



# Crash Data Past, Present, and Future

Andrea Bill



Wisconsin Traffic Operations and Safety Laboratory

Department of Civil and Environmental Engineering  
University of Wisconsin-Madison



# Audience



- Law Enforcement?
- Analysts?
- Education?
- IT?
- Dispatchers?
- Other?

- **Past**

- MV4000
- Training
- Paper

- **Present**

- TraCS
- WisTransPortal

- **Future**

- Crash Data 2.0



# Past

6851141  
Wisconsin Motor Vehicle  
Accident Report

Accident Number: 6851141  
Date: 11/27/74  
Time: 11:27  
Location: SIDELL AVE  
City: GREENWOOD WI 53022

Driver: KASTY  
Address: 330 W. BARLEY ST  
City: GREENWOOD WI 53022

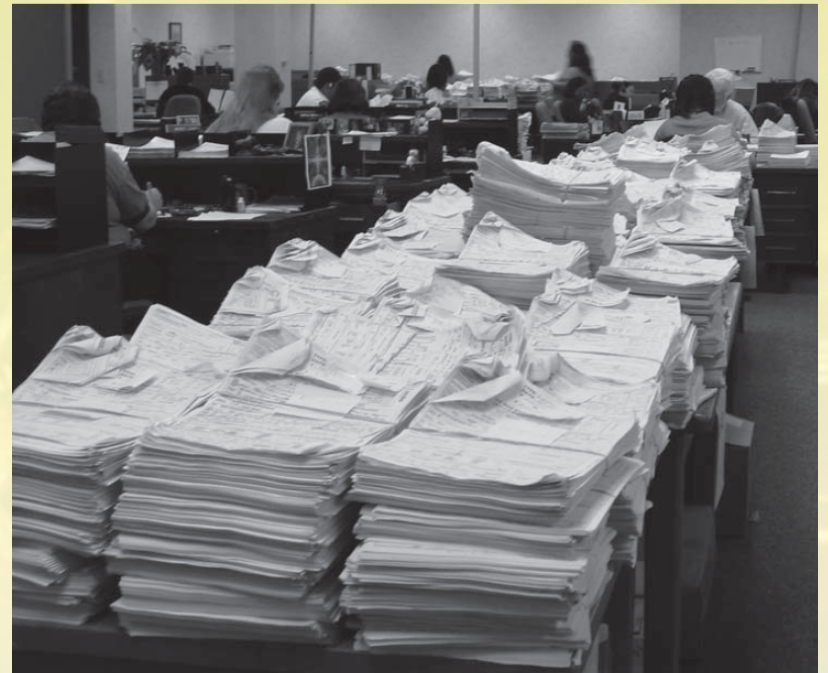
Other Driver: SCHWARTZ, MARY  
Address: 551 ROOF ST  
City: GREENWOOD WI 53022

Vehicle 1: 1968 Ford Mustang  
Vehicle 2: 1968 Ford Mustang

Accident Type: 1 - Collision  
Severity: 1 - Minor

Police Officer: [Name]

Investigator: [Name]



Paper crash report backlogs in Texas. (GAO-10-454)

# People & Training

- According to the CDIPG, one refrain commonly heard from police is that “crash forms are being completed just for insurance companies”

