TDA Drive-in
Technology and Transportation Panel

Traffic Operations and Safety (TOPS) Laboratory:
An "Enabling Force" for WisDOT

May 23, 2012

Madison Club

WISCONSIN
TOPS

WISCONSIN TRAFFIC OPERATIONS AND SAFETY LABORATORY

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
UNIVERSITY OF WISCONSIN-MADISON

THE UNIVERSITY
WISCONSIN
MADISON

Overview

- Brief TOPS History
- Key Milestones and Achievements in Supporting WisDOT's Mission
- Emerging Technology and Issues
- Partnership Benefits to WisDOT and UW
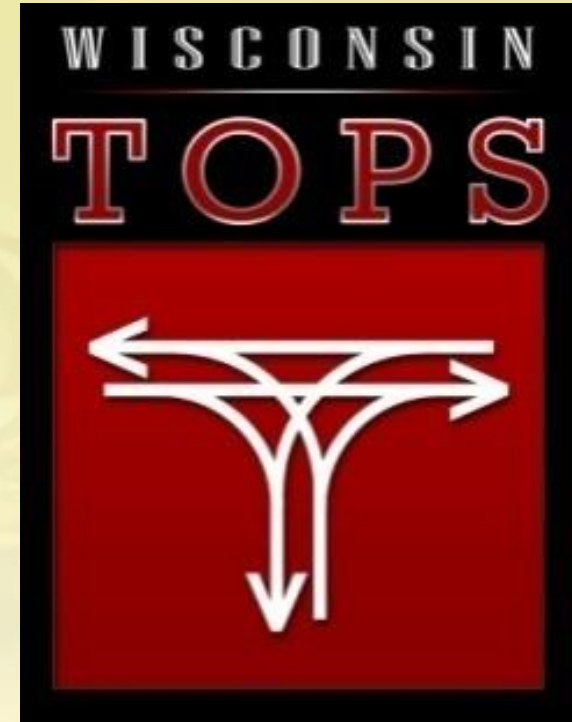
TOPS History

- Started May 2003

- Co-Management Philosophy

- Mutually Beneficial Services, Program Support, and Research

- Work with variety of WisDOT bureaus

- ~ 80 Projects Complete, ~ 40 In Progress

- Other Research
  - Transportation Research Board of the National Academies
  - Other State DOTs
  - National Science Foundation – Pending
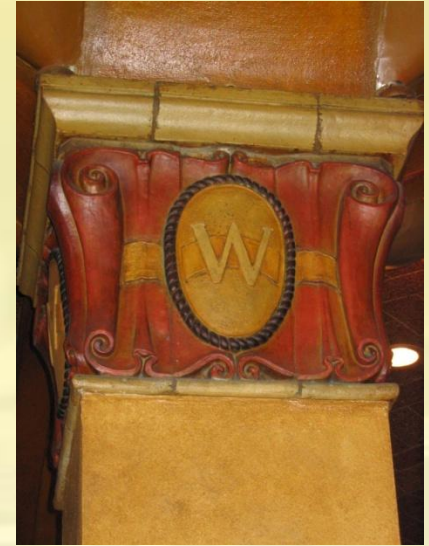
# Key Milestones and Achievements

- 2005 - WisTransPortal Launches
- 2006 - VSPOC Traffic Data Analysis Tool
- 2006 - LINK Interagency Video Sharing
- 2008 - 511 Launches (www.511wi.gov)
- 2008 - FHWA Planning Award – Traffic Operations Infrastructure Plan
- 2008 - Lane Closure System
- 2009 - InterCAD
- 2010 - Traffic Incident Alerts
- 2010 - Wisconsin Driving Simulator
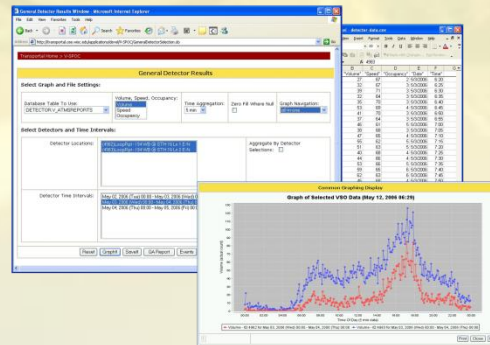- 2011 - Twitter Alerts

