



PROPOSED CHANGES FOR MMUCC 6TH EDITION

Abstract

This document outlines the disposition of the proposed changes and technical corrections presented during the 2019 Traffic Records Forum in Austin, TX.

Questions, Comments or Proposed Changes?
Please email c/o Sarah Pascual and the Traffic Records Team at
TrafficRecordsTeam@dot.gov

Introduction

The Model Minimum Uniform Crash Criteria (MMUCC) is a successful collaboration between the Governors Highway Safety Association (GHSA) and the National Highway Traffic Safety Administration (NHTSA). MMUCC outlines a voluntary, minimum set of standardized data elements for describing motor vehicle crashes that promotes comparability of data within the highway safety community. It can provide a uniform foundation for State crash systems and generate the information necessary to improve highway safety.

Since GHSA and NHTSA published the first edition of MMUCC in 1998, regular updates have increased the standardization of crash data across the United States as technology and State capacities have evolved. The last update was published in July 2017 as the 5th Edition and posted publicly by August 1, 2017.

Since the publication of the 5th Edition of the MMUCC Guideline, the NHTSA Traffic Records Team has kept track of comments, proposed changes and technical corrections to be presented annually at the Traffic Records Forum. All potential changes are organized into two groups:

1. Technical Corrections – changes under this category include typos, errors and omissions (including missing index page numbers or incorrect terminology from definition to rationale), etc.
2. Proposed Changes – changes under this category include proposed changes to existing (5th Edition) content, removal of existing content and new content.
3. Evaluated Content – these are previously proposed corrections or changes that were reviewed and voted by attendees during a Traffic Records Forum. The results of each vote are included and are *Approved for consideration* or *Rejected*. Approved content will be kept for consideration during the 6th Edition update; while rejected content will be dropped.

This document provides additional detail and background information on the proposed changes and technical corrections and is a companion document to the MMUCC 5th Edition PDF with the changes incorporated.

Note: Proposed changes that garner sufficient support will be kept for consideration during the MMUCC 6th Edition update process.

Any additional changes/requests can be sent c/o Sarah Pascual at TrafficRecords@dot.gov

I. 2020 Technical Corrections

No technical corrections have been provided for the 2020 Review of the MMUCC 5th Edition.

DRAFT

II. 2020 Proposed Changes

No proposed changes have been provided for the 2020 Review of the MMUCC 5th Edition.

DRAFT

III. 2019 Technical Corrections

The following changes were discussed during the 2019 Traffic Records Forum. The MMUCC session was attended by 53 attendees, who considered each proposed change.

1. (APPROVED) Potential Conflict Between Definition and Edit Checks in “C9. Manner of Crash/Collision Impact.”

(Submitted by NISR) This user believes there is a conflict between the definition of the element and the attribute, *00 Not a Collision Between Two Motor Vehicles*.

Note the green definition highlight indicates the vehicles have to be “in-transport”. In the 4th edition, this element only applied to a collision between two motor vehicles in-transport (that is also how it is done in FARS/CRSS). I think I recall discussion about this changing to any collision between two motor vehicles regardless of transport status. That is what is implied by the attribute and edit checks.

This would affect the edit checking and there is a typo in the edit checks. “Motor Vehicle In Operation” is probably supposed to be “Motor Vehicle In **Transport**”.

2019 TRF Discussion

The discussion did not appear to come to a consensus as to the intention of the element. In future revisions of MMUCC, the guideline needs to clarify if it is associated with just the First Harmful Event of the crash. If the element *can* include any two vehicle collisions in the First Harmful Event instead of just a two-vehicle collision involving motor vehicles in-transport, clarify that a person can use the MMUCC element Unit Type and Number to identify “Motor Vehicle in Transport” (MVIT) into MVIT from MVIT into Parked, or MVIT into Working Motor Vehicle.

The working group **APPROVED** the changes for consideration with one person opposed.

C9. Manner of Crash/Collision Impact

Definition The identification of the manner in which **two motor vehicles in transport** initially came together without regard to the direction of force. This data element refers only to crashes where the first harmful event involves a collision between two motor vehicles in transport. See “Figure 2: Manner of Collision and Associated Crash Diagrams” (p. 17) for a diagram of the manner of collision.

Attribute Values:

00 Not a Collision Between Two Motor Vehicles

01 Angle

Select 1

Edit Checks:

- E(C)09.01 If "C7. First Harmful Event" does not = 11 (Motor Vehicle in Operation) or 14 (Parked Motor Vehicle) then "C9. Manner of Crash/Collision Impact" must be blank.
- E(C)09.02 If "C7. First Harmful Event" = 11 (Motor Vehicle in Operation) or 14 (Parked Motor Vehicle) then "C9. Manner of Impact" must contain values and must not = 00 (Not a Collision Between Two Motor Vehicles).
- E(C)09.03 If "C7. First Harmful Event" = 40 (Unknown) then "C9. Manner of Crash/Collision Impact" must = 99 (Unknown).

From FARS/CRSS manual:

Codes	Attributes
00	Not a Collision with a Motor Vehicle In-Transport
01	Front-to-Rear
02	Front-to-Front
06	Angle
07	Sideswipe-Same Direction
08	Sideswipe-Opposite Direction
09	Rear-to-Side
10	Rear-to-Rear
11	Other
98	Not Reported
99	Reported as Unknown

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.

IV. 2019 Evaluated Changes

The following changes were discussed during the 2019 Traffic Records Forum. The MMUCC session was attended by 53 attendees, who considered each proposed change.

1. **(APPROVED)** Add Missing Glossary Definitions

In the MMUCC 4th Edition, a limited number of definitions were included, and element definitions were only found within the element entries throughout the document. During the MMUCC 5th Edition update, the expert panel decided to add all element and attribute definitions used throughout the guideline to the glossary to complete it. During that process, not all attributes were defined and added to the glossary. This proposed change seeks to add the following attribute definitions to the glossary.

Definitions are taken from the ANSI D16.1 (2017), FARS 2018 Manual, the 2009 Manual on Uniform Traffic Control Devices, AAMVA D20 and other sources where available. The group approved, in general, proposing to add missing terms to the glossary. As part of the review for this meeting, NHTSA asked to approve all definitions featured within the proposed changes document. NHTSA did state that a panel of subject matter experts (SME) will review the definitions prior their addition into the next version of MMUCC. The working group **APPROVED** the changes for consideration. The session participants discussed a subset of the items in detail in the 2019 TRF Discussion and Additional Considerations section.

"Curve Ahead" Warning Sign is a warning sign that alerts road users to curve conditions that might call for a reduction of speed or an action in the interest of safety and efficient traffic operations.

Source: 2009 MUTCD

"Intersection Ahead" Warning Sign is a warning sign used in advance of an intersection to indicate the presence of an intersection and the possibility of turning or entering traffic.

Source: 2009 MUTCD

"Reduced Speed Limit Ahead" Warning Sign is a warning sign used to inform road users of a reduced speed zone where the speed limit is being reduced by more than 10 mph, or where engineering judgment indicates the need for advance notice to comply with the posted speed limit ahead.

Proposed change/technical correction:

According to MUTCD, the old sign "Reduced Speed Ahead" is no longer recognized. The only allowable sign is W3-5, "Reduced Speed Limit Ahead"

and looks like this: https://mutcd.fhwa.dot.gov/htm/2009/part2/fig2c_07_longdesc.htm

Recommend modifying attribute 08 to reflect the updated MUTCD warning sign:

08 "Reduced Speed Limit Ahead" Warning Sign

Source: 2009 MUTCD

15-Passenger Van [Body Type Category] is a box shaped vehicle designed to move 15 passengers. These vehicles are identifiable by their enclosed cargo/passenger area and relatively short (or non-existent) hood.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

9- or 12-Passenger Van [Body Type Category] is a box shaped vehicle designed to move 9 - 12 passengers. These vehicles are identifiable by their enclosed cargo/passenger area and relatively short (or non-existent) hood.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

AADT (Year) is the year of AADT.

Source: MMUCC Technical Edits Team

AC 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”). AC Test Performed, Results Unknown can be used for any Test Type.

Source: 2018 FARS CRSS Coding and Validation Manual

Access Control is the degree that access to abutting land in connection with a highway is fully, partially, or not controlled by public authority.

Source: MMUCC 5th Edition

Adjacent to Roadway (e.g., Shoulder, Median) means the non-motorist was not in the roadway but in an area immediately adjacent to the roadway (e.g., median, shoulder, sidewalk, pedestrian refuge, traffic island, etc.) immediately prior to the crash.

Source: 2018 FARS CRSS Coding and Validation Manual

Alcohol Interlock Device is required in the motor vehicle.

Source: <https://www.nh.gov/safety/divisions/dmv/driver-licensing/apply/classifications.htm>

Alcohol Interlock Present indicates if an alcohol interlock is installed in the vehicle.

Source: MMUCC Technical Edits Team

All Areas [Location of Damaged Area(s)] describes all areas of the vehicle have been damaged as a result of the collision.

Source: MMUCC Technical Edits Team

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 handle bars for steering (no steering wheel)

Source: 2018 MMUCC Proposed Changes Document

Ambulance [Special Function] is used for any readily identifiable (lights or markings) vehicles designed to transport sick or injured persons. The ambulance is presumed to be in special use at all times, although not necessarily in “emergency use.”

Source: 2018 FARS CRSS Coding and Validation Manual

Angled/Skewed is an intersection where two or more roads meet at non-perpendicular angles (excludes roundabouts/traffic circles).

Source: None

Animal (live) 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 Animal (live) if it cannot be determined if the struck animal is alive, dead, or if it was being ridden or drawing a transport device.

Source: 2018 MMUCC Proposed Changes Document

Any Indication of Improper Use indicates any mis-use of the restraint system or helmet used by this person.

Source: 2018 FARS CRSS Coding and Validation Manual

Apparently Normal [Condition at Time of the Crash] is used when there is no indication of impairment.

Source: MMUCC Technical Edits Team

BAC Test Result is the result of a Blood Alcohol Concentration (BAC) test.

Source: MMUCC Technical Edits Team

Bicycle Crossing Sign is a vehicular traffic warning sign used to alert road users to locations where unexpected entries into the roadway by bicyclists might occur.

Source: 2009 MUTCD

Bicycle Facility is any road, path, or way that is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Source: Definition for Presence/Type of Bicycle Facility

Bicyclist** is any person on a two-wheel, non-motorized cycle. This includes all persons (operator and passengers) on a bicycle and a person being pulled by a bicycle (e.g., in a wagon or bike trailer).

Source: 2018 FARS CRSS Coding and Validation Manual

Blood is also called “Whole” blood test where blood is drawn to be tested.

Source: Maine Crash Reporting Manual (2018)

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

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Brakes are a component that slows or stops the rotation of the wheels. This includes the parking brake.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Breath includes evidential breathalyzer or a Pre-Arrest Breath Test (PBT).