- *WisDOT MV4000 Instruction Manual*

- Primary training resource for WI officers

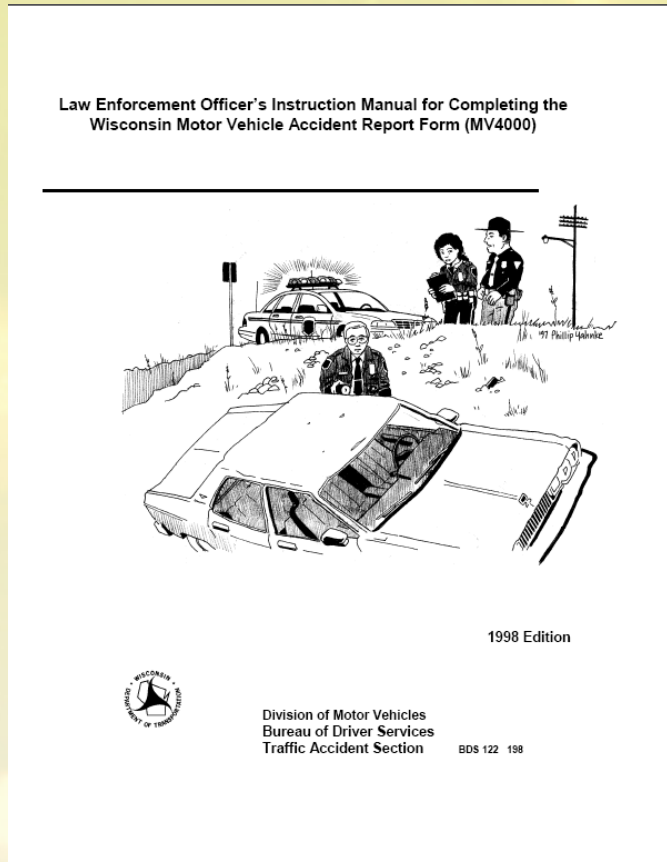
- Last updated in 1998

- Brief and vague concerning engineering fields

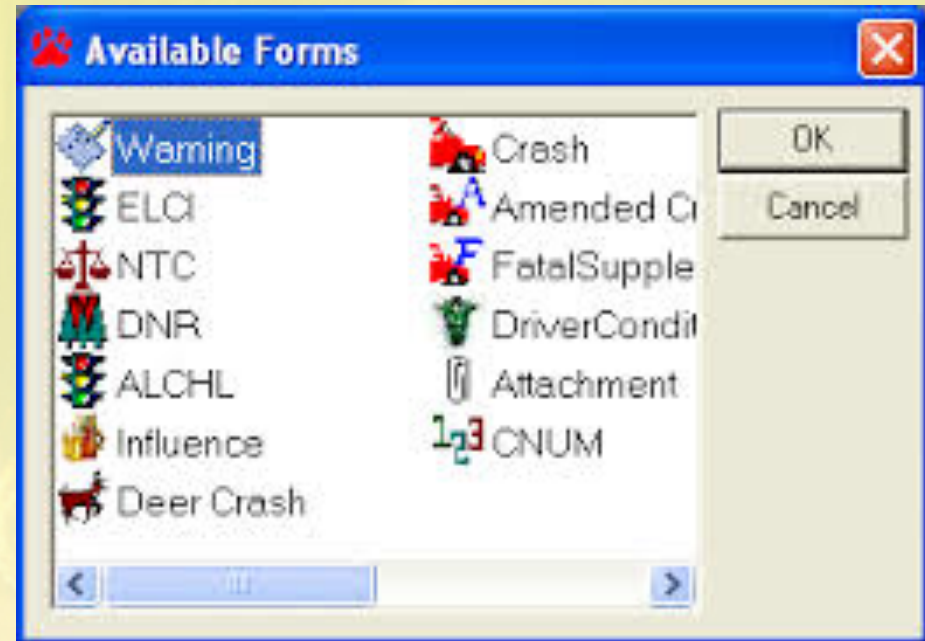
- No baseline definition of when to flag hills or curves

- Poor definition of traffic barrier

- No discussion of roundabouts



# Present



## Help Screens

TraCS has built-in help screens that can be accessed for a data field by pressing the <F2> key. Help is available for each of the forms in the suite.

The Help button on the toolbar brings up information about the TraCS software, in general.

# Engineering Elements Data Quality Audit

- Low accuracy for access control at partially controlled facilities indicates a lack of understanding by officers for what qualifies as partial control
- When hills or curves are present on at least one approach, officers are flagging them even when they are not the site of the crash, which is incorrect
- Low traffic-way accuracy is a result of misunderstanding what constitute divided roadways and barriers
- Roundabout-specific inaccuracies were especially noteworthy in the horizontal curve and traffic-way fields



# ***WisTransPortal Overview***

- **Objectives**

- Archived Data Management
- Real-Time Data Exchange
- Centralize Access to Data
- Data / Systems Integration
- IT Test Bend Environment
- Research / Government Shared Objectives

