MMUCC

Model Minimum Uniform Crash Criteria

Improving Crash Data for Safer Roadways

# Model Minimum Uniform Crash Criteria

## Crash Data Guideline for Improved Traffic Safety

**3rd Edition | 2008 Release**

Governors Highway Safety Association
GHSA
The States' Voice on Highway Safety

NHTSA
www.nhtsa.gov

www.mmucc.us

## What is MMUCC?

The Model Minimum Uniform Crash Criteria Guideline (MMUCC) is a minimum, standardized data set for describing motor vehicle crashes and the vehicles, persons and environment involved. The Guideline is designed to generate the information necessary to improve highway safety within each state and nationally. This data set, originally published in the MMUCC Guideline, 1st Edition (1998), has been revised twice in the MMUCC Guideline, most recently in the 3rd Edition (2008), in response to emerging highway safety issues.

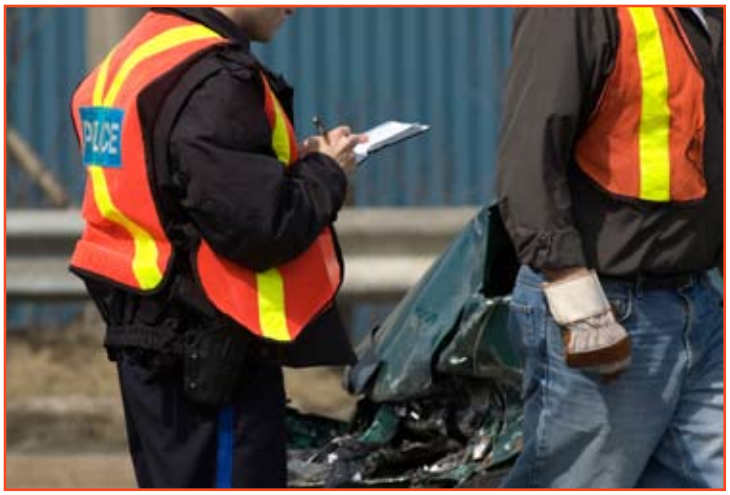
The 107 data elements presented in this document include 75 data elements to be collected at the scene, 10 data elements to be derived from the collected data, and 22 data elements to be obtained after linkage to driver history, injury and roadway inventory data. Definitions for the data elements match existing standards, unless modification was necessary to match current trends.

## What Are the Benefits of MMUCC?

Implementation of MMUCC will improve the quality of state data and, subsequently, the national estimates based on these data. Standardized data elements and definitions enable the crash data to be shared and compared at all levels. Software for crash data entry is easier to develop for statewide implementation when the data elements and definitions are uniform.

MMUCC recommends linkage to roadway inventory data, other traffic records, medical outcome, global positioning system location data, etc. to expand what is known about the crash and the persons involved. States, unable to link, are encouraged to collect the data elements, when feasible, at the scene until they develop linkage capabilities.

Comprehensive crash data are necessary to determine which countermeasures are most effective. This information is useful for targeting resources so they will have the most impact on reducing deaths, injuries, injury severity and health care costs.




## What Information Do the MMUCC Data Elements Generate?

MMUCC data describe the characteristics of the crash, the vehicle(s), person(s) and roadway involved. Crash data elements describe the date, time, location, first and most harmful events, type of crash, weather and contributing circumstances. Vehicle data elements describe the vehicle make, model, model year, type, function, actions, impact, sequence of events and damaged areas. Person data elements describe all involved persons by age, sex, injury status and type. Vehicle number, seating position, use of safety equipment are collected for all vehicle occupants. Driver status information, non-motorist status information, alcohol and drug involvement are collected for all drivers and non-motorists. EMS transport status is collected for all injured persons.

Derived MMUCC data elements reduce the data collection burden at the scene by converting collected data into new information. MMUCC data elements obtained after linkage to injury records identify the cost of traffic crashes and, ultimately, who pays. Data elements obtained after linkage to roadway inventory data describe the characteristics of the roadway where the crash occurred.

## Why Is the MMUCC Guideline, 3rd Edition, (2008) Needed Now?

The MMUCC Guideline was first developed in 1998 to be reviewed and has since been updated every five years, and the 3rd edition represents the second update of the original edition. MMUCC has been widely accepted in the highway safety community, but the update of MMUCC provides an opportunity to include new data elements relevant to emerging highway safety issues. The update also provides an opportunity to clarify definitions and attributes for existing data elements.

The American National Standards Institute (ANSI) Standard D16.1-2007 Manual on Classification of Motor Vehicle Traffic Accidents, Seventh Edition, and the ANSI Standard D20.1, Data Element Dictionary for Traffic Records Systems were both used to develop and update MMUCC. These standards will be revised during their normal review processes to be consistent with the MMUCC Guideline, 3rd Edition (2008) whenever appropriate.

## How Was MMUCC Updated?

The MMUCC update process, sponsored by the National Highway Traffic Administration and the Governors Highway Safety Association, provided for the greatest possible input so that MMUCC is perceived not as a product of any one organization but as something for which all stakeholders can claim ownership.