Source: Maine Crash Reporting Manual (2018)

Breath Test (AC) is used if the result is from an evidential breath test (a breath test performed on a State-approved breath test device). Usually, results from a Preliminary Breath Test (PBT) device are not considered evidential.

Source: 2018 FARS CRSS Coding and Validation Manual

Bus - Charter/Tour [Special Function] 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.

Source: 2018 MMUCC Proposed Changes Document

Bus - Intercity [Special Function] is used when a company provides for-hire, long-distance passenger transportation between cities over fixed routes with regular schedules (e.g., bus service between major cities).

Source: 2018 MMUCC Proposed Changes Document

Bus - Other [Special Function] is used when large passenger transportation whose special function does not align with the define bus special functions.

Source: MMUCC Technical Edits Team

Bus - School (Public or Private) [Special Function] is used for vehicles that meet the definition of a bus and are being used by a public or private school or district, or contracted carrier operation on behalf of the entity, providing transport for school children (up to the 12th grade) to/from school (public or private), or any other school function or activity.

Source: 2018 MMUCC Proposed Changes Document

Bus - Shuttle [Special Function] is used when private companies provide transportation services for their own employees, non-governmental organizations (such as religious organizations and non-profit groups), and non-educational units of government (such as departments of corrections). (Examples include buses/nine-passenger vans transporting people from airports, hotels, rental car companies, and business facility to facility.)

Source: MMUCC Technical Edits Team

Bus - Transit/Commuter [Special Function] is 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.)

Source: MMUCC 5th Edition

Canceled or Denied [Driver License Status] is used whenever the driver's official driver record indicates the driver's license (1) was canceled; or (2) the driver's request for license, or an extension of one, was denied.

Source: 2018 FARS CRSS Coding and Validation Manual

Cargo/Equipment Loss or Shift is a non-collision harmful event, the loss or shift of items carried on or in a motor vehicle or its trailing unit, would have to cause damage and/or injury to the vehicle, its occupants, or the cargo itself.

Source: 2018 FARS CRSS Coding and Validation Manual

CDL Intrastate Only occurs when the driver is only allowed to drive within the state that issued them the CDL. No interstate driving of a commercial vehicle is allowed with this restriction.

Source: <https://cdltrainingspot.com/8-most-common-cdl-restriction-codes-and-what-they-mean/>

Centerline Presence/Type means the presence and type of centerline. Centerline markings are yellow pavement markings that delineate the separation of traffic lanes that have opposite directions of travel on a roadway.

Source: 2009 MUTCD

Centerline With Centerline Rumble Strip means the centerline is located over longitudinal rumble strips.

Source: MMUCC Technical Edits Team

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, or booster, etc.) is not known.

Source: 2018 FARS CRSS Coding and Validation Manual

Child Restraint System – Forward Facing is used when a child passenger is seated in a forward-facing child safety seat. This does not imply correct use or placement of the seat.

Source: 2018 FARS CRSS Coding and Validation Manual

Child Restraint System – Rear Facing is used when a child passenger is seated in a rearward facing child safety seat. This does not imply correct use or placement of the seat.

Source: 2018 FARS CRSS Coding and Validation Manual

City/Place Name is the name of the city/place (political jurisdiction) in which a crash occurred. A geographic location code (GLC) is an alphanumeric code that Federal agencies use to identify

geographic location. Use of these codes facilitates the interchange of data between Federal agencies, state and local groups.

Source: <https://www.gsa.gov/reference/geographic-locator-codes-glcs-overview>

Civilian is used when the person completing the crash report is a civilian or any off-duty law enforcement officer.

Source: MMUCC Technical Edits Team

Clear includes partial cloudiness if sunlight is not diminished.

Source: 2018 MMUCC Proposed Changes Document

Cloudy usually refers to “overcast” but may include partial cloudiness if light is diminished.

Source: 2018 MMUCC Proposed Changes Document

Collector serves a critical role in the roadway network by gathering traffic from Local Roads and funneling them to the Arterial network. Within the context of functional classification, Collectors are broken down into two categories: Major Collectors and Minor Collectors. Generally, Major Collector routes are longer in length; have lower connecting driveway densities; have higher speed limits; are spaced at greater intervals; have higher annual average traffic volumes; and may have more travel lanes than their Minor Collector counterparts.

Source: Highway Functional Classification: Concepts, Criteria and Procedures, 2013 Edition.

https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf

Collision With Fixed Object is any motor vehicle crash event involving a collision with a fixed object.

Source: None

Collision With Person, Motor Vehicle, or Non-Fixed Object is a motor vehicle in transport strikes a non-motorist, motor vehicle, or other non-fixed object including railway vehicles, animals, and construction equipment.

Source: None

Combination of Tank Vehicle and Hazardous Materials [Endorsements] is an endorsement that may be issued to any driver who qualifies for both the N (Tank Vehicle) and H (Hazardous Materials) endorsements.

Source: AAMVA D20

Construction Equipment (backhoe, bulldozer, etc.) refers to construction equipment other than trucks propelled by a motor (e.g., bulldozer, road grader, etc.).

Source: 2018 MMUCC Proposed Changes Document

Continuous Lighting on Both Sides is a fixed overhead lighting system designed to provide a specific level of illuminance, luminance and uniformity of light on both sides of the roadway where the crash occurs.

Source: FHWA Lighting Handbook

August 2012.

https://safety.fhwa.dot.gov/roadway_dept/night_visib/lighting_handbook/pdf/fhwa_handbook2012.pdf

Continuous Lighting on One Side is a fixed overhead lighting system designed to provide a specific level of illuminance, luminance and uniformity of light on one side of the roadway where the crash occurs.

Source: FHWA Lighting Handbook

August 2012.

https://safety.fhwa.dot.gov/roadway_dept/night_visib/lighting_handbook/pdf/fhwa_handbook2012.pdf

Corrective Lenses means the license holder must wear corrective lenses when driving (glasses/contacts)

Source: <https://www.dmv.pa.gov/Driver-Services/Driver-Information/License-Types/Pages/default.aspx>

County Name is the name of the county in which a crash occurred. A geographic location code (GLC) is an alphanumeric code that Federal agencies use to identify geographic location. Use of these codes facilitates the interchange of data between Federal agencies, state and local groups.

Source: <https://www.gsa.gov/reference/geographic-locator-codes-glcs-overview>

Cross Centerline describes when a vehicle crosses over the centerline of a two-way, undivided highway. The centerline must be delineated with paint or raised markers. This is also used for unstabilized situations involving vehicles that depart from their initial travel lane(s) and enter the continuous left-turn lane, having a harmful event that is located within the marked boundaries of the continuous left-turn lane. This attribute also applies to vehicles that traverse the continuous left-turn lane area, having a harmful event that is located in the opposing travel lane(s)

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Cross Median describes when a vehicle departs its roadway and traverses the median and enters the shoulder or travel lanes on the opposite side of a divided highway.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Crossing Roadway means the non-motorist was moving across or in the travel lanes with the goal of crossing the roadway immediately prior to the crash.

Source: 2018 FARS CRSS Coding and Validation Manual

Curve Left is a transition between two tangent strips of road allowing a vehicle to negotiate a turn veering left.

Source: MMUCC Technical Edits Team

Curve Radius is the radius of horizontal curves.

Source: MIRE 2.0

Curve Right is a transition between two tangent strips of road allowing a vehicle to negotiate a turn veering right.

Source: MMUCC Technical Edits Team

Dawn/Dusk describes two periods within each day. Dawn is the transition period going from “dark of night” to a daylight condition. This is typically the 30-minute period before the sun rises. Dusk describes the transition period going from a daylight condition to the “dark of night.” This is typically the 30-minute period after the sun sets.

Source: 2018 MMUCC Proposed Changes Document

Day (DD) indicates the day (DD) a crash occurred or the day of birth.

Source: None

Direction of Slope identifies upgrades in the direction of traveling as plus (+) and downgrades are identified as minus (-).

Source: MMUCC Technical Edits Team

Disabled Vehicle-Related (Working on, Pushing, Leaving/Approaching) means the non-motorist was outside of a disabled vehicle for any reason and includes pushing the vehicle, working on the vehicle, and leaving or approaching the vehicle, etc.

Source: Iowa Investigating Officer's Crash Reporting Guide, adapted.

<https://iowadot.gov/mvd/driverslicense/InvestigatingOfficersCrashReportingGuide.pdf>

Disqualified (CDL) is used for commercial drivers who have their CDL privilege taken away for violations against the federal regulations.

Source: 2018 FARS CRSS Coding and Validation Manual

Disregarded Other Road Markings occurs when the driver failed to obey other painted roadway markings such as crosswalks, turn lanes etc.

Source: Maine Crash Reporting Manual (2018)

Disregarded Other Traffic Sign occurs when the driver failed to obey traffic signs, such as yield signs, and other regulatory or advisory signs. This does not include stop signs.

Source: Maine Crash Reporting Manual (2018)

Ditch includes any man-made structure for drainage purposes. A ditch ends where a culvert begins and resumes on the opposite side of the culvert.

Source: 2018 MMUCC Proposed Changes Document

Divided Trafficways describes a trafficway with through lanes in both directions. This excludes auxiliary lanes.

Source: MMUCC Technical Edits Team

Divided, depressed median Need a definition

Source: MMUCC Technical Edits Team

Divided, Flush Median (Greater than 4ft wide) describes when the trafficway is physically divided, however, the division is unprotected with pavement marking greater than 4 feet.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Divided, Raised Median (curbed) describes when the trafficway is physically divided and channelized with the use of a curb.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Double/Triple Trailers [Endorsements] are required for the operation of any vehicle that would be referred to as a double or triple.

Source: AAMVA D20

Downhill describes a section of roadway where the inclination in the travel direction is negative.

Source: MMUCC Technical Edits Team

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

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Driveway Access [Non-Motorist Location at Time of Crash] 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.

Source: 2018 FARS CRSS Coding and Validation Manual

Driveway Access or Related Driveway Access is used when a traffic crash 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, pedalcyclist, or pedestrian) is physically on the driveway access within the trafficway. Driveway Access Related is used when a traffic crash occurs on the trafficway or 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.

Source: 2018 FARS CRSS Coding and Validation Manual

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.

Source: 2018 MMUCC Proposed Changes Document

Eastbound [Direction of Travel Before Crash] is the lane that a vehicle travels that is in the general direction east. The general direction of travel may not match the compass direction.

Source: MMUCC Technical Edits Team

Edgeline Presence/Type means the presence and type of edgeline. Edgeline markings are white or yellow pavement marking lines that delineate the right or left edge(s) of a traveled way.

Source: 2009 MUTCD, adapted

Emotional (depressed, angry, disturbed, etc.) is used when the person is arguing with someone, is having a disagreement, is depressed, and/or is emotionally upset.

Source: 2018 FARS CRSS Coding and Validation Manual

EMS [Type of Incident Responder] provides the triage, treatment, and transport of crash victims

Source: FHWA Traffic Incident Management Site

EMS Air is used when any injured person is transported to a healthcare facility by medical helicopter, propeller aircraft or jet aircraft.