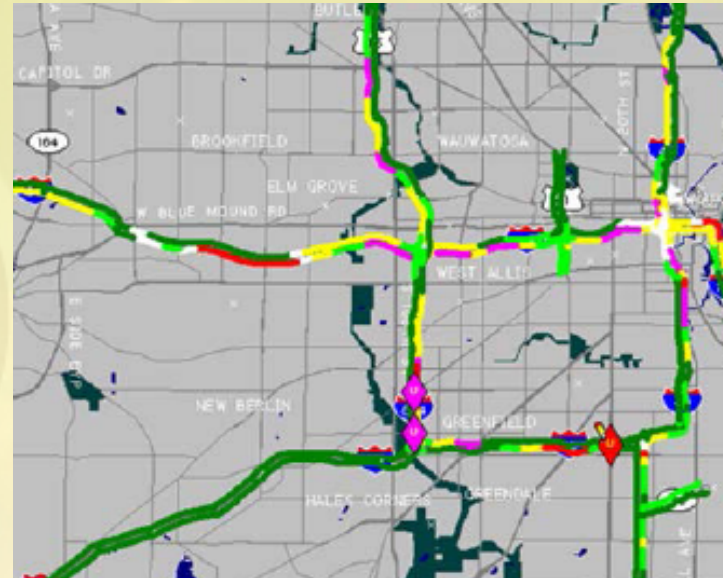




# ***WisTransPortal Overview***

- **Data Sources**

- Traffic Data
- Crash Data
- Traffic Incidents
- Lane Closures
- Traffic Video
- ITS Inventory
- Road Weather Data
- Roadway GIS Inventory



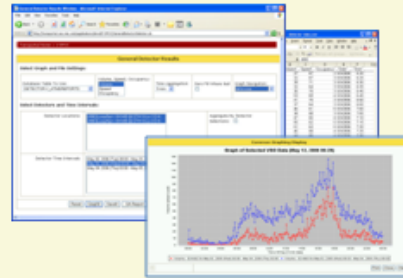
# WisTransPortal Software Systems

## Crash Data Retrieval Facility



Query retrieve statewide MV4000 crash data (1994-present) and police crash reports (2000-present). Data is updated on a monthly basis through coordination with WisDOTDMV. Adding highway and local road GIS crash map in 2012.

## V-SPOC Traffic Detector Data



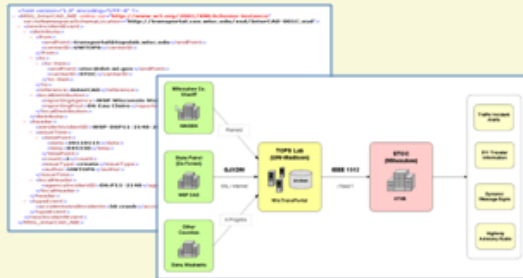
Query and retrieve freeway traffic detector data from the WisDOT Statewide Traffic Operations Center (STOC). Contains a complete archive of detector data from the STOC since 1996. Database is updated on a 24-hour basis.

## Wisconsin Lane Closure System



Online acceptance and reporting system for lane closures and restrictions statewide. Tracks closure details for all construction, maintenance, permit, special event, and emergency closures on major state highways. Sends closure data in real-time to 511.

## InterCAD Traffic Incident Data



Wisconsin State Patrol dispatch to Statewide Traffic Operations Center control room traffic incident data exchange. Provides real-time data transfer, GJXDM to IEEE 1512 XML translation, and incident data archiving. Adding Dane and Waukesha Counties in 2012.

## LINK Freeway Traffic Video



Agency video-sharing and real-time traffic conditions. Provides web-based access to WisDOT traffic video for public safety, emergency services, towing, media, and others. Connects directly to WisDOT CCTV network through the ITS fiber backbone (ITSNET).

## TIA Traffic Incident Alerts



Statewide traffic incident notification system. Sends email, fax, and Twitter alerts to the media and others. Also handles traffic related media releases and EOC activation alerts. Jointly administered by the Statewide Traffic Operations Center and Wisconsin State Patrol.