More in-depth feedback also was obtained in a series of meetings of the MMUCC expert panel, the MMUCC one-day national workshop held in conjunction with the 33rd International Traffic Records Forum during July 2007 in St. Louis, Missouri, and via the MMUCC website.

## What Criteria Were Used to Develop MMUCC?

MMUCC consists of data elements that are needed by the highway safety community. Each data element includes a definition, set of attribute values and rationale. The attributes selected for each data element were considered a minimum set that states could expand to meet their state-specific needs.

MMUCC is limited to the actual data elements, attributes and their definitions. The choice of implementation method is left to the states so that states do not have to revise the file structure of their existing data systems.

All states are encouraged to implement the MMUCC recommendations to: 1) report all crashes statewide involving death, personal injury, or property damage of $1,000 or more and all persons (injured and uninjured) involved in the crash and 2) incorporate the MMUCC data elements as presented in this Guideline.

## MMUCC and the 408 program

As part of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the current federal transportation legislation, there are Traffic Safety Information System Improvement Grants available to states under section 408 of the bill. In order to receive one of the grants, a state must certify that it has adopted and uses model data elements identified by the Secretary of Transportation or that it will use Section 408 grant funds toward adopting and using the maximum number of such model data elements as soon as practicable. The MMUCC elements were identified by the U.S. Department of Transportation as one set of model data elements that apply to Section 408.

## MMUCC Data Elements

### CRASH DATA ELEMENTS Collected at the Scene

C1. Case Identifier
C2. Crash Date and Time
C3. Crash County
C4. Crash City/Place
C5. Crash Location
C6. First Harmful Event
C7. Location of First Harmful Event Relative to the Trafficway
C8. Manner of Crash/Collision Impact
C9. Source of Information
C10. Weather Conditions
C11. Light Condition
C12. Roadway Surface Condition
C13. Contributing Circumstances, Environment
C14. Contributing Circumstances, Road
C15. Relation to Junction
C16. Type of Intersection
C17. School Bus Related
C18. Work Zone Related

### Derived from Collected Data

CD1. Crash Severity
CD2. Number of Motor Vehicles Involved
CD3. Number of Motorists
CD4. Number of Non-Motorists
CD5. Number of Non-Fatally Injured Persons
CD6. Number of Fatalities
CD7. Alcohol Involvement
CD8. Drug Involvement
CD9. Day of Week

### VEHICLE DATA ELEMENTS Collected at the Scene

V1. Motor Vehicle Identification Number
V2. Motor Vehicle Type and Unit Number
V3. Motor Vehicle Registration State and Year
V4. Motor Vehicle License Plate Number
V5. Motor Vehicle Make
V6. Motor Vehicle Model Year
V7. Motor Vehicle Model
V8. Motor Vehicle Body Type Category
V9. Total Occupants in Motor Vehicle
V10. Special Function of Motor Vehicle in Transport
V11. Emergency Motor Vehicle Use
V12. Motor Vehicle Posted/Statutory Speed Limit

V13. Direction of Travel Before Crash
V14. Trafficway Description
V15. Total Lanes in Roadway
V16. Roadway Alignment and Grade
V17. Traffic Control Device Type
V18. Motor Vehicle Maneuver/Action
V19. Areas of Impact
V20. Sequence of Events
V21. Most Harmful Event for this Motor Vehicle
V22. Bus Use
V23. Hit and Run
V24. Extent of Damage/Removal
V25. Contributing Circumstances, Motor Vehicle
V26. Motor Carrier Identification
V27. Gross Vehicle Weight Rating/Gross Combination Weight Rating
V28. Vehicle Configuration
V29. Cargo Body Type
V30. Hazardous Materials (Cargo Only)

## PERSON DATA ELEMENTS Collected at the Scene

### Level 1: All Persons Involved

P1. Date of Birth
P2. Sex
P3. Person Type
P4. Injury Status

### Level 2: All Occupants

P5. Occupant's Motor Vehicle Unit Number
P6. Seating Position
P7. Restraint Systems/Helmet Use
P8. Air Bag Deployed
P9. Ejection

### Level 3: All Drivers

P10. Driver License Jurisdiction
P11. Driver License Number, Class, CDL and Endorsements
P12. Driver Name
P13. Driver Actions at Time of Crash
P14. Violation Codes
P15. Driver Distracted By
P16. Condition at Time of Crash

### Level 4: All Drivers and Non-Motorists

P17. Law Enforcement Suspects Alcohol Use
P18. Alcohol Test
P19. Law Enforcement Suspects Drug Use
P20. Drug Test

