MMUCC Guideline

Model Minimum Uniform Crash Criteria

Sixth Edition (2024)

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Chapter 1: Introduction

Law Enforcement Officers collect information from motor vehicle traffic crashes on Police Crash Reports (PCRs). This information describes the characteristics of the events, vehicles, and people involved in the crash. Ideally the data from each PCR are then entered into a State's centralized database, inspected for quality control, amended if necessary, reported, and analyzed by a wide range of stakeholders.

Although all 50 states, the District of Columbia, and several U.S. territories collect data about motor vehicle traffic crashes, there are significant inconsistencies in the way that such data are reported. Definitions, the number and type of data fields, the number and specificity of selections, and the threshold for data collection often vary from jurisdiction to jurisdiction. This makes it especially difficult to compare data across State and local agencies, between States, and between States and the federal government. Determining larger patterns and trends in motor vehicle traffic crash data becomes much more challenging under these circumstances.

To encourage greater uniformity and consistency, the Model Minimum Uniform Crash Criteria (MMUCC) Guideline was created to provide State and local agencies with a standard set of motor vehicle traffic crash data variables they should consider collecting. MMUCC was first developed in 1998 and has been updated four times—in 2003, 2008, 2012, and 2017. This 2024 version is the Sixth Edition of MMUCC.

1.1 Purpose

The purpose of MMUCC is to provide a voluntary guideline that represents a minimum, standardized set of data variables to describe a motor vehicle traffic crash, which are necessary to improve traffic safety within each State and nationally. While some states may utilize the information within this document for creating driver self-report tools, the MMUCC data elements detailed in Chapters 3-8 are intended for collection by trained Law Enforcement Officers. The data elements identified in Chapter 10 are collected in other Traffic Records data systems and integrated with the State electronic crash file.

1.2 Data Elements and Attributes

Throughout this Guideline, the word "element" refers to the data fields on a crash report or in a database and the word "attribute" refers to the values or selections that an element may include. For example, the data element LIGHT CONDITION contains eight attributes: Daylight, Dawn, Dusk, Dark-Lighted, Dark-Not Lighted, Dark-Unknown Lighting, Other, and Unknown. Data elements are incorporated into MMUCC if they are deemed necessary for decision-making or data integration purposes. States may include additional data elements to address their data collection needs or statutory requirements. States are free to implement their own coding system. The previous edition of MMUCC introduced numerical codes along with each attribute. MMUCC Sixth Edition has removed these codes, as maintaining a catalogue of changes to the codes over the years is not practical for this Guideline.

1.3 MMUCC Data Element Format

Data elements are presented using the following format.

Data Element Identifier + Number. Data Element Name

Element Definition:

The element definition will be found here.

Attribute Values:

Number of Allowable Selections

- None (or No)
- Attribute one
- Attribute two
- Attribute three
- …
- Not Applicable
- Other
- Unknown

Remarks:

Guidance and attribute definitions will be found here.

Highway Safety Rationale:

The importance of the element for improving highway safety will be found here.

Implementation Suggestions:

Suggestions for electronic implementation will be found here.

Validation Rules:

- Validation Rule one
- Validation Rule two
- …
- Validation Rule n

Alignment Rules for ELEMENT:

Rules for mapping the State element to the MMUCC element will be found here.

1.4 National Standards

Properly identified and defined vocabulary are necessary for a common language among the Traffic Safety community. The MMUCC Guideline is primarily based on another national standard, the American National Standards Institute (ANSI) D.16 Manual on Classification of Motor Vehicle Traffic Crashes. The ANSI D.16 identifies, defines, and classifies the specific terminology associated with motor vehicle traffic crashes. The MMUCC Guideline conveys the minimum data elements using the terminology and concepts from the ANSI D.16 that a State's PCR should incorporate for nationally common data collection. When used together, the two standards provide the states with the necessary information to collect motor vehicle traffic crashes in a uniform manner. Data elements recommended under other national standards such as the Model Inventory of Roadway Elements (MIRE) developed by the Federal Highway Administration (FHWA) and the National Emergency Medical Services Information System (NEMSIS) produced by NHTSA's Office of EMS were considered in the development process. See Chapter 10: Traffic Records Data Integration (new to the Sixth edition) for information on integrating data from other standardized datasets with the State crash file.

Regarding the overall concepts in this document, it is important to understand a few foundational terms and definitions from the ANSI D.16. Visit the ANSI D.16 for more information and for specific inclusions and exclusions for these and many other terms.

- **2.1.4 transport vehicle:** A transport vehicle consists of one or more devices or animals and their load.
- **2.1.7 land vehicle:** A land vehicle is a transport vehicle which is neither an aircraft nor a watercraft.
- **2.1.8 transport way:** A transport way is any way or place reserved or commonly used for the operation of transport vehicles.
- **2.1.11 land way:** A land way is the space within property lines or other boundary lines of any transport way that is neither an airway nor a waterway.
- **2.2.1 trafficway:** A trafficway is any land way open to the public as a matter of right or custom for moving persons or property from one place to another.
- **2.2.2 private way:** A private way is any land way other than a trafficway. The space within a crossing of a private way and a trafficway shall be considered a trafficway.
- **2.2.6 road vehicle:** A road vehicle is any land vehicle other than a railway vehicle.
- **2.2.7 motor vehicle:** A motor vehicle is any motorized (mechanically or electrically powered) road vehicle not operated on rails.
- **2.2.7.2 working motor vehicle:** A working motor vehicle is a motor vehicle in the act of performing construction, maintenance or utility work related to the trafficway. This "work" may be located within open or closed portions of the trafficway and motor vehicles performing these activities can be within or outside of the trafficway boundaries.

- **2.2.34 in-transport:** The term "in-transport" denotes the state or condition of a transport vehicle which is in motion or within the portion of a transport way ordinarily used by similar transport vehicles. When applied to motor vehicles, "in-transport" means on a roadway or in motion within or outside the trafficway.
    - A transport vehicle which is also a working motor vehicle at the time of the unstabilized situation (See 2.4.4) is not "in-transport."
    - In roadway lanes used for travel during some periods and for parking during other periods, a parked motor vehicle should be considered in-transport during periods when parking is forbidden.

- **2.4.1 harmful event:** A harmful event is an occurrence of injury or damage.

- **2.4.4 unstabilized situation:** An unstabilized situation is a set of events not under human control. It originates when control is lost and terminates when control is regained or, in the absence of persons who are able to regain control, when all persons and property are at rest.

- **2.4.6 crash:** A crash is an unstabilized situation which includes at least one harmful event.

- **2.4.7 contact vehicle:** A contact vehicle is any road vehicle which comes in contact with one or more road vehicles, non-motorists, or property in a collision crash, or has a noncollision crash. A contact vehicle is directly involved in a crash.

- **2.4.8 noncontact vehicle:** A noncontact vehicle is any vehicle other than a contact vehicle. A noncontact vehicle is indirectly involved in a crash.

- **2.4.9 transport crash:** A transport crash is a crash (1) that involves a transport vehicle in-transport, (2) in which the first harmful event is not produced by the discharge of a firearm or explosive device, and (3) that does not directly result from a cataclysm where the timing is such that the cataclysm is occurring at the time of the crash.

- **2.4.12 motor vehicle crash:** A motor vehicle crash is a transport crash that (1) involves a motor vehicle in-transport, (2) is not an aircraft accident or watercraft accident, and (3) does not include any harmful event involving a railway train in-transport prior to involvement of a motor vehicle in-transport.

- **2.4.18 traffic crash:** A traffic crash is a road vehicle crash in which (1) the unstabilized situation originates on a trafficway or (2) a harmful event occurs on a trafficway.

- **2.4.22 motor vehicle traffic crash:** A motor vehicle traffic crash is a motor vehicle crash which is also a traffic crash.

1.5 Federal Transportation Partner Agencies

The MMUCC Sixth Edition was developed by NHTSA's National Center for Statistics and Analysis (NCSA), Office of Traffic Records and Analysis in close collaboration with several key federal stakeholders. NHTSA's Fatality Analysis Reporting System (FARS), Crash Report Sampling System (CRSS), and Crash Investigation Sampling System (CISS) teams played a large role in the development process. NHTSA's Office of EMS provided assistance to align MMUCC with NEMSIS data elements wherever possible. The

Federal Motor Carrier Safety Administration (FMCSA) provided input, and data elements critical to the FMCSA remain included in MMUCC, though some have been modified for better data collection. To recognize the most current definitions, terminology, and beneficial data collection for specific pieces of information, the Federal Highway Administration (FHWA) and the Federal Railroad Administration (FRA) provided important contributions. The National Transportation Safety Board (NTSB) was also an essential partner in the MMUCC Sixth Edition development.

1.6 Aligning to MMUCC

A process for comparing a State's current set of data elements and attributes with those recommended in this Sixth Edition of MMUCC is included in Chapter 12: Aligning to MMUCC . This chapter delineates a process for making the comparison and identifies rules that NHTSA considers when mapping. The intent is to help States identify areas in their data collection systems that are not aligned to MMUCC, and then prioritize those data elements and attributes necessitating modification when the State or locality updates its crash report. For a complete list of MMUCC Guideline Sixth Edition standard data elements, see Appendix D: MMUCC Standard Data Elements.

1.7 Reporting Threshold

MMUCC recommends the following threshold for all motor vehicle traffic crashes:

- All motor vehicle traffic crashes Statewide involving death, personal injury, or property damage of $1,000 or more should be reported and included in the Statewide crash database.
- Crash data should be reported for all people involved, injured and not injured.

Each State should adopt, and encourage their localities to adopt, a reporting threshold that is uniform and consistently implemented Statewide.

1.7.1 FMCSA Threshold

FMCSA has requirements pursuant to Title 49 CFR 390 for collecting particular types of motor vehicle traffic crashes. The following can help States electronically identify and submit the correct types of crashes to the State SafetyNet analyst for reporting to FMCSA.

A crash should be reported to the State's SafetyNet Analyst for reporting to FMCSA if the following conditions are met:

1. POWER UNIT GROSS VEHICLE WEIGHT RATING (GVWR) equals:
    - **Light (10,000 lbs. or less GVWR)**, ***– AND –***
        - VEHICLE TRAILING equals **One Trailer**, **Two Trailers**, **Three Trailers**, or **Yes, Number of Trailers Unknown**, ***– OR –***
        - if MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1: Body Type Category equals **Limo** or **Passenger Van**, ***– OR –***
        - if HAZARDOUS MATERIALS INVOLVEMENT Subfield 2: Placard equals **Yes**.
    - **Medium (10,001 – 26,000 lbs. GVWR)**.
    - **Heavy (Greater than 26,000 lbs. GVWR)**.

– AND –

2. EXTENT OF DAMAGE equals **Disabling Damage** – AND – VEHICLE TOWED equals **Towed**

– OR –

3. Any INJURY STATUS in the crash equals **(K) Fatal Injury**

– OR –

4. Any INJURY STATUS in the crash equals **(A) Suspected Serious Injury**, **(B) Suspected Minor Injury**, or **(C) Possible Injury** – AND – TRANSPORTED TO FIRST MEDICAL FACILITY BY equals **EMS Air**, **EMS Ground**, **EMS Unknown Mode**, **Law Enforcement**, **Transported Unknown Source**, or **Other**.

1.7.2 FARS Threshold

All fatal crashes should be reported to the State's FARS office. To be included in NHTSA's FARS data collection, a crash must involve at least one motor vehicle traveling on a trafficway customarily open to the public (a motor vehicle traffic crash) and must result in the death of at least one person (occupant of a vehicle or a non-motorist) within 30 days (720 hours) of the crash. If it is unknown whether a crash qualifies for FARS, contact the State's FARS office for verification.

1.8 New Features in the Sixth Edition

Below are important highlights of the Sixth Edition.

- To standardize criteria, decisions, and data element format included in this and future editions of MMUCC, the Sixth Edition now includes a set of MMUCC Guiding Principles.

- Data elements that can be obtained from another State data system are in the new Chapter 10: Traffic Records Data Integration. These data elements are identified by their appropriate traffic records data system and national standard, where applicable. For specific information on each data element, please visit the applicable national standard.

- New System Populated Data Elements provide tracking information on the status of a crash record in the workflow and enable file linkage with other data systems. NOTE: Although these data elements are not manually completed by Law Enforcement Officers at the scene of a crash, several data elements in this chapter are considered part of the MMUCC Guideline national standard and are included in a State's MMUCC alignment percentage. For a complete list of MMUCC Guideline Sixth Edition standard data elements, see Appendix D: MMUCC Standard Data Elements.

- Numerical coding values from the Fifth Edition have been removed. States are free to implement their own values.

- When applicable, interface implementation suggestions have been added to the data elements to ease data collection efforts.

- Element-specific alignment rules have been moved to each applicable data element.

- Many definitions have been added to the data elements and the Glossary of Terms.

- A new chapter explains the importance of the Narrative and Diagram in crash reporting.

- Validation rules are listed under each applicable data element. Error rules and warning rules are listed in Appendix C: Edit Rules.

- As most of the country has moved to electronic data collection, the paper based MMUCC Crash Report has been discontinued and removed from the Guideline.

- Several data elements have been reconfigured for simpler data collection. This will enable Law Enforcement Officers to quickly answer the questions and move on without necessitating looking up definitions, rules, or other guidance. This includes several data elements critical for FMCSA crash reporting. The result will be more accurate and efficient data collection.

- The Roadway, Fatal, Large Vehicles and Hazardous Materials, and Dynamic sections have been removed to accommodate the new layout and changing data needs.

- Data elements that are only applicable to Drivers have been organized in the new chapter on Driver Data Elements.

- Discrepancies between MMUCC and NHTSA's FARS and CRSS data systems have been substantially reduced. By doing so, the states and NHTSA will collect the same information using the same formats. This will benefit states wishing to participate in NHTSA's Electronic Data Transfer (EDT) protocol.

1.9 Evaluation and Development Timeline

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A summary of changes to MMUCC from the Fifth Edition to the Sixth Edition is shown in Appendix B: Summary of Changes to the MMUCC Guideline, Fifth Edition (2017).

1.10 Future Updates

MMUCC is generally updated every five years. The next update is tentatively scheduled for 2029. In the years preceding the next update, traffic records experts and the public will have opportunities to provide suggestions for improving MMUCC for the Seventh Edition.

Chapter 2: MMUCC Guiding Principles

The following principles are used to standardize the data elements included in this and future editions the Guideline. Exceptions to one or more principles shall be identified in the pertinent data element.

1. **An Element Must be Appropriate.**
   There must be a demonstrated link between the element and its use for problem identification and countermeasures development and evaluation. Data elements describing the location, date, time, people involved, and others are important for Law Enforcement to document the events at the scene. When standardized, they are also useful for integrating with other data systems.

2. **An Element Must be Applicable.**
   Elements and attributes must be applicable to a majority of the States, District of Columbia, and the U.S. Territories.

3. **An Element Must be Comprehensive.**
   The list of attributes must be exhaustive (cover all possibilities). The attributes must be mutually exclusive or provide hierarchy guidance when more than one applies.

4. **An Element Must Measure a Single Concept.**
   Attributes and Subfields within a data element must have relevance, share the same concept, and show a direct relationship.

5. **Each Element Format Includes:**
   a) An Element Definition
   b) Attributes
   c) Remarks (including definitions and guidance as appropriate)
   d) A Highway Safety Rationale
   e) Implementation Suggestions
   f) Validation Rules
   g) Alignment Rules

6. **Existing National Standards Documentation will be Followed.**
   ANSI D16, AAMVA D20, FARS, CRSS, MIRE, Motor Carrier Management Information System (MCMIS), the Manual on Uniform Traffic Control Devices (MUTCD), and other national standards will be used where applicable. However, modifications to definitions and values may be made as appropriate for this document and the intended audience.

7. **The Data Set Collected from the Scene Must be Reasonable.**
   Data collected from the scene of the crash must be feasible and accessible to Law Enforcement. Data for analytical purposes will be derived from existing data elements or obtained through integration with other data files whenever possible.

8. **Integrated Data Elements Must Provide the Source**.
   Each data element obtained from traffic records datasets other than the crash file must list the source dataset (e.g., roadway file, driver license file, EMS file) and must exist in that source dataset. To avoid discrepancies between MMUCC and other national standards, integrated data elements will only be referenced from the national standard for that data file as appropriate, and not recreated in detail in the MMUCC document.

Chapter 3: System Populated Data Elements

The following data elements are either index key for crash records in a database, case categorization elements, or elements that can help tracking the status of a crash record in the workflow. For states participating in NHTSA's EDT program, four elements are required to be provided to NHTSA for its data collection programs. The other data elements and information are optional and would help NHTSA understand the case status to better use the data. The optional items would also be helpful for the State to track the flow of crash records. The data elements in this chapter should be system populated and should not be the responsibility of Law Enforcement Officers to collect at the scene of the crash.

3.1 Essential System Populated Data Elements

The following four data elements are part of the MMUCC Guideline data standard. Data elements in this section are given the element identifier **S** (e.g., S1, S2, S3).

- S1. State Unique Crash ID
- S2. Agency Police Jurisdiction
- S3. Police Reported/Citizen Reported
- S4. State Reportable Crash (Y/N)

3.2 Optional System Populated Data Elements

For States participating in NHTSA's EDT program, the following data elements are suggested to provide to NHTSA. These data elements are for tracking the case status and quality control efforts. Optional data elements are not given an element identifier and are not part of the MMUCC Guideline data standard.

- **PAR Number / PCR Number / Local Case Number**
  Law Enforcement Agency-assigned identifier for a crash. this could be used to cross check if there is any duplicate case or used for FARS Early Notification (EN) matching.

- **Date Crash Record Created**
  Date the crash record is initially created or reported at the Police Jurisdiction (PJ) level.

- **Date Entered into State Central** Database
  Date the crash record is entered into the State's centralized database.

- **Date QC'd**
  Date the crash record is reviewed for quality control in the State system. This field can be left blank if quality control hasn't been performed yet.

- **Crash Amended (Y/N)**
  Indicates whether a record was amended for an existing crash record. This could include an update to the crash records, such as adding information for a field, adding a person to the crash record, etc.

- **Date when the Crash Record was Last Updated by State**
  Date when the crash record was last updated by State. This field can be left blank if there is no amendment or update.

- **Investigation Completed (Y/N)**
  Indicates whether the crash investigation is completed or not.

- **Date when Investigation** Completed
  Date when the investigation was completed.

- **Submission Type**
  Type of crash report submission from the PJs: electronic or paper. The manual PCRs would be manually coded into the State's system.

3.3 State Crash Repository Information

For States participating in NHTSA's EDT program, the following is information about the State Crash Repository from which NHTSA is receiving data. NHTSA would like to know the data reporting threshold for the crash repository. This information can be included in the general description of the State's crash repository.

- **Property Damage Threshold (dollar value)**
  The damage value used for the crash to be reported/included in the State Crash System.

- **Reporting of Non-trafficway Crashes**
  Yes/No. Yes indicates that the State collects information on the crashes occurring outside of trafficway.

S1. State Unique Crash ID

Element Definition:

The unique crash report number (also referred to as the State Case Number) maintained in the State's centralized database.

Attribute Values:

- State Unique Crash ID

Remarks:

This is the key element to identify a crash record in the State's crash database.

Highway Safety Rationale:

This data element is critical for uniquely identifying a traffic crash record in a State, linking traffic record data files, tracking and updating information, and for reference identification.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for STATE UNIQUE CRASH ID

- None

S2. Agency (Police Jurisdiction)

Element Definition:

Law Enforcement Agency handling the crash.

Attribute Values:

- NCIC Originating Agency Identifier (ORI Code)

Remarks:

The NCIC ORI is a unique identifier for each Law Enforcement Agency assigned by the Department of Justice. This is used by CRSS and CISS.

Highway Safety Rationale:

This data element is critical for identifying the initial investigation agency and aggregating and locating data.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for AGENCY (POLICE JURISDICTION)

- None

S3. Police Reported / Citizen Reported

Element Definition:

Indicates whether the crash was reported by the police or by a citizen.

Attribute Values:

- Police
- Citizen

Remarks:

If a State participating in NHTSA's EDT program sends only police reported crashes to NHTSA, NHTSA can default this to "police" on NHTSA's side. If a State sends all crashes, this flag is needed from the State for each case.

Highway Safety Rationale:

This data element is critical for data filtering. NHTSA's EDT program will use this to identify police reported crashes of interest for analysis.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for POLICE REPORTED/CITIZEN REPORTED

- None

S4. State Reportable Crash (Y/N)

Element Definition:

Indicates whether a crash was required to be reported by State law.

Attribute Values:

- Yes
- No

Remarks:

If a State participating in NHTSA's EDT program sends only reportable crashes to NHTSA, NHTSA can default this to "Yes" on NHTSA's side. If a State sends all crashes, this flag is needed from the State for each case.

Highway Safety Rationale:

This data element is critical for determining if the crash meets the State's threshold for a reportable crash.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for STATE REPORTABLE CRASH (Y/N)

- None

Chapter 4: Crash Data Elements

The crash data elements describe the overall characteristics of the crash. Data elements in this chapter are given the element identifier **C** (e.g., C1, C2, C3).

C1. Crash Date

Element Definition:

The date when the crash occurred.

Attribute Values:

Subfield 1: Year (Specify)

- Year (YYYY)

Subfield 2: Month (Select 1)

- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December
- Unknown

Subfield 3: Day (Select 1)

- Day (01-31)
- Unknown

Remarks:

- None

Highway Safety Rationale:

This information is important for management/administration, evaluation, and linkage.

Implementation Suggestions:

- CRASH DATE can be used to retrieve information from other Traffic Records data systems. See Chapter 10: Traffic Records Data Integration for details.

Validation Rules:

- CRASH DATE Subfield 3: Day must not be greater than the current date.
- CRASH DATE Subfield 3: Day must not exceed the number of days in Subfield 2: Month.

Alignment Rules for CRASH DATE

- None

C2. Crash Time

Element Definition:

The time at which the crash occurred.

Attributes Values:

Specify or select Unknown

- Enter Valid Military Time (0000 – 2359)
- Unknown

Remarks:

Code Midnight as "0000."

Highway Safety Rationale:

This information is important for management/administration, evaluation, and linkage.

Implementation Suggestions:

- None

Validation Rules:

- CRASH TIME must be in the range 0000 to 2359 or **Unknown**.

Alignment Rules for CRASH TIME

- None

C3. Time of Roadway Clearance

Element Definition:

The time when all lanes became available for normal traffic flow.

Attribute Values:

Select 1 or specify time

- Not Applicable, Travel Lanes Not Blocked
- Enter Valid Military Time (0000 – 2359)
- Unknown

Remarks:

Code Midnight as "0000."

Highway Safety Rationale:

This information is used by the State and FHWA Traffic Incident Management (TIM) program to measure performance and identify opportunities to improve.

Implementation Suggestions:

- None

Validation Rules:

- TIME OF ROADWAY CLEARANCE fields must be in the range 0000 to 2359, **Not Applicable**, **Travel Lanes Not Blocked**, or **Unknown**.

Alignment Rules for TIME OF ROADWAY CLEARANCE

- None

C4. County or Equivalent

Element Definition:

The county or equivalent entity in which the crash physically occurred.

Attribute Values:

Specify 1

- County or Equivalent Name (FIPS Code)
- Unknown

Remarks:

The standard format shall be the name of the county (or equivalent) followed by the Federal Information Processing Series (FIPS) code. Examples from the State of Maryland:

- Allegany (24001)
- Anne Arundel (24003)
- Baltimore (24005)
- Calvert (24009)

County FIPS codes may be found from the U.S. Census Bureau.

➢ **County or Equivalent Name (FIPS Code) -** is the name of the county in which a crash occurred. The corresponding Federal Information Processing Series (FIPS) code is a numeric code which uniquely identifies geographic locations.

Highway Safety Rationale:

The crash location is important for analyses of local traffic safety programs, linkage of the crash file to other State traffic records data files, and intrastate comparisons.

Implementation Suggestions:

- Create a dropdown list of the counties (or county equivalents) in the State, followed by their FIPS code.

Validation Rules:

- None

Alignment Rules for COUNTY OR EQUIVALENT

- None

C5. Global Position (Latitude, Longitude)

Element Definition:

The latitude and longitude where the FIRST HARMFUL EVENT of the crash occurred.

Attribute Values:

Specify or select Not Available or Unknown

- Latitude (degrees.minutes.seconds)
- Longitude (degrees.minutes.seconds)
- Not Available
- Unknown

Remarks:

The location information in a crash file must have the capability to be linked to location information in other traffic records systems to study site-specific safety issues.

➢ **Latitude/Longitude:** The optimum method for recording crash locations is by Lat/ Long coordinates, which are universal. States can collect the Global Positioning System (GPS) coordinates by one of three recommended methods:

1) directly using GPS devices available on scene,
2) using clickable maps integrated into electronic crash reporting software, or
3) converting a LRS (Linear Referencing System) coordinate to Lat/Long coordinates.

It should be noted that use of GPS units requires data collection agencies to verify the relative accuracy of those units and to maintain them (regular calibration, etc.) to ensure quality data.

Highway Safety Rationale:

The geographic coordinates of the crash location are critical for problem identification, prevention programs, engineering evaluations, spatial analysis, and linking traffic records data files.

Implementation Suggestions:

- GLOBAL POSITION (LATITUDE, LONGITUDE) can be used to retrieve information from other Traffic Records data systems. See Chapter 10: Traffic Records Data Integration for details.

Validation Rules:

- States should set up the minimum and maximum value for latitude and longitude based on the States' boundaries.

Alignment Rules for GLOBAL POSITION (LATITUDE, LONGITUDE)

- None

C6. First Harmful Event

Element Definition:

The first injury- or damage-producing event of the crash.

Attribute Values:

Select 1

Group 1: Non-Collision Harmful Events

- Rollover/Overturn
- Cargo/Equipment Loss, Shift, or Damage (harmful)
- Fell/Jumped from Motor Vehicle
- Fire/Explosion
- Immersion, Full or Partial
- Jackknife (harmful to this vehicle)
- Thrown or Falling Object
- Pavement Surface Irregularity (Ruts, Potholes, Grates, etc.)
- Injured in Vehicle (Non-Collision)
- Gas Inhalation
- Other Non-Collision

Group 2: Collision with Motor Vehicle

- Motor Vehicle In-Transport
- Parked Motor Vehicle
- Working Motor Vehicle

Group 3: Collision with Non-Fixed Object

- Non-Motorist
- Live Animal
- Ridden Animal or Animal Drawn Conveyance
- Railroad Vehicle
- Road Vehicle on Rails
- Strikes Object at Rest That Had Fallen from Motor Vehicle In-Transport
- Striking/Struck by Object/Cargo/Person from Other Motor Vehicle In-Transport
- Other Object (Not Fixed)
- Unknown Object Not Fixed

Group 4: Collision with Fixed Object

- **Subgroup 1: Bridge Parts**
  - Bridge Overhead Structure
  - Bridge Pier or Support
  - Bridge Rail (Includes Parapet)
- **Subgroup 2: Structures**
  - Building
  - Wall
- **Subgroup 3: Traffic Barriers and Parts**
  - Cable Barrier

  - Concrete Traffic Barrier
  - Guardrail Face
  - Guardrail End
  - Guardrail End Treatment
  - Impact Attenuator/Crash Cushion
  - Other Traffic Barrier
- **Subgroup 4: Posts, Poles, and Supports**
  - Traffic Sign Support
  - Traffic Signal Support
  - Utility Pole/Light Support
  - Other Post, Pole, or Other Supports
- **Subgroup 5: Other Trafficway Components**
  - Culvert
  - Curb
  - Ditch
  - Embankment
- **Subgroup 6: Other Specific Fixed Objects**
  - Boulder
  - Ground
  - Tree (Standing Only)
  - Shrubbery
  - Snowbank
  - Fence
  - Mailbox
  - Fire Hydrant
- **Subgroup 7: Other and Unknown**
  - Other Fixed Object
  - Unknown Fixed Object

Group 5: Unknown

- Unknown
- Harmful Event, Details Not Reported

Remarks:

➢ **Bridge Overhead Structure** – Any part of a bridge that is over the reference or subject roadway. In crash reporting, this typically refers to the beams or other structural elements supporting a bridge deck.

➢ **Bridge Pier or Support** – Support for a bridge structure including the ends (abutments).

➢ **Bridge Rail (Includes Parapet)** – A barrier attached to a bridge deck or a bridge parapet to restrain motor vehicles, pedestrians, or other users.

➢ **Cable Barrier** – Refers to a flexible barrier system which uses several cables typically supported by steel posts. These can be used on the roadside or as a median barrier. These barriers are designed to help lessen impact or keep vehicles within the confines of the road.

- **Cargo/Equipment Loss, Shift, or Damage (harmful)** – refers specifically to the loss or shift of items carried on or in a motor vehicle or its trailing unit, causing damage and/or injury to the vehicle, its occupants, its parts, trailing unit, or the cargo itself. Harm can be measured in loss of monetary value from unrecoverable cargo loss as well as physical damage. For example: 1) A pickup truck brakes rapidly to avoid a collision. This causes a piece of lumber in the pickup bed to smash through the rear window. 2) Unsecured cargo shifts inside a box truck and bursts through the wall of the trailer. 3) Pallets of beehives on a flatbed truck fall off the truck on a sharp curve causing the hives to open and the bees to fly away.

- **Concrete Traffic Barrier** – Refers to the longitudinal traffic barriers constructed of concrete and located on the outside of the road surface, in a median, or in gore areas. This includes all temporary concrete barriers regardless of location (i.e., temporary barrier on a bridge being used to control traffic during bridge repair/construction).

- **Culvert –** is used when the vehicle strikes an enclosed structure providing free passage of water under a roadway with a clear opening of less than twenty feet measured along the center of the roadway, resulting in injury or damage.

- **Curb –** is used when the vehicle strikes a raised edge or border to a roadway, resulting in injury or damage. Curbs may be constructed of concrete, asphalt, or wood and typically have a face height of less than 9 inches.

- **Ditch** – is used when the vehicle strikes a trench used for drainage purposes, resulting in injury or damage. A ditch ends where a culvert begins and resumes on the opposite side of the culvert.

- **Embankment –** is used when the vehicle strikes an earthen structure used to support a channel or roadway, resulting in injury or damage.

- **Fell/Jumped from Motor Vehicle** – Motor vehicle occupant either involuntarily fell or intentionally leapt from the vehicle.

- **Fence** - a barrier constructed to prevent escape or intrusion or to mark a boundary. A fence can be made of wood, metal, stone, etc., and includes the fence posts and gates.

- **Fire/Explosion –** A fire or explosion that was the cause or result of the crash. A fire/explosion is a non-collision harmful event.

- **Guardrail End –** The exposed end of the guardrail, without treatment.

- **Guardrail End Treatment** – a device shielding the end of a guardrail that is designed to absorb the energy of an impact.

- **Guardrail Face –** Surface area of the guardrail other than the end. Its function is to redirect the vehicle back onto the roadway.

- **Immersion, Full or Partial –** occurs when a motor vehicle enters a body of water and results in injury or damage. This attribute would also be used if the vehicle came to rest in water and the depth cannot be ascertained.

- **Impact Attenuator/Crash Cushion –** A barrier at a spot location, less than 25 ft. (7.6 m) away, designed to prevent an errant motor vehicle from impacting a fixed object hazard by gradually decelerating the motor vehicle to a safe stop or by redirecting the motor vehicle away from the hazard.

- **Jackknife (harmful to this vehicle) –** applies to a condition that occurs to a combination vehicle while in motion. The condition reflects a loss of control of the vehicle by the driver in which the trailer(s) yaws from its normal straight-line path behind the power unit, striking the power unit, or other trailers, causing damage to the power unit or trailer. Jackknife should only be coded as a harmful event if there is clear indication of damage to the jackknifed vehicle or injury to its occupants caused by the jackknife.

- **Live Animal** – is used for collisions with live animals (domesticated or wild) that are not themselves being used as transportation or to draw a wagon, cart, or other transport device. Use Live Animal if it cannot be determined if the struck animal is alive, dead, or if it was being ridden or drawing a transport device. If the animal was deceased prior to the crash, then use Other Object (Not Fixed).

- **Motor Vehicle In-Transport** – A motor vehicle is any motorized (mechanically or electrically powered) road vehicle not operated on rails. When applied to motor vehicles, "in-transport" refers to being in motion or on a roadway (travel lanes). Inclusions: motor vehicle in traffic on a highway, driverless motor vehicle in motion, motionless motor vehicle abandoned on a roadway, disabled motor vehicle on a roadway, etc.

- **Non-Collision Harmful Events –**Any motor vehicle crash harmful event not involving a collision.

- **Non-Motorist –** Any person who is not an occupant of a motor vehicle. This includes pedestrians, bicyclists, other cyclists, and occupants of non-motor vehicle transport devices.

- **Other Fixed Object –** is used when the object is fixed (considered a permanent structure) and is not described by any of the other fixed object attributes. This attribute excludes collisions with curbing that forms raised islands, medians, or separators (see Curb).

  Examples:
  - Bus shelters
  - Pedestrian walkways
  - Toll booths
  - Guy wires supporting utility poles
  - U. S. Mailbox for public use

  Other examples include property damage to standing crops, yards, and other vegetation (excluding Shrubbery, Tree (Standing Only), and Ground).

- **Other Non-Collision –** A non-collision event not captured by other non-collision event attributes. For example, driving off a cliff where damage is not the result of an overturn or a collision with a fixed object, an unbelted passenger hits his or her head on the roof of a vehicle and is injured when the vehicle travels over a sharp dip in the road, situations where a passenger is sickened or dies due to carbon monoxide fumes leaking from a Motor Vehicle In-Transport. This also includes when an occupant of a vehicle is run over by his/her own vehicle after falling from the vehicle.

- **Other Object (Not Fixed) –** is used when a motor vehicle in-transport strikes a non-fixed object that is known NOT to have been the cargo or part of another motor vehicle in-transport, or when it is UNKNOWN whether the object was the cargo or part of another motor vehicle in-transport (i.e., refers to objects such as a dead body, animal carcass, construction cones or barrels, an unattached trailer, a bicycle without a rider, downed tree limbs or power lines, or debris from a prior crash). For objects that have become separated from a motor vehicle in-transport not as a result of a prior crash, use attribute Strikes Object at Rest That Had Fallen from Motor Vehicle In-Transport.

- **Other Post, Pole, or Other Supports** – is used for posts other than traffic signs, traffic signals, utility poles, or light supports (e.g., reflectors on poles alongside of roadway, parking meters, flag poles, etc.). For mailbox posts, use **Mailbox**. For fence posts, use Fence.

- **Other Traffic Barrier –** Longitudinal barriers other than guardrails, concrete traffic barriers, or cable barriers. They may be composed of material such as wood or rock.

- **Parked Motor Vehicle –** The ANSI D.16 defines a parked motor vehicle is a motor vehicle not in-transport, other than a working motor vehicle, that is not in motion and not located on the roadway (travel lanes). In roadway lanes used for travel during some periods and for parking during other periods, a parked motor vehicle is considered in-transport during periods when parking is forbidden. This attribute includes any stopped motor vehicle where the entirety of the vehicle's primary outline as defined by the four sides of the vehicle (e.g., tires, bumpers, fenders) and load, if any, is not within the roadway.

- **Railroad Vehicle –** Any land vehicle (train, engine) that is (1) designed primarily for moving people or property from one place to another on rails and (2) not in use on a land way other than a railroad.

- **Ridden Animal or Animal Drawn Conveyance -** is used for any type of animal being ridden at the time of the crash or any device being drawn by an animal (e.g., wagon, carriage, sleigh).

- **Rollover/Overturn –** is used when a motor vehicle rotates (rollover) at least one quarter turn onto its side or end. For motorcycles, laying the motorcycle down on its side is sufficient to use this attribute as a harmful event if damage or injury is produced.

- **Strikes Object at Rest That Had Fallen from Motor Vehicle In-Transport** – Used when a motor vehicle in-transport impacts a non-fixed object at rest that is known to have been the cargo or part of another motor vehicle in-transport. Do not use this attribute for debris from a prior crash. This attribute does not include vehicle occupants that are ejected or fall from a motor vehicle in-transport.

- **Striking/Struck by Object/Cargo/Person from Other Motor Vehicle In-Transport –** Motor vehicle or non-motorist is struck by cargo or other object that was set in motion by a motor vehicle. Examples include logs falling off or coming loose from a truck and striking a vehicle behind the truck, or a motor vehicle striking a parked car and pushes it into a passing pedestrian.

- **Thrown or Falling Object –** A non-collision harmful event where any object is thrown (intentionally or unintentionally) and impacts an in-transport vehicle, or falls onto, into, or in the path of an in-transport motor vehicle. This excludes contacts made by loads or objects set in-motion by a motor vehicle (see Striking/Struck by Object/Cargo/Person from Other Motor Vehicle In-Transport).

- **Traffic Sign Support –** A pole, post, or other type of support for a traffic sign.

- **Traffic Signal Support –** A pole, post, or other type of support for a traffic signal.

- **Tree (Standing Only) –** Tree is upright and in the ground. A standing tree is a fixed object as opposed to a fallen tree that is a moveable object.

- **Utility Pole/Light Support –** Constructed for the primary function of supporting an electric line, telephone line or other electrical/electronic transmission line or cable. This includes the support poles for roadway lighting.

- **Working Motor Vehicle –** The ANSI D.16 defines a working motor vehicle as a motor vehicle in the act of performing construction, maintenance, or utility work related to the trafficway. The "work" may be located within open or closed portions of the trafficway, and the vehicle performing these activities can be within or outside the trafficway boundaries. A working motor vehicle at the time of the unstabilized situation is not considered "in-transport."

Highway Safety Rationale:

This data element is essential for understanding crash causation and identifying traffic safety countermeasures.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for FIRST HARMFUL EVENT

This MMUCC element refers to the first harmful event occurring in the entire crash. The State must have a similar element at the Crash level.

For successful mapping, State attributes within each group must have the same definitions as the MMUCC Guideline.

Consider the following when mapping to the "Other" attributes:

- To align with the attribute **Other Non-Collision**, the State must possess all other attributes in Group 1: Non-Collision Harmful Events.
- To align with attribute **Other Object (Not Fixed)**, the State must possess all other attributes in Group 3: Collision With Non-Fixed Object.
- To align with attribute **Other Fixed Object**, the State must possess all other attributes in Group 4: Collison With Fixed Object.
- To align with attribute **Other Traffic Barrier**, the State must possess all other attributes in Group 4: Collison With Fixed Object, Subgroup 3: Traffic Barriers and Parts.
- To align with attribute **Other Post, Pole, or Other Supports**, the State must possess all other attributes in Group 4: Collison With Fixed Object, Subgroup 4: Posts, Poles, and Supports.

C7. Location of First Harmful Event Relative to the Trafficway

Element Definition:

The location of the FIRST HARMFUL EVENT as it relates to its position within or outside the trafficway.

Attribute Values:

Select 1

- On Roadway
- On Shoulder
- On Roadside
- On Median
- Pedestrian Refuge Island or Traffic Island
- In Parking Lane/or Zone
- Separator
- Gore
- Off-Roadway, Location Unknown
- Outside Trafficway
- Unknown

Remarks:

See Figure 1: Diagram of a Trafficway for diagrams of the trafficway.

- **Gore –** An area of land where two roadways diverge or converge. The area is bounded on two sides by the edges of the roadways, which join at the point of divergence or convergence. The direction of traffic must be the same on both sides of these roadways. The area includes shoulders or marked pavement, if any, between the roadways.

- **In Parking Lane/Zone –** The FIRST HARMFUL EVENT of the crash occurred in a location outside the roadway in a space designated for parking motor vehicles.

- **Off-Roadway, Location Unknown –** The FIRST HARMFUL EVENT is off the roadway, but the location of the property line is unknown.

- **On Median –** An area of trafficway between parallel roads separating travel in opposite directions. A median should be four or more feet wide. A median can be depressed, raised, or flush with the travel way surface. A median if flush or painted without a barrier must be four or more feet wide.

- **On Roadside –** The outermost part of the trafficway from the property line to other boundary in to the edge of the first road. Inclusions: area between edge of trafficway and edge of roadway with no shoulder, and area between edge of trafficway and edge of shoulder. Exclusions: roadways, shoulders, separators, and medians.

- **On Roadway –** The portion of the trafficway normally designed for vehicular traffic (i.e., travel lanes).

- **On Shoulder -** (if present) is that part of a trafficway contiguous with the roadway for emergency use, for accommodation of stopped vehicles, and for lateral support of the roadway structure. A shoulder should be improved or maintained for these purposes. Not all roadways have shoulders.

- **Outside Trafficway –** Not physically located on any land way open to the public as a matter of right or custom for moving people or property from one place to another.

- **Pedestrian Refuge Island or Traffic Island –** A defined area between traffic lanes for control of vehicular movements, for toll collection, or for pedestrian refuge. Examples include areas:
  - between roadways of a trafficway meant to allow for a non-motorist to pause while traveling from one side of a trafficway to the other side;
  - for channelizing the flow of traffic at an intersection;
  - in the center of a traffic circle or roundabout;
  - dividing the entrance and exit in a driveway access.

- **Separator –** A separator is the area of a trafficway between parallel roads separating travel in the same direction or separating a frontage road from other roads.

Highway Safety Rationale:

This data element is important to categorize motor vehicle traffic vs non-traffic crashes and the relationship to the trafficway infrastructure.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY:

- None

C7. Location of First Harmful Event Relative to the Trafficway

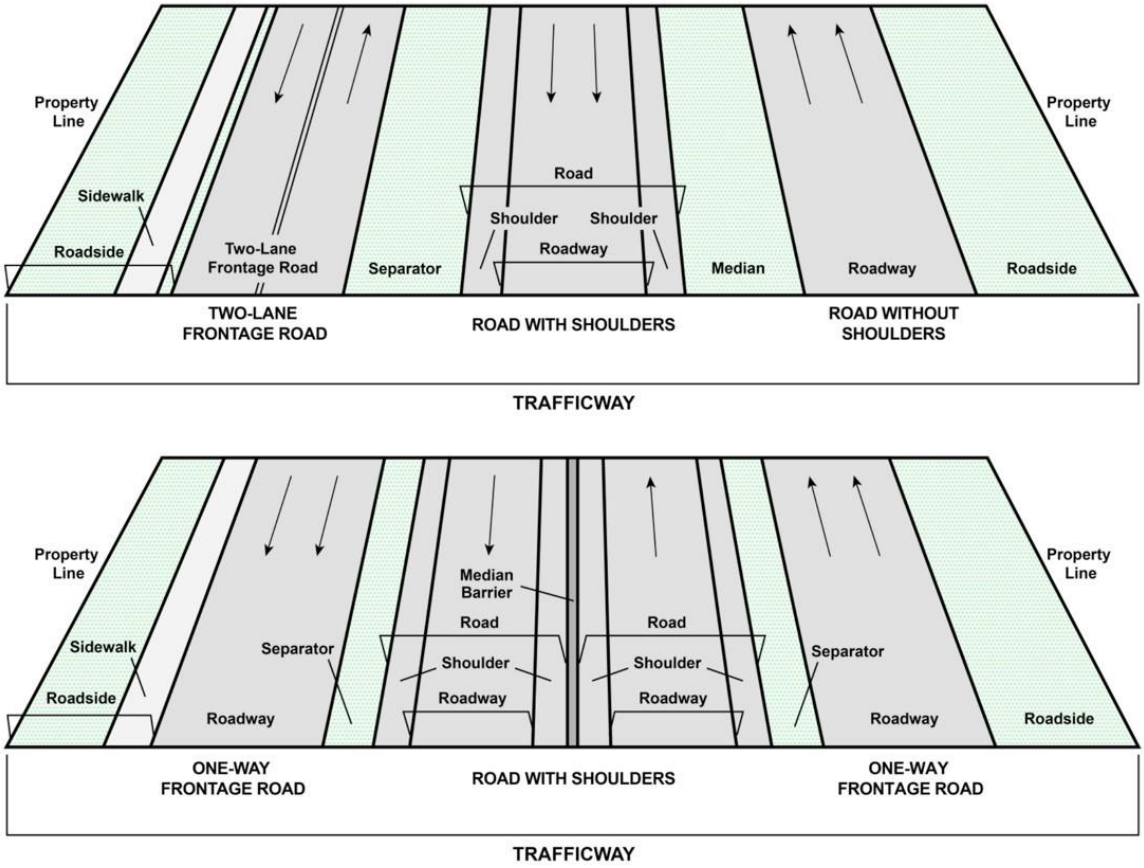


Figure 1: Diagram of a Trafficway

C8. Manner of Collision of the First Harmful Event

Element Definition:

This element identifies the orientation of two Motor Vehicles In-Transport when they are involved in the FIRST HARMFUL EVENT of a collision crash. If the FIRST HARMFUL EVENT is not a collision between two motor vehicles in-transport, it is classified as such.

Attribute Values:

Select 1

- The First Harmful Event was Not a Collision with a Motor Vehicles In-Transport
- Angle
- Front to Front
- Front-to-Rear or Rear-to-Front
- Rear to Rear
- Rear-to-Side or Side-to-Rear
- Sideswipe, Opposite Direction
- Sideswipe, Same Direction
- Other
- Unknown

Remarks:

See Figure 2: Manner of Collision and Associated Crash Diagrams for diagrams of the manner of collision.

- **Angle –** A crash where two motor vehicles impact at an angle. For example, the front of one motor vehicle impacts the side of another motor vehicle.

- **Front to Front –** The front end of one vehicle collides with the front end of another vehicle, while the two vehicles are traveling in opposite directions.

- **Front-to-Rear or Rear-to-Front** – is used when a collision occurs between the rear of one vehicle and the front of another vehicle. If this attribute is selected, the Initial Points of Contact for the vehicles involved in the FIRST HARMFUL EVENT must be the rear of one vehicle and the front of the other vehicle.

- **Rear to Rear –** The rear of a vehicle makes contact with the rear of another. This can happen when two vehicles are backing up.

- **Rear-to-Side or Side-to-Rear** – The rear of a vehicle makes contact with the side of another. This can happen when a vehicle backs up into the side of another vehicle or a vehicle hydroplanes and the side of the vehicle contacts the rear of another vehicle.

- **Sideswipe, Opposite Direction –** Two vehicles traveling in the opposite direction impact one another where the initial engagement does not overlap the corner of either vehicle so that there is no significant involvement of the front or rear surface areas. The impact then swipes along the surface of the vehicle parallel to the direction of travel.

- **Sideswipe, Same Direction –** Two vehicles traveling in the same direction impact one another where the initial engagement does not overlap the corner of either vehicle so that there is no significant involvement of the front or rear surface areas. The impact then swipes along the surface of the vehicle parallel to the direction of travel.

- **The First Harmful Event was Not a Collision with a Motor Vehicle In-Transport -** is used when the FIRST HARMFUL EVENT is not an impact between two in-transport motor vehicles.

Highway Safety Rationale:

This data element is important for evaluating motor vehicle safety standards, driver behavior, infrastructure design, and for understanding crash causation.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for MANNER OF COLLISION OF THE FIRST HARMFUL EVENT

Some States may have these attributes under an element called "Crash Type." If the element and attribute definitions are the same as in MMUCC, they align.

Please refer to the illustrations in Figure 2: Manner of Collision and Associated Crash Diagrams and the definitions before conducting mapping to ensure that the attributes in the crash report represent the exact same attributes as in the MMUCC Guideline. For example, some State crash reports may use "Right Angle" rather than **Angle** and define the crash type as "two vehicles approaching from non-opposing angular directions." However, in the MMUCC Guideline, the angle crash can have two vehicles approaching from any direction. In this case, the State cannot get credit for alignment due to the definition differences.

Some State crash reports may collect the direction of force, rather than the vehicle orientation at contact. Be aware that the MMUCC element is looking for the orientation of the vehicles when they made contact, regardless of the direction of force.

Some State crash reports may use the crash type "Backing," which is the combination of MMUCC attributes **Rear-to-Side or Side-to-Rear** and **Rear to Rear**. If so, the State does not align to either of the two MMUCC attributes.

Also, be aware that the MMUCC element is looking for contact made in the FIRST HARMFUL EVENT of the entire crash. Contact between vehicles after the FIRST HARMFUL EVENT are not considered in this element. If the State element collects contact between vehicles at any other time during the crash events, the State element does not align with the MMUCC element.

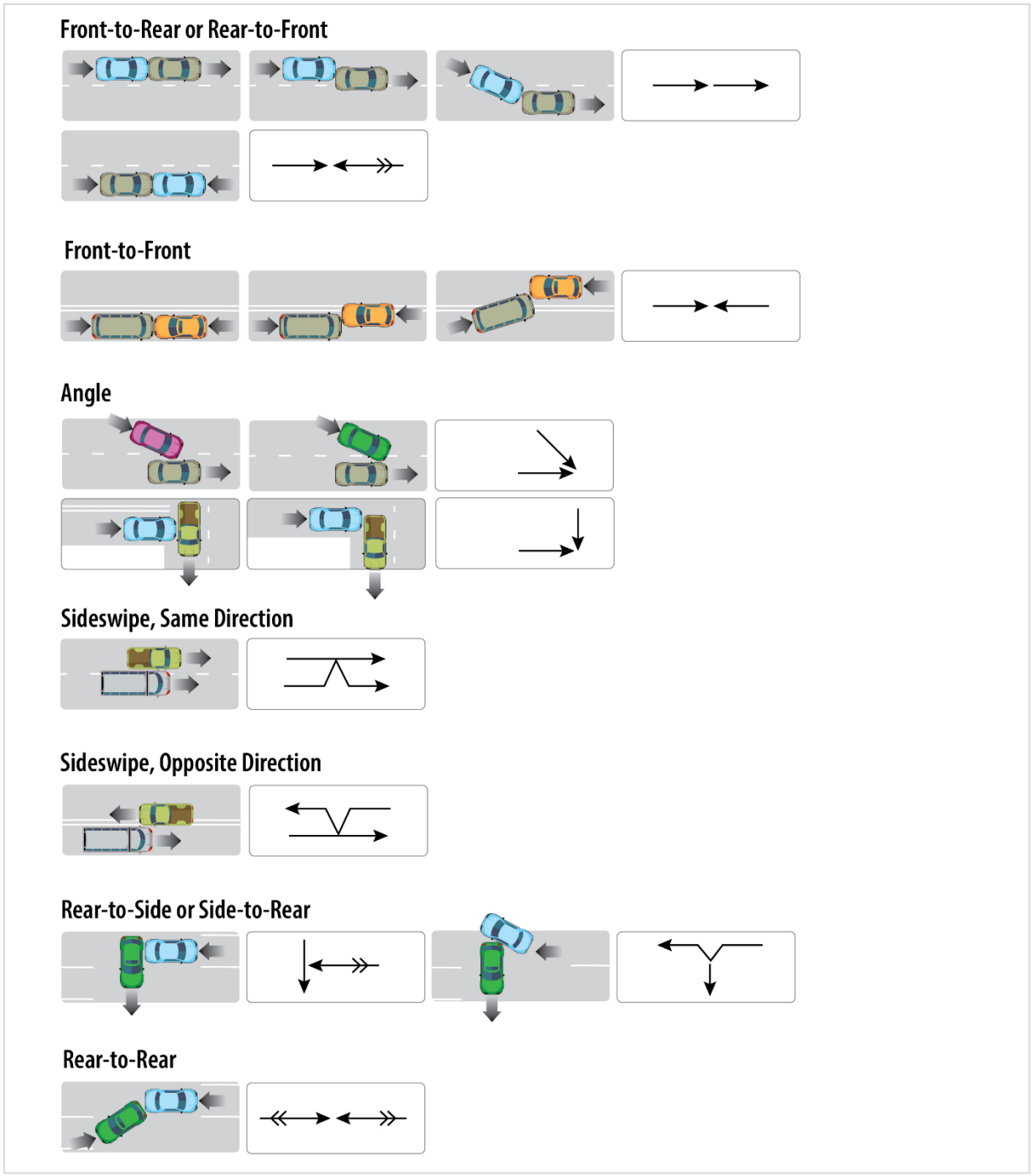


Figure 2: Manner of Collision and Associated Crash Diagrams

C9. Atmospheric Conditions

Element Definition:

The prevailing atmospheric conditions that existed at the time of the crash.

Attribute Values:

Select up to 2

- Clear
- Cloudy
- Rain
- Freezing Rain
- Fog, Mist
- Snow
- Blowing Snow
- Blowing Sand, Soil, Dirt
- Smog, Smoke
- Severe Crosswinds
- Sleet or Hail
- Other
- Unknown

Remarks:

- **Blowing Sand, Soil, Dirt –** Earthen particles being blown about by the wind, reducing visibility.
- **Blowing Snow** – Wind-driven snow that reduces visibility. Blowing snow can be falling snow or snow that has already accumulated but is picked up and blown by strong winds.
- **Clear -** When the sky is free of clouds or partially cloudy if sunlight is not diminished.
- **Cloudy** - When the sky is overcast or partially cloudy when sunlight is diminished.
- **Fog, Mist** - A visible accumulation of fine water droplets in the atmosphere that reduce visibility.
- **Freezing Rain –** A fine mist or rain passing from a liquid to a solid state due to temperature drop.
- **Severe Crosswinds –** Strong air flow perpendicular to the intended path of travel.
- **Smog, Smoke** - refers to a natural and/or man-made condition of suspended particles resulting from combustion or other atmospheric pollutants that causes reduced visibility.
- **Snow** - is used when precipitation is falling as frozen flakes at the time of the crash, not including blowing snow (see Blowing Snow).

Highway Safety Rationale:

The weather conditions are important for understanding factors related to crash causation

Implementation Suggestions:

- None

Validation Rules:

- If ATMOSPHERIC CONDITIONS = **Clear**, then only that one code and no other must be coded.

Alignment Rules for ATMOSPHERIC CONDITIONS:

- None

C10. Light Condition

Element Definition:

The type/level of light that existed at the time of the motor vehicle traffic crash.

Attribute Values:

Select 1

- Daylight
- Dawn
- Dusk
- Dark – Lighted
- Dark – Not Lighted
- Dark – Unknown Lighting
- Other
- Unknown

Remarks:

If the crash occurs within a tunnel, select the appropriate attribute for the lighting conditions in the tunnel.

- **Dark – Lighted –** The scene of the crash is illuminated at night, or another period of darkness, by streetlamps or other man-made light sources.
- **Dark – Not Lighted –** The scene of the crash is not illuminated at night, or another period of darkness, by streetlamps or other man-made light sources.
- **Dark – Unknown Lighting –** It is known that the crash occurred at night or during another period of darkness, but it is not known if the crash scene was illuminated by a man-made light source.
- **Dawn –** The time that marks the beginning of the twilight before sunrise.
- **Daylight –** Whenever the sun is above the horizon at a given location.

Highway Safety Rationale:

This data element is important for understanding factors related to crash causation and evaluating traffic safety countermeasures.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for LIGHT CONDITION:

- None

C11. Relation to Junction

Element Definition:

The crash's location with respect to presence in a junction or proximity to components typically in junction or interchange areas.

Attribute Values:

Subfield 1: Within Interchange Area? (Select 1)

- No
- Yes
- Unknown

Subfield 2: Specific Location (Select 1)

- Non-Junction
- Acceleration/Deceleration Lane
- Crossover-Related
- Driveway Access or Related
- Entrance/Exit Ramp or Related
- Intersection or Related
- Railway Grade Crossing
- Shared-Use Path or Trail
- Through Roadway
- Other Location Not Listed Above Within an Interchange Area (median, shoulder, and roadside)
- Unknown

Remarks:

The coding of this data element is based on the location of the FIRST HARMFUL EVENT of the crash. See Figure 3: Diagram of an Interchange and Figure 4: Diagram of an Intersection.

An Interchange is a system of interconnecting roadways in conjunction with one or more grade separations, providing for the movement of traffic between two or more roadways on different levels.

A junction is either an intersection or the connection between a driveway access and a roadway other than a driveway access.

➢ **Acceleration/Deceleration Lane –** A lane in the roadway that is designated for vehicles to either increase vehicle speed to reach traffic speed, or to reduce speed.

➢ **Crossover-Related –** is used when the FIRST HARMFUL EVENT occurs in a crossover or on approach to or exit from a crossover and related to the movement of traffic units through the crossover. Note a crossover is the area of the median of a divided trafficway where motor vehicles are permitted to cross the opposing lane of traffic or execute a U-turn. Breaks in the median designated for "authorized vehicles only" are not considered crossovers.

➢ **Driveway Access or Related –** is used when the FIRST HARMFUL EVENT occurs:

- On a driveway access or involves a road vehicle entering or leaving by way of a driveway access where at least one traffic unit (vehicle, cyclist, or pedestrian) is physically on the driveway access within the trafficway, OR

- adjacent to a driveway, does not occur on a driveway access but results from an activity, behavior, or control related to the movement of traffic units onto or out of a driveway.

➢ **Entrance/Exit Ramp or Related** – Crash occurs on an approach to or exit from a roadway or results from an activity, behavior, or control related to the movement of traffic units entering or exiting a ramp.

➢ **Intersection or Related** – A traffic crash in which the FIRST HARMFUL EVENT (1) occurs on an approach to or exit from an intersection and (2) results from an activity, behavior or control related to the movement of traffic units through the intersection.

➢ **Non-Junction –** Roadway that is not an intersection or a connection between a driveway access and a roadway other than a driveway access.

➢ **Railway Grade Crossing –** An intersection between a roadway and train tracks that cross each other at the same level (Grade).

➢ **Shared-Use Path or Trail –** A bikeway physically separated from motor vehicle traffic by an open space or barrier. They may also be used by pedestrians, skaters, wheelchair users, joggers, and other users. Most have two-way travel.

➢ **Through Roadway –** A crash would have this code when it is in an interchange area and it does NOT occur: 1) On an Entrance/Exit ramp, 2) In an intersection or related to an intersection or other junction.

Highway Safety Rationale:

This data element is important to understand and mitigate conflict points between traffic units (vehicle to vehicle and vehicle to people).

Implementation Suggestions:

- None

Validation Rules:

- If RELATION TO JUNCTION Subfield 1, Within Interchange Area? = **Yes**, then Subfield 2, Specific Location must not = **Non-Junction**.
- If RELATION TO JUNCTION Subfield 1, Within Interchange Area? = **No**, then Subfield 2, Specific Location must not = **Acceleration/Deceleration Lane**, **Through Roadway**, or **Other Location Not Listed Above Within an Interchange Area (median, shoulder, and roadside)**.

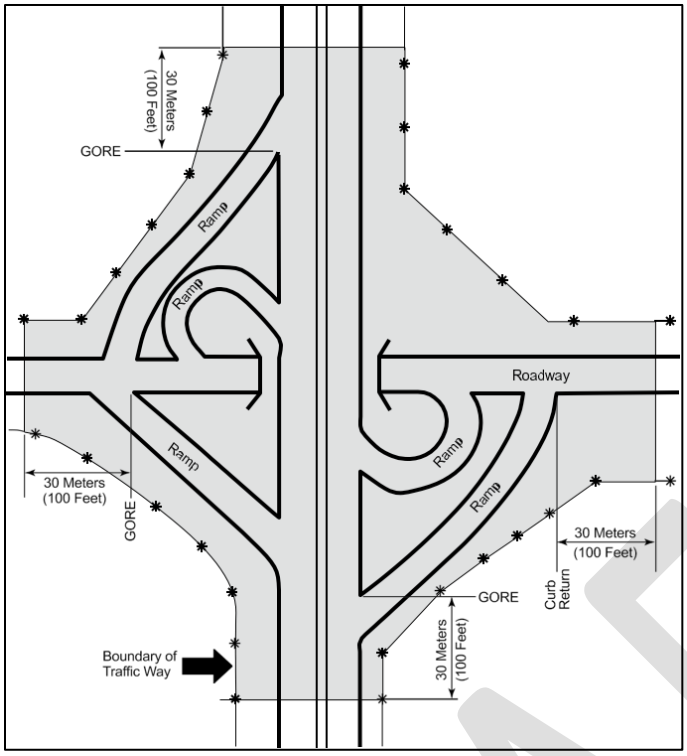


Figure 3: Diagram of an Interchange
Source: ANSI D16.2-2007 Manual on Classification of Motor Vehicle Traffic Accidents, Seventh Edition

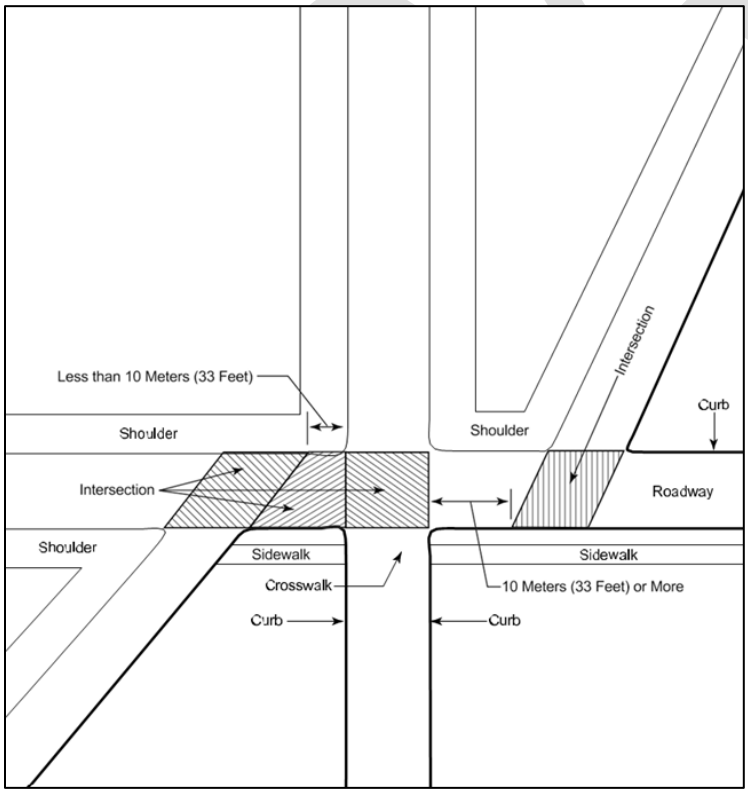


Figure 4: Diagram of an Intersection
Source: ANSI D16.2-2007 Manual on Classification of Motor Vehicle Traffic Accidents, Seventh Edition

Alignment Rules for RELATION TO JUNCTION

To successfully align with Subfield 1: Within Interchange Area, the State must have a similar data element or subfield indicating whether the crash occurs within an interchange area or not.