# Wisconsin MV4000 Crash Data

7533739  
Wisconsin Motor Vehicle Accident Report

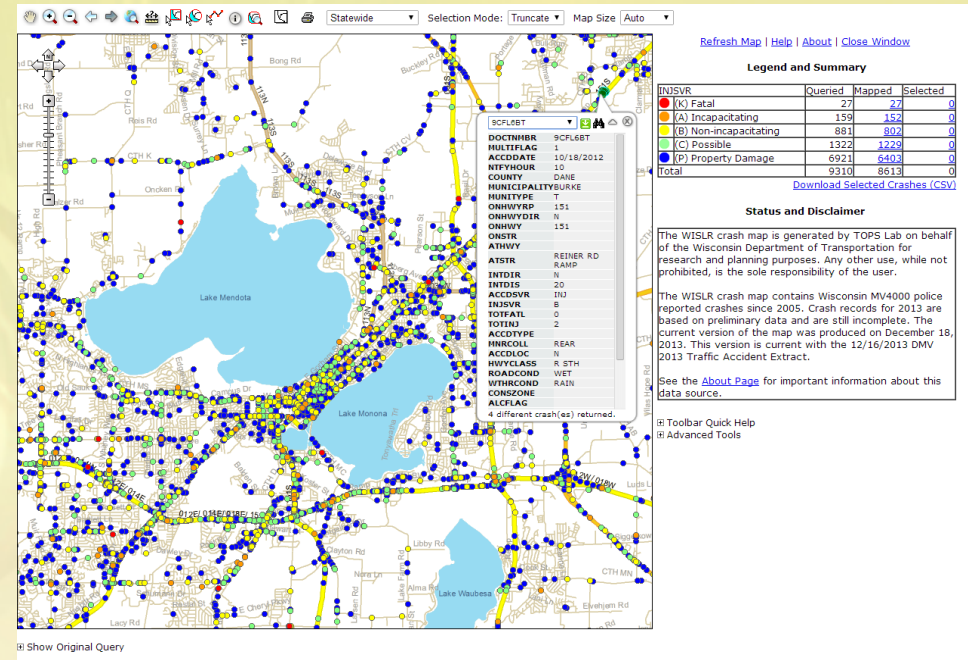
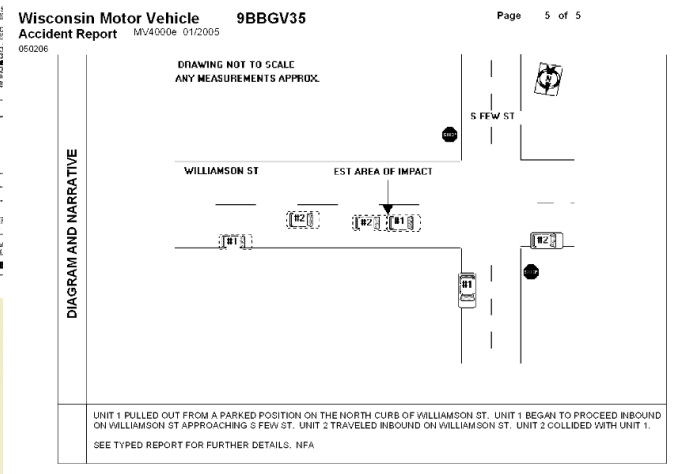
REPORTING OFFICER: CTH F  
DATE: 01/16/12  
COUNTY: WAUKESHA

VEHICLE 1: 9BBGV35  
VEHICLE 2: 9BBGV35

CRASH TYPE: 01 - Frontal Impact

LOCATION: S FFW ST & WILIAMSON ST

DESCRIPTION: UNIT 1 PULLED OUT FROM A PARKED POSITION ON THE NORTH CURB OF WILIAMSON ST. UNIT 1 BEGAN TO PROCEED INBOUND ON WILIAMSON ST APPROACHING S FFW ST. UNIT 2 TRAVELED INBOUND ON WILIAMSON ST. UNIT 2 COLLIDED WITH UNIT 1.



## Crash Reports (2008) and Statewide GIS Crash Map (2012)





## Community Maps - Wisconsin County TSC Crash Mapping

Crash data on this site is entered by local agencies and is not an official source of crash data. [\[More\]](#)



- [About](#)
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### Search Results

#### Collection: TSC Statewide Crash Map

[New Search](#)

