MMUCC: Model Minimum Uniform Crash Criteria

What is MMUCC?

The **Model Minimum Uniform Crash Criteria** (MMUCC) is a minimum set of crash data elements with standardized definitions that are relevant to injury control, highway and traffic safety.

Not all of the MMUCC data elements need to be collected by police at the scene. Instead, some can be created from other data elements, such as the Vehicle Identification Number, to identify a specific vehicle characteristic. Or they can be obtained after linkage to other traffic records, such as injury or roadway inventory data to describe injury outcome or a specific roadway characteristic.

What Are the Benefits of MMUCC?

Implementation of MMUCC will make the crash data comparable at all levels to monitor local area performance, allocate resources for 402, Safe Communities and other programs, and evaluate program effectiveness. National, state, and local rates for inter and intra state comparisons can be generated more easily when crash data are uniform.

MMUCC will enable crash data to be linked to roadway, medical outcome and global positioning system data to expand what is known about the crash and the persons involved without the additional time and expense of new data collection.

Software for crash data entry can be developed more easily when the data elements and definitions are uniform. Implementation of MMUCC will improve the quality of state data and, subsequently, the national estimates based on these data.

What Information Do the MMUCC Data Elements Generate?

Motor vehicle crash data tell us about the characteristics of the crash and the vehicle(s) and person(s) involved. Crash data elements describe the date, time, location, harmful events, type of crash, weather and contributing circumstances. Vehicle data elements describe the vehicle in terms of the make, year, type, role, actions, direction, impact, sequence of events and damaged areas. Person data elements describe all persons involved by age, sex, injury status and type.

Additional information describing the vehicle number, seating position, use of safety equipment, driver status information, non-motorist status information, alcohol/drug involvement, and EMS transport status is collected when relevant to the person involved.

MMUCC data elements created from the vehicle identification number provide more details about the vehicle involved. MMUCC data elements generated from linkage to injury records identify the cost of traffic crashes and, ultimately, who pays. Linkage to driver license data makes it possible to identify costs attributable to drunk driving. Linkage to global positioning systems highlights non-safe roadway locations.

Why Is MMUCC Needed Now?

Although the existing ANSI Standards D16.1 and D20.1 have standardized some definitions, states have been unable to implement these standards as a whole. Renewed Interest in standardizing crash data has been encouraged by the availability of new computerized data collection technologies that help states reduce the collection and processing burden of motor vehicle crash data. Both the Intermodal Transportation Efficiency Act of 1991 and The Transportation Equity Act for the Twentieth First Century (TEA21) of 1998 encourage standardized reporting.

How Was MMUCC Developed?

With a collaborative approach! Beginning in late 1996, experts in highway traffic safety began meeting to discuss the increased need for standardized data elements and definitions for reporting motor vehicle crashes. By April 1997, forty-two private and public safety, engineering, transportation and research experts from the local, state and federal levels were convened as an expert panel by the National Association of Governors' Highway Safety Representatives (NAGHSR) with the assistance of FHWA and NHTSA. These experts drafted a version of MMUCC that received wide distribution to national, state, and local associations representing highway traffic safety, injury control, emergency medical services, state health departments, etc. and to the general public via the World Wide Web.

That draft also was reviewed at a July 1997 national workshop sponsored by NAGHSR following the National Safety Council's Traffic Records Committee's 23rd International Forum on Traffic Records & Highway Safety Information Systems. It was revised accordingly and redistributed to the highway traffic safety community for final review.

Each version of MMUCC was revised according to the feedback received at meetings and via the Website, phone, fax, email and regular mail. The final version was prepared by the expert panel for joint distribution by NAGHSR, NHTSA, and FHWA.

What Criteria Were Used to Develop MMUCC?

MMUCC consists of the most important data elements needed by the highway safety community. Each data element includes a definition, set of attribute values and rationale. Existing standards served as the basis for most data elements, but in some cases they were modified. The attribute values selected for each data element were considered a minimal set which states could expand. Some data elements were included to facilitate linkage to other data sources.

MMUCC was limited to the actual data elements and leaves the choice of implementation method up to the states.

What Help Is Available for States Implementing MMUCC?

NHTSA and FHWA will support the implementation effort by:

- Continuing to support traffic records assessments to identify what resources are needed.
- Funding the development of educational materials including video, overheads, slides, brochures as part of an implementation package for MMUCC.
- Developing a training workshop curriculum and "how to" manual to provide states with the necessary implementation skills and an analysis of the expected costs.
- Surveying on a regular basis the status of MMUCC implementation and highlighting model states.
- Funding the development and implementation of model analyses and reports based on the MMUCC data elements, and distributing the results widely.
- Supporting efforts by the American Association of State Highway and Transportation Officials (AASHTO) and others to develop software to facilitate the implementation of MMUCC.
- Encouraging states with data plans eligible for data incentive grants under TEA21 to adopt the MMUCC data elements and definitions.