Note that if the State has a data element indicating whether a crash is an intersection crash, it cannot be used to align with Subfield 1, because an intersection and an interchange are not the same thing. See Figure 3: Diagram of an Interchange and Figure 4: Diagram of an Intersection.

To align Subfield 2, be cautious of similar terms used by the State. For example, a State may have an attribute "Crossover in Median" or "Median Crossing," which may not align with the MMUCC attribute **Crossover-Related**. To use the MMUCC attribute, the FIRST HARMFUL EVENT must occur in a crossover or on approach to or exit from a crossover and related to the movement of traffic units through the crossover. A State's attribute may require the event to occur within the crossover itself. The same consideration should be used for the attributes **Driveway Access or Related**, **Entrance/Exit Ramp or Related**, and **Intersection or Related**.

The State can align if they use synonymous terminology for specific locations. For example, a State can use "On/Off Ramp" instead of **Entrance/Exit Ramp** if the definitions are the same.

Also, be aware that the MMUCC element is looking for the location of the FIRST HARMFUL EVENT of the entire crash with respect to a junction. Events after the FIRST HARMFUL EVENT are not considered in this element. If the State element considers events at any other time during the crash events, the State element does not align with the MMUCC element.

C12. Type of Intersection

Element Definition:

This element identifies and allows separation of various intersection types.

Attribute Values:

Select 1

- Not an Intersection
- T-Intersection
- Y-Intersection
- L-Intersection
- Four-Leg Intersection
- Five-Leg, or More
- Roundabout
- Traffic Circle
- Other Intersection Type
- Unknown

Remarks:

The ANSI D.16 defines an Intersection as an area which (1) contains a crossing or connection of two or more roadways not classified as driveway access and (2) is embraced within the prolongation of the lateral curb lines or, if none, the lateral boundary lines of the roadways. Where the distance along a roadway between two areas meeting these criteria is less than 10 meters (33 feet), the two areas and the roadway connecting them are considered parts of a single intersection.

The MUTCD adds:

- Where a stop line, yield line, or crosswalk is designated on the roadway on the intersection approach, the area within the crosswalk and/or beyond the designated stop line or yield line shall be part of the intersection; and
- Where a crosswalk is designated on a roadway on the departure from the intersection, the intersection shall include the area extending to the far side of such crosswalk.

The coding of this data element is based on the location of the FIRST HARMFUL EVENT of the crash. See Figure 5: Intersection Examples for examples of intersection types.

➢ **Four-Leg Intersection** – Where two roadways cross or connect.

➢ **L-Intersection –** This is a two-armed intersection in which one road intersects with another road but neither road extends beyond the other road. The roadways form an "L."

➢ **Roundabout -** refers to an intersection of roads where motor vehicles must travel around a circle to continue on the same road or leave on any intersecting road. A Roundabout must meet the following criteria:

- Entering traffic is controlled by a yield sign only
- Circulating traffic has the right of way
- Pedestrian access is allowed behind the yield sign line
- No parking is allowed in the circle

- **T-Intersection –** An intersection where two roadways connect in a perpendicular manner and one roadway does not continue across the other roadway. The roadways form a "T."

- **Traffic Circle –** refers to an intersection of roads where motor vehicles must travel around a circle to continue on the same road or leave on any intersecting road. A Traffic Circle must meet the following criteria:
  - Entering traffic is controlled by a stop sign, traffic signal, or by no traffic control
  - Parking is allowed within the circle
  - Pedestrians are allowed access to the central island
  - Circle traffic can be required to yield to entering traffic

- **Y-Intersection** – An intersection where three roadways connect and none of the roadways continue across the other roadways. The roadways form a "Y."

Highway Safety Rationale:

This data element is important to understand and mitigate conflict points between traffic units (vehicle to vehicle and vehicle to people).

Implementation Suggestions:

- If RELATION TO JUNCTION Subfield 2: Specific Location equals **Non-Junction**, then autofill TYPE OF INTERSECTION with **Not an Intersection**.

Validation Rules:

- None

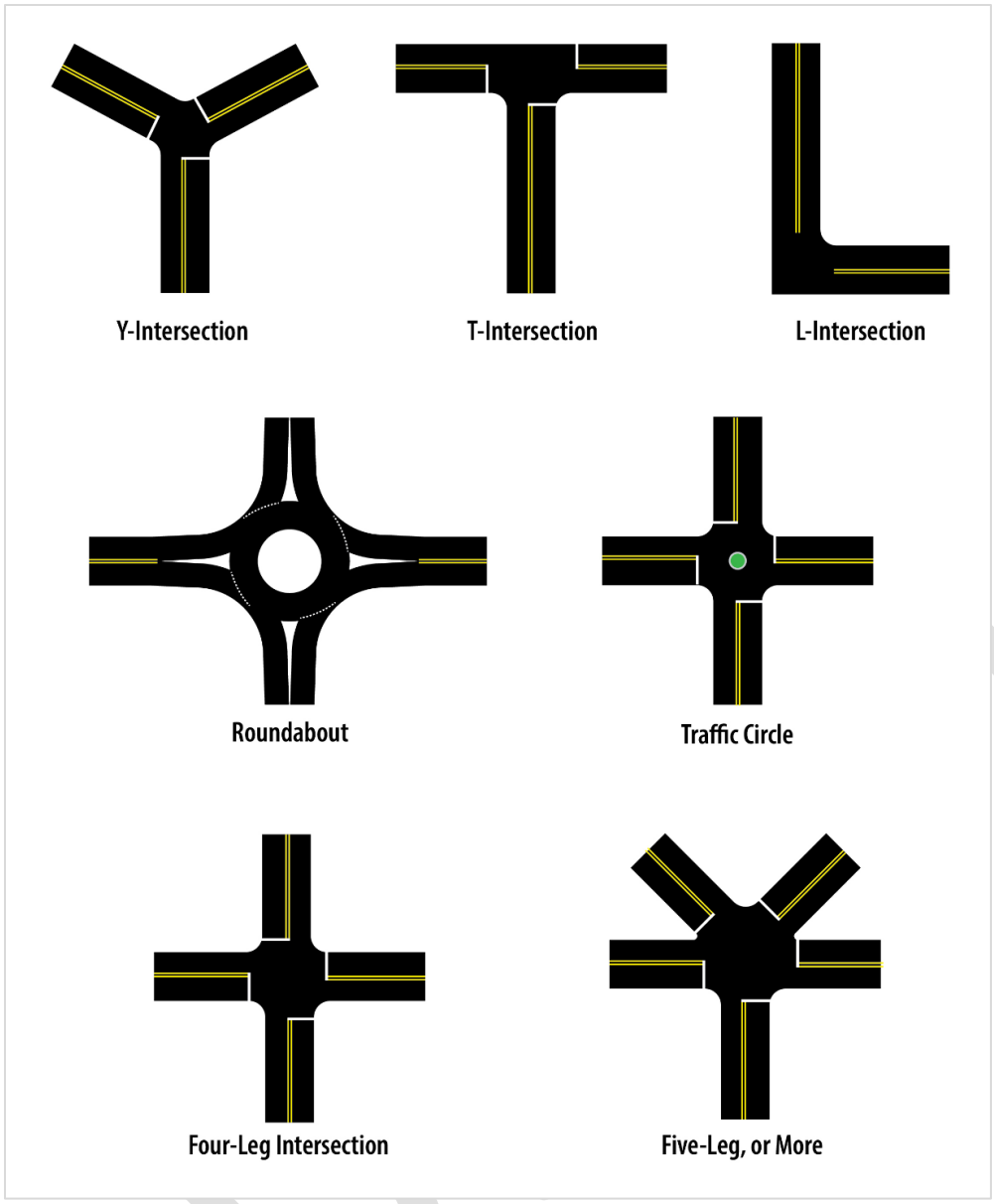


Figure 5: Intersection Examples

Alignment Rules for TYPE OF INTERSECTION:

Be aware that the MMUCC element is looking for the location of the FIRST HARMFUL EVENT of the entire crash, with respect to an intersection. Events after the FIRST HARMFUL EVENT are not considered in this element. If the State element considers events at any other time during the crash events, the State element does not align with the MMUCC element.

C13. School Bus-Related

Element Definition:

Indicates whether a school bus or motor vehicle functioning as a school bus for a school-related purpose is involved in the crash.

Attribute Values:

Select 1

- No
- Yes

Remarks:

The "school bus," with or without a passenger on board, must be directly involved as a contact motor vehicle or indirectly involved as a non-contact motor vehicle (e.g., children struck when boarding or alighting from the school bus, two vehicles colliding as the result of the stopped school bus, etc.).

Highway Safety Rationale:

This data element is important to determine where and how school bus operations affect overall traffic safety.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for SCHOOL BUS-RELATED

- The State must have a similar element at the crash level. Having "School Bus" as a vehicle type will not align to **Yes**.

C14. Work Zone

Element Definition:

A crash that occurs in or related to a construction, maintenance, or utility work zone, whether workers were present at the time of the crash or not.

Attribute Values:

Subfield 1: Work Zone Type (Select 1)

- None
- Construction
- Maintenance
- Utility
- Work Zone, Type Unknown

Subfield 2: Location of the Crash (Select 1)

- Before the First Work Zone Warning Sign
- Advance Warning Area
- Transition Area
- Activity Area
- Termination Area
- Not Applicable/Not Within or Related to a Work Zone

Subfield 3: Work Zone Description (Select up to 2)

- Lane Closure
- Lane Shift
- Crossover
- Work on Shoulder or Median
- Intermittent or Moving Work
- Other Type of Work Zone
- Not Applicable/Not Within or Related to a Work Zone

Subfield 4: Workers Present (Select 1)

- No
- Yes
- Not Applicable/Not Within or Related to a Work Zone
- Unknown

Subfield 5: Law Enforcement Present (Select 1)

- No
- Yes
- Not Applicable/Not Within or Related to a Work Zone
- Unknown

Remarks:

Work zone crashes may also include those involving motor vehicles slowed or stopped because of the work zone, even if the FIRST HARMFUL EVENT occurred before the first warning sign. See Figure 6: Diagram of a Work Zone Area for a diagram of the work zone area.

This data element needs to be collected at the scene because work zones are temporary or moving operations that are not recorded in permanent road inventory files.

- **Activity Area –** Located adjacent to actual work area, whether workers and equipment were present or not.
- **Advance Warning Area –** Located after the first warning sign but before the work area.
- **Crossover –** one or more lanes of traffic are temporarily transferred across a median away from an adjacent work zone.
- **Intermittent or Moving Work –** Type of work zone designating temporary activity that may move or shift frequently.
- **Lane Closure –** one or more lanes of traffic are temporarily closed to accommodate this work zone.
- **Lane Shift –** one or more lanes of traffic are temporarily shifted to accommodate this work zone.
- **Termination Area –** Located after the activity area but before traffic resumes normal conditions.
- **Transition Area –** Where lanes are shifted or tapered for lane closure.

Highway Safety Rationale:

This data element is important to assess the impact of trafficway work activity on the safety of workers and the traveling public, and evaluate Work Zone Traffic Control Plans

Implementation Suggestions:

- If **None** is selected for Subfield 1, then autofill Subfields 2-5 with **Not Applicable/Not Within or Related to a Work Zone**.

Validation Rules:

- If WORK ZONE Subfield 1 = **None**, then Subfields 2, 3, 4, and 5 must = **Not Applicable/ Not Within or Related to a Work Zone**.

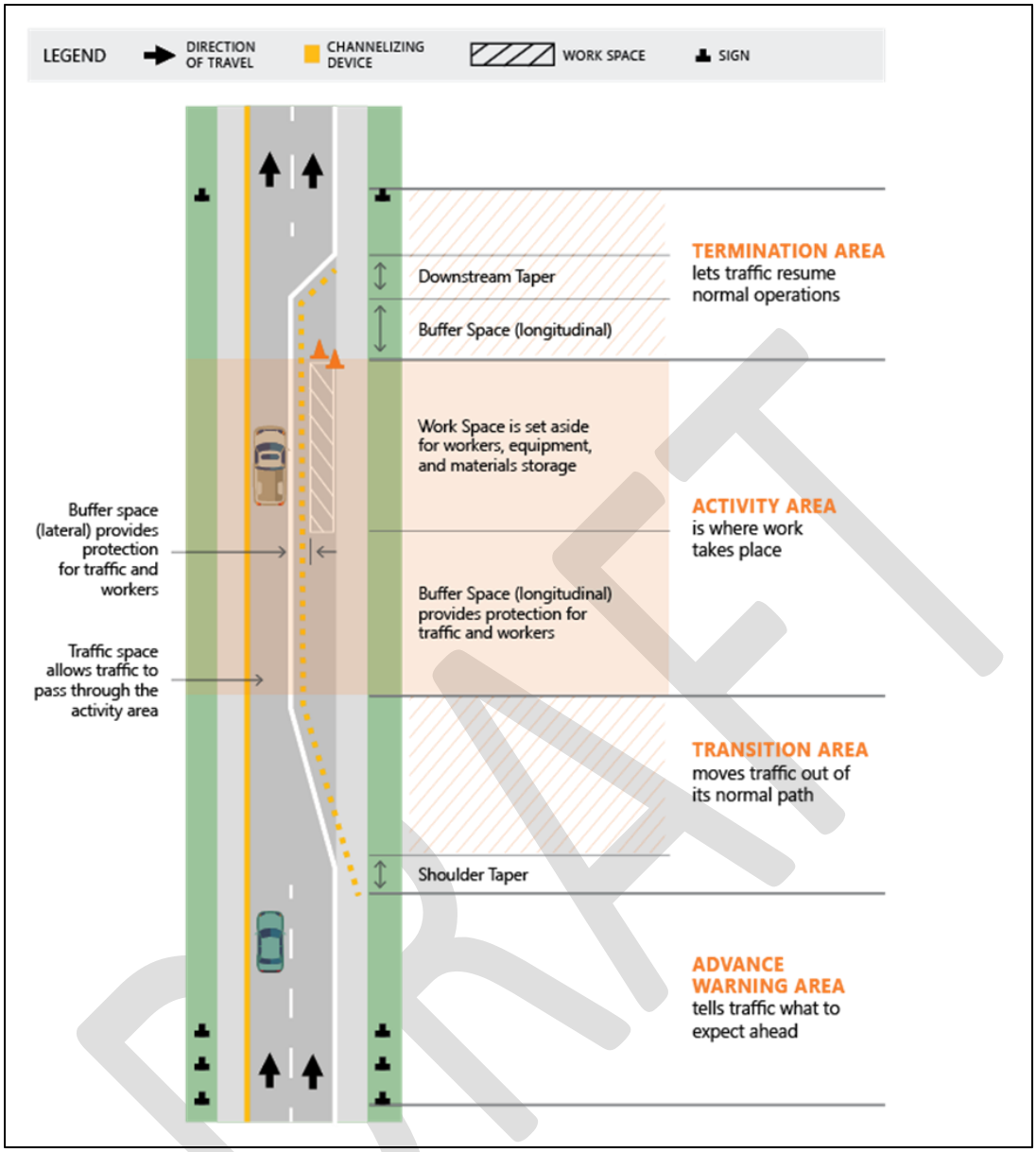


Figure 6: Diagram of a Work Zone Area

Alignment Rules for WORK ZONE

If the State combines Subfield 4, Workers Present and Subfield 5, Law Enforcement Present into one field, it must allow two or more selections to capture both.

If the State has an element or a checkbox with only "Yes" or "No" selections, the "No" selection is enough to align to the MMUCC Subfield 1: **None** and all other Subfields: **Not Applicable/Not Within or Related to a Work Zone**. A selection of "Yes" alone will not align to MMUCC.

C15. Secondary Crash

Element Definition:

This element identifies if this crash was related to a prior (primary) crash.

Attribute Values:

Subfield 1: Secondary Crash (Select 1)

- No
- Yes

Subfield 2: Primary Crash Case Number(s) (Specify)

- Case Number(s)

Remarks:

"Secondary Crashes" are defined beginning with the time of detection of the primary crash where this crash occurs either:

a) within the primary crash scene, or
b) within the queue or backup, including the opposite direction, resulting from the primary crash.

If this crash is a secondary crash, the case number of the primary crash(s) must be identified in Subfield 2. Report number, case number, or agency case number may be used.

Highway Safety Rationale:

This information is necessary for State and FHWA Traffic Incident Management (TIM) performance measurement for Secondary Crashes.

Implementation Suggestions:

- None

Validation Rules:

- If Subfield 1 equals **Yes**, then Subfield 2 must not be null.
- If Subfield 1 equals **No**, then Subfield 2 must be null.

Alignment Rules for SECONDARY CRASH

- None

C16. Related Factors - Crash Level

Element Definition:

This element identifies factors related to this crash.

Attribute Values:

Select up to 2

- None
- Obstructed Crosswalks
- Obstruction in Roadway
- Police Pursuit Involved
- Related to a Bus Stop
- Surface Under Water
- Surface Washed Out (caved-in, road slippage)
- Toll Booth/Plaza Related
- Traffic Incident (Other than a Crash)
- Other Maintenance or Construction-Created Condition
- Distracted Driver of a Non-Contact Vehicle
- Aggressive Driving by Non-Contact Vehicle Driver
- Road Rage by Non-Contact Vehicle Driver
- Non-Occupant Struck Vehicle
- Within Designated School Zone
- Stalled/Disabled Vehicle
- Unstabilized Situation Began and All Harmful Events Occurred Off of the Roadway
- Emergency Vehicle Related
- Other (Explain in Narrative)
- Unknown

Remarks:

- **Obstruction in Roadway –** A blockage in the roadway, such as that caused by a fallen tree or a large boulder.

- **Toll Booth/Plaza Related –** the crash occurred at or in the vicinity of a toll booth (manned or unmanned) or a toll plaza. These are crashes that occur in the upstream approach to the toll booth/plaza area and continues as the approach area (where the toll road begins to widen) leading up to the toll booths and in the departure area where the road begins to narrow leading back to the normal number of lanes comprising the toll road downstream departure area. See Figure 7: Diagram of a Toll Booth/Plaza.

- **Traffic Incident (Other than a Crash) –** An unplanned randomly occurring traffic event that adversely effects normal traffic operations. Examples include but not limited to disabled vehicles and spilled cargo.

Highway Safety Rationale:

This data element is important to identify unusual or special conditions for identifying and evaluating traffic safety behavioral and infrastructure programs.

Implementation Suggestions:

- None

Validation Rules:

- If RELATED FACTORS – CRASH LEVEL = **None**, then only that code and no other must be coded.

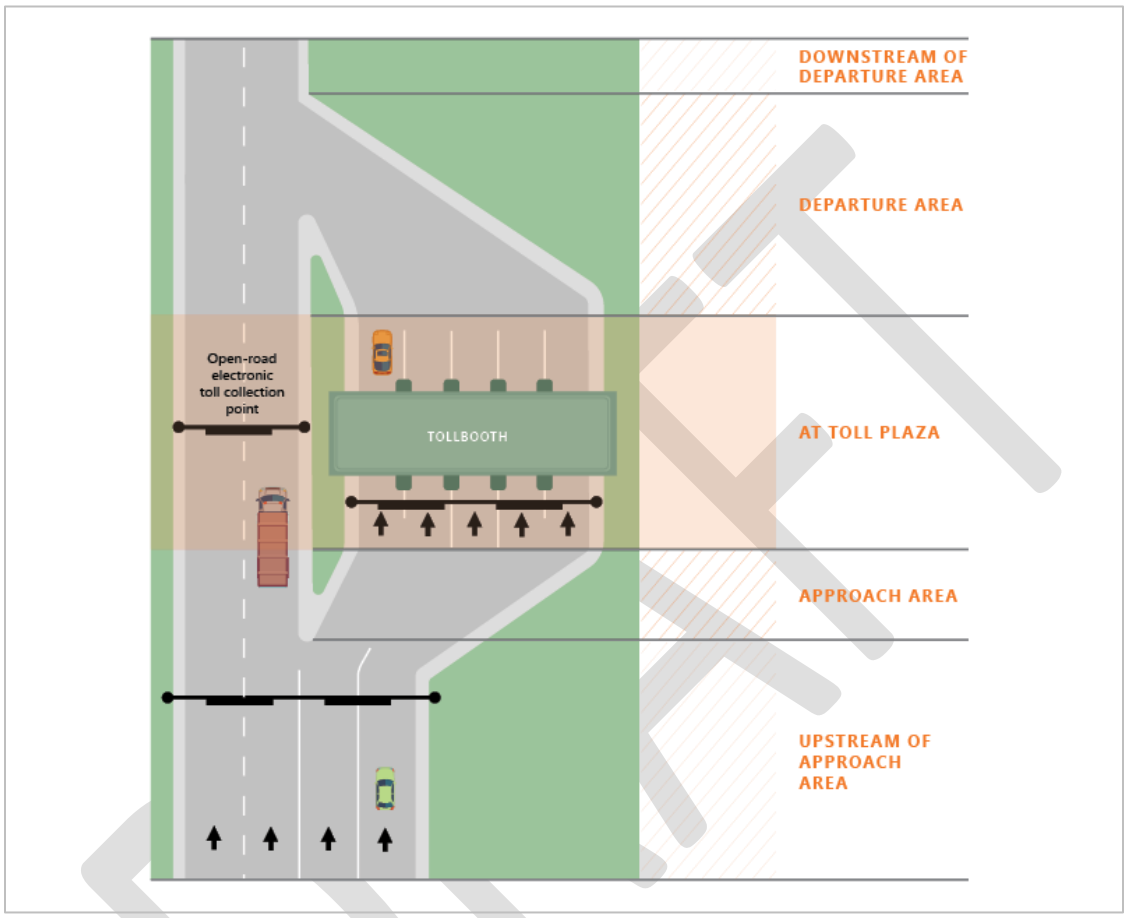


Figure 7: Diagram of a Toll Booth/Plaza

Alignment Rules for RELATED FACTORS - CRASH LEVEL

- Attributes from ROADWAY SURFACE CONDITION and RELATED FACTORS CRASH LEVEL should not be combined into one field.

- If the State has environmental related factors integrated with other types of related factors such as motor vehicle related factors, the assessor should not give credit for aligning to this MMUCC element because the attributes cannot be made unambiguous for each type of related factor even though the attribute lists may match.

- The MMUCC element identifies factors related to this crash at the time of the crash, regardless of whether the factors contributed to the crash. If the State's element identifies only factors that contributed to the crash, it does not align to the MMUCC element, even if the element and/or attribute names are the same.

Chapter 5: Vehicle Data Elements

The motor vehicle data elements describe the characteristics, events, and consequences of the contact motor vehicle(s) directly involved in the crash. Data elements in this chapter are given the element identifier **V** (e.g., V1, V2, V3).

V1. Motor Vehicle Number

Element Definition:

Motor vehicle number assigned to uniquely identify each motor vehicle involved in the crash.

Attribute Values:

Specify 1

- Sequential Number

Remarks:

Complete this element for all motor vehicles. This number is not assigned to non-motorists.

Highway Safety Rationale:

This data element uniquely identifies each motor vehicle unit involved in the crash. It also permits occupants to be assigned to the appropriate motor vehicle.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for MOTOR VEHICLE NUMBER

- None

V2. Vehicle Identification Number (VIN)

Element Definition:

A unique combination of alphanumeric characters assigned to a specific motor vehicle that is designated by the manufacturer.

Attribute Values:

Specify 1

- Any Alphanumeric Characters – Actual VIN Number
- No VIN Required, Not a Vehicle for Road Use
- Unknown

Remarks:

Complete this element for all motor vehicles.

NHTSA encourages states to use the Product Information Catalog and Vehicle Listing (vPIC), which is a consolidated platform that presents data collected within the manufacturer reported data from 49 CFR Parts 551-574.

Highway Safety Rationale:

This data element is important to identify specific motor vehicle design characteristics and occupant protection systems for effectiveness evaluations. This element is also essential for VIN decoders, vehicle registration files, and other State traffic records data integration purposes.

Implementation Suggestions:

- Where VIN decoding software is used, check for a valid check digit.
- VIN can be used to retrieve information from other Traffic Records data systems. See Chapter 10: Traffic Records Data Integration for details.

Validation Rules:

- None

Alignment Rules for VEHICLE IDENTIFICATION NUMBER:

- None

V3. Motor Vehicle Unit Type

Element Definition:

The type of unit that applies to this motor vehicle at the time it became an involved vehicle in the crash.

Attribute Values:

Select 1

- Motor Vehicle In-Transport
- Parked Motor Vehicle
- Working Motor Vehicle (Highway Construction, Maintenance, Utility Only)

Remarks:

Complete this element for all motor vehicles. Remember, you must have at least one Motor Vehicle In-Transport involved in the crash for this to be a reportable case.

If a Working Motor Vehicle is parked while performing its work (e.g., a bucket truck is parked on the shoulder while a worker is working on utility lines), select Working Motor Vehicle (Highway Construction, Maintenance, Utility Only). If that same vehicle is not performing its work, then select Parked Motor Vehicle.

- **Motor Vehicle In-Transport –** A motor vehicle is any motorized (mechanically or electrically powered) road vehicle not operated on rails. When applied to motor vehicles, "in-transport" refers to being in motion or on a roadway (travel lanes). Inclusions: motor vehicle in traffic on a highway, driverless motor vehicle in motion, motionless motor vehicle abandoned on a roadway, disabled motor vehicle on a roadway, etc.

- **Parked Motor Vehicle –** The ANSI D.16 defines a parked motor vehicle is a motor vehicle not in-transport, other than a working motor vehicle, that is not in motion and not located on the roadway (travel lanes). In roadway lanes used for travel during some periods and for parking during other periods, a parked motor vehicle is considered in-transport during periods when parking is forbidden. This attribute includes any stopped motor vehicle where the entirety of the vehicle's primary outline as defined by the four sides of the vehicle (e.g., tires, bumpers, fenders) and load, if any, is not within the roadway.

- **Working Motor Vehicle –** The ANSI D.16 defines a working motor vehicle as a motor vehicle in the act of performing construction, maintenance, or utility work related to the trafficway. The "work" may be located within open or closed portions of the trafficway, and the vehicle performing these activities can be within or outside the trafficway boundaries. A working motor vehicle at the time of the unstabilized situation is not considered "in-transport."

Highway Safety Rationale:

This data element is critical for vehicle classification and to properly identify motor vehicle traffic crashes. Other data elements rely heavily on the coding of this data element.

Implementation Suggestions:

- None

Validation Rules:

- MOTOR VEHICLE UNIT TYPE must = **Motor Vehicle In-Transport** for at least one vehicle.

Alignment Rules for MOTOR VEHICLE UNIT TYPE

A State attribute “Construction Equipment” or similar does not align with the MMUCC attribute **Working Motor Vehicle**. A **Working Motor Vehicle** must be 1) a motor vehicle (not just equipment) and 2) in the act of performing construction, maintenance, or utility work related to the trafficway at the time of the crash. Similarly, a State vehicle body type of “construction equipment” alone is insufficient to align with the MMUCC attribute **Working Motor Vehicle**.

V4. Vehicle Owner and Address

Element Definition:

The name and address of the owner of this vehicle.

Attribute Values:

Subfield 1: Name or Entity

- Name or Entity
- Unknown

Subfield 2: Address Line 1

- Address Line 1
- Unknown

Subfield 3: Address Line 2

- Address Line 2
- Unknown

Subfield 4: City

- City
- Unknown

Subfield 5: State

- State
- Unknown

Subfield 6: ZIP Code

- ZIP Code
- Unknown

Subfield 7: Country

- Country
- Unknown

Remarks:

Complete this element for all motor vehicles.

Highway Safety Rationale:

This data element is used in tracking vehicle damage history, vehicle ownership and responsibility, and documenting out-of-state vehicles. This element can be used for data integration with the State vehicle registration files and helpful in crash investigation.

Implementation Suggestions:

The State may wish to have a “Same as Driver” radio button or checkbox, which automatically fills this element with the information entered in the driver’s name and address fields.

Validation Rules:

- None

Alignment Rules for VEHICLE OWNER AND ADDRESS

- None

V5. Motor Carrier or Responsible Entity Identification

Element Definition:

The identification number(s) of an individual, partnership, or corporation responsible for the transportation of people or property as indicated on the shipping manifest.

Attribute Values:

Subfield 1: US DOT Number (Select 1)

- Not Applicable
- Actual Number
- Unknown

Subfield 2: MC/MX (ICC) Number (Select 1)

- Not Applicable
- Actual Number
- Unknown

Subfield 3: State/Country Number (Select 1)

- Not Applicable
- Actual Number
- Unknown

Subfield 4: Issuing State/Country (Select 1)

- Not Applicable
- State/Country
- Unknown

Remarks:

Complete this element for all motor vehicles. This data element is collected at the scene to meet FMCSA 90-day reporting requirements.

See Figure 8: Determining Responsible Carrier, FMCSA Visor Card (Front) and Figure 9: Determining Responsible Carrier, FMCSA Visor Card (Back) for reference.

Highway Safety Rationale:

Required by the Federal Motor Carrier Safety Administration (FMCSA) Title 49 CFR 390. The FMCSA has the authority to fine and sanction unsafe interstate (and some intrastate) motor carriers. A key method to identify potentially unsafe motor carriers is to collect crash data by the identification number and name. The identification number is a key element for carrier identification in the FMCSA databases for crash and other carrier information.

Implementation Suggestions:

- If **Not Applicable** is selected for Subfield 3, then auto fill Subfield 4 with **Not Applicable**.
- If all four Subfields of this element equal **Not Applicable**, then auto fill TYPE OF MOTOR CARRIER OR RESPONSIBLE ENTITY with **Not Applicable** and all six Subfields of MOTOR CARRIER OR RESPONSIBLE ENTITY NAME AND ADDRESS with **Not Applicable**.

- If electronic crash data collection software is used then a local or remote retrieval from a carrier database, or CVIEW (Commercial Vehicle Information Exchange Window) would assist in identifying the responsible entity of a USDOT number. For CVIEW information, contact FMCSA.

Validation Rules:

- If Subfield 3 = **Not Applicable**, then Subfield 4 must = **Not Applicable**.

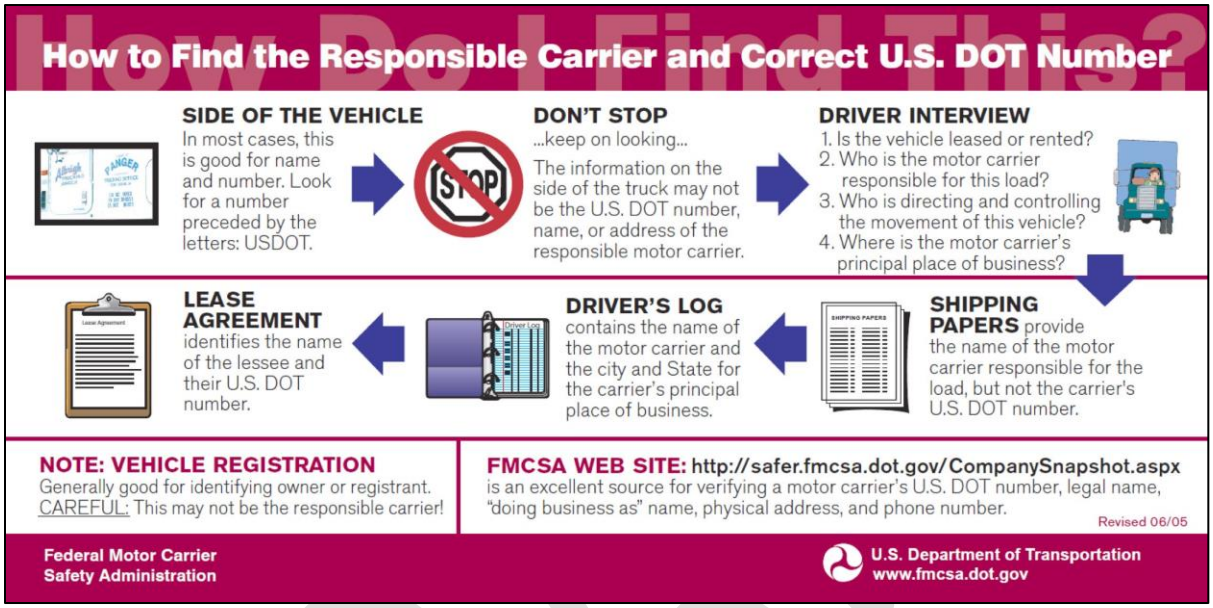


Figure 8: Determining Responsible Carrier, FMCSA Visor Card (Front)

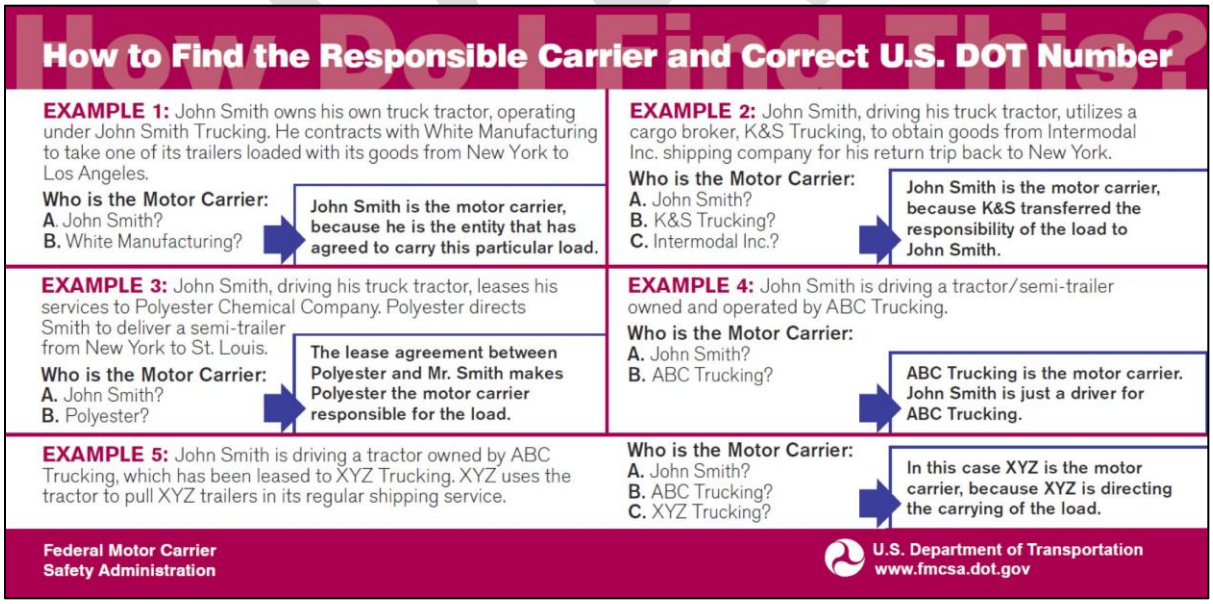


Figure 9: Determining Responsible Carrier, FMCSA Visor Card (Back)

Alignment Rules for MOTOR CARRIER OR RESPONSIBLE ENTITY IDENTIFICATION:

- None

V6. Type of Motor Carrier or Responsible Entity

Element Definition:

The type of motor carrier or other entity responsible for the transportation of people or property as indicated on the shipping manifest.

Attribute Values:

Select 1

- Not Applicable
- Interstate Motor Carrier
- Intrastate Motor Carrier
- Government
- Other Truck or Bus (e.g., non-profit organization, rental truck for personal use)
- Unknown

Remarks:

Complete this element for all motor vehicles.

- **Interstate Motor Carrier –** is used if this is a motor carrier that is registered with FMCSA to operate across State lines and issued a USDOT number.

- **Intrastate Motor Carrier –** is used if this is a motor carrier that is not registered with FMCSA to operate across State lines. They may or may not have a USDOT number.

- **Government** – is used for a government vehicle whether it is operated by the local, State, or federal government (e.g., county-owned school buses, city-owned transit buses, fire trucks, military vehicles, State-owned highway maintenance truck). In most circumstances, the government-owned vehicle will not have a US DOT Number.

- **Other Truck or Bus –** is used for personal use of a rental vehicle (e.g., U-Haul, Ryder, Penske) that is over 10,000 lbs. GVWR / GCWR and operated by a private individual for non-commercial purposes. In these situations, the rental company is not the carrier and should not be recorded. This option can also be selected for non-profit organizations operating vehicles over 10,000 lbs. GVWR/GCWR.

Highway Safety Rationale:

Required by the Federal Motor Carrier Safety Administration (FMCSA) **Title 49 CFR 390.** The FMCSA has the authority to fine and sanction unsafe interstate (and some intrastate) motor carriers. A key method to identify potentially unsafe motor carriers is to collect crash data by the identification number and name. The identification number is a key element for carrier identification in the FMCSA databases for crash and other carrier information.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for TYPE OF MOTOR CARRIER OR RESPONSIBLE ENTITY

- None

V7. Motor Carrier or Responsible Entity Name and Address

Element Definition:

The name and address of the Motor Carrier or other entity responsible for the transportation of people or property as indicated on the shipping manifest.

Attribute Values:

Subfield 1: Motor Carrier or Responsible Entity Name (Select 1)

- Not Applicable
- Name
- Unknown

Subfield 2: Motor Carrier or Responsible Entity Address Line 1 (Select 1)

- Not Applicable
- Address Line 1
- Unknown

Subfield 3: Motor Carrier or Responsible Entity Address Line 2 (Select 1)

- Not Applicable
- Address Line 2
- Unknown

Subfield 4: Motor Carrier or Responsible Entity City (Select 1)

- Not Applicable
- City
- Unknown

Subfield 5: Motor Carrier or Responsible Entity State (Select 1)

- Not Applicable
- State
- Unknown

Subfield 6: Motor Carrier or Responsible Entity ZIP Code (Select 1)

- Not Applicable
- ZIP Code
- Unknown

Remarks:

Complete this element for all motor vehicles. This data element is collected at the scene to meet FMCSA 90-day reporting requirements.

The owner is not always the responsible entity. Crash manuals and training should emphasize how to identify the responsible entity. See Figure 8: Determining Responsible Carrier, FMCSA Visor Card (Front) and Figure 9: Determining Responsible Carrier, FMCSA Visor Card (Back) for reference.

Not Applicable should only be selected for privately owned and operated motor vehicles.

Highway Safety Rationale:

Required by the Federal Motor Carrier Safety Administration (FMCSA) Title 49 CFR 390. The FMCSA has the authority to fine and sanction unsafe interstate (and some intrastate) motor carriers. A key method to identify potentially unsafe motor carriers is to collect crash data by the name and address of the company. The street address allows FMCSA to visit carriers and conduct reviews of compliance with the Federal Motor Carrier Safety Regulations and provides a crosscheck for the correct identity of the carrier.

Implementation Suggestions:

- If all four Subfields of MOTOR CARRIER OR RESPONSIBLE ENTITY IDENTIFICATION equal **Not Applicable**, then autofill all Subfields of this element with **Not Applicable**.
- If Subfield 1 equals **Not Applicable**, then autofill the remaining Subfields with **Not Applicable**.
- The State may wish to have a "Same as Owner" radio button or checkbox, which automatically fills this element with the information entered in the Vehicle Owner's name and address fields.

Validation Rules:

- If Subfield 1 = **Not Applicable**, then Subfields 2-6 must = **Not Applicable**

Alignment Rules for MOTOR CARRIER OR RESPONSIBLE ENTITY NAME AND ADDRESS:

- None

V8. Motor Vehicle Registration State

Element Definition:

The State, commonwealth, territory, Indian Nation, U.S. Government, foreign country, etc., issuing the registration plate displayed on the motor vehicle.

Attribute Values:

Specify 1

- Registration Not Required
- ANSI State FIPS Codes
- No Registration
- Multiple State Registration
- US Government Tags (includes military)
- Canada
- Mexico
- Other Foreign Country
- Other Registration
- Unknown

Remarks:

Complete this element for all motor vehicles.

Highway Safety Rationale:

This data element is used in tracking in-state and out-of-state vehicles. This element can be used for data integration with the State vehicle registration files and helpful in crash investigation.

Implementation Suggestions:

ANSI State FIPS and USPS Codes are provided by the U.S. Census Bureau. Border States may wish to collect the name of individual Canadian Provinces or Mexican States. ISO 3166 Country Codes are provided by the International Organization for Standardization.

Validation Rules:

- None

Alignment Rules for MOTOR VEHICLE REGISTRATION STATE

- None

V9. Motor Vehicle License Plate Number

Element Definition:

The alphanumeric identifier or other characters, exactly as displayed, on the registration plate or tag affixed to the motor vehicle.

Attribute Values:

Specify 1

- No License Plate
- Actual License Plate Number
- Temporary License Plate
- Unknown

Remarks:

Complete this element for all motor vehicles. For combination vehicles, the Motor Vehicle License Plate Number is obtained from the power unit.

The attribute **Temporary License Plate** takes precedence over the attribute **Actual License Plate Number**, if the license plate on this vehicle is a temporary license plate.

Highway Safety Rationale:

This data element is used for integration between the crash and motor vehicle registration files and to document the vehicle involved in the crash.

Implementation Suggestions:

- MOTOR VEHICLE LICENSE PLATE NUMBER can be used to retrieve information from other Traffic Records data systems. See Chapter 10: Traffic Records Data Integration for details.

Validation Rules:

- None

Alignment Rules for MOTOR VEHICLE LICENSE PLATE NUMBER

- None

V10. Motor Vehicle Make

Element Definition:

The manufacturer-assigned, coded name applied to a group of motor vehicles.

Attribute Values:

Specify 1

- Make
- Other
- Unknown

Remarks:

Complete this element for all motor vehicles.

NHTSA encourages states to use the Product Information Catalog and Vehicle Listing (vPIC), which is a consolidated platform that presents data collected within the manufacturer reported data from 49 CFR Parts 551-574.

Because the vPIC dataset is updated frequently when new or updated VIN decode information are submitted by vehicle manufacturers, the following URL is provided to retrieve the most up-to-date vPIC Make for reference: https://vpic.nhtsa.dot.gov/api/vehicles/getallmakes?format=csv

- **Make** (Assigned by motor vehicle manufacturer or populated through vPIC) Use this URL to get the list of the latest vPIC Make: https://vpic.nhtsa.dot.gov/api/vehicles/getallmakes?format=csv

Highway Safety Rationale:

This data element is used in evaluation, research, and crash comparison purposes.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for MOTOR VEHICLE MAKE:

- None

V11. Motor Vehicle Model Year

Element Definition:

The year that is assigned to a motor vehicle by the manufacturer.

Attribute Values:

Specify 1

- Actual Four Digit Model Year
- Unknown

Remarks:

Complete this element for all motor vehicles.

NHTSA encourages states to use the Product Information Catalog and Vehicle Listing (vPIC), which is a consolidated platform that presents data collected within the manufacturer reported data from 49 CFR Parts 551-574.

- **Actual Four Digit Model Year –** Year as assigned by motor vehicle manufacturer and obtained from the vehicle registration or populated through vPIC.

Highway Safety Rationale:

This data element is used in evaluation, research, and crash comparison purposes.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for MOTOR VEHICLE MODEL YEAR:

- None

V12. Motor Vehicle Model

Element Definition:

The manufacturer-assigned code denoting a family of motor vehicles (within a make) that have a degree of similarity in construction, such as body, chassis, etc.

Attribute Values:

Specify 1

- Model
- Other
- Unknown

Remarks:

Complete this element for all motor vehicles.

NHTSA encourages states to use the Product Information Catalog and Vehicle Listing (vPIC), which is a consolidated platform that presents data collected within the manufacturer reported data from 49 CFR Parts 551-574.

- **Model –** Assigned by motor vehicle manufacturer and obtained from the vehicle registration or populated through vPIC.

Highway Safety Rationale:

This data element is used in evaluation, research, and crash comparison purposes.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for MOTOR VEHICLE MODEL:

- None

V13. Motor Vehicle Body Type Category

Element Definition:

The category indicating the general configuration or shape of a motor vehicle distinguished by characteristics such as number of doors, rows of seats, windows, or roof line.

Attribute Values:

Subfield 1: Body Type Category (Select 1)

Group 1: Passenger Vehicles

- Passenger Car
- Sport Utility Vehicle
- Mini-Van/Van (up to 8 seats)
- Motor Home/Recreational Vehicle

Group 2: Large Passenger Seating Vehicles (9 or more seats, including the driver) *(Complete Subfield 2)*

- Limo *(Complete Subfield 2)*
- Passenger Van *(Complete Subfield 2)*
- School Bus *(Complete Subfield 2)*
- Transit Bus *(Complete Subfield 2)*
- Motorcoach *(Complete Subfield 2)*
- Other Large Passenger or Bus *(Complete Subfield 2)*

Group 3: Trucks

- Cargo Van
- Pickup Truck
- Single-Unit Truck (2 axles and GVWR > 10,000 lbs.)
- Single-Unit Truck (3 or more axles)
- Truck Tractor, with or without trailers (Bobtail, Semi, Doubles, Triples)
- Truck, Unknown Type

Group 4: Not Designed Primarily for Road Use (Construction, Farm Equipment, Off-road Vehicles)

- Construction Equipment (backhoe, bulldozer, forklift, etc.)
- Farm Equipment (tractor, combine harvester, etc.)
- All-Terrain Vehicle/All-Terrain Cycle (ATV/ATC)
- Golf Cart
- Snowmobile
- Recreational Off-Highway Vehicles (ROV)
- Low Speed Vehicle

Group 5: Motorcycle and Moped

- Moped
- 2-Wheeled Motorcycle
- 3-Wheeled Motorcycle
- Autocycle

Group 6: Other and Unknown

- Other *(no large passenger or trucks allowed here)*
- Unknown

Subfield 2: Number of Seats, including driver *(applicable only for Body Types in Group 2 noted above)*

- 9-14
- 15
- 16+

Remarks:

Complete this element for all motor vehicles. Personal conveyances—such as skateboards, motorized toy cars, and wheelchairs—are not considered motor vehicles.

See Figure 10: FMCSA Reportable Crashes, Visor Card (Front), Figure 11: FMCSA Reportable Crashes, Visor Card (Back), and Figure 12: Motor Vehicle Body Type Examples for information on reportable criteria for FMCSA.

- **All-Terrain Vehicle/All-Terrain Cycle (ATV/ATC) –** is used for off-road recreational vehicles. ATV/ATCs have 3 or 4 wheels, a saddle type seat, and handlebars for steering (no steering wheel).

- **Autocycle** – A large motorcycle with one rear wheel and two front wheels, with either a saddle and handlebars or seat(s) and a steering wheel, which can be fully enclosed, partially enclosed, or unenclosed.

- **Cargo Van** – A cargo van is any van where the area behind the driver or cab is designed for transporting cargo or operated for general commercial use.

- **Construction Equipment (backhoe, bulldozer, forklift, etc.)** – refers to construction equipment other than trucks propelled by a motor, such as bulldozer, road grader, etc.

- **Golf Cart –** A self-propelled vehicle not designed primarily for operation on roadways. A golf cart has a design speed of less than 20 miles per hour, at least three wheels in contact with the ground, and an empty weight of not more than 1,300 lbs.

- **Low Speed Vehicle –** A low speed vehicle (LSV) is a motor vehicle with four or more wheels whose top speed is greater than 20 miles per hour, but not greater than 25 miles per hour. LSVs are required to be equipped with basic items of safety equipment: headlamps, stop lamps, turn signal lamps, tail lamps, reflex reflectors, parking brake, windshields of either type AS-1 or type AS-5 glazing, rearview mirrors, seat belts, and vehicle identification numbers (VINs).

- **Moped -** is used when the motor vehicle is a speed-limited motor-driven cycle capable of moving either by pedaling or by a motor. NOTE: This does not include motorized bicycles, ridden by non-motorists (see NON-MOTORIST DEVICE TYPE).

- **Motorcoach –** A bus with a gross vehicle weight rating (GVWR) of 11,793 kilograms (26,000 pounds) or greater, 16 or more designated seating positions (including the driver), and at least 2

rows of passenger seats, rearward of the driver's seating position, that are forward-facing or can convert to forward-facing without the use of tools. Motorcoach includes buses sold for intercity, tour, and commuter bus service, but does not include a school bus, or an urban transit bus sold for operation as a common carrier in urban transportation along a fixed route with frequent stops.

- **Motor Home/Recreational Vehicle –** A van where a frame-mounted recreational unit is added behind the driver or cab area or mounted on a bus/truck chassis that is suitable to live in and drive across the country.
- **Motorcycle, 2-Wheeled, 3-Wheeled –** An open (no enclosed body) motor vehicle propelled by a motor, having a seat or a saddle for the use of its operator, and designed to travel on not more than three wheels in contact with the ground (excluding an attached trailer or sidecar).
- **Passenger Car –** Motor vehicles used primarily for carrying passengers.
- **Passenger Van –** is a box shaped vehicle designed to move 9 or more passengers (including the driver). These vehicles are identifiable by their enclosed cargo/passenger area and relatively short (or non-existent) hood.
- **Single-Unit Truck (2 axles and GVWR > 10,000 lbs.)** – is a power unit that includes a permanently mounted cargo body (also called a straight truck) that has only two axles and a GVWR of over 10,000 pounds. When counting axles on a single-unit truck, include raised axles.
- **Single-Unit Truck (3 or more axles) –** is a power unit that includes a permanently mounted cargo body (also called a straight truck) that has three or more axles. When counting axles on a single-unit truck, include raised axles.
- **Sport Utility Vehicle (SUV) –** A motor vehicle other than a motorcycle or bus consisting primarily of a transport device designed for carrying ten or fewer people, and generally considered a multi-purpose vehicle that is designed to have off-road capabilities. These vehicles are generally four-wheel-drive (4x4) and have increased ground clearance. A utility vehicle has a gross vehicle weight rating (GVWR) of 10,000 pounds or less. Utility vehicles with wheelbases greater than 88 inches are classified by overall width. The wheelbase and overall width should be rounded to the nearest inch. Sizes range from mini, small, midsize, full-size, and large. Four-wheel automobiles are not considered utility vehicles.
- **Transit Bus –** A bus sold for public transportation provided by, or on behalf of a State or local government, that is equipped with a stop-request system and that is not an over-the-road bus. An "Over-the-road bus" means a bus is characterized by an elevated passenger deck located over a baggage compartment.

Highway Safety Rationale:

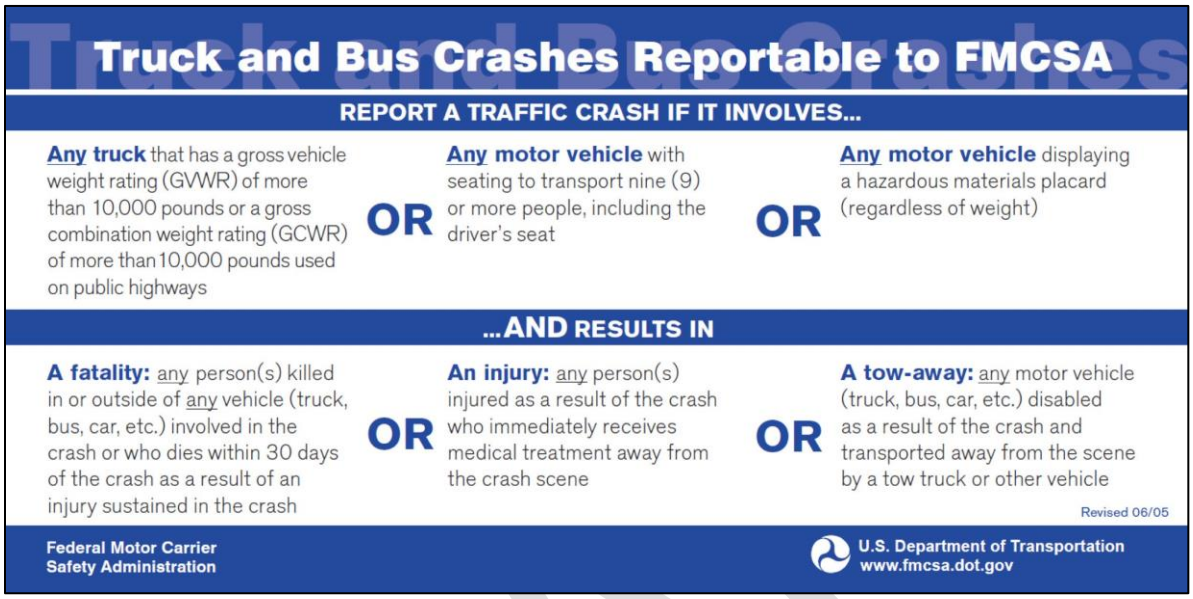
This data element is important to identify the specific type of motor vehicle involved in the crash for evaluation, research, and crash comparison purposes. The Federal Motor Carrier Safety Administration (FMCSA) analyzes crashes involving one or more of the following criteria: vehicles with a Gross Vehicle Weight Rating greater than 10,000 pounds, any motor vehicle designed primarily to transport nine (9) or more people (including the driver), and vehicles carrying hazardous materials to identify safety risks and develop and evaluate safety countermeasures.

Implementation Suggestions:

- None

Validation Rules:

- None



Truck and Bus Crashes Reportable to FMCSA

REPORT A TRAFFIC CRASH IF IT INVOLVES...

Any truck that has a gross vehicle weight rating (GVWR) of more than 10,000 pounds or a gross combination weight rating (GCWR) of more than 10,000 pounds used on public highways

OR

Any motor vehicle with seating to transport nine (9) or more people, including the driver's seat

OR

Any motor vehicle displaying a hazardous materials placard (regardless of weight)

...AND RESULTS IN

A fatality: any person(s) killed in or outside of any vehicle (truck, bus, car, etc.) involved in the crash or who dies within 30 days of the crash as a result of an injury sustained in the crash

OR

An injury: any person(s) injured as a result of the crash who immediately receives medical treatment away from the crash scene

OR

A tow-away: any motor vehicle (truck, bus, car, etc.) disabled as a result of the crash and transported away from the scene by a tow truck or other vehicle

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Federal Motor Carrier Safety Administration

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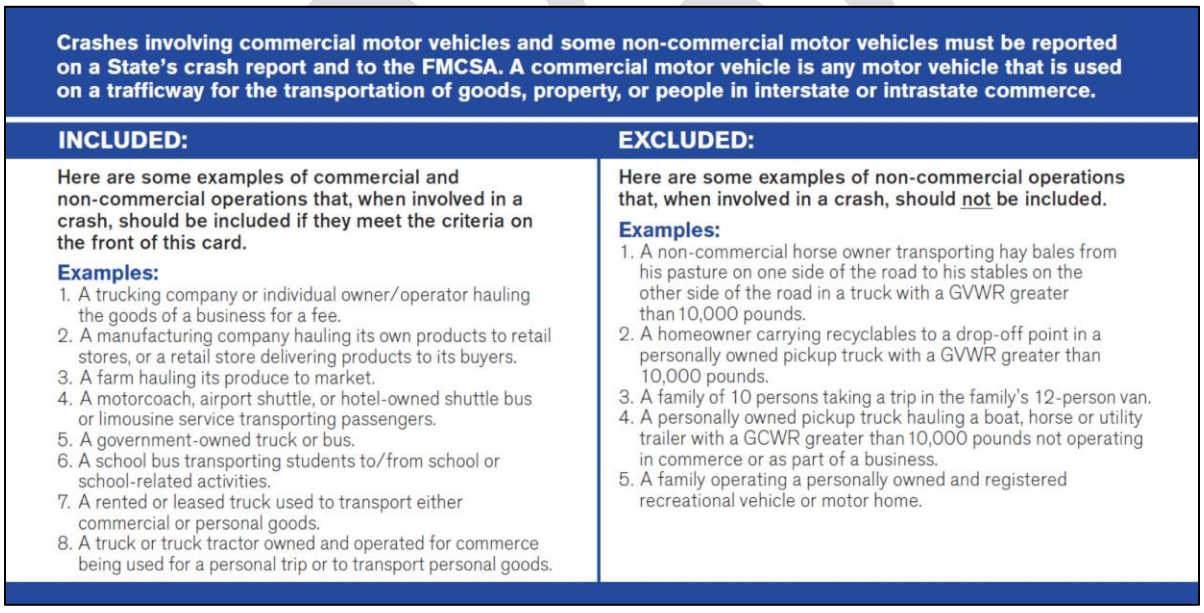
Figure 10: FMCSA Reportable Crashes, Visor Card (Front)



Crashes involving commercial motor vehicles and some non-commercial motor vehicles must be reported on a State's crash report and to the FMCSA. A commercial motor vehicle is any motor vehicle that is used on a trafficway for the transportation of goods, property, or people in interstate or intrastate commerce.

INCLUDED:

Here are some examples of commercial and non-commercial operations that, when involved in a crash, should be included if they meet the criteria on the front of this card.

Examples:

1. A trucking company or individual owner/operator hauling the goods of a business for a fee.
2. A manufacturing company hauling its own products to retail stores, or a retail store delivering products to its buyers.
3. A farm hauling its produce to market.
4. A motorcoach, airport shuttle, or hotel-owned shuttle bus or limousine service transporting passengers.
5. A government-owned truck or bus.
6. A school bus transporting students to/from school or school-related activities.
7. A rented or leased truck used to transport either commercial or personal goods.
8. A truck or truck tractor owned and operated for commerce being used for a personal trip or to transport personal goods.

EXCLUDED:

Here are some examples of non-commercial operations that, when involved in a crash, should not be included.

Examples:

1. A non-commercial horse owner transporting hay bales from his pasture on one side of the road to his stables on the other side of the road in a truck with a GVWR greater than 10,000 pounds.
2. A homeowner carrying recyclables to a drop-off point in a personally owned pickup truck with a GVWR greater than 10,000 pounds.
3. A family of 10 persons taking a trip in the family's 12-person van.
4. A personally owned pickup truck hauling a boat, horse or utility trailer with a GCWR greater than 10,000 pounds not operating in commerce or as part of a business.
5. A family operating a personally owned and registered recreational vehicle or motor home.

Figure 11: FMCSA Reportable Crashes, Visor Card (Back)

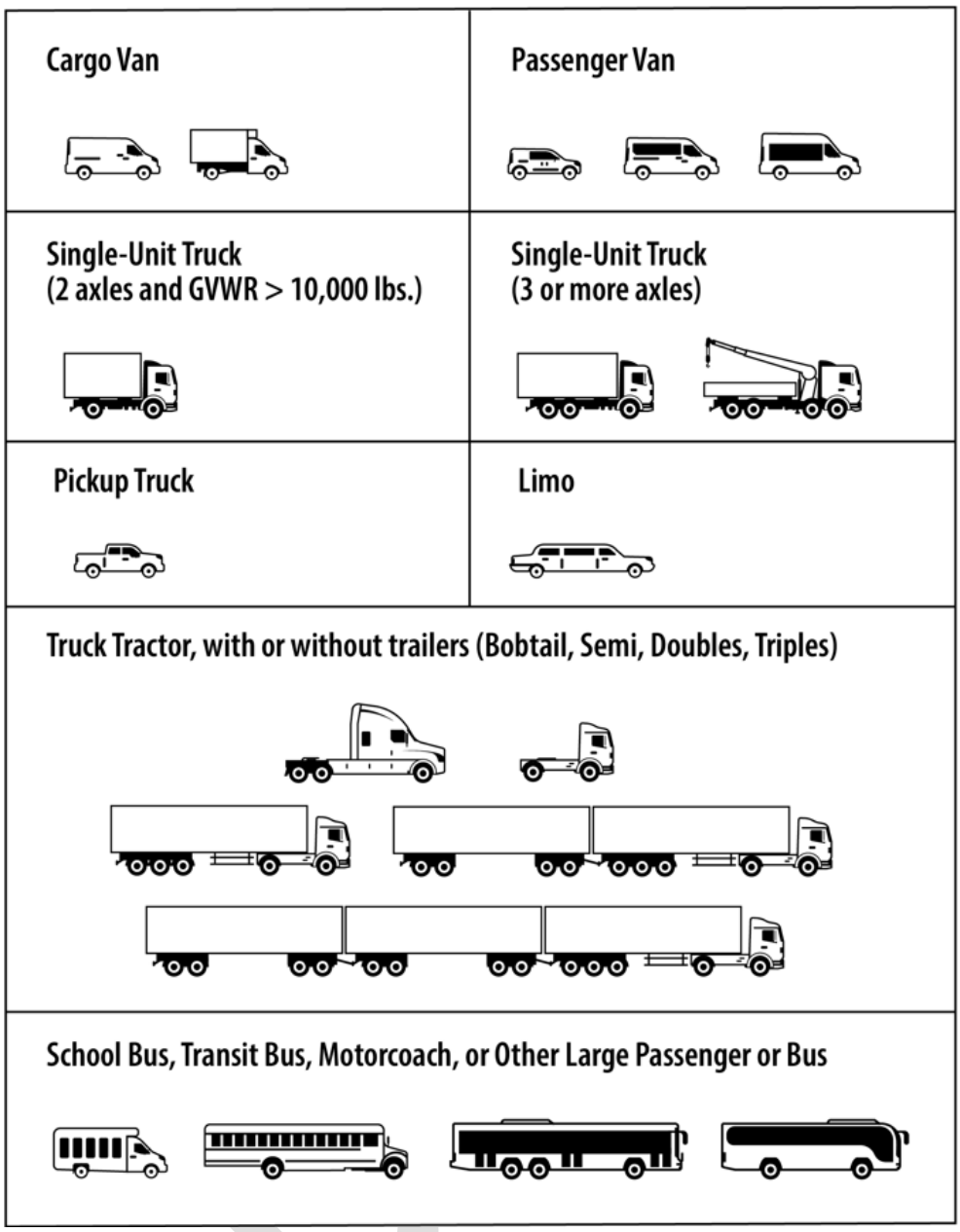


Figure 12: Motor Vehicle Body Type Examples

Alignment Rules for MOTOR VEHICLE BODY TYPE CATEGORY

Note that this MMUCC element describes body type, not vehicle use. So, a State that only lists vehicle uses—such as “School Bus” or” Transit Bus”—is not an acceptable alignment for those corresponding to MOTOR VEHICLE BODY TYPE CATEGORY attributes.