- Fatality
- Injury (A)
- Injury (B)
- Injury (C)
- Property Damage

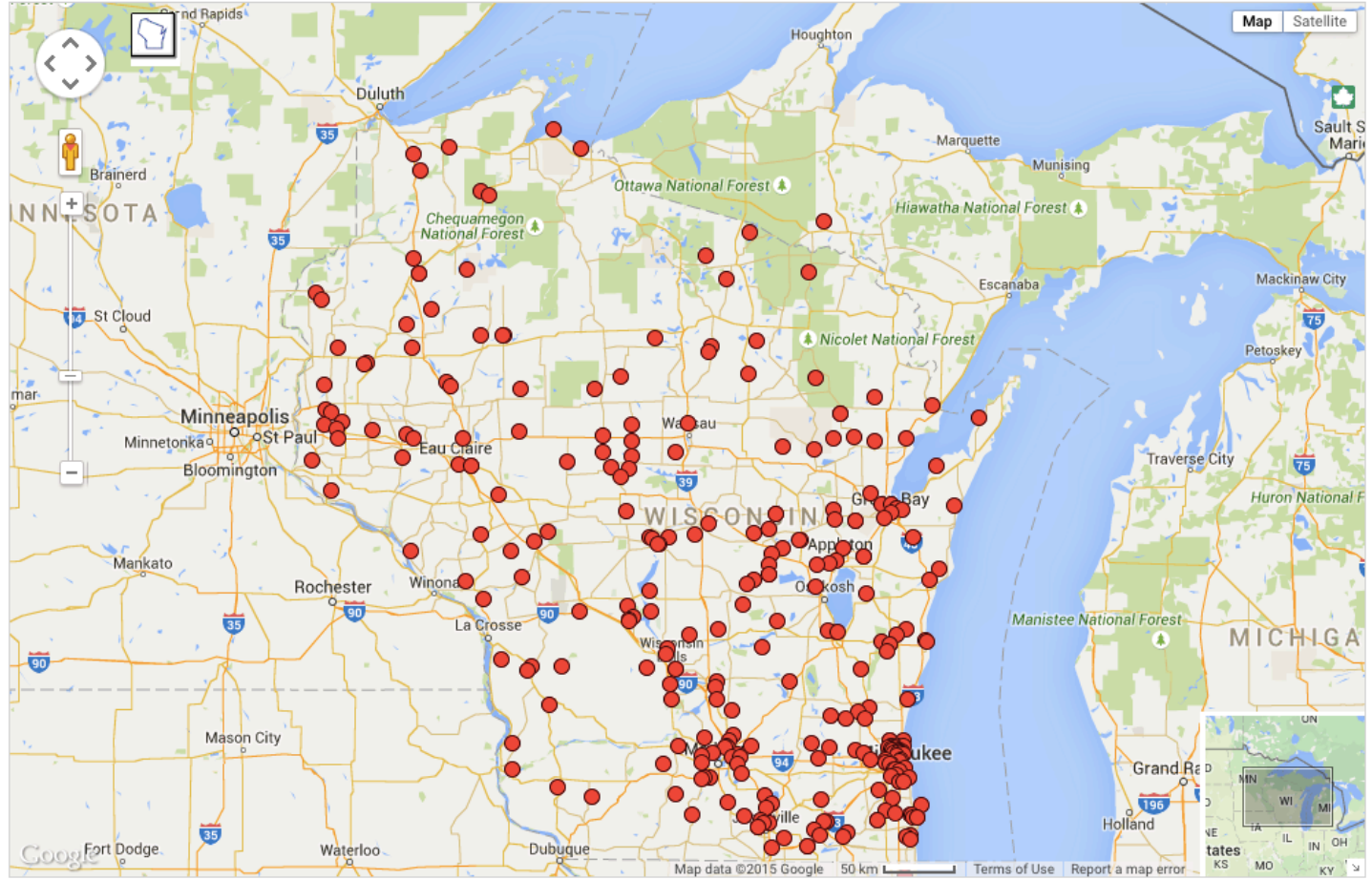
There were **296** crashes meeting the following criteria.

Counties:  
 - ALL  
 Begin Date: 01/01/2015  
 End Date: 12/31/2015  
 Crash Severity Filters:  
 - K  
 Checked Flags:  
 NONE

[Check ALL](#) | [UnCheck ALL](#) | [Zoom To Selected](#)

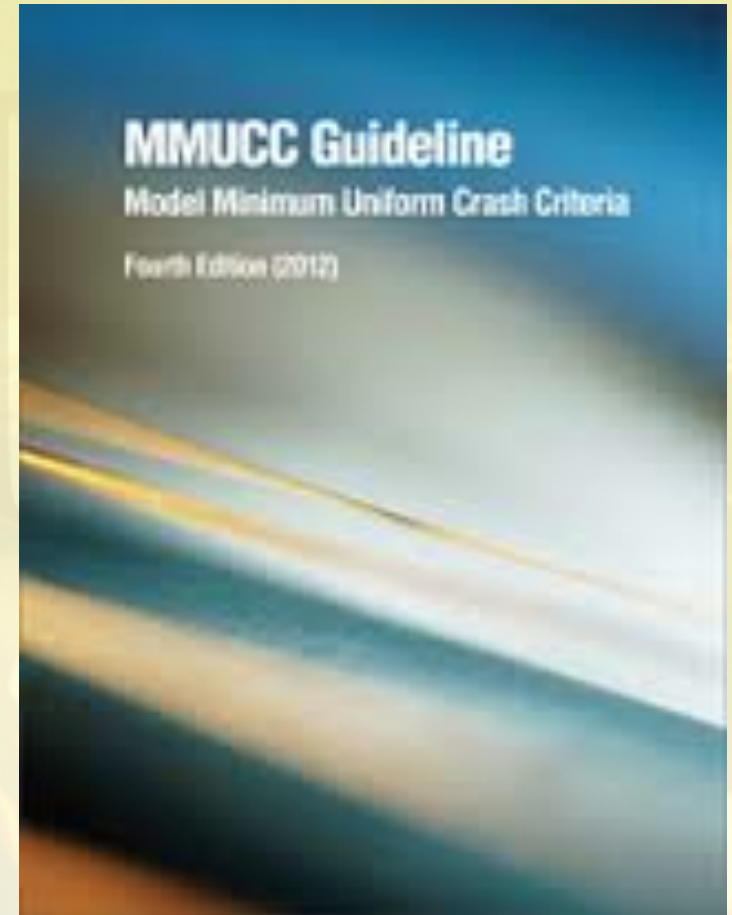
Sort By:  Display:

- |   |          |
|---|----------|
| <input checked="" type="checkbox"/> <b>W Medina Rd AT Ridge Rd</b><br>MEDINA (T), DANE County<br>01/02/2015<br>FATAL(K) | <b>1</b> |
| <input checked="" type="checkbox"/> <b>INTERSTATE 94</b><br>MILWAUKEE County<br>01/05/2015<br>FATAL(K)                  | <b>2</b> |
| <input checked="" type="checkbox"/> <b>6TH ST</b><br>MENASHA (C), WINNEBAGO County<br>01/06/2015<br>FATAL(K)            | <b>3</b> |
| <input checked="" type="checkbox"/> <b>INTERSTATE 94</b><br>EAU CLAIRE County<br>01/07/2015<br>FATAL(K)                 | <b>4</b> |
| <input checked="" type="checkbox"/> <b>PEWAUKEE RD</b><br>WAUKESHA (C), WAUKESHA County                                 |          |



# Future

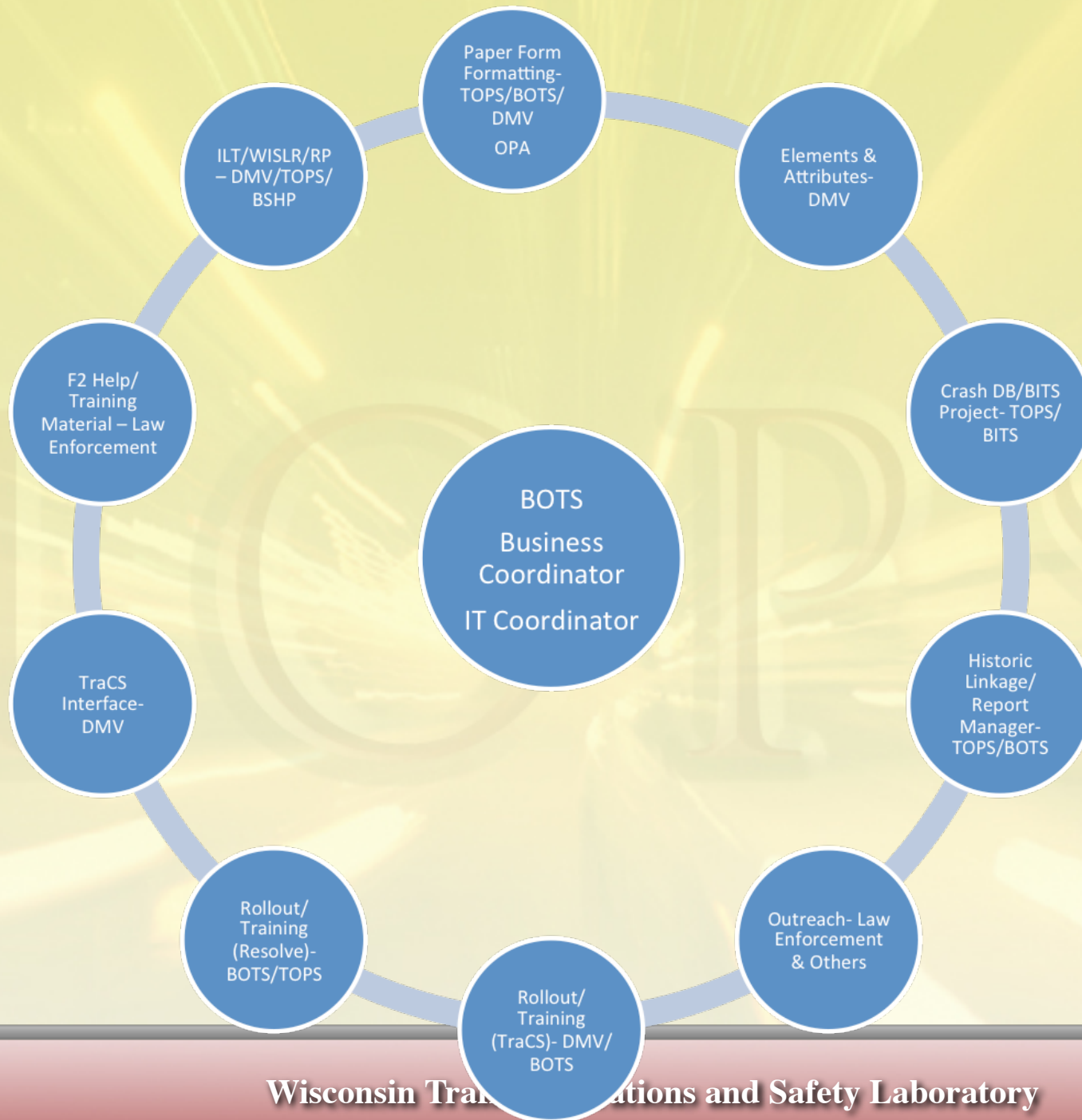
- **New Crash Elements and Attributes**
  - 2012
  - Brown County Sheriff,
  - La Crosse County Sheriff,
  - City of Madison,
  - City of Milwaukee,
  - Wisconsin State Patrol, and
  - Oneida Tribal Police.