Data Elements Collected at the Scene

Crash

C 1. Crash Case Identifier
C 2. Crash Date and Time
C 3. Crash County
C 4. Crash City/Place
C 5. Crash Roadway Location
C 6. First Harmful Event
C 7. Location of First Harmful Event
C 8. Manner of Crash/Collision Impact
C 9. Source of Information
C10. Date and Time Crash Reported to Police Agency
C11. Weather Condition
C12. Ambient Light
C13. Road Surface Condition
C14. Contributing Circumstances, Environment
C15. Contributing Circumstances, Road
C16. Type of Roadway Junction
C17. School Bus Related
C18. Construction/Maintenance/Utility Work Zone Related

Vehicle

V 1. Vehicle Unit Number
V 2. Vehicle Registration State and Year
V 3. Vehicle License Plate Number
V 4. Vehicle Make
V 5. Commercial Trailer Registration State and Year
V 6. Commercial Trailer License Plate Number
V 7. Carrier Name
V 8. Carrier Street Address
V 9. Carrier Identification Number
V10. Vehicle Configuration
V11. Cargo Body Type

V12. Gross Vehicle Weight Rating of Power Unit
V13. Total Occupants in Vehicle
V14. Vehicle Role
V15. Emergency Use
V16. Hazardous Materials Placard (Cargo Only)
V17. Hazardous Materials Release (Cargo Only)
V18. Vehicle Authorized Speed Limit
V19. Direction of Travel Before Crash
V20. Traffic Control Device Type
V21. Vehicle Maneuver/Action
V22. Point of Impact
V23. Sequence of Events
V24. Most Harmful Event for this Vehicle
V25. Direction of Force to Vehicle
V26. Underride/Override
V27. Most Damaged Area
V28. Extent of Damage

Person

Level 1: All Persons Involved

P 1. Date of Birth
P 2. Sex
P 3. Person Type
P 4. Injury Status

Level 2: All Occupants

P 5. Occupant's Vehicle Unit Number Unique to Crash
P 6. Seating Position
P 7. Occupant Protection System Use
P 8. Air Bag Deployed
P 9. Ejection
P10. Trapped

Level 3: All Drivers

P11. Driver License State/Province

P12. Driver License Number
P13. Driver Name
P14. Contributing Circumstances, Driver
P15. Driver Condition
P16. Cited
P17. Violation Codes

Level 4: All Drivers and Non-Motorists

P18. Alcohol/Drug Suspected
P19. Alcohol
P20. Drugs

Level 5: Non-motorists

P21. Non-motorist Number
P22. Non-motorist Type
P23. Non-motorist Action
P24. Contributing Circumstances, Non-motorist
P25. Non-motorist Condition
P26. Non-motorist Location Prior to Impact
P27. Non-motorist Safety Equipment
P28. Number of Vehicle Striking Non-motorist

Level 6: All Injured

P29. Transported to Medical Facility By

Data Elements Obtained by Linkage to Other Data Files

Vehicle

VL1. Vehicle Identification Number

Person

Level 3: All Drivers

PL1. Driver License Class
PL2. Driver License Restrictions
PL3. Driver License Status

Level 6: All Injured Persons

PL4. Injury Area
PL5. Injury Description

Roadway

RL1. Bridge/Structure Identification
RL2. Horizontal Alignment
RL3. Grade
RL4. Part of National Highway System
RL5. Functional Classification of Highway
RL6. Lanes
RL7. Annual Average Daily Traffic
RL8. Trafficway Description
RL9. Average Widths of the Shoulders and Lanes
RL10. Average Median Width
RL11. Access Control
RL12. RR Crossing ID
RL13. Roadway Lighting
RL14. Pavement Markings,Longitudinal
RL15. Bikeway
RL16. Delineator Presence
RL17. Intersection Type
RL18. Traffic control Type at Intersection
RL19. Mainline Number of Lanes at Intersection
RL20. Side-Road Number of Lanes
RL21. Mainline Approach Volumes

Data Elements Derived from Collected Data Elements

Crash

CD1. Crash Severity

CD2. Number of Vehicles
CD3. Number of Motorists
CD4. Number of Non-Motorists
CD5. Total Non-fatal Injuries
CD6. Total Fatal Injuries
CD7. Alcohol/Drug Involvement
CD8. Day of Week

Vehicle (from VL1)

VD1. Vehicle Model Year
VD2. Vehicle Model
VD3. Vehicle Body Type

More Information

Information about and copies of the Model Minimum Uniform Crash Criteria (MMUCC) and their definitions may be obtained from Barbara Harsha, National Association of Governors' Highway Safety Representatives **(Fax 202-789-0946)** and Dennis Utter, National Center for Statistics and Analysis, National Highway Traffic Safety Administration, 400 7th Street, SW, Room 6125, Washington, DC 20590 or send a **FAX request to 202-366-7078** or through the Internet at: www.nhtsa.dot.gov/people/ncsa/codes/mindata/minstand.html

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This public/private collaborative effort has successfully generated a product to meet the needs of highway traffic safety, injury control, and a TEA21 requirement.