The number of seats must be collected separately from the Motor Vehicle Body Type for Body Types in Group 2 to align to MMUCC.

V14. Power Unit Gross Vehicle Weight Rating (GVWR)

Element Definition:

The value specified by the manufacturer as the recommended maximum loaded weight of a single motor vehicle.

Attribute Values:

Select 1

- Light (10,000 lbs. or less GVWR)
- Medium (10,001 – 26,000 lbs. GVWR)
- Heavy (Greater than 26,000 lbs. GVWR)
- Unknown

Remarks:

Complete this element for all motor vehicles. See Figure 10: FMCSA Reportable Crashes, Visor Card (Front) and Figure 11: FMCSA Reportable Crashes, Visor Card (Back) for information on reportable criteria for FMCSA.

Highway Safety Rationale:

The Federal Motor Carrier Safety Administration (FMCSA) analyzes crashes involving one or more of the following criteria: vehicles with a Gross Vehicle Weight Rating greater than 10,000 pounds, any motor vehicle designed primarily to transport nine (9) or more people (including the driver), and vehicles carrying hazardous materials to identify safety risks and develop and evaluate safety countermeasures.

Implementation Suggestions:

If using electronic crash collection software, then VIN decoding can assist with identifying the power unit's GVWR.

Validation Rules:

- None

Alignment Rules for POWER UNIT GROSS VEHICLE WEIGHT RATING (GVWR):

- If a State uses the GVWR class system decoded by NHTSA's Product Information Catalog and Vehicle Listing (vPIC), these can be translated to, and aligned with, the MMUCC attributes.

V15. Cargo Body Type (Power Unit Only)

Element Definition:

The primary cargo carrying capability of this vehicle.

Attribute Values:

Select 1

- Not Applicable (Motor Vehicle 10,000 lbs. or less, not displaying Hazardous Material placard)
- No Cargo Body (bobtail, fire truck, tow truck, light Motor Vehicle with hazardous materials placard, etc.)
- Bus
- Auto Transporter
- Cargo Tank
- Concrete Mixer
- Dump
- Flatbed
- Garbage/Refuse
- Log
- Van/Enclosed Box
- Other (carrying capability not listed, pickup 10,001 lbs. or more, etc.)
- Unknown

Remarks:

Complete this element for all motor vehicles. Trailer types are captured separately under the element TRAILER BODY TYPE. Refer to Figure 13: Cargo Body Type Examples for chart displaying types of cargo body types.

This data element provides additional information about the motor vehicle, including all major cargo body types. The information it provides can be important in helping FMCSA make decisions on regulatory strategies for different types of motor vehicles. This data element is collected at the scene because FMCSA requires reporting within 90 days. See Figure 10: FMCSA Reportable Crashes, Visor Card (Front) and Figure 11: FMCSA Reportable Crashes, Visor Card (Back) for information on reportable criteria for FMCSA.

- **Auto Transporter –** Describes a cargo body type that is specifically designed to transport multiple, fully assembled automobiles. Single-unit flatbed tow-trucks hauling cars DO NOT qualify (see Flatbed).

- **Bus –** A motor vehicle with seating for transporting nine (9) or more persons, including the driver, not including vans owned and operated for personal use.

- **Cargo Tank –** A single-unit truck with a cargo body designed to transport dry bulk (fly, ash, etc.), liquid bulk (gasoline, milk, etc.) or gas bulk (propane, etc.).

- **Dump –** A cargo body type that can be tilted or otherwise manipulated to discharge its load by gravity.

- **Flatbed –** A single-unit truck whose body is without sides or roof, with or without readily removable stakes which may be tied together with chains, slats, or panels. This includes trucks transporting containerized loads.

- **Van/Enclosed Box –** A single-unit truck having an enclosed body integral to the frame of the motor vehicle.

Highway Safety Rationale:

The Federal Motor Carrier Safety Administration (FMCSA) analyzes crashes involving one or more of the following criteria: vehicles with a Gross Vehicle Weight Rating greater than 10,000 pounds, any motor vehicle designed primarily to transport nine (9) or more people (including the driver), and vehicles carrying hazardous materials to identify safety risks and develop and evaluate safety countermeasures.

Implementation Suggestions:

- If POWER UNIT GROSS VEHICLE WEIGHT RATING (GVWR) equals **Light (10,000 lbs. or less GVWR)** and HAZARDOUS MATERIALS INVOLVEMENT Subfields 1 and 2 both equal **No**, then auto fill CARGO BODY TYPE (POWER UNIT ONLY) with **Not Applicable (Motor Vehicle 10,000 lbs. or less, not displaying Hazardous Material placard)**.
- If POWER UNIT GROSS VEHICLE WEIGHT RATING (GVWR) equals **Medium (10,001 – 26,000 lbs. GVWR)** or **Heavy (Greater than 26,000 lbs. GVWR)** and MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1 equals **Pickup Truck**, then auto fill CARGO BODY TYPE (POWER UNIT ONLY) with **Other (carrying capability not listed, pickup 10,001 lbs. or more, etc.)**.
- If MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1 equals **Truck Tractor, with or without trailers (Bobtail, Semi, Doubles, Triples)**, then auto fill CARGO BODY TYPE (POWER UNIT ONLY) with **No Cargo Body (bobtail, fire truck, tow truck, light Motor Vehicle with hazardous materials placard, etc.)**.

Validation Rules:

- None

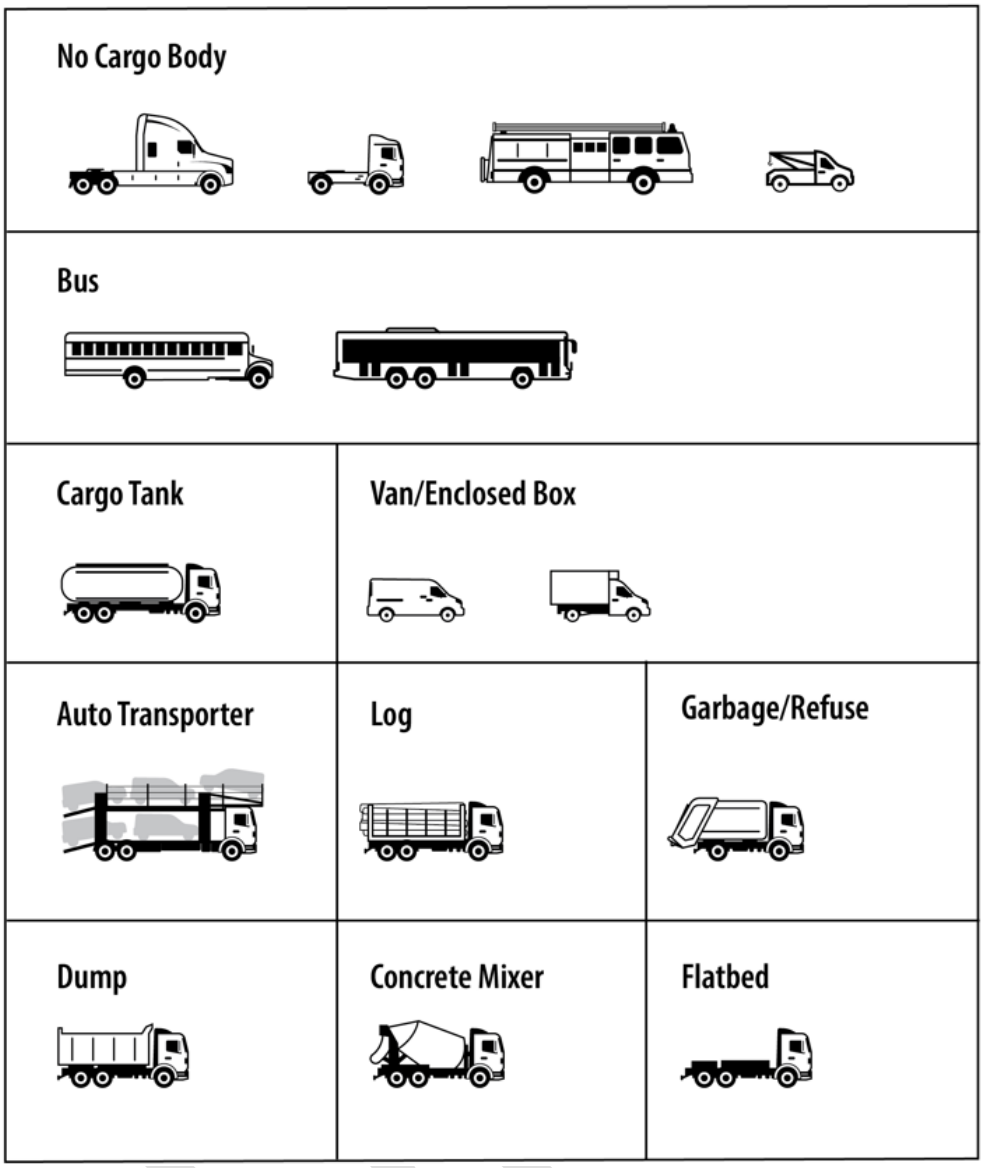


Figure 13: Cargo Body Type Examples

Alignment Rules for CARGO BODY TYPE (POWER UNIT ONLY):

- Note that the power unit and the trailing unit are collected separately, new in this MMUCC Sixth Edition. If the State collects only the entire combination unit (power unit and trailing unit together), then this does not align with MMUCC.
- This MMUCC data element is applicable to all vehicles. If the State only collects this element for large trucks and buses, this does not align with MMUCC.

V16. Hazardous Materials Involvement

Element Definition:

Indication of the hazardous materials identification and class being transported by the motor vehicle, and whether hazardous materials were released.

Attribute Values:

Subfield 1: Hazardous Materials Involvement (Select 1)

- No
- Yes

Subfield 2: Placard (Select 1)

- No
- Yes
- Unknown

Subfield 3: 4-digit Hazardous Materials Identification Number (Specify)

- Not Applicable
- 4-digit Hazardous Materials ID number or name taken from the middle of the diamond or from rectangular box

Subfield 4: Hazardous Materials Class (Select 1)

- Not Applicable
- 1 – Explosives
- 2 – Gases
- 3 – Flammable and combustible liquids
- 4 – Flammable materials
- 5 – Oxidizer and organic peroxide
- 6 – Poisons
- 7 – Radioactive
- 8 – Corrosive
- 9 – Miscellaneous
- Unknown

Subfield 5: Release of hazardous materials from the cargo compartment (Select 1)

- Not Applicable
- No
- Yes
- Unknown if Released

Remarks:

Complete this element for all motor vehicles. This data element is collected from the scene because FMCSA requires reporting within 90 days. See Figure 10: FMCSA Reportable Crashes, Visor Card (Front) and Figure 11: FMCSA Reportable Crashes, Visor Card (Back) for information on reportable criteria for FMCSA.

Hazardous Materials are any substance or material which has been determined by the U.S. Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated under regulations of the US DOT.

Guideline for recording Hazardous Materials if the State collects fewer Hazardous Material occurrences than are on a vehicle:

- If a Hazardous Material spill has occurred and you know which material was released, always record that material;
- If more than one Hazardous Materials at different classes (1-9), report the material from the

- **Table 1: § 172.504 General placarding requirements, paragraph €. Placarding Tables. Table 1** and its associated 4-digit UN number before materials in **Table 2: § 172.504 General placarding requirements, paragraph €. Placarding Tables. Table 2**. Table 1 includes Hazard Class/Divisions 1.1, 1.2, 1.3, 2.3, 4.3, 5.2, 6.1, 7;
- If more than one Hazardous Materials of the same class, report the material in greatest quantity.

Refer to Figure 14: Nine Classes of Hazardous Materials, FMCSA Visor Card (Front) and Figure 15: Reporting Hazardous Materials Information, FMCSA Visor Card (Back) for charts displaying hazardous materials classes and reporting information.

- **Hazardous Materials Placard –** A Hazardous Materials Placard is a sign required to be affixed to any motor vehicle transporting quantities of hazardous materials in quantities above the thresholds established by the U.S. Department of Transportation, or other authorized entity. This placard identifies the hazard class division number, 4-digit hazardous material identification number or name of the hazardous material being transported.

Highway Safety Rationale:

The Federal Motor Carrier Safety Administration (FMCSA) analyzes crashes involving one or more of the following criteria: vehicles with a Gross Vehicle Weight Rating greater than 10,000 pounds, any motor vehicle designed primarily to transport nine (9) or more people (including the driver), and vehicles carrying hazardous materials to identify safety risks and develop and evaluate safety countermeasures FMCSA devotes special attention to motor carriers that transport hazardous materials, including calculating risk assessments, determining response methods, imposing tighter regulations, and conducting compliance reviews on a higher percentage of hazardous materials carriers. Obtaining high quality data on crashes involving vehicles carrying hazardous materials and whether hazardous materials are spilled during the crashes helps FMCSA focus law enforcement efforts.

Implementation Suggestions:

- If Subfields 1 and 2 both equal **No**, then auto fill Subfields 3-5 with **Not Applicable**.

Validation Rules:

- If HAZARDOUS MATERIALS INVOLVEMENT Subfields 1 and 2 both = **No**, then Subfields 3-5 must = **Not Applicable**.
- If HAZARDOUS MATERIALS INVOLVEMENT Subfield 1 or Subfield 2 = **Yes**, then Subfields 3-5 must not = **Not Applicable**.

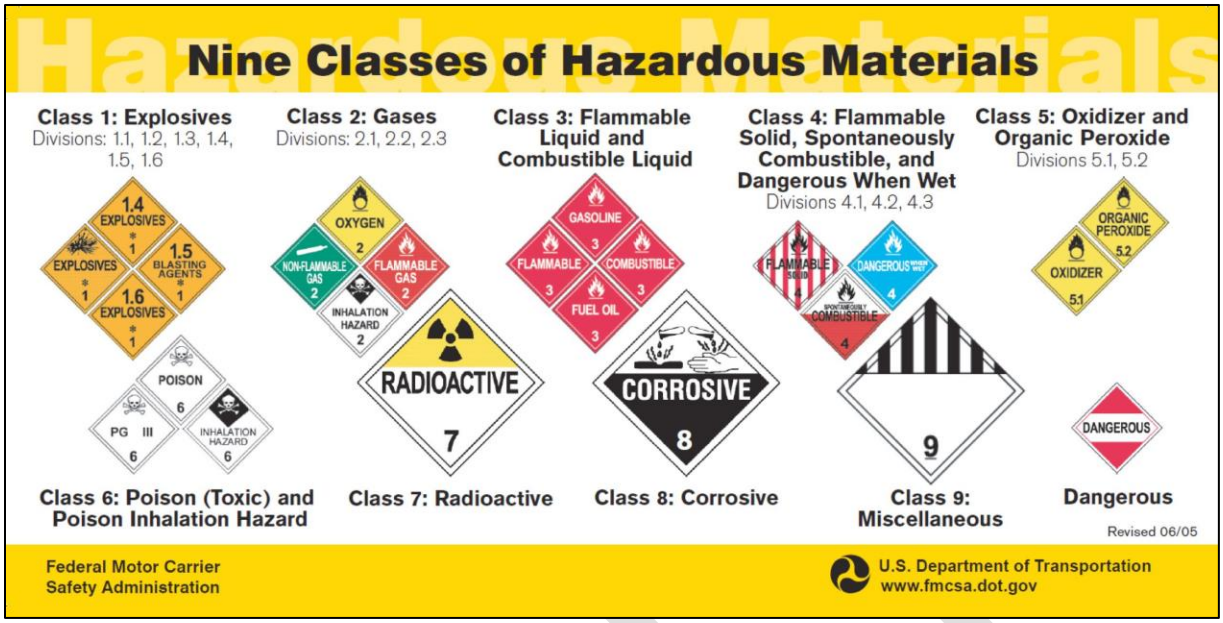


Figure 14: Nine Classes of Hazardous Materials, FMCSA Visor Card (Front)

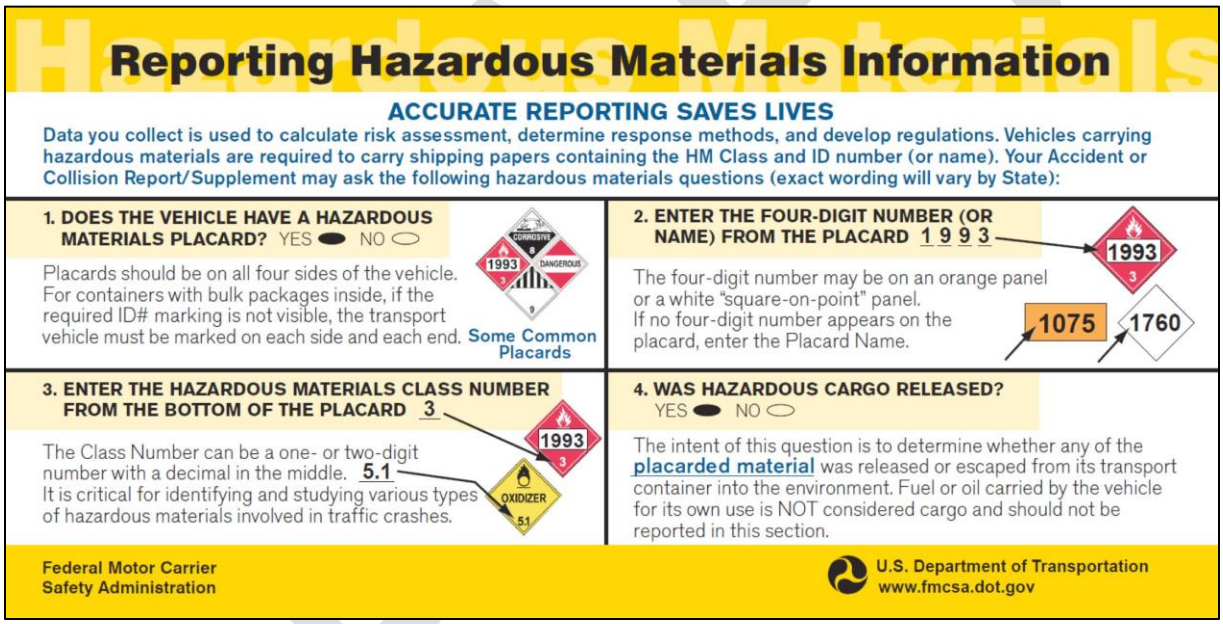


Figure 15: Reporting Hazardous Materials Information, FMCSA Visor Card (Back)

Table 1: § 172.504 General placarding requirements, paragraph €. Placarding Tables. Table 1

Category of material (Hazard Class or division number and additional description, as appropriate	Placard name	Placard design section reference (§)
1.1	EXPLOSIVES 1.1	172.522
1.2	EXPLOSIVES 1.2	172.522
1.3	EXPLOSIVES 1.3	172.522
2.3	POISON GAS	172.540
4.3	DANGEROUS WHEN WET	172.548
5.2 (Organic peroxide, Type B, liquid or solid, temperature controlled)	ORGANIC PEROXIDE	172.552
6.1 (material poisonous by inhalation (see §171.8 of this subchapter))	POISON INHALATION HAZARD	172.555
7 (Radioactive Yellow III label only)	RADIOACTIVE[1]	172.556

[1] RADIOACTIVE placards are also required for: All shipments of unpackaged LSA-I material or SCO-I; all shipments required by §§ 173.427, 173.441, and 173.457 of this subchapter to be operated under exclusive use; and all closed vehicles used in accordance with § 173.443(d).

Source: Code of Federal Regulations

Table 2: § 172.504 General placarding requirements, paragraph €. Placarding Tables. Table 2

Category of material (Hazard Class or division number and additional description, as appropriate	Placard name	Placard design section reference (§)
1.4	EXPLOSIVES 1.4	172.523
1.5	EXPLOSIVES 1.5	172.524
1.6	EXPLOSIVES 1.6	172.525
2.1	FLAMMABLE GAS	172.532
2.2	NON-FLAMMABLE GAS	172.528
3	FLAMMABLE	172.542
Combustible liquid	COMBUSTIBLE	172.544
4.1	FLAMMABLE SOLID	172.546
4.2	SPONTANEOUSLY COMBUSTIBLE	172.547
5.1	OXIDIZER	172.550
5.2 (Other than organic peroxide, Type B, liquid or solid, temperature controlled)	ORGANIC PEROXIDE	172.552
6.1 (other than material poisonous by inhalation)	POISON	172.554
6.2	(None)	
8	CORROSIVE	172.558
9	Class 9 (see § 172.504(f)(9))	172.560
ORM-D	(None)	

Source: Code of Federal Regulations

Alignment Rules for HAZARDOUS MATERIALS INVOLVEMENT:

- None

V17. Vehicle Trailing

Element Definition:

This element identifies whether this vehicle had any attached trailing units.

Attribute Values:

Select 1

- No Trailers
- One Trailer
- Two Trailers
- Three Trailers
- Yes, Number of Trailers Unknown
- Vehicle Towing Another Motor Vehicle – Fixed Linkage
- Vehicle Towing Another Motor Vehicle – Non-Fixed Linkage
- Trailing Unit Other than a Trailer or Another Motor Vehicle
- Unknown

Remarks:

Complete this element for all motor vehicles. See Figure 10: FMCSA Reportable Crashes, Visor Card (Front) and Figure 11: FMCSA Reportable Crashes, Visor Card (Back) for information on reportable criteria for FMCSA.

Trailing unit applies to any device connected to a motor vehicle by a hitch, including tractor-trailer combinations, a single-unit truck pulling a trailer, a boat trailer hitched onto a motor vehicle, etc.

Highway Safety Rationale:

The Federal Motor Carrier Safety Administration (FMCSA) analyzes crashes involving one or more of the following criteria: vehicles with a Gross Vehicle Weight Rating greater than 10,000 pounds, any motor vehicle designed primarily to transport nine (9) or more people (including the driver), and vehicles carrying hazardous materials to identify safety risks and develop and evaluate safety countermeasures.

Implementation Suggestions:

- If **No Trailers** is selected, then autofill TRAILER VIN(S) with **No Trailing Units** for all three subfields and autofill TRAILER BODY TYPE with **No Trailer** for all three subfields.
- If **One Trailer** is selected, then autofill TRAILER VIN(S) Subfields 2 and 3 with **No Trailing Units** and autofill TRAILER BODY TYPE Subfields 2 and 3 with **No Trailer**.
- If **Two Trailers** is selected, then autofill TRAILER VIN(S) Subfield 3 with **No Trailing Units** and autofill TRAILER BODY TYPE Subfield 3 with **No Trailer**.

Validation Rules:

- None

Alignment Rules for VEHICLE TRAILING:

- None

V18. Trailer VIN(s)

Element Definition:

A unique combination of alphanumeric characters assigned to each trailer that is designated by the manufacturer.

Attribute Values:

Subfield 1: First Trailer (Specify 1)

- No trailing units
- No VIN Required, not a Vehicle for Road Use
- Any Alphanumeric Characters – Actual VIN Number
- Unknown (information unavailable)

Subfield 2: Second Trailer (Specify 1)

- No trailing units
- No VIN Required, not a Vehicle for Road Use
- Any Alphanumeric Characters – Actual VIN Number
- Unknown (information unavailable)

Subfield 3: Third Trailer (Specify 1)

- No trailing units
- No VIN Required, not a Vehicle for Road Use
- Any Alphanumeric Characters – Actual VIN Number
- Unknown (information unavailable)

Remarks:

Complete this element for all motor vehicles.

NHTSA encourages states to use the Product Information Catalog and Vehicle Listing (vPIC), which is a consolidated platform that presents data collected within the manufacturer reported data from 49 CFR Parts 551-574.

The Trailer VIN is the manufacturer-assigned number permanently affixed to trailer

Highway Safety Rationale:

This element is important to identify specific trailer design characteristics for effectiveness evaluations. This element is also essential for VIN decoders, vehicle registration files, and other State traffic records data integration purposes. The Federal Motor Carrier Safety Administration (FMCSA) analyzes crashes involving one or more of the following criteria: vehicles with a Gross Vehicle Weight Rating greater than 10,000 pounds, any motor vehicle designed primarily to transport nine (9) or more people (including the driver), and vehicles carrying hazardous materials to identify safety risks and develop and evaluate safety countermeasures.

Implementation Suggestions:

- If the element VEHICLE TRAILING equals **No Trailers**, then autofill this element with **No Trailing Units** for all three subfields.
- If the element VEHICLE TRAILING equals **One Trailer**, then autofill this element's Subfields 2 and 3 with **No Trailing Units**.

- If the element VEHICLE TRAILING equals **Two Trailers**, then autofill this element's Subfield 3 with **No Trailing Units**.

Validation Rules:

- None

Alignment Rules for TRAILER VIN(S):

- None

V19. Trailer Body Type

Element Definition:

The primary cargo carrying capability of this trailer.

Attribute Values:

Subfield 1: First Trailer

- No Trailer
- Towed Vehicle
- Box or Van Enclosed Trailer
- Flatbed or Platform Trailer
- Grain/Chip/Gravel Trailer
- Dump Trailer
- Tank Trailer
- Mixer Trailer
- Intermodal Container Chassis/Trailer
- Logging Trailer
- Pole Trailer
- Auto Transporter
- House Trailer
- Utility Trailer
- Boat Trailer
- Camping/Travel Trailer
- Live Animal Trailer
- Other Trailer
- Unknown Trailer Body Type

Subfield 2: Second Trailer

- No Trailer
- Towed Vehicle
- Box or Van Enclosed Trailer
- Flatbed or Platform Trailer
- Grain/Chip/Gravel Trailer
- Dump Trailer
- Tank Trailer
- Mixer Trailer
- Intermodal Container Chassis/Trailer
- Logging Trailer
- Pole Trailer
- Auto Transporter
- House Trailer
- Utility Trailer
- Boat Trailer
- Camping/Travel Trailer
- Live Animal Trailer
- Other Trailer
- Unknown Trailer Body Type

Subfield 3: Third Trailer

- No Trailer
- Towed Vehicle
- Box or Van Enclosed Trailer
- Flatbed or Platform Trailer
- Grain/Chip/Gravel Trailer
- Dump Trailer
- Tank Trailer
- Mixer Trailer
- Intermodal Container Chassis/Trailer
- Logging Trailer
- Pole Trailer
- Auto Transporter
- House Trailer
- Utility Trailer
- Boat Trailer
- Camping/Travel Trailer
- Live Animal Trailer
- Other Trailer
- Unknown Trailer Body Type

Remarks:

Complete this element for all motor vehicles. Power units are captured separately under the element CARGO BODY TYPE (POWER UNIT ONLY). Refer to Figure 16: Trailer Body Type Examples for chart displaying types of trailer body types. See Figure 10: FMCSA Reportable Crashes, Visor Card (Front) and Figure 11: FMCSA Reportable Crashes, Visor Card (Back) for information on reportable criteria for FMCSA.

- **Auto Transporter –** Describes a trailer body type that is specifically designed to transport multiple, fully assembled automobiles.

- **Box or Van Enclosed Trailer –** A trailer having an enclosed body integral to the frame of the trailer.

- **Dump Trailer –** A trailer type that can be tilted or otherwise manipulated to discharge its load by gravity.

- **Flatbed or Platform Trailer –** A trailer type without sides or roof, with or without readily removable stakes which may be tied together with chains, slats, or panels. This includes trailers transporting containerized loads.

- **Grain/Chip/Gravel Trailer –** Describes a trailer body type used for hauling these or other similar bulk commodities. They may be referred to as “open hoppers” or “belly dumps.”

- **Pole Trailer –** A trailer designed to be attached to the towing vehicle by means of a reach or pole, or by being boomed or otherwise secured to the towing motor vehicle, and ordinarily used for carrying property of a long or irregular shape.

- **Tank Trailer –** A trailer type designed to transport dry bulk (fly, ash, etc.), liquid bulk (gasoline, milk, etc.) or gas bulk (propane, etc.).

Highway Safety Rationale:

This element is important to identify specific trailer design characteristics for effectiveness evaluations. The Federal Motor Carrier Safety Administration (FMCSA) analyzes crashes involving one or more of the following criteria: vehicles with a Gross Vehicle Weight Rating greater than 10,000 pounds, any motor vehicle designed primarily to transport nine (9) or more people (including the driver), and vehicles carrying hazardous materials to identify safety risks and develop and evaluate safety countermeasures.

Implementation Suggestions:

- If the element VEHICLE TRAILING equals **No Trailers**, then autofill this element with **No Trailer** for all three subfields.
- If the element VEHICLE TRAILING equals **One Trailer**, then autofill this element's Subfields 2 and 3 with **No Trailer**.
- If the element VEHICLE TRAILING equals **Two Trailers**, then autofill this element's Subfield 3 with **No Trailer**.

Validation Rules:

- None

Alignment Rules for TRAILER BODY TYPE

- None

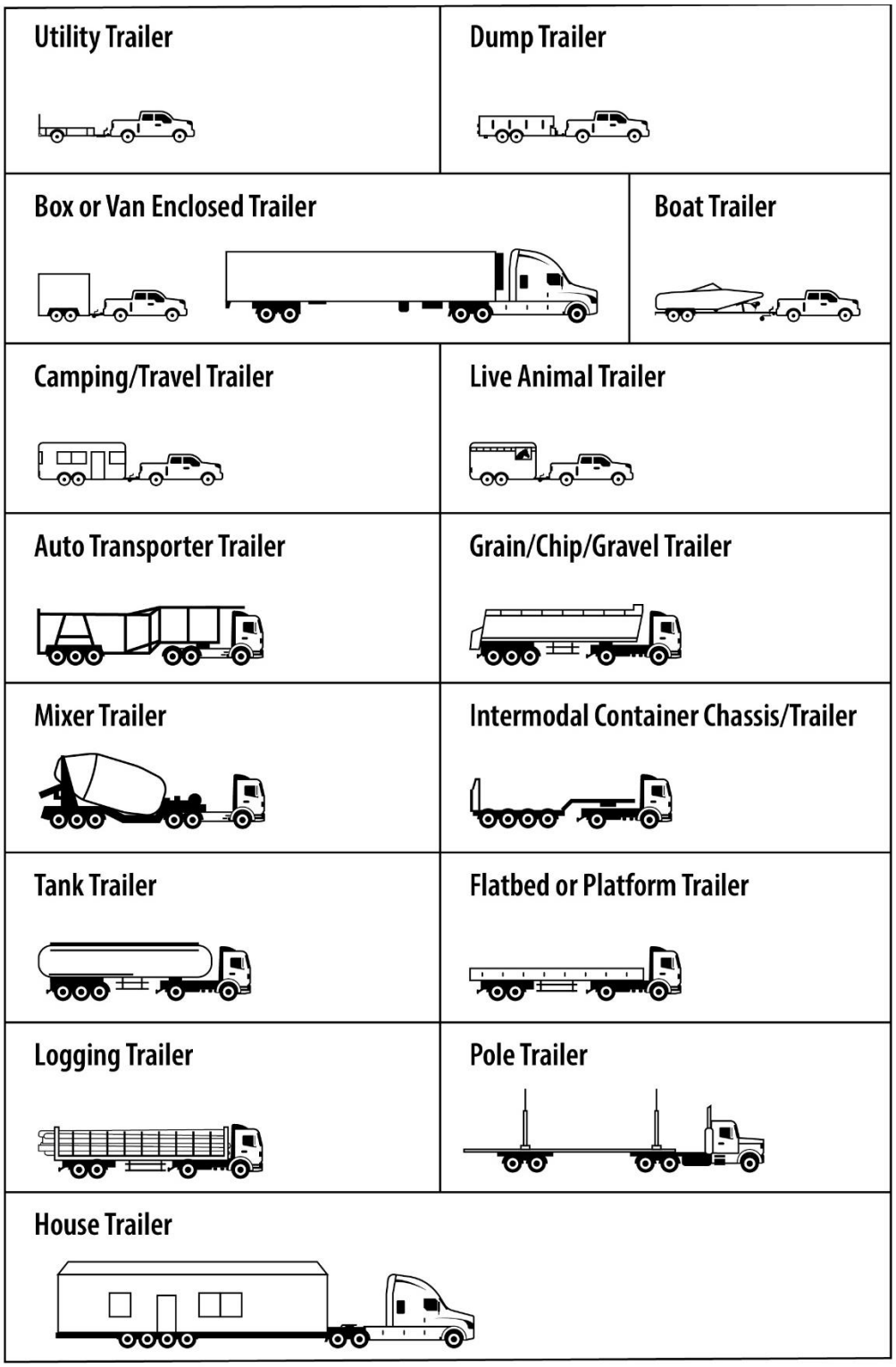


Figure 16: Trailer Body Type Examples

V20. Total Occupants in Motor Vehicle

Element Definition:

The total number of injured and uninjured occupants in this motor vehicle involved in the crash, including people in or on the motor vehicle at the time of the crash.

Attribute Values:

Specify 1

- Total number of injured and uninjured occupants including the driver
- Unknown

Remarks:

Complete this element for all motor vehicles. Zero is an acceptable number.

Highway Safety Rationale:

This element is important for evaluating the effectiveness of countermeasures that prevent or reduce injury and injury severity.

Implementation Suggestions:

- None

Validation Rules:

- TOTAL OCCUPANTS IN MOTOR VEHICLE must = the total number of Person Records for this vehicle.

Alignment Rules for TOTAL OCCUPANTS IN MOTOR VEHICLE:

- If a State only collects injured occupants and electronically derives the count of these injured occupants to populate the total number of occupants in the vehicle, then this does not align with MMUCC.

V21. Special Use

Element Definition:

The type of special use being served by this motor vehicle regardless of whether the use is marked on the vehicle or aligns to the body type, at the time of the crash. For example, a 15-Passenger van being used as a school bus.

Attribute Values:

Select 1

- No Special Use
- Vehicle Used for School Transport
- Fire Truck
- Trafficway Construction/Maintenance/Utility
- U.S.P.S. Mail Carrier
- Other Package Delivery Vehicle (e.g., UPS, DHL, FedEx, Amazon)
- Military
- Ambulance
- Law Enforcement
- Other Emergency Services Vehicle
- Safety Service Patrols – Incident Response
- Towing – Incident Response
- Other Incident Response
- Truck Operating with Crash Attenuator Equipment
- Rental Truck (Over 10,000 lbs.)
- Taxi
- Motor Vehicle In Service for Electronic Ride-hailing
- Rental or Car-Share Vehicle
- Unknown

Remarks:

Complete this element for all motor vehicles.

NOTE on Incident Response Vehicles: An Incident Response Vehicle is a vehicle typically equipped with a variety of tools, emergency medical equipment, traffic cones and control signs, absorbent material (for responding to spills), emergency and work lighting. These multi-purpose response units are intended to assist law enforcement, fire, and rescue personnel with trafficway incident management. A traffic incident scene is the scene of any unplanned traffic event that adversely effects normal traffic operations. Examples include, but are not limited to, disabled vehicles, traffic backups, or spilled cargo.

- **Ambulance –** is used for any readily identifiable (lights or markings) vehicles with separated driver's and patient compartments and designed to transport sick or injured people. The ambulance is presumed to be in special use at all times, although not necessarily in "emergency use."

- **Fire Truck –** A readily identifiable vehicle specially designed and equipped for the purposes of providing fire, hazmat, medical, and extrication services. This attribute includes medium and

heavy vehicles such as engines, pumpers, ladder, platform aerial apparatus, heavy rescue vehicles, water tenders or tankers, brush or wilderness firefighting vehicles, etc. The fire truck is presumed to be in special use at all times, although not necessarily in "emergency use."

- **Law Enforcement –** A vehicle equipped with police emergency devices (lights and siren) that is owned or subsidized by any local, county, State, or Federal government entity. The police vehicle is presumed to be in special use at all times, although not necessarily in "emergency use." Vehicles not owned by a government entity that are used by law enforcement officers (e.g., undercover) are excluded.

- **Motor Vehicle In Service for Electronic Ride-hailing –** A transportation network company (TNC) (sometimes known as Mobility Service Providers or MSPs) connects, via websites and mobile apps, paying passengers with drivers who provide such passengers with transportation on the driver's non-commercial vehicle.

- **Other Emergency Services Vehicle –** Is used for any readily identified (lights and markings) vehicles that do not meet the criteria for Ambulance**Error! Bookmark not defined.**, Fire Truck, Safety Service Patrols-Incident Response, Towing-Incident Response, or Other Incident Response and are specifically designed and equipped to respond to fire, hazmat, medical and extrication incidents. This attribute includes light vehicles such as sedans, vans, SUVs, pickups, trucks, motorcycles, etc. This attribute includes vehicles that have been dispatched to an incident or have initiated operation in a non-emergency mode and are not transporting passengers, such as patients or suspects. An example of an Other Emergency Services Vehicle is a fire chief's unit, commonly an SUV.

- **Other Incident Response -** is used for Incident Response Vehicles excluding Safety Service Patrols - Incident Response and Towing - Incident Response. Vehicles responding to clean up spills are examples of this. To use this attribute, this vehicle must have been responding to a traffic incident at the time of its involvement in the crash. See NOTE on Incident Response Vehicles.

- **Safety Service Patrols – Incident Response –** Safety Service Patrol vehicles provide short-term emergency response management to traffic incidents, commonly resulting from crashes, debris, or disabled vehicles, intended to promote safe movement of people and commerce, and reduce traffic delays and congestion. To use this attribute, this vehicle must have been responding to a traffic incident at the time of its involvement in the crash. See NOTE on Incident Response Vehicles.

- **Towing – Incident Response –** is used for any type of tow truck involved in the crash while providing tow service at a traffic incident scene. The tow truck does not need to have a vehicle in tow at the time of the crash to use this attribute. To use this attribute, this vehicle must have been responding to a traffic incident at the time of its involvement in the crash. Tow trucks involved in crashes under any other circumstances are not included in this attribute. See NOTE on Incident Response Vehicles.

- **Trafficway Construction/Maintenance/Utility –** is used for any vehicle whose function is designed to perform authorized maintenance or conduct improvements to a roadway.

- **Vehicle Used for School Transport –** A motor vehicle used for the transportation of any school pupil at or below the 12th-grade level to or from a public or private school or school-related activity.

Highway Safety Rationale:

This element is important to identify and evaluate the crash outcome for vehicles serving specific functions.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for SPECIAL USE

- None

V22. Bus Use

Element Definition:

The common type of bus service this vehicle was being used for at the time of the crash or the primary use for the bus if not in service at the time of the crash.

Attribute Values:

Select 1

- Not a Bus
- Childcare/Daycare
- School
- Intercity
- Charter/Tour
- Transit/Commuter
- Shuttle
- Personal Use
- Bus, Unknown Use
- Unknown

Remarks:

Complete this element for all motor vehicles.

- **Charter/Tour –** is used when a company provides transportation on a for-hire basis and demand-response basis, usually round-trip service for a tour group or outing, regardless of if the function is consistent with the MOTOR VEHICLE BODY TYPE CATEGORY. Buses are any motor vehicle with seats to transport nine (9) or more people, including the driver seat, but not including vans owned and operated for personal use.

- **Intercity –** is used when a company provides long-distance passenger transportation between cities over fixed routes with regular schedules (e.g., Greyhound bus service between major cities) for compensation. Buses are any motor vehicle with seats to transport nine (9) or more people, including the driver seat, but not including vans owned and operated for personal use.

- **Not a Bus –** Vehicles that do not have a bus body type and are not being used as a bus in the crash. This should be used for vehicles with less than 9 seats (including the driver) and personal-use vans with 9 or more seats (including the driver).

- **School –** Any public or private school or district, or contracted carrier operation on behalf of the entity, providing transportation for K-12 pupils.

- **Shuttle –** Private companies providing transportation services for their own employees, non-governmental organizations (such as churches and non-profit groups), and non-educational units of government (such as departments of corrections). Examples include transporting people from airports, hotels, rental car companies, and business facility to facility. Buses are any motor vehicle with seats to transport nine (9) or more people, including the driver seat, but not including vans owned and operated for personal use.

- **Transit/Commuter –** A government entity or private company providing passenger transportation over fixed, scheduled routes, within primarily urban geographical areas. (For example, inner-city mass transit bus service.) Buses are any motor vehicle with seats to transport nine (9) or more people, including the driver seat, but not including vans owned and operated for personal use.

Highway Safety Rationale:

This element is important to identify and evaluate the crash outcome for specific bus functions.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for BUS USE:

- None

V23. Emergency Response

Element Definition:

Subfield 1: Indicates operation of any motor vehicle that is legally authorized by a government authority to respond to emergencies with or without the use of emergency warning equipment, such as a police vehicle, fire truck, or ambulance while engaged in such response. **Subfield 2:** Indicates the use of emergency warning equipment in this vehicle, such as lights or sirens. **Subfield 3:** Indicates if the vehicle was transporting non-emergency people, such as patients or arrestees.

Attribute Values:

Subfield 1: Engaged in Emergency Response (Select 1)

- Not Applicable
- No
- Yes
- Unknown

Subfield 2: Emergency Warning Equipment in Use (Select 1)

- Not Applicable
- No
- Yes
- Unknown

Subfield 3: Transporting Non-Emergency Person(s) (e.g., patients, arrestees) (Select 1)

- Not Applicable
- No
- Yes
- Unknown

Remarks:

Complete this element for all motor vehicles.

Highway Safety Rationale:

This element is important to guide development and evaluation of training and other countermeasures to reduce the number of crashes involving emergency vehicle response.

Implementation Suggestions:

- If Subfield 1 equals **Not Applicable**, then auto fill Subfields 2 and 3 with **Not Applicable**.
- If SPECIAL USE is coded **No Special Use**, then auto fill all three subfields of this element with **Not Applicable**.

Validation Rules:

- None

Alignment Rules for EMERGENCY RESPONSE:

- None

V24. Motor Vehicle Posted/Statutory Speed Limit

Element Definition:

The posted/statutory speed limit for the motor vehicle at the time of the crash.

Attribute Values:

Select 1

- Posted/Statutory Speed Limit (in 5 miles per hour increments)
- Not Applicable
- Unknown

Remarks:

Complete this element for all motor vehicles. If a State collects this element for the entire crash and not per vehicle, the State should NOT then derive this element per vehicle from the crash level information.

For vehicles departing the trafficway prior to their critical event, the trafficway selected for classification is the one the vehicle departed. If this vehicle is in a junction just prior to its critical event, the roadway selected for classification is the one it is on before entering the junction.

Note: Refer to the highway speed limit that is operational at the time and place of the crash whether physically displayed or not. Try not to confuse advisory signs on entrance/exit ramps or near intersections with the actual legal maximum speed limit. Disregard advisory or other speed signs since they do not indicate the legal speed limit. If a State has a statute that uniformly reduces the maximum allowable speed limit within or near a construction zone, then code the indicated reduced speed limit, if known.

When coding SPEED LIMIT for roadways with two different speed limits (for north and southbound lanes or east and westbound lanes), use the speed limit for the direction of travel for this vehicle where its critical event begins.

When a roadway has a different speed limit for different types of vehicles, code the SPEED LIMIT that is applicable to the vehicle based on its MOTOR VEHICLE BODY TYPE CATEGORY.

Example:

A rural Interstate highway has a speed limit of 65 MPH for passenger cars, but the same road has a 55 MPH speed limit for heavy trucks/buses.

- Circumstance 1: A single-vehicle (passenger car) crash.
  - SPEED LIMIT = 65 MPH
- Circumstance 2: A single-vehicle (heavy truck/bus) crash.
  - SPEED LIMIT = 55 MPH
- Circumstance 3: A two-vehicle crash, (passenger car and heavy truck/bus) crash.
  - SPEED LIMIT for the passenger car = 65
  - SPEED LIMIT for the heavy truck/bus = 55

- **Not Applicable** - is used when there is no posted speed limit and no law that governs the maximum speed you can drive (dirt roads, private roads open to the public). Also use this attribute in cases when this vehicle is entering a trafficway but was not on a trafficway prior to its critical event or when the vehicle was in a driveway access prior to its event.

Highway Safety Rationale:

This element is important for evaluating the effectiveness of countermeasures that prevent or reduce the frequency and severity of crashes.

Implementation Suggestions:

- None

Validation Rules:

- MOTOR VEHICLE POSTED/STATUTORY SPEED LIMIT should be divisible by 5 with no remainder.

Alignment Rules for MOTOR VEHICLE POSTED/STATUTORY SPEED LIMIT:

If the data is not collected per vehicle, the State will not receive credit. The element cannot be derived from an overall crash level data element. For example, if a State contains an element "Posted Speed Limit" on the crash level, but not specified for each vehicle, then this does not align with the MMUCC element.

V25. Trafficway Flow

Element Definition:

Identifies whether the trafficway associated with this vehicle serves one-way or two-way traffic.

Attribute Values:

Select 1

- Non-Trafficway or Driveway Access
- One-Way
- Two-Way
- Two-Way with a Continuous Left-Turn Lane
- Unknown

Remarks:

Complete this element for all motor vehicles.

- **Two-Way with a Continuous Left Turn Lane** – Undivided center lane that facilitates left turns by traffic from both directions. Continuous left-turn lanes are not considered painted medians.

Highway Safety Rationale:

This element is used in classifying crashes and identifying infrastructure characteristics to inform traffic safety improvements.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for TRAFFICWAY FLOW:

- None

V26. Median Barrier Presence

Element Definition:

Identifies whether the trafficway associated with this vehicle included a median barrier.

Attribute Values:

Select 1

- Not Applicable (no median, e.g., centerline, two-way left-turn lane)
- Median Without a Traffic Barrier (e.g., grass, vegetation, painted > 4', flush, curb)
- Median With Traffic Barrier (e.g., guardrail, cable barrier, concrete barrier)
- Unknown

Remarks:

Complete this element for all motor vehicles. A median is an area of trafficway between parallel roads separating travel in opposite directions. A median should be four or more feet wide. A median can be depressed, raised, or flush with the travel way surface. A median if flush or painted without a barrier must be four or more feet wide.

Highway Safety Rationale:

This element is used in classifying crashes and identifying infrastructure characteristics to inform traffic safety improvements.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for MEDIAN BARRIER PRESENCE:

- None

V27. Number of Open Lanes in Vehicle's Environment

Element Definition:

Total number of open lanes in this Motor Vehicle's environment, just prior to this vehicle's critical event, including through lanes, turn lanes, acceleration/deceleration lanes, HOT/HOV lanes, or any other lanes.

Attribute Values:

Select 1 or specify number of lanes

- Non-Trafficway (e.g., parking lot, private driveway)
- Enter number of lanes
- Unknown

Remarks:

Complete this element for all motor vehicles. Count all open lanes in this vehicle's environment. If turn bays, acceleration, deceleration, or center two-way left turn lanes exist and are physically located within the cross section of the roadway, and these lanes are the most representative of the driver's environment just prior to the vehicle's critical event, then they are to be included in the number of lanes.

If traffic flows in both directions without a median or separator (e.g., centerline, two-way left turn lane, rural road without lane lines), count the number of lanes in both directions. If the trafficway has a median, separator, or channel dividing the traffic flow, count only the number of lanes for the portion on which this vehicle was traveling.

Because a channelized lane is separated, it should not be included unless it is preceded by a turn bay or turn lane and this bay or lane is felt to be most representative of the driver's environment just prior to its critical event.

The number of lanes counted does not include any of which are rendered unusable by restriction of the right-of-way (e.g., closed due to construction).

If this vehicle departed the trafficway just prior to its critical event, count the number of open lanes in the trafficway that the vehicle departed. If this vehicle is in a junction just prior to its critical event, count the number of open lanes in the roadway the vehicle was on before entering the junction.

Highway Safety Rationale:

This element is used in classifying crashes and identifying infrastructure characteristics to inform traffic safety improvements.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for NUMBER OF OPEN LANES IN VEHICLE'S ENVIRONMENT:

- None

V28. Roadway Alignment

Element Definition:

The geometric or layout characteristics of the roadway in the direction of travel for this vehicle.

Attribute Values:

Select 1

- Straight
- Curve Left
- Curve Right
- Non-Trafficway or Driveway Access
- Unknown

Remarks:

Complete this element for all motor vehicles.

Highway Safety Rationale:

This element is used in classifying crashes and identifying infrastructure characteristics to inform traffic safety improvements.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for ROADWAY ALIGNMENT

If the State has an element that combines ROADWAY ALIGNMENT and ROADWAY GRADE (for example, “uphill curve left”), it will not align to both MMUCC elements.

V29. Roadway Grade

Element Definition:

The inclination characteristics of the roadway in the direction of travel for this vehicle.

Attribute Values:

Select 1

- Level
- Uphill
- Hillcrest
- Downhill
- Sag (bottom)
- Non-Trafficway or Driveway Access
- Unknown

Remarks:

Complete this element for all motor vehicles. See Figure 17: Roadway Grade for an illustration of the attributes.

➢**Hillcrest –** refers to the area of transition between an uphill and a downhill grade (i.e., top of a hill).

➢**Sag –** The bottom of a hill.

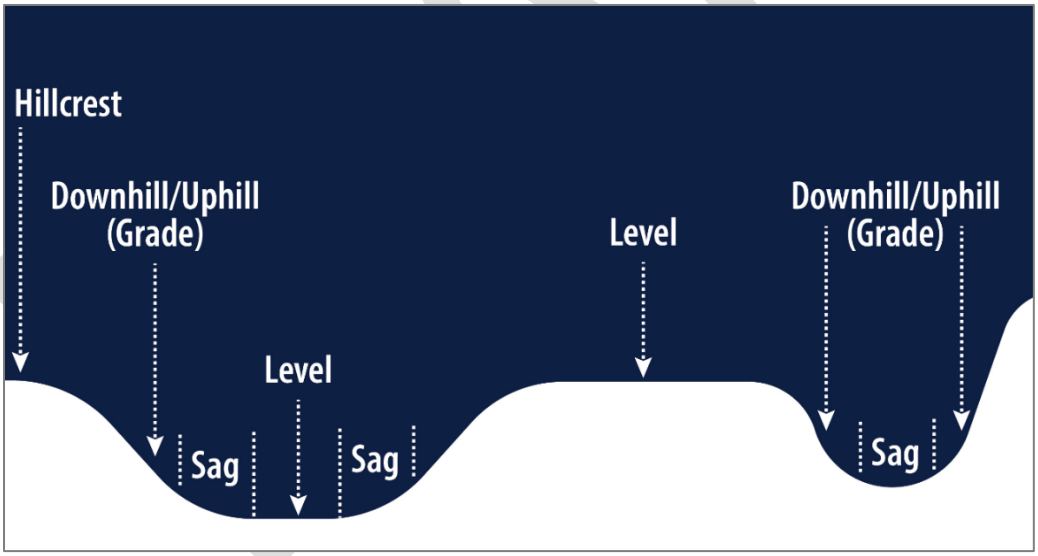


Figure 17: Roadway Grade

Highway Safety Rationale:

This element is used in classifying crashes and identifying infrastructure characteristics to inform traffic safety improvements.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for ROADWAY GRADE

If the State has an element that combines ROADWAY ALIGNMENT and ROADWAY GRADE (for example, “uphill curve left”), it will not align to both MMUCC elements.

V30. Roadway Surface Condition

Element Definition:

The roadway surface condition at the time and place of the crash for this vehicle.

Attribute Values:

Select 1

- Non-Trafficway or Driveway Access
- Dry
- Ice/Frost
- Mud, Dirt, Gravel
- Oil
- Sand
- Slush
- Snow
- Water (standing, moving)
- Wet
- Other
- Unknown

Remarks:

Complete this element for all motor vehicles.

- **Dry -** describes a roadway surface that is free from moisture or liquid. A road made of sand or dirt would be coded as Dry under normal conditions, not Sand, or Mud, Dirt, Gravel.
- **Ice/Frost -** frozen water on the roadway surface.
- **Slush –** Accumulated snow or ice that has partially melted.

Highway Safety Rationale:

This element is used in classifying crashes and identifying infrastructure characteristics to inform traffic safety improvements.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for ROADWAY SURFACE CONDITION:

- This MMUCC element is collected per vehicle. If the State collects this information on the Crash level (i.e., for the overall crash area), then this does not align with the MMUCC element.

V31. Traffic Control Device

Element Definition:

The traffic control device (TCD) applicable to this motor vehicle at the crash location.

Attribute Values:

Select 1

- No Traffic Controls
- Person (including flagger, law enforcement, crossing guard, etc.)
- Construction Cones or Barrels
- Other
- Unknown

Group 1: Signs

- Stop Sign
- Yield Sign
- Railroad Crossing Sign
- School Zone Sign/Device
- Work Zone Reduced Speed Limit
- Warning Sign (Not Railroad Crossing)
- Other Regulatory Sign (Explain in Narrative)
- Regulatory Sign, Type Unknown

Group 2: Signals

- Traffic Control Signal
- Flashing Traffic Control Signal
- Lane Use Control Signal
- Railroad Flashing-Light Signal with Gates
- Railroad Flashing-Light Signal without Gates
- Other Traffic Signal
- Unknown Traffic Signal

Remarks:

Complete this element for all motor vehicles. Functionality of the device is captured separately under DEVICE FUNCTIONING.

- **Flashing Traffic Control Signal –** A traffic control signal that is flashing or a single light flashing red or yellow.

- **Person (including flagger, law enforcement, crossing guard, etc.) -** is someone, (e.g., police officer, crossing guard, flagman, or officially designated person), that is in the act of controlling both vehicular and pedestrian traffic.

- **Railroad Flashing-Light Signal with Gates -** describes a powered traffic control system that alerts road users of the approach or presence of rail traffic on at-grade crossings. These systems may include two- or four-quadrant gate systems, automatic gates, flashing-light signals, traffic

control signals, actuated blank-out and variable message signs, or other traffic control devices. The signal need not be activated at the time of the crash.

- **Railroad Flashing-Light Signal without Gates -** describes a powered traffic control system that alerts road users of the approach or presence of rail traffic on at-grade crossings. These systems may include flashing-light signals, traffic control signals, actuated blank-out and variable message signs, or other traffic control devices. The signal need not be activated at the time of the crash.

- **School Zone Sign/Device –** Signs or devices which change the speed limit on road adjacent to schools on school days, give advance warning of school, and/or warn of children crossing the road.

- **Stop Sign –** An eight-sided red sign with "STOP" on it, requiring motor vehicles to come to a full stop and look for on-coming traffic before proceeding with caution.

- **Traffic Control Signal –** Controls traffic movements by illuminating systematically, a green, yellow, or red light or by flashing a single-color light.

- **Warning Sign (Not Railroad Crossing) –** A sign intended to warn traffic of existing or potentially hazardous conditions on or adjacent to a road.

- **Yield Sign –** Three-sided signs that require motor vehicles to give way to other vehicles.

Highway Safety Rationale:

This element is used in classifying crashes and identifying infrastructure characteristics to inform traffic safety improvements and evaluate device effectiveness.

Implementation Suggestions:

- If this element equals **No Traffic Controls**, then autofill DEVICE FUNCTIONING with **No Controls**.

Validation Rules:

- None

Alignment Rules for TRAFFIC CONTROL DEVICE:

- None

V32. Device Functioning

Element Definition:

Identifies the functionality of the traffic control device recorded for this vehicle in the data element TRAFFIC CONTROL DEVICE.

Attribute Values:

Select 1

- No Controls
- Device Functioning Properly
- Device Not Functioning or Device Functioning Improperly
- Unknown

Remarks:

Complete this element for all motor vehicles.

This data element cannot be collected through linkage to the roadway system. If a signal is not flashing, it may not necessarily be considered inoperative. The unit may still be functioning correctly, but not in the time it is supposed to be flashing (e.g., Flashing School Zone Signal during school hours).

Highway Safety Rationale:

This element is used to determine the operability of the device identified in TRAFFIC CONTROL DEVICE, to inform traffic safety improvements and evaluate device effectiveness.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for DEVICE FUNCTIONING:

- None

V33. Vehicle Status Prior to Critical Event

Element Definition:

The controlled maneuver for this motor vehicle prior to the beginning of the SEQUENCE OF EVENTS.

Attribute Values:

Select 1

- Going Straight
- Turning Left
- Turning Right
- Making U-Turn
- Negotiating a Curve
- Changing Lanes
- Passing or Overtaking Another Vehicle
- Merging (Other than from a Parking Position)
- Backing Up (Other Than for Parking Position)
- Parked
- Leaving a Parking Position
- Entering a Parking Position
- Decelerating
- Accelerating
- Starting
- Stopped
- Lane Splitting / Filtering
- Other (Explain in Narrative)
- Unknown

Remarks:

Complete this element for all motor vehicles.

- **Changing Lanes –** Shift from one traffic lane to another traffic lane while moving in the same direction.

- **Merging (Other than from a Parking Position)** - is used when this vehicle was moving forward and merging from the left or right into a traffic lane (e.g., roadway narrows, exit/entrance ramps).

- **Passing or Overtaking Another Vehicle –** A motor vehicle that moves from behind a motor vehicle to being in front of the same motor vehicle.

- **Stopped –** Applies to a vehicle which is stopped on the trafficway in an area normally used for vehicle travel (i.e., outside a parking lane). It includes but is not limited to motor vehicles legally stopped for a stop sign or signal, motor vehicles stopped to turn PRIOR to initiating a turn, motor vehicles stopped in traffic due to a slowdown in traffic ahead, and motor vehicles illegally stopped in a traffic lane. A vehicle stopped in traffic may or may NOT have a driver and the vehicle engine may or may NOT be running. Most “double parked” vehicles are actually “stopped” rather than “parked.”

Highway Safety Rationale:

When used in combination with SEQUENCE OF EVENTS, this element identifies what the vehicle was doing prior to the unstabilized situation. This is important in analyzing crash causation.

Implementation Suggestions:

- If MOTOR VEHICLE UNIT TYPE equals **Parked Motor Vehicle**, then auto-fill this element with the attribute **Parked**.

Validation Rules:

- None

Alignment Rules for VEHICLE STATUS PRIOR TO CRITICAL EVENT

- None

V34. Initial Contact Point

Element Definition:

This element is intended to collect the approximate contact point on this vehicle associated with this vehicle's initial harmful event.

Attribute Values:

Select 1

- Non-Collision
- (Clock Position) 01
- (Clock Position) 02
- (Clock Position) 03
- (Clock Position) 04
- (Clock Position) 05
- (Clock Position) 06
- (Clock Position) 07
- (Clock Position) 08
- (Clock Position) 09
- (Clock Position) 10
- (Clock Position) 11
- (Clock Position) 12
- Top
- Undercarriage
- Cargo Loss or Object or Person Set-in-Motion
- Unknown

Remarks:

Complete this element for all motor vehicles. If the vehicle is a combination vehicle (power unit and at least one trailer), the power unit and/or trailer(s) are considered when determining the initial contact point.

If the initial harmful event for this vehicle does not involve a collision (e.g., Rollover/Overturn, Fire/Explosion, etc.), then code the attribute **Non-Collision**" (refer to glossary for Non-Collision Harmful Events).

If the initial harmful event for this vehicle involves striking another vehicle, person, or property (a collision event) by a load/cargo that falls from or is propelled by the vehicle, then code the attribute Cargo Loss or Object or Person Set-in-Motion.

If the vehicle is not at the scene for the officer to assess the initial point of contact, then code the attribute **Unknown**, unless subsequently discovered.

Refer to: Figure 18: Clock Point Diagrams for Different Types of Motor Vehicles.

- **Cargo Loss or Object or Person Set-in-Motion –** Is used for a vehicle when its initial harmful event involves striking another vehicle, person, or property (a collision event) by a load/cargo that falls from or is propelled by the vehicle. For example, **Cargo Loss or Object or Person Set-in-Motion** would be selected for a log truck if, in the initial harmful event, logs fall from a log truck onto the top of a vehicle in an adjacent lane.

Highway Safety Rationale:

This element is important for evaluating crash causation, injury severity, vehicle design, and restraint and other safety system design and effectiveness.

Implementation Suggestions:

- None

Validation Rules:

- None

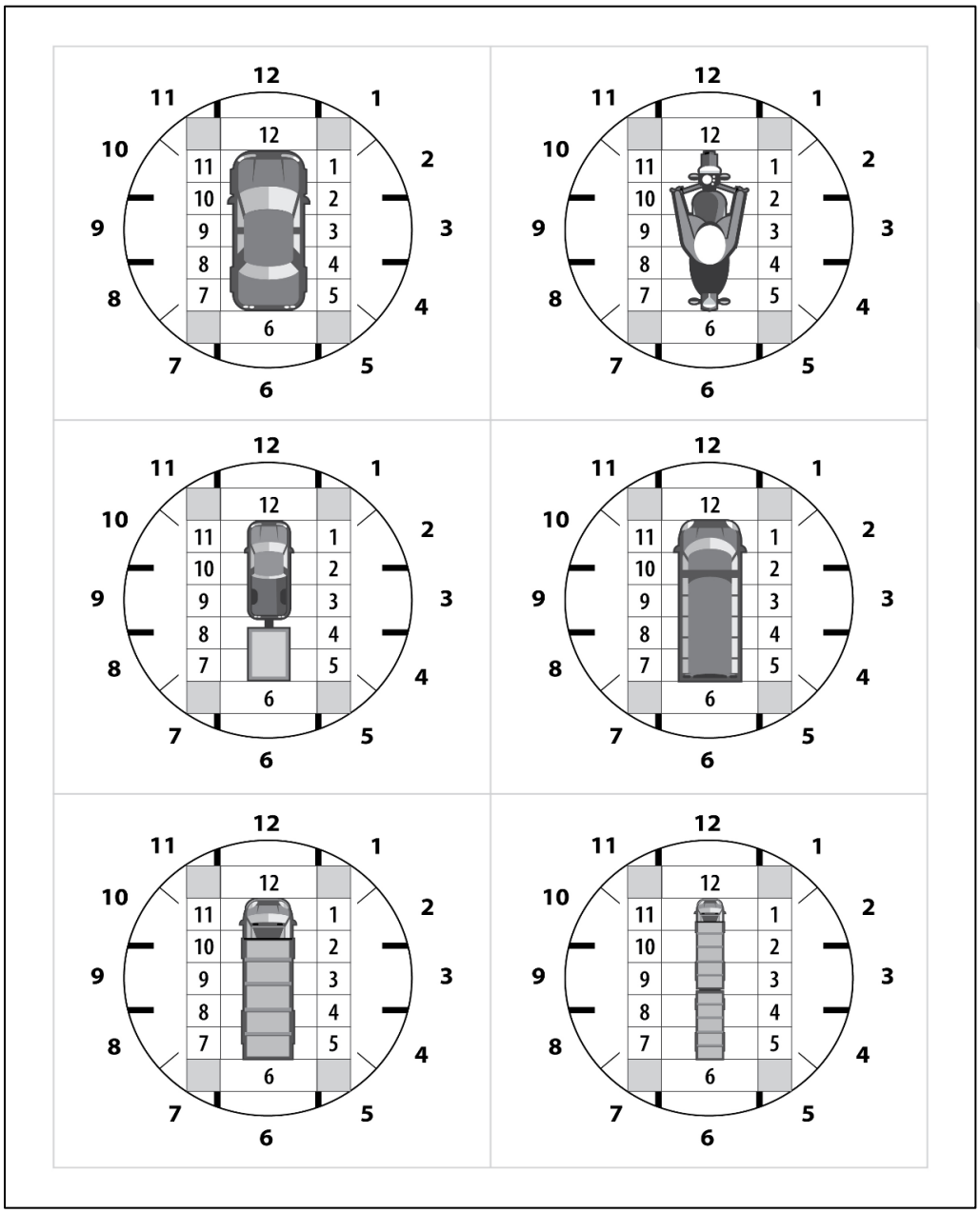


Figure 18: Clock Point Diagrams for Different Types of Motor Vehicles

Alignment Rules for INITIAL CONTACT POINT

For the State to align to MMUCC, the 12-point diagram must include the entire unit (power unit and trailing unit).