### Level 5: Non-Motorists

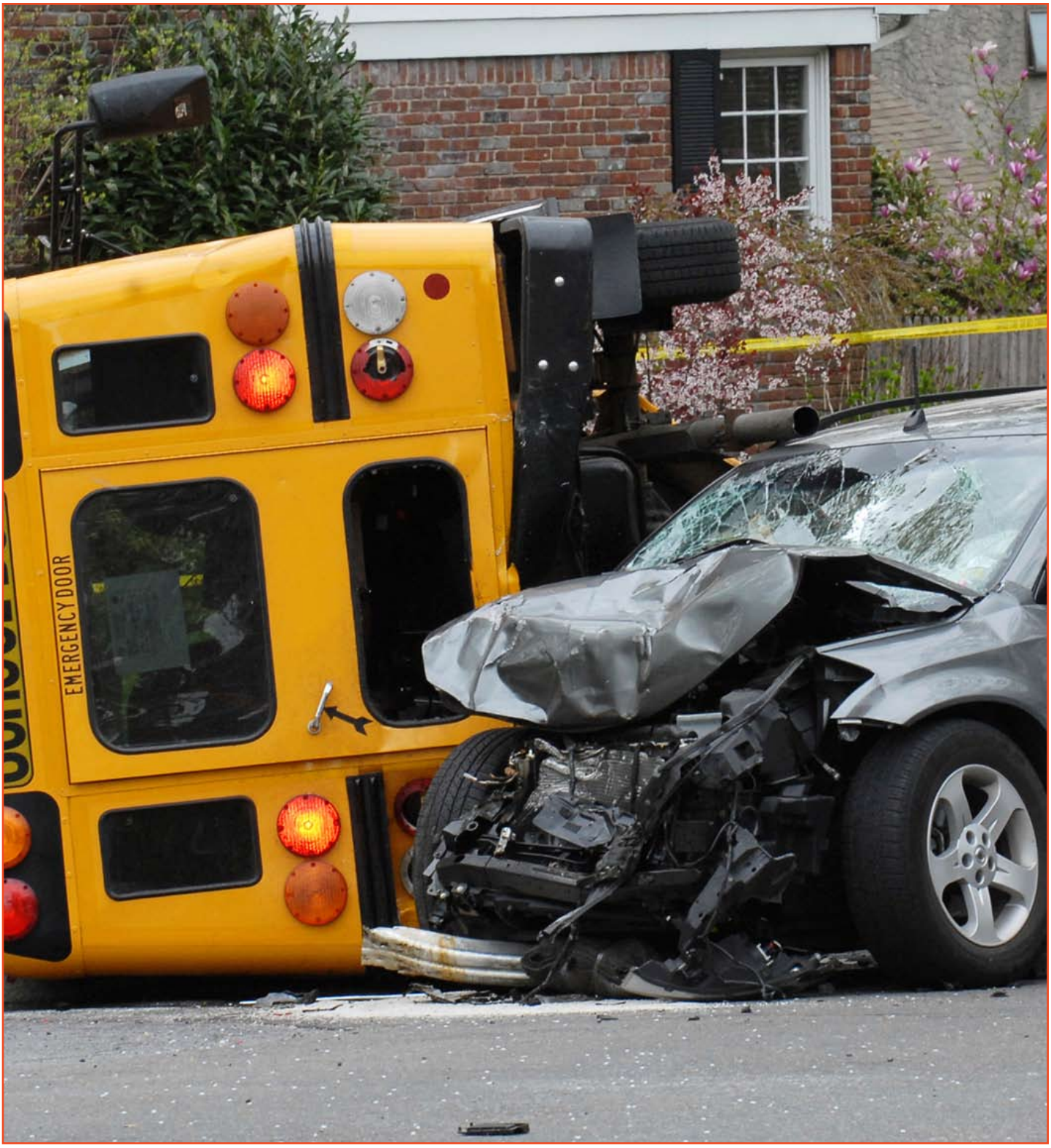
P21. Non-Motorist Number
P22. Non-Motorist Action/Circumstance Prior to Crash
P23. Non-Motorist Actions/Circumstances at Time of Crash
P24. Non-Motorist Location at Time of Crash
P25. Non-Motorist Safety Equipment
P26. Unit Number of Motor Vehicle Striking Non-Motorist
P27. Transported to Medical Facility By Derived from Collected Data
PD1. Age

### Obtained After Linkage to Other Data

Level 3: All Drivers
PL1. Driver License Restrictions
PL2. Driver License Status
PL3. Drug Test Result
Level 6: All Injured Persons
PL4. Injury Area
PL5. Injury Description

## ROADWAY DATA ELEMENTS Obtained After Linkage to Other Data

RL1. Bridge/Structure Identification Number
RL2. Roadway Curvature
RL3. Grade
RL4. Part of National Highway System
RL5. Roadway Functional Class
RL6. Annual Average Daily Traffic
RL7. Widths of the Lane(s) and Shoulder(s)
RL8. Width of Median
RL9. Access Control
RL10. Railway Crossing ID
RL11. Roadway Lighting
RL12. Pavement Markings, Longitudinal
RL13. Presence/Type of Bicycle Facility
RL14. Traffic Control Type at Intersection
RL15. Mainline Number of Lanes at Intersection
RL16. Side-Road Number of Lanes at Intersection
RL17. Total Volume of Entering Vehicles

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