Source: MMUCC Technical Edits Team

EMS Ground is used when the driver or injured party is transported by ambulance or other medical ground service.

Source: Iowa Investigating Officer's Crash Reporting Guide (2015)

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.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Endorsements are any provision on a driver license (not a permit) which authorize the operation of specified types of vehicles or the operation of vehicles carrying specified loads. Endorsements are specific to classifications of a driver license.

Source: MMUCC Technical Edits Team

Entering Traffic Lane is used when this vehicle was moving forward and entering from the left or right into a traffic lane.

Source: MMUCC Technical Edits Team

Entering/Exiting Parked/Standing Vehicle occurs when a pedestrian was adjacent to a vehicle and in the process of getting into or had just exited that vehicle that is parked or the engine is running but the vehicle is not moving. This does not include crashes involving pedestrians performing other actions such as crossing the roadway to/from a parked vehicle or other movements that occurred after the pedestrian exited the vehicle.

Source: 2018 FARS CRSS Coding and Validation Manual, Iowa Investigating Officer's Crash Reporting Guide

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

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Except Class A and Class B Bus prohibits driving a class A or B passenger vehicle

Source: <https://www.dmv.pa.gov/Driver-Services/Driver-Information/License-Types/Pages/default.aspx>

Except Class A Bus prohibits driving a class A passenger vehicle.

Source: <https://www.dmv.pa.gov/Driver-Services/Driver-Information/License-Types/Pages/default.aspx>

Except Tractor-Trailer prohibits driving a vehicle with pintail hook trailers only.

Source: <https://www.nh.gov/safety/divisions/dmv/driver-licensing/commercial/classifications.htm>

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.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Expired [Driver License Status] is used if the driver license (with no GDL restrictions) is expired.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

External (to vehicle/non-motorist area) is used when the driver or non-motorist was distracted by an outside person, object, or event prior to realization of impending danger. Examples include animals on the roadside, a previous crash, or non-traffic related signs (e.g., advertisements, electronic billboards, etc.). Do not use this attribute for a person, object, or event that the driver has recognized and for which the driver has taken some action (e.g., avoiding a pedestrian on the

roadway).

Source: 2018 FARS CRSS Coding and Validation Manual

Failure to Obey Traffic Signs, Signals, or Officer means the non-motorist failed to obey a traffic control device. Examples include: person does not obey traffic signs, traffic control devices (including pedestrian signals), traffic officers, or safety zones; or passes around railroad gates.

Source: 2018 FARS CRSS Coding and Validation Manual

Failure to Yield Right-Of-Way means 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 which stopped at the stop sign, but did not realize it was a two way stop rather than a 4-way stop control and proceeded into the intersection without yielding to traffic on the through trafficway.

Source: 2018 FARS CRSS Coding and Validation Manual

Farm Equipment (tractor, combine harvester, etc.) refers to farming implements other than trucks propelled by a motor.

Source: 2018 MMUCC Proposed Changes Document

Farm Vehicle is used when a truck or truck tractor is exclusively used for agricultural purposes. Examples include pick-up trucks, grain trucks, tanker trucks and cattle trucks.

Source: PennDot, modified

Farm Waiver is for operators of a farm vehicle, is available in some States when that vehicle—

1. Controlled and operated by a farmer, including operation by employees or family members,
2. Used to transport either agricultural products, farm machinery, farm supplies, or both to or from a farm,
3. Not used in the operations of a for-hire motor carrier, except for an exempt motor carrier, and,
4. Used within 241 kilometers (150 miles*) of the farmer's farm.

Source: Farm, Ranch, and Agricultural Transportation Exemption Reference Guide (FMCSA)https://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/docs/regulations/hours-service/elds/396526/agricultural-reference-guide_0.pdf

Female

Source: MMUCC Technical Edits Team

Fence includes the fence posts. A Fence can be made of wood, chain link, stone, etc.

Source: 2018 MMUCC Proposed Changes Document

Fire [Type of Incident Responder] provide aid by fighting fires, but also rescuing those involved in crashes from vehicles, and controlling chemical spills.

Source: FHWA Traffic Incident Management Site

Fire Truck [Special Function] is used for any readily identifiable (lights or markings) vehicles specially designed and equipped to respond to fire, hazmat, medical, and extrication incidents. 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.”

Source: 2018 MMUCC Proposed Changes Document

Flashing Railroad Crossing Signal describes an active traffic control system that informs road users of the approach or presence of rail traffic at grade crossings. These systems include four-quadrant gate systems, automatic gates, flashing-light signals, traffic control signals, actuated blank-out and variable message signs, and other active traffic control devices.

Source: 2009 MUTCD

Fog, Smog, Smoke refers to a natural or man-made condition that causes reduced visibility.

Source: 2018 MMUCC Proposed Changes Document

Going to or from School (K-12) includes any non-motorist of primary and secondary school age and/or accompanying adult traveling to or from school for any reason. Examples include normal school attendance, school sports activities or any school-related extracurricular activities.

Source: 2018 FARS CRSS Coding and Validation Manual

Going to or from Transit is a non-motorist who is entering or exiting any form of transit. This can include transit rail stations, bus stops and/or transit buses, transit hubs, etc.

Source: MMUCC Technical Edits Team

Hand-Held Mobile Phone is use of the mobile phone without using Bluetooth devices, wired attachments, or vehicle-integrated activity. The user was actively using the mobile phone while holding it with hands or clothing. Use includes any function available, including talking/listening, texting, playing games, etc.

Source: MMUCC Technical Edits Team

Hands-Free Mobile Phone is use of the mobile phone through Bluetooth devices or wired attachments. Vehicle-integrated activity is excluded. The user was actively using the mobile phone without holding it with hands or clothing. Use includes any function available including talking/listening, texting, play games, etc.

Source: MMUCC Technical Edits Team

Hazardous Materials [Endorsements] is required for the operation of any vehicle transporting hazardous materials requiring placarding, as defined by U.S. Department of Transportation regulations.

Source: AAMVA D20

Highway/ Maintenance is used when any vehicle whose function is designed to perform maintenance or conduct improvements to a roadway.

Source: MMUCC Technical Edits Team

Hillcrest describes where the curve connects to a downhill section of roadway.

Source: MMUCC Technical Edits Team

Ice/Frost includes a roadway covered with ice from freezing rain or water runoff that has pooled on the roadway and turned to ice.

Source: 2018 MMUCC Proposed Changes Document

Ill (sick), Fainted is used even if the source of the illness or loss of consciousness is alcohol or drug related. Also use this attribute if the driver or non-motorist had fainted and/or seizures were identified.

Source: 2018 FARS CRSS Coding and Validation Manual

Immersion, Full or Partial occurs when a motor vehicle enters a body of water and results in injury or damage.

Source: 2018 FARS CRSS Coding and Validation Manual

Improper Backing occurs when the driver improperly backed the vehicle in the roadway.

Source: 2018 FARS CRSS Coding and Validation Manual

Improper Passing occurs when the driver completed or was making an improper passing maneuver. Examples include passing on the right, passing a stopped school bus or passing where prohibited.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Improper Passing means the non-motorist made an improper passing maneuver. The non-motorist may be passing a motor vehicle or another non-motorist. Actions include passing on the right, and where prohibited by signs, pavement markings, or a stopped school bus, (i.e., mainly violations as designated by traffic controls).

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Improper Turn occurs when the driver completed or was making a turn that was improper, unsafe, poorly executed or prohibited.

Source: 2018 FARS CRSS Coding and Validation Manual

Improper Turn/Merge means the non-motorist made an improper turn or merge. 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.

Source: 2018 FARS CRSS Coding and Validation Manual

In Roadway Improperly (Standing, Lying, Working, Playing) occurs when a person have been in the roadway improperly including standing, lying, working, and playing. Examples include playing in the road before the vehicle arrived; working in the road other than because of the requirement of his/her job, (e.g., someone walking backwards into the roadway with a snow blower or lawn care equipment); 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.

Source: 2018 FARS CRSS Coding and Validation Manual

Inattentive (Talking, Eating, etc.) occurs when a person is inattentive, lost in thought or distracted. Examples include using any electronic devices (cell phone, video game, e-reader), using earbuds on a music player while jogging, chatting with a neighbor, caring for a baby in a stroller, admiring a garden, etc.

Source: 2018 FARS CRSS Coding and Validation Manual

Intersection – Marked Crosswalk is used when the non-motorist is in that portion of a roadway at an intersection that is distinctly indicated for pedestrian crossing by lines or other markings on the surface of the roadway. It includes shared-use path crossings but not crosswalks located in mid-blocks.

Source: 2018 FARS CRSS Coding and Validation Manual

Intersection – Other is used when the non-motorist is at an intersection, but not in a crosswalk area (marked or unmarked).

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Intersection – Unmarked Crosswalk is used when the non-motorist is “at intersection” 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 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, there are no crosswalks.

Source: 2018 FARS CRSS Coding and Validation Manual

Interstate is the highest classification of Arterials and is designed and constructed with mobility and long-distance travel in mind. Roadways in this functional classification category are officially designated as Interstates by the Secretary of Transportation, and all routes that comprise the Dwight D. Eisenhower National System of Interstate and Defense

Highways belong to the Interstate functional classification category and are considered Principal Arterials.

Source: Highway Functional Classification: Concepts, Criteria and Procedures, 2013 Edition.

https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classification/fcauab.pdf

Interstate Carrier is a motor carrier that performs trade, traffic, or transportation in one or more of the following ways:

1. Between a place in a state and a place outside of such state (including a place outside of the United States)
2. Between two places in a state through another state or a place outside of the United States
3. Between two places in a state as part of trade, traffic, or transportation originating or terminating outside the state or the United States

Source: FMCSA

Intrastate Carrier is a motor carrier that performs trade, traffic, or transportation exclusively in their business's domicile state.

Source: MMUCC Technical Edits Team

Lane Closure [Type of Work Zone] is the closure of a travel lane in one direction on a State highway for a construction project.

Source: Colorado DOT Analysis Report

Lane Shift/Crossover [Type of Work Zone] Involves the partial closure of one side of a freeway during construction where traffic is shifted to the other side of the freeway.

Source: FHWA Work Zone Management Site

Lane Use Control Signal describes special overhead signals that permit or prohibit the use of specific lanes of a street or highway or that indicate the impending prohibition of their use. Lane-use control signals are distinguished by placement of special signal faces over a certain lane or lanes of the roadway and by their distinctive shapes and symbols. Supplementary signs are sometimes used to explain their meaning and intent.

Source: MMUCC Technical Edits Team

Lane Width is widths (in feet) of the lane(s) where crash occurred.

Source: R7 Body

Large Limo [Body Type Category] refers to an automobile that has sections added within its wheelbase to increase length and passenger/cargo carrying capacity.

Source: MMUCC Technical Edits Team

Latitude helps to identify the geographic location of the crash. Expressed in degrees, Minutes, and Seconds of Latitude.