A State diagram may be used to report INITIAL CONTACT POINT and DAMAGED AREAS, if the former is unambiguously identified. A State diagram may contain more than the recommended 12 points (if those points can align to the MMUCC 12-point diagram), but the State diagram may not contain fewer points to align to MMUCC.

V35. Damaged Areas

Element Definition:

This element identifies all areas damaged on the vehicle as a result of this crash.

Attribute Values:

Select all that apply

- No Damage
- (Clock Position) 01
- (Clock Position) 02
- (Clock Position) 03
- (Clock Position) 04
- (Clock Position) 05
- (Clock Position) 06
- (Clock Position) 07
- (Clock Position) 08
- (Clock Position) 09
- (Clock Position) 10
- (Clock Position) 11
- (Clock Position) 12
- Top
- Undercarriage
- Unknown

Remarks:

Complete this element for all motor vehicles.

If the vehicle is not at the scene for the officer to assess the location of damaged area(s), then code the attribute **Unknown**, unless subsequently discovered.

Refer to: Figure 18: Clock Point Diagrams for Different Types of Motor Vehicles for clock-point diagrams.

Highway Safety Rationale:

This element is important for evaluating injury severity and vehicle design. This information is necessary for FMCSA crash selection criteria.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for DAMAGED AREAS

For the State to align with MMUCC, the 12-point diagram must include the entire unit (power unit and trailing unit).

A State diagram may be used to report both INITIAL CONTACT POINT and DAMAGED AREAS, if the former is unambiguously identified. A State diagram may contain more than the recommended 12 points (if those points can align to the MMUCC 12-point diagram), but the State diagram may not contain fewer points to align to MMUCC. If the State does not carry a diagram but codes damaged areas, it must allow for coding 14 areas (12-points plus Top and Undercarriage) as in DAMAGED AREAS to fully align.

States that record the most damaged area without allowing officers to record all damaged areas will not align with the MMUCC element.

V36. Extent of Damage

Element Definition:

This element identifies the extent to which the damage identified in DAMAGED AREAS affects the vehicle's operability rather than the cost to repair.

Attribute Values:

Select 1

- No Damage
- Minor Damage
- Functional Damage
- Disabling Damage
- Unknown

Remarks:

Complete this element for all motor vehicles. If the vehicle is not at the scene for the officer to assess the extent of damage, then use the attribute **Unknown**, unless subsequently discovered.

- **Disabling Damage –** Damage that precludes departure of the motor vehicle from the scene of the crash in its usual daylight-operating manner after simple repairs. As a result, the motor vehicle had to be towed, carried from crash scene, or assisted by an emergency motor vehicle.

- **Functional Damage –** Damage that is not disabling but affects operation of the motor vehicle or its parts.

- **Minor Damage –** Damage that does not affect the operation of or disable the Motor Vehicle.

Highway Safety Rationale:

This element is important for evaluating injury severity and vehicle design. This information is necessary for FMCSA crash selection criteria.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for EXTENT OF DAMAGE

To align with this element, the State must capture the overall extent of damage for each motor vehicle. States may have a similar element, such as "Vehicle Deformity for Most Damaged Area" which does not align with this element due to inconsistent definitions.

V37. Sequence of Events

Element Definition:

The sequence of events are events in sequence related to this motor vehicle, including non-harmful events, non-collision harmful events, and collision events.

Attribute Values:

Select up to 4

Group 1: Non-Harmful Events

- Cross Centerline
- Cross Median
- End Departure (T-intersection, dead-end, etc.)
- Downhill Runaway
- Equipment Failure (blown tire, brake failure, etc.)
- Ran Off Roadway Left
- Ran Off Roadway Right
- Ran Off Roadway – Direction Unknown
- Non-Harmful Swaying Trailer/Jackknife
- Cargo/Equipment Loss or Shift (non-harmful)
- Reentering Roadway
- Separation of Units
- Vehicle Went Airborne

Group 2: Non-Collision Harmful Events

- Rollover/Overturn
- Cargo/Equipment Loss, Shift, or Damage (harmful)
- Fell/Jumped from Motor Vehicle
- Fire/Explosion
- Immersion, Full or Partial
- Jackknife (harmful to this vehicle)
- Thrown or Falling Object
- Pavement Surface Irregularity (Ruts, Potholes, Grates, etc.)
- Injured in Vehicle (Non-Collision)
- Gas Inhalation
- Other Non-Collision

Group 3: Collision with Motor Vehicle

- Motor Vehicle In-Transport
- Parked Motor Vehicle
- Working Motor Vehicle

Group 4: Collision with Non-Fixed Object

- Non-Motorist
- Live Animal
- Ridden Animal or Animal Drawn Conveyance
- Railroad Vehicle

- Road Vehicle on Rails
- Strikes Object at Rest That Had Fallen from Motor Vehicle In-Transport
- Striking/struck by Object/Cargo/Person from Other Motor Vehicle In-Transport
- Other Object (Not Fixed)
- Unknown Object Not Fixed

Group 5: Collision with Fixed Object

- **Subgroup 1: Bridge Parts**
  - Bridge Overhead Structure
  - Bridge Pier or Support
  - Bridge Rail (Includes Parapet)
- **Subgroup 2: Structures**
  - Building
  - Wall
- **Subgroup 3: Traffic Barriers and Parts**
  - Cable Barrier
  - Concrete Traffic Barrier
  - Guardrail Face
  - Guardrail End
  - Guardrail End Treatment
  - Impact Attenuator/Crash Cushion
  - Other Traffic Barrier
- **Subgroup 4: Posts, Poles, and Supports**
  - Traffic Sign Support
  - Traffic Signal Support
  - Utility Pole/Light Support
  - Other Post, Pole, or Other Supports
- **Subgroup 5: Other Trafficway Components**
  - Culvert
  - Curb
  - Ditch
  - Embankment
- **Subgroup 6: Other Specific Fixed Objects**
  - Boulder
  - Ground
  - Tree (Standing Only)
  - Shrubbery
  - Snowbank
  - Fence
  - Mailbox
  - Fire Hydrant
- **Subgroup 7: Other and Unknown**
  - Other Fixed Object
  - Unknown Fixed Object

Group 6: Unknown

- Unknown

- Harmful Event, Details Not Reported

Remarks:

Complete this element for all motor vehicles.

- **Bridge Overhead Structure –** Any part of a bridge that is over the reference or subject roadway. In crash reporting, this typically refers to the beams or other structural elements supporting a bridge deck.

- **Bridge Pier or Support –** Support for a bridge structure including the ends (abutments).

- **Bridge Rail (Includes Parapet) –** A barrier attached to a bridge deck or a bridge parapet to restrain motor vehicles, pedestrians, or other users.

- **Cable Barrier –** Refers to a flexible barrier system which uses several cables typically supported by steel posts. These can be used on the roadside or as a median barrier. These barriers are designed to help lessen impact or keep vehicles within the confines of the road.

- **Cargo/Equipment Loss, Shift, or Damage (harmful) –** refers specifically to the loss or shift of items carried on or in a motor vehicle or its trailing unit, causing damage and/or injury to the vehicle, its occupants, its parts, trailing unit, or the cargo itself. Harm can be measured in loss of monetary value from unrecoverable cargo loss as well as physical damage. For example: 1) A pickup truck brakes rapidly to avoid a collision. This causes a piece of lumber in the pickup bed to smash through the rear window. 2) Unsecured cargo shifts inside a box truck and bursts through the wall of the trailer. 3) Pallets of beehives on a flatbed truck fall off the truck on a sharp curve causing the hives to open and the bees to fly away.

- **Collision Event –** Harmful events that involve the collision of a Motor Vehicle In-Transport with another motor vehicle, other property, animal, or person.

- **Collision with Fixed Object -** A collision crash in which the harmful event is the striking of a fixed object by a road vehicle in-transport. Fixed objects include such objects as guardrails, bridge railings or abutments, construction barricades, impact attenuators, trees, embedded rocks, utility poles, ditches, steep earth or rock slopes, culverts, fences, and buildings.

- **Concrete Traffic Barrier** – Refers to the longitudinal traffic barriers constructed of concrete and located on the outside of the road surface, in a median, or in gore areas. This includes all temporary concrete barriers regardless of location (i.e., temporary barrier on a bridge being used to control traffic during bridge repair/construction).

- **Culvert –** is used when the vehicle strikes an enclosed structure providing free passage of water under a roadway with a clear opening of less than twenty feet measured along the center of the roadway, resulting in injury or damage.

- **Curb –** is used when the vehicle strikes a raised edge or border to a roadway, resulting in injury or damage. Curbs may be constructed of concrete, asphalt or wood and typically have a face height of less than 9 inches.

- **Ditch –** is used when the vehicle strikes a trench used for drainage purposes, resulting in injury or damage. A ditch ends where a culvert begins and resumes on the opposite side of the culvert.

- **Downhill Runaway -** refers to any vehicle that cannot decelerate on a downhill grade due to vehicle malfunction. This does not apply to a vehicle that cannot slow down due to lack of surface friction (e.g., due to ice, snow, etc.).

- **Embankment –** is used when the vehicle strikes an earthen structure used to support a channel or roadway, resulting in injury or damage.

- **End Departure (T-intersection, dead-end, etc.) -** is used when the vehicle leaves the roadway by traveling straight through the top of a "T-intersection" of a two-way trafficway or top of an intersecting one-way roadway. This code should also apply to vehicles traveling off the end of dead-end roadways or into the barrier of a closed trafficway.

- **Equipment Failure (blown tire, brake failure, etc.) -** describes when a component of a vehicle fails (e.g., blown tires, brake failures). This is not used to describe damage from a collision event.

- **Fell/Jumped From Motor Vehicle –** Motor vehicle occupant either involuntarily fell or intentionally leapt from the vehicle.

- **Fence -** a barrier constructed to prevent escape or intrusion or to mark a boundary. A fence can be made of wood, metal, stone, etc., and includes the fence posts and gates.

- **Fire/Explosion –** A fire or explosion that was the cause or result of the crash. A fire/explosion is a non-collision harmful event.

- **Guardrail End –** The exposed end of the guardrail, without treatment.

- **Guardrail End Treatment –** a device shielding the end of a guardrail that is designed to absorb the energy of an impact.

- **Guardrail Face –** Surface area of the guardrail other than the end. Its function is to redirect the vehicle back onto the roadway.

- **Immersion, Full or Partial –** occurs when a motor vehicle enters a body of water and results in injury or damage. This attribute would also be used if the vehicle came to rest in water and the depth cannot be ascertained.

- **Impact Attenuator/Crash Cushion –** A barrier at a spot location, less than 25 ft. (7.6 m) away, designed to prevent an errant motor vehicle from impacting a fixed object hazard by gradually decelerating the motor vehicle to a safe stop or by redirecting the motor vehicle away from the hazard.

- **Jackknife (harmful to this vehicle) –** applies to a condition that occurs to a combination vehicle while in motion. The condition reflects a loss of control of the vehicle by the driver in which the trailer(s) yaws from its normal straight-line path behind the power unit, striking the power unit, or other trailers, causing damage to the power unit or trailer. Jackknife should only be coded as

a harmful event if there is clear indication of damage to the jackknifed vehicle or injury to its occupants caused by the jackknife.

- **Live Animal** – is used for collisions with live animals (domesticated or wild) that are not themselves being used as transportation or to draw a wagon, cart, or other transport device. Use Live Animal if it cannot be determined if the struck animal is alive, dead, or if it was being ridden or drawing a transport device. If the animal was deceased prior to the crash, then use Other Object (Not Fixed).

- **Motor Vehicle In-Transport** – A motor vehicle is any motorized (mechanically or electrically powered) road vehicle not operated on rails. When applied to motor vehicles, "in-transport" refers to being in motion or on a roadway (travel lanes). Inclusions: motor vehicle in traffic on a highway, driverless motor vehicle in motion, motionless motor vehicle abandoned on a roadway, disabled motor vehicle on a roadway, etc.

- **Non-Collision Harmful Events** – Any motor vehicle crash harmful event not involving a collision.

- **Non-Motorist –** Any person who is not an occupant of a motor vehicle. This includes pedestrians, bicyclists, other cyclists, and occupants of non-motor vehicle transport devices.

- **Non-harmful Swaying Trailer/Jackknife** – applies to a condition that occurs to a combination vehicle while in motion. The condition reflects a loss of control of the vehicle by the driver in which the trailer(s) yaws from its normal straight-line path behind the power unit. The event by itself does not cause damage to the vehicle or injury to its occupants.

- **Other Fixed Object** – is used when the object is fixed (considered a permanent structure) and is not described by any of the other fixed object attributes. This attribute excludes collisions with curbing that forms raised islands, medians, or separators (see Curb).
  Examples:
  - Bus shelters
  - Pedestrian walkways
  - Toll booths
  - Guy wires supporting utility poles
  - U. S. Mailbox for public use

  Other examples include property damage to standing crops, yards, and other vegetation (excluding **Shrubbery**, Tree (Standing Only), and **Ground**).

- **Other Non-Collision –** A non-collision event not captured by other non-collision event attributes. For example, driving off a cliff where damage is not the result of an overturn or a collision with a fixed object, an unbelted passenger hits his or her head on the roof of a vehicle and is injured when the vehicle travels over a sharp dip in the road, situations where a passenger is sickened or dies due to carbon monoxide fumes leaking from a Motor Vehicle In-Transport. This also includes when an occupant of a vehicle is run over by his/her own vehicle after falling from the vehicle.

- **Other Object (Not Fixed) –** is used when a motor vehicle in-transport strikes a non-fixed object that is known NOT to have been the cargo or part of another motor vehicle in-transport, or when it is UNKNOWN whether the object was the cargo or part of another motor vehicle in-

transport (i.e., refers to objects such as a dead body, animal carcass, construction cones or barrels, an unattached trailer, a bicycle without a rider, downed tree limbs or power lines, or debris from a prior crash). For objects that have become separated from a motor vehicle in-transport not as a result of a prior crash, use attribute Strikes Object at Rest That Had Fallen from Motor Vehicle In-Transport.

- **Other Post, Pole, or Other Supports –** is used for posts other than traffic signs, traffic signals, utility poles, or light supports (e.g., reflectors on poles alongside of roadway, parking meters, flag poles, etc.). For mailbox posts, use Mailbox. For fence posts, use Fence.

- **Other Traffic Barrier –** Longitudinal barriers other than guardrails, concrete traffic barriers, or cable barriers. They may be composed of material such as wood or rock.

- **Parked Motor Vehicle –** The ANSI D.16 defines a parked motor vehicle is a motor vehicle not in-transport, other than a working motor vehicle, that is not in motion and not located on the roadway (travel lanes). In roadway lanes used for travel during some periods and for parking during other periods, a parked motor vehicle is considered in-transport during periods when parking is forbidden. This attribute includes any stopped motor vehicle where the entirety of the vehicle's primary outline as defined by the four sides of the vehicle (e.g., tires, bumpers, fenders) and load, if any, is not within the roadway.

- **Railroad Vehicle –** Any land vehicle (train, engine) that is (1) designed primarily for moving people or property from one place to another on rails and (2) not in use on a land way other than a railroad.

- **Ran Off Roadway** (Left, Right, and Direction Unknown) – Failure of the driver to keep the motor vehicle on the roadway (travel lanes).

- **Ridden Animal or Animal Drawn Conveyance** - is used for any type of animal being ridden at the time of the crash or any device being drawn by an animal (e.g., wagon, carriage, sleigh).

- **Rollover/Overturn –** is used when a motor vehicle rotates (rollover) at least one quarter turn onto its side or end. For motorcycles, laying the motorcycle down on its side is sufficient to use this attribute as a harmful event if damage or injury is produced.

- **Separation of Units –** is used when a trailing unit separates from its power unit or another trailing unit(s). This applies to truck tractors with trailer(s), single-unit trucks with a trailer, and other vehicles pulling a trailer (e.g., car pulling a boat or motor home).

- **Strikes Object at Rest That Had Fallen from Motor Vehicle In-Transport –** Used when a motor vehicle in-transport impacts a non-fixed object at rest that is known to have been the cargo or part of another motor vehicle in-transport. Do not use this attribute for debris from a prior crash. This attribute does not include vehicle occupants that are ejected or fall from a motor vehicle in-transport.

- **Striking/Struck by Object/Cargo/Person from Other Motor Vehicle In-Transport –** Motor vehicle or non-motorist is struck by cargo or other object that was set in motion by a motor vehicle. Examples include logs falling off or coming loose from a truck and striking a vehicle

behind the truck, or a motor vehicle striking a parked car and pushes it into a passing pedestrian.

- **Thrown or Falling Object –** A non-collision harmful event where any object is thrown (intentionally or unintentionally) and impacts an in-transport vehicle, or falls onto, into, or in the path of an in-transport motor vehicle. This excludes contacts made by loads or objects set in-motion by a motor vehicle (see Striking/Struck by Object/Cargo/Person from Other Motor Vehicle In-Transport).

- **Traffic Sign Support –** A pole, post, or other type of support for a traffic sign.

- **Traffic Signal Support –** A pole, post, or other type of support for a traffic signal.

- **Tree (Standing Only) –** Tree is upright and in the ground. A standing tree is a fixed object as opposed to a fallen tree that is a moveable object.

- **Utility Pole/Light Support –** Constructed for the primary function of supporting an electric line, telephone line or other electrical/electronic transmission line or cable. This includes the support poles for roadway lighting.

- **Working Motor Vehicle –** The ANSI D.16 defines a working motor vehicle as a motor vehicle in the act of performing construction, maintenance, or utility work related to the trafficway. The "work" may be located within open or closed portions of the trafficway, and the vehicle performing these activities can be within or outside the trafficway boundaries. A working motor vehicle at the time of the unstabilized situation is not considered "in-transport."

Highway Safety Rationale:

This element is important for use in combination with VEHICLE STATUS PRIOR TO CRITICAL EVENT and MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE for understanding crash causation and identifying traffic safety countermeasures.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for SEQUENCE OF EVENTS

To fully align with the element SEQUENCE OF EVENTS, States must include the non-harmful attributes listed and provide officers a way to capture at least four attributes.

For successful mapping, State attributes within each group must have the same definitions as the MMUCC Guideline.

Consider the following when mapping to the "Other" attributes:

- To align with the attribute **Other Non-Collision**, the State must possess all other attributes in Group 2: Non-Collision Harmful Events.

- To align with attribute **Other Object (Not Fixed)**, the State must possess all other attributes in Group 4: Collision With Non-Fixed Object.
- To align with attribute **Other Fixed Object**, the State must possess all other attributes in Group 5: Collison With Fixed Object.
- To align with attribute **Other Traffic Barrier**, the State must possess all other attributes in Group 5: Collison With Fixed Object, Subgroup 3: Traffic Barriers and Parts.
- To align with attribute **Other Post, Pole, or Other Supports**, the State must possess all other attributes in Group 5: Collison With Fixed Object, Subgroup 4: Posts, Poles, and Supports.

V38. Most Harmful Event for this Motor Vehicle

Element Definition:

Event that resulted in the most severe injury or, if no injury, the greatest property damage involving this motor vehicle.

Attribute Values:

Select 1

Group 1: Non-Collision Harmful Events

- Rollover/Overturn
- Cargo/Equipment Loss, Shift, or Damage (harmful)
- Fell/Jumped from Motor Vehicle
- Fire/Explosion
- Immersion, Full or Partial
- Jackknife (harmful to this vehicle)
- Thrown or Falling Object
- Pavement Surface Irregularity (Ruts, Potholes, Grates, etc.)
- Injured in Vehicle (Non-Collision)
- Gas Inhalation
- Other Non-Collision

Group 2: Collision with Motor Vehicle

- Motor Vehicle In-Transport
- Parked Motor Vehicle
- Working Motor Vehicle

Group 3: Collision with Non-Fixed Object

- Non-Motorist
- Live Animal
- Ridden Animal or Animal Drawn Conveyance
- Railroad Vehicle
- Road Vehicle on Rails
- Strikes Object at Rest That Had Fallen from Motor Vehicle In-Transport
- Striking/Struck by Object/Cargo/Person from Other Motor Vehicle In-Transport
- Other Object (Not Fixed)
- Unknown Object Not Fixed

Group 4: Collision with Fixed Object

- **Subgroup 1: Bridge Parts**
  - Bridge Overhead Structure
  - Bridge Pier or Support
  - Bridge Rail (Includes Parapet)
- **Subgroup 2: Structures**
  - Building
  - Wall
- **Subgroup 3: Traffic Barriers and Parts**

  - Cable Barrier
  - Concrete Traffic Barrier
  - Guardrail Face
  - Guardrail End
  - Guardrail End Treatment
  - Impact Attenuator/Crash Cushion
  - Other Traffic Barrier
- **Subgroup 4: Posts, Poles, and Supports**
  - Traffic Sign Support
  - Traffic Signal Support
  - Utility Pole/Light Support
  - Other Post, Pole, or Other Supports
- **Subgroup 5: Other Trafficway Components**
  - Culvert
  - Curb
  - Ditch
  - Embankment
- **Subgroup 6: Other Specific Fixed Objects**
  - Boulder
  - Ground
  - Tree (Standing Only)
  - Shrubbery
  - Snowbank
  - Fence
  - Mailbox
  - Fire Hydrant
- **Subgroup 7: Other and Unknown**
  - Other Fixed Object
  - Unknown Fixed Object

Group 5: Unknown
- Unknown
- Harmful Event, Details Not Reported

Remarks:

Complete this element for all motor vehicles.

➢**Bridge Overhead Structure** – Any part of a bridge that is over the reference or subject roadway. In crash reporting, this typically refers to the beams or other structural elements supporting a bridge deck.

➢**Bridge Pier or Support –** Support for a bridge structure including the ends (abutments).

➢**Bridge Rail (Includes Parapet) –** A barrier attached to a bridge deck or a bridge parapet to restrain motor vehicles, pedestrians, or other users.

- **Cable Barrier –** Refers to a flexible barrier system which uses several cables typically supported by steel posts. These can be used on the roadside or as a median barrier. These barriers are designed to help lessen impact or keep vehicles within the confines of the road.

- **Cargo/Equipment Loss, Shift, or Damage (harmful) –** refers specifically to the loss or shift of items carried on or in a motor vehicle or its trailing unit, causing damage and/or injury to the vehicle, its occupants, its parts, trailing unit, or the cargo itself. Harm can be measured in loss of monetary value from unrecoverable cargo loss as well as physical damage. For example: 1) A pickup truck brakes rapidly to avoid a collision. This causes a piece of lumber in the pickup bed to smash through the rear window. 2) Unsecured cargo shifts inside a box truck and bursts through the wall of the trailer. 3) Pallets of beehives on a flatbed truck fall off the truck on a sharp curve causing the hives to open and the bees to fly away.

- **Collision Event** – Harmful events that involve the collision of a Motor Vehicle In-Transport with another motor vehicle, other property, animal, or person.

- **Collision with Fixed Object** - A collision crash in which the harmful event is the striking of a fixed object by a road vehicle in-transport. Fixed objects include such objects as guardrails, bridge railings or abutments, construction barricades, impact attenuators, trees, embedded rocks, utility poles, ditches, steep earth or rock slopes, culverts, fences, and buildings.

- **Concrete Traffic Barrier –** Refers to the longitudinal traffic barriers constructed of concrete and located on the outside of the road surface, in a median, or in gore areas. This includes all temporary concrete barriers regardless of location (i.e., temporary barrier on a bridge being used to control traffic during bridge repair/construction).

- **Culvert –** is used when the vehicle strikes an enclosed structure providing free passage of water under a roadway with a clear opening of less than twenty feet measured along the center of the roadway, resulting in injury or damage.

- **Curb –** is used when the vehicle strikes a raised edge or border to a roadway, resulting in injury or damage. Curbs may be constructed of concrete, asphalt or wood and typically have a face height of less than 9 inches.

- **Ditch –** is used when the vehicle strikes a trench used for drainage purposes, resulting in injury or damage. A ditch ends where a culvert begins and resumes on the opposite side of the culvert.

- **Embankment –** is used when the vehicle strikes an earthen structure used to support a channel or roadway, resulting in injury or damage.

- **Fell/Jumped from Motor Vehicle –** Motor vehicle occupant either involuntarily fell or intentionally leapt from the vehicle.

- **Fence -** a barrier constructed to prevent escape or intrusion or to mark a boundary. A fence can be made of wood, metal, stone, etc., and includes the fence posts and gates.

- **Fire/Explosion –** A fire or explosion that was the cause or result of the crash. A fire/explosion is a non-collision harmful event.

- **Guardrail End** – The exposed end of the guardrail, without treatment.

- **Guardrail End Treatment** – a device shielding the end of a guardrail that is designed to absorb the energy of an impact.

- **Guardrail Face –** Surface area of the guardrail other than the end. Its function is to redirect the vehicle back onto the roadway.

- **Immersion, Full or Partial –** occurs when a motor vehicle enters a body of water and results in injury or damage. This attribute would also be used if the vehicle came to rest in water and the depth cannot be ascertained.

- **Impact Attenuator/Crash Cushion –** A barrier at a spot location, less than 25 ft. (7.6 m) away, designed to prevent an errant motor vehicle from impacting a fixed object hazard by gradually decelerating the motor vehicle to a safe stop or by redirecting the motor vehicle away from the hazard.

- **Jackknife (harmful to this vehicle)** – applies to a condition that occurs to a combination vehicle while in motion. The condition reflects a loss of control of the vehicle by the driver in which the trailer(s) yaws from its normal straight-line path behind the power unit, striking the power unit, or other trailers, causing damage to the power unit or trailer. Jackknife should only be coded as a harmful event if there is clear indication of damage to the jackknifed vehicle or injury to its occupants caused by the jackknife.

- **Live Animal** – is used for collisions with live animals (domesticated or wild) that are not themselves being used as transportation or to draw a wagon, cart, or other transport device. Use Live Animal if it cannot be determined if the struck animal is alive, dead, or if it was being ridden or drawing a transport device. If the animal was deceased prior to the crash, then use Other Object (Not Fixed).

- **Motor Vehicle In-Transport** – A motor vehicle is any motorized (mechanically or electrically powered) road vehicle not operated on rails. When applied to motor vehicles, "in-transport" refers to being in motion or on a roadway (travel lanes). Inclusions: motor vehicle in traffic on a highway, driverless motor vehicle in motion, motionless motor vehicle abandoned on a roadway, disabled motor vehicle on a roadway, etc.

- **Non-Collision Harmful Events** – Any motor vehicle crash harmful event not involving a collision.

- **Non-Motorist –** Any person who is not an occupant of a motor vehicle. This includes pedestrians, bicyclists, other cyclists, and occupants of non-motor vehicle transport devices.

- **Other Fixed Object** – is used when the object is fixed (considered a permanent structure) and is not described by any of the other fixed object attributes. This attribute excludes collisions with curbing that forms raised islands, medians, or separators (see Curb).

  Examples:
  - Bus shelters
  - Pedestrian walkways
  - Toll booths

- Guy wires supporting utility poles
- U. S. Mailbox for public use

Other examples include property damage to standing crops, yards, and other vegetation (excluding **Shrubbery**, Tree (Standing Only), and **Ground**).

➢**Other Non-Collision** – A non-collision event not captured by other non-collision event attributes. For example, driving off a cliff where damage is not the result of an overturn or a collision with a fixed object, an unbelted passenger hits his or her head on the roof of a vehicle and is injured when the vehicle travels over a sharp dip in the road, situations where a passenger is sickened or dies due to carbon monoxide fumes leaking from a Motor Vehicle In-Transport. This also includes when an occupant of a vehicle is run over by his/her own vehicle after falling from the vehicle.

➢**Other Object (Not Fixed)** – is used when a motor vehicle in-transport strikes a non-fixed object that is known NOT to have been the cargo or part of another motor vehicle in-transport, or when it is UNKNOWN whether the object was the cargo or part of another motor vehicle in-transport (i.e., refers to objects such as a dead body, animal carcass, construction cones or barrels, an unattached trailer, a bicycle without a rider, downed tree limbs or power lines, or debris from a prior crash). For objects that have become separated from a motor vehicle in-transport not as a result of a prior crash, use attribute Strikes Object at Rest That Had Fallen from Motor Vehicle In-Transport.

➢**Other Post, Pole, or Other Supports** – is used for posts other than traffic signs, traffic signals, utility poles, or light supports (e.g., reflectors on poles alongside of roadway, parking meters, flag poles, etc.). For mailbox posts, use **Mailbox**. For fence posts, use Fence.

➢**Other Traffic Barrier** – Longitudinal barriers other than guardrails, concrete traffic barriers, or cable barriers. They may be composed of material such as wood or rock.

➢**Parked Motor Vehicle** – The ANSI D.16 defines a parked motor vehicle is a motor vehicle not in-transport, other than a working motor vehicle, that is not in motion and not located on the roadway (travel lanes). In roadway lanes used for travel during some periods and for parking during other periods, a parked motor vehicle is considered in-transport during periods when parking is forbidden. This attribute includes any stopped motor vehicle where the entirety of the vehicle's primary outline as defined by the four sides of the vehicle (e.g., tires, bumpers, fenders) and load, if any, is not within the roadway.

➢**Railroad Vehicle –** Any land vehicle (train, engine) that is (1) designed primarily for moving people or property from one place to another on rails and (2) not in use on a land way other than a railroad.

➢**Ridden Animal or Animal Drawn Conveyance** - is used for any type of animal being ridden at the time of the crash or any device being drawn by an animal (e.g., wagon, carriage, sleigh).

➢**Rollover/Overturn** – is used when a motor vehicle rotates (rollover) at least one quarter turn onto its side or end. For motorcycles, laying the motorcycle down on its side is sufficient to use this attribute as a harmful event if damage or injury is produced.

➢**Strikes Object at Rest That Had Fallen from Motor Vehicle In-Transport** – Used when a motor vehicle in-transport impacts a non-fixed object at rest that is known to have been the cargo or part of another motor vehicle in-transport. Do not use this attribute for debris from a prior crash. This

attribute does not include vehicle occupants that are ejected or fall from a motor vehicle in-transport.

- **Striking/Struck by Object/Cargo/Person from Other Motor Vehicle In-Transport** – Motor vehicle or non-motorist is struck by cargo or other object that was set in motion by a motor vehicle. Examples include logs falling off or coming loose from a truck and striking a vehicle behind the truck, or a motor vehicle striking a parked car and pushes it into a passing pedestrian.

- **Thrown or Falling Object** – A non-collision harmful event where any object is thrown (intentionally or unintentionally) and impacts an in-transport vehicle, or falls onto, into, or in the path of an in-transport motor vehicle. This excludes contacts made by loads or objects set in-motion by a motor vehicle (see Striking/Struck by Object/Cargo/Person from Other Motor Vehicle In-Transport).

- **Traffic Sign Support** – A pole, post, or other type of support for a traffic sign.

- **Traffic Signal Support** – A pole, post, or other type of support for a traffic signal.

- **Tree (Standing Only)** – Tree is upright and in the ground. A standing tree is a fixed object as opposed to a fallen tree that is a moveable object.

- **Utility Pole/Light Support** – Constructed for the primary function of supporting an electric line, telephone line or other electrical/electronic transmission line or cable. This includes the support poles for roadway lighting.

- **Working Motor Vehicle** – The ANSI D.16 defines a working motor vehicle as a motor vehicle in the act of performing construction, maintenance, or utility work related to the trafficway. The "work" may be located within open or closed portions of the trafficway, and the vehicle performing these activities can be within or outside the trafficway boundaries. A working motor vehicle at the time of the unstabilized situation is not considered "in-transport."

Highway Safety Rationale:

This element is important for use in combination with SEQUENCE OF EVENTS for understanding crash causation and identifying traffic safety countermeasures.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE:

For successful mapping, State attributes within each group must have the same definitions as the MMUCC Guideline.

Consider the following when mapping to the "Other" attributes:

- To align with the attribute **Other Non-Collision**, the State must possess all other attributes in Group 1: Non-Collision Harmful Events.

- To align with attribute **Other Object (Not Fixed)**, the State must possess all other attributes in Group 3: Collision With Non-Fixed Object.
- To align with attribute **Other Fixed Object**, the State must possess all other attributes in Group 4: Collison With Fixed Object.
- To align with attribute **Other Traffic Barrier**, the State must possess all other attributes in Group 4: Collison With Fixed Object, Subgroup 3: Traffic Barriers and Parts.
- To align with attribute **Other Post, Pole, or Other Supports**, the State must possess all other attributes in Group 4: Collison With Fixed Object, Subgroup 4: Posts, Poles, and Supports.

V39. Hit and Run

Element Definition:

Refers to cases where the vehicle or the driver of the motor vehicle in-transport is a contact vehicle in the crash and departs the scene without stopping to render aid or report the crash.

Attribute Values:

Select 1

- No
- Yes

Remarks:

Complete this element for all motor vehicles.

Highway Safety Rationale:

This element is important for identifying and tracking the frequency of these unlawful situations. Several data elements rely upon the completion of this element for crashes in which the vehicle and/or the driver of the vehicle are unknown.

Implementation Suggestions:

- None

Validation Rules:

- HIT AND RUN should not = **Yes** for more than one vehicle record.

Alignment Rules for HIT AND RUN

States may have a check box for a hit and run crash, which can align with the two HIT AND RUN attributes. This is because selecting the check box would be equivalent to the MMUCC attribute, **Yes**. Not selecting the check box is equivalent to the MMUCC attribute, **No**. Some States may not have a specific element for hit and run crashes but have a similar element such as "Disposition of Vehicle," with attributes "Hit and Run" and "Retained by Driver." The alignment would be acceptable if the definitions match.

V40. Vehicle Towed

Element Definition:

This data element identifies whether the vehicle was towed or carried from the scene of the crash.

Attribute Values:

Select 1

- Not Towed
- Towed
- Unknown

Remarks:

Complete this element for all motor vehicles.

Towing includes vehicles carried from the scene on a flatbed tow truck. Towing assistance without removal of the vehicle from the scene, such as pulling a vehicle out of a ditch, is not considered to be "towed" for the purposes of this element.

If the vehicle is a combination vehicle (power unit and at least one trailer), the power unit and/or trailer(s) are considered when determining tow status. If the power unit or trailer of a combination unit was towed from the scene, consider this vehicle as towed.

Highway Safety Rationale:

This element is important to identify whether the motor vehicle (or any trailing units) was removed from the scene of the crash. This information is necessary for FMCSA crash selection criteria.

Implementation Suggestions:

A vehicle towed due to disabling damage can be determined by combining this field with EXTENT OF DAMAGE.

Validation Rules:

- None

Alignment Rules for VEHICLE TOWED

- A State that has an element "Towed" as a checkbox or "Towed, Y/N" will align to this element's **Towed** and **Not Towed** attributes only.

V41. Contributing Circumstances, Motor Vehicle

Element Definition:

Pre-existing motor vehicle defects or maintenance conditions that may have contributed to the occurrence or severity of the crash.

Attribute Values:

Select 1

- None
- Brake System
- Exhaust System
- Body, Doors
- Steering
- Power Train
- Suspension
- Tires
- Wheels
- Head Lights
- Signal Lights
- Other Lights
- Windows/Windshield
- Mirrors
- Wipers
- Truck Coupling/Trailer Hitch/Safety Chains
- Safety Systems
- Other
- Unknown

Remarks:

Complete this element for all motor vehicles.

- **Body, Doors** - describes the panels mounted to the frame of the vehicle. This includes trunk, hood, tailgate, rear doors of cargo vans, etc.

- **Brake System -** slows or stops the rotation of the wheels. This includes the parking brake.

- **Exhaust System** - describes a system of pipes that guide the vehicle's exhaust gases away from the engine. This includes the exhaust manifold(s), headers, muffler, catalytic converter, tailpipe, etc.

Highway Safety Rationale:

This element is important for determining the significance of pre-existing vehicle defects and maintenance conditions, to identify the need for improvements in manufacturing, and investigate potential consumer alerts.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for CONTRIBUTING CIRCUMSTANCES, MOTOR VEHICLE

A State may combine CONTRIBUTING CIRCUMSTANCES, MOTOR VEHICLE with other contributing circumstances, such as roadway and environmental. In this case, the State would not be given credit for aligning to any of the contributing circumstances. Combining all of them together will force officers to pick from all the attributes across categories and thus does not meet the MMUCC alignment rules.

V42. Vehicle Underride / Override

Element Definition:

An underride refers to this motor vehicle sliding under another motor vehicle during a crash. An override refers to this motor vehicle riding up over another motor vehicle. Either can occur with a parked motor vehicle.

Attribute Values:

Select 1

- Not Applicable
- No Underride or Override
- Underride
- Override
- Unknown

Remarks:

Complete this element for all motor vehicles.

Highway Safety Rationale:

This element is important to evaluate countermeasure effectiveness, tracking crash outcomes, and to support NHTSA and FMCSA rulemaking activities.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for VEHICLE UNDERRIDE/OVERRIDE:

- None

V43. Fire Occurrence

Element Definition:

This element identifies whether a fire in any way related to the crash occurred in this vehicle.

Attribute Values:

Select 1

- No
- Yes

Remarks:

Complete this element for all motor vehicles. For the purposes of this element, "vehicle" is defined to mean the power unit plus any and all trailing units associated with the power unit.

- **No –** is used when there is no indication that this vehicle sustained fire damage.
- **Yes –** is used when there is indication that this vehicle sustained fire damage.

If it cannot be determined that a fire occurred in the vehicle during the crash, select **No**.

In a multi-vehicle crash where a fire occurs, only the vehicles sustaining fire damage should be coded as **Yes**.

Fires that begin in a vehicle before the first impact may be coded **Yes**. In this case, if fire damage is produced, **Fire/Explosion** would be the FIRST HARMFUL EVENT.

If the MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE is **Fire/Explosion**, or a fire in the vehicle is produced by damage in the crash, then select **Yes**.

The involved vehicles may be at rest for a short period of time. If the vehicles are at rest long enough to raise a question about the fire's relationship to the crash's damage-producing events, then select **No**.

Highway Safety Rationale:

This element is important to understand damage associated with vehicular fires, identifying potential vehicle design concerns, and evaluating crash outcomes.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for FIRE OCCURRENCE:

- None

V44. Related Factors - Vehicle Level

Element Definition:

This element identifies factors related to this vehicle.

Attribute Values:

Select up to 2

- None
- Vehicle Being Pushed by Non-Motorist
- Reconstructed/Altered Vehicle
- Police, Fire, or EMS Vehicle Working at the Scene of an Emergency or Performing Other Traffic Control Activities
- Other Working Vehicle (Not Construction, Maintenance, Utility, Police, Fire, or EMS Vehicle)
- Adaptive Equipment
- Slide-in Camper
- Vehicle was equipped with Automated Driving System(s)
- Suspect that Automated Driving System(s) engaged at the time of the crash or leading up to the crash
- Unknown

Remarks:

Complete this element for all motor vehicles.

Highway Safety Rationale:

This element is important to identify and track ongoing or emerging issues associated with these vehicle characteristics.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for RELATED FACTORS – VEHICLE LEVEL:

The MMUCC element identifies factors related to this vehicle at the time of the crash, regardless of whether the factors contributed to the crash. If the State's element identifies only factors that contributed to the crash, it does not align with the MMUCC element, even if the element and/or attribute names are the same.

If the State collects more detailed information on Automated Driving Systems (e.g., system equipped and if system engaged) the data attributes may align to **Vehicle was equipped with Automated Driving System(s)** and **Suspect that Automated Driving System(s) engaged at the time of the crash or leading up to the crash**, if the definitions match.

Chapter 6: Driver Data Elements

The driver data elements describe the characteristics, actions, and consequences to the drivers involved in the crash. Data elements in this chapter are given the element identifier **D** (e.g., D1, D2, D3).

D1. Driver Presence

Element Definition:

This element identifies whether a driver was present in this vehicle at the onset of the unstabilized situation.

Attribute Values:

Select 1

- No Driver Present/Not Applicable
- Yes
- Unknown

Remarks:

Complete this element for all motor vehicles.

Highway Safety Rationale:

Several data elements rely upon the completion of this element for crashes in which the vehicle did not have a driver at the time of the crash.

Implementation Suggestions:

If **No Driver Present/Not Applicable** is selected, then the following data elements can be auto-filled as follows:

- DRIVER ADDRESS: **No Driver Present/Unknown if Driver Present**
- DRIVER LICENSE JURISDICTION: **Not Applicable**
- DRIVER LICENSE NUMBER: **No Driver Present/Unknown if Driver Present**
- SPEEDING-RELATED: **No**
- ATTEMPTED AVOIDANCE MANEUVER: **No Driver Present/Unknown if Driver Present**
- DRIVER'S VISION OBSCURED BY: **No Driver Present/Unknown if Driver Present**
- RELATED FACTORS – DRIVER LEVEL: **Not Applicable (No Driver)**
- VIOLATION CODES: **None**

Validation Rules:

- None

Alignment Rules for DRIVER PRESENCE:

- None

D2. Driver Address

Element Definition:

The address of the driver of this vehicle.

Attribute Values:

Subfield 1: Address Line 1

- No Driver Present/Unknown if Driver Present
- Address Line 1
- Unknown

Subfield 2: Address Line 2

- No Driver Present/Unknown if Driver Present
- Address Line 2
- Unknown

Subfield 3: City

- No Driver Present/Unknown if Driver Present
- City
- Unknown

Subfield 4: State

- No Driver Present/Unknown if Driver Present
- State
- Unknown

Subfield 5: ZIP Code

- No Driver Present/Unknown if Driver Present
- ZIP Code
- Unknown

Subfield 6: Country

- No Driver Present/Unknown if Driver Present
- Country
- Unknown

Remarks:

Complete this element for all drivers.

Highway Safety Rationale:

This element is used for data integration with the State driver registration files to document driver history and out-of-state drivers. It is also used for law enforcement activities and crash investigation.

Implementation Suggestions:

- If DRIVER PRESENCE equals **No Driver Present/Not Applicable**, then autofill all subfields of this element with **No Driver Present/Unknown if Driver Present**.

Validation Rules:

- None

Alignment Rules for DRIVER ADDRESS

- None

D3. Driver License Jurisdiction

Element Definition:

The geographic or political entity issuing a driver license to this person.

Attribute Values:

Subfield 1: Type (Select 1)

- Not Licensed
- Canada
- Indian Nation
- International License (other than Mexico or Canada)
- Mexico
- U.S. State or Territory
- U.S. Government
- Not Applicable
- Unknown

Subfield 2: ANSI State FIPS or ISO 3166 Country Code (Specify)

- Not Licensed
- ANSI State FIPS or USPS Codes, or ISO 3166-2 Country Codes
- Not Applicable

Remarks:

Complete this element for all drivers.

Includes the States of the United States (including the District of Columbia and Territories), Indian Nations, U.S. Government, Canadian Provinces, and Mexican States (including the Distrito Federal), as well as other jurisdictions.

ANSI State FIPS and USPS Codes are provided by the U.S. Census Bureau. ISO 3166 Country Codes are provided by the International Organization for Standardization.

- **Indian Nation –** A federally recognized Indian tribe with sovereign authority to interact on a government-to-government basis directly with federal agencies.

- **International License (other than Mexico or Canada)** – Driver license issued by country other than Canada, Mexico, or U.S.

Highway Safety Rationale:

This element is necessary to evaluate the effectiveness of various State licensing laws and document out-of-state drivers. This element is also critical in integrating the State crash and driver license files.

Implementation Suggestions:

- If DRIVER PRESENCE equals **No Driver Present/Not Applicable**, then autofill both subfields of this element with **Not Applicable**.
- If subfield 1 equals **Not Licensed**, then auto fill subfield 2 with **Not Licensed**.

Validation Rules:

- If subfield 1 = **Not Licensed**, then subfield 2 must = **Not Licensed**.
- If subfield 1 = **Not Applicable**, then subfield 2 must = **Not Applicable**.

Alignment Rules for DRIVER LICENSE JURISDICTION

This element is a two-subfield element: Subfield 1: Type and Subfield 2: ANSI State FIPS or ISO 3166 Country Code. An open text field is acceptable for aligning to Subfield 2 if the State uses ANSI State FIPS or USPS Codes, or ISO 3166-2 Country Codes.

D4. Driver License Number

Element Definition:

A unique set of alphanumeric characters assigned by the authorizing agent issuing a driver license to the individual.

Attribute Values:

Specify

- No Driver Present/Unknown if Driver Present
- Not Licensed
- License Number
- Unknown

Remarks:

Complete this element for all drivers.

Highway Safety Rationale:

This element is critical in integrating the State crash and driver license files. It is also used for law enforcement activities and crash investigation.

Implementation Suggestions:

- DRIVER LICENSE NUMBER can be used to retrieve information from the State Driver file, including the license class, endorsements, and restrictions. See Chapter 10: Traffic Records Data Integration for details.

Validation Rules:

- None

Alignment Rules for DRIVER LICENSE NUMBER

- None

D5. Speeding-Related

Element Definition:

Indication of whether the investigating officer suspects that the driver involved in the crash was speeding based on verbal or physical evidence and not on speculation alone.

Attribute Values:

Select 1

- No
- Yes, Racing
- Yes, Exceeded Speed Limit
- Yes, Too Fast for Conditions
- Yes, Specifics Unknown
- Unknown

Remarks:

Complete this element for all drivers.

Note about attribute hierarchy: If more than one condition was present at the same time, select the attribute that is higher on the list. For example, if the driver was traveling too fast for conditions AND exceeding the speed limit, select **Yes, Exceeded Speed Limit**, because it is higher on the list than **Yes, Too Fast for Conditions**.

- **Yes, Exceeded Speed Limit –** When a motor vehicle is traveling above the posted/statutory speed limit on certain designated roadways and/or by certain types of vehicles; e.g., for trucks, buses, motorcycles, on bridge, at night, in school zone, etc.).

- **Yes, Racing –** When two or more motor vehicles are engaged in a speed-related competition on the trafficway.

- **Yes, Too Fast for Conditions** – Traveling at a speed that was unsafe for the road, weather, traffic, or other environmental conditions at the time.

Highway Safety Rationale:

This data element is important to identify behavioral concerns and informs law enforcement activities and infrastructure design programs.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for SPEEDING-RELATED

The State must have a similar, separate element to align. However, States with an element like "Speeding: Y/N" or equivalent, can only align to the MMUCC attribute **No**.

D6. Driver Distraction

Element Definition:

This element identifies this driver's attention to driving prior to the driver's realization of an impending critical event or just prior to impact if realization of an impending critical event does not occur. This element reports on the presence of any distractions which may or may not have contributed to the crash. Distraction from the primary task of driving occurs when drivers divert their attention from the driving task to some other activity.

Attribute Values:

Select 1

- Not Distracted
- Texting or Manually Operating a Mobile Electronic Device
- Talking/Listening on Hands-Free Mobile Electronic Device
- Talking/Listening on Hand-Held Mobile Electronic Device
- Unknown Use of a Mobile Electronic Device
- Vehicle-Integrated Device or Controls (e.g., navigation screen, audio, climate controls, windows)
- Passenger(s)
- Other Inside Vehicle (e.g., Eating, Smoking)
- Other Outside Vehicle (e.g., Outside Person, Object, or Event)
- Distracted, Details Unknown
- Unknown if Distracted

Remarks:

Complete this element for all drivers.

NOTE: "Presence" is not the same as an activity associated with the person or item. The driver needs to be engaged in some activity associated with the thing which is causing a distraction. Just having a mobile phone, sandwich, passenger, etc., in the vehicle isn't a distraction. The distraction is when the driver's attention is diverted from driving to using the phone, eating the sandwich, turning around to talk to a backseat passenger, etc. The source of the distraction doesn't have to be a contributing factor in the crash, but it does have to be in use, engaged, the person was doing it at the time, etc., for it to have been a distraction.

Highway Safety Rationale:

This data element is important to identify behavioral concerns and informs law enforcement activities, legislative actions, and vehicle design.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for DRIVER DISTRACTION:

- The MMUCC element identifies distractions related to this driver at the time of the crash, regardless of whether the distractions contributed to the crash. If the State's element identifies

only distractions that contributed to the crash, it does not align with the MMUCC element, even if the element and/or attribute names are the same.

D7. Attempted Avoidance Maneuver

Element Definition:

This element identifies movements/actions taken by the driver after the driver realizes there is an impending danger. This element assesses what the driver's action was in response to this realization.

Attribute Values:

Select 1

- No Driver Present/Unknown if Driver Present
- No Avoidance Maneuver
- Accelerating
- Accelerating and Steering Left
- Accelerating and Steering Right
- Braking
- Braking and Steering Left
- Braking and Steering Right
- Braking and Unknown Steering Direction
- Releasing Brakes
- Steering Left
- Steering Right
- Lay Down Motorcycle
- Other Actions (Explain in Narrative)
- Unknown

Remarks:

Complete this element for all drivers.

Highway Safety Rationale:

This element identifies what the driver did in reaction to an impending danger, which is important in analyzing crash outcomes.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for ATTEMPTED AVOIDANCE MANEUVER

- None

D8. Driver's Vision Obscured By

Element Definition:

This data element records impediments to a driver's visual field.

Attribute Values:

Select 1

- No Driver Present/Unknown if Driver Present
- No Obstruction
- Rain, Snow, Fog, Smoke, Sand, Dust
- Reflected Glare, Bright Sunlight, Headlights
- Curve, Hill, or Other Roadway Design Feature
- Building, Billboard, Other Structure
- Trees, Crops, Vegetation
- In-Transport Motor Vehicle (including load)
- Not In-Transport Motor Vehicle (parked/working)
- Splash or Spray of Passing Vehicle
- Inadequate Defrost or Defog System
- Inadequate Vehicle Lighting System
- Obstruction Interior to the Vehicle
- External Mirrors
- Broken or Improperly Cleaned Windshield
- Obstructing Angles on Vehicle
- Other Visual Obstruction
- Unknown

Remarks:

Complete this element for all drivers.

Highway Safety Rationale:

This element is important to evaluate vehicle design features, infrastructure, and other factors which may limit a driver's field of vision.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for DRIVERS VISION OBSCURED BY

- The State must collect the attributes in an element separate from other contributing or related factors. The State may collect this element for the driver at the vehicle level.

D9. Violation Codes

Element Definition:

The two most critical motor vehicle-related violations codes, if any, which apply to this driver.

Attribute Values:

Specify up to 2

- None
- State Violation Code(s)
- Unknown

Remarks:

Complete this element for all drivers.

Highway Safety Rationale:

This element is important for evaluation of safety laws and enforcement practices. This information is important for integrating the State crash files with the State driver license and citation/adjudication files.

Implementation Suggestions:

States are encouraged to collect as many additional violation codes they deem appropriate and necessary.

Validation Rules:

- If VIOLATION CODES does not = **No Violation** or **Unknown**, then value must = a valid citation in the State citation tracking system.

Alignment Rules for VIOLATION CODES:

- None

D10. Related Factors – Driver Level

Element Definition:

This element identifies factors related to this driver.

Attribute Values:

Select up to 4

- Not Applicable (No Driver)
- None
- Attempted to Move Over or Slow Down as Required by Move Over Law
- Failed to Move Over or Slow Down as Required by Move Over Law
- Failure to Obey Traffic Signs, Traffic Control Devices, or Traffic Officers, Failure to Obey Safety Zone Traffic Laws
- Failed to Keep in Proper Lane
- Failed to Yield Right-of-Way
- Followed Too Closely
- Improper Passing
- Improper Turn
- Careless Driving, Inattentive Operation, Improper Driving, Driving Without Due Care
- Operating the Vehicle in an Erratic, Reckless, or Negligent Manner
- Aggressive Driving
- Road Rage
- Overcorrecting
- Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist, or Animal in Roadway, etc.
- Driving Wrong Way on One-Way Trafficway
- Driving on Wrong Side of Two-Way Trafficway (Intentional or Unintentional)
- Traveling on Prohibited Trafficways
- Overloading or Improper Loading of Vehicle with Passengers or Cargo
- Towing or Pushing Improperly
- Failure to Dim Lights or to Have Lights on When Required
- Operating Without Required Equipment
- Intentional Illegal Driving Off the Roadway
- Opening Closure into Moving Traffic or While Vehicle is in Motion
- Fleeing/Evading Law Enforcement
- Police Officer in Pursuit
- Stopped in Roadway (Vehicle Not Abandoned)
- Alcohol and/or Drug Test Refused
- Looked But Did Not See
- Drowsy, Asleep, or Fatigued
- Ill (sick), Fainted
- Physical Impairment
- Under the influence of medication, drugs, and/or alcohol
- Unknown

Remarks:

Complete this element for all drivers. This data element is based on the judgment of the law enforcement officer investigating the crash and need not match VIOLATION CODES.

- **Attempted to Move Over or Slow Down as Required by Move Over Law** – This driver tried to move over or slow down when passing a stopped emergency or maintenance vehicle or personnel and this may have attributed to the crash. Whether the driver's actions were successful is not relevant. The stopped emergency or maintenance vehicle may or may not have been displaying flashing warning lights.

- **Drowsy, Asleep, or Fatigued** – Driver experienced a temporary loss of consciousness, was drowsy or asleep, or was operating in a reduced physical or mental capacity due to weariness, medication, or other drugs.

- **Failed to Keep in Proper Lane –** Driver did not maintain position in appropriate travel lane.

- **Failed to Move Over or Slow Down as Required by Move Over Law** - This driver did not try to move over or slow down when passing a stopped emergency or maintenance vehicle or personnel and this may have contributed to the crash. The stopped emergency or maintenance vehicle may or may not have been displaying flashing warning lights.

- **Failed to Yield Right-of-Way** – Driver failed to yield right-of-way to another motor vehicle or non-occupant as required.

- **Fleeing/Evading Law Enforcement** - is used to identify this person was trying to escape and/or avoid the police.

- **Followed Too Closely** – Driver was positioned at a distance behind another motor vehicle or non-occupant that was too close to permit safe response to any change in movement or behavior by the other motor vehicle or non-occupant.

- **Improper Passing** - the driver had completed or was passing in a way that was unsafe, poorly executed, or prohibited. Examples include passing on the right, passing a stopped school bus, or passing where prohibited by signs or pavement markings (i.e., mainly violations as designated by traffic controls).

- **Improper Turn** - occurs when the driver completed or was making a turn that was unsafe, poorly executed, or prohibited.

- **Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist, or Animal in Roadway, etc.** – Defensive driver action to defend against an apparent danger in, on, or due to the condition of the roadway or the presence of a motor vehicle, object, non-motorist, or animal in the roadway to avoid a crash.

Highway Safety Rationale:

This element is important to identify and track ongoing or emerging issues associated with these driver behaviors and other characteristics.

Implementation Suggestions:

- None

Validation Rules:

- If at least one RELATED FACTORS - DRIVER LEVEL = **Failed to Move Over or Slow Down as Required by Move Over Law**, then RELATED FACTORS - DRIVER LEVEL must not also = **Attempted to Move Over or Slow Down as Required by Move Over Law**.
- If at least one RELATED FACTORS - DRIVER LEVEL = **Attempted to Move Over or Slow Down as Required by Move Over Law**, then RELATED FACTORS - DRIVER LEVEL must not also = **Failed to Move Over or Slow Down as Required by Move Over Law**.

Alignment Rules for RELATED FACTORS - DRIVER LEVEL

The MMUCC element identifies factors related to this driver at the time of the crash, regardless of whether the factors contributed to the crash. If the State's element identifies only factors that contributed to the crash, it does not align with the MMUCC element, even if the element and/or attribute names are the same.

Chapter 7: Person Data Elements

The person data elements describe the characteristics, actions, and consequences to the people involved in the crash. Data elements in this chapter are given the element identifier **P** (e.g., P1, P2, P3).

Complete these elements for all people in the crash (motor vehicle occupants and non-motorists).

- P1. Person Number
- P2. Name of Person Involved
- P3. Date of Birth
- P4. Sex/Gender
- P5. Person Type
- P6. Special Function
- P7. Injury Status
- P8. Transported to First Medical Facility By
- P9. EMS Response Agency
- P10. Medical Facility Receiving Patient

Complete these elements for all motor vehicle occupants.

- P11. Occupant's Motor Vehicle Unit Number
- P12. Seating Position
- P13. Restraint System Use
- P14. Helmet Use
- P15. Air Bag Deployed
- P16. Ejection

Complete these elements for all drivers and non-motorists.

- P17. Law Enforcement Suspects Alcohol Involvement
- P18. Alcohol Test
- P19. Law Enforcement Suspects Drug Involvement

P1. Person Number

Element Definition:

This element identifies a number for the motor vehicle occupant in the motor vehicle they occupied, or for each non-motorist, in consecutive order.

Attribute Values:

- Assigned Number

Remarks:

Complete this element for all people in the crash (motor vehicle occupants and non-motorists).

Highway Safety Rationale:

This data element uniquely identifies each person involved in the crash and helps facilitate integration with other traffic records data systems.

Implementation Suggestions:

- This number can be computer-generated.

Validation Rules:

- None

Alignment Rules for PERSON NUMBER

- None

P2. Name of Person Involved

Element Definition:

The full name of the individual involved in the crash.

Attribute Values:

Specify or select Unknown

- Name
- Unknown

Remarks:

Complete this element for all motor vehicle occupants and non-motorists. When possible, obtain this information from the driver license.

Highway Safety Rationale:

This data element helps facilitate integration with other traffic records data systems. It is also used for law enforcement activities and crash investigation.

Implementation Suggestions:

- NAME OF PERSON INVOLVED can be used to retrieve information from other Traffic Records data systems. See Chapter 10: Traffic Records Data Integration for details.
- Collecting the person's name as three distinct fields can help data linkage with other datasets. Consider collecting separately:
  - Last Name
  - First Name
  - Middle Initial/Name

Validation Rules:

- None

Alignment Rules for NAME OF PERSON INVOLVED

The State must record the name of EACH person involved in the crash including all drivers, all occupants, and all non-motorists. Recording of names for drivers only is insufficient. Name fields in separate sections, i.e., Driver section, Occupant section, etc., are acceptable.

P3. Date of Birth

Element Definition:

The year, month, and day of birth of the person involved in this crash.

Attribute Values:

Subfield 1: Year (Specify)

- Year (YYYY)
- Unknown

Subfield 2: Month (Select 1)

- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December
- Unknown

Subfield 3: Day (Select 1)

- Day (01-31)
- Unknown

Remarks:

Complete this element for all motor vehicle occupants and non-motorists.

Highway Safety Rationale:

This data element is used for problem identification and to assess the effectiveness of behavioral traffic safety programs by age groups. This element also helps facilitate integration with other traffic records data systems.

Implementation Suggestions:

- Age can be derived using the DATE OF BIRTH and CRASH DATE.
- DATE OF BIRTH can be used to retrieve information from other Traffic Records data systems. See Chapter 10: Traffic Records Data Integration for details.

Validation Rules:

- None

Alignment Rules for DATE OF BIRTH

Many States have an open text field for “Date of Birth.” States could get credit for aligning to the MMUCC attribute **Unknown** if the instructions demonstrate that leaving the field blank is equivalent to **Unknown** or if officers are instructed to indicate unknown values in that text field.

P4. Sex/Gender

Element Definition:

The sex or gender of the person involved in the crash.

Attribute Values:

Select 1

- Female
- Male
- Other (e.g., "X," Non-Binary, Not Specified, etc.)
- Unknown

Remarks:

Complete this element for all motor vehicle occupants and non-motorists.

Highway Safety Rationale:

This data element is used for problem identification and to assess the effectiveness of behavioral traffic safety programs by sex/gender.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for SEX/GENDER

An open text field "Driver Sex" alone is insufficient. The State element must apply to all people in the crash.

P5. Person Type

Element Definition:

The role of this person involved in the crash.

Attribute Values:

Select 1

Group 1: Motorist

- Driver of a Motor Vehicle In-Transport
- Passenger of a Motor Vehicle In-Transport
- Occupant of Motor Vehicle Not In-Transport
- Unknown Occupant Type in a Motor Vehicle In-Transport

Group 2: Non-Motorist*

- Bicyclist*
- Other Cyclist*
- Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying*
- Pedestrian on Personal Conveyance*
- Pedestrian In/On a Building*
- Occupant of a Non-Motor Vehicle Transport Device*
- Unknown Type of Non-Motorist*

Remarks:

***If attribute is selected, the Non-Motorist Data Elements must be completed.**

Complete this element for all motor vehicle occupants and non-motorists. An involved person in a crash must maintain PERSON TYPE during the crash. Once the unstabilized situation begins, a driver, passenger, or non-motorist/non-occupant cannot change PERSON TYPE until the situation stabilizes.