# Crash Data Work Group

- DMV
- DSP
- DTIM
- DTSD
- DBM





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MADISON



- Weed out fields that had become obsolete and identify others that were not being collected (i.e. roundabouts or cell phone use)
- Form is more intuitive and that there is a great savings at both the state and local level by gathering correct and accurate data
- Easily describe what happened (i.e., cell phone usage, roundabouts, cross median crashes)



# Work Zone

NEW	TYPE OF WORK ZONE	LANE CLOSURE LANE SHIFT/CROSSOVER WORK ON SHOULDER OR MEDIAN INTERMITTENT OR MOVING WORK OTHER
NEW	WORKERS PRESENT	NO YES UNKNOWN
NEW	LAW ENFORCEMENT PRESENT	NO OFFICER PRESENT LAW ENFORCEMENT VEHICLE ONLY PRESENT



# Scene Management

NEW	LANE CLOSURE	YES NO
NEW	TYPE OF CLOSURE	FULL CLOSURE CLOSURE - ONE DIRECTION LANE CLOSURE OTHER CLOSURE
NEW	REASON FOR CLOSURE	TOW TRUCK EMS MED FLIGHT WEATHER CONDITIONS SECONDARY CRASH OTHER
NEW	TIME INITIAL LANE/ROAD CLOSED (MILITARY TIME)	TIME ROAD CLOSED (SAME AS TIME ARRIVED)

CURRENT FIELD #	FIELD NAME	NEW CODES AND FORMATTED VALUES
NEW	TIME ALL LANES OPEN (MILITARY TIME)	TIME ROAD/ALL LANES WERE OPENED
NEW	DATE SCENE CLEARED	DATE THE SCENE WAS CLEARED
NEW	TIME SCENE CLEARED (MILITARY TIME)	TIME SCENE WAS CLEARED



# Pedestrian

Pedestrian Location (Existing MV4000)	Non-Motorist Location at Time of Crash (New MV4000)
Blank	Blank
In Crosswalk	<ul style="list-style-type: none"> <li>→ Intersection – Marked Crosswalk</li> <li>→ Intersection – Unmarked Crosswalk</li> <li>→ Midblock – Marked Crosswalk</li> <li>→ Median/Crossing Island</li> </ul>
In Roadway	<ul style="list-style-type: none"> <li>→ Travel Lane – Other Location</li> <li>→ Bicycle Lane</li> <li>→ Shoulder/Roadside</li> <li>→ Intersection – Other</li> </ul>
Not In Roadway	<ul style="list-style-type: none"> <li>→ Driveway Access</li> <li>→ Non-Trafficway Area</li> </ul>
On Sidewalk	<ul style="list-style-type: none"> <li>→ Shared-Use Path or Trail</li> <li>→ Sidewalk</li> </ul>
	<ul style="list-style-type: none"> <li>→ Other</li> <li>→ Unknown</li> </ul>

Helmet Use	Unknown	The type of helmet used at the time of the crash
	Half	
	Three-Quarter	
	Full-Face	
	No	
Helmet Compliance	Non Approved	This identifies if helmet was DOT compliant at time of crash
	Approved	
	UNKNOWN	
Eye Protection	Yes: Worn	The type of eye protection that was worn at the time of the crash
	Yes: Windshield	
	Yes: Worn and Windshield	
	No	
	Unknown	
Tint compliance	Yes	This identifies if helmet was tint compliance at time of crash
	No	
	Unknown	
Protective Gear	Reflective	This identifies what protective gear was used at the time of the crash
	Gloves	
	Boots	
	Jacket	
	Long Pants	
	None	
Unknown		