Source: 2018 FARS CRSS Coding and Validation Manual

Law Enforcement [Source of Transport to First Medical Facility] is used when law enforcement officer is taking the driver or injured party to a medical facility due to injuries. This is not to be used when making tests for alcohol or drugs.

Source: Iowa Investigating Officer's Crash Reporting Guide (2015)

Law Enforcement Agency is used when the person completing the crash report is an on-duty law enforcement officer.

Source: MMUCC Technical Edits Team

Left (usually the motor vehicle or motorcycle driver except for postal vehicles and some foreign vehicles) [Seat] is the leftmost seat of the row.

Source: MMUCC Technical Edits Team

Left Shoulder Width is the existing left shoulder width. This width shall be measured from the outer edge of the left-most through lane to the left-most edge of the inside shoulder. Do not include parking or bicycle lanes in the shoulder width measurement; code the predominant width where it changes back and forth along a roadway section; include rumble strips and gutter pans in shoulder width.

Source: HPMS

Length [Roadway Curvature] is the length of curve including spiral.

Source: MIRE 2.0

Level describes a section of roadway where the degree of inclination is zero.

Source: MMUCC Technical Edits Team

License Number is an alphanumeric identifier assigned by the authorizing jurisdiction (State, foreign country, U.S. government, Indian Nation, etc.).

Source: MMUCC Technical Edits Team

Lights describes any component that emits visible light for improved visibility or signaling mounted to the vehicle.

Source: MMUCC Technical Edits Team

Limited to Daylight Only occurs when the driver of a motor vehicle is only allowed to operate during daylight hours.

Source: <https://www.nh.gov/safety/divisions/dmv/driver-licensing/apply/classifications.htm>

Limited to Employment is intended for drivers who are gainfully employed and have no alternative means of transportation to or from work. Operation for work related activities are allowed. Operation is not allowed for activities beyond the scope of work

Source:

<https://www.maine.gov/sos/bmv/forms/SPECIAL%20RESTRICTED%20LICENSE%20APPLICATION%20FOR%2015%20YEAR%20OLDS.pdf>

Limited-Other is intended for a driver of a motor vehicle that has limitations that are not either daylight only or employment.

Source: MMUCC Technical Edits Team

Local is not intended for use in long distance travel, except at the origin or destination end of the trip, due to their provision of direct access to abutting land. Local Roads are often classified by default. In other words, once all Arterial and Collector roadways have been identified, all remaining roadways are classified as Local Roads.

Source: Highway Functional Classification: Concepts, Criteria and Procedures, 2013 Edition.

https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf

Longitude helps to identify the geographic location of the crash. Expressed in degrees, Minutes, and Seconds of Longitude.

Source: 2018 FARS CRSS Coding and Validation Manual

Mail Carrier [Special Function] is used with any vehicle that is defined to distribute mail.

Source: MMUCC Technical Edits Team

Mailbox refers to a private residence mail/newspaper box including the post. A cluster of private mailboxes is included in this attribute. This element does not include U.S. Mailbox, which are typically blue and are for general public use. Code a U.S. Mailbox as Other Fixed Object (wall, building, tunnel, etc.).

Source: 2018 MMUCC Proposed Changes Document

Major Collector

serve a critical role in the roadway network by gathering traffic from Local Roads and funneling them to the Arterial network. Within the context of functional classification, Collectors are broken down into two categories: Major Collectors and Minor Collectors. Generally, Major Collector routes are longer in length; have lower connecting driveway densities; have higher speed limits; are spaced at greater intervals; have higher annual average traffic volumes; and may have more travel lanes than their Minor Collector counterparts.

Source: Highway Functional Classification: Concepts, Criteria and Procedures, 2013 Edition.

https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf

Making U Turn is a 180-degree turn made by a vehicle that was moving forward in the trafficway.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Male

Source: MMUCC Technical Edits Team

Marked Bicycle Lane are bicycle lanes that are designated with pavement markings (i.e. painted bicycle lanes or arrows that direct bicyclists in the direction of travel).

Source: MN Bicycling Handbook <https://www.bikemn.org/education/minnesota-bicycling-handbook/bicycle-road-markings-a-signs>

Mechanical Devices (special brakes, hand controls, or other adaptive devices) is a mechanical aid and is required to operate a motor vehicle.

Source: <https://www.nh.gov/safety/divisions/dmv/driver-licensing/apply/classifications.htm>

Median/Crossing Island occurs when the non-motorist is in a median or crossing island, which excludes crosswalk areas that pass through a median, crossing or traffic island. Median is an area of trafficway between parallel roads separating travel in opposite directions and should be four or more feet wide. Crossing Island is a cement or grassy area in the middle of a trafficway.

Source: 2018 FARS CRSS Coding and Validation Manual

Midblock – Marked Crosswalk occurs when the non-motorist is in the portion of a roadway, not at an intersection, that is distinctly indicated for pedestrian crossing by lines or other markings on the surface of the roadway. It includes shared-use path crossings.

Source: 2018 FARS CRSS Coding and Validation Manual

Middle [Seat] Middle seat(s) of the row, which could be more than one if that row has more than three seats.

Source: MMUCC Technical Edits Team

Military [Special Function] Is used with any vehicle which is owned by any of the Armed Forces regardless of body type. This attribute includes military police vehicles, military ambulances, military hearses, and military fire vehicles.

Source: 2018 FARS CRSS Coding and Validation Manual

Mini-bus [Body Type Category] is a vehicle designed to carry a large number of passengers that is larger than a 15 passenger van.

Source: MMUCC Technical Edits Team

Minor Arterial provide service for trips of moderate length, serve geographic areas that are smaller than their higher Arterial counterparts and offer connectivity to the higher Arterial system.

Source: Highway Functional Classification: Concepts, Criteria and Procedures, 2013 Edition.
https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf

Minor Collector serves a critical role in the roadway network by gathering traffic from Local Roads and funneling them to the Arterial network. Within the context of functional classification, Collectors are broken down into two categories: Major Collectors and Minor Collectors. Generally, Major Collector routes are longer in length; have lower connecting driveway densities; have higher speed limits; are spaced at greater intervals; have higher annual average traffic volumes; and may have more travel lanes than their Minor Collector counterparts. Source: Highway Functional Classification: Concepts, Criteria and Procedures, 2013 Edition.
https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf

Mirrors describes mirrors mounted to the exterior or inside of the car that help the driver see behind and/or beside the vehicle.
Source: MMUCC Technical Edits Team

Model Year is a four digit year, which is assigned to a vehicle by the manufacturer.
Source: AAMVA D20

Month (MM) indicates the month (MM) a crash occurred or the month of birth.
Source: None

Motor Carrier Name is the name of the company that transports passengers or property for compensation.
Source: MMUCC Technical Edits Team

Motorcycle Count or Percentage is the motorcycle daily count or percentage of AADT.
Source: MIRE 2.0

Motorcycle Helmet Use is the subfield identifying how if and what type of helmet was used.
Source: MMUCC Technical Edits Team

Movements essentially straight ahead describes a motor vehicle's path of travel that was straight ahead without any attempted or intended changes. The coding of this attribute is not always dependent on the roadway alignment.
Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Mud, Dirt, Gravel indicates these substances present on the surface of the roadway at the crash location, not the surface type of the roadway by design.
Source: 2018 MMUCC Proposed Changes Document

NCIC Originating Agency Identifier (OAI) an **Originating Agency Identifier (OAI)** is a number assigned to each agency authorized to access the NCIC.

Source: https://www.archives.gov/files/records-mgmt/rcs/schedules/departments/department-of-justice/rg-0065/n1-065-05-003_sf115.pdf

Negotiating a Curve describes a motor vehicle was continuing along a road that curved to the right or left.

Source: MMUCC Technical Edits Team

No Avoidance Maneuver means the driver did not attempt any evasive (pre-impact) maneuvers.

Source: 2018 FARS CRSS Coding and Validation Manual

No CDL means the driver does not have a commercial driver's license.

Source: MMUCC Technical Edits Team

No Controls indicates that there were no traffic controls (signs, signals) present at the location of the crash.

Source: MMUCC Technical Edits Team

No Driver Present [Motor Vehicle Registration and Year] is used when a driver is not present to determine the State or Country Identifier

Source: MMUCC Technical Edits Team

No Driver Present/Unknown if Driver Present means there is no person who was controlling this vehicle or it is unknown if there was a driver present in the vehicle at the time of the crash.

Source: 2018 FARS CRSS Coding and Validation Manual

No Helmet is used when the investigating officer indicates that the occupant of a motorcycle was not wearing a helmet.

Source: 2018 FARS CRSS Coding and Validation Manual

No Lighting means there is no continuous lighting or spot illumination on the roadway where the crash occurs.

Source: MMUCC Technical Edits Team

Non-CDL Driver license is a driver license without any restrictions.

Source: MMUCC Technical Edits Team

Non-CDL Restricted Driver license (Learner's permit, Temporary/Limited, Graduated Driver license, etc.) is a non-CDL driver license with assigned restriction(s) by the licensing authority.

Source: MMUCC Technical Edits Team

Non-Collision (Initial Point of Contact) is used to identify the initial point of contact if a vehicle's first harmful event is a non-collision event.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Non-Collision Harmful Events are any motor vehicle crash harmful event not involving a collision.

Source: None

Non-Trafficway Area [Non-Motorist Location at Time of Crash] is not physically located on any land way open to the public as a matter of right or custom for moving persons or property from one place to another. For example: a person in a parking lot, a yard, a person in a closed portion of a work zone, or in a house.

Source: 2018 FARS CRSS Coding and Validation Manual

Northbound [Direction of Travel Before Crash] is the lane that a vehicle travels that is in the general direction north. The general direction of travel may not match the compass direction.

Source: MMUCC Technical Edits Team

Not a Collision Between Two Motor Vehicles is when the first harmful event is not an impact between two motor vehicles in transport

Source: 2018 FARS CRSS Coding and Validation Manual

Not an Interchange Area is used when the location of the first harmful event of the crash is not within an interchange area. See "Figure 3. Diagram of an Interchange" (p.23).

Source: MMUCC 5th Edition, adapted

Not an Intersection identifies that this crash was not intersection or intersection-related.

Source: 2018 FARS CRSS Coding and Validation Manual

Not Distracted occurs when the driver/non-motorist was attentive to driving, walking, cycling, etc.

Source: MMUCC Technical Edits Team

Not Divided [Trafficway Description] is used whenever there is no division in the trafficway.

Source: 2018 FARS CRSS Coding and Validation Manual

Not Divided, With a Continuous Left-Turn Lane describes a trafficway that has a left turn lane positioned between opposing straight-through travel lanes. It is designed to allow left turns to driveways, shopping centers, businesses, etc., while at the same time providing a separation of opposing straight-through travel lanes.

Source: 2018 FARS CRSS Coding and Validation Manual

Not DOT-Compliant Motorcycle Helmet is a motorcycle helmet that is not a DOT-compliant helmet. This also would include bicycle helmets, skateboard helmets, and novelty helmets.