- **Bicyclist** - is any person on a device composed of two wheels held in a frame one behind the other, propelled by foot pedals, and steered with handlebars attached to the front wheel. This includes those solely propelled by human power and those that can be propelled by human power and/or a motor. This includes all people (operator and passengers) on a bicycle and a person being pulled by a bicycle (e.g., in a wagon or bike trailer).

- **Driver of a Motor Vehicle In-Transport** – An occupant who is in actual physical control of a motor vehicle or, for an out-of-control motor vehicle, an occupant who was in control until control was lost.

- **Motorist** – Any occupant of a motor vehicle.

- **Non-Motorist –** Any person who is not an occupant of a motor vehicle. This includes pedestrians, bicyclists, other cyclists, and occupants of non-motor vehicle transport devices.

- **Occupant of a Motor Vehicle Not In-Transport** - is used for any occupant of a motor vehicle not in-transport (i.e., Parked Motor Vehicle or Working Motor Vehicle) including someone sitting in the driver's seat position.

- **Occupant of a Non-Motor Vehicle Transport Device** - refers to persons riding in an animal-drawn conveyance, on an animal, or injured occupants of railway trains, etc.

- **Other Cyclist** – Non-motorist using a device propelled by pedaling (by foot, hand, or other adaptive means) other than a "Bicycle." Examples include unicycle, tricycle, pedal car, handcycle, which can be solely propelled by human power and those that can be propelled by human power and/or a motor.

- **Passenger of a Motor Vehicle In-Transport** – Occupant of a Motor Vehicle In-Transport other than the driver.

- **Pedestrian In/On a Building** - is used for a person inside of or on a building who is struck by a motor vehicle directly or by way of an object set in motion (e.g., crash debris as a vehicle penetrates a wall).

- **Pedestrian On Personal Conveyance** – is used for pedestrians using personal conveyances. A personal conveyance is a device used by a pedestrian for personal mobility assistance or recreation. These devices can be motorized or human powered, but not propelled by pedaling. Examples include ridable toys, skates, skateboards, baby carriage, Segway-style devices, wheelchair, mobility scooter. Also see element NON-MOTORIST DEVICE TYPE.

- **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying** - is used for all pedestrians except for those in/on personal conveyances and in/on buildings. This attribute includes a person pushing a vehicle or being carried by another pedestrian.

Highway Safety Rationale:

This data element is used for problem identification and to assess the effectiveness of behavioral traffic safety programs by specific classifications of people.

Implementation Suggestions:

- None

Validation Rules

- None

Alignment Rules for PERSON TYPE

States that classify **Occupants of Motor Vehicles Not In-Transport** as non-motorists but can clearly differentiate them from all other non-motorists, will align with this MMUCC attribute.

Pay close attention to the State and MMUCC definitions, and do not map attributes based on name alone. For example, a State attribute "Pedestrian" may not have the same definition as the MMUCC attribute **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying**.

P6. Special Function

Element Definition:

This element identifies if this person was performing a unique function when they became involved in the crash.

Attribute Values:

- None
- Emergency Medical Service (EMS)
- Fire and Rescue
- Law Enforcement
- Towing and Recovery
- Safety Service Patrol
- Roadway Construction
- Roadway Maintenance
- Utility
- U.S.P.S. Mail Carrier
- Other (Explain in Narrative)
- Unknown

Remarks:

Complete this element for all motor vehicle occupants and non-motorists. If the person was not performing any of these unique functions at the time of the crash, select the attribute **None**.

Some examples of activities that this person could have been doing when they became an involved person in this crash could include:

- directing traffic
- setting or retrieving traffic cones
- mowing the median as part of a road maintenance crew
- conducting a traffic stop
- traffic crash scene duties
- assisting a disabled or abandoned vehicle
- incident response duties
- driving a patient to an emergency medical facility
- entering or exiting a vehicle
- sitting in vehicle and writing a traffic ticket
- delivering mail
- fixing power lines

- **Emergency Medical Services (EMS)** - An Emergency Medical Responder (EMR), Emergency Medical Technician (EMT), or paramedic that provides the triage, treatment, and/or transport of crash victims.

- **Fire and Rescue** - provide aid by fighting fires, rescuing those involved in crashes from vehicles, and managing hazardous materials incidents.

Highway Safety Rationale:

The tracking of this information will assist State and FHWA's Traffic Incident Management and Work Zone Safety teams in evaluating countermeasures designed for reducing traffic incidents involving these specific people.

Implementation Suggestions:

- None

Validation Rules

- None

Alignment Rules for SPECIAL FUNCTION

- None

P7. Injury Status

Element Definition:

The injury severity level for a person involved in a crash.

Attribute Values:

Select 1

- (K) Fatal Injury
- (A) Suspected Serious Injury
- (B) Suspected Minor Injury
- (C) Possible Injury
- (O) No Apparent Injury

Remarks:

Note: The Federal Highway Administration's (FHWA) Safety Performance Management Measures Final Rule (23 CFR 490) and the National Highway Traffic Safety Administration's (NHTSA) Uniform Procedures for State Highway Safety Grants Program Interim Final Rule (23 CFR 1300) establish a single, national definition for States to report serious injuries per the Model Minimum Uniform Crash Criteria (MMUCC) Fourth Edition **Suspected Serious Injury (A)** attribute found in the INJURY STATUS element.

Complete this element for all motor vehicle occupants and non-motorists.

The determination of which attribute to assign should be based on the latest information available at the time the report is completed, except as described below for fatal Injuries.

- **Fatal Injury (K):** A fatal injury is any injury that results in death within 30 days after the motor vehicle crash in which the injury occurred. If the person did not die at the scene but died within 30 days of the motor vehicle crash in which the injury occurred, the injury classification should be changed from the attribute previously assigned to the attribute "Fatal Injury."

- **Suspected Serious Injury (A):** A suspected serious injury is any injury other than fatal which results in one or more of the following:
  - Severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood
  - Broken or distorted extremity (arm or leg)
  - Crush injuries
  - Suspected skull, chest, or abdominal injury other than bruises or minor lacerations
  - Significant burns (second and third degree burns over 10% or more of the body)
  - Unconsciousness when taken from the crash scene
  - Paralysis

- **Suspected Minor Injury (B):** A minor injury is any injury that is evident at the scene of the crash, other than fatal or serious injuries. Examples include lump on the head, abrasions, bruises, minor lacerations (cuts on the skin surface with minimal bleeding and no exposure of deeper tissue/muscle).

- **Possible Injury (C):** A possible injury is any injury reported or claimed which is not a fatal, suspected serious, or suspected minor injury. Examples include momentary loss of consciousness, claim of injury, limping, or complaint of pain or nausea. Possible injuries are those that are reported by the person or are indicated by his/her behavior, but no wounds or injuries are readily evident.

- **No Apparent Injury (O):** No apparent injury is a situation where there is no reason to believe that the person received any bodily harm from the motor vehicle crash. There is no physical evidence of injury and the person does not report any change in normal function.

Highway Safety Rationale:

This element is fundamental to crash outcome classification. It is used for problem identification, to assess the effectiveness of traffic safety programs, and to facilitate integration with other traffic records data systems.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for INJURY STATUS

To fully align with INJURY STATUS, States must capture the attribute, (A) Suspected Serious Injury verbatim, including its definition, mutually exclusive of all other attributes. The Federal Highway Administration's (FHWA) Safety Performance Management Measures Final Rule (23 CFR 490) and the National Highway Traffic Safety Administration's (NHTSA) Uniform Procedures for State Highway Safety Grants Program Interim Final Rule (23 CFR 1300) establish a single, national definition for States to report serious injuries per the Model Minimum Uniform Crash Criteria (MMUCC) Fourth Edition "Suspected Serious Injury (A)" attribute found in the INJURY STATUS element.

States are only considered compliant and aligned with the serious injury definition requirements if they:

a) Maintain a statewide crash database capable of accurately aggregating the MMUCC Fourth Edition INJURY STATUS attribute for "Suspected Serious Injury (A)";
b) Ensure the State crash database, data dictionary, and crash report user manual employ the terminology and definitions for the MMUCC Fourth Edition INJURY STATUS attribute "Suspected Serious Injury (A)";
c) Ensure the police crash form employs the MMUCC Fourth Edition INJURY STATUS attribute for "Suspected Serious Injury (A).”; and
d) Ensure that the seven serious injury types specified in the "Suspected Serious Injury (A)" definition are not included in any of the other attributes listed.

States that align completely with the attribute, (A) Suspected Serious Injury as detailed above but use synonymous terminology for the remaining attributes may be able to align (e.g., "Killed" to "(K) Fatal Injury," "Non-Incapacitating Injury" to "(B) Suspected Minor Injury," "Complaint of Pain" with "(C) Possible Injury," and "No Injury" to "(O) No Apparent Injury" if the definitions match MMUCC.

P8. Transported to First Medical Facility By

Element Definition:

Type of unit providing transport to the first medical facility receiving the patient.

Attribute Values:

Select 1

- Not Transported for Treatment
- EMS Air
- EMS Ground
- EMS Unknown Mode
- Law Enforcement
- Transported Unknown Source
- Other
- Unknown

Remarks:

Complete this element for all motor vehicle occupants and non-motorists. Medical Facility refers to an injury treatment facility (hospital, clinic, trauma center, etc.). The treatment facility is the first medical facility to which the person is taken. Use appropriate attribute, even if the person dies en route to the treatment facility. A morgue is not an injury treatment facility.

- **EMS Air -** includes any air transport device. This code would be used any time air transport was used for this person. For example, if there is an indication that both air and ground transportation were used, use **EMS Air**.

- **EMS Ground -** is used when this person was transported by ambulance or other medical ground service. This includes transport by local, State, Tribal, Territorial, federally run, or for-profit ambulance or rescue squad vehicles.

Highway Safety Rationale:

This element is important to trace patients from the crash scene to the first medical facility and facilitates integration with other traffic records data systems.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for TRANSPORTED TO FIRST MEDICAL FACILITY BY

- None

P9. EMS Response Agency

Element Definition:

The agency identifier and run number of the EMS agency that responds for this person.

Attribute Values:

Subfield 1: EMS Response Agency Identifier (Specify)

- ID for EMS agency that responds

Subfield 2: EMS Response Run Number (Specify)

- EMS Response Run Number

Remarks:

Complete this element for all motor vehicle occupants and non-motorists. If this person did not receive EMS services, leave this data element blank.

Highway Safety Rationale:

This element is important to trace patients from the crash scene to the first medical facility and facilitates integration with other traffic records data systems.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for EMS RESPONSE AGENCY

- None

P10. Medical Facility Receiving Patient

Element Definition:

Name of the first hospital, clinic, or trauma center that received the patient for treatment.

Attribute Values:

Specify

- Name of Medical Facility Receiving Patient

Remarks:

Complete this element for all motor vehicle occupants and non-motorists. Medical Facility refers to an injury treatment facility (hospital, clinic, trauma center, etc.). The treatment facility is the first medical facility to which the person is taken. Use appropriate attribute, even if the person dies en route to the treatment facility. A morgue is not an injury treatment facility.

If this person was not transported to a medical facility for treatment, leave this data element blank.

Highway Safety Rationale:

This element is important to trace patients from the crash scene to the first medical facility and facilitates integration with other traffic records data systems.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for MEDICAL FACILITY RECEIVING PATIENT

- None

P11. Occupant's Motor Vehicle Unit Number

Element Definition:

The unique number assigned for this crash to the motor vehicle in which this person was an occupant.

Attribute Values:

Specify 1

- Number to indicate in which motor vehicle the occupant was located

Remarks:

Complete this element for all motor vehicle occupants. People ejected or who fall from a vehicle in this crash are still considered occupants for the duration of the unstabilized situation.

Highway Safety Rationale:

This element is used to associate an occupant with the motor vehicle in which they were riding. This is important to evaluate crash outcomes and vehicle design (including occupant protection and other safety systems), and to help facilitate integration with other traffic records data systems.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for OCCUPANT'S MOTOR VEHICLE UNIT NUMBER

- None

P12. Seating Position

Element Definition:

The location for this occupant in, on, or outside of the motor vehicle prior to the first event in the SEQUENCE OF EVENTS.

Attribute Values:

Select 1

- Front Row, Left Side
- Front Row, Middle
- Front Row, Right Side
- Front Row, Other
- Front Row, Unknown
- Second Row, Left Side
- Second Row, Middle
- Second Row, Right Side
- Second Row, Other
- Second Row, Unknown
- Third Row, Left Side
- Third Row, Middle
- Third Row, Right Side
- Third Row, Other
- Third Row, Unknown
- Fourth Row, Left Side
- Fourth Row, Middle
- Fourth Row, Right Side
- Fourth Row, Other
- Fourth Row, Unknown
- Enclosed Passenger or Cargo Area
- Unenclosed Passenger or Cargo Area
- Riding on Exterior of Vehicle (Non-Trailing unit)
- Sleeper Section of Cab (truck)
- Appended to a Motor Vehicle for Motion
- Trailing Unit
- Unknown

Remarks:

Complete this element for all motor vehicle occupants.

Refer to Figure 19: Example Seating Positions for Typical Vehicle Types for diagram of common vehicle types, to include ambulance seating/positioning. **Front Row, Left Side** is usually the motor vehicle driver except for postal vehicles and some foreign vehicles.

- **Riding on Exterior of Vehicle (non-trailing unit)** – Person riding on the exterior of a motor vehicle (on hood, running board, trunk, non-trailing unit, etc.).

- **Sleeper Section of Cab (truck)** – Section in back of truck cab where occupants can sleep.

- **Trailing Unit** – Attached trailer of a motor vehicle or occupant of a motorcycle caboose.

Highway Safety Rationale:

This element is important to evaluate crash outcomes and vehicle design (including occupant protection and other safety systems).

Implementation Suggestions:

- None

Validation Rules:

- None

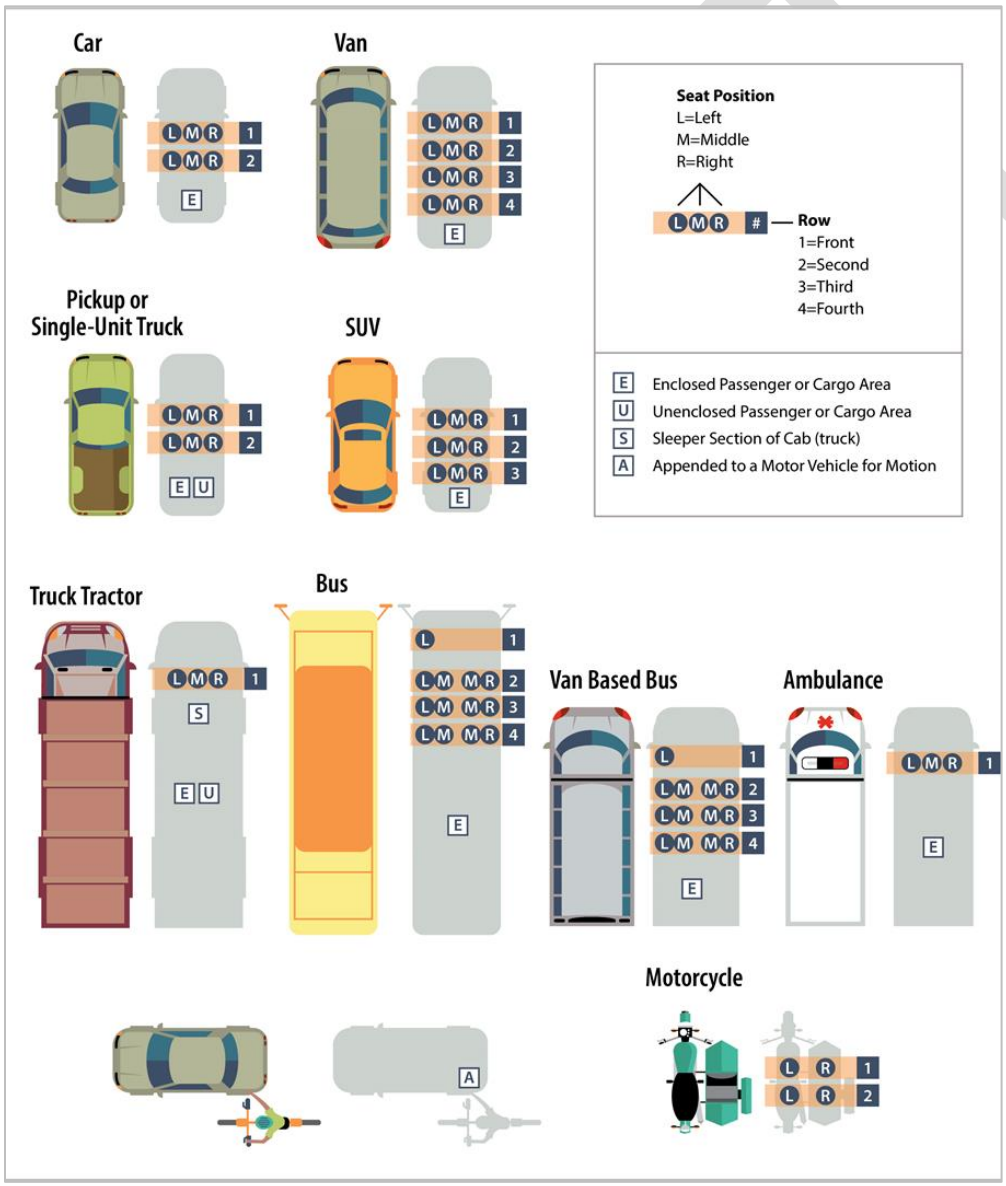


Figure 19: Example Seating Positions for Typical Vehicle Types

Alignment Rules for SEATING POSITION

A diagram is acceptable for aligning if all MMUCC position attributes are represented.

Figure 19: Example Seating Positions for Typical Vehicle Types provides diagramed examples. Refer to these figures for aligning to both common motor vehicles and ambulance seating/positioning.

P13. Restraint System Use

Element Definition:

The restraint equipment in use by the occupant and any indication of improper use of the available restraint system at the time of the crash.

Attribute Values:

Subfield 1: Type of Restraint System in Use (Select 1)

- None Used/Not Applicable
- Shoulder and Lap Belt Used
- Lap Belt Only Used
- Shoulder Belt Only Used
- Booster Seat
- Child Restraint System – Forward Facing
- Child Restraint System – Rear Facing
- Child Restraint – Type Unknown
- Racing-Style Harness Used
- Restraint Used – Type Unknown
- Other
- Unknown

Subfield 2: Indication of Restraint System Misuse (Select 1)

- None Used/Not Applicable
- No Indication of Misuse
- Yes, Indication of Misuse

Remarks:

Complete this element for all motor vehicle occupants.

- **Booster Seat** – is used when a child passenger is seated in one of the following "belt-positioning" seats that positions a child on a vehicle seat to improve the fit of the child in a lap and shoulder seat belt system. This does not imply correct use or placement of the seat (see subfield 2).
  - Booster Seat with High Back: This type of booster seat provides neck and head support and is ideal for vehicles that don't have head rests or high seat backs.
  - Backless Booster Seat: This type of booster seat does not provide head and neck support. It is ideal for vehicles that have head rests.
  - Combination Seat: This type of booster seat transitions from a forward-facing seat with a harness into a booster.
  - All-in-One Seat: This seat can change from a rear-facing seat to a forward-facing seat (with a harness and tether) and to a booster seat as a child grows.

- **Child Restraint System – Forward Facing** - is used when a child passenger is seated in one of the following "forward-facing" child safety seats. This does not imply correct use or placement of the seat (see subfield 2).
  - Convertible Seat: This seat can change from a rear-facing seat to a forward-facing seat with a harness and tether.

- Combination Seat: This seat transitions from a forward-facing seat with a harness and tether into a booster.
- All-in-One Seat: This seat can change from a rear-facing seat to a forward-facing seat (with a harness and tether) and to a booster seat as a child grows.

- **Child Restraint System – Rear Facing** - is used when a child passenger is seated in one of the following "rear-facing" child safety seats. This does not imply correct use or placement of the seat (see subfield 2).
  - Infant car seat: designed for newborns and small babies, the infant-only car seat is a small, portable seat that can only be used rear-facing.
  - Convertible car seat: This seat can change from a rear-facing seat to a forward-facing seat with a harness and tether. Because it can be used with children of various sizes, it allows for children to stay in the rear-facing position longer.
  - All-in-One Seat: This seat can change from a rear-facing seat to a forward-facing seat (with a harness and tether) and to a booster seat as a child grows. Because it can be used with children of various sizes, it allows for children to stay in the rear-facing position longer.

- **Child Restraint – Type Unknown** - is used when a child passenger is seated in a child safety seat; however, the type used (e.g., forward, rear, booster) cannot be determined. This does not imply correct use or placement of the seat (see subfield 2).

- **Indication of Restraint System Misuse** – indicates any misuse of the restraint system used by this person.

- **Lap Belt Only Used** – Use of a lap safety belt either because the motor vehicle is equipped only with lap belt or because the shoulder belt is not in use.

- **Shoulder and Lap Belt Used** – Occupant restraint system where both the shoulder belt and lap belt portions are connected to a buckle.

- **Shoulder Belt Only Used** – In a two-part occupant restraint system, only the shoulder belt portion is connected to a buckle.

Highway Safety Rationale:

This element is important to evaluate crash outcomes, vehicle design, and child car seats.

Implementation Suggestions:

- If **None Used/Not Applicable** is selected for Subfield 1, then autofill Subfield 2 with **None Used/Not Applicable**.
- If the MOTOR VEHICLE BODY TYPE CATEGORY for this person is an **All-Terrain Vehicle/All-Terrain Cycle (ATV/ATC)**, **Snowmobile**, **Moped**, **2-Wheeled Motorcycle**, or **3-Wheeled Motorcycle**, then autofill both Subfield 1 and Subfield 2 of this element with **None Used/Not Applicable**.

Validation Rules:

- If RESTRAINT SYSTEM USE subfield 1 Type of Restraint System in Use = **None Used/Not Applicable**, then Subfield 2 Indication Restraint System Misuse must = **None Used/Not Applicable**.

Alignment Rules for RESTRAINT SYSTEM USE:

- None

P14. Helmet Use

Element Definition:

This element records the type of helmet in use, and any indications of improper use of the helmet, by motor vehicle occupants of MOTOR VEHICLE BODY TYPE CATEGORY **All-Terrain Vehicle/All-Terrain Cycle (ATV/ATC)**, **Snowmobile**, **Moped**, **Recreational Off-Highway Vehicles (ROV)**, **2-Wheeled Motorcycle**, **3-Wheeled Motorcycle**, and **Autocycle** at the time of the crash.

Attribute Values:

Subfield 1: Helmet Use (Select 1)

- Not Applicable
- No Helmet
- DOT-Compliant Motorcycle Helmet
- Helmet, Other than DOT-Compliant Motorcycle Helmet
- Helmet, Unknown If DOT-Compliant
- Unknown if Helmet Worn

Subfield 2: Indication of Helmet Misuse (Select 1)

- None Used/Not Applicable
- No Indication of Misuse
- Yes, Indication of Misuse

Remarks:

Complete this element for all motor vehicle occupants.

- **DOT-Compliant Motorcycle Helmet –** Motorcycle helmets that are compliant with Federal Motor Vehicle Safety Standards typically weigh approximately 3 pounds, have an inner liner at least one-inch thick of firm polystyrene foam, have an inside label that states the manufacturer, model, and date of manufacture, and have a DOT sticker on the back of the helmet. A DOT sticker alone is not sufficient evidence to indicate that the helmet is DOT-compliant, as counterfeit stickers have been found affixed to non-compliant helmets.

- **Indication of Helmet Misuse –** indicates any misuse of the helmet used by this person.

- **Helmet, Unknown if DOT-Compliant –** A helmet was worn by this person, but the investigating officer cannot determine if it is a DOT-compliant motorcycle helmet.

Highway Safety Rationale:

This element is important to evaluate crash outcomes, helmet design and effectiveness, and behavioral concerns. The element also informs law enforcement activities and legislative actions.

Implementation Suggestions:

- If **Not Applicable** or **No Helmet** is selected for Subfield 1, then autofill Subfield 2 with **None Used/Not Applicable**.
- If the MOTOR VEHICLE BODY TYPE CATEGORY for this person is **Passenger Car**, **Sport Utility Vehicle**, **Mini-Van/Van (up to 8 seats)**, **Motor Home/Recreational Vehicle**, **Limo**, **Passenger Van**, **School Bus**, **Transit Bus**, **Motorcoach**, **Other Large Passenger or Bus**, **Cargo Van**, **Pickup Truck**, **Single-Unit Truck (2 axles and GVWR > 10,000 lbs.)**, **Single-Unit Truck (3 or more axles)**,

Truck Tractor, with or without trailers (Bobtail, Semi, Doubles, Triples), **Truck, Unknown Type**, **Construction Equipment (backhoe, bulldozer, forklift, etc.)**, or **Farm Equipment (tractor, combine harvester, etc.)**, then autofill Subfield 1 of this element with **Not Applicable** and Subfield 2 of this element with **None Used/Not Applicable**.

Validation Rules:

- If HELMET USE Subfield 2: Indication Helmet Misuse = **Yes, Indication of Misuse**, then HELMET USE Subfield 1: Helmet Use must = **DOT-Compliant Motorcycle Helmet**, **Helmet, Other than DOT-Compliant Motorcycle Helmet**, or **Helmet, Unknown If DOT-Compliant**.
- If HELMET USE Subfield 1: Helmet Use = **No Helmet** or **Unknown if Helmet Worn**, then HELMET USE Subfield 2: Indication Helmet Misuse must = **None Used/Not Applicable**.
- If HELMET USE Subfield 1: Helmet Use = **DOT-Compliant Motorcycle Helmet**, **Helmet, Other than DOT-Compliant Motorcycle Helmet**, or **Helmet, Unknown If DOT-Compliant**, then HELMET USE Subfield 2: Indication of Helmet Misuse must = **No Indication of Misuse** or **Yes, Indication of Misuse**.

Alignment Rules for HELMET USE

An attribute “Helmet” alone is insufficient to align to any of the helmet types in Subfield 1.

If the State does not specify whether the helmet is compliant with DOT requirements but the instructions direct officers to code “Helmet” only when it is known to be DOT-compliant, then the State would be given credit for aligning to the MMUCC attribute, **DOT-Compliant Motorcycle Helmet**.

P15. Air Bag Deployed

Element Definition:

Deployment status of an air bag relative to the position in the vehicle for this occupant.

Attribute Values:

Select 1

- Not Deployed or No Air Bag Available
- Curtain
- Front
- Side (door, seatback)
- Other (knee, air belt, etc.)
- Combination
- Deployed-Unknown Location
- Deployment Unknown

Remarks:

Complete this element for all motor vehicle occupants. See Figure 20: Air Bag Diagram.

- **Curtain** – is used when the curtain air bag is out of its cover and protruding into driver or passenger compartment. The bag is fully or partially deflated or inflated. Refer to Figure 20: Air Bag Diagram.

- **Deployment Unknown –** is used when it is not known if any air bag is out of its cover and protruding into occupant compartment.

- **Front** – is used when the driver or front seat passenger air bag is out of its cover and protruding into driver compartment. The bag is fully or partially deflated or inflated. Refer to Figure 20: Air Bag Diagram.

- **Other (knee, air belt, etc.) –** is used when a knee air bag, air belt, or other new air bag technology is deployed. Refer to Figure 20: Air Bag Diagram.

- **Side (door, seatback) –** is used when an air bag on a side of the motor vehicle is out of its cover and protruding into occupant compartment. The bag is fully or partially deflated or inflated. Refer to Figure 20: Air Bag Diagram.

Highway Safety Rationale:

This element is important to evaluate crash outcomes and vehicle design (including occupant protection and other safety systems).

Implementation Suggestions:

- None

Validation Rules:

- None

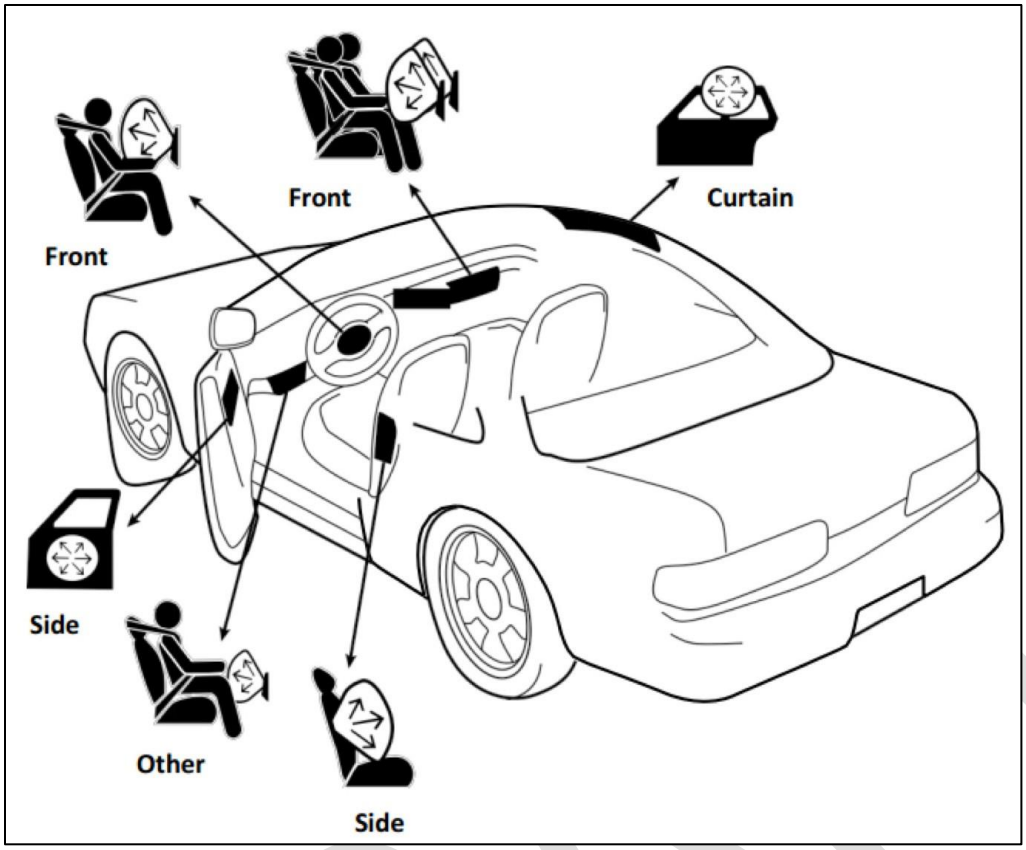


Figure 20: Air Bag Diagram

Alignment Rules for AIR BAG DEPLOYED

- None

P16. Ejection

Element Definition:

Occupant completely or partially thrown from the interior of the motor vehicle, excluding motorcycles, as a result of a crash.

Attribute Values:

Select 1

- Not Ejected
- Partially Ejected
- Totally Ejected
- Not Applicable
- Unknown

Remarks:

Complete this element for all motor vehicle occupants.

- **Partially Ejected –** The occupant's body was not completely thrown from the motor vehicle as a result of the impact.

- **Totally Ejected –** The occupant's body was completely thrown from the motor vehicle as a result of the crash.

Highway Safety Rationale:

This element is important crash outcomes and vehicle design (including occupant protection and other safety systems).

Implementation Suggestions:

- If the MOTOR VEHICLE BODY TYPE CATEGORY for this person is **Moped**, **2-Wheeled Motorcycle**, or **3-Wheeled Motorcycle**, then autofill this element with **Not Applicable**.

Validation Rules:

- None

Alignment Rules for EJECTION

An "Ejected" checkbox or "Ejected, Y/N" is not sufficient to align to this MMUCC element. However, the MMUCC ejection attributes to which the State aligns depends upon how the State instruction manual defines "Ejected." For example, if "Ejected" means completely ejected, then "Y" aligns to the MMUCC attribute **Totally Ejected**. In that case, the State will not be able to align with any of the other MMUCC attributes for this element.

P17. Law Enforcement Suspects Alcohol Involvement

Element Definition:

This data element reflects only the judgment of law enforcement as to whether alcohol was involved or not for this person.

Attribute Values:

Select 1

- No (Alcohol Not Involved)
- Yes (Alcohol Involved)
- Unknown

Remarks:

Complete this element for all driver and non-motorists. The phrase "alcohol involved" means that alcohol is present in the person or presumed to be present by Law Enforcement. Involvement is not an indication that alcohol was in any way a cause of the crash.

Highway Safety Rationale:

This data element is important to identify behavioral concerns and evaluate traffic safety countermeasure programs. It informs law enforcement activities and legislative actions and is essential to NHTSA's impairment data imputation model.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for LAW ENFORCEMENT SUSPECTS ALCOHOL INVOLVEMENT

States cannot align with this element unless the reporting officer may unambiguously indicate whether they perceive alcohol to be involved. For example, the State may have a data element combining both alcohol and drug use together, such as "Alcohol/Drug Use Suspected," which does not align to this MMUCC element unless it is possible to indicate whether alcohol or drug use or both are involved.

The MMUCC element identifies only the officer's judgement as to whether alcohol was present in this person at the time of the crash, regardless of whether the alcohol presence contributed to the crash. If the State's element identifies only if alcohol presence contributed to the crash, it does not align with the MMUCC element, even if the element and/or attribute names are the same.

Similarly, the MMUCC element identifies only the officer's judgement as to whether alcohol was present in this person at the time of the crash, regardless of whether the person was impaired. If the State's element identifies only if the person was impaired, it does not align with the MMUCC element, even if the element and/or attribute names are the same.

P18. Alcohol Test

Element Definition:

This element identifies:

1. if a chemical test for the presence of alcohol (ethanol) was given to this person,
2. the bodily tissue or fluid used to perform a chemical test for the presence of alcohol (ethanol) in this person, and
3. the result of a chemical test for the presence of alcohol (ethanol) in this person.

Attribute Values:

Subfield 1: Test Status (Select 1)

- Test Not Given
- Test Given
- Unknown if Tested

Subfield 2: Specimen Type (Select 1)

- Test Not Given
- Blood
- Preliminary Breath Test (PBT)
- Evidential Breath
- Urine
- Other Specimen
- Unknown Specimen
- Unknown if Tested

Subfield 3: Test Result (Select 1)

- Test Not Given
- Actual Value
- .940 or greater
- Alcohol Test Performed, Results Unknown
- Positive Reading with No Actual Value
- Negative Reading with No Actual Value
- Unknown if Tested

Remarks:

Complete this element for all driver and non-motorists. Both positive and negative results should be collected and reported.

- **Alcohol Test Performed, Results Unknown** – means an alcohol content test was performed but the results were reported as unknown or pending and are unobtainable (includes a "Contaminated Sample" or "Insufficient Sample"). **Alcohol Test Performed, Results Unknown** can be used for any Specimen Type.

- **Blood -** A blood sample may be identified as whole blood, blood plasma/serum, or blood clot. A blood sample that is taken as evidence and tested to determine whether a suspected impaired driver has used alcohol and/or another drug. If a lab report identifies a "blood test" it most likely refers to a test of whole blood, not tests of plasma/serum or of a blood clot.

- **Evidential Breath** - is used if the result is from an evidential breath test performed by a device on NHTSA's Conforming Products List. Preliminary Breath Test devices (PBTs), also known as Alcohol Screening Devices (ASDs), are not considered evidential (see Preliminary Breath Test (PBT)).

- **Preliminary Breath Test (PBT)** - testing devices that are not considered evidential tests, but merely as tools to help determine whether alcohol is present or not. Many PBTs only indicate whether alcohol is present in the breath by pass (green) or fail (red) lights. Other PBTs indicate the approximate blood alcohol concentration in numbers. Some PBTs are of evidential quality in some States, but if the device was used only as a preliminary test and not the evidential test, then this value should be coded.

Highway Safety Rationale:

This data element is important to identify behavioral concerns and evaluate traffic safety countermeasure programs. It informs law enforcement activities and legislative actions.

Implementation Suggestions:

- If **Test Not Given** is selected for Subfield 1, then autofill Subfields 2 and 3 with **Test Not Given**.
- If **Unknown if Tested** is selected for Subfield 1, then autofill Subfields 2 and 3 with **Unknown if Tested**.
- ALCOHOL TEST information may be available through State data integration. See Chapter 10: Traffic Records Data Integration.

Validation Rules:

- If ALCOHOL TEST Subfield 3: Test Result reports a test value, then Subfield 1: Test Status must = **Test Given** and Subfield 2: Specimen Type must = **Blood**, **Evidential Breath**, **Preliminary Breath Test (PBT)**, **Urine**, **Other Specimen**, or **Unknown Specimen**.
- If ALCOHOL TEST Subfield 1: Test Status = **Test Given**, then Subfield 2: Specimen Type must = **Blood**, **Evidential Breath**, **Preliminary Breath Test (PBT)**, **Urine**, **Other Specimen**, or **Unknown Specimen** and Subfield 3: Test Result must = an Actual Value, **.940 or greater**, **Alcohol Test Performed, Results Unknown**, **Positive Reading with No Actual Value**, or **Negative Reading with No Actual Value**.
- If ALCOHOL TEST Subfield 1: Test Status = **Test Not Given**, then Subfield 2: Specimen Type must = **Test Not Given** and Subfield 3: Test Result must = **Test Not Given**.
- If ALCOHOL TEST Subfield 1: Test Status = **Unknown if Tested**, then Subfield 2: Specimen Type must = **Unknown if Tested** and Subfield 3: Test Result must = **Unknown if Tested**.

Alignment Rules for ALCOHOL TEST

The State must capture the subfields and associated attributes to get credit for aligning. States may have separate data elements for each subfield, which is acceptable.

If a State collects alcohol testing and drug testing in one element, it does not align with this MMUCC element unless it is possible to unambiguously indicate whether the test was performed for alcohol presence or drug presence.

P19. Law Enforcement Suspects Drug Involvement

Element Definition:

This data element reflects only the judgment of law enforcement as to whether drugs were involved or not for this person.

Attribute Values:

Select 1

- No (Drugs Not Involved)
- Yes (Drugs Involved)
- Unknown

Remarks:

Complete this element for all driver and non-motorists. The phrase "drug involvement" means that drugs are present in the person or presumed to be present by Law Enforcement. This includes prescription and over-the-counter medications, as well as illicit substances (e.g., marijuana, cocaine, heroin, etc.). It is not an indication that the drug usage was in any way a cause of the crash.

Highway Safety Rationale:

This data element is important to identify behavioral concerns and evaluate traffic safety countermeasure programs. It informs law enforcement activities and legislative actions.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for LAW ENFORCEMENT SUSPECTS DRUG INVOLVEMENT

States cannot align to this element unless the reporting officer may unambiguously indicate whether they perceive drugs to be involved. For example, the State may have a data element combining both alcohol and drug use together, such as "Alcohol/Drug Use Suspected," which does not align with this MMUCC element unless it is possible to indicate whether alcohol or drug use or both are involved.

The MMUCC element identifies only the officer's judgement as to whether drugs were present in this person at the time of the crash, regardless of whether the drug presence contributed to the crash. If the State's element identifies only if drug presence contributed to the crash, it does not align with the MMUCC element, even if the element and/or attribute names are the same.

Similarly, the MMUCC element identifies only the officer's judgement as to whether drugs were present in this person at the time of the crash, regardless of whether the person was impaired. If the State's element identifies only if the person was impaired, it does not align with the MMUCC element, even if the element and/or attribute names are the same.

Chapter 8: Non-Motorist Data Elements

The non-motorist data elements describe the characteristics and actions of the non-motorists involved in the crash. Data elements in this chapter are given the element identifier **NM** (e.g., NM1, NM2, NM3).

In addition to the relevant Chapter 7: Person Data Elements, the non-motorist data elements should be completed for every crash-involved person who was NOT an occupant of a motor vehicle. These elements must be completed for PERSON TYPE Group 2: Non-Motorist:

- Bicyclist
- Other Cyclist
- Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying
- Pedestrian on Personal Conveyance
- Pedestrian In/On a Building
- Occupant of a Non-Motor Vehicle Transport Device
- Unknown Type of Non-Motorist

The Non-Motorist data elements are:

- NM1. Vehicle Number of Motor Vehicle Striking Non-Motorist
- NM2. Non-Motorist Status Prior to Critical Event
- NM3. Non-Motorist Distraction
- NM4. Non-Motorist Contributing Circumstance(s)
- NM5. Non-Motorist At Intersection
- NM6. Non-Motorist In Crosswalk
- NM7. Non-Motorist Specific Location
- NM8. Non-Motorist Safety Equipment
- NM9. Non-Motorist Device Type
- NM10. Non-Motorist Traffic Control Device

NM1. Vehicle Number of Motor Vehicle Striking Non-Motorist

Element Definition:

Number assigned to identify the first motor vehicle that struck the non-motorist in the crash.

Attribute Values:

Specify 1

- Vehicle number of first Motor Vehicle to strike the non-motorist

Remarks:

Complete this element for all non-motorists.

Highway Safety Rationale:

This element is used to associate non-motorists with the motor vehicles with which they made contact. This is important to evaluate crash outcomes and vehicle design, to identify behavioral concerns, inform law enforcement and legislative activities, and to assess infrastructure design programs.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for VEHICLE NUMBER OF MOTOR VEHICLE STRIKING NON-MOTORIST:

- None

NM2. Non-Motorist Status Prior to Critical Event

Element Definition:

The status of the non-motorist immediately prior to the crash.

Attribute Values:

Select up to 2

- Incident Responder Working in Trafficway
- Crossing Roadway
- Waiting to Cross Roadway
- Working, Playing, etc. in Roadway
- Stationary and Adjacent to Roadway (e.g., Shoulder, Median, Sidewalk)
- Movement Along Roadway Against Traffic (In or Adjacent to Travel Lane)
- Movement Along Roadway with Traffic (In or Adjacent to Travel Lane)
- Entering/Exiting Parked or Stopped Vehicle
- Going to or from School (Pre-K-12)
- Other (Explain in Narrative)
- Unknown

Remarks:

Complete this element for all non-motorists.

- **Crossing Roadway -** is used when the non-motorist was moving across or in the travel lanes with the goal of crossing the roadway immediately prior to the crash.

- **Going to or from School (Pre-K-12) –** includes school-aged children (pre-Kindergarten through 12th grade) or an adult supervising children going to or from school for any reason. Examples include normal school attendance, school dance, sports practice, or extracurricular activities.

- **Stationary and Adjacent to Roadway (e.g., Shoulder, Median, Sidewalk)** – is used when the non-motorist was not moving and not in the roadway but in an area immediately adjacent to the roadway, such as a median, shoulder, sidewalk, pedestrian refuge, traffic island, etc.

- **Working, Playing, etc. in Roadway –** Non-motorist in roadway, such as a child playing or a mechanic working on a motor vehicle.

Highway Safety Rationale:

This data element is important to evaluate crash outcomes, identify behavioral concerns, inform law enforcement and legislative activities, and to assess infrastructure design programs.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for NON-MOTORIST STATUS PRIOR TO CRITICAL EVENT

If the State combines this element and NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S) as one element, then both elements will not align with MMUCC.

NM3. Non-Motorist Distraction

Element Definition:

This element identifies this non-motorist's attention prior to the non-motorist's involvement in this crash. This element reports on the presence of any distractions which may or may not have contributed to the crash. Distraction, for a non-motorist, occurs when a non-motorist's attention is diverted from the task of navigating in public to some other activity.

Attribute Values:

Select 1

- Not Distracted
- Mobile Electronic Device Related
- Other Distractions
- Unknown if Distracted

Remarks:

Complete this element for all non-motorists.

NOTE: "Presence" is not the same as an activity associated with the person or item. The non-motorist needs to be engaged in some activity associated with the thing which is causing a distraction. Just having a mobile phone, sandwich, other non-motorist, etc., nearby isn't a distraction. The distraction is when the non-motorist's attention is diverted from the task of navigating in public to using the phone, eating the sandwich, turning to talk to another non-motorist, etc. The source of the distraction doesn't have to be a contributing factor in the crash, but it does have to be in use, engaged, the person was doing it at the time, etc., for it to have been a distraction.

Highway Safety Rationale:

This data element is important to identify behavioral concerns, inform law enforcement activities and legislative actions, and evaluate traffic safety countermeasure programs.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for NON-MOTORIST DISTRACTION:

- The MMUCC element identifies distractions related to this non-motorist at the time of the crash, regardless of whether the distractions contributed to the crash. If the State's element identifies only distractions that contributed to the crash, it does not align with the MMUCC element, even if the element and/or attribute names are the same.

NM4. Non-Motorist Contributing Circumstance(s)

Element Definition:

The actions/circumstances of the non-motorist at the time of the crash that may have contributed to the crash.

Attribute Values:

Select up to 2

- None
- Dart/Dash
- Failure to Obey Traffic Sign(s), Signal(s), or Officer(s)
- Failure to Yield Right-Of-Way
- Fleeing/Evading Law Enforcement
- Improper Passing
- Improper Turn/Merge
- Distracted
- In Roadway Improperly (Standing, Lying, Working, Playing, etc.)
- Not Visible (Dark Clothing, No Lighting, etc.)
- Traveling Wrong Way
- Improper Crossing of Roadway or Intersection (Jaywalking)
- Other (Explain in Narrative)
- Unknown

Remarks:

Complete this element for all non-motorists. This data element is based on the judgment of the law enforcement officer investigating the crash.

- **Dart/Dash –** Non-motorist entering from off the roadway, including running, jogging, or stumbling, etc.

- **Failure to Obey Traffic Sign(s), Signal(s), or Officer(s)** - is used when the non-motorist failed to obey a traffic control device. Examples include: person does not obey traffic sign(s), traffic control device(s) (including pedestrian signal(s)), traffic officer(s), or safety zone(s); or passes around railroad gate(s).

- **Failure to Yield Right-Of-Way** - is used when the non-motorist failed to yield the right-of-way to other road users. Examples include:
  - failure to yield when exiting a driveway;
  - mid-block crossings not at a crosswalk;
  - not clearing an intersection before the light turns green for crossing traffic;
  - failure to yield at an intersection not controlled by a stop sign or flashing red lights; or
  - a bicyclist that stopped at the stop sign but did not realize it was a two-way stop rather than a four-way stop control and proceeded into the intersection without yielding to traffic on the through trafficway.

- **Fleeing/Evading Law Enforcement** - is used to identify this person was trying to escape and/or avoid the police.

- **Improper Passing** - the non-motorist had completed or was passing in a way that was unsafe, poorly executed, or prohibited. A non-motorist may be passing a motor vehicle or another non-motorist. Examples include passing on the right, passing a stopped school bus, or passing where prohibited by signs or pavement markings (i.e., mainly violations as designated by traffic controls).

- **Improper Turn/Merge** - occurs when the non-motorist completed or was making a turn that was unsafe, poorly executed, or prohibited. This attribute is only applicable to PERSON TYPE Bicyclist, Other Cyclist, Pedestrian on Personal Conveyance, Occupant of a Non-Motor Vehicle Transport Device, and Unknown Type of Non-Motorist. Examples of an improper turn include too wide right or left turns, making a right turn from the left lane, a left turn from the right lane, or unsafe U-turns. An example of an improper merge is when the bicycle lane ends and the bicyclist merges into the path of a vehicle without leaving sufficient space.

- **In Roadway Improperly (Standing, Lying, Working, Playing, etc.)** - occurs when a person was in the roadway in violation of applicable laws. Examples include:
  - playing in the road before the vehicle arrived (the person must not have just run into the roadway, which would be coded Dart/Dash);
  - in the street voluntarily, such as a civilian directing traffic at the scene of a crash;
  - attempting to hail a cab, flag down assistance, or flag down a transit bus between designated stops;
  - sitting, getting up, asleep/unconscious, kneeling, etc.

- **Traveling Wrong Way** – A non-motorist traveling in a direction other than required by statute.

Highway Safety Rationale:

This data element is important to evaluate crash outcomes, identify behavioral concerns, inform law enforcement and legislative activities, and to assess infrastructure design programs.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S)

- If the State combines this element and NON-MOTORIST STATUS PRIOR TO CRITICAL EVENT as one element, then both elements will not align with MMUCC.

NM5. Non-Motorist At Intersection

Element Definition:

The location of the non-motorist with respect to an intersection at the time of the crash.

Attribute Values:

Select 1

- No
- Yes
- Unknown if at Intersection

Remarks:

Complete this element for all non-motorists.

The ANSI D.16 defines an *Intersection* as an area which **1)** contains a crossing or connection of two or more roadways not classified as driveway access and **2)** is embraced within the prolongation of the lateral curb lines, or, if none, the lateral boundary lines of the roadways. Where the distance along a roadway between two areas meeting these criteria is less than 10 meters (33 feet), the two areas and the roadway connecting them are considered parts of a single intersection.

The MUTCD adds:

- Where a stop line, yield line, or crosswalk is designated on the roadway on the intersection approach, the area within the crosswalk and/or beyond the designated stop line or yield line shall be part of the intersection; and
- Where a crosswalk is designated on a roadway on the departure from the intersection, the intersection shall include the area extending to the far side of such crosswalk.

- **No –** is used when this non-motorist was not within the boundary of an intersection.

- **Yes –** is used when this non-motorist was within the boundary of an intersection.

Highway Safety Rationale:

This data element is important to evaluate crash outcomes, identify behavioral concerns, inform law enforcement and legislative activities, and to assess infrastructure design programs.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for NON-MOTORIST AT INTERSECTION

The element must be collected at the scene and cannot be collected through linkage to the State roadway system, because this MMUCC element identifies the location of the non-motorist with respect to the intersection at the time of the crash. For example, a State roadway file may show that an intersection is present, but the non-motorist may or may not have been in the intersection at the time of the crash.

NM6. Non-Motorist In Crosswalk

Element Definition:

The location of the non-motorist with respect to a crosswalk at the time of the crash.

Attribute Values:

Select 1

- No
- Yes, Marked
- Yes, Unmarked
- Unknown if in Crosswalk

Remarks:

Complete this element for all non-motorists.

The MUTCD defines a *Crosswalk* as:

a) that part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or in the absence of curbs, from the edges of the traversable roadway, and in the absence of a sidewalk on one side of the roadway, the part of a roadway included within the extension of the lateral lines of the sidewalk at right angles to the center line;

b) any portion of a roadway at an intersection or elsewhere distinctly indicated as a pedestrian crossing by pavement marking lines on the surface, which might be supplemented by contrasting pavement texture, style, or color.

The MUTCD defines *Crosswalk Lines* as white pavement marking lines that identify a crosswalk.

- **No –** is used when the non-motorist was not within a crosswalk.

- **Yes, Marked –** is used when the non-motorist is in that portion of a roadway that is distinctly indicated for pedestrian crossing by lines or other markings on the surface of the roadway. It includes shared-use path crossings and crosswalks located in mid-blocks.

- **Yes, Unmarked –** is used when the non-motorist is in that portion of a roadway within the prolongations of the sidewalk edges but there are no lines or other markings on the surface of the roadway (unmarked crosswalk). There must be a sidewalk or improved path present on at least one side of the leg of the trafficway that this person is crossing for there to be an unmarked crosswalk. If there are no sidewalks or improved paths, there are no crosswalks.

Highway Safety Rationale:

This data element is important to evaluate crash outcomes, identify behavioral concerns, inform law enforcement and legislative activities, and to assess infrastructure design programs.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for NON-MOTORIST IN CROSSWALK

The element must be collected at the scene and cannot be collected through linkage to the State roadway system, because the MMUCC element identifies the location of the non-motorist with respect to a crosswalk at the time of the crash. For example, the State roadway file may show that a crosswalk is present, but the non-motorist may or may not have been in the crosswalk at the time of the crash.

NM7. Non-Motorist Specific Location

Element Definition:

The location of the non-motorist with respect to the trafficway at the time of the crash.

Attribute Values:

Select 1

- Roadway (Travel Lanes) - No Special Lane Use
- Bus Lane
- Parking Lane/Zone
- Painted Cycle Lane (including sharrow markings and painted buffers)
- Physically Separated Cycle Lane (e.g., curb, pylons)
- Shoulder
- Median
- Crossing Island
- Driveway Access
- Sidewalk
- Shared-Use Path or Trail
- Non-Trafficway Area
- Other (e.g., gore, separator)
- Unknown

Remarks:

Complete this element for all non-motorists.

- **Driveway Access** - is a portion of the trafficway at the end of a driveway providing access to property adjacent to a trafficway. This includes the driveway crossing which is the portion of the driveway access where a sidewalk or shared-use path crosses over the driveway access.

- **Median -** An area of trafficway between parallel roads separating travel in opposite directions. A median should be four or more feet wide. A median can be depressed, raised, or flush with the travel way surface. A median if flush or painted without a barrier must be four or more feet wide.

- **Physically Separated Cycle Lane (e.g., curb, pylons)** – An exclusive facility for bicyclists that is located within or directly adjacent to the roadway and that is physically separated from motor vehicle traffic with a vertical element. Separated bike lanes are differentiated from standard and buffered bike lanes by the vertical element. They are differentiated from shared use paths (and sidepaths) by their more proximate relationship to the adjacent roadway and the fact that they are bike-only facilities. Physically Separated bike lanes are also sometimes called “cycle tracks” or “protected bike lanes.”

- **Shared-Use Path or Trail** – A bikeway physically separated from motor vehicle traffic by an open space or barrier. They may also be used by pedestrians, skaters, wheelchair users, joggers, and other users. Most have two-way travel.

- **Shoulder -** (if present) is that part of a trafficway contiguous with the roadway for emergency use, for accommodation of stopped vehicles, and for lateral support of the roadway structure. A

shoulder should be improved or maintained for these purposes. Not all roadways have shoulders.

Highway Safety Rationale:

This data element is important to evaluate crash outcomes, identify behavioral concerns, inform law enforcement and legislative activities, and to assess infrastructure design programs.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for NON-MOTORIST SPECIFIC LOCATION

The element must be collected at the scene and cannot be collected through linkage to the State roadway system, because the MMUCC element identifies the location of the non-motorist with respect to the trafficway at the time of the crash. For example, the State roadway file may show that "Painted Cycle Lane (including sharrow markings and painted buffers)" are present, but the non-motorist may or may not have been in the "Painted Cycle Lane (including sharrow markings and painted buffers)" at the time of the crash.

NM8. Non-Motorist Safety Equipment

Element Definition:

The safety equipment used by this non-motorist.

Attribute Values:

Protective

Subfield 1: Non-Motorist Helmet Use (Select 1)

- No
- Yes
- Unknown

Subfield 2: Non-Motorist Use of Protective Pads (Select 1)

- No
- Yes
- Unknown

Subfield 3: Non-Motorist Use of Other Protective Safety Equipment (Select 1)

- No
- Yes
- Unknown

Preventive

Subfield 4: Non-Motorist Use of Reflective Clothing/Carried Item (Select 1)

- No
- Yes
- Unknown

Subfield 5: Non-Motorist Use of Lighting (Select 1)

- No
- Yes
- Unknown

Subfield 6: Non-Motorist Use of Other Preventive Safety Equipment (Select 1)

- No
- Yes
- Unknown

Remarks:

Complete this element for all non-motorists.

- **Helmet –** Safety helmet worn by non-motorist (bicyclist, skateboarder, etc.).
- **Lighting –** Non-motorist use of lights on his/her person or on a motor vehicle not in-transport or transport vehicles other than motor vehicle as safety equipment.

- **Protective Pads –** Padded, shaped attachments were used by the non-motorist to protect specific areas of the body (elbows, knees, shins, etc.).

- **Reflective Clothing/Carried Item –** Wearable or carried items (backpack, triangles, etc.) that reflect light.

Highway Safety Rationale:

This element is important to evaluate crash outcomes, safety equipment design and effectiveness, and behavioral concerns. The element also informs law enforcement activities and legislative actions.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for NON-MOTORIST SAFETY EQUIPMENT

- Assessors should check the definition of each subfield to ensure that the State has the exact same definition even though the State names may be very similar to the MMUCC names.

NM9. Non-Motorist Device Type

Element Definition:

This element describes the type of transport device and motorization of the device operated by the non-motorist.

Attribute Values:

Subfield 1: Device Type (Select 1)

- None (No Device)
- **Group 1: Non-Motor Vehicle Transport Device**
  - Ridden Animal or Animal Drawn Conveyance
  - Railroad Vehicle or Road Vehicle on Rails
- **Group 2: Cycles**
  - Bicycle
  - Other Cycle
- **Group 3: Personal Conveyances**
  - Wheelchair or Other Mobility Aid Device
  - Skates
  - Skateboard
  - Self-Balancing Board
  - Scooter (Standing or Seated)
  - Personal Conveyance, Other
  - Personal Conveyance, Unknown Type
- Unknown if Non-Motorist was Operating a Device

Subfield 2: Device Motorization (Select 1)

- Not Motorized
- Motorized
- Not Applicable
- Unknown if motorized or not motorized

Remarks:

Complete this element for all non-motorists.

This includes devices that rely on full motor engagement for propulsion or partial motor engagement in addition to human power and includes electrical, chemical, or combustion energy motors. This element identifies presence of a device and motor and not the motor's use for propulsion at the time of the crash. See Figure 21: Non-Motorist Device Type Examples.

Subfield 1: Device Type

- **Bicycle -** is a device composed of two wheels held in a frame one behind the other, propelled by foot pedals, and steered with handlebars attached to the front wheel. This includes those solely propelled by human power and those that can be propelled by human power and/or a motor.
- **None (No Device) -** is used when it is known that this non-motorist was not using a transport device at the time of the crash. PERSON TYPE for this person must equal **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying** or **Pedestrian In/On a Building**.

- **Other Cycle -** is used for any device propelled by pedaling (by foot, hand, or other adaptive means) other than a Bicycle. Examples include unicycle, tricycle, pedal car, handcycle, which can be solely propelled by human power and those that can be propelled by human power and/or a motor.

- **Personal Conveyance, Other** - is used for a device that is not a cycle or a specific personal conveyance attribute listed in this element. The device could be intended for personal mobility (e.g., skis, a sled, toy car, toy wagon, other rideable toy or novelty item, baby carriage) or not intended for personal mobility (e.g., riding on a shopping cart).

- **Personal Conveyance, Unknown Type** - is used when it is known the device was a personal conveyance, but the specific type cannot be identified.

- **Railroad Vehicle or Road Vehicle on Rails -** is used for railroad trains (e.g., passenger or cargo train) and road vehicles operated on rails (e.g., trolley, streetcar).

- **Ridden Animal or Animal Drawn Conveyance** - is used for any type of animal being ridden at the time of the crash or any device being drawn by an animal (e.g., wagon, carriage, sleigh).

- **Scooter (Standing or Seated) -** is used for a wheeled device with a center column and handlebar where the operator can stand on a foot platform. These devices may or may not have a permanent or removable posted seat. These devices have at least two wheels and can be human powered or motorized. These devices are not designed specifically for assisted mobility (see Wheelchair or Other Mobility Aid Device). For motor scooters or mopeds, see MOTOR VEHICLE BODY TYPE CATEGORY **2-Wheeled Motorcycle** or **Moped**.

- **Self-Balancing Board -** is used for a wheeled device that may or may not have a center column with a handlebar where the operator can stand on a foot platform or foot pegs and manipulate the device with controls on the center column or by weight distribution. These devices enable the user to remain balanced when powered on, have one or two wheels in parallel, and are motorized. Examples include hoverboards, Segway-style devices, one-wheel devices. If this device is selected, Subfield 2 must equal **Motorized**.

- **Skateboard** - is used for a wheeled device without handlebars or center column where the operator balances on a board. These devices have two trucks and at least three wheels and can be human powered or motorized.

- **Skates -** is used for wheeled devices for each foot, rather than a connected board. These can be human powered or motorized. Examples include roller skates, inline skates, electric skates (e-skates).

- **Unknown if Non-Motorist was Operating a Device** – is used when it is not known if this non-motorist was using a transport device at the time of the crash. PERSON TYPE for this non-motorist must equal **Unknown Type of Non-Motorist**.

- **Wheelchair or Other Mobility Aid Device** - is used for a device designed primarily for use by an individual with a mobility disability for the main purpose of indoor or of both indoor and outdoor locomotion and includes both human and motor-powered devices. Some resemble three-wheeled scooters; others small four-wheel carts; still others look like a typical human-powered wheelchair.

Subfield 2: Motorization

- **Motorized -** is used when an applicable device had a motor for propulsion or partial motor engagement in addition to human power and includes electrical, chemical, or combustion energy motors. The motor need not be in use at the time of the crash.
- **Not Motorized -** is used when an applicable device had no motor.
- **Unknown if Motorized or Not Motorized** - is used when this non-motorist was using a transport device, but it is not known if the device had a motor or not.

