts for 3-years.*





# Upcoming Equipment Purchases

- Portable DMS
- Side-mount DMS
- Arterial DMS

*[www.iowadot.gov/purchasing/](http://www.iowadot.gov/purchasing/)*



# Questions

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