Source: 2018 FARS CRSS Coding and Validation Manual

Not Licensed Used only when it has been reasonably established that the driver is not a registered motor vehicle operator (anywhere).

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Not on Roadway is a vehicle whose direction of travel was not on trafficway designed, improved, and ordinarily used for motor vehicle travel or, where various classes of motor vehicle are segregated, that part of a trafficway used by a particular class.

Source: MMUCC Technical Edits Team

Not Transported is used when the injured party or driver is not transported because they are not hurt or are refusing medical treatment

Source: Iowa Investigating Officer's Crash Reporting Guide (2015)

Not Visible (Dark Clothing, No Lighting, etc.) occurs when the non-motorist was not visible to the motorist because of blocked views, insufficient lighting, or other reasons such as clothing which blends in with the surroundings at any time of the day (camouflage) or dark clothing in the rain at night.

Source: 2018 FARS CRSS Coding and Validation Manual

Number of Approaches is the total number of lanes of traffic moving toward an intersection or a midblock location from one direction, including any adjacent parking lane(s).

Source: 2009 MUTCD

Number of Trailers is the total number of trailers associated with a motor vehicle

Source: MMUCC Technical Edits Team

Obstructed Crosswalks is when a crosswalk that cannot be traversed because of an object on the path such as a vehicle.

Source: MMUCC Technical Edits Team

Occupant of a Non-Motor Vehicle Transportation Device** refers to persons riding in an animal-drawn conveyance, on an animal, or injured occupants of railway trains, etc.

Source: 2018 FARS CRSS Coding and Validation Manual

Occupant of MV Not in Transport is used for any occupant of a motor vehicle not in transport including someone sitting in the driver's seat position.

Source: 2018 FARS CRSS Coding and Validation Manual

Off-Street Trails/Sidepaths are bicycle facilities physically separated from traffic but intended for shared use by a variety of groups, including pedestrians, bicyclists, and joggers.

Source: Separated Bike Lane Planning and Design Guide, Figure 20 of MMUCC

Oil includes fuel spilled on the roadway.

Source: 2018 MMUCC Proposed Changes Document

On Roadway is the first harmful event is on the roadway.

Source: None

On Shoulder, Left Side (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 on the LEFT SIDE when facing the direction of travel.

Source: MMUCC Technical Edits Team

On Shoulder, Right Side (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 on the RIGHT SIDE when facing the direction of travel.

Source: MMUCC Technical Edits Team

One-Way [Travel Direction] describes a trafficway that allows traffic to flow in one direction.

Source: 2018 FARS CRSS Coding and Validation Manual

On-Street Bike Lanes is an on-road bicycle facility designated by striping, signing, and pavement markings.

Source: Separated Bike Lane Planning and Design Guide, Figure 20 of MMUCC

On-Street Buffered Bike Lanes are bike lanes with a painted buffer that increase lateral separation between bicyclists and motor vehicles.

Source: Separated Bike Lane Planning and Design Guide, Figure 20 of MMUCC

Operated Motor Vehicle in Inattentive, Careless, or Erratic Manner Negligent occurs when the driver was inattentive, careless, negligent or erratic in the operation of their vehicle. In this case, the driver was engaged in a driving behavior with willful or wanton disregard for safety. Examples include driving without due care, operating a motor vehicle in a careless manner, failure to give full time and attention, or inattentive operation.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Operated Motor Vehicle in Reckless or Aggressive Manner is used when the officer finds evidence or believes the driver operated their motor vehicle in a reckless or aggressive manner. Examples include "road rage", willful endangerment of roadway users through driving actions, or excessive speeding (e.g. traveling 20 mph or more above posted speed limit).

Source: Iowa Investigating Officer's Crash Reporting Guide, adapted.
<https://iowadot.gov/mvd/driverslicense/InvestigatingOfficersCrashReportingGuide.pdf>

Origin/Destination describes the location where a single trip begins or ends.

Source: MMUCC Technical Edits Team

Other Bus Type [Body Type Category] is a vehicle designed/converted to carry nine or more persons, including the driver, not described by the attributes school bus, cross country/intercity bus, transit bus, or van-based bus. Examples include a specialized tour bus or bus based motor home.

Source: MMUCC Technical Edits Team

Other Electronic Device occurs when the individual was operating an electronic device other than a hand-held or hands-free mobile phone.

Source: MMUCC Technical Edits Team

Other Enclosed Cargo Area [Seating Position] is an occupant is in the fifth or higher numbered seat row, in an enclosed area where no defined seating exists or using a fold-down type seat in its folded-down position. This attribute is also used for bus passengers in undetermined seating (not driver) and for bus occupants that fall from an open door.

Source: 2018 FARS CRSS Coding and Validation Manual

Other Facility is any road, path or way that can be used by non-motorists other than roadway and bicycle facilities.

Source: MMUCC Technical Edits Team

Other Incident Response [Special Function] is used for Government vehicles 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.

Source: 2018 FARS CRSS Coding and Validation Manual

Other Non-Collision is a non-collision event not captured by other non-collision event attributes.

Still include first example.

Source: 2018 FARS CRSS Coding and Validation Manual

Other Non-harmful Event describes any non-harmful event not included within the list of attributes.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Other Non-Motorist includes persons on personal conveyances (e.g., baby carriage, skate board, roller blades, motorized wheelchair, etc.) and any person riding on an animal or in an animal-drawn conveyance (e.g., on horseback, in a horse-drawn carriage, etc.).

Source: 2018 MMUCC Proposed Changes Document

Other Pavement Marking describes any pavement marking not included in this list of attributes.

Source: MMUCC Technical Edits Team

Other Pedestrian (wheelchair, person in a building, skater, personal conveyance, etc.):** Need a definition

Source: MMUCC Technical Edits Team

Other Row (bus, 15 passenger van, etc.) is used when an occupant is in the fifth or higher numbered seat row.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Other Signal is any other device, which functions as a traffic control device which is not listed as an attribute.

Source: MMUCC Technical Edits Team

Other Trucks [Body Type Category] is a truck that does not align with being a single unit truck or truck tractor

Source: MMUCC Technical Edits Team

Other Warning Sign describes all other warning signs not already listed that call attention to unexpected conditions on or adjacent to a trafficway and to situations that might not be readily apparent to road users.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Outside Mirror is placed on the driver license of a person who is legally blind (20/200) in the right eye, whose hearing is impaired, who is required to wear a telescopic device while operating a motor vehicle or whose mobility of his or her head or neck is limited. The restriction may specify the requirement of a right or left outside mirror, outside mirrors on both sides, a wide rearview mirror or a mirror that extends across the entire width of the interior of the windshield.

Source: http://www.dmvnv.com/pdf/forms/restriction_codes.pdf

Over-Correcting/Over-Steering is a steering maneuver which is too sharp or severe for the driving conditions or travel speed.

Source: Maine Crash Reporting Manual (2018)

Over-height describes the height of the vehicle exceeds the allowable height for the State or States being traveled. Most height limits range from 13 feet, 6 inches (4.11 meters) to 14 feet

(4.27 meters), with exceptions granted for lower clearance on particular roads.

Source: MMUCC Technical Edits Team

Overtaking/Passing is used when this vehicle was traveling straight ahead and was in the process of passing or overtaking another vehicle on the left or right. This attribute is not used in rear-end collisions.

Source: MMUCC Technical Edits Team

Over-width is the width of the commercial motor vehicle exceeds the width limit of 2.6 meters, or 102.36 inches. Federal width limits do not apply to special mobile equipment when moving under their own power (military or farm equipment; instruments of husbandry; road construction or maintenance machinery; and emergency apparatus, including police and fire emergency equipment).

Source: MMUCC Technical Edits Team

Parked is used when this vehicle was "parked" in a parking area adjacent to the traffic lanes or stopped/parked on the shoulder, roadside, median, etc.

Source: MMUCC Technical Edits Team

Passenger [Endorsements] is required for the operation of any vehicle used for transportation of sixteen or more occupants, including the driver.

Source: AAMVA D20

Passenger Van (< 9 seats) is a box shaped vehicle designed to move less than nine passengers. These vehicles are identifiable by their enclosed cargo/passenger area and relatively short (or non-existent) hood.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Passenger/Other Non-Motorist is used when the individual was distracted by another occupants/non-motorist who is internal to the vehicle/non-motorist area prior to realization of impending danger.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Pedestrian Crossing Sign is a vehicular traffic warning sign used to alert road users to locations where unexpected entries into the roadway by pedestrians might occur.

Source: 2009 MUTCD

Pedestrian Crossings provide guidance for pedestrians who are crossing roadways by defining and delineating paths on approaches to and within signalized intersections, and on approaches to other intersections where traffic stops. At non-intersection locations, crosswalk markings legally establish the crosswalk.

Source: MMUCC Technical Edits Team

Pending means the test was administered and the result is pending.

Source: Maine Crash Reporting Manual (2018)

Perpendicular is an intersection where two roads meet at a right angle.

Source: None

Physically Impaired is a condition that results in some decrease in a physical ability.

Source: Maine Crash Reporting Manual (2018)

Pickup refers to a passenger car based, pickup type vehicle. The roof area (and side glass) rearward of the front seats on a station wagon have been removed and converted into a pickup-type cargo box Source: MMUCC Technical Edits Team

Police [Special Function] is 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

Source: 2018 FARS CRSS Coding and Validation Manual

Police [Type of Incident Responder] provide aid by controlling the crash scene of the crash and providing aid to those involved in a crash.

Source: FHWA Traffic Incident Management Site

Positive Reading with No Actual Value can be used for any Test Type code where the result is indicated to be positive without a numeric value to record. This should only be used when a final test result is returned as “positive” with no actual result to record. This can occur when a screening test is used, and it is the only test result available. This attribute is also used for a positive BAC expressed as a range or as less than some specific value (e.g., less than .020g/100ml.)

Source: 2018 FARS CRSS Coding and Validation Manual

Posted/Statutory Value (Miles per hour) is the speed limit of the roadway in miles per hour, either posted by signs or defined by statute.

Source: MMUCC Technical Edits Team

Power train is the components of the vehicle that generate power and deliver it to the road. This includes universal joints, drive shaft, and transmission. This also includes engine, differential, and throttles.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Principal Arterial – Other serve major centers of metropolitan areas, provide a high degree of mobility and can also provide mobility through rural areas. Unlike their access controlled

counterparts, abutting land uses can be served directly. Forms of access for Other Principal Arterial roadways include driveways to specific parcels and at-grade intersections with other roadways

Source: Highway Functional Classification: Concepts, Criteria and Procedures, 2013 Edition.
https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf

Principal Arterial – Other Freeway or Expressway are roadways that look very similar to Interstates. While there can be regional differences in the use of the terms ‘freeway’ and ‘expressway’, for the purpose of functional classification the roads in this classification have directional travel lanes are usually separated by some type of physical barrier, and their access and egress points are limited to on- and off-ramp locations or a very limited number of at-grade intersections.