511 Wisconsin Travel Info

WisTransportal Data Hub

- Common IT Platform for:
  - Administration/Access
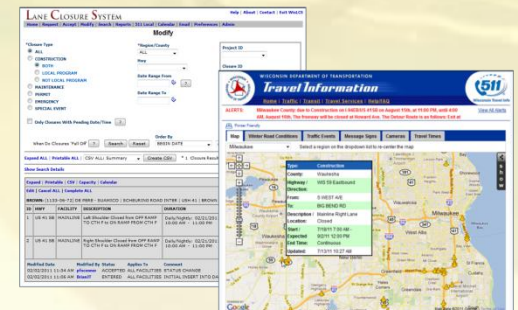 - Database
  - Archiving
  - Mapping/Linear Referencing

Crash Data Retrieval Facility
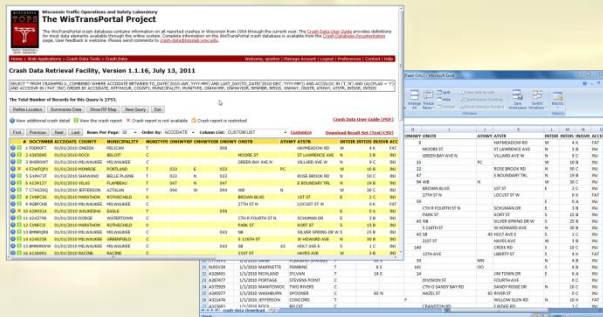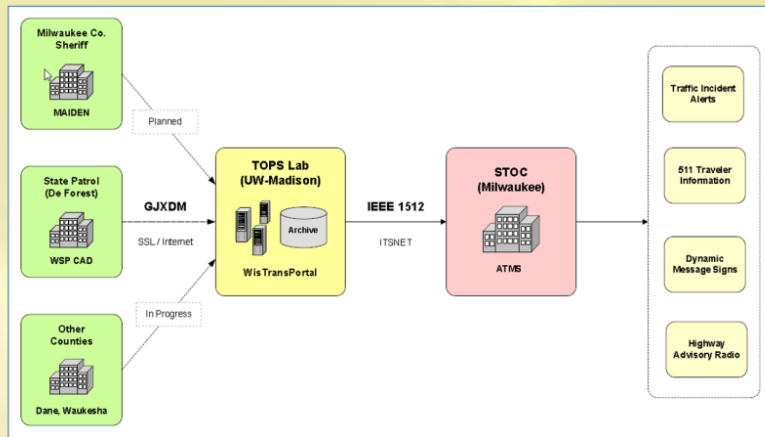

V-SPOC Traffic Detector Data

Wisconsin Lane Closure System

WisTransportal Data Hub

InterCAD Traffic Incident Data

Traffic Incident Alerts

LINK Freeway Traffic Video

Emerging Technology and Issues

Intersection Technology
Test Deck

CONSTRUCTION
WISCONSIN 511
PROJECTS

Driving Simulator

Driving Simulator

Emerging Technology and Issues

NextGen Highway Operations Software

Freeways | Arterials | Corridors | Snow and Ice Mgmt | Traffic Incident Management | Freight