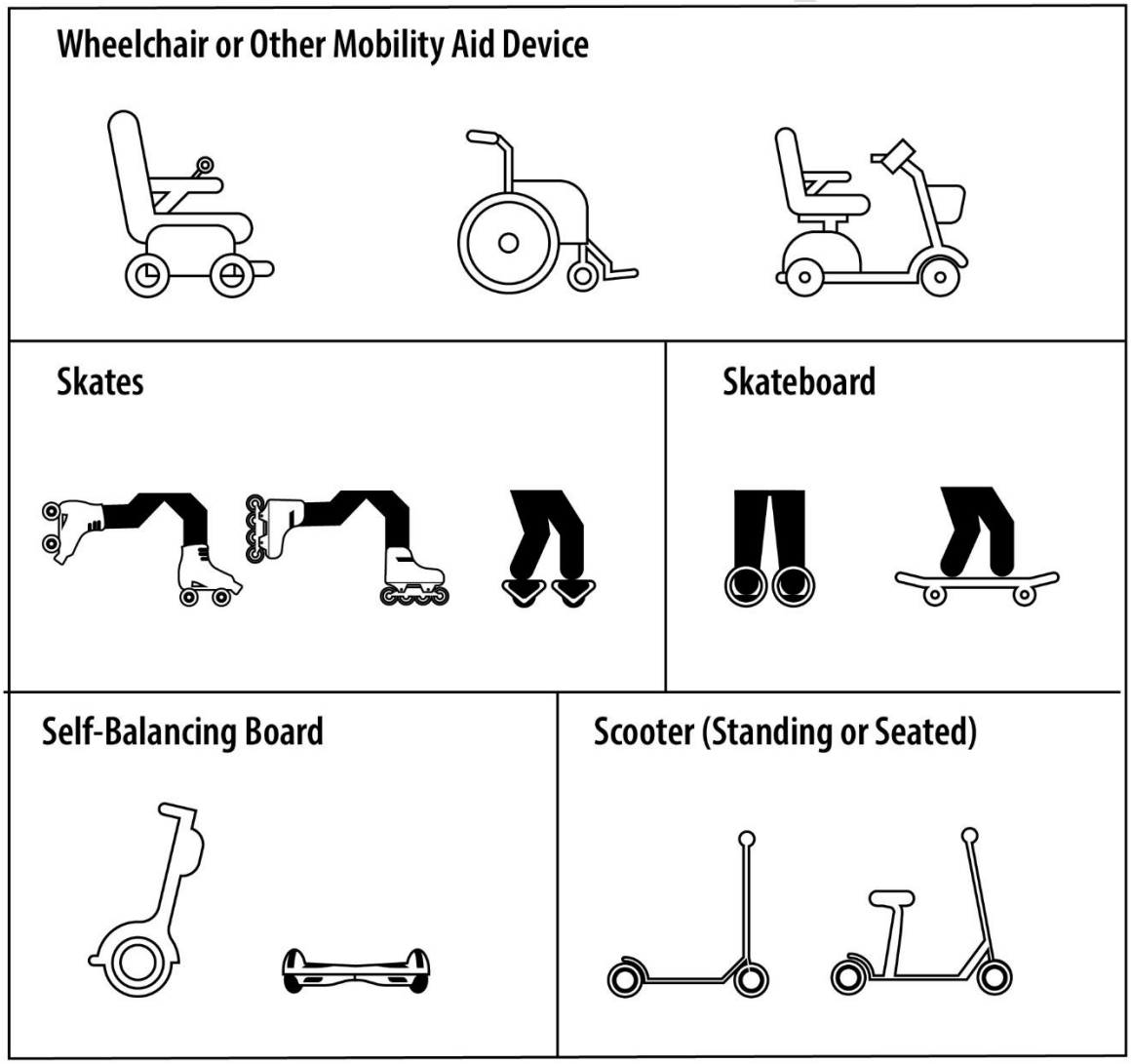


Figure 21: Non-Motorist Device Type Examples

Highway Safety Rationale:

This element is important to identify non-motorist transport devices with and without motors and evaluate specific countermeasures designed for non-motorists on these devices. This is important to evaluate crash outcomes and vehicle design, assess non-motorist device design, identify behavioral

concerns, inform law enforcement and legislative activities, and to measure infrastructure design programs.

Implementation Suggestions:

- If Subfield 1 is coded **None (No Device)**, **Ridden Animal or Animal Drawn Conveyance**, **Railroad Vehicle or Road vehicle on Rails**, or **Unknown if non-motorist was operating a device**, then autofill Subfield 2 with **Not Applicable**.
- If Subfield 1 is coded **Self-Balancing Board**, then autofill Subfield 2 with **Motorized**.
- If PERSON TYPE is coded **Unknown Type of Non-Motorist**, then autofill NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type as **Unknown if Non-Motorist was Operating a Device**, and autofill Subfield 2: Motorization as **Not Applicable**.
- If PERSON TYPE is coded **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying** or **Pedestrian In/On a Building**, then autofill NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type as **None (No Device)**, and autofill Subfield 2: Motorization as **Not Applicable**.
- If PERSON TYPE is coded **Bicyclist**, then autofill NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type as **Bicycle**.
- If PERSON TYPE is coded **Other Cyclist**, then autofill NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type as **Other Cycle**.

Validation Rules:

- If NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type equals **None (No Device)**, **Ridden Animal or Animal Drawn Conveyance**, **Railroad Vehicle or Road vehicle on Rails**, or **Unknown if Non-Motorist was Operating a Device**, then Subfield 2: Motorization must equal **Not Applicable**.
- If NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type equals **Self-Balancing Board**, then Subfield 2: Motorization must equal **Motorized**.

Alignment Rules for NON-MOTORIST DEVICE TYPE:

- Many States use the term “scooter” to mean many different things. Be very careful to compare the State’s definition to the MMUCC definition before measuring alignment. Do not assume they are the same. For example, a State may be describing a Wheelchair or Other Mobility Aid Device as a “scooter.” Or a State may be describing a Moped or a Motor Scooter (a type of Motorcycle), which are motor vehicles and therefore the person riding it would be classified as a motor vehicle occupant rather than a non-motorist.

NM10. Non-Motorist Traffic Control Device

Element Definition:

The traffic control device applicable to this non-motorist at the time of the crash.

Attribute Values:

Select 1

- None
- Person (e.g., crossing guard, flagger)
- Non-Motorist Crossing Signal
- Non-Motorist Crossing Sign
- Non-Motorists Prohibited Sign
- Unknown

Remarks:

Complete this element for all non-motorists.

This data element is seeking the presence of a traffic control device applicable to this non-motorist, not the actuation of the device or if the device contributed to the crash. Sign/Signal combination units should be coded as a **Non-Motorist Crossing Signal**.

- **Person (e.g., crossing guard, flagger)** -is someone, (e.g., police officer, crossing guard, flagman, or officially designated person), that is in the act of controlling both vehicular and pedestrian traffic.

Highway Safety Rationale:

This element is used to identify behavioral concerns, inform law enforcement and legislative activities, and to measure infrastructure design programs.

Implementation Suggestions:

- None

Validation Rules:

- None

Alignment Rules for NON-MOTORIST TRAFFIC CONTROL DEVICE

- The MMUCC element identifies the presence of a traffic control device applicable to this non-motorist at the time of the crash, regardless of whether the device contributed to the crash. If the State's element identifies only devices that contributed to the crash, it does not align with the MMUCC element, even if the element and/or attribute names are the same.

Chapter 9: Narrative and Diagram

The narrative and diagram included in most PCRs contain important information needed to understand a complete picture of a crash. They can provide clarity to ambiguous or seemingly conflicting data on the crash report and add context to information elsewhere on the crash report. Additionally, the narrative should be used to provide additional details where crash report fields aren't able to explain. The more information included in the narrative and diagram, the more complete the report will be. The narrative and diagram provide an easily digestible format for crash details to be understood quickly by data users, including law enforcement, researchers, highway safety offices, and traffic engineers. NHTSA uses the information included in the narrative and diagram to assist in coding varying State crash report formats into NHTSA's standardized data systems (e.g., FARS, CRSS, and CISS).

The information in the narrative and diagram should correspond to the rest of the report. For example, MOTOR VEHICLE NUMBER and PERSON NUMBER coded on the crash report form should be consistent in the narrative and diagram. NHTSA encourages states to train Law Enforcement Officers on best practices in completing the narrative and diagram on a crash report and to include guidance in their PCR Instruction Manuals. Jurisdictions may also have specific requirements or recommendations that Law Enforcement Officers must follow when completing PCR narratives and diagrams.

NHTSA have reviewed all State PCR Instruction Manuals and identified the following best practices for writing narratives and creating diagrams.

3.1 Narrative

The narrative is the law enforcement officer's written description of what occurred in the crash. The narrative provides the opportunity for an officer to include facts not fully captured in the data elements and attributes or to explain an attribute selection more fully when necessary. The narrative should be laid out in a logical manner completely describing the crash events. The narrative should be clear, concise, and written in plain language. For example, avoid vague statements (e.g., "Unit 1 and Unit 2 collided") and refrain from including details not relevant to the crash. Officers may note in the narrative if the crash report has been amended or contains supplemental documentation.

All crashes have precrash, crash, and post-crash events. The narrative should describe the precrash events prior to the FIRST HARMFUL EVENT of the crash for each motor vehicle and, if applicable, non-motorist(s) and non-contact vehicles. Each vehicle or non-motorist should be labeled to correspond with the numbering throughout the rest of the crash report and the diagram.

3.1.1 Precrash

The precrash events should begin by describing the vehicle positions, the directions of travel, and the drivers' maneuvers prior to the crash describing all events leading up to the collision. If the crash is a SECONDARY CRASH, the reporting officer should refer to the primary event in their narrative.

3.1.2 Crash

The narrative should follow sequentially from precrash events to the FIRST HARMFUL EVENT. The SEQUENCE OF EVENTS, harmful or otherwise, following the FIRST HARMFUL EVENT until the situation has stabilized should be documented in the narrative. The narrative should include all pertinent details to describe the crash completely. If a State's PCR limits the number events that can be included in

SEQUENCE OF EVENTS to fewer than the number of events that occurred, the omitted events should be captured in the narrative.

3.1.3 Post-Crash

Post-crash information could include the extent of damage to vehicles, injury severity, EMS or medical facility transport information, vehicle towed information, or enforcement actions.

3.1.4 Other Information

Law Enforcement Officers can include in the narrative any circumstances they believe contributed to the crash or are relevant in some way. Examples may include witness statements, driver behaviors (e.g., speeding, impairment, use of electronic mobile devices), or vehicle factors (e.g., mechanical problems). In addition, environmental factors such as weather or lighting conditions can be documented. The officer may also list infrastructure or roadway features relevant to the crash (e.g., pavement markings, traffic control devices). If a traffic signal is relevant in the crash, the officer might include the status of a traffic signal at the time of the crash, if known (e.g., red, yellow, green).

When describing the crash event, the reporting officer may comment on the injuries sustained by the crash victims, damage to property or vehicles (including trailers or towed vehicles), and evidence such as skid marks or tire tracks. Not everything needs to be mentioned if documented elsewhere on the PCR and there are no additional details to add. However, when an attribute Other or Unknown is selected elsewhere on the crash report, the narrative provides an opportunity for the officer to explain the unique circumstance, or why the element could not be determined from the crash scene.

3.2 Diagram

The diagram is a visualization of the SEQUENCE OF EVENTS in relation to the crash scene. The diagram shows the events of the crash as described in the narrative and other fields of the crash report and relates them spatially. The diagram portrays the officer's understanding of what took place, based on evidence gathered (e.g., statements from drivers, passengers, and/or non-motorists involved in the crash, witnesses, and physical evidence collected at the scene of the crash). Data analysts use the diagram to verify the crash location and understand the events and how they relate to the trafficway.

The diagram should display a north arrow. Diagrams do not need to be to scale, unless required by the reporting agency, but should be proportional and clearly convey what occurred before, during, and after the crash. If a diagram is drawn to scale, a linear scale should be included on the diagram.

The diagram should show all trafficways involved in the unstabilized situation and their relationship to the crash. Trafficways should be drawn to reflect curves in the road, any intersections, interchange, or driveways relevant to the crash. Label the street names and/or route numbers for each roadway involved. If a crash were to take place on a segment of an expressway, away from intersecting trafficways, listing nearby mileposts on the diagram can help locate the crash. Business names and house numbers can be included if related to the unstabilized situation or to help locate the crash.

When relevant, include trafficway features such as shoulders, curbs, or medians. Also, include traffic control devices or pavement markings related to the crash (e.g., lane markings for a crash with RELATED FACTORS – DRIVER LEVEL attribute Failure To Keep In Proper Lane or crosswalk markings if the crash involves a non-motorist crossing an intersection). Relevant fixed objects (e.g., features on the roadside such as a fence, utility pole, trees, mailboxes, or guardrails) and non-fixed objects (e.g., a box that falls

off the back of a truck) should be included with respect to the ***SEQUENCE OF EVENTS***. The diagram can include temporary or unusual conditions relevant to the crash, which can be physical (e.g., work zones), environmental (e.g., standing water or ice on the road), or evidence (e.g., skid marks, tire tracks, or vehicle debris).

Once the roadway and all relevant surroundings are included, the units (vehicles and non-motorists) should be added to the diagram. On the diagram, it is important to label the units consistent with the narrative and the rest of the PCR. Draw the units at the approximate location of the FIRST HARMFUL EVENT. Show each unit's path using a line with an arrow showing direction of travel and differentiate paths prior to the FIRST HARMFUL EVENT and after via solid and dashed lines (e.g., a dashed line prior to the FIRST HARMFUL EVENT and a solid line after the FIRST HARMFUL EVENT). If important, show each unit's position in subsequent harmful events or once the vehicle(s) is/are stabilized.

3.3 Example Narrative and Diagram

Unit 1 was traveling east on Tea Tree Road behind a school bus. Unit 2 was traveling west on Tea Tree Road. The school bus slowed to a stop to let children off and extended the stop sign arm and turned on the flashing lights. Unit 2 had begun passing the school bus prior to the school bus stopping. The driver of Unit 1 had been changing the radio station in the vehicle and did not notice the school bus slowing. The driver of Unit 1 looked up from the radio, saw the bus had stopped, quickly swerved into the oncoming lane to avoid the bus, and collided head-on with Unit 2.

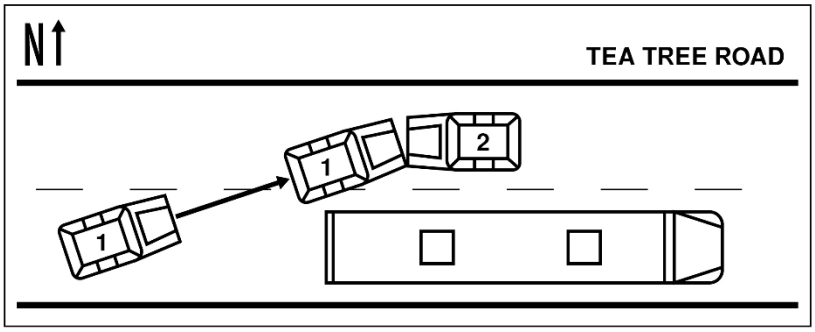


Figure 22: Example of a Crash Scene Diagram

Chapter 10: Traffic Records Data Integration

NHTSA encourages States to integrate their Traffic Records data systems to reduce the burden and redundancy of multiple data collection efforts. State Traffic Records Assessments frequently identify data integration as a common deficiency. Ideally, all State crash data is consolidated into one generally accessible database with a clearly defined organizational custodian. The crash system provides both an official record of the crash and data for analytic purposes. Integrated datasets enable users to conduct analyses and generate insights impossible to achieve if based solely on the contents of any singular data system. Integrated data adds detail to the understanding of each crash event, the roadway environment, and the people and vehicles involved. In addition, these integrative connections efficiently expand the information available to decision-makers while avoiding the expense, delay, and redundancy associated with collecting the same information separately.

To assist States in identifying data elements and sources for integration with the State Crash file, MMUCC recommends the following elements for each Traffic Records data system component. The elements are important for enhancing traffic safety analysis beyond what can be performed using crash data alone. Wherever possible, nationally accepted standards are used in the MMUCC recommendations. For more information on specific data elements, attributes, and guidance, see each referenced document or system.

10.1 Vehicle Data System

American Association of Motor Vehicle Administrators (AAMVA) D20

Using the VEHICLE IDENTIFICATION NUMBER, MOTOR VEHICLE LICENSE PLATE NUMBER, and other data elements from the PCR as key linkage variables, below are AAMVA D20 vehicle data elements that can be integrated with the State Crash file. For more information and the most current version, visit AAMVA D20 Traffic Records Systems Data Dictionary.

- A.21.30 Safety Inspection Date
- A.21.32 School Bus Safety Equipment Condition
- A.22.4 Insurance Company Code
- A.32.28 Registration Year
- A.38.16 Vehicle Brand Status
- A.38.42 Vehicle Number of Axles

10.2 Driver Data System

American Association of Motor Vehicle Administrators (AAMVA) D20

Using the DRIVER LICENSE NUMBER, NAME OF PERSON INVOLVED, DATE OF BIRTH, and other data elements from the PCR as key linkage variables, below are AAMVA D20 driver data elements that can be integrated with the State Crash file. For more information and the most current version, visit AAMVA D20 Traffic Records Systems Data Dictionary.

- A.9.4 Driver Height
- A.9.8 Driver Race and Ethnicity
- A.9.12 Driver Weight

- A.11.7 Driver License Commercial Class Code
- A.11.8 Driver License Endorsement Code
- A.11.18 Driver License Commercial Status
- A.11.19 Driver License Non-Commercial Status
- A.14.1 Driver License Restriction Code
- A.15.1 Driver License ACD Withdrawal Reason Code
- A.15.11 Driver License Withdrawal Type

Problem Driver Pointer System (PDPS)

Using the CRASH DATE, DRIVER LICENSE NUMBER, NAME OF PERSON INVOLVED, DATE OF BIRTH, and other data elements from the PCR as key linkage variables, below are PDPS elements that can be integrated with the State Crash file. For more information, visit AAMVA's Problem Driver Pointer System webpage.

- DACJUR Crash Jurisdiction Code
- DCIDCI Citation Date
- DCVCCA Conviction Offense ACD Code

Commercial Driver License Information System (CDLIS)

Using the CRASH DATE, DRIVER LICENSE NUMBER, NAME OF PERSON INVOLVED, DATE OF BIRTH, and other data elements from the PCR as key linkage variables, below are CDLIS elements that can be integrated with the State Crash file. For more information, visit AAMVA's CDLIS webpage.

- DCVCOM Conviction Comm. VEH IND
- DACJUR Crash Jurisdiction Code
- DCIDCI Citation Date
- DCVCCA Conviction Offense ACD Code

10.3 Roadway Data System

Model Inventory of Roadway Elements (MIRE)

Using GLOBAL POSITION (LATITUDE, LONGITUDE) and other data elements from the PCR as key linkage variables, below are MIRE 2.0 data elements that can be integrated with the State Crash file. MIRE Fundamental Data Elements are noted. For more information and the most current version, visit FHWA's MIRE webpage.

- 4. Type of Governmental Ownership (FDE)
- 8. Route Number (FDE)
- 9. Route/Street Name (FDE)
- 12. Segment Identifier (FDE)
- 19. Functional Class (FDE)
- 20. Rural/Urban Designation (FDE)
- 21. Federal Aid (FDE)
- 23. Access Control (FDE)
- 24. Surface Type (FDE)
- 41. Presence/Type of Bicycle Facility

- 56. Median Width
- 81. Annual Average Daily Traffic (FDE)
- 87. Total Daily 2-way Ped. Count
- 88. Bicycle Count
- 89. Motorcycle Count or percentage
- 102. Roadway Lighting
- 118. Railroad Crossing Number

Highway Performance Monitoring System (HPMS)

Using GLOBAL POSITION (LATITUDE, LONGITUDE) and other data elements from the PCR as key linkage variables, below are HPMS elements that can be integrated with the State Crash file. For more information, visit FHWA's HPMS website.

- Route_Number
- Functional_System
- Facility_Type
- Structure_Type
- Median_Type
- Shoulder_Type

10.4 Citation/Adjudication Data Systems

Example Adjudication Database (typical State system, no standard)

Using the DRIVER LICENSE NUMBER, NAME OF PERSON INVOLVED, DATE OF BIRTH, and other data elements from the PCR as key linkage variables, below are typical adjudication data that can be integrated with the State Crash file. No national standard exists at this time.

- Town Code
- Race
- Hispanic Indicator (Defendant)
- Ticket Number
- Docket Number

Example Citation Database (typical State system, no standard)

Using the DRIVER LICENSE NUMBER, NAME OF PERSON INVOLVED, DATE OF BIRTH, and other data elements from the PCR as key linkage variables, below are typical citation data that can be integrated with the State Crash file. No national standard exists at this time.

- Town Code
- Race
- Hispanic Indicator (Defendant)
- Ticket Number
- Docket Number

Example Traffic Court Records System (typical State system, no standard)

Using the DRIVER LICENSE NUMBER, NAME OF PERSON INVOLVED, DATE OF BIRTH, and other data elements from the PCR as key linkage variables, below are typical traffic court records data that can be integrated with the State Crash file. No national standard exists at this time.

- Citation Number
- Citation Date/Time
- Initial Charge(s)
- Final Disposition(s)

10.5 Injury Surveillance Data Systems

National Emergency Medical Information System (NEMSIS)

Using the NAME OF PERSON INVOLVED, DATE OF BIRTH, and other data elements from the PCR as key linkage variables, below are the NEMSIS v3.5.0 information and data elements that can be integrated with the State Crash file. For more information and the most current version, visit the NEMSIS webpage and the NEMSIS Data Dictionary.

- NEMSIS Universally Unique Identifier (UUID)
- Automated crash notification (ACN) data
- eTimes.01 PSAP Call Date/Time
- eScene.09 Incident Location Type
- eResponse.01 EMS Agency Number
- eRecord.01 Patient Care Report Number
- eRecord.03 Incident Number
- eDisposition.19 Final Patient Acuity
- eSituation.07 Chief Complaint Anatomic Location
- eSituation.11 Provider's Primary Impression
- eSituation.13 Initial Patient Acuity
- eInjury.02 Mechanism of Injury
- eInjury.03 Trauma Triage Criteria (Steps 1 and 2)
- eInjury.04 Trauma Triage Criteria (Steps 3 and 4)
- eVitals.23 Total Glasgow Coma Score
- eVitals.26 Level of Responsiveness (AVPU)
- eVitals.33 Revised Trauma Score

National Trauma Data Bank (NTDB)

Using the NAME OF PERSON INVOLVED, DATE OF BIRTH, and other data elements from the PCR as key linkage variables, below are the NTDB data elements that can be integrated with the State Crash file. For more information, visit the American College of Surgeons NTDB webpage and the National Trauma Data Standard webpage.

- Incident City
- ICD-10 Injury Diagnosis
- AIS Code
- Highest GCS-Total

- Initial ED hospital GCS-total
- EMS Patient Care Report Universally Unique Identifier (UUID)
- ICD-10 Primary External Cause Code
- Race
- Ethnicity

National Standard Certificate of Death

Using the NAME OF PERSON INVOLVED, DATE OF BIRTH, and other data elements from the PCR as key linkage variables, below are the Death Certificate data elements that can be integrated with the State Crash file. For more information, visit the U.S. Standard Certificate of Death provided by the CDC.

- Death Certificate Number
- 17. County of Death
- 29. Actual or Presumed Date Of Death
- 30. Actual or Presumed Time Of Death
- 38. Date of Injury
- 41. Injury at Work?
- 52. Decedent of Hispanic Origin?
- 53. Decedent's Race

Alcohol and Drug Toxicology (typical State system, no standard)

Using the NAME OF PERSON INVOLVED, DATE OF BIRTH, and other data elements from the PCR as key linkage variables, below are example data elements that can be integrated with the State Crash file. No national standard exists at this time.

- Lab Number
- Specimen Type
- Alcohol (ethanol) Results (Blood, Urine, and Vitreous test results should be represented as g/dL - North American standard)
- Drug Toxicology Results

Chapter 11: Designing Data Collection with Human Factors

TBD

Chapter 12: Aligning to MMUCC

12.1. Introduction

12.1.1 Purpose

NHTSA encourages States to perform and document a comparison to MMUCC as part of their crash report update process. This can be accomplished by requesting NHTSA to measure the percentage of a State's crash database that aligns to MMUCC, also known as a MMUCC mapping. The MMUCC mapping methodology below explains how NHTSA measures the alignment of all data elements and attributes contained in a State crash database to the MMUCC data elements and attributes. Interested States should contact their NHTSA Regional Program Manager for more information or to request a new MMUCC mapping at no cost to the State.

This methodology is intended to apply a standardized measure of how a State crash data aligns to MMUCC. NHTSA's Guide to Updating State Crash Data Systems (DOT HS 813 217) provides further explanation of how States can use and interpret a MMUCC mapping report and a process for prioritizing changes that would yield improvements to data collection and data quality in Chapter 3: Increasing Alignment to the Model Minimum Uniform Crash Criteria.

12.1.2 Benefits

The primary benefit of aligning to the MMUCC Guideline is increasing the national uniformity of crash data, essential to improving highway safety. A MMUCC mapping report provides each State with an objective measurement of how the State's crash report and database aligns to MMUCC. The MMUCC mapping report can serve as a tool to help a State complete a detailed analysis and evaluation of the gaps in their data. States can use a mapping report to identify and prioritize changes to their State crash system, crash reports, and documentation. In addition, if States wish to participate in NHTSA's electronic data transfer (EDT) and the State Electronic Data Collection grant program funded by the Bipartisan Infrastructure Law, increasing alignment to MMUCC will create a smoother process for data transfer.

The MMUCC Sixth Edition and NHTSA's records-based crash data systems (FARS and CRSS) have made significant efforts to reduce inconsistencies. Data elements, attributes, definitions, and guidance have been harmonized as applicable across the platforms.

12.2 General Alignment Rules

The following general alignment rules are necessary for standardization. Additional considerations for specific data elements are explained in the entry for that element.

Data Collection Alignment Rules

1. A State element/attribute must be collected at the same data level (i.e., crash level, vehicle level, or person level) as the MMUCC element/attribute.

   Example: The MMUCC data element ROADWAY SURFACE CONDITION is collected at the Vehicle Level (i.e., for each vehicle in the crash). If the State collects the data at the Crash Level, then the State's data element is not aligned with the MMUCC data element.

2. MMUCC recommends that States collect data for crashes of all severities (i.e., fatalities, suspected serious injuries, suspected minor injuries, and crashes with possible or no injuries).

3. MMUCC recommends data collection for all persons directly involved in the crash, regardless of injury status.

Definition Alignment Rules

4. If a MMUCC element is looking for the presence of a factor, but the State data element is collecting if the factor contributed to the crash, the two data elements do NOT align.

   Example: The MMUCC data element RELATED FACTORS – DRIVER LEVEL is looking for the presence of various factors at the time of the crash, not if the factors contributed to the crash. If a State data element "Contributing Factors – Driver" is only looking for factors that contributed to the crash, then the two data elements do NOT align.

5. The State element/attribute name does not need to match the MMUCC element/attribute name, but the definition and application must be the same to align.

6. If a State's element/attribute has the same name as MMUCC's element/attribute, the definitions and application must be the same to align. Mapping should not be conducted by name only.

   Example: A State may have an attribute "Pedestrian" for their element PERSON TYPE but defines it differently than MMUCC. In this case, the State does not align to the MMUCC attribute **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying**.

7. State element/attribute definitions must be synonymous with a corresponding MMUCC element/attribute to align. Alignment determinations are binary (i.e., aligns or does not align). A State element/attribute definition that is "close" or "partially aligned" is considered NOT aligned to MMUCC.

Multiple Attribute Selection Alignment Rules

8. If a MMUCC data element allows multiple attribute selections (e.g., select up to two), the matching State data element must allow at least the same number of attribute selections to align completely.

   Example: The MMUCC data element RELATED FACTORS - CRASH LEVEL allows the selection of up to two attributes. If the State's attribute list aligns completely to the MMUCC attribute list, but only allows one attribute selection, the State only aligns at 50% to the MMUCC data element. To align 100%, the State would need to increase the acceptance to two attributes for the data element.

Single vs Combined Element or Attribute Alignment Rules

9. A State attribute may only align to one MMUCC attribute.

Example: A State data element "Roadway Conditions" has an attribute "Snow." It cannot align to the attribute **Snow** in the MMUCC data element ATMOSPHERIC CONDITIONS and also to the attribute **Snow** in the MMUCC data element ROADWAY SURFACE CONDITION.

10. One-to-Many Rule. If a State attribute combines several terms, it may not align with separate MMUCC attributes that are included in that combination.

    Example: A State attribute "Mud, Dirt, Gravel, Sand" does not align to the separate MMUCC attributes for **Mud, Dirt, Gravel** and **Sand**. The reason for this is if the State attribute "Mud, Dirt, Gravel, Sand" is selected, it cannot be determined if what was meant was the MMUCC attribute **Mud, Dirt, Gravel** or the MMUCC attribute **Sand**. See Figure 23 Example of a State to MMUCC mapping.

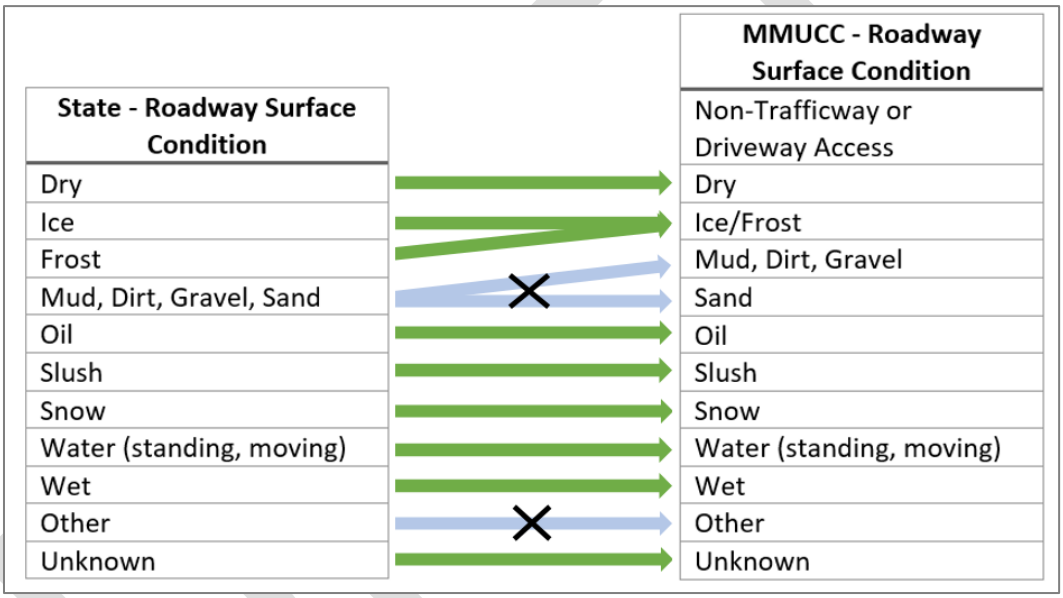


Figure 23 Example of a State to MMUCC mapping

11. Many-to-One Rule. Multiple State attributes may align to a single MMUCC attribute with the combined terms.

    Example: A State data element has separate attributes "Ice" and "Frost." Both attributes together can align to the MMUCC attribute **Ice/Frost**. This is because if the State attribute "Ice" or the State attribute "Frost" is selected, both are captured within the MMUCC attribute **Ice/Frost**. See Figure 23 Example of a State to MMUCC mapping.

12. A State may not combine two or more MMUCC data elements into one State data element.

    Example: A State combines MMUCC data elements DRIVER DISTRACTION and RELATED FACTORS – DRIVER LEVEL into one State element, "Driver Factors." In this scenario, Law enforcement will not be able to collect attributes for both

MMUCC data elements, DRIVER DISTRACTION and RELATED FACTORS – DRIVER LEVEL.

"Other" and "Unknown" Attribute Alignment Rules

13. For a State attribute "Other" to align to a MMUCC attribute **Other**, the State element must align to all the attributes of the MMUCC element.

    Example: In Figure 23 Example of a State to MMUCC mapping, the State data element does not capture the MMUCC attribute **Non-Trafficway or Driveway Access**. If the vehicle is in a non-trafficway area or a driveway access, the Officer would select the State attribute "Other." Because of this, the State's "Other" does not mean the same thing as MMUCC's **Other** and therefore, the two attributes do not align.

14. A State attribute "Unknown" will align to a MMUCC attribute **Unknown** if both elements contain the attributes "Other" and "Unknown" (regardless of if the attribute "Other" aligns to MMUCC).

    Example: In Figure 23 Example of a State to MMUCC mapping, both the State data element and the MMUCC data element contain the attributes "Other" and "Unknown." Even though the State's "Other" attribute does not align with MMUCC, the State's "Unknown" attribute does align.

15. If a MMUCC element contains the attribute **Unknown** but not the attribute **Other**, then the State element must align to all the attributes of the MMUCC element for the State attribute "Unknown" to align to the MMUCC attribute **Unknown**.

16. If a State element does not display the MMUCC attributes **Other**, **Not Applicable**, or **Unknown**, but the police crash report instruction manual or crash data dictionary directs Law Enforcement/user to enter a general code (e.g., "00," "99," "N/A," "UNK") for "Other," "Not Applicable," or "Unknown," then these general codes can align to the appropriate MMUCC attribute (i.e., **Other**, **Not Applicable**, or **Unknown**).

12.3. MMUCC Mapping Process

12.3.1 Mapping Preparation

The State provides NHTSA with documentation of all the data elements, attributes, definitions, and guidance used in the State crash data collection process. Items necessary to complete a mapping are:

- Crash data dictionary
- Crash report instruction manual(s)
- Police crash report, as well as other primary data collection forms (e.g., large vehicle, fatal, or non-motorist supplemental forms)
- Associated crash report coding overlay(s)
- Derived variables not manually entered on the crash report (e.g., calculated fields)
- Any other variables that the State adds to their database that are not on the crash report (e.g., a computer-generated State case number).

- Other documents the State identifies as relevant to the understanding of how the State collects, manages, and links crash data (e.g., software instruction manual, FARS/CRSS State Specific Coding Instructions).

Together, these documents should include detailed information on the data elements and attributes used in the State's data collection. The information may include a database name, the data source, the data type, definitions and guidance for the elements and attributes, a list of attributes for each element, and the number of allowable selections for each element. The crash report and the crash report instruction manual are necessary to understand how the officers are instructed to interpret and select/apply the data elements.

12.3.2 Mapping to MMUCC

NHTSA will build a complete model of the State's data structure using the State's documentation in NHTSA's mapping tool. Next, NHTSA conducts a thorough evaluation using the alignment rules and considerations described in 12.2 General Alignment Rules. Analysts map the State to MMUCC at the attribute level using State documentation to determine whether each MMUCC attribute has a corresponding State attribute. Terminology is less important than meaning, manner of collection, and the number of occurrences. Alignment determinations are binary (i.e., aligns or does not align). NHTSA's mapping tool calculates the alignment percentages for each element by dividing the number of positive attribute mappings by the total number possible.

12.4. MMUCC Mapping Results

The MMUCC mapping process provides States with a measure of their crash database's alignment to MMUCC, which States can use to conduct a gap analysis and identify areas where they do not align to prioritize areas to address. The MMUCC Mapping Report documents the difference between MMUCC and the State crash database at the element and attribute level. The final MMUCC mapping report contains three distinct alignment percentages:

1. Percent alignment to MMUCC overall
2. Percent alignment to each MMUCC data level (e.g., crash, vehicle, person)
3. Percent alignment to each MMUCC data element

12.4.1 MMUCC Alignment Calculations

The measure of a State's alignment to MMUCC is the average of the individual State element alignment percentages. Equation 1 shows this formula.

$$State\ to\ MMUCC\ Alignment = \frac{\sum State's\ Alignments\ to\ MMUCC\ Elements}{Number\ of\ MMUCC\ Elements}$$

Equation 1: MMUCC Mapping Alignment Equation

Example: MMUCC has 103 elements. The sum of the State's individual element alignments is 6,610%. Divide this by the number of MMUCC elements (i.e., 103) to reach the State's overall alignment to MMUCC (64%).

$$Overall\ State\ to\ MMUCC\ Alignment = \frac{6610\%}{103} = 64\%$$

Equation 2: Example State to MMUCC Overall Alignment

A State can use the same Equation 1 to find each data level (e.g., Crash, Vehicle) alignment percentages to evaluate specific sections of their crash report or database.

Example: The MMUCC Crash Level has 16 elements. The sum of the State's alignment to each of the 16 Crash Level elements (e.g., (CRASH DATE = 88%) + (CRASH TIME = 50%), etc.) is 879%. Divide by the number of MMUCC Crash Level elements (i.e., 16) to reach the State's Crash Level alignment to MMUCC (55%).

$$State\ to\ MMUCC\ Crash\ Level\ Alignment = \frac{879\%}{16} = 55\%$$

Equation 3: Example State to MMUCC Crash Level Alignment

The State's MMUCC mapping report displays a table showing the overall percent alignment to MMUCC and each individual MMUCC data level (e.g., Crash, Vehicle, Driver). Table 3 displays an example of a State to MMUCC Alignment Table from a hypothetical MMUCC mapping report. This example shows the State's overall alignment to MMUCC and the mapping percentages for each MMUCC data level, each calculated using Equation 1.

Table 3: Example State to MMUCC Alignment Table

Data Structure Name	Data Level	Alignment (%)
2024 State Crash Database Data Dictionary	System-Populated	50%
2024 State Crash Database Data Dictionary	Crash	55%
2024 State Crash Database Data Dictionary	Vehicle	69%
2024 State Crash Database Data Dictionary	Driver	56%
2024 State Crash Database Data Dictionary	Person	74%
2024 State Crash Database Data Dictionary	Non-Motorist	51%
2024 State Crash Database Data Dictionary	**Overall**	**64%**

4

12.5. Using the MMUCC Mapping Results

12.5.1 Improving Alignment to MMUCC and NHTSA's Data Systems

When updating a crash system, NHTSA encourages States to consider the relationships between the State's crash system and NHTSA's crash data programs: the Fatality Analysis Reporting System (FARS) and the Crash Report Sampling System (CRSS). NHTSA uses FARS and CRSS to identify highway safety priorities, measure trends, and assess the effectiveness of motor vehicle safety standards and highway safety programs.

Electronic Data Transfer (EDT) protocol is NHTSA's automated transfer of State motor vehicle crash and injury data from State data repositories. NHTSA uses EDT to advance real-time data collection and transfer, enable more timely decision making, reduce the burden of data collection, improve data quality, and make data available sooner. Ultimately this supports the FARS and CRSS programs, which align to many MMUCC data elements. The closer a State aligns to MMUCC, the easier it is to share data and there is less work to do in translating between the State data elements and NHTSA's data elements. States can request additional information about EDT by contacting their NHTSA Regional Program Manager.

12.5.2 Improvement Prioritization

A State may need to prioritize the intended improvements to close the crash data gaps in a logical sequence that takes available resources into account. Figure 24 displays five steps to conduct a complete gap analysis process using the MMUCC mapping results. NHTSA's Guide to Updating State Crash Data Systems (DOT HS 813 217) provides more details and templates for conducting a crash data gap analysis and prioritizing improvements in Chapter 3: Increasing Alignment to the Model Minimum Uniform Crash Criteria.

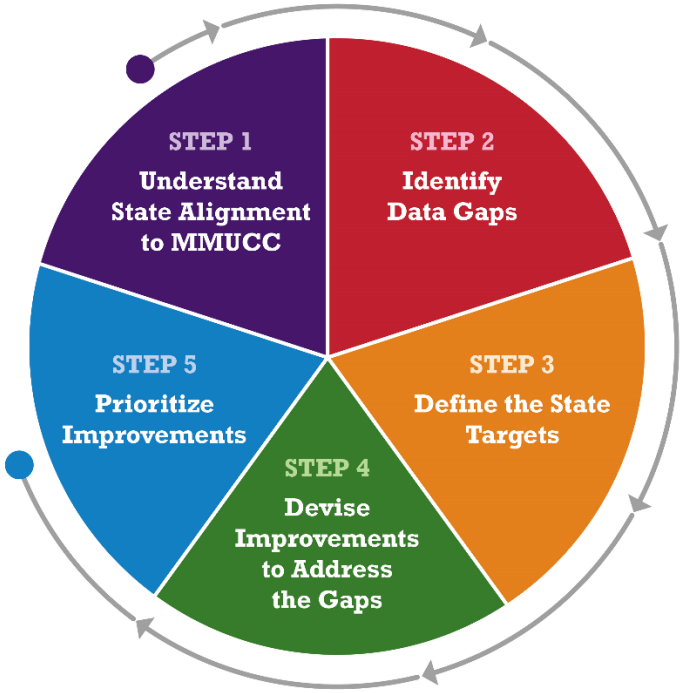


Figure 24: Using MMUCC mapping to conduct a gap analysis

MMUCC is typically updated every five years. The next update (the Seventh Edition) is tentatively scheduled for 2029. States can request a new MMUCC mapping report by contacting their NHTSA Regional Program Manager. Their MMUCC mapping report will identify how closely their State crash report and crash database follow the MMUCC Guideline. Over time, improvements in alignment can be used to show measurable progress. States can benefit from the knowledge gained through the MMUCC mapping exercise by (A) knowing how their data elements and attributes compare to the National standard, and (B) identifying the elements and attributes that could be shared and compared in national crash databases.

Acronyms

The following is a list of acronyms used in this document.

Acronym	Meaning
AAMVA	American Association of Motor Vehicle Administrators
ANSI	American National Standards Institute
ASD	Alcohol Screening Device
ATV	All-Terrain Vehicle
BIL	Bipartisan Infrastructure Law
CDC	Center for Disease Control
CISS	Crash Investigation Sampling System Formally NASS-CDS (National Automotive Sampling System Crashworthiness Data System)
CRSS	Crash Report Sampling System Formally NASS-GES (National Automotive Sampling System - General Estimate System)
CVIEW	Commercial Vehicle Information Exchange Window
DOT	United States Department of Transportation
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
FIPS	Federal Information Processing Series
FMCSA	Federal Motor Carrier Safety Administration
GPS	Global Positioning System
GVWR	Gross Vehicle Weight Rating
HOT	High Occupancy Toll lane
HOV	High Occupancy Vehicle lane
ISO	International Organization for Standardization
KABCO	K-Fatal Injury, A-Suspected Serious Injury, B-Suspected Minor Injury, C-Possible Injury, and O-No Apparent Injury
LRS	Linear Referencing System
MIRE	Model Inventory of Roadway Elements
MMUCC	Model Minimum Uniform Crash Criteria
MSP	Mobility Service Provider
NCIC	National Crime Information Center
NCSA	National Center for Statistics and Analysis
NEMSIS	National Emergency Medical Services Information System
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
ORI	NCIC Originating Agency Identifier Code
PBT	Preliminary Breath Test device
PCR	Police Crash Report
ROV	Recreational Off-Highway Vehicle
TNC	Transportation Network Company
USDOT	United States Department of Transportation
USPS	United States Postal Service

Acronym	Meaning
VIN	Vehicle Identification Number

Glossary of Terms

A

Acceleration/Deceleration Lane [RELATION TO JUNCTION**] –** A lane in the roadway that is designated for vehicles to either increase vehicle speed to reach traffic speed, or to reduce speed.

Activity Area [WORK ZONE**] –** Located adjacent to actual work area, whether workers and equipment were present or not.

Advance Warning Area [WORK ZONE**] –** Located after the first warning sign but before the work area.

AGENCY (POLICE JURISDICTION) - Law Enforcement Agency handling the crash.

AIR BAG DEPLOYED –Deployment status of an air bag relative to position in the vehicle for this occupant.

ALCOHOL TEST – This element identifies:

1) if a chemical test for the presence of alcohol (ethanol) was given to this person,
2) the bodily tissue or fluid used to perform a chemical test for the presence of alcohol (ethanol) in this person, and
3) the result of a chemical test for the presence of alcohol (ethanol) in this person. Both positive and negative results should be collected and reported.

Alcohol Test Performed, Results Unknown [ALCOHOL TEST] – means an alcohol content test was performed but the results were reported as unknown or pending and are unobtainable (includes a "Contaminated Sample" or "Insufficient Sample"). Alcohol Test Performed, Results Unknown can be used for any Test Type.

All-Terrain Vehicle/All-Terrain Cycle (ATV/ATC) [MOTOR VEHICLE BODY TYPE CATEGORY] – is used for off-road recreational vehicles. ATV/ATCs have 3 or 4 wheels, a saddle type seat and handlebars for steering (no steering wheel).

Ambulance [SPECIAL USE] – is used for any readily identifiable (lights or markings) vehicles with separated driver's and patient compartments and designed to transport sick or injured people. The ambulance is presumed to be in special use at all times, although not necessarily in "emergency use."

Angle [MANNER OF COLLISION OF THE FIRST HARMFUL EVENT] – A crash where two motor vehicles impact at an angle. For example, the front of one motor vehicle impacts the side of another motor vehicle.

ATMOSPHERIC CONDITIONS – The prevailing atmospheric conditions that existed at the time of the crash.

ATTEMPTED AVOIDANCE MANEUVER **–** This element identifies movements/actions taken by the driver after the driver realizes there is an impending danger. This element assesses what the driver's action was in response to this realization.

Attempted to Move Over or Slow Down as Required by Move Over Law [RELATED FACTORS - DRIVER LEVEL] – This driver tried to move over or slow down when passing a stopped emergency or maintenance vehicle or personnel and this may have attributed to the crash. Whether the driver's actions were successful is not relevant. The stopped emergency or maintenance vehicle may or may not have been displaying flashing warning lights.

Autocycle [MOTOR VEHICLE BODY TYPE CATEGORY] **–** A large motorcycle with one rear wheel and two front wheels, with either a saddle and handlebars or seat(s) and a steering wheel, which can be fully enclosed, partially enclosed, or unenclosed.

Auto Transporter [CARGO BODY TYPE (POWER UNIT ONLY), TRAILER BODY TYPE] – Describes a cargo body type or trailer body type that is specifically designed to transport multiple, fully assembled automobiles. Single-unit flatbed tow-trucks hauling cars DO NOT qualify (see flatbed).

B

Bicycle [NON-MOTORIST DEVICE TYPE]- is a device composed of two wheels held in a frame one behind the other, propelled by foot pedals, and steered with handlebars attached to the front wheel. This includes those solely propelled by human power and those that can be propelled by human power and/or a motor.

Bicyclist [PERSON TYPE] - is any person on a device composed of two wheels held in a frame one behind the other, propelled by foot pedals, and steered with handlebars attached to the front wheel. This includes those solely propelled by human power and those that can be propelled by human power and/or a motor. This includes all people (operator and passengers) on a bicycle and a person being pulled by a bicycle (e.g., in a wagon or bike trailer).

Blood [ALCOHOL TEST] - A blood sample may be identified as whole blood, blood plasma/serum, or blood clot. A blood sample that is taken as evidence and tested to determine whether a suspected impaired driver has used alcohol and/or another drug. If a lab report identifies a "blood test" it most likely refers to a test of whole blood, not tests of plasma/serum or of a blood clot.

Blowing Sand, Soil, Dirt [ATMOSPHERIC CONDITIONS] – Earthen particles being blown about by the wind, reducing visibility.

Blowing Snow [ATMOSPHERIC CONDITIONS] – Wind-driven snow that reduces visibility. Blowing snow can be falling snow or snow that has already accumulated but is picked up and blown by strong winds.

Body, Doors [CONTRIBUTING CIRCUMSTANCES, MOTOR VEHICLE] - describes the panels mounted to the frame of the vehicle. This includes trunk, hood, tailgate, rear doors of cargo vans, etc.

Booster Seat [RESTRAINT SYSTEM USE] – A is used when a child passenger is seated in one of the following “belt-positioning” seats” that positions a child on a vehicle seat to improve the fit of the child in a lap and shoulder seat belt system. This does not imply correct use or placement of the seat (see subfield 2).

- Booster Seat with High Back: This type of booster seat provides neck and head support and is ideal for vehicles that don’t have head rests or high seat backs.

- Backless Booster Seat: This type of booster seat does not provide head and neck support. It is ideal for vehicles that have head rests.
- Combination Seat: This type of booster seat transitions from a forward-facing seat with a harness into a booster.
- All-in-One Seat: This seat can change from a rear-facing seat to a forward-facing seat (with a harness and tether) and to a booster seat as a child grows.

Box or Van Enclosed Trailer [TRAILER BODY TYPE]– A trailer having an enclosed body integral to the frame of the trailer.

Brake System [CONTRIBUTING CIRCUMSTANCES, MOTOR VEHICLE] - slows or stops the rotation of the wheels. This includes the parking brake.

Bridge Overhead Structure [FIRST HARMFUL EVENT; SEQUENCE OF EVENTS; MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** Any part of a bridge that is over the reference or subject roadway. In crash reporting, this typically refers to the beams or other structural elements supporting a bridge deck.

Bridge Pier or Support [FIRST HARMFUL EVENT; SEQUENCE OF EVENTS; MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** Support for a bridge structure including the ends (abutments).

Bridge Rail (Includes Parapet) [FIRST HARMFUL EVENT; SEQUENCE OF EVENTS; MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**]–** A barrier attached to a bridge deck or a bridge parapet to restrain motor vehicles, pedestrians, or other users.

Bus [CARGO BODY TYPE (POWER UNIT ONLY)]– A motor vehicle with seating for transporting nine (9) or more persons, including the driver, not including vans owned and operated for personal use.

BUS USE - The common type of bus service this vehicle was being used for at the time of the crash or the primary use for the bus if not in service at the time of the crash.

C

Cable Barrier FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE]– Refers to a flexible barrier system which uses several cables typically supported by steel posts. These can be used on the roadside or as a median barrier. These barriers are designed to help lessen impact or keep vehicles within the confines of the road.

CARGO BODY TYPE (POWER UNIT ONLY) –The primary cargo carrying capability of this vehicle.

Cargo/Equipment Loss, Shift, or Damage (Harmful) [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – refers specifically to the loss or shift of items carried on or in a motor vehicle or its trailing unit, causing damage and/or injury to the vehicle, its occupants, its parts, trailing unit, or the cargo itself. Harm can be measured in loss of monetary value from unrecoverable cargo loss as well as physical damage. For example: 1) A pickup truck brakes rapidly to avoid a collision. This causes a piece of lumber in the pickup bed to smash through the rear window. 2) Unsecured cargo shifts inside a box truck and bursts through the wall of the trailer. 3) Pallets of beehives on a flatbed truck fall off the truck on a sharp curve causing the hives to open and the bees to fly away

Cargo Loss or Object or Person Set-in-Motion [INITIAL CONTACT POINT**] –** Is used for a vehicle when its initial harmful event involves striking another vehicle, person, or property (a collision event) by a load/cargo that falls from or is propelled by the vehicle. For example, **Cargo Loss or Object or Person Set-in-Motion** would be selected for a log truck if, in the initial harmful event, logs fall from a log truck onto the top of a vehicle in an adjacent lane.

Cargo Tank [CARGO BODY TYPE (POWER UNIT ONLY)**] –** A single-unit truck with a cargo body designed to transport dry bulk (fly, ash, etc.), liquid bulk (gasoline, milk, etc.) or gas bulk (propane, etc.).

Cargo Van [MOTOR VEHICLE BODY TYPE CATEGORY**] –**A cargo van is any van where the area behind the driver or cab is designed for transporting cargo or operated for general commercial use.

Changing Lanes [VEHICLE STATUS PRIOR TO CRITICAL EVENT**]** – Shift from one traffic lane to another traffic lane while moving in the same direction.

Charter/Tour [BUS USE] –is used when a company provides transportation on a for-hire basis and demand-response basis, usually round-trip service for a tour group or outing, regardless of if the function is consistent with the MOTOR VEHICLE BODY TYPE CATEGORY. Buses are any motor vehicle with seats to transport nine (9) or more people, including the driver seat, but not including vans owned and operated for personal use.

Child Restraint System – Forward Facing [RESTRAINT SYSTEM USE] - is used when a child passenger is seated in one of the following "forward-facing" child safety seats. This does not imply correct use or placement of the seat (see subfield 2 of RESTRAINT SYSTEM USE).

- Convertible Seat: This seat can change from a rear-facing seat to a forward-facing seat with a harness and tether.
- Combination Seat: This seat transitions from a forward-facing seat with a harness and tether into a booster.
- All-in-One Seat: This seat can change from a rear-facing seat to a forward-facing seat (with a harness and tether) and to a booster seat as a child grows.

Child Restraint System – Rear Facing [RESTRAINT SYSTEM USE] - is used when a child passenger is seated in one of the following "rear-facing" child safety seats. This does not imply correct use or placement of the seat (see subfield 2 of RESTRAINT SYSTEM USE).

- Infant car seat: designed for newborns and small babies, the infant-only car seat is a small, portable seat that can only be used rear-facing.
- Convertible car seat: This seat can change from a rear-facing seat to a forward-facing seat with a harness and tether. Because it can be used with children of various sizes, it allows for children to stay in the rear-facing position longer.
- All-in-One Seat: This seat can change from a rear-facing seat to a forward-facing seat (with a harness and tether) and to a booster seat as a child grows. Because it can be used with children of various sizes, it allows for children to stay in the rear-facing position longer.

Child Restraint – Type Unknown [RESTRAINT SYSTEM USE] - is used when a child passenger is seated in a child safety seat; however, the type used (e.g., forward, rear, booster) cannot be determined. This does not imply correct use or placement of the seat (see subfield 2 of RESTRAINT SYSTEM USE).

Clear [ATMOSPHERIC CONDITIONS] - When the sky is free of clouds or partially cloudy if sunlight is not diminished.

Cloudy [ATMOSPHERIC CONDITIONS] - When the sky is overcast or partially cloudy when sunlight is diminished.

Collision Event [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – Harmful events that involve the collision of a Motor Vehicle In-Transport with another motor vehicle, other property, animal, or person.

Collision with Fixed Object [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] –A collision crash in which the harmful event is the striking of a fixed object by a road vehicle in-transport. Fixed objects include such objects as guardrails, bridge railings or abutments, construction barricades, impact attenuators, trees, embedded rocks, utility poles, ditches, steep earth or rock slopes, culverts, fences, and buildings.

Concrete Traffic Barrier [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – Refers to the longitudinal traffic barriers constructed of concrete and located on the outside of the road surface, in a median, or in gore areas. This includes all temporary concrete barriers regardless of location (i.e., temporary barrier on a bridge being used to control traffic during bridge repair/construction).

Construction Equipment (backhoe, bulldozer, forklift, etc.) [MOTOR VEHICLE BODY TYPE CATEGORY] - refers to construction equipment other than trucks propelled by a motor, such as bulldozer, road grader, etc.

CONTRIBUTING CIRCUMSTANCES, MOTOR VEHICLE – Pre-existing motor vehicle defects or maintenance conditions that may have contributed to the occurrence or severity of the crash.

COUNTY OR EQUIVALENT – The county or equivalent entity in which the crash physically occurred.

County or Equivalent Name (FIPS Code) [COUNTY OR EQUIVALENT] - is the name of the county in which a crash occurred. The corresponding Federal Information Processing Series (FIPS) code is a numeric code which uniquely identifies geographic locations.

CRASH DATE **–**The date when the crash occurred.

CRASH TIME - The time at which the crash occurred.

Crossing Roadway [NON-MOTORIST STATUS PRIOR TO CRITICAL EVENT] - is used when the non-motorist was moving across or in the travel lanes with the goal of crossing the roadway immediately prior to the crash.

Crossover [WORK ZONE] - One or more lanes of traffic are temporarily transferred across a median away from an adjacent work zone.

Crossover-Related [RELATION TO JUNCTION] – is used when the FIRST HARMFUL EVENT occurs in a crossover or on approach to or exit from a crossover, and related to the movement of traffic units through the crossover. Note a crossover is the area of the median of a divided trafficway where motor vehicles are permitted to cross the opposing lane of traffic or execute a U-turn. Breaks in the median designated for "authorized vehicles only" are not considered crossovers.

Culvert [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – is used when the vehicle strikes an enclosed structure providing free passage of water under a roadway with a clear opening of less than twenty feet measured along the center of the roadway, resulting in injury or damage.

Curb [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – is used when the vehicle strikes a raised edge or border to a roadway, resulting in injury or damage. Curbs may be constructed of concrete, asphalt or wood and typically have a face height of less than 9 inches.

Curtain [AIR BAG DEPLOYED] – is used when the curtain air bag is out of its cover and protruding into driver or passenger compartment. The bag is fully or partially deflated or inflated. Refer to Figure 20: Air Bag Diagram.

D

DAMAGED AREAS - This element identifies all areas damaged on the vehicle as a result of this crash.

DATE OF BIRTH – The year, month, and day of birth of the person involved in this crash.

Dark – Lighted [LIGHT CONDITION**] –** The scene of the crash is illuminated at night, or another period of darkness, by streetlamps or other man-made light sources.

Dark – Not Lighted [LIGHT CONDITION**] –** The scene of the crash is not illuminated at night, or another period of darkness, by streetlamps or other man-made light sources.

Dark – Unknown Lighting [LIGHT CONDITION**] –** It is known that the crash occurred at night or during another period of darkness, but it is not known if the crash scene was illuminated by a man-made light source.

Dart/Dash [NON-MOTORIST CONTRIBUTING ACTION(S)/CIRCUMSTANCE(S)**] –** Non-motorist entering from off the roadway, including running, jogging, or stumbling, etc.

Dawn [LIGHT CONDITION**] –** The time that marks the beginning of the twilight before sunrise.

Daylight [LIGHT CONDITION**] –** Whenever the sun is above the horizon at a given location.

Deployment Unknown [AIR BAG DEPLOYED**]** – is used when it is not known if any air bag is out of its cover and protruding into occupant compartment.

DEVICE FUNCTIONING - Identifies the functionality of the traffic control device recorded for this vehicle in the data element TRAFFIC CONTROL DEVICE.

Disabling Damage [EXTENT OF DAMAGE] – Damage that precludes departure of the motor vehicle from the scene of the crash in its usual daylight-operating manner after simple repairs. As a result, the motor vehicle had to be towed, carried from crash scene, or assisted by an emergency motor vehicle.

Ditch [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – is used when the vehicle strikes a trench used for drainage purposes, resulting in injury or damage. A ditch ends where a culvert begins and resumes on the opposite side of the culvert.

DOT-Compliant Motorcycle Helmet [HELMET USE**] –** Motorcycle helmets that are compliant with Federal Motor Vehicle Safety Standards typically weigh approximately 3 pounds, have an inner liner at least one-inch thick of firm polystyrene foam, have an inside label that states the manufacturer, model, and date of manufacture, and have a DOT sticker on the back of the helmet. A DOT sticker alone is not sufficient evidence to indicate that the helmet is DOT-compliant, as counterfeit stickers have been found affixed to non-compliant helmets.

Downhill Runaway [SEQUENCE OF EVENTS] - refers to any vehicle that cannot decelerate on a downhill grade due to vehicle malfunction. This does not apply to a vehicle that cannot slow down due to lack of surface friction (e.g., due to ice, snow, etc.).

DRIVER ADDRESS – the address of the driver of this vehicle.

DRIVER DISTRACTION This element identifies this driver's attention to driving prior to the driver's realization of an impending critical event or just prior to impact if realization of an impending critical event does not occur. This element reports on the presence of any distractions which may or may not have contributed to the crash. Distraction from the primary task of driving occurs when drivers divert their attention from the driving task to some other activity.

DRIVER LICENSE JURISDICTION **–** The geographic or political entity issuing a driver license to this person.

DRIVER LICENSE NUMBER – A unique set of alphanumeric characters assigned by the authorizing agent issuing a driver license to the individual.

Driver of a Motor Vehicle In-Transport [PERSON TYPE] – An occupant who is in actual physical control of a motor vehicle or, for an out-of-control motor vehicle, an occupant who was in control until control was lost.

DRIVER PRESENCE - This element identifies whether a driver was present in this vehicle at the onset of the unstabilized situation.

DRIVER'S VISION OBSCURED BY - This data element records impediments to a driver's visual field.

Driveway Access [NON-MOTORIST SPECIFIC LOCATION] is a portion of the trafficway at the end of a driveway providing access to property adjacent to a trafficway. This includes the driveway crossing which is the portion of the driveway access where a sidewalk or shared-use path crosses over the driveway access.

Driveway Access or Related [RELATION TO JUNCTION] –is used when the FIRST HARMFUL EVENT occurs:

- On a driveway access or involves a road vehicle entering or leaving by way of a driveway access where at least one traffic unit (vehicle, cyclist, or pedestrian) is physically on the driveway access within the trafficway, OR
- adjacent to a driveway, does not occur on a driveway access, but results from an activity, behavior, or control related to the movement of traffic units onto or out of a driveway.

Drowsy, Asleep, or Fatigued [RELATED FACTORS-DRIVER LEVEL] – Driver experienced a temporary loss of consciousness, was drowsy or asleep, or was operating in a reduced physical or mental capacity due to weariness, medication, or other drugs.

Dry [ROADWAY SURFACE CONDITION] - describes a roadway surface that is free from moisture or liquid. A road made of sand or dirt would be coded as **Dry** under normal conditions, not Sand, or Mud, Dirt, Gravel.

Dump [CARGO BODY TYPE (POWER UNIT ONLY)] – A cargo body type that can be tilted or otherwise manipulated to discharge its load by gravity.

Dump Trailer – [TRAILER BODY TYPE] - A trailer type that can be tilted or otherwise manipulated to discharge its load by gravity.

E

EJECTION **–** Occupant completely or partially thrown from the interior of the motor vehicle, excluding motorcycles, as a result of a crash.

Embankment [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – is used when the vehicle strikes an earthen structure used to support a channel or roadway, resulting in injury or damage.

Emergency Medical Services (EMS) [SPECIAL FUNCTION] - An Emergency Medical Responder (EMR), Emergency Medical Technician (EMT), or paramedic that provides the triage, treatment, and/or transport of crash victims.

EMERGENCY RESPONSE – **Subfield 1**: Indicates operation of any motor vehicle that is legally authorized by a government authority to respond to emergencies with or without the use of emergency warning equipment, such as a police vehicle, fire truck, or ambulance while engaged in such response. **Subfield 2:** Indicates the use of emergency warning equipment in this vehicle, such as lights or sirens. **Subfield 3:** Indicates if the vehicle was transporting non-emergency people, such as patients or arrestees.

EMS Air [TRANSPORTED TO FIRST MEDICAL FACILITY BY] - includes any air transport device. This code would be used any time air transport was used for this person. For example, if there is an indication that both air and ground transportation were used, use EMS Air.

EMS Ground [TRANSPORTED TO FIRST MEDICAL FACILITY BY] - is used when this person was transported by ambulance or other medical ground service. This includes transport by local, State, Tribal, Territorial, federally run, or for-profit ambulance or rescue squad vehicles.

EMS RESPONSE AGENCY - The agency identifier and run number of the EMS agency that responds for this person.