Source: Highway Functional Classification: Concepts, Criteria and Procedures, 2013 Edition.
https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf

Prior Crash is used when there was an accumulation of traffic caused by vehicles slowing or stopping due to traffic flow being impacted by a prior crash. The distance from the prior crash does not matter; only the relevance to this crash.

Source: 2018 MMUCC Proposed Changes Document

Prior Non-Recurring Incident is used when the crash occurred in or related to an area of the trafficway where there was congestion on the roadway caused by an unusual and unplanned event.

Examples include 1) A tractor trailer transporting a trailer designated as a Wide Load. 2) Debris in the roadway causing a backup. 3) Backup due to traffic going to or coming from a funeral procession, sporting event, parade, or traffic signal outage.

Source: 2018 MMUCC Proposed Changes Document

Private Property Is used for a crash that occurs and is entirely contained within a location that is not owned by the public. For example, a crash where a driver loses control of their vehicle backing from their private driveway and impacts a vehicle on the roadway should be classified as “public property.”

Source: MMUCC Technical Edits Team

Prosthetic Aid is placed on the driver's license of a person who is required to wear a prosthetic device while operating a motor vehicle.

Source: http://www.dmvnv.com/pdf/forms/restriction_codes.pdf

Public Property Is used for any crash that occurs in any part within a location that is owned by the public. Use this selection for crashes that originate on private property where a harmful event occurs on public property. Also use this attribute for crashes that originate on a location that is owned by the public where a harmful event occurs on private property. For example, a vehicle that departs the roadway and impacts a tree in a citizen's front yard should be classified as "public property."

Source: MMUCC Technical Edits Team

Public Utility [Special Function] Need a definition

Source: MMUCC Technical Edits Team

Railroad Crossing identifies and directs attention to the location of a grade crossing and advise road users to slow down or stop at the grade crossing as necessary in order to yield to any rail traffic occupying, or approaching and in proximity to, the grade crossing. These markings regulate, warn, and guide the road users so that they, as well as LRT vehicle operators on mixed-use alignments, can take appropriate action when approaching a grade crossing.

Source: MMUCC Technical Edits Team

Railroad Crossing Sign is a warning sign that is used on each trafficway in advance of every highway-rail grade crossing, and every highway-LRT grade crossing in semi-exclusive alignments.

Source: 2009 MUTCD

Rain refers to precipitation other than snow, hail, or sleet.

Source: 2018 MMUCC Proposed Changes Document

Ran Off Roadway Left describes when any part of the vehicle runs off the left side of the roadway.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Ran Off Roadway Right describes when any part of the vehicle runs off the right side of the roadway.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Ran Stop Sign describes when the driver failed to obey a stop sign.

Source: Maine Crash Reporting Manual (2018)

Recreational Off-Highway Vehicles (ROV) are intended to be used on terrain similar to that on which all-terrain vehicles (ATVs) are used. ROVs are distinguished from ATVs by the presence of a steering wheel instead of a handle bar for steering, bench or bucket seats for the driver and passenger(s) instead of straddle seating, and foot controls for throttle and braking instead of levers located on the handle bar. In addition, ROVs have a rollover protective system (ROPS),

restraint systems, and a maximum speed greater than 30 mph.

Source: 2018 MMUCC Proposed Changes Document

Reentering Roadway describes when a vehicle that departed the roadway portion of the trafficway returns to the same roadway (e.g., a motor vehicle in transport runs off the roadway right, strikes the guardrail face, then re-enters the roadway and collides with another motor vehicle in transport).

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Regular Congestion is used when the crash occurred in or directly related to regular congestion during peak hours of travel (aka "rush hour").

Source: MMUCC Technical Edits Team

Related to a Bus Stop is a circumstance related to the picking up or drop-off location for passengers riding a bus whether or not a bus was present at the time.

Source: MMUCC Technical Edits Team

Rental Truck (Over 10,000 lbs.) is a truck that is lease to an individual or business with a GVWR over 10,000 lbs.

Source: MMUCC Technical Edits Team

Restraint Systems/Motorcycle Helmet Use is the restraint equipment in use by the occupant, or the helmet use by a motorcyclist, at the time of the crash.

Source: Main Body

Restraint Used – Type Unknown is used when some type of restraint was in use, but the type of restraint is not clear.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Revoked [Driver License Status] is used if the driver license (with no GDL restrictions) has been fully canceled and cannot be reinstated.

Source: MMUCC Technical Edits Team

Right [Seat] is the rightmost seat of the row.

Source: MMUCC Technical Edits Team

Right Shoulder Width is the existing right shoulder width. This width shall be measured from the outer edge of the right-most through lane to the outer edge of the shoulder. Do not include parking or bicycle lanes in the shoulder width measurement; code the predominant width where it changes back and forth along a roadway section; include rumble strips and gutter pans in shoulder width.

Source: HPMS

Road Surface Condition (wet, icy, snow, slush, etc.) is used when the roadway surface condition at the time and place of the crash contributed to the crash.

Do we want to say may have or did? SMEs?

Source: MMUCC Technical Edits Team

Roadway Curvature is the measurement of the curvature in the roadway expressed in terms of its radius,

length, and superelevation. The unit of measurement is feet.

Source: R2 Definition in Body

Roadway Facility is any road, path or way on roadway that is specifically designated as being open to non-motorists or is to be shared with other transportation modes.

Source: MMUCC Technical Edits Team

Row [Seating Position] is the location of the occupant in relation to the forward longitudinal axis of the vehicle.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Rural encompasses all areas not included within a Census designated urban area (Urbanized Areas of 50,000 or more people; Urban Clusters of at least 5,000 and less than 50,000 people). Whatever is not urban is considered rural.

Source: ANSI D.16

Sag describes where the curve connects to an uphill grade section of roadway.

Source: MMUCC Technical Edits Team

Saliva is collected to be tested.

Source: MMUCC Technical Edits Team

Sand includes sand on the roadway as a result of sand blown by wind or sand discharged on the roadway by highway trucks.

Source: 2018 MMUCC Proposed Changes Document

School [Endorsements] is required for the operation of a school bus. School bus means a CMV used to transport pre-primary, primary, or secondary school students from home to school, from school to home, or to and from school sponsored events. School bus does not include a bus used as common carrier (49 CFR 383.5).

Source: AAMVA D20

School Zone describes markings that indicate to road users that they are approaching a school zone.

Source: MMUCC Technical Edits Team

School Zone Sign is a sign that identifies the beginning and end points of the designated school zone as designated under State or local statute. A school zone sign may also indicate a school zone is located on a cross street in close proximity to an intersection to warn road users making a turn onto the cross street that they will encounter a school zone soon after making the turn.

Source: 2009 MUTCD

Seat is the location of the occupant in relation to the row.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Secondary Crash includes a motor vehicle traffic crash within a traffic incident scene or within a traffic queue in either direction resulting from a prior traffic incident.

Source: MMUCC Technical Edits Team

Separated Bicycle Lane is 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. Separated bike lanes are also sometimes called “cycle tracks” or “protected bike lanes.”

Source: Existing definition for "Separated Bike Lanes", which is an attribute for element NM4.

Separation of Units describes 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).

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Separator/Traffic Island is a defined area between traffic lanes for control of vehicular movements, for toll collection, or for pedestrian refuge. It includes all end protection and approach treatments. Within an intersection area, a median or an outer separation is considered to be an island.

Source: 2009 MUTCD

Sex:

Source: MMUCC Technical Edits Team

Shared Lane Markings is a shared roadway with pavement markings providing wayfinding guidance to bicyclists and alerting drivers that bicyclists are likely to be operating in mixed traffic.

Source: Separated Bike Lane Planning and Design Guide, Figure 20 of MMUCC

Shoulder/Roadside occurs when the non-motorist is on a shoulder or roadside. Shoulder is that part of a trafficway contiguous with the roadway for emergency use, for accommodation of

stopped motor vehicles, and lateral support of the roadway structure. Roadside is the outermost part of the trafficway from the property line or other boundary in to the edge of the first road.

Source: 2018 FARS CRSS Coding and Validation Manual

Sidewalk is any improved surface primarily constructed for use by pedestrians.

Source: 2018 FARS CRSS Coding and Validation Manual

Signalized refers to any highway traffic signal by which traffic is alternatively directed to stop and permitted to proceed, utilizing the colors of red, yellow, and green.

Source: MMUCC Technical Edits Team

Signed Bicycle Route is typically designated along more lightly traveled residential or secondary roads and is indicated by signs with or without a specific route number. This type of facility should have appropriate directional and informational markers.

Source: NCDOT – Bicycle Facilities Guide: Types of Bicycle Accommodations.

http://files.www.campo-nc.us/programs-studies/bicycle-and-pedestrian/NCDOT_on_Signed_Bike_Routes.pdf

Signed Route (no pavement marking) is a roadway designated as a preferred route for bicycles using bike-related signs.

Source: Separated Bike Lane Planning and Design Guide, Figure 20 of MMUCC

Single-Unit Truck is a truck consisting primarily of a single motorized transport device designed for carrying property. When connected to a trailer, such a device may be part of a truck combination.

Source: South Carolina TR310 Manual

Sleet or Hail applies to conditions where precipitation is falling as ice (sleet or hail)

Source: 2018 FARS CRSS Coding and Validation Manual

Slowing describes a motor vehicle that was traveling straight ahead within the road portion of the trafficway and was decelerating.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Snow is used when precipitation is falling as frozen flakes at the time of the crash or accumulation on the surface of the road is present.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Snowmobile refers to a vehicle designed to be operated over snow propelled by a motor.

Source: MMUCC Technical Edits Team

Source of Transport to First Medical Facility is the type of unit providing transport to the first medical facility receiving the patient.

Source: MMUCC 5th Edition

Southbound [Direction of Travel Before Crash] is the that a vehicle travels that is in the general direction south. The general direction of travel may not match the compass direction.

Source: MMUCC Technical Edits Team

Spot Illumination on Both Sides means spot illuminations are located on both sides of the roadway where the crash occurs. Spot illumination usually consists of one to five units intended to illuminate a nighttime hazard, such as sections with complex geometry or raised channelization.

Source: Highway Illumination Manual, TxDOT, 2018. <http://onlinemanuals.txdot.gov/txdotmanuals/hwi/hwi.pdf> Adapted

Spot Illumination on One Side means spot illuminations are located on one side of the roadway where the crash occurs. Spot illumination usually consists of one to five units intended to illuminate a nighttime hazard, such as sections with complex geometry or raised channelization.

Source: Highway Illumination Manual, TxDOT, 2018. <http://onlinemanuals.txdot.gov/txdotmanuals/hwi/hwi.pdf> Adapted

Standard Centerline Markings describes a centerline does not have rumble strips.

Source: MMUCC Technical Edits Team

Standard Lane Line means the lane line is 4 to 6 inches wide.

Source: MMUCC Technical Edits Team

Standard Width Edgeline means the edgeline is 4-6 inches in width.