CURRENT FIELD #	FIELD NAME	NEW CODES AND FORMATTED VALUES
NEW	OPERATOR DISTRACTED BY	NOT DISTRACTED MANUALLY OPERATING AN ELECTRONIC COMMUNICATION DEVICE (TEXTING, TYPING, DIALING) TALKING ON HANDS-FREE ELECTRONIC DEVICE TALKING ON HAND-HELD ELECTRONIC DEVICE OTHER ACTIVITY, ELECTRONIC DEVICE PASSENGER OTHER INSIDE VEHICLE (EATING, PERSONAL, ANIMAL, HYGIENE, ETC) OUTSIDE THE VEHICLE (INCLUDES UNSPECIFIED EXTERNAL DISTRACTIONS) VEHICLE TECHNOLOGY UNKNOWN IF DISTRACTED LOOKED BUT DID NOT SEE BY A MOVING OBJECT IN VEHICLE WHILE TALKING OR LISTENING TO CELLPHONE ADJUSTING AUDIO OR CLIMATE CONTROLS USING OTHER COMPONENT/CONTROLS INTEGRAL TO VEHICLE USING OR REACHING FOR DEVICE/OBJECT BROUGHT INTO VEHICLE DISTRACTED BY OUTSIDE PERSON, OBJECT, OR EVENT EATING OR DRINKING SMOKING RELATED OTHER CELLULAR PHONE RELATED DISTRACTION/INATTENTION DISTRACTION/CARELESS CARELESS/INATTENTION DISTRACTION DETAILS UNKNOWN INATTENTION DETAILS UNKNOWN LOST IN THOUGHT/DAYDREAMING OTHER DISTRACTION



# Crash Database - Objectives

- Implement the Revised Crash Form
- Streamline Crash Data Processing
- Modernize the Data Management System
- Improve Crash Data Quality – MMUCC / MIRE
- Take Full Advantage of the TraCS Incident Locator Tool (ILT)
- Enhance Crash Data Access and Interoperability
- Linking the Old and New Crash Data
- Support More Frequent Updates to the Crash Form



# Crash Database - National Perspective

- The Performance “Six Pack”
  - Timeliness
  - Accuracy
  - Completeness
  - Consistency
  - Accessibility
  - Integration

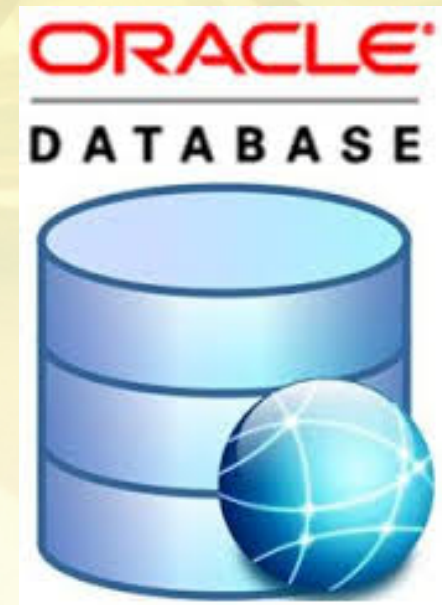


Traffic Safety Information Systems



# Crash Database - Components

- Oracle Database 12c Enterprise Edition
- TraCS Web Services
- Web Based Resolve System



# Crash Database - Timeline

Elements and Attributes	March 2015
High Level Requirements	June 2015
Crash Data Dictionary	September 2016
Revised TraCS Crash Form	December 2015
Database System Development	October 2015 – June 2016
Testing and Acceptance	July 2016
Law Enforcement Training	August – October 2016
Law Enforcement TraCS Patch	October – December 2016
<b>Go Live</b>	<b>January 1, 2017</b>



# Crash Database - Future

- Improve Crash Mapping and Analysis Capabilities
- Include Photos & Attachments to the Crash Report
- Linkages to Federal Systems (FARS, FMCSA)
- Linkages to External Data (EMS, Roadway)
- Include Additional TraCS Forms
- Research and Innovation
  - To enable analysis and decision making through downstream application



- All crash reports will need to be submitted electronically through TraCS 10 as of January 1, 2017 on the new crash report form.
- Agencies that currently do not have TraCS or are not using TraCS 10 should e-mail [badgertracs@dot.wi.gov](mailto:badgertracs@dot.wi.gov) with questions.
- Training will be available and provided to law enforcement agencies across the state in the second half of 2016.