End Departure (T-intersection, dead-end, etc.) [SEQUENCE OF EVENTS] - is used when the vehicle leaves the roadway by traveling straight through the top of a "T-intersection" of a two-way trafficway or top of an intersecting one-way roadway. This code should also apply to vehicles traveling off the end of dead-end roadways or into the barrier of a closed trafficway.

Entrance/Exit Ramp or Related [RELATION TO JUNCTION**] –** Crash occurs on an approach to or exit from a roadway or results from an activity, behavior, or control related to the movement of traffic units entering or exiting a ramp.

Equipment Failure (blown tire, brake failure, etc.) [SEQUENCE OF EVENTS] - describes when a component of a vehicle fails (e.g., blown tires, brake failures). This is not used to describe damage from a collision event.

Evidential Breath [ALCOHOL TEST] - is used if the result is from an evidential breath test performed by a device on NHTSA's Conforming Products List. Preliminary Breath Test devices (PBTs), also known as Alcohol Screening Devices (ASDs), are not considered evidential (see Preliminary Breath Test (PBT)).

Exhaust System [CONTRIBUTING CIRCUMSTANCES, MOTOR VEHICLE] - describes a system of pipes that guide the vehicle's exhaust gases away from the engine. This includes the exhaust manifold(s), headers, muffler, catalytic converter, tailpipe, etc.

EXTENT OF DAMAGE – This element identifies the extent to which the damage identified in DAMAGED AREAS affects the vehicle's operability rather than the cost to repair.

F

Failed to Keep in Proper Lane [RELATED FACTORS – DRIVER LEVEL] – Driver did not maintain position in appropriate travel lane.

Failed to Move Over or Slow Down as Required by Move Over Law [RELATED FACTORS – DRIVER LEVEL] - This driver did not try to move over or slow down when passing a stopped emergency or maintenance vehicle or personnel and this may have contributed to the crash. The stopped emergency or maintenance vehicle may or may not have been displaying flashing warning lights.

Failed to Yield Right-of-Way [RELATED FACTORS – DRIVER LEVEL] – Driver failed to yield right-of-way to another motor vehicle or non-occupant as required.

Failure to Obey Traffic Sign(s), Signal(s), or Officer(s) [NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S)] - is used when the non-motorist failed to obey a traffic control device. Examples include: person does not obey traffic sign(s), traffic control device(s) (including pedestrian signal(s)), traffic officer(s), or safety zone(s); or passes around railroad gate(s).

Failure to Yield Right-Of-Way [NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S)] - is used when the non-motorist failed to yield the right-of-way to other road users. Examples include:

- failure to yield when exiting a driveway;

- mid-block crossings not at a crosswalk;
- not clearing an intersection before the light turns green for crossing traffic;
- failure to yield at an intersection not controlled by a stop sign or flashing red lights; or
- a bicyclist that stopped at the stop sign but did not realize it was a two-way stop rather than a four-way stop control and proceeded into the intersection without yielding to traffic on the through trafficway.

Fatal Injury (K) [INJURY STATUS] – A fatal injury is any injury that results in death within 30 days after the motor vehicle crash in which the injury occurred. If the person did not die at the scene but died within 30 days of the motor vehicle crash in which the injury occurred, the injury classification should be changed from the attribute previously assigned to the attribute "Fatal Injury."

Fell/Jumped From Motor Vehicle [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**]** – Motor vehicle occupant either involuntarily fell or intentionally leapt from the vehicle.

Fence [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] - a barrier constructed to prevent escape or intrusion or to mark a boundary. A fence can be made of wood, metal, stone, etc., and includes the fence posts and gates.

Fire and Rescue [SPECIAL FUNCTION] - provide aid by fighting fires, rescuing those involved in crashes from vehicles, and managing hazardous materials incidents.

Fire/Explosion [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** A fire or explosion that was the cause or result of the crash. A fire/explosion is a non-collision harmful event.

FIRE OCCURRENCE - This element identifies whether a fire in any way related to the crash occurred in this vehicle.

Fire Truck [SPECIAL USE] A readily identifiable vehicle specially designed and equipped for the purposes of providing fire, hazmat, medical, and extrication services. This attribute includes medium and heavy vehicles such as engines, pumpers, ladder, platform aerial apparatus, heavy rescue vehicles, water tenders or tankers, brush or wilderness firefighting vehicles, etc. The fire truck is presumed to be in special use at all times, although not necessarily in "emergency use."

FIRST HARMFUL EVENT – The first injury- or damage-producing event of the crash.

Flashing Traffic Control Signal [TRAFFIC CONTROL DEVICE] – A traffic control signal that is flashing or a single light flashing red or yellow.

Flatbed [CARGO BODY TYPE (POWER UNIT ONLY)] – A single-unit truck whose body is without sides or roof, with or without readily removable stakes which may be tied together with chains, slats, or panels. This includes trucks transporting containerized loads.

Flatbed or Platform Trailer [TRAILER BODY TYPE] – A trailer type without sides or roof, with or without readily removable stakes which may be tied together with chains, slats, or panels. This includes trailers transporting containerized loads.

Fleeing/Evading Law Enforcement [RELATED FACTORS – DRIVER LEVEL, NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S)] - is used to identify this person was trying to escape and/or avoid the police.

Fog, Mist [ATMOSPHERIC CONDITIONS] - A visible accumulation of fine water droplets in the atmosphere that reduce visibility.

Followed Too Closely [RELATED FACTORS – DRIVER LEVEL] – Driver was positioned at a distance behind another motor vehicle or non-occupant that was too close to permit safe response to any change in movement or behavior by the other motor vehicle or non-occupant.

Four-Leg Intersection [TYPE OF INTERSECTION] – Where two roadways cross or connect.

Freezing Rain [ATMOSPHERIC CONDITIONS] –A fine mist or rain passing from a liquid to a solid state due to temperature drop.

Front [AIR BAG DEPLOYED**] –** is used when the driver or front seat passenger air bag is out of its cover and protruding into driver compartment. The bag is fully or partially deflated or inflated. Refer to Figure 20: Air Bag Diagram.

Front to Front [MANNER OF COLLISION OF THE FIRST HARMFUL EVENT] – The front end of one vehicle collides with the front end of another vehicle, while the two vehicles are traveling in opposite directions.

Front-to-Rear or Rear-to-Front [MANNER OF COLLISION OF THE FIRST HARMFUL EVENT] – is used when a collision occurs between the rear of one vehicle and the front of another vehicle. If this attribute is selected, the Initial Points of Contact for the vehicles involved in the FIRST HARMFUL EVENT must be the rear of one vehicle and the front of the other vehicle.

Functional Damage [EXTENT OF DAMAGE] – Damage that is not disabling but affects operation of the motor vehicle or its parts.

G

GLOBAL POSITION (LATITUDE, LONGITUDE) – The latitude and longitude where the FIRST HARMFUL EVENT of the crash occurred.

Global Positioning System (GPS) [GLOBAL POSITION (LATITUDE LONGITUDE)] **–** A system of satellites that transmit geographic locations in terms of latitude and longitude.

Going to or from School (Pre-K-12) [NON-MOTORIST STATUS PRIOR TO CRITICAL EVENT] –. Includes school-aged children (pre-Kindergarten through 12th grade) or an adult supervising children going to or from school for any reason. Examples include normal school attendance, school dance, sports practice, or extracurricular activities.

Golf Cart [MOTOR VEHICLE BODY TYPE CATEGORY**] –** A self-propelled vehicle not designed primarily for operation on roadways. A golf cart has a design speed of less than 20 miles per hour, at least three wheels in contact with the ground, and an empty weight of not more than 1,300 lbs.

Gore [LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY**] –** An area of land where two roadways diverge or converge. The area is bounded on two sides by the edges of the roadways, which join at the point of divergence or convergence. The direction of traffic must be the same on both sides of these roadways. The area includes shoulders or marked pavement, if any, between the roadways.

Government [TYPE OF MOTOR CARRIER OR RESPONSIBLE ENTITY] –is used for a government vehicle whether it is operated by the local, State, or federal government (e.g., county-owned school buses, city-owned transit buses, fire trucks, military vehicles, State-owned highway maintenance truck). In most circumstances, the government-owned vehicle will not have a USDOT Number.

Grain/Chip/Gravel Trailer [TRAILER BODY TYPE] – Describes a trailer body type used for hauling these or other similar bulk commodities. They may be referred to as "open hoppers" or "belly dumps."

Guardrail End [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – The exposed end of the guardrail, without treatment.

Guardrail End Treatment [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – a device shielding the end of a guardrail that is designed to absorb the energy of an impact.

Guardrail Face [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** Surface area of the guardrail other than the end. Its function is to redirect the vehicle back onto the roadway.

H

Harmful Event – Occurrence of injury or damage.

Hazardous Materials [HAZARDOUS MATERIALS INVOLVEMENT] – Any substance or material which has been determined by the U.S. Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated under regulations of the US DOT.

HAZARDOUS MATERIALS INVOLVEMENT – Indication of the hazardous materials identification and class being transported by the motor vehicle, and whether hazardous materials were released.

Hazardous Materials Placard [HAZARDOUS MATERIALS INVOLVEMENT]– A Hazardous Materials Placard is a sign required to be affixed to any motor vehicle transporting quantities of hazardous materials in quantities above the thresholds established by the U.S. Department of Transportation, or other authorized entity. This placard identifies the hazard class division number, 4-digit hazardous material identification number or name of the hazardous material being transported.

Helmet [NON-MOTORIST SAFETY EQUIPMENT**] –** Safety helmet worn by non-motorist (bicyclist, skateboarder, etc.).

Helmet, Unknown if DOT-Compliant [HELMET USE] – A helmet was worn by this person, but the investigating officer cannot determine if it is a DOT-compliant motorcycle helmet.

HELMET USE - This element records the type of helmet in use, and any indications of improper use of the helmet, by motor vehicle occupants of MOTOR VEHICLE BODY TYPE CATEGORY **All-Terrain Vehicle/All-Terrain Cycle (ATV/ATC)** , **Snowmobile**, **Moped**, **Recreational Off-Highway Vehicles (ROV)**, **2-Wheeled Motorcycle**, **3-Wheeled Motorcycle**, and **Autocycle** at the time of the crash.

Hillcrest [ROADWAY GRADE] – refers to the area of transition between an uphill and a downhill grade (i.e., top of a hill).

HIT AND RUN – Refers to cases where the vehicle or the driver of the motor vehicle in-transport is a contact vehicle in the crash and departs the scene without stopping to render aid or report the crash.

I

Ice/Frost [ROADWAY SURFACE CONDITION] - frozen water on the roadway surface.

Immersion, Full or Partial [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – occurs when a motor vehicle enters a body of water and results in injury or damage. This attribute would also be used if the vehicle came to rest in water and the depth cannot be ascertained.

Impact Attenuator/Crash Cushion [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** A barrier at a spot location, less than 25 ft. (7.6 m) away, designed to prevent an errant motor vehicle from impacting a fixed object hazard by gradually decelerating the motor vehicle to a safe stop or by redirecting the motor vehicle away from the hazard.

Improper Passing [RELATED FACTORS - DRIVER LEVEL, NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S)] - the driver or non-motorist had completed or was passing in a way that was unsafe, poorly executed, or prohibited. A non-motorist may be passing a motor vehicle or another non-motorist. Examples include passing on the right, passing a stopped school bus, or passing where prohibited by signs or pavement markings (i.e., mainly violations as designated by traffic controls).

Improper Turn [RELATED FACTORS - DRIVER LEVEL] - occurs when the driver completed or was making a turn that was unsafe, poorly executed, or prohibited.

Improper Turn/Merge [NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S)] - occurs when the non-motorist completed or was making a turn that was unsafe, poorly executed, or prohibited. This attribute is only applicable to PERSON TYPE Bicyclist, Other Cyclist, Pedestrian on Personal Conveyance, Occupant of a Non-Motor Vehicle Transport Device, and Unknown Type of Non-Motorist. Examples of an improper turn include too wide right or left turns, making a right turn from the left lane, a left turn from the right lane, or unsafe U-turns. An example of an improper merge is when the bicycle lane ends and the bicyclist merges into the path of a vehicle without leaving sufficient space.

Indian Nation [DRIVER LICENSE JURISDICTION**] –** A federally recognized Indian tribe with sovereign authority to interact on a government-to-government basis directly with federal agencies.

Indication of Helmet Misuse [HELMET USE] – indicates any misuse of the helmet used by this person.

Indication of Restraint System Misuse [RESTRAINT SYSTEM USE] – indicates any misuse of the restraint system used by this person.

INITIAL CONTACT POINT – This element is intended to collect the approximate contact point on this vehicle associated with this vehicle's initial harmful event.

INJURY STATUS – The injury severity level for a person involved in a crash.

In Parking Lane/Zone [LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY**]** – The FIRST HARMFUL EVENT of the Crash occurred in a location outside the roadway in a space designated for parking motor vehicles.

In Roadway Improperly (Standing, Lying, Working, Playing, etc.) [NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S)] - occurs when a person was in the roadway in violation of applicable laws. Examples include:

- playing in the road before the vehicle arrived (the person must not have just run into the roadway, which would be coded Dart/Dash);
- in the street voluntarily, such as a civilian directing traffic at the scene of a crash;
- attempting to hail a cab, flag down assistance, or flag down a transit bus between designated stops;
- sitting, getting up, asleep/unconscious, kneeling, etc.

Interchange [RELATION TO JUNCTION] – A system of interconnecting roadways in conjunction with one or more grade separations, providing for the movement of traffic between two or more roadways on different levels.

Intercity [BUS USE] – is used when a company provides long-distance passenger transportation between cities over fixed routes with regular schedules (e.g., Greyhound bus service between major cities) for compensation. Buses are any motor vehicle with seats to transport nine (9) or more people, including the driver seat, but not including vans owned and operated for personal use.

Intermittent or Moving Work [WORK ZONE] – Type of work zone designating temporary activity that may move or shift frequently.

International License (other than Mexico or Canada) [DRIVER LICENSE JURISDICTION**] –** Driver license issued by country other than Canada, Mexico, or U.S.

Intersection [TYPE OF INTERSECTION, NON-MOTORIST AT INTERSECTION]– The ANSI D.16 defines an Intersection as an area which 1) contains a crossing or connection of two or more roadways not classified as driveway access and 2) is embraced within the prolongation of the lateral curb lines, or, if none, the lateral boundary lines of the roadways. Where the distance along a roadway between two areas meeting these criteria is less than 10 meters (33 feet), the two areas and the roadway connecting them are considered to be parts of a single intersection.
The MUTCD adds:

- Where a stop line, yield line, or crosswalk is designated on the roadway on the intersection approach, the area within the crosswalk and/or beyond the designated stop line or yield line shall be part of the intersection; and

- Where a crosswalk is designated on a roadway on the departure from the intersection, the intersection shall include the area extending to the far side of such crosswalk.

Intersection or Related [RELATION TO JUNCTION**] –** A traffic crash in which the FIRST HARMFUL EVENT (1) occurs on an approach to or exit from an intersection and (2) results from an activity, behavior or control related to the movement of traffic units through the intersection.

Interstate Motor Carrier [TYPE OF MOTOR CARRIER OR RESPONSIBLE ENTITY] –is used if this is a motor carrier that is registered with FMCSA to operate across State lines and issued a USDOT number.

In-Transport – The ANSI D.16 defines In-Transport as the state or condition of a transport vehicle which is in motion or within the portion of a transport way ordinarily used by similar transport vehicles. When applied to motor vehicles, "in-transport" means on a roadway or in motion within or outside the trafficway. A transport vehicle which is also a working motor vehicle at the time of the unstabilized situation is not "in-transport." In roadway lanes used for travel during some periods and for parking during other periods, a parked motor vehicle should be considered in-transport during periods when parking is forbidden.

Intrastate Motor Carrier [TYPE OF MOTOR CARRIER OR RESPONSIBLE ENTITY] –is used if this is a motor carrier that is not registered with FMCSA to operate across State lines. They may or may not have a USDOT number.

J, K, L

Jackknife (harmful to this vehicle) [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – applies to a condition that occurs to a combination vehicle while in motion. The condition reflects a loss of control of the vehicle by the driver in which the trailer(s) yaws from its normal straight-line path behind the power unit, striking the power unit, or other trailers, causing damage to the power unit or trailer. Jackknife should only be coded as a harmful event if there is clear indication of damage to the jackknifed vehicle or injury to its occupants caused by the jackknife.

Junction [RELATION TO JUNCTION] - A junction is either an intersection or the connection between a driveway access and a roadway other than a driveway access.

KABCO [INJURY STATUS**] –** A functional measure of the injury severity for any person involved in the crash. K-Fatal Injury, A-Suspected Serious Injury, B-Suspected Minor Injury, C-Possible Injury, and O-No Apparent Injury.

L-Intersection [TYPE OF INTERSECTION] – This is a two-armed intersection in which one road intersects with another road but neither road extends beyond the other road. The roadways form an "L."

Lane Closure [WORK ZONE] – One or more lanes of traffic are temporarily closed to accommodate this work zone.

Lane Shift [WORK ZONE] – One or more lanes of traffic are temporarily shifted to accommodate this work zone.

Lap Belt Only Used [RESTRAINT SYSTEM USE**] –** Use of a lap safety belt either because the motor vehicle is equipped only with lap belt or because the shoulder belt is not in use.

Law Enforcement [SPECIAL USE] – A vehicle equipped with police emergency devices (lights and siren) that is owned or subsidized by any local, county, State, or Federal government entity. The police vehicle is presumed to be in special use at all times, although not necessarily in "emergency use." Vehicles not owned by a government entity that are used by law enforcement officers (e.g., undercover) are excluded.

LAW ENFORCEMENT SUSPECTS ALCOHOL INVOLVEMENT –This data element reflects only the judgment of law enforcement as to whether alcohol was involved or not for this person.

LAW ENFORCEMENT SUSPECTS DRUG USE INVOLVEMENT –This data element reflects only the judgment of law enforcement as to whether drugs were involved or not for this person.

LIGHT CONDITION – The type/level of light that existed at the time of the motor vehicle traffic crash.

Lighting [NON-MOTORIST SAFETY EQUIPMENT**] –** Non-motorist use of lights on his/her person or on a motor vehicle not in-transport or transport vehicles other than motor vehicle as safety equipment.

Live Animal [FIRST HARMFUL EVENT; SEQUENCE OF EVENTS; MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – is used for collisions with live animals (domesticated or wild) that are not themselves being used as transportation or to draw a wagon, cart, or other transport device. Use **Live Animal** if it cannot be determined if the struck animal is alive, dead, or if it was being ridden or drawing a transport device. If the animal was deceased prior to the crash, then use **Other Object (Not Fixed)**.

LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY – The location of the FIRST HARMFUL EVENT as it relates to its position within or outside the trafficway.

Low Speed Vehicle [MOTOR VEHICLE BODY TYPE CATEGORY**] –** A low speed vehicle (LSV) is a motor vehicle with four or more wheels whose top speed is greater than 20 miles per hour, but not greater than 25 miles per hour. LSVs are required to be equipped with basic items of safety equipment: headlamps, stop lamps, turn signal lamps, tail lamps, reflex reflectors, parking brake, windshields of either type AS-1 or type AS-5 glazing, rearview mirrors, seat belts, and vehicle identification numbers (VINs).

M

MANNER OF COLLISION OF THE FIRST HARMFUL EVENT – This element identifies the orientation of two Motor Vehicles In-Transport when they are involved in the FIRST HARMFUL EVENT of a collision crash. If the FIRST HARMFUL EVENT is not a collision between two motor vehicles in-transport, it is classified as such.

Medical Facility [TRANSPORTED TO FIRST MEDICAL FACILITY BY, MEDICAL FACILITY RECEIVING PATIENT] – An injury treatment facility (hospital, clinic, trauma center, etc.). The treatment facility is the first medical facility to which the person is taken. Use appropriate attribute, even if the person dies en route to the treatment facility. A morgue is not an injury treatment facility.

Median [MEDIAN BARRIER PRESENCE, NON-MOTORIST SPECIFIC LOCATION] - An area of trafficway between parallel roads separating travel in opposite directions. A median should be four or more feet wide. A median can be depressed, raised, or flush with the travel way surface. A median if flush or painted without a barrier must be four or more feet wide.

MEDIAN BARRIER PRESENCE - Identifies whether the trafficway associated with this vehicle included a median barrier.

MEDICAL FACILITY RECEIVING PATIENT - Name of the first hospital, clinic, or trauma center that received the patient for treatment.

Merging (Other than from a Parking Position) [VEHICLE STATUS PRIOR TO CRITICAL EVENT] - is used when this vehicle was moving forward and merging from the left or right into a traffic lane (e.g., roadway narrows, exit/entrance ramps).

Minor Damage [EXTENT OF DAMAGE] – Damage that does not affect the operation of or disable the Motor Vehicle.

Moped [MOTOR VEHICLE BODY TYPE CATEGORY] - is used when the motor vehicle is a speed-limited motor-driven cycle capable of moving either by pedaling or by a motor. NOTE: This does not include motorized bicycles, ridden by non-motorists (see NON-MOTORIST DEVICE TYPE).

MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE **–** Event that resulted in the most severe injury or, if no injury, the greatest property damage involving this motor vehicle.

Motor Carrier – The legal business entity, individual, partnership, corporation, or organization that directs, controls, and is responsible for the transportation of goods, property, or people.

MOTOR CARRIER OR RESPONSIBLE ENTITY IDENTIFICATION – The identification number(s) of an individual, partnership, or corporation responsible for the transportation of people or property as indicated on the shipping manifest.

MOTOR CARRIER OR RESPONSIBLE ENTITY NAME AND ADDRESS - The name and address of the Motor Carrier or other entity responsible for the transportation of people or property as indicated on the shipping manifest.

Motorcoach [MOTOR VEHICLE BODY TYPE CATEGORY**] –** A bus with a gross vehicle weight rating (GVWR) of 11,793 kilograms (26,000 pounds) or greater, 16 or more designated seating positions (including the driver), and at least 2 rows of passenger seats, rearward of the driver's seating position, that are forward-facing or can convert to forward-facing without the use of tools. Motorcoach includes buses sold for intercity, tour, and commuter bus service, but does not include a school bus, or an urban transit bus sold for operation as a common carrier in urban transportation along a fixed route with frequent stops.

Motorcycle, 2-Wheeled, 3-Wheeled [MOTOR VEHICLE BODY TYPE CATEGORY] – An open (no enclosed body) motor vehicle propelled by a motor, having a seat or a saddle for the use of its operator, and designed to travel on not more than three wheels in contact with the ground (excluding an attached trailer or sidecar).

Motor Home/Recreational Vehicle [MOTOR VEHICLE BODY TYPE CATEGORY**] –** A van where a frame-mounted recreational unit is added behind the driver or cab area or mounted on a bus/truck chassis that is suitable to live in and drive across the country.

Motorist [PERSON TYPE**] –** Any occupant of a motor vehicle.

Motorized [NON-MOTORIST DEVICE TYPE] - is used when an applicable device had a motor for propulsion or partial motor engagement in addition to human power and includes electrical, chemical, or combustion energy motors. The motor need not be in use at the time of the crash.

MOTOR VEHICLE BODY TYPE CATEGORY – The category indicating the general configuration or shape of a motor vehicle distinguished by characteristics such as number of doors, rows of seats, windows, or roof line.

Motor Vehicle In Service for Electronic Ride-hailing [SPECIAL USE] – A transportation network company (TNC) (sometimes known as Mobility Service Providers or MSPs) connects, via websites and mobile apps, paying passengers with drivers who provide such passengers with transportation on the driver's non-commercial vehicle.

Motor Vehicle In-Transport [FIRST HARMFUL EVENT, MOTOR VEHICLE UNIT TYPE, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** A motor vehicle is any motorized (mechanically or electrically powered) road vehicle not operated on rails. When applied to motor vehicles, "in-transport" refers to being in motion or on a roadway (travel lanes). Inclusions: motor vehicle in traffic on a highway, driverless motor vehicle in motion, motionless motor vehicle abandoned on a roadway, disabled motor vehicle on a roadway, etc.

MOTOR VEHICLE LICENSE PLATE NUMBER – The alphanumeric identifier or other characters, exactly as displayed, on the registration plate or tag affixed to the motor vehicle.

MOTOR VEHICLE MAKE – The manufacturer-assigned, coded name applied to a group of motor vehicles.

MOTOR VEHICLE MODEL – The manufacturer-assigned code denoting a family of motor vehicles (within a make) that have a degree of similarity in construction, such as body, chassis, etc.

MOTOR VEHICLE MODEL YEAR – The year that is assigned to a motor vehicle by the manufacturer.

MOTOR VEHICLE NUMBER - Motor vehicle number assigned to uniquely identify each motor vehicle involved in the crash.

MOTOR VEHICLE POSTED/STATUTORY SPEED LIMIT – The posted/statutory speed limit for the motor vehicle at the time of the crash.

MOTOR VEHICLE REGISTRATION STATE – The State, commonwealth, territory, Indian Nation, U.S. Government, foreign country, etc., issuing the registration plate displayed on the motor vehicle.

MOTOR VEHICLE UNIT TYPE – The type of unit that applies to this motor vehicle at the time it became an involved vehicle in the crash.

N

NAME OF PERSON INVOLVED – The full name of the individual involved in the crash.

No Apparent Injury (O) [INJURY STATUS**] –** No apparent injury is a situation where there is no reason to believe that the person received any bodily harm from the motor vehicle crash. There is no physical evidence of injury and the person does not report any change in normal function.

Non-Collision Harmful Events [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** Any motor vehicle crash harmful event not involving a collision.

None (No Device) [NON-MOTORIST DEVICE TYPE] - is used when it is known that this non-motorist was not using a transport device at the time of the crash. PERSON TYPE for this person must equal **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying** or **Pedestrian In/On a Building**.

Non-harmful Swaying Trailer/Jackknife [SEQUENCE OF EVENTS] – applies to a condition that occurs to a combination vehicle while in motion. The condition reflects a loss of control of the vehicle by the driver in which the trailer(s) yaws from its normal straight-line path behind the power unit. The event by itself does not cause damage to the vehicle or injury to its occupants.

Non-Junction [RELATION TO JUNCTION**] –** Roadway that is not an intersection or a connection between a driveway access and a roadway other than a driveway access.

Non-Motorist [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE, PERSON TYPE] – Any person who is not an occupant of a motor vehicle. This includes pedestrians, bicyclists, other cyclists, and occupants of non-motor vehicle transport devices.

NON-MOTORIST AT INTERSECTION - The location of the non-motorist with respect to an intersection at the time of the crash.

NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S) – The actions/circumstances of the non-motorist at the time of the crash that may have contributed to the crash.

NON-MOTORIST DEVICE TYPE - This element describes the type of transport device and motorization of the device operated by the non-motorist.

NON-MOTORIST DISTRACTION - This element identifies this non-motorist's attention prior to the non-motorist's involvement in this crash. This element reports on the presence of any distractions which may or may not have contributed to the crash. Distraction, for a non-motorist, occurs when a non-motorist's attention is diverted from the task of navigating in public to some other activity.

NON-MOTORIST IN CROSSWALK - The location of the non-motorist with respect to an intersection at the time of the crash.

NON-MOTORIST SAFETY EQUIPMENT – The safety equipment used by this non-motorist.

NON-MOTORIST SPECIFIC LOCATION - The location of the non-motorist with respect to the trafficway at the time of the crash.

NON-MOTORIST STATUS PRIOR TO CRITICAL EVENT – The status of the non-motorist immediately prior to the crash.

NON-MOTORIST TRAFFIC CONTROL DEVICE - The traffic control device applicable to this non-motorist at the time of the crash.

Not a Bus [BUS USE] – Vehicles that do not have a bus body type and are not being used as a bus in the crash. This should be used for vehicles with less than 9 seats (including the driver) and personal-use vans with 9 or more seats (including the driver).

Not Motorized [NON-MOTORIST DEVICE TYPE] - is used when an applicable device had no motor.

NUMBER OF OPEN LANES IN VEHICLE'S ENVIRONMENT – Total number of open lanes in this Motor Vehicle's environment, just prior to this vehicle's critical event, including through lanes, turn lanes, acceleration/deceleration lanes, HOT/HOV lanes, or any other lanes.

O

Obstruction in Roadway [RELATED FACTORS - CRASH LEVEL] – A blockage in the roadway, such as that caused by a fallen tree or a large boulder.

Occupant of a Motor Vehicle Not In-Transport [PERSON TYPE] – is used for any occupant of a motor vehicle not in-transport (i.e., Parked Motor Vehicle or Working Motor Vehicle) including someone sitting in the driver's seat position.

Occupant of a Non-Motor Vehicle Transport Device [PERSON TYPE] - refers to persons riding in an animal-drawn conveyance, on an animal, or injured occupants of railway trains, etc.

OCCUPANT'S MOTOR VEHICLE UNIT NUMBER – The unique number assigned for this crash to the motor vehicle in which this person was an occupant.

Off-Roadway, Location Unknown [LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY**] –** The FIRST HARMFUL EVENT is off the roadway, but the location of the property line is unknown.

On Median [LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY**] –** An area of trafficway between parallel roads separating travel in opposite directions. A median should be four or more feet wide. A median can be depressed, raised, or flush with the travel way surface. A median if flush or painted without a barrier must be four or more feet wide.

On Roadside [LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY**] –** The outermost part of the trafficway from the property line to other boundary in to the edge of the first road. Inclusions: area between edge of trafficway and edge of roadway with no shoulder, and area between edge of trafficway and edge of shoulder. Exclusions: roadways, shoulders, separators, and medians.

On Roadway [LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY] – The portion of the trafficway normally designed for vehicular traffic (i.e., travel lanes).

On Shoulder [LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY] (if present) is that part of a trafficway contiguous with the roadway for emergency use, for accommodation of stopped vehicles, and for lateral support of the roadway structure. A shoulder should be improved or maintained for these purposes. Not all roadways have shoulders.

Other Cycle [NON-MOTORIST DEVICE TYPE] - is used for any device propelled by pedaling (by foot, hand, or other adaptive means) other than a Bicycle. Examples include unicycle, tricycle, pedal car, handcycle, which can be solely propelled by human power and those that can be propelled by human power and/or a motor.

Other Cyclist [PERSON TYPE] – Non-motorist using a device propelled by pedaling (by foot, hand, or other adaptive means) other than a "Bicycle." Examples include unicycle, tricycle, pedal car, handcycle, which can be solely propelled by human power and those that can be propelled by human power and/or a motor.

Other Emergency Services Vehicle [SPECIAL USE] – Is used for any readily identified (lights and markings) vehicles that do not meet the criteria for Ambulance, Fire Truck, Safety Service Patrols-Incident Response, Towing-Incident Response, or Other Incident Response and are specifically designed and equipped to respond to fire, hazmat, medical and extrication incidents. This attribute includes light vehicles such as sedans, vans, SUVs, pickups, trucks, motorcycles, etc. This attribute includes vehicles that have been dispatched to an incident or have initiated operation in a non-emergency mode and are not transporting passengers, such as patients or suspects. An example of an **Other Emergency Services Vehicle** is a fire chief's unit, commonly an SUV.

Other Fixed Object [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – is used when the object is fixed (considered a permanent structure) and is not described by any of the other fixed object attributes. This attribute excludes collisions with curbing that forms raised islands, medians, or separators (see Curb).

Examples:

- Bus shelters
- Pedestrian walkways
- Toll booths
- Guy wires supporting utility poles
- U. S. Mailbox for public use

Other examples include property damage to standing crops, yards, and other vegetation (excluding **Shrubbery**, Tree (Standing Only), and **Ground**).

Other Incident Response [SPECIAL USE] - is used for Incident Response Vehicles excluding Safety Service Patrols - Incident Response and Towing - Incident Response. Vehicles responding to clean up spills are examples of this. To use this attribute, this vehicle must have been responding to a traffic incident at the time of its involvement in the crash.

Other (knee, air belt, etc.) [AIR BAG DEPLOYED**] –** is used when a knee air bag, air belt, or other new air bag technology is deployed.

Other Non-Collision [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** A non-collision event not captured by other non-collision event attributes. For example, driving off a cliff where damage is not the result of an overturn or a collision with a fixed object, an unbelted passenger hits his or her head on the roof of a vehicle and is injured when the vehicle travels over a sharp dip in the road, situations where a passenger is sickened or dies due to carbon monoxide fumes leaking from a Motor Vehicle In-Transport. This also includes when an occupant of a vehicle is run over by his/her own vehicle after falling from the vehicle.

Other Object (Not Fixed) [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**]** – is used when a motor vehicle in-transport strikes a non-fixed object that is known NOT to have been the cargo or part of another motor vehicle in-transport, or when it is UNKNOWN whether the object was the cargo or part of another motor vehicle in-transport (i.e., refers to objects such as a dead body, animal carcass, construction cones or barrels, an unattached trailer, a bicycle without a rider, downed tree limbs or power lines, or debris from a prior crash). For objects that have become separated from a motor vehicle in-transport not as a result of a prior crash, use attribute **Strikes Object at Rest That Had Fallen from Motor Vehicle In-Transport**.

Other Post, Pole, or Other Supports [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – is used for posts other than traffic signs, traffic signals, utility poles, or light supports (e.g., reflectors on poles alongside of roadway, parking meters, flag poles, etc.). For mailbox posts, use **Mailbox**. For fence posts, use **Fence**.

Other Traffic Barrier [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** Longitudinal barriers other than guardrails, concrete traffic barriers, or cable barriers. They may be composed of material such as wood or rock.

Other Truck or Bus [TYPE OF MOTOR CARRIER OR RESPONSIBLE ENTITY] – is used for personal use of a rental vehicle (e.g., U-Haul, Ryder, Penske) that is over 10,000 lbs. GVWR/GCWR and operated by a private individual for non-commercial purposes. In these situations, the rental company is not the carrier and should not be recorded. This option can also be selected for non-profit organizations operating vehicles over 10,000 lbs. GVWR/GCWR.

Outside Trafficway [LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY**] –** Not physically located on any land way open to the public as a matter of right or custom for moving people or property from one place to another.

P

Parked Motor Vehicle [FIRST HARMFUL EVENT, MOTOR VEHICLE UNIT TYPE, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – The ANSI D.16 defines a parked motor vehicle is a motor vehicle not in-transport, other than a working motor vehicle, that is not in motion and not located on the roadway (travel lanes). In roadway lanes used for travel during some periods and for parking during other periods, a parked motor vehicle is considered in-transport during periods when parking is forbidden. This attribute includes any stopped motor vehicle where the entirety of the vehicle's primary outline as defined by the four sides of the vehicle (e.g., tires, bumpers, fenders) and load, if any, is not within the roadway.

Partially Ejected [EJECTION] – The occupant's body was not completely thrown from the motor vehicle as a result of the impact.

Passenger of a Motor Vehicle In-Transport [PERSON TYPE] – Occupant of a Motor Vehicle In-Transport other than the driver.

Passenger Car [MOTOR VEHICLE BODY TYPE CATEGORY**] –** Motor vehicles used primarily for carrying passengers.

Passenger Van [MOTOR VEHICLE BODY TYPE CATEGORY] – is a box shaped vehicle designed to move 9 or more passengers (including the driver). These vehicles are identifiable by their enclosed cargo/passenger area and relatively short (or non-existent) hood.

Passing or Overtaking Another Vehicle [VEHICLE STATUS PRIOR TO CRITICAL EVENT] – A motor vehicle that moves from behind a motor vehicle to being in front of the same motor vehicle.

Pedestrian In/On a Building [PERSON TYPE] - is used for a person inside of or on a building who is struck by a motor vehicle directly or by way of an object set in motion (e.g., crash debris as a vehicle penetrates a wall).

Pedestrian On Personal Conveyance [PERSON TYPE] – is used for pedestrians using personal conveyances. A personal conveyance is a device used by a pedestrian for personal mobility assistance or recreation. These devices can be motorized or human powered, but not propelled by pedaling. Examples include ridable toys, skates, skateboards, baby carriage, Segway-style devices, wheelchair, mobility scooter. Also see element NON-MOTORIST DEVICE TYPE.

Pedestrian Refuge Island or Traffic Island [LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY] –A defined area between traffic lanes for control of vehicular movements, for toll collection, or for pedestrian refuge. Examples include areas:

- between roadways of a trafficway meant to allow for a non-motorist to pause while traveling from one side of a trafficway to the other side;
- for channelizing the flow of traffic at an intersection;
- in the center of a traffic circle or roundabout;
- dividing the entrance and exit in a driveway access.

Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying [PERSON TYPE] - is used for all pedestrians except for those in/on personal conveyances and in/on buildings. This attribute includes a person pushing a vehicle or being carried by another pedestrian.

Person (e.g., crossing guard, flagger) [NON-MOTORIST TRAFFIC CONTROL DEVICE] - is someone, (e.g., police officer, crossing guard, flagman, or officially designated person), that is in the act of controlling both vehicular and pedestrian traffic.

Person (including flagger, law enforcement, crossing guard, etc.) [TRAFFIC CONTROL DEVICE] –is someone, (e.g., police officer, crossing guard, flagman, or officially designated person), that is in the act of controlling both vehicular and pedestrian traffic.

Personal Conveyance – A personal conveyance is a device used by a pedestrian for personal mobility assistance or recreation. These devices can be motorized or human powered, but not propelled by pedaling. Examples include ridable toys, skates, skateboards, baby carriage, Segway-style devices, wheelchair, mobility scooter. Also see element NON-MOTORIST DEVICE TYPE.

Personal Conveyance, Other [NON-MOTORIST DEVICE TYPE]- is used for a device that is not a cycle or a specific personal conveyance attribute listed in this element. The device could be intended for personal mobility (e.g., skis, a sled, toy car, toy wagon, other rideable toy or novelty item, baby carriage) or not intended for personal mobility (e.g., riding on a shopping cart).

Personal Conveyance, Unknown Type [NON-MOTORIST DEVICE TYPE] - is used when it is known the device was a personal conveyance, but the specific type cannot be identified.

PERSON NUMBER - This element identifies a number for the motor vehicle occupant in the motor vehicle they occupied, or for each non-motorist, in consecutive order.

PERSON TYPE – The role of this person involved in the crash.

Physically Separated Cycle Lane (e.g., curb, pylons) [NON-MOTORIST SPECIFIC LOCATION] – An exclusive facility for bicyclists that is located within or directly adjacent to the roadway and that is physically separated from motor vehicle traffic with a vertical element. Separated bike lanes are differentiated from standard and buffered bike lanes by the vertical element. They are differentiated from shared use paths (and sidepaths) by their more proximate relationship to the adjacent roadway and the fact that they are bike-only facilities. Physically separated bike lanes are also sometimes called “cycle tracks” or “protected bike lanes.”

Pole Trailer [TRAILER BODY TYPE] – A trailer designed to be attached to the towing vehicle by means of a reach or pole, or by being boomed or otherwise secured to the towing motor vehicle, and ordinarily used for carrying property of a long or irregular shape.

POLICE REPORTED/CITIZEN REPORTED - Indicates whether the crash was reported by the police or by a citizen.

Possible Injury (C) [INJURY STATUS] – A possible injury is any injury reported or claimed which is not a fatal, suspected serious, or suspected minor injury. Examples include momentary loss of consciousness, claim of injury, limping, or complaint of pain or nausea. Possible injuries are those that are reported by the person or are indicated by his/her behavior, but no wounds or injuries are readily evident.

POWER UNIT GROSS VEHICLE WEIGHT RATING (GVWR) – The value specified by the manufacturer as the recommended maximum loaded weight of a single motor vehicle.

Preliminary Breath Test (PBT) [ALCOHOL TEST] - testing devices that are not considered evidential tests, but merely as tools to help determine whether alcohol is present or not. Many PBTs only indicate whether alcohol is present in the breath by pass (green) or fail (red) lights. Other PBTs indicate the approximate blood alcohol concentration in numbers. Some PBTs are of evidential quality in some States, but if the device was used only as a preliminary test and not the evidential test, then this value should be coded.

Protective Pads [NON-MOTORIST SAFETY EQUIPMENT] – Padded, shaped attachments were used by the non-motorist to protect specific areas of the body (elbows, knees, shins, etc.).

Q, R

Railway Grade Crossing [RELATION TO JUNCTION**] –** An intersection between a roadway and train tracks that cross each other at the same level (Grade).

Railroad Flashing-Light Signal with Gates [TRAFFIC CONTROL DEVICE] - describes a powered traffic control system that alerts road users of the approach or presence of rail traffic on at-grade crossings. These systems may include two- or four-quadrant gate systems, automatic gates, flashing-light signals, traffic control signals, actuated blank-out and variable message signs, or other traffic control devices. The signal need not be activated at the time of the crash.

Railroad Flashing-Light Signal without Gates [TRAFFIC CONTROL DEVICE] - describes a powered traffic control system that alerts road users of the approach or presence of rail traffic on at-grade crossings. These systems may include flashing-light signals, traffic control signals, actuated blank-out and variable message signs, or other traffic control devices. The signal need not be activated at the time of the crash.

Railroad Vehicle or Road Vehicle on Rails [NON-MOTORIST DEVICE TYPE] - is used for railroad trains (e.g., passenger or cargo train) and road vehicles operated on rails (e.g., trolley, streetcar).

Railroad Vehicle [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – Any land vehicle (train, engine) that is (1) designed primarily for moving people or property from one place to another on rails and (2) not in use on a land way other than a railroad.

Ran Off Roadway (Left, Right, and Direction Unknown) [SEQUENCE OF EVENTS] – Failure of the driver to keep the motor vehicle on the roadway (travel lanes).

Rear to Rear [MANNER OF COLLISION OF THE FIRST HARMFUL EVENT] – The rear of a vehicle makes contact with the rear of another. This can happen when two vehicles are backing up.

Rear-to-Side or Side-to-Rear [MANNER OF COLLISION OF THE FIRST HARMFUL EVENT] – The rear of a vehicle makes contact with the side of another. This can happen when a vehicle backs up into the side of another vehicle or a vehicle hydroplanes and the side of the vehicle contacts the rear of another vehicle.

Reflective Clothing/Carried Item [NON-MOTORIST SAFETY EQUIPMENT] – Wearable or carried items (backpack, triangle, etc.) that reflect light.

RELATED FACTORS – CRASH LEVEL - This element identifies factors related to this crash.

RELATED FACTORS - DRIVER LEVEL – This element identifies factors related to this driver.

RELATED FACTORS – VEHICLE LEVEL - This element identifies factors related to this vehicle

RELATION TO JUNCTION – The crash's location with respect to presence in a junction or proximity to components typically in junction or interchange areas.

RESTRAINT SYSTEM USE - The restraint equipment in use by the occupant and any indication of improper use of the available restraint system at the time of the crash.

Ridden Animal or Animal Drawn Conveyance [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE, NON-MOTORIST DEVICE TYPE] - is used for any type of animal being ridden at the time of the crash or any device being drawn by an animal (e.g., wagon, carriage, sleigh).

Riding on Exterior of Vehicle (non-trailing unit) [SEATING POSITION] – Person riding on the exterior of a motor vehicle (on hood, running board, trunk, non-trailing unit, etc.).

Road – That part of a trafficway that includes both the roadway and any shoulder alongside the roadway. Includes designated parking areas on a roadway or between the roadway and curb.

Roadway – That part of a trafficway designed, improved, and ordinarily used for motor vehicle travel or, where various classes of motor vehicles are segregated, that part of a trafficway used by a particular class. Separate roadways may be provided for opposing directions of traffic or for trucks and automobiles. Bridle paths and bicycle paths are not included in this definition.

ROADWAY ALIGNMENT – The geometric or layout characteristics of the roadway in the direction of travel for this vehicle.

ROADWAY GRADE - The inclination characteristics of the roadway in the direction of travel for this vehicle.

ROADWAY SURFACE CONDITION – The roadway surface condition at the time and place of the crash for this vehicle.

Rollover/Overturn [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – is used when a motor vehicle rotates (rollover) at least one quarter turn onto its side or end. For motorcycles, laying the motorcycle down on its side is sufficient to use this attribute as a harmful event if damage or injury is produced.

Roundabout [TYPE OF INTERSECTION] – refers to an intersection of roads where motor vehicles must travel around a circle to continue on the same road or leave on any intersecting road. A Roundabout must meet the following criteria:

- Entering traffic is controlled by a yield sign only
- Circulating traffic has the right of way
- Pedestrian access is allowed behind the yield sign line
- No parking is allowed in the circle

S

Safety Service Patrols – Incident Response [SPECIAL USE] – Safety Service Patrol vehicles provide short-term emergency response management to traffic incidents, commonly resulting from crashes, debris, or disabled vehicles, intended to promote safe movement of people and commerce, and reduce traffic delays and congestion. To use this attribute, this vehicle must have been responding to a traffic incident at the time of its involvement in the crash. See NOTE on Incident Response Vehicles.

Sag [ROADWAY GRADE] – The bottom of a hill.

SCHOOL BUS-RELATED – Indicates whether a school bus or motor vehicle functioning as a school bus for a school-related purpose is involved in the crash.

School [BUS USE] – Any public or private school or district, or contracted carrier operation on behalf of the entity, providing transportation for K-12 pupils.

School Zone Sign/Device [TRAFFIC CONTROL DEVICE TYPE] – Signs or devices which change the speed limit on road adjacent to schools on school days, give advance warning of school, and/or warn of children crossing the road.

Scooter (Standing or Seated) [NON-MOTORIST DEVICE TYPE] - is used for a wheeled device with a center column and handlebar where the operator can stand on a foot platform. These devices may or may not have a permanent or removable posted seat. These devices have at least two wheels and can be human powered or motorized. These devices are not designed specifically for assisted mobility (see Wheelchair or Other Mobility Aid Device). For motor scooters or mopeds, see MOTOR VEHICLE BODY TYPE CATEGORY **2-Wheeled Motorcycle** or **Moped**.

SEATING POSITION **–** The location for this occupant in, on, or outside of the motor vehicle prior to the first event in the SEQUENCE OF EVENTS.

SECONDARY CRASH - This element identifies if this crash was related to a prior (primary) crash.

Self-Balancing Board [NON-MOTORIST DEVICE TYPE] - is used for a wheeled device that may or may not have a center column with a handlebar where the operator can stand on a foot platform or foot pegs and manipulate the device with controls on the center column or by weight distribution. These devices enable the user to remain balanced when powered on, have one or two wheels in parallel, and are motorized. Examples include hoverboards, Segway-style devices, one-wheel devices.

Separation of Units [SEQUENCE OF EVENTS]– is used when a trailing unit separates from its power unit or another trailing unit(s). This applies to truck tractors with trailer(s), single-unit trucks with a trailer, and other vehicles pulling a trailer (e.g., car pulling a boat or motor home).

Separator [LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY**] –** A separator is the area of a trafficway between parallel roads separating travel in the same direction or separating a frontage road from other roads.

SEQUENCE OF EVENTS – The sequence of events are events in sequence related to this motor vehicle, including non-harmful events, non-collision harmful events, and collision events.

Severe Crosswinds [ATMOSPHERIC CONDITIONS] – Strong air flow perpendicular to the intended path of travel.

SEX/GENDER – The sex or gender of the person involved in the crash.

Shared-Use Path or Trail [RELATION TO JUNCTION, NON-MOTORIST SPECIFIC LOCATION] – A bikeway physically separated from motor vehicle traffic by an open space or barrier. They may also be used by pedestrians, skaters, wheelchair users, joggers, and other users. Most have two-way travel.

Shoulder [NON-MOTORIST SPECIFIC LOCATION] - (if present) is that part of a trafficway contiguous with the roadway for emergency use, for accommodation of stopped vehicles, and for lateral support of the roadway structure. A shoulder should be improved or maintained for these purposes. Not all roadways have shoulders.

Shoulder and Lap Belt Used [RESTRAINT SYSTEM USE] – Occupant restraint system where both the shoulder belt and lap belt portions are connected to a buckle.

Shoulder Belt Only Used [RESTRAINT SYSTEM USE] – In a two-part occupant restraint system, only the shoulder belt portion is connected to a buckle.

Shuttle [BUS USE] – Private companies providing transportation services for their own employees, non-governmental organizations (such as churches and non-profit groups), and non-educational units of government (such as departments of corrections). Examples include transporting people from airports, hotels, rental car companies, and business facility to facility. Buses are any motor vehicle with seats to transport nine (9) or more people, including the driver seat, but not including vans owned and operated for personal use.

Side (door, seatback) [AIR BAG DEPLOYED] – is used when an air bag on a side of the motor vehicle is out of its cover and protruding into occupant compartment. The bag is fully or partially deflated or inflated. Refer to Figure 20: Air Bag Diagram.

Sideswipe, Opposite Direction [MANNER OF COLLISION OF THE FIRST HARMFUL EVENT] – Two vehicles traveling in the opposite direction impact one another where the initial engagement does not overlap the corner of either vehicle so that there is no significant involvement of the front or rear surface areas. The impact then swipes along the surface of the vehicle parallel to the direction of travel.

Sideswipe, Same Direction [MANNER OF COLLISION OF THE FIRST HARMFUL EVENT] – Two vehicles traveling in the same direction impact one another where the initial engagement does not overlap the corner of either vehicle so that there is no significant involvement of the front or rear surface areas. The impact then swipes along the surface of the vehicle parallel to the direction of travel.

Single-Unit Truck (2 axles and GVWR > 10,000 lbs.) [MOTOR VEHICLE BODY TYPE CATEGORY] – is a power unit that includes a permanently mounted cargo body (also called a straight truck) that has only two axles and a GVWR of over 10,000 pounds. When counting axles on a single-unit truck, include raised axles.

Single-Unit Truck (3 or more axles) [MOTOR VEHICLE BODY TYPE CATEGORY] – is a power unit that includes a permanently mounted cargo body (also called a straight truck) that has three or more axles. When counting axles on a single-unit truck, include raised axles.

Skateboard [NON-MOTORIST DEVICE TYPE] - is used for a wheeled device without handlebars or center column where the operator balances on a board. These devices have two trucks and at least three wheels and can be human powered or motorized.

Skates [NON-MOTORIST DEVICE TYPE] - is used for wheeled devices for each foot, rather than a connected board. These can be human powered or motorized. Examples include roller skates, inline skates, electric skates (e-skates).

Sleeper Section of Cab (truck) [SEATING POSITION] – Section in back of truck cab where occupants can sleep.

Slush [ROADWAY SURFACE CONDITION] – Accumulated snow or ice that has partially melted.

Smog, Smoke [ATMOSPHERIC CONDITIONS] - refers to a natural and/or man-made condition of suspended particles resulting from combustion or other atmospheric pollutants that causes reduced visibility.

Snow [ATMOSPHERIC CONDITIONS] - is used when precipitation is falling as frozen flakes at the time of the crash, not including blowing snow (see Blowing Snow).

SPECIAL FUNCTION - This element identifies if this person was performing a unique function when they became involved in the crash.

SPECIAL USE –The type of special use being served by this motor vehicle regardless of whether the use is marked on the vehicle or aligns to the body type, at the time of the crash. For example, a 15-Passenger van being used as a school bus.

SPEEDING-RELATED **–** Indication of whether the investigating officer suspects that the driver involved in the crash was speeding based on verbal or physical evidence and not on speculation alone.

Sport Utility Vehicle [MOTOR VEHICLE BODY TYPE CATEGORY] – A motor vehicle other than a motorcycle or bus consisting primarily of a transport device designed for carrying ten or fewer people, and generally considered a multi-purpose vehicle that is designed to have off-road capabilities. These vehicles are generally four-wheel-drive (4x4) and have increased ground clearance. A utility vehicle has a gross vehicle weight rating (GVWR) of 10,000 pounds or less. Utility vehicles with wheelbases greater than 88 inches are classified by overall width. The wheelbase and overall width should be rounded to the nearest inch. Sizes range from mini, small, midsize, full-size, and large. Four-wheel automobiles are not considered utility vehicles.

STATE REPORTABLE CRASH (Y/N) - Indicates whether a crash was required to be reported by State law.

STATE UNIQUE CRASH ID - The unique crash report number (also referred to as the State Case Number) maintained in the State's centralized database.

Stationary and Adjacent to Roadway (e.g., Shoulder, Median, Sidewalk) [NON-MOTORIST STATUS PRIOR TO CRITICAL EVENT] – is used when the non-motorist was not moving and not in the roadway but in an area immediately adjacent to the roadway, such as a median, shoulder, sidewalk, pedestrian refuge, traffic island, etc.

Stopped [VEHICLE STATUS PRIOR TO CRITICAL EVENT] – Applies to a vehicle which is stopped on the trafficway in an area normally used for vehicle travel (i.e., outside a parking lane). It includes but is not

limited to motor vehicles legally stopped for a stop sign or signal, motor vehicles stopped to turn PRIOR to initiating a turn, motor vehicles stopped in traffic due to a slowdown in traffic ahead, and motor vehicles illegally stopped in a traffic lane. A vehicle stopped in traffic may or may NOT have a driver and the vehicle engine may or may NOT be running. Most "double parked" vehicles are actually "stopped" rather than "parked."

Stop Sign [TRAFFIC CONTROL DEVICE] – An eight-sided red sign with "STOP" on it, requiring motor vehicles to come to a full stop and look for on-coming traffic before proceeding with caution.

Strikes Object at Rest That Had Fallen from Motor Vehicle In-Transport [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – Used when a motor vehicle in-transport impacts a non-fixed object at rest that is known to have been the cargo or part of another motor vehicle in-transport. Do not use this attribute for debris from a prior crash. This attribute does not include vehicle occupants that are ejected or fall from a motor vehicle in-transport.

Striking/Struck by Object/Cargo/Person from Other Motor Vehicle In-Transport [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – Motor vehicle or non-motorist is struck by cargo or other object that was set in motion by a motor vehicle. Examples include logs falling off or coming loose from a truck and striking a vehicle behind the truck, or a motor vehicle striking a parked car and pushes it into a passing pedestrian.

Suspected Minor Injury (B) [INJURY STATUS**] –** A minor injury is any injury that is evident at the scene of the crash, other than fatal or serious injuries. Examples include lump on the head, abrasions, bruises, minor lacerations (cuts on the skin surface with minimal bleeding and no exposure of deeper tissue/muscle).

Suspected Serious Injury (A) [INJURY STATUS**] –** A suspected serious injury is any injury other than fatal which results in one or more of the following:

- Severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood
- Broken or distorted extremity (arm or leg)
- Crush injuries
- Suspected skull, chest, or abdominal injury other than bruises or minor lacerations
- Significant burns (second and third degree burns over 10% or more of the body)
- Unconsciousness when taken from the crash scene
- Paralysis

Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist, or Animal in Roadway, etc. [RELATED FACTORS – DRIVER LEVEL] – Defensive driver action to defend against an apparent danger in, on, or due to the condition of the roadway or the presence of a motor vehicle, object, non-motorist, or animal in the roadway to avoid a crash.

T

T-Intersection [TYPE OF INTERSECTION] – An intersection where two roadways connect in a perpendicular manner and one roadway does not continue across the other roadway. The roadways form a "T."

Tank Trailer [TRAILER BODY TYPE] – A trailer type designed to transport dry bulk (fly, ash, etc.), liquid bulk (gasoline, milk, etc.) or gas bulk (propane, etc.).

Termination Area [WORK ZONE] – Located after the activity area but before traffic resumes normal conditions.

The First Harmful Event was Not a Collision with a Motor Vehicle In-Transport [MANNER OF COLLISION OF THE FIRST HARMFUL EVENT] - is used when the FIRST HARMFUL EVENT is not an impact between two in-transport motor vehicles.

Through Roadway [RELATION TO JUNCTION**] –** A crash would have this code when it is in an interchange area and it does NOT occur: 1) On an Entrance/Exit ramp, 2) In an intersection or related to an intersection or other junction.

Thrown or Falling Object [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] – A non-collision harmful event where any object is thrown (intentionally or unintentionally) and impacts an in-transport vehicle, or falls onto, into, or in the path of an in-transport motor vehicle. This excludes contacts made by loads or objects set in-motion by a motor vehicle (see Striking/Struck by Object/Cargo/Person from Other Motor Vehicle In-Transport).

TIME OF ROADWAY CLEARANCE - The time that all lanes are available for traffic flow.

Toll Booth/Plaza Related [RELATED FACTORS – CRASH LEVEL] - the crash occurred at or in the vicinity of a toll booth (manned or unmanned) or a toll plaza. These are crashes that occur in the upstream approach to the toll booth/plaza area and continues as the approach area (where the toll road begins to widen) leading up to the toll booths and in the departure area where the road begins to narrow leading back to the normal number of lanes comprising the toll road downstream departure area.

Totally Ejected [EJECTION] – The occupant's body was completely thrown from the motor vehicle as a result of the crash.

TOTAL OCCUPANTS IN MOTOR VEHICLE – The total number of injured and uninjured occupants in this motor vehicle involved in the crash, including people in or on the motor vehicle at the time of the crash.

Towing – Incident Response [SPECIAL USE] – is used for any type of tow truck involved in the crash while providing tow service at a traffic incident scene. The tow truck does not need to have a vehicle in tow at the time of the crash to use this attribute. To use this attribute, this vehicle must have been responding to a traffic incident at the time of its involvement in the crash. Tow trucks involved in crashes under any other circumstances are not included in this attribute.

Traffic Circle [TYPE OF INTERSECTION] – refers to an intersection of roads where motor vehicles must travel around a circle to continue on the same road or leave on any intersecting road. A Traffic Circle must meet the following criteria:

- Entering traffic is controlled by a stop sign, traffic signal, or by no traffic control
- Parking is allowed within the circle
- Pedestrians are allowed access to the central island
- Circle traffic can be required to yield to entering traffic

TRAFFIC CONTROL DEVICE – The traffic control device (TCD) applicable to this motor vehicle at the crash location.

Traffic Control Signal [TRAFFIC CONTROL DEVICE] – Controls traffic movements by illuminating systematically, a green, yellow, or red light or by flashing a single-color light.

Traffic Incident (Other than a Crash) [RELATED FACTORS - CRASH LEVEL] – An unplanned randomly occurring traffic event that adversely effects normal traffic operations. Examples include but not limited to disabled vehicles and spilled cargo.

Traffic Sign Support [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** A pole, post, or other type of support for a traffic sign.

Traffic Signal Support [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** A pole, post, or other type of support for a traffic signal.

Trafficway – Any land way open to the public as a matter of right or custom for moving people or property from one place to another.

Trafficway Construction/Maintenance/Utility [SPECIAL USE] – is used for any vehicle whose function is designed to perform authorized maintenance or conduct improvements to a roadway.

TRAFFICWAY FLOW - Identifies whether the trafficway associated with this vehicle serves one-way or two-way traffic.

TRAILER BODY TYPE - The primary cargo carrying capability of this trailer.

TRAILER VIN(S) – A unique combination of alphanumeric characters assigned to each trailer that is designated by the manufacturer.

Trailing Unit [SEATING POSITION**] –** Attached trailer of a motor vehicle or occupant of a motorcycle caboose.

Transit Bus [MOTOR VEHICLE BODY TYPE CATEGORY**] –** A bus sold for public transportation provided by, or on behalf of a State or local government, that is equipped with a stop-request system and that is not an over-the-road bus. An “Over-the-road bus” means a bus is characterized by an elevated passenger deck located over a baggage compartment.

Transit/Commuter [BUS USE] – A government entity or private company providing passenger transportation over fixed, scheduled routes, within primarily urban geographical areas. (For example, inner-city mass transit bus service.) Buses are any motor vehicle with seats to transport nine (9) or more people, including the driver seat, but not including vans owned and operated for personal use.

Transition Area [WORK ZONE] – Where lanes are shifted or tapered for lane closure.

TRANSPORTED TO FIRST MEDICAL FACILITY BY – Type of unit providing transport to the first medical facility receiving the patient.

Traveling Wrong-Way [NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S)] – A non-motorist traveling in a direction other than required by statute.

Tree (Standing Only) [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** Tree is upright and in the ground. A standing tree is a fixed object as opposed to a fallen tree that is a moveable object.

Two-Way with a Continuous Left Turn Lane [TRAFFICWAY FLOW] – Undivided center lane that facilitates left turns by traffic from both directions. Continuous left-turn lanes are not considered painted medians.

TYPE OF INTERSECTION – This element identifies and allows separation of various intersection types.

TYPE OF MOTOR CARRIER OR RESPONSIBLE ENTITY - The type of motor carrier or other entity responsible for the transportation of people or property as indicated on the shipping manifest.

U, V

Unknown if Motorized or Not Motorized [NON-MOTORIST DEVICE TYPE] - is used when this non-motorist was using a transport device, but it is not known if the device had a motor or not.

Unknown if Non-Motorist was Operating a Device [NON-MOTORIST DEVICE TYPE] – is used when it is not known if this non-motorist was using a transport device at the time of the crash. PERSON TYPE for this non-motorist must equal Unknown Type of Non-Motorist.

Utility Pole/Light Support [FIRST HARMFUL EVENT, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE**] –** Constructed for the primary function of supporting an electric line, telephone line or other electrical/electronic transmission line or cable. This includes the support poles for roadway lighting.

Van/Enclosed Box [CARGO BODY TYPE (POWER UNIT ONLY)] – A single-unit truck having an enclosed body integral to the frame of the motor vehicle.

VEHICLE IDENTIFICATION NUMBER (VIN) – A unique combination of alphanumeric characters assigned to a specific motor vehicle that is designated by the manufacturer.

VEHICLE NUMBER OF MOTOR VEHICLE STRIKING NON-MOTORIST – Number assigned to identify the first motor vehicle that struck the non-motorist in the crash.

VEHICLE OWNER AND ADDRESS - The name and address of the owner of this vehicle.

VEHICLE STATUS PRIOR TO CRITICAL EVENT – The controlled maneuver for this motor vehicle prior to the beginning of the SEQUENCE OF EVENTS.

VEHICLE TOWED - This data element identifies whether the vehicle was towed or carried from the scene of the crash.

VEHICLE TRAILING - This element identifies whether this vehicle had any attached trailing units.