Source: MMUCC Technical Edits Team

State Number describes a unique identifier assigned to a carrier transporting passengers or hauling cargo in intrastate commerce.

Source: MMUCC Technical Edits Team

Steering is the components that allow a driver to control the vehicle on the desired route. Components that allow a driver to control the vehicle on the desired route. This includes rod ends, kingpins, power steering components, and ball joints.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Stop - All Way indicates that all motorized and non-motorized vehicles must stop before proceeding through the intersection, pending the way is clear. This includes signs and flashing beacons.

Source: MMUCC Technical Edits Team

Stop - Partial indicates that some motorized and non-motorized vehicles must stop before proceeding through the intersection, pending the way is clear. This includes signs and flashing beacons.

Source: MMUCC Technical Edits Team

Stop Sign is a regulatory sign that always requires road users to come to a full stop on the signed approach to an intersection. This does not include stop signs at railroad or LRT grade crossings.

Source: 2009 MUTCD

Straight [Horizontal Alignment] is a tangent strip of roadway.

Source: MMUCC Technical Edits Team

Suspended [Driver License Status] is used if the driver license (with no GDL restrictions) is temporarily out of service.

Source: MMUCC Technical Edits Team

Suspension is the components of a vehicle that connect the vehicle to its wheels and allows relative motion between the two. This includes springs, shock absorbers, struts, and control arms.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway, etc. is a 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 or object or non-motorist in the roadway in order to avoid a crash.

Source: Maine Crash Reporting Manual (2018)

Talking/listening occurs when the driver or non-motorist was actively talking or listening just prior to the crash. Subfield 2 indicates the source (e.g. mobile phones, vehicle-integrated devices, other passengers, etc.), even if unknown. This attribute includes drivers or non-motorists that were wearing headphones (e.g. listening) at the time of the crash.

Source: MMUCC Technical Edits Team

Tank Vehicle [Endorsements] is required for the operation of any tank vehicle, as defined in (49 CFR 383.5).

Source: AAMVA D20

Taxi [Special Function] Need a definition

Source: MMUCC Technical Edits Team

Test Given is a test was administered to the driver or motorists.

Source: MMUCC Technical Edits Team

Test Not Given means a test was not given for the driver or non-motorist.

Source: MMUCC Technical Edits Team

Test Refused is probable cause to administer test but refused by the driver or non-motorist.

Source: Maine Crash Reporting Manual (2018)

Test Status [Alcohol Test] indicates whether or not a test was performed on this person to detect the presence of alcohol (ethanol).

Source: 2018 FARS CRSS Coding and Validation Manual

Test Status [Drug Test] identifies if a chemical test for the presence of drugs was given to this person.

Source: 2018 FARS CRSS Coding and Validation Manual

Tested for Drugs, Drugs Found, Type Unknown/Positive is used only when a final test result is returned as “positive” with no actual result to record. This can occur when a test is used to identify the presence of any one of several substances without identifying which substances are presumed present and this is the only test result available.

Source: 2018 FARS CRSS Coding and Validation Manual

Tested for Drugs, Results Unknown refers to drug tests that were performed but the results are reported as unknown or pending and are unobtainable.

Source: 2018 FARS CRSS Coding and Validation Manual

Tested No Drugs Found/Negative means a test for the presence of drugs was “negative” or no drugs were found.

Source: 2018 FARS CRSS Coding and Validation Manual

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 or Related, 2) In an Acceleration/Deceleration Lane, 3) In an Intersection or related to an intersection or other junction.

Source: MMUCC 5th Edition, adapted

Thrown or Falling Object occurs when 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.

Source: 2018 FARS CRSS Coding and Validation Manual

Time of Roadway Clearance provides the time that all lanes are available for traffic flow

Source: MMUCC Technical Edits Team

Tires describes a band surrounding a vehicles rim that rolls and provides traction on the intended surface.

Source: MMUCC Technical Edits Team

Toll Booth/Plaza Related is used when 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 X.

FARS is simply dropping in the older MMUCC diagram that was in M4. I did not find it particularly helpful and neither did the expert panel. I recommend we create an updated version and ensure it's nicer and more detailed than what was in MMUCC 4.

Source: MMUCC Technical Edits Team

Top [Initial Point of Impact] describes any struck area of the vehicle that would be visible from a top-down view. This includes the hood, windshield, roof, and trunk deck. However, this excludes scenarios where the impact or direction of force was less than 15 degrees above the horizontal; this is considered horizontal.

Source: MMUCC Technical Edits Team

Tow Operator [Type of Incident Responder] operates the tow vehicle used to remove a vehicle from the crash scene

Source: FHWA Traffic Incident Management Site

Towing - Incident Response Need a definition

Source: MMUCC Technical Edits Team

Traffic Control Device is defined as all signs, signals, markings, and other devices used to regulate, warn, or guide traffic, placed on, over, or adjacent to a street, highway, pedestrian facility, bikeway, or private road open to public travel (see definition in Section 1A.13) by authority of a public agency or official having jurisdiction, or, in the case of a private road, by authority of the private owner or private official having jurisdiction."

Source: 2018 MMUCC Proposed Changes Document

Transportation (i.e., maintenance workers, safety service patrol operators, etc.) [Type of Incident Responder] assists with the control of traffic; special equipment for clearing the scene, determining roadway repairs necessary, and potentially initiates emergency medical assistance.

Source: FHWA Traffic Incident Management Site

Truck (over 10,000 lbs.) Count or Percentage is AADT or a percentage of total AADT for trucks over 10,000 lbs.

Source: MMUCC Technical Edits Team

Truck Acting as Crash Attenuator A truck that is designed to absorb the impact from a crash.

Source: MMUCC Technical Edits Team

Truck Coupling/Trailer Hitch/Safety Chains describes devices used to keep a trailing unit attached to a vehicle.

Source: MMUCC Technical Edits Team

Truck Tractor is one of four possible combinations of the truck tractor. This is intended as a global attribute stating that the vehicle is one of the four.

Source: MMUCC Technical Edits Team

Turning Left is used when this vehicle was moving forward and turned left, changing lanes from one roadway to a different roadway (e.g., from or to a driveway, parking lot, or intersection).

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Turning Right is used when this vehicle was moving forward and turned right, changing lanes from one roadway to a different roadway (e.g., from or to a driveway, parking lot, or intersection).

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Two-way [Travel Direction] describes a trafficway that allows traffic to flow in both directions.

Source: 2018 FARS CRSS Coding and Validation Manual

Type [Driver License Jurisdiction] is the geographic or political entity issuing the driver license.

Source: MMUCC Technical Edits Team

Type of Test identifies the type of test that was used for this person.

Source: 2018 FARS CRSS Coding and Validation Manual

Under the Influence of Medications/Drugs/Alcohol occurs when someone is suspected of being under the influence of alcohol or drugs. This includes any legal prescription drug or over-the-counter medication such as cough syrup, as well as illegal drugs of any type.

Source: Maine Crash Reporting Manual (2018)

Undercarriage describes non-horizontal impacts to the undercarriage or swiping or snagging of undercarriage components (axles, exhaust system, etc.)

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Undivided Trafficways is a trafficway with through lanes in both directions. This excludes auxiliary lanes.

Source: MMUCC Technical Edits Team

Unenclosed Cargo Area [Seating Position] is an occupant is in the fifth or higher numbered seat row, in an unenclosed area where no defined seating exists or using a fold-down type seat in its folded-down position. Examples include passenger riding in an open pickup bed, top of open double-decker bus, etc.

Source: 2018 FARS CRSS Coding and Validation Manual

Unknown if Tested means a test was given and the type of test is unknown or pending and the type is unobtainable.

Source: 2018 FARS CRSS Coding and Validation Manual

Unknown Rural means it is known that the road is located in rural areas, but the functional class is unknown,

Source: MMUCC Technical Edits Team

Unknown Urban means it is known that the road is located in urban areas, but the functional class is unknown.

Source: MMUCC Technical Edits Team

Unmarked Paved Shoulder [Presence/Type of Bicycle Facility] is a paved shoulder without bike-related pavement markings used by bicyclists .

Source: MMUCC Technical Edits Team

Uphill describes a section of roadway where the inclination for the direction of travel is positive

Source: MMUCC Technical Edits Team

Urban encompasses all areas included within a Census designated urban area (Urbanized Areas of 50,000 or more people;

Urban Clusters of at least 5,000 and less than 50,000 people). This definition does not always follow city or county boundaries.

Source: ANSI D.16

Urine is collected to be tested.

Source: MMUCC Technical Edits Team

US DOT Number describes a unique identifier assigned to a carrier transporting passengers or hauling cargo in interstate commerce.

Source: MMUCC Technical Edits Team

Valid License refers to any license held by the driver that is valid for a class of vehicle. If the driver is in violation of some aspect of his/her license (e.g., one of the restrictions) do not consider the license as being not valid.

Source: 2018 FARS CRSS Coding and Validation Manual

Valid Military Time (HHMM) indicates the time (HHMM) a crash occurred in military time. Midnight should be coded as "0000".

Source: None

Vehicle Not At Scene [Vehicle Damage] means the vehicle is not at the scene for the officer to assess damage.

Source: MMUCC Technical Edits Team

Vehicle-Integrated Device is used when the officer can establish that the source of the driver or non-motorist's distraction was the vehicle integrated device or system. Subfield 1 describes the distraction actions (e.g. talking/listening, manually operating, etc.). Use includes any function available within the vehicle device or system, including using the vehicle interface to perform functions on external devices like mobile phones and other hand-held devices.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Waiting to Cross Roadway means the non-motorist is near the curb or the roadway edge waiting to cross a roadway anywhere along the roadway immediately prior to the crash.

Source: 2018 FARS CRSS Coding and Validation Manual

Walking/Cycling Along Roadway Against Traffic (In or Adjacent to Travel Lane) means the non-motorist was moving in the opposite direction of the flow of traffic (facing oncoming vehicles), either in the travel lane or adjacent to it (e.g., jogging or walking on shoulder or roadside). This also includes situations where the person's action/intent was traveling along the roadway. For example, a person stopped momentarily when they were struck (e.g., to tie shoes, talk on cell phone) or someone that moved out into the path of a vehicle to avoid an obstacle along the roadside. This may include the roadway edge, shoulder (paved or unpaved), sidewalk, roadside, median, or driveway access, etc.

Source: 2018 FARS CRSS Coding and Validation Manual

Walking/Cycling Along Roadway with Traffic (In or Adjacent to Travel Lane) means the non-motorist was moving in the same direction as the flow of traffic, either in the travel lane or adjacent to it (e.g. jogging or walking on shoulder or roadside). This also includes situations where the person's action/intent was traveling along the roadway. For example, a person stopped

momentarily when they were struck (e.g., to tie shoes, talk on cell phone) or someone that moved out into the path of a vehicle to avoid an obstacle along the roadside. This may include the roadway edge, shoulder (paved or unpaved), sidewalk, roadside, median or driveway access, etc.