Asset Management – Performance Monitoring - Communications
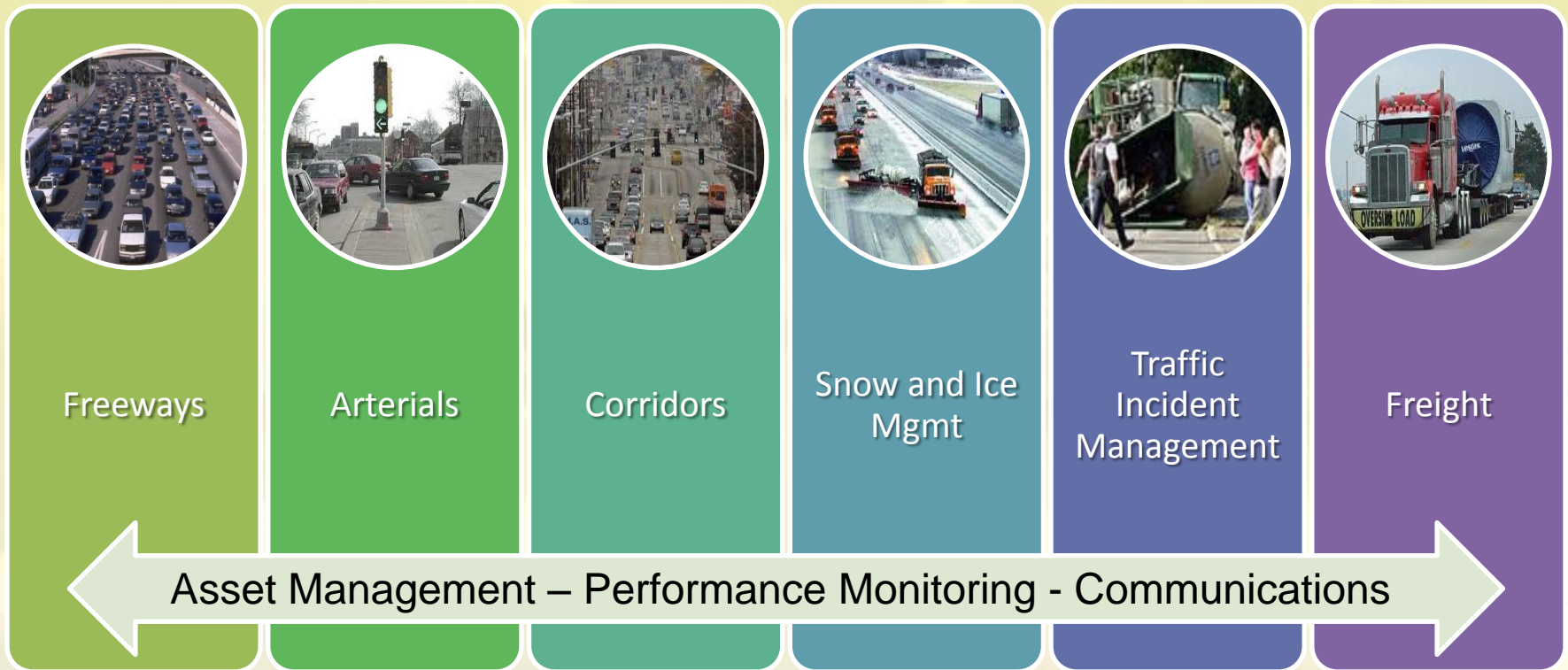
Emerging Technologies and Issues

- **Traffic Detection and Monitoring**
  - Bluetooth and Wi-fi Monitoring
    - Urban Travel Times
    - Work Zone Delay and Diversion
    - Origin-Destination Studies
  - Probe Data
    - Data from GPS and mobile phones
    - Private Sector driven
  - Connected Vehicles
    - Auto Industry Driven
    - Government focus:
      - Policy and Standards
      - Vehicle to Roadside Communications

Source: Cisco IBSG, 2011
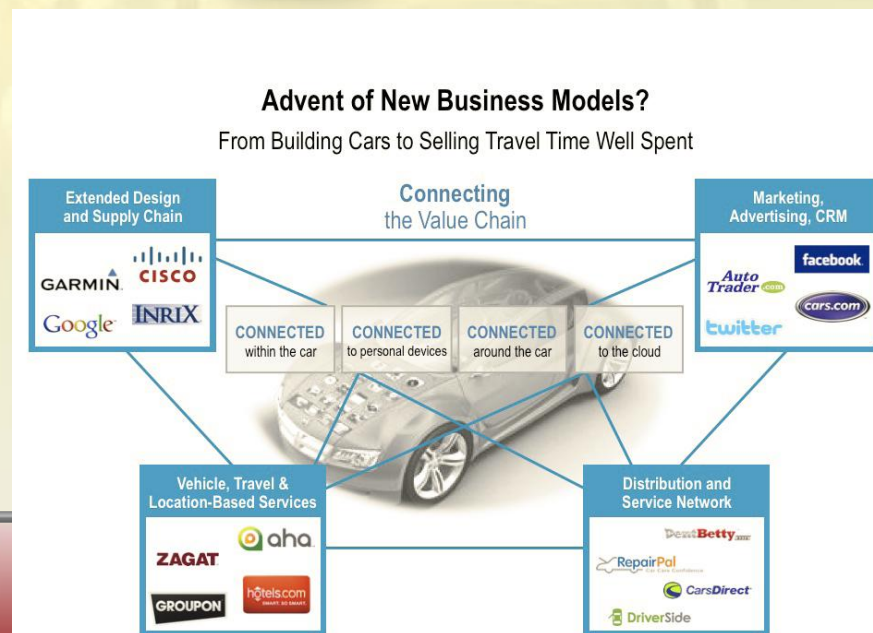
Partnership Benefits

WisDOT

- Tools to make job easier
- Better design and policy decisions
- Access to highly trained staff
- UW facilities and services
- Academic discounts
- Extremely low overhead
- Leverage federal funding and private sector partnerships
- Positive WisDOT publicity
- Rapid Prototyping/Innovation

TOPS

- Continuous access to transportation data
- Publication/Presentation Opportunities
- Student support
- Opportunities to publish
- Marketing tool to attract top students
- Integration of WisDOT standards into curriculum

Contact Information

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