VEHICLE UNDERRIDE/OVERRIDE - An underride refers to this motor vehicle sliding under another motor vehicle during a crash. An override refers to this motor vehicle riding up over another motor vehicle. Either can occur with a parked motor vehicle.

Vehicle Used for School Transport [SPECIAL USE] – A motor vehicle used for the transportation of any school pupil at or below the 12th-grade level to or from a public or private school or school-related activity.

VIOLATION CODES – The two most critical motor vehicle-related violations codes, if any, which apply to this driver.

W

Warning Sign (Not Railroad Crossing) [TRAFFIC CONTROL DEVICE] – A sign intended to warn traffic of existing or potentially hazardous conditions on or adjacent to a road.

Wheelchair or Other Mobility Aid Device [NON-MOTORIST DEVICE TYPE] - is used for a device designed primarily for use by an individual with a mobility disability for the main purpose of indoor or of both indoor and outdoor locomotion and includes both human and motor-powered devices. Some resemble three-wheeled scooters; others small four-wheel carts; still others look like a typical human-powered wheelchair.

Working Motor Vehicle [FIRST HARMFUL EVENT, MOTOR VEHICLE UNIT TYPE, SEQUENCE OF EVENTS, MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE] –The ANSI D.16 defines a working motor vehicle as a motor vehicle in the act of performing construction, maintenance, or utility work related to the trafficway. The "work" may be located within open or closed portions of the trafficway, and the vehicle performing these activities can be within or outside the trafficway boundaries. A working motor vehicle at the time of the unstabilized situation is not considered "in-transport."

Working Playing, etc. in Roadway [NON-MOTORIST STATUS PRIOR TO CRITICAL EVENT] – Non-motorist in roadway, such as a child playing or a mechanic working on a motor vehicle.

WORK ZONE – A crash that occurs in or related to a construction, maintenance, or utility work zone, whether workers were present at the time of the crash or not.

X, Y

Yes, Exceeded Speed Limit [SPEEDING-RELATED] – When a motor vehicle is traveling above the posted/statutory speed limit on certain designated roadways and/or by certain types of vehicles; e.g., for trucks, buses, motorcycles, on bridge, at night, in school zone, etc.).

Yes, Marked [NON-MOTORIST IN CROSSWALK] – is used when the non-motorist is in that portion of a roadway that is distinctly indicated for pedestrian crossing by lines or other markings on the surface of the roadway. It includes shared-use path crossings and crosswalks located in mid-blocks.

Yes, Racing [SPEEDING-RELATED] – When two or more motor vehicles are engaged in a speed-related competition on the trafficway.

Yes, Too Fast for Conditions [SPEEDING-RELATED**] –** Traveling at a speed that was unsafe for the road, weather, traffic, or other environmental conditions at the time.

Yes, Unmarked [NON-MOTORIST IN CROSSWALK] – is used when the non-motorist is in that portion of a roadway within the prolongations of the sidewalk edges but there are no lines or other markings on the surface of the roadway (unmarked crosswalk). There must be a sidewalk or improved path present on at least one side of the leg of the trafficway that this person is crossing for there to be an unmarked crosswalk. If there are no sidewalks or improved paths, there are no crosswalks.

Y-Intersection [TYPE OF INTERSECTION] – An intersection where three roadways connect and none of the roadways continue across the other roadways. The roadways form a "Y."

Yield Sign [TRAFFIC CONTROL DEVICE] – Three-sided signs that require motor vehicles to give way to other vehicles.

Appendices

Appendix A: NHTSA Chartered MMUCC Committee

TBD

Appendix B: Summary of Changes to the MMUCC Guideline, Fifth Edition (2017)

System Populated Data Elements

Element #	Element Name	Comments
NEW S1	State Unique Crash ID	• New data element
NEW S2	Agency Police Jurisdiction	• New data element
NEW S3	Police Reported/Citizen Reported	• New data element
NEW S4	State Reportable Crash (Y/N)	• New data element

Crash Data Elements

Element #	Element Name	Comments
Old C1	~~*Crash Identifier*~~	• Data element removed
Old C2	~~*Crash Classification*~~	• Data element removed
NEW C1 Old C3	Crash Date	• Revised element name: Crash Date ~~*and Time*~~ • Element moved from C3 to C1 • Revised element definition • Revised attributes and remarks • Revised subfield format • Revised validation rules
NEW C2	Crash Time	• New data element (previously C3 Crash Date and Time, Subfield 1) • New attributes and remarks • New highway safety rationale • New validation rules
NEW C3	Time of Roadway Clearance	• New data element (previously C3 Crash Date and Time, Subfield 2) • New attributes and remarks • New highway safety rationale • New validation rules
C4	County or Equivalent	• Revised element name: ~~*Crash*~~ County ***or Equivalent*** • Revised attributes • Revised remarks • Format changed from GSA Geographic Locator Codes to FIPS codes • Revised highway safety rationale • New implementation suggestions
Old C5	~~*Crash City/Place (Political Jurisdiction)*~~	• Data element removed
NEW C5 Old C6	Global Position (Latitude, Longitude)	• Revised element name: ~~*Crash Location*~~ ***Global Position (Latitude, Longitude)*** • Element moved from C6 to C5 • Revised element definition • Revised remarks • Revised highway safety rationale

Element #	Element Name	Comments
NEW C6 Old C7	First Harmful Event	• Revised element definition • Element moved from C7 to C6 • New and revised attributes and remarks • Revised highway safety rationale • New alignment rules
NEW C7 Old C8	Location of First Harmful Event Relative to the Trafficway	• Element moved from C8 to C7 • New and revised attributes and remarks • Revised highway safety rationale
NEW C8 Old C9	Manner of Collision of the First Harmful Event	• Revised element name: Manner of ~~*Crash/*~~Collision ~~*Impact*~~ ***of the First Harmful Event*** • Element moved from C9 to C8 • Revised element definition • Revised attributes and remarks • Revised highway safety rationale • New alignment rules
Old C10	~~*Source of Information*~~	• Data element moved to the System Populated Level (see S3. Police Reported/Citizen Reported)
NEW C9 Old C11	Atmospheric Conditions	• Revised element name: ~~*Weather*~~ ***Atmospheric*** Conditions • Element moved from C11 to C9 • Revised attributes and remarks • Revised highway safety rationale • Revised validation rules
NEW C10 Old C12	Light Condition	• Element moved from C12 to C10 • Revised element definition • Revised attributes and remarks • Revised highway safety rationale
Old C13	~~*Roadway Surface Condition*~~	• Data element moved to the Vehicle Level (see V30. Roadway Surface Condition)
NEW C11 Old C15	Relation to Junction	• Element moved from C15 to C11 • Revised element definition • Revised attributes and remarks • Revised highway safety rationale • Revised validation rules • New alignment rules
NEW C12 Old C16	Type of Intersection	• Element moved from C16 to C12 • Revised element definition • New format • Subfields removed • New attributes and remarks • Revised highway safety rationale • New implementation suggestions • New figure

Element #	Element Name	Comments
NEW C13 Old C17	School Bus-Related	• Element moved from C17 to C13 • New attributes and remarks • Revised highway safety rationale • New alignment rules
NEW C14 Old C18	Work Zone	• Revised element name: Work Zone~~-Related (Construction/Maintenance/Utility)~~ • Revised element definition • New attributes and remarks • Revised subfields • Revised highway safety rationale • New implementation suggestions • Revised validation rules • New alignment rules • New figure
NEW C15	Secondary Crash	• New data element (previously C2. Crash Classification, Subfield 3) • New attributes and remarks • New highway safety rationale • New validation rules
NEW C16 Old C14	Related Factors – Crash Level	• Revised element name: ~~Contributing Circumstances – Roadway Environment~~ ***Related Factors– Crash Level*** • Revised element definition • Revised attributes and remarks • Revised highway safety rationale • Revised validation rules • New figure • New alignment rules
Old C19	~~Crash Severity~~	• Data element removed
Old C20	~~Number of Motor Vehicles Involved~~	• Data element removed
Old C21	~~Number of Motorists~~	• Data element removed
Old C22	~~Number of Non-Motorists~~	• Data element removed
Old C23	~~Number of Non-Fatally Injured Persons~~	• Data element removed
Old C24	~~Number of Fatalities~~	• Data element removed
Old C25	~~Alcohol Involvement~~	• Data element removed
Old C26	~~Drug Involvement~~	• Data element removed
Old C27	~~Day of Week~~	• Data element removed

Vehicle Data Elements

Element #	Element Name	Comments
NEW V1	Motor Vehicle Number	• New data element (previously V2 Motor Vehicle Unit Type and Number) • New attributes and remarks • New highway safety rationale
NEW V2 Old V1	Vehicle Identification Number (VIN)	• Element moved from V1 to V2 • Revised attributes and remarks • Revised highway safety rationale • New implementation suggestions
NEW V3 Old V2	Motor Vehicle Unit Type	• Revised element name: Motor Vehicle Unit Type ~~*and Number*~~ • Element moved from V2 to V3 • Revised element definition • Revised attributes and remarks • Subfields removed • Revised highway safety rationale • Revised validation rules • New alignment rules
NEW V4	Vehicle Owner and Address	• New data element • New attributes and remarks • New highway safety rationale • New implementation suggestions
NEW V5 Old LV7	Motor Carrier or Responsible Entity Identification	• Revised element name: Motor Carrier ***or Responsible Entity*** Identification • Element moved from LV7 to V5 • Revised element definition • Revised subfields and format • Revised attributes and remarks • Revised highway safety rationale • New implementation suggestions • New validation rules
NEW V6	Type of Motor Carrier or Responsible Entity	• New data element (previously LV7 Motor Carrier Identification, Subfield 6) • New attributes and remarks • New highway safety rationale
NEW V7	Motor Carrier or Responsible Entity Name and Address	• New data element (previously LV7 Motor Carrier Identification, Subfields 4 and 5) • New attributes and remarks • New highway safety rationale • New implementation suggestions • New validation rules

Element #	Element Name	Comments
NEW V8 Old V3	Motor Vehicle Registration State	• Revised element name: Motor Vehicle Registration State ~~*and Year*~~ • Element moved from V3 to V8 • Subfields removed • New attributes and remarks • New highway safety rationale • New implementation suggestions
NEW V9 Old V4	Motor Vehicle License Plate Number	• Element moved from V4 to V9 • New attributes and remarks • Revised highway safety rationale
NEW V10 Old V5	Motor Vehicle Make	• Element moved from V5 to V10 • New attributes and remarks • Revised highway safety rationale
NEW V11 Old V6	Motor Vehicle Model Year	• Element moved from V6 to V11 • New attributes and remarks • Revised highway safety rationale
NEW V12 Old V7	Motor Vehicle Model	• Element moved from V7 to V12 • New attributes and remarks • Revised highway safety rationale
NEW V13 Old V8	Motor Vehicle Body Type Category	• Element moved from V8 to V13 • New and revised attributes and remarks • Subfields removed • New subfield added • Revised highway safety rationale
NEW V14	Power Unit Gross Vehicle Weight Rating (GVWR)	• New data element (previously V8 Motor Vehicle Body Type Category, Subfield 3) • New attributes and remarks • New highway safety rationale • New implementation suggestions
NEW V15 Old LV9	Cargo Body Type (Power Unit Only)	• Revised element name: Cargo Body Type ***(Power Unit Only)*** • Element moved from LV9 to V15 • New element definition • Revised attributes and remarks • New highway safety rationale • New implementation suggestions • New figure
NEW V16 Old LV10	Hazardous Materials Involvement	• Revised element name: Hazardous Materials ~~*(Cargo Only)*~~ ***Involvement*** • Element moved from LV10 to V16 • New subfields • New and revised attributes and remarks • Revised highway safety rationale • New implementation suggestions • New validation rules

Element #	Element Name	Comments
NEW V17	Vehicle Trailing	• New data element (previously V8 Motor Vehicle Body Type Category, Subfield 2) • New attributes and remarks • New highway safety rationale • New implementation suggestions
NEW V18 Old LV3	Trailer VIN(s)	• Element moved from LV3 to V18 • New and revised attributes and remarks • Revised highway safety rationale • New implementation suggestions
NEW V19	Trailer Body Type	• New data element • New attributes and remarks • New highway safety rationale • New implementation suggestions
NEW V20 Old V9	Total Occupants in Motor Vehicle	• Element moved from V9 to V20 • Revised element definition • New attributes and remarks • Revised highway safety rationale • Revised validation rules
NEW V21 Old V10	Special Use	• Revised element name: Special ***Use*** ~~*Function of Motor Vehicle In-Transport*~~ • Element moved from V10 to V21 • Revised element definition • New and revised attributes and remarks • Revised highway safety rationale
NEW V22	Bus Use	• New data element (previously within V10 Special Function of Motor Vehicle In-Transport) • New attributes and remarks • New highway safety rationale
NEW V23 Old V11	Emergency Response	• Revised element name: Emergency ***Response*** ~~*Motor Vehicle Use*~~ • Element moved from V11 to V23 • Revised element definition • New format with subfields added • Revised highway safety rationale • New implementation suggestions
NEW V24 Old V12	Motor Vehicle Posted/Statutory Speed Limit	• Element moved from V12 to V24 • Revised attributes and remarks • Revised highway safety rationale • Revised validation rules
Old V13	~~*Direction of Travel Before Crash*~~	• Data element removed
Old V14	~~*Trafficway Description*~~	• Data element removed

Element #	Element Name	Comments
NEW V25	Trafficway Flow	• New data element (previously part of V14 Trafficway Description) • New attributes and remarks • New highway safety rationale
NEW V26	Median Barrier Presence	• New data element (previously part of V14 Trafficway Description) • New attributes and remarks • New highway safety rationale
NEW V27 Old V15	Number of Open Lanes in Vehicle's Environment	• Revised element name: ~~*Total Lanes in Roadway*~~ ***Number of Open Lanes in Vehicle's Environment*** • Element moved from V15 to V27 • Revised element definition • Revised format • New attributes and remarks • Revised highway safety rationale
NEW V28 Old V16	Roadway Alignment	• Revised element name: Roadway Alignment ~~*and Grade*~~ • Element moved from V16 to V28 • Revised element definition • Subfields removed • New attributes and remarks • Revised highway safety rationale • New alignment rules
NEW V29	Roadway Grade	• New data element (previously V16 Roadway Alignment and Grade, Subfield 2) • New attributes and remarks • New figure • New highway safety rationale • New alignment rules
NEW V30	Roadway Surface Condition	• Element moved from the Crash Level to Vehicle Level • Revised element definition • New attributes and remarks • Revised highway safety rationale
NEW V31 Old V17	Traffic Control Device	• Revised element name: Traffic Control Device ~~*Type*~~ • Element moved from V17 to V31 • Revised element definition • New and revised attributes and remarks • Subfields removed • Revised highway safety rationale • New implementation suggestions
NEW V32	Device Functioning	• New data element (previously V17 Traffic Control Device Type, Subfield 2) • New attributes and remarks • New highway safety rationale

Element #	Element Name	Comments
NEW V33 Old V18	Vehicle Status Prior to Critical Event	• Revised element name: ~~*Motor Vehicle Maneuver/Action*~~ ***Vehicle Status Prior to Critical Event*** • Element moved from V18 to V33 • New and revised attributes and remarks • Revised highway safety rationale • New implementation suggestions
NEW V34 Old V19	Initial Contact Point	• Revised element name: ~~*Vehicle Damage*~~ ***Initial Contact Point*** • Element moved from V19 to V34 • Revised element definition • Subfields removed • Revised attributes and remarks • Revised highway safety rationale • New figure • New alignment rules
NEW V35	Damaged Areas	• New data element (previously V19 Vehicle Damage, Subfield 2) • New attributes and remarks • New highway safety rationale • New alignment rules
NEW V36	Extent of Damage	• New data element (previously V19 Vehicle Damage, Subfield 3) • New attributes and remarks • New highway safety rationale • New alignment rules
NEW V37 Old V20	Sequence of Events	• Element moved from V20 to V37 • New and revised attributes and remarks • Revised highway safety rationale • New alignment rules
NEW V38 Old V21	Most Harmful Event for this Motor Vehicle	• Element moved from V21 to V38 • New and revised attributes and remarks • Revised highway safety rationale
NEW V39 Old V22	Hit and Run	• Element moved from V22 to V39 • Revised attributes and remarks • Revised highway safety rationale • Revised validation rules • New alignment rules

Element #	Element Name	Comments
NEW V40 Old V23	Vehicle Towed	• Revised element name: ***Vehicle*** Towed ~~*Due to Disabling Damage*~~ • Element moved from V23 to V40 • Revised element definition • New and revised attributes and remarks • Revised highway safety rationale • New implementation suggestions • New alignment rules
NEW V41 Old V24	Contributing Circumstances, Motor Vehicle	• Element moved from V24 to V41 • Revised element definition • New and revised attributes and remarks • Revised highway safety rationale • New alignment rules
NEW V42	Vehicle Underride/Override	• New data element • New attributes and remarks • New highway safety rationale
NEW V43	Fire Occurrence	• New data element • New attributes and remarks • New highway safety rationale
NEW V44	Related Factors – Vehicle Level	• New data element • New attributes and remarks • New highway safety rationale

Driver Data Elements

Element #	Element Name	Comments
NEW D1	Driver Presence	• New data element • New attributes and remarks • New highway safety rationale • New implementation suggestions
NEW D2	Driver Address	• New data element • New attributes and remarks • New highway safety rationale • New implementation suggestions
NEW D3 Old P11	Driver License Jurisdiction	• Element moved from P11 to D3 • Revised element definition • New and revised attributes and remarks • Revised highway safety rationale • New implementation suggestions • New validation rules

Element #	Element Name	Comments
NEW D4 Old P12	Driver License Number	• Revised element name: Driver License Number~~, Class, CDL, and Endorsements~~ • Element moved from P12 to D4 • Subfields removed • New and revised attributes and remarks • Revised highway safety rationale
NEW D5 Old P13	Speeding-Related	• Element moved from P13 to D5 • New and revised attributes and remarks
NEW D6	Driver Distraction	• New data element (previously part of P18. Distracted By) • New attributes and remarks • New highway safety rationale
NEW D7 Old F1	Attempted Avoidance Maneuver	• Element moved from F1 to D7 • New and revised attributes and remarks • New highway safety rationale
NEW D8	Driver's Vision Obscured By	• New data element • New attributes and remarks • New highway safety rationale
NEW D9 Old P15	Violation Codes	• Element moved from P15 to D9 • Revised attributes and remarks • New implementation suggestions • Revised validation rules
NEW D10 Old P14	Related Factors – Driver Level	• Revised element name: ~~Driver Actions at Time of Crash~~ ***Related Factors – Driver Level*** • Element moved from P14 to D10 • Revised element definition • New and revised attributes and remarks • New highway safety rationale • New validation rules

Person Data Elements

Element #	Element Name	Comments
NEW P1	Person Number	• New data element • New attributes and remarks • New highway safety rationale • New implementation suggestions
NEW P2 Old P1	Name of Person Involved	• Element moved from P1 to P2 • New attributes and remarks • Revised highway safety rationale • New implementation suggestions • New alignment rules

Element #	Element Name	Comments
NEW P3 Old P2	Date of Birth	• Element moved from P2 to P3 • Revised element definition • Subfields removed • New subfields added • New attributes and remarks • Revised highway safety rationale • New implementation suggestions • New alignment rules
NEW P4 Old P3	Sex/Gender	• Revised element name: Sex***/Gender*** • Element moved from P3 to P4 • Revised element definition • New attributes and remarks • New highway safety rationale • New alignment rules
NEW P5 Old P4	Person Type	• Element moved from P4 to P5 • New and revised attributes and remarks • Subfields removed • New highway safety rationale
NEW P6	Special Function	• New data element (previously P4 Person Type, Subfield 2) • New attributes and remarks • New highway safety rationale
NEW P7 Old P5	Injury Status	• Element moved from P5 to P7 • Revised remarks • New highway safety rationale • New alignment rules
NEW P8 Old P24	Transported to First Medical Facility By	• Element moved from P24 to P8 • Revised element definition • Subfields removed • New and revised attributes and remarks • Revised highway safety rationale
NEW P9	EMS Response Agency	• New data element (previously P24 Transported to First Medical Facility By, Subfields 2 and 3) • New attributes and remarks • New highway safety rationale
NEW P10	Medical Facility Receiving Patient	• New data element (previously P24 Transported to First Medical Facility By, Subfield 4) • New attributes and remarks • New highway safety rationale
NEW P11 Old P6	Occupant's Motor Vehicle Unit Number	• Element moved from P6 to P11 • New remarks • Revised highway safety rationale

Element #	Element Name	Comments
NEW P12 Old P7	Seating Position	• Element moved from P7 to P12 • New format • New and revised attributes and remarks • New highway safety rationale • New figure • New alignment rules
NEW P13 Old P8	Restraint System Use	• Revised element name: Restraint System~~s~~ ***Use*** ~~*/ Motorcycle Helmet Use*~~ • Element moved from P8 to P13 • Revised element definition • New and revised attributes and remarks • New highway safety rationale • New implementation suggestions • New validation rules
NEW P14	Helmet Use	• New data element (previously part of P8 Restraint Systems/Motorcycle Helmet Use) • New attributes and remarks • New highway safety rationale • New implementation suggestions • New validation rules • New alignment rules
NEW P15 Old P9	Air Bag Deployed	• Element moved from P9 to P15 • New and revised attributes and remarks • Revised highway safety rationale • New alignment rules
NEW P16 Old P10	Ejection	• Element moved from P10 to P16 • Revised attributes and remarks • New highway safety rationale • New implementation suggestions • New alignment rules
Old P16	~~*Driver License Restrictions*~~	• Data element removed
Old P17	~~*Driver License Status*~~	• Data element removed
Old P18	~~*Distracted By*~~	• Data element removed
Old P19	~~*Condition at Time of the Crash*~~	• Data element removed
NEW P17 Old P20	Law Enforcement Suspects Alcohol Involvement	• Revised element name: Law Enforcement Suspects Alcohol ~~*Use*~~ ***Involvement*** • Element moved from P20 to P17 • Revised attributes and remarks • New highway safety rationale • New alignment rules

Element #	Element Name	Comments
NEW P18 Old P21	Alcohol Test	• Element moved from P21 to P18 • New and revised attributes and remarks • New highway safety rationale • New implementation suggestions • New validation rules • New alignment rules
NEW P19 Old P22	Law Enforcement Suspects Drug Involvement	• Revised element name: Law Enforcement Suspects Drug ~~*Use*~~ ***Involvement*** • Element moved from P22 to P19 • Revised attributes and remarks • New highway safety rationale • New alignment rules
Old P23	~~*Drug Test*~~	• Data element removed
Old P25	~~*Injury Area*~~	• Data element removed
Old P26	~~*Injury Diagnosis*~~	• Data element removed
Old P27	~~*Injury Severity*~~	• Data element removed

Roadway Data Elements

Element #	Element Name	Comments
Old R1	~~*Bridge/Structure Identification Number*~~	• Data element removed
Old R2	~~*Roadway Curvature*~~	• Data element removed
Old R3	~~*Grade*~~	• Data element removed
Old R4	~~*Part of National Highway System*~~	• Data element removed
Old R5	~~*Roadway Functional Class*~~	• Data element removed
Old R6	~~*Annual Average Daily Traffic*~~	• Data element removed
Old R7	~~*Widths of Lane(s) and Shoulder(s)*~~	• Data element removed
Old R8	~~*Width of Median*~~	• Data element removed
Old R9	~~*Access Control*~~	• Data element removed
Old R10	~~*Railway Crossing ID*~~	• Data element removed
Old R11	~~*Roadway Lighting*~~	• Data element removed
Old R12	~~*Pavement Markings, Longitudinal*~~	• Data element removed
Old R13	~~*Presence/Type of Bicycle Facility*~~	• Data element removed
Old R14	~~*Mainline Number of Lanes at Intersection*~~	• Data element removed
Old R15	~~*Cross Street Number of Lanes at Intersection*~~	• Data element removed
Old R16	~~*Total Volume of Entering Vehicles*~~	• Data element removed

Fatal Data Elements

Element #	Element Name	Comments
Old F1	~~*Attempted Avoidance Maneuver*~~	• Element moved to the Driver Level (see D7. Attempted Avoidance Maneuver)
Old F2	~~*Alcohol Test Type and Results*~~	• Data element removed
Old F3	~~*Drug Test Type and Results*~~	• Data element removed

Large Vehicle and Hazardous Materials Data Elements

Element #	Element Name	Comments
Old LV1	~~*CMV License Status and Compliance with CDL Endorsements*~~	• Data element removed
Old LV2	~~*Trailer License Plate Number*~~	• Data element removed
Old LV3	~~*Trailer VIN(s)*~~	• Data element moved to Vehicle Level (see V18. Trailer VIN(s))
Old LV4	~~*Trailer Make(s)*~~	• Data element removed
Old LV5	~~*Trailer Model(s)*~~	• Data element removed
Old LV6	~~*Trailer Model Year(s)*~~	• Data element removed
Old LV7	~~*Motor Carrier Identification*~~	• Data element moved to Vehicle Level (see V5. Motor Carrier or Responsible Entity Identification)
Old LV8	~~*Vehicle Configuration*~~	• Data element removed • Attributes incorporated into the Vehicle Level (see V13. Motor Vehicle Body Type Category)
Old LV9	~~*Cargo Body Type*~~	• Data element moved to Vehicle Level • Data element split between Power Unit and Trailing Units (see V15. Cargo Body Type (Power Unit Only) and V19. Trailer Body Type)
Old LV10	~~*Hazardous Materials (Cargo Only)*~~	• Data element moved to the Vehicle Level (see V16. Hazardous Materials Involvement)
Old LV11	~~*Total Number of Axles*~~	• Data element removed

Non-Motorist Data Elements

Element #	Element Name	Comments
NM1	Vehicle Number of Motor Vehicle Striking Non-Motorist	• Revised element name: ~~*Unit*~~ ***Vehicle*** Number of Motor Vehicle Striking Non-Motorist • Revised element definition • Revised attributes • New highway safety rationale
NM2	Non-Motorist Status Prior to Critical Event	• Revised element name: Non-Motorist ~~*Action/Circumstance*~~ ***Status*** Prior to ~~*Crash*~~ ***Critical Event*** • Revised element definition • Subfields removed • New and revised attributes and remarks • New highway safety rationale

Element #	Element Name	Comments
NEW NM3	Non-Motorist Distraction	• New data element (previously part of P18. Distracted By) • New attributes and remarks • New highway safety rationale
NEW NM4	Non-Motorist Contributing Circumstance(s)	• Revised element name: Non-Motorist Contributing ~~*Action(s)/*~~Circumstance(s) • Element moved from NM3 to NM4 • Revised element definition • New and revised attributes and remarks • New highway safety rationale
Old NM4	~~*Non-Motorist Location at Time of Crash*~~	• Data element removed
NEW NM5	Non-Motorist At Intersection	• New data element (previously part of NM4 Non-Motorist Location at Time of Crash) • New attributes and remarks • New highway safety rationale
NEW NM6	Non-Motorist In Crosswalk	• New data element (previously part of NM4 Non-Motorist Location at Time of Crash) • New attributes and remarks • New highway safety rationale
NEW NM7	Non-Motorist Specific Location	• New data element (previously part of NM4 Non-Motorist Location at Time of Crash) • New attributes and remarks • New highway safety rationale
NEW NM8 Old NM5	Non-Motorist Safety Equipment	• Element moved from NM5 to NM8 • New format with subfields • New attributes and remarks • New highway safety rationale
Old NM6	~~*Initial Contact Point on Non-Motorist*~~	• Data element removed
NEW NM9	Non-Motorist Device Type	• New data element • New subfields, attributes, and remarks • New highway safety rationale • New implementation suggestions • New validation rules
NEW NM10	Non-Motorist Traffic Control Device	• New data element • New attributes and remarks • New highway safety rationale

Dynamic Data Elements

Element #	Element Name	Comments
Old DV1	~~*Motor Vehicle Automated Driving System(s)*~~	• Data element removed • Attributes incorporated at the Vehicle Level (see V44. Related Factors – Vehicle Level)

Appendix C: Edit Rules

The following Edit Rules, arranged in alpha/numeric order, can greatly enhance quality control when implemented in an electronic crash data entry system. Edit rules are intended to help avoid coding errors and inaccuracy.

Edit Rule Identification

MMUCC Edit Rules have a unique identifier composed of a prefix and a 3-digit sequential number. The two prefixes used in MMUCC are "ER" for an Error Rule or "WR" for a Warning Rule.

- Violation of an error rule or "ER" indicates that the case contains one or more data elements with invalid values that must be corrected. An error rule or "ER" cannot be overridden in the system.

- Warning rules or "WR" are intended to inform the law enforcement officer that one or more data elements may contain invalid values, and those elements should be double-checked to confirm the information is correct. A Warning rule or "WR" can be overridden in the system if necessary.

MMUCC Edit Rules

Rule ID	Rule Language
ER.001	GLOBAL POSITION (LATITUDE, LONGITUDE) must be within the boundary of COUNTY OR EQUIVALENT.
ER.002	If FIRST HARMFUL EVENT = **Non-Motorist**, then at least one person record must have PERSON TYPE = **Bicyclist**; **Other Cyclist**; **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying**; **Pedestrian on Personal Conveyance**; **Pedestrian In/On a Building**; or **Unknown Type of Non-Motorist**.
ER.003	If FIRST HARMFUL EVENT = **Motor Vehicle In-Transport**, then MANNER OF COLLISION OF THE FIRST HARMFUL EVENT must = **Angle**; **Front to Front**; **Front-to-Rear or Rear-to-Front**; **Rear to Rear**; **Rear to Side or Side to Rear**; **Sideswipe, Opposite Direction**; **Sideswipe, Same Direction**; **Other**; or **Unknown**.
ER.004	If FIRST HARMFUL EVENT = **Parked Motor Vehicle**, then VEHICLE STATUS PRIOR TO CRITICAL EVENT must = **Parked** for at least one vehicle.
ER.005	If any SEQUENCE OF EVENTS = **Non-Motorist**, then VEHICLE NUMBER OF MOTOR VEHICLE STRIKING NON-MOTORIST, NON-MOTORIST STATUS PRIOR TO CRITICAL EVENT, NON-MOTORIST DISTRACTION, NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S), NON-MOTORIST AT INTERSECTION, NON-MOTORIST IN CROSSWALK, NON-MOTORIST SPECIFIC LOCATION, NON-MOTORIST SAFETY EQUIPMENT, NON-MOTORIST DEVICE TYPE, and NON-MOTORIST TRAFFIC CONTROL DEVICE must not = null.
ER.006	If FIRST HARMFUL EVENT does not = **Motor Vehicle In-Transport**, then MANNER OF COLLISION OF THE FIRST HARMFUL EVENT must = **The First Harmful Event was Not a Collision with a Motor Vehicle In-Transport**.
ER.007	FIRST HARMFUL EVENT must = a SEQUENCE OF EVENTS harmful event for at least one vehicle.

Rule ID	Rule Language
WR.001	If FIRST HARMFUL EVENT = **Cable Barrier**, **Concrete Traffic Barrier**, **Curb**, **Ditch**, **Embankment**, **Guardrail End**, **Guardrail Face**, **Guardrail End Treatment**, **Traffic Sign Support**, **Traffic Signal Support**, or **Utility Pole/Light Support**, then LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY should = **Gore**, **On Median**, **On Roadside**, **Separator**, or **Pedestrian Refuge Island or Traffic Island**.
ER.008	If FIRST HARMFUL EVENT = **Unknown** or **Harmful Event, Details Not Reported**, then MANNER OF COLLISION OF THE FIRST HARMFUL EVENT must = **Unknown**.
WR.002	If ATMOSPHERIC CONDITIONS = **Freezing Rain**, **Rain**, **Sleet or Hail**, or **Snow**, then ROADWAY SURFACE CONDITION should not = **Dry** for any vehicle record.
WR.003	If CRASH TIME = between 1800 and 0700 and months x to y, LIGHT CONDITION should = **Dawn**, **Dusk**, **Dark – Lighted**, **Dark – Not Lighted**, or **Dark – Unknown Lighting**. *Note: States should adjust the time period to fit their situation.*
WR.004	If CRASH TIME = between 0700 and 1500, and months x to y, LIGHT CONDITION should = **Daylight**. *Note: States should adjust the time period to fit their situations.*
ER.009	If LOCATION OF FIRST HARMFUL EVENT RELATIVE TO THE TRAFFICWAY = **In Parking Lane/Zone**, then RELATION TO JUNCTION Subfield 1, Within Interchange Area? must not = **Yes**.
ER.010	If TYPE OF INTERSECTION = **Not an Intersection**, then RELATION TO JUNCTION Subfield 2, Specific Location must not = **Intersection or Related**.
ER.011	If TYPE OF INTERSECTION equals **T-Intersection**, **Y-Intersection**, **L-Intersection**, **Four-Leg Intersection**, **Five-Leg, or More**, **Roundabout**, **Traffic Circle**, or **Other Intersection Type**, then RELATION TO JUNCTION Subfield 2, Specific Location must = **Intersection or Related**.
ER.012	If RELATION TO JUNCTION Subfield 2, Specific Location = **Non-Junction**, then TYPE OF INTERSECTION must = **Not an Intersection**
ER.013	If RELATION TO JUNCTION Subfield 2: Specific Location = **Intersection or Related**, then TYPE OF INTERSECTION Subfield 1 must = **T-Intersection**, **Y-Intersection**, **L-Intersection**, **Four-Leg Intersection**, **Five-Leg, or More**, **Roundabout**, **Traffic Circle**, or **Other Intersection Type**
WR.005	If BUS USE = **School** or **Childcare/Daycare** for at least 1 vehicle, then SCHOOL BUS-RELATED should = **Yes**.
WR.006	If FIRST HARMFUL EVENT = **Working Motor Vehicle**, then WORK ZONE Subfield 1 should = **Construction**, **Maintenance**, **Utility**, or **Work Zone, Type Unknown**, and Subfields 2, 3, 4, and 5 should not = **Not Applicable/Not Within or Related to a Work Zone**.
ER.014	If FIRST HARMFUL EVENT = **Motor Vehicle In-Transport**, then MOTOR VEHICLE UNIT TYPE must = **Motor Vehicle In-Transport** for at least two vehicles.
ER.015	If FIRST HARMFUL EVENT = **Parked Motor Vehicle**, then MOTOR VEHICLE UNIT TYPE must = **Parked Motor Vehicle** for at least one vehicle and **Motor Vehicle In-Transport** for at least one other vehicle.
ER.016	If FIRST HARMFUL EVENT = **Working Motor Vehicle**, then MOTOR VEHICLE UNIT TYPE must = **Working Motor Vehicle** for at least one vehicle **and Motor Vehicle In-Transport** for at least one other vehicle.

Rule ID	Rule Language
ER.017	If MOTOR VEHICLE UNIT TYPE = **Motor Vehicle In-Transport**, then VEHICLE STATUS PRIOR TO CRITICAL EVENT must not = **Parked** for the same vehicle.
ER.018	If MOTOR VEHICLE UNIT TYPE = **Parked Motor Vehicle**, then VEHICLE STATUS PRIOR TO CRITICAL EVENT must = **Parked** for the same vehicle.
WR.007	If MOTOR VEHICLE MODEL YEAR is not = **Unknown**, then MOTOR VEHICLE MODEL YEAR should not be greater than CRASH DATE Subfield 1: Year plus 1.
ER.019	If VEHICLE TRAILING = **No Trailers**, then TRAILER VIN(S) Subfield 1: First Trailer must = **No trailing units**; Subfield 2: Second Trailer must = **No trailing units**; and Subfield 3: Third Trailer must = **No trailing units**.
ER.020	If VEHICLE TRAILING = **One Trailer**, then TRAILER VIN(S) Subfield 1: First Trailer must = **No VIN Required, not a Vehicle for Road Use**; **Actual VIN Number**; or **Unknown (information unavailable)**; Subfield 2: Second Trailer must = **No trailing units**; and Subfield 3: Third Trailer must = **No trailing units**.
ER.021	If VEHICLE TRAILING = **Two Trailers**, then TRAILER VIN(S) Subfield 1: First Trailer must = **No VIN Required, not a Vehicle for Road Use**; **Actual VIN Number**; or **Unknown (information unavailable)**; Subfield 2: Second Trailer must = **No VIN Required, not a Vehicle for Road Use**; **Actual VIN Number**; or **Unknown (information unavailable)**; and Subfield 3: Third Trailer must = **No trailing units**.
ER.022	If VEHICLE TRAILING = **Three Trailers**, then TRAILER VIN(S) Subfield 1: First Trailer must = **No VIN Required, not a Vehicle for Road Use**; **Actual VIN Number**; or **Unknown (information unavailable)**; Subfield 2: Second Trailer must = **No VIN Required, not a Vehicle for Road Use**; **Actual VIN Number**; or **Unknown (information unavailable)**; and Subfield 3: Third Trailer must = **No VIN Required, not a Vehicle for Road Use**; **Actual VIN Number**; or **Unknown (information unavailable)**.
ER.023	If VEHICLE TRAILING = **No Trailers**, then TRAILER BODY TYPE Subfield 1: First Trailer must = **No Trailer**; Subfield 2 must = **No Trailer**; and Subfield 3: Third Trailer must = **No Trailer**.
ER.024	If VEHICLE TRAILING = **One Trailer**, then TRAILER BODY TYPE Subfield 1: First Trailer must not = **No Trailer**; Subfield 2 must = **No Trailer**; and Subfield 3: Third Trailer must = **No Trailer**.
ER.025	If VEHICLE TRAILING = **Two Trailers**, then TRAILER BODY TYPE Subfield 1: First Trailer must not = **No Trailer**; Subfield 2 must not = **No Trailer**; and Subfield 3: Third Trailer must = **No Trailer**.
ER.026	If VEHICLE TRAILING = **Three Trailers**, then TRAILER BODY TYPE Subfield 1: First Trailer must not = **No Trailer**; Subfield 2 must not = **No Trailer**; and Subfield 3: Third Trailer must not = **No Trailer**.
WR.008	If SCHOOL BUS-RELATED = **Yes**, then SPECIAL USE should = **Vehicle Used for School Transport** for at least one vehicle.
WR.009	If SCHOOL BUS-RELATED = **Yes**, then BUS USE should = **School** or **Childcare/Daycare** for at least one vehicle.
ER.027	If MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1: Body Type Category = **Passenger Van**, **School Bus**, **Transit Bus**, **Motorcoach**, or **Other Large Passenger or Bus**; then BUS USE must = **Childcare/Daycare**; **School**; **Intercity**; **Charter/Tour**; **Transit/Commuter**; **Shuttle**; **Personal Use**; **Bus, Unknown Use**; or **Unknown**.

Rule ID	Rule Language
ER.028	If EMERGENCY RESPONSE Subfield 1: Engaged in Emergency Response = **Yes**, then SPECIAL USE must = **Fire Truck**, **Military**, **Ambulance**, **Law Enforcement**, **Other Emergency Services Vehicle**, **Safety Service Patrols – Incident Response**, **Towing - Incident Response**, or **Other Incident Response**.
WR.010	If CRASH DATE Subfield 2: Month = **May**, **June**, **July**, **August**, or **September**, then ROADWAY SURFACE CONDITION should not = **Ice/Frost**, **Slush**, or **Snow**. *Note: States should adjust the months to fit their situations.*
ER.029	If VEHICLE STATUS PRIOR TO CRITICAL EVENT = **Parked**, then MOTOR VEHICLE UNIT TYPE must = **Parked Motor Vehicle**.
ER.030	If DAMAGED AREAS = **No Damage**, then EXTENT OF DAMAGE must = **No Damage**.
WR.011	If any SEQUENCE OF EVENTS = **Traffic Sign Support** for any vehicle, then TRAFFIC CONTROL DEVICE should = **Stop Sign**; **Yield Sign**; **Railroad Crossing Sign**; **School Zone Sign/Device**; **Work Zone Reduced Speed Limit**; **Warning Sign (Not Railroad Crossing)**; **Other Regulatory Sign (Explain in Narrative)**; **or Regulatory Sign, Type Unknown** for at least one vehicle.
WR.012	If any SEQUENCE OF EVENTS = **Traffic Signal Support** for any vehicle, then TRAFFIC CONTROL DEVICE should = **Traffic Control Signal**; **Flashing Traffic Control Signal**; **Lane Use Control Signal**; **Railroad Flashing-Light Signal with Gates**; **Railroad Flashing-Light Signal without Gates**; **Other Traffic Signal**; or **Unknown Traffic Signal** for at least one vehicle.
ER.031	If any SEQUENCE OF EVENTS = **Non-Motorist**, then at least one person record must have PERSON TYPE = **Bicyclist**; **Other Cyclist**; **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying**; **Pedestrian on Personal Conveyance**; **Pedestrian In/On a Building**; or **Unknown Type of Non-Motorist**.
ER.032	If MOTOR VEHICLE UNIT TYPE = **Motor Vehicle In-Transport** for this vehicle and any SEQUENCE OF EVENTS = **Motor Vehicle In-Transport**, then there must be at least one other vehicle record with MOTOR VEHICLE UNIT TYPE = **Motor Vehicle In-Transport**.
ER.033	If MOTOR VEHICLE UNIT TYPE = **Motor Vehicle In-Transport** for this vehicle and any SEQUENCE OF EVENTS = **Parked Motor Vehicle**, then there must be at least one other vehicle record with MOTOR VEHICLE UNIT TYPE = **Parked Motor Vehicle**.
ER.034	If MOTOR VEHICLE UNIT TYPE = **Motor Vehicle In-Transport** for this vehicle and any SEQUENCE OF EVENTS = **Working Motor Vehicle**, then there must be at least one other vehicle record with MOTOR VEHICLE UNIT TYPE = **Working Motor Vehicle**.
ER.035	If SEQUENCE OF EVENTS includes only one harmful event for this vehicle, then MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE must = that same harmful event.
ER.036	If any SEQUENCE OF EVENTS = **Cross Centerline**, then TRAFFICWAY FLOW must = **Two-Way** or **Two-Way with a Continuous Left-Turn Lane** and MEDIAN BARRIER PRESENCE must equal **Not Applicable (no median, e.g., centerline, two-way left-turn lane)** for this vehicle.
ER.037	If any SEQUENCE OF EVENTS = **Cross Median**, then TRAFFICWAY FLOW must = **Two-Way** and MEDIAN BARRIER PRESENCE must equal **Median Without a Traffic Barrier (e.g., grass, vegetation, painted > 4', flush, curb)** or **Median With Traffic Barrier (e.g., guardrail, cable barrier, concrete barrier)**.

Rule ID	Rule Language
ER.0038	If MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE = **Non-Motorist**, then PERSON TYPE must = **Bicyclist**; **Other Cyclist**; **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying**; **Pedestrian on Personal Conveyance**; **Pedestrian In/On a Building**; or **Unknown Type of Non-Motorist** for at least one person record.
ER.039	At least one SEQUENCE OF EVENTS for this vehicle must = the MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE.
ER.040	The MOST HARMFUL EVENT FOR THIS MOTOR VEHICLE must = at least one SEQUENCE OF EVENTS for this vehicle.
ER.041	If PERSON TYPE = **Bicyclist**, **Other Cyclist**, **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying**; **Pedestrian on Personal Conveyance**; **Pedestrian In/On a Building**, **Occupant of a Non-Motor Vehicle Transport Device**, or **Unknown Type of Non-Motorist,** then VEHICLE NUMBER OF MOTOR VEHICLE STRIKING NON-MOTORIST, NON-MOTORIST STATUS PRIOR TO CRITICAL EVENT, NON-MOTORIST DISTRACTION, NON-MOTORIST CONTRIBUTING CIRCUMSTANCE(S), NON-MOTORIST AT INTERSECTION, NON-MOTORIST IN CROSSWALK, NON-MOTORIST SPECIFIC LOCATION, NON-MOTORIST SAFETY EQUIPMENT, NON-MOTORIST DEVICE TYPE, and NON-MOTORIST TRAFFIC CONTROL DEVICE must not = null.
ER.042	If PERSON TYPE = **Driver of a Motor Vehicle In-Transport, Passenger of a Motor Vehicle In-Transport**, or **Unknown Occupant Type in a Motor Vehicle in-Transport**, then MOTOR VEHICLE UNIT TYPE must = **Motor Vehicle In-Transport** for the vehicle number identified in OCCUPANT'S MOTOR VEHICLE UNIT NUMBER.
ER.043	If PERSON TYPE = **Occupant of Motor Vehicle Not In-Transport**, then MOTOR VEHICLE UNIT TYPE must = **Parked Motor Vehicle** or **Working Motor Vehicle** for the vehicle number identified in OCCUPANT'S MOTOR VEHICLE UNIT NUMBER.
WR.013	If SEATING POSITION = **Enclosed Passenger or Cargo Area**, then MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1, Body Type Category should = **Limo**, **Passenger Van**, **School Bus**, **Transit Bus**, **Motorcoach**, or **Other Large Passenger or Bus.**
ER.044	If MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1, Body Type Category = **Moped**, **2-Wheeled Motorcycle**, **3-Wheeled Motorcycle, All-Terrain Vehicle/All-Terrain Cycle (ATV/ATC)**, or **Snowmobile** for the vehicle in OCCUPANT'S MOTOR VEHICLE UNIT NUMBER, then RESTRAINT SYSTEM USE must = **None Used/Not Applicable**.
ER.045	If RESTRAINT SYSTEM USE subfield 1: Type of Restraint System in Use = **Booster Seat**, **Child Restraint System – Forward Facing**, **Child Restraint System – Rear Facing**, **Child Restraint – Type Unknown**, **Shoulder and Lap Belt Used**, **Lap Belt Only Used**, **Shoulder Belt Only Used**, **Racing-Style Harness Used**, or **Restraint Used – Type Unknown**, then MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1: Body Type Category must = **Passenger Car**; **Sport Utility Vehicle**; **Mini-Van/Van (up to 8 seats)**; **Motor Home/Recreational Vehicle**; **Limo**; **Passenger Van**; **School Bus**; **Transit Bus**; **Motorcoach**; **Other Large Passenger or Bus**; **Cargo Van**; **Pickup Truck**; **Single-Unit Truck (2 axles and GVWR > 10,000 lbs.)**; **Single-Unit Truck (3 or more axles)**; **Truck Tractor, with or without trailers (Bobtail, Semi, Doubles, Triples)**; **Truck, Unknown Type**; **Construction Equipment (backhoe, bulldozer, forklift, etc.)**; **Farm Equipment (tractor, combine harvester, etc.)**; **Golf Cart**; **Recreational Off-Highway Vehicles (ROV)**; **Low Speed Vehicle**; **Autocycle**; or **Other** for the vehicle identified in OCCUPANT'S MOTOR VEHICLE UNIT NUMBER.

Rule ID	Rule Language
ER.046	If MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1: Body Type Category = **Passenger Car**; **Sport Utility Vehicle**; **Mini-Van/Van (up to 8 seats)**; **Motor Home/Recreational Vehicle**; **Limo**; **Passenger Van**; **School Bus**; **Transit Bus**; **Motorcoach**; **Other Large Passenger or Bus**; **Cargo Van**; **Pickup Truck**; **Single-Unit Truck (2 axles and GVWR > 10,000 lbs.)**; **Single-Unit Truck (3 or more axles)**; **Truck Tractor, with or without trailers (Bobtail, Semi, Doubles, Triples)**; **Truck, Unknown Type**; **Construction Equipment (backhoe, bulldozer, forklift, etc.)**; or **Farm Equipment (tractor, combine harvester, etc.)** for the vehicle in OCCUPANT'S MOTOR VEHICLE UNIT NUMBER, then HELMET USE Subfield 1: Helmet Use must = **Not Applicable** and HELMET USE Subfield 2: Indication of Helmet Misuse must = **None Used/Not Applicable**.
ER.047	If MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1: Body Type Category = **All-Terrain Vehicle/All-Terrain Cycle (ATV/ATC)**, **Snowmobile**, **Moped**, **2-Wheeled Motorcycle**, or **3-Wheeled Motorcycle** for the vehicle identified in OCCUPANT'S MOTOR VEHICLE UNIT NUMBER, then HELMET USE Subfield 1: Helmet Use must = **No Helmet**; **DOT-Compliant Motorcycle Helmet**; **Helmet, Other than DOT-Compliant Motorcycle Helmet**; **Helmet, Unknown If DOT-Compliant**; or **Unknown if Helmet Worn**.
WR.014	If any AIR BAG DEPLOYED = **Curtain**; **Front**; **Side (door, seatback)**; **Other (knee, air belt, etc.)**; **Combination**; **Deployed-Unknown Location**; or **Deployment Unknown**; then MOTOR VEHICLE MODEL YEAR should be greater than 1997 for the vehicle identified in OCCUPANT'S MOTOR VEHICLE UNIT NUMBER.
WR.015	If any AIR BAG DEPLOYED = **Curtain**; **Front**; **Side (door, seatback); Other (knee, air belt, etc.)**; **Combination**; **Deployed-Unknown Location**; or **Deployment Unknown**, then SEATING POSITION should = **Front Row, Left Side**; **Front Row, Right Side**; **Second Row, Left Side**; **Second Row, Right Side**; **Third Row, Left Side**; or **Third Row, Right Side**.
ER.048	If AIR BAG DEPLOYED = **Front**, then SEATING POSITION must = **Front Row, Left Side**; **Front Row, Middle**; **Front Row, Right Side**; **Front Row, Other**; or **Front Row, Unknown**.
ER.049	If MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1, Body Type Category = **Moped**, **2-Wheeled Motorcycle**, or **3-Wheeled Motorcycle** for the vehicle in OCCUPANT'S MOTOR VEHICLE UNIT NUMBER, then EJECTION must = **Not Applicable**.
ER.050	If EJECTION = **Not Ejected**, **Partially Ejected**, or **Totally Ejected**, then SEATING POSITION must not = **Riding on Exterior of Vehicle (non-trailing unit)** or **Appended to a Motor Vehicle for Motion**.
WR.017	If SPEEDING-RELATED = **Yes, Exceeded Speed Limit**, then MOTOR VEHICLE POSTED/STATUTORY SPEED LIMIT should not = **Not Applicable** or **Unknown**.
ER.051	If RELATED FACTORS - DRIVER LEVEL = **Not Applicable (No Driver)**, then ATTEMPTED AVOIDANCE MANEUVER must = **No Driver Present/Unknown if Driver Present**.
ER.052	If ATTEMPTED AVOIDANCE MANEUVER = **Lay Down Motorcycle**, then MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1: Body Type Category must = **2-Wheeled Motorcycle** for this vehicle.
ER.053	If SPEEDING-RELATED = **Yes, Racing**; **Yes, Exceeded Speed Limit**; **Yes, Too Fast for Conditions**; or **Yes, Specifics Unknown**, then VIOLATIONS CODES must not = **None** or **Unknown**.

Rule ID	Rule Language
WR.018	If LAW ENFORCEMENT SUSPECTS ALCOHOL INVOLVEMENT = **Yes (Alcohol Involved),** then ALCOHOL TEST Subfield 1: Test Status should = **Test Given**.
ER.054	If MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1: Body Type Category = **School Bus**, **Transit Bus**, or **Motorcoach**, then CARGO BODY TYPE (POWER UNIT ONLY) must = **Bus**.
WR.019	If NON-MOTORIST CONTRIBUTING CIRCUMSTANCES(S) = **Dart/Dash**, then NON-MOTORIST STATUS PRIOR TO CRITICAL EVENT should = **Crossing Roadway**.
ER.055	If NON-MOTORIST CONTRIBUTING CIRCUMSTANCES(S) = **Improper Passing** or **Improper Turn/Merge**, then PERSON TYPE must = **Bicyclist**, **Other Cyclist**, **Pedestrian on Personal Conveyance**, **Occupant of a Non-Motor Vehicle Transport Device**, or **Unknown Type of Non-Motorist**.
ER.056	If NON-MOTORIST CONTRIBUTING CIRCUMSTANCES(S) = **Distracted**, then NON-MOTORIST DISTRACTION must = **Mobile Electronic Device Related** or **Other Distractions**.
ER.057	If NON-MOTORIST AT INTERSECTION = **Yes** and FIRST HARMFUL EVENT = **Non-Motorist**, then TYPE OF INTERSECTION must = **T-Intersection**, **Y-Intersection**, **L-Intersection**, **Four-Leg Intersection**, **Five-Leg, or More**, **Roundabout**, **Traffic Circle**, or **Other Intersection Type** and RELATION TO JUNCTION Subfield 2, Specific Location must = **Intersection or Related**.
ER.058	If NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type = **None (No Device)**, then PERSON TYPE must = **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying** or **Pedestrian In/On a Building**.
ER.059	If PERSON TYPE = **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying** or **Pedestrian In/On a Building**, then NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type must = **None (No Device)**.
ER.060	If NON-MOTORIST DEVICE TYPE, Subfield 2: Device Motorization = **Not Applicable**, then PERSON TYPE must = **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying**; **Pedestrian In/On a Building**; **Occupant of a Non-Motor Vehicle Transport Device**; or **Unknown Type of Non-Motorist**.
ER.061	If PERSON TYPE = **Pedestrian Walking, Running, Jogging, Hiking, Sitting, Lying**; **Pedestrian In/On a Building**; **Occupant of a Non-Motor Vehicle Transport Device**; or **Unknown Type of Non-Motorist**, then NON-MOTORIST DEVICE TYPE, Subfield 2: Device Motorization must = **Not Applicable**.
ER.062	If PERSON TYPE = **Unknown Type of Non-Motorist**, then NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type must = **Unknown if Non-Motorist was Operating a Device**.
ER.063	If NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type = **Unknown if Non-Motorist was Operating a Device**, then PERSON TYPE must = **Unknown Type of Non-Motorist**.
ER.064	If NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type = **Bicycle**, then PERSON TYPE must = **Bicyclist**.
ER.065	If PERSON TYPE = **Bicyclist**, then NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type must = **Bicycle**.
ER.066	If NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type = **Other Cycle**, then PERSON TYPE must = **Other Cyclist**.
ER.067	If PERSON TYPE = **Other Cyclist**, then NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type must = **Other Cycle**.

Rule ID	Rule Language
ER.068	If NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type = **Ridden Animal or Animal Drawn Conveyance** or **Railroad Vehicle or Road Vehicle on Rails**, then PERSON TYPE must = **Occupant of a Non-Motor Vehicle Transport Device**.
ER.069	If PERSON TYPE = **Occupant of a Non-Motor Vehicle Transport Device**, then NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type must = **Ridden Animal or Animal Drawn Conveyance** or **Railroad Vehicle or Road Vehicle on Rails**.
ER.070	If NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type = **Wheelchair or Other Mobility Aid Device**, **Skates**, **Skateboard**, **Self-Balancing Board**, **Scooter (Standing or Seated)**, **Personal Conveyance, Other**, or **Personal Conveyance, Unknown Type**, then PERSON TYPE must = **Pedestrian on Personal Conveyance**.
ER.071	If PERSON TYPE = **Pedestrian on Personal Conveyance**, then NON-MOTORIST DEVICE TYPE, Subfield 1: Device Type must = **Wheelchair or Other Mobility Aid Device**, **Skates**, **Skateboard**, **Self-Balancing Board**, **Scooter (Standing or Seated)**, **Personal Conveyance, Other**, or **Personal Conveyance, Unknown Type**.
WR.020	If MODEL YEAR is greater than 1981, then VEHICLE IDENTIFICATION NUMBER (VIN) should be 17 characters.
ER.072	If TRANSPORTED TO FIRST MEDICAL FACILITY BY = **Not Transported for Treatment**, then EMS RESPONSE AGENCY Subfields 1 and 2 and MEDICAL FACILITY RECEIVING PATIENT must = null.
ER.073	If MOTOR CARRIER OR RESPONSIBLE ENTITY IDENTIFICATION Subfield 1: US DOT Number = an actual number or Subfield 2: MC/MX (ICC) Number = an actual number, then TYPE OF MOTOR CARRIER OR RESPONSIBLE ENTITY must equal **Interstate Motor Carrier** or **Intrastate Motor Carrier**.
ER.074	If POWER UNIT GROSS VEHICLE WEIGHT RATING (GVWR) = **Light (10,000 lbs. or less GVWR)** and HAZARDOUS MATERIALS INVOLVEMENT Subfields 1 and 2 both = **No**, then CARGO BODY TYPE (POWER UNIT ONLY) must = **Not Applicable (Motor Vehicle 10,000 lbs. or less, not displaying Hazardous Material placard)**.
ER.075	If POWER UNIT GROSS VEHICLE WEIGHT RATING (GVWR) = **Medium (10,001 – 26,000 lbs. GVWR)** or **Heavy (Greater than 26,000 lbs. GVWR)**, then CARGO BODY TYPE (POWER UNIT ONLY) must not = **Not Applicable (Motor Vehicle 10,000 lbs. or less, not displaying Hazardous Material placard)**.
ER.076	If POWER UNIT GROSS VEHICLE WEIGHT RATING (GVWR) = **Medium (10,001 – 26,000 lbs. GVWR)** or **Heavy (Greater than 26,000 lbs. GVWR)** and MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1 = **Pickup Truck**, then CARGO BODY TYPE (POWER UNIT ONLY) must = **Other (carrying capability not listed, pickup 10,001 lbs. or more, etc.)**.
ER.077	If MOTOR VEHICLE BODY TYPE CATEGORY Subfield 1 = **Truck Tractor, with or without trailers (Bobtail, Semi, Doubles, Triples)**, then CARGO BODY TYPE (POWER UNIT ONLY) must = **No Cargo Body (bobtail, fire truck, tow truck, light Motor Vehicle with hazardous materials placard, etc.)**.
ER.078	If VEHICLE TRAILING = **Vehicle Towing Another Motor Vehicle – Fixed Linkage** or **Vehicle Towing Another Motor Vehicle – Non-Fixed Linkage**, then at least one TRAILER BODY TYPE Subfield must = **Towed Vehicle**.

Appendix D: MMUCC Standard Data Elements

The following is a complete list of the data elements included in the MMUCC Guideline Sixth Edition data standard and used to assess State alignment.

Identifier	Data Element Name
S1	State Unique Crash ID
S2	Agency (Police Jurisdiction)
S3	Police Reported/Citizen Reported
S4	State Reportable Crash (Y/N)
C1	Crash Date
C2	Crash Time
C3	Time of Roadway Clearance
C4	County or Equivalent
C5	Global Position (Latitude, Longitude)
C6	First Harmful Event
C7	Location of First Harmful Event Relative to the Trafficway
C8	Manner of Collision of the First Harmful Event
C9	Atmospheric Conditions
C10	Light Condition
C11	Relation to Junction
C12	Type of Intersection
C13	School Bus-Related
C14	Work Zone
C15	Secondary Crash
C16	Related Factors – Crash Level
V1	Motor Vehicle Number
V2	Vehicle Identification Number (VIN)
V3	Motor Vehicle Unit Type
V4	Vehicle Owner and Address
V5	Motor Carrier or Responsible Entity Identification
V6	Type of Motor Carrier or Responsible Entity
V7	Motor Carrier or Responsible Entity Name and Address
V8	Motor Vehicle Registration State
V9	Motor Vehicle License Plate Number
V10	Motor Vehicle Make
V11	Motor Vehicle Model Year
V12	Motor Vehicle Model
V13	Motor Vehicle Body Type Category
V14	Power Unit Gross Vehicle Weight Rating (GVWR)
V15	Cargo Body Type (Power Unit Only)
V16	Hazardous Materials Involvement
V17	Vehicle Trailing
V18	Trailer VIN(s)
V19	Trailer Body Type
V20	Total Occupants in Motor Vehicle

Identifier	Data Element Name
V21	Special Use
V22	Bus Use
V23	Emergency Response
V24	Motor Vehicle Posted/Statutory Speed Limit
V25	Trafficway Flow
V26	Median Barrier Presence
V27	Number of Open Lanes in Vehicle's Environment
V28	Roadway Alignment
V29	Roadway Grade
V30	Roadway Surface Condition
V31	Traffic Control Device
V32	Device Functioning
V33	Vehicle Status Prior to Critical Event
V34	Initial Contact Point
V35	Damaged Areas
V36	Extent of Damage
V37	Sequence of Events
V38	Most Harmful Event for this Motor Vehicle
V39	Hit and Run
V40	Vehicle Towed
V41	Contributing Circumstances, Motor Vehicle
V42	Vehicle Underride/Override
V43	Fire Occurrence
V44	Related Factors – Vehicle Level
D1	Driver Presence
D2	Driver Address
D3	Driver License Jurisdiction
D4	Driver License Number
D5	Speeding-Related
D6	Driver Distraction
D7	Attempted Avoidance Maneuver
D8	Driver's Vision Obscured by
D9	Violation Codes
D10	Related Factors – Driver Level
P1	Person Number
P2	Name of Person Involved
P3	Date of Birth
P4	Sex/Gender
P5	Person Type
P6	Special Function
P7	Injury Status
P8	Transported to First Medical Facility by
P9	EMS Response Agency
P10	Medical Facility Receiving Patient
P11	Occupant's Motor Vehicle Unit Number

Identifier	Data Element Name
P12	Seating Position
P13	Restraint System Use
P14	Helmet Use
P15	Air Bag Deployed
P16	Ejection
P17	Law Enforcement Suspects Alcohol Involvement
P18	Alcohol Test
P19	Law Enforcement Suspects Drug Involvement
NM1	Vehicle Number of Motor Vehicle Striking Non-Motorist
NM2	Non-Motorist Status Prior to Critical Event
NM3	Non-Motorist Distraction
NM4	Non-Motorist Contributing Circumstance(s)
NM5	Non-Motorist At Intersection
NM6	Non-Motorist In Crosswalk
NM7	Non-Motorist Specific Location
NM8	Non-Motorist Safety Equipment
NM9	Non-Motorist Device Type
NM10	Non-Motorist Traffic Control Device

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Table 1: § 172.504 General placarding requirements, paragraph €. Placarding Tables. Table 1 and **Table 2: § 172.504 General placarding requirements, paragraph €. Placarding Tables. Table 2** – Source: **§ 172.504 General placarding requirements, paragraph (e). Placarding Tables.**

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