Source: 2018 FARS CRSS Coding and Validation Manual

Walking/Cycling on Sidewalk means the non-motorist was walking or cycling on a sidewalk immediately prior to the crash.

Source: MMUCC Technical Edits Team

Water (standing, moving) describes a roadway surface that is covered with water and typically localized.

Source: 2018 MMUCC Proposed Changes Document

Westbound [Direction of Travel Before Crash] is the that a vehicle travels that is in the general direction west. The general direction of travel may not match the compass direction.

Source: MMUCC Technical Edits Team

Wet describes a roadway surface that is saturated with water from rain, melted snow or other liquids but does not have standing or running water.

Source: 2018 MMUCC Proposed Changes Document

Wheels describes the combination of the tire and the vehicle rim that rotates when momentum is applied to the vehicle, including loss of lug nuts.

Source: MMUCC Technical Edits Team

Wide Curb Lane is the lane nearest the curb that is wider than a standard lane and provides extra space so that the lane may be shared by motor vehicles and bicycles. These facilities can also be placed on roads without curbs and are sometimes called wide outside lanes.

Source: Bicycle Safety Guide and Countermeasure Selection System, FHWA.

http://pedbikesafe.org/bikesafe/countermeasures_detail.cfm?CM_NUM=12

Wide Edgeline means the edgeline is at least twice the width of a normal line.

Source: MMUCC Technical Edits Team

Wide Lane Line means the line is at least twice the width of a normal line.

Source: MMUCC Technical Edits Team

Windows/Windshield describes openings of the vehicle covered by glass or a transparent material that allows for the exterior surroundings to be seen.

Source: MMUCC Technical Edits Team

Wipers are a device that removes water and other debris from the windshield or other transparent openings of a vehicle.

Source: MMUCC Technical Edits Team

Within Interchange Area is used when a crash occurs inside of the boundary 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.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Work on Shoulder or Median is the closure of the shoulder or median along a trafficway

Source: MMUCC Technical Edits Team

Working in Trafficway (Incident Response) means the non-motorist was in the roadway as part of an official response to an incident, such as a firefighter moving between an emergency vehicle and a crash involved vehicle.

Source: 2018 FARS CRSS Coding and Validation Manual

Wrong Side or Wrong Way occurs when the driver was established in and driving on the wrong side of the trafficway. “Unintentional” means they may not be aware they are on the wrong side. For situations where a driver unintentionally crosses the centerline, see Failed to Keep in Proper Lane. For situations where the vehicle is on the wrong side as a result of a passing maneuver, see Improper Passing. Examples include driving the wrong way/on the wrong side of a divided trafficway, driving on the wrong side of an undivided trafficway, driving the wrong way on a roundabout, or driving on the left half of approaching bridge or tunnel.

Source: 2018 FARS CRSS Coding and Validation Manual (modified)

Year (YYYY) indicates the year (YYYY) a crash occurred or the year of birth.

Source: None

Year of Motor Vehicle Registration is the year as shown on the issued registration card

Source: AAMVA D20

Yes, School Bus Directly Involved occurs when the school bus or motor vehicle functioning as a school bus for a school-related purpose with or without a passenger on board, must be directly involved as a contact motor vehicle.

Source: MMUCC 5th Edition

Yes, School Bus Indirectly Involved occurs when the school bus or motor vehicle functioning as a school bus for a school-related purpose with or without a passenger on board, must be indirectly involved as a non-contact motor vehicle (children struck when boarding or alighting from the school bus, two vehicles colliding as the result of the stopped school bus, etc.)

Source: MMUCC 5th Edition

Yield indicates that all motorized and non-motorized vehicles must slow to traffic having the right of way before proceeding through the intersection. This includes signs and flashing beacons.

Source: MMUCC Technical Edits Team

Yield Sign is a regulatory sign that assigns right-of-way to traffic on certain approaches to an intersection. Vehicles controlled by a YIELD sign need to slow down to a speed that is reasonable for the existing conditions or stop when necessary to avoid interfering with conflicting traffic.

Source: 2009 MUTCD

2019 TRF Discussion and Additional Considerations

The SMEs had additional notes for each of the definitions. The following definitions have additional considerations that were noted by one or more of the invited SMEs or noted by a member of the participating audience.

"Reduced Speed Limit Ahead" Warning Sign

During the discussion for this definition, the attendees noted that the physical signs would change over time. A proposed solution was to recognize this in the definition (e.g., this attribute was previously “Reduced Speed Ahead”. These signs would also be included).

15-Passenger Van [Body Type Category]

A discussion point for this definition is to define the attribute so it is mutually exclusive from other similar Body Type Category attributes. In the proposed definition, the number of passenger seats is the qualifier. The definition should also consider if the driver is included in the total number of passengers. If the vehicle can have a seating capacity for 16 people (15 passengers, plus a driver), the guideline should reference it as requiring a CDL. Given that this is a passenger van, a suggestion is to remove the cargo reference in the definition. The MMUCC 5th Edition lists Cargo Van as a separate Body Type Category attribute.

9- or 12-Passenger Van [Body Type Category]

A discussion point for this definition is to define the attribute so it is mutually exclusive from other similar Body Type Category attributes. In the proposed definition, as the number of passenger seats is the qualifier. The definition should also consider if the driver is included in the total number of passengers. Given that this is a passenger van, a suggestion is to remove the cargo reference in the definition. The MMUCC 5th Edition lists Cargo Van as a separate Body Type Category attribute.

Large Limo [Body Type Category]

A discussion point for this definition is to define the attribute so it is mutually exclusive from other similar Body Type Category attributes. In the proposed definition, there is reference to cargo carrying capacity. Given that this is a passenger vehicle, a suggestion is to remove the cargo reference in the definition. The MMUCC 5th Edition lists Cargo Van as a separate Body Type Category attribute.

Mini-bus [Body Type Category]

A discussion point for this definition is to define the attribute so it is mutually exclusive from other similar Body Type Category attributes. In the proposed definition, it outlines the number of passenger seats exceeding a 15 passenger van as the qualifier. The definition should also consider if the driver is included in the total number of passengers. If the vehicle can have a seating capacity for 16 people (15 passengers, plus a driver), the guideline should reference it as requiring a CDL.

AC Test Performed, Results Unknown

The working group approved to have the definition in the proposed changes. However, the terms pending or unobtainable can be removed as it is an instruction for the FARS analyst and is related to situations where there are known tests, but the analyst can't access the results before the data file for that data collection year has to close (e.g., a case is still under litigation or prosecution).

2. (APPROVED) Add an Element to Capture Data for Underride/Override Crashes

(Submitted by GAO) According to the GAO report, "Truck Underride Guards: Improved Data Collection, Inspections, and Research Needed"

(<http://one10.dot.gov/office/ost/oar/GAO%20Final%20Reports/FY%2019/GAO-19-264%20Truck%20Underride%20Collisions%204-15-19.pdf>), this is needed to identify the magnitude of crashes in which an underride or override occurs to support NHTSA rulemaking activities and motor vehicle bumper compatibility research.

Change for Consideration

The following element, "V22. Underride/Override", was included in the MMUCC 2nd Edition:

V22. Underride/Override

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.

Attributes:

- No Underride or Override
- Underride, Compartment Intrusion

- Underride, No Compartment Intrusion
- Underride, Compartment Intrusion Unknown
- Override, Motor Vehicle in Transport
- Override, Other Motor Vehicle
- Unknown if Underride or Override

GAO made 4 recommendations to the Department to take steps to provide a standardized definition of underride crashes and data fields, share information with police departments on identifying underride crashes, establish annual inspection requirements for rear guards, and conduct additional research on side underride guards. OST concurred with the recommendations. (Release Date: April 15, 2019 | Report No. GAO-19-264)

The following recommendation was issued directly regarding the MMUCC 6th Edition (see page 33):

1. The Administrator of the National Highway Traffic Safety Administration should recommend to the expert panel of the Model Minimum Uniform Crash Criteria to update the Criteria to provide a standardized definition of underride crashes and to include underride as a recommended data field.

2019 TRF Discussion

Attendees discussed the value of including this element. Tennessee previously included a similar field on the form. Due to poor data quality and inconsistencies in reporting, the State did not see any value of its inclusion and removed it from the report. The law enforcement representatives in the meeting stated that for this to be of any value, it must be explicitly defined. If considered, this data element would require development in consultation with FMCSA, rulemaking, and the NHTSA Traffic Records Team. It was noted that whether the vehicle has a guard is not captured in vehicle specifications. The discussion also included concern that a visual inspection may not indicate if the bar under the trailer is for protection or if its intended use is as a step for access into the trailer. To be meaningful, this would require more detailed training of law enforcement to make the proper determination. A possible consideration is to capture this information via ASPEN and SafetyNet during an inspection, as inspections are conducted when a commercial motor vehicle is involved in a crash. This would allow the data to be captured and would be more reliable as it would be recorded by a certified commercial vehicle inspector.

Another possible consideration is to create multiple elements/subfields so that there are not multiple constructs. A significantly simplified element would be best. During the Expert Panel sessions for creation of MMUCC's 3rd Edition (2008), the prior version of the element identified as V22 Underride/Override was deemed to be too complicated to understand and collect accurately which resulted in its removal.

The working group **APPROVED** the changes for consideration with two of the 53 attendees opposed.

3. **(APPROVED)** Change “C8. Location of First Harmful Event Relative to the Trafficway” Attribute, ‘08 Outside Road/Right-of-Way’ to ‘Outside Trafficway’.

(Submitted by Sarah Weissman Pascual)

Change for Consideration

To have the attribute’s terminology more in line with the terminology used for the data element (i.e., “trafficway” versus “right-of-way”).

Attribute Values:

- 01 Gore
- 02 In Parking Lane or Zone
- 03 Median
- 04 Off Roadway, Location Unknown
- 05 On Roadway
- 06 On Shoulder, Left Side
- 07 On Shoulder, Right Side
- 08 **Outside Trafficway**
- 09 Roadside
- 10 Separator/Traffic Island

- 99 Unknown

2019 TRF Discussion

There was no discussion of this data element. NHTSA offered a vote for including this in future revisions of the proposed changes document.

The working group **APPROVED** the changes for consideration.

4. **(APPROVED)** Additional Values for “V3. Motor Vehicle Registration”

(Submitted by Sarah Weissman Pascual)

Change for Consideration

The additional values to MMUCC to be consistent with the attributes for the corresponding data element in the Fatality Analysis Reporting System (FARS)

Subfield 1 **Identifier**

- 00 No Driver Present

Appendix E State Identifier

Appendix F State, foreign country, U.S. government, Indian Nation, etc.

- 92 No Registration
- 93 Multiple State Registration
- 94 US Government Tags (includes military)
- 95 Other Foreign Country

- 98 Other Registration
- 99 Unknown

Subfield 2 **MV Registration**
YYYY Year of Motor Vehicle Registration

2019 TRF Discussion

Attribute 93 should read **Multiple State Registration**. The discussion concluded with agreement that this attribute will require a closer look and more discussion as to how the data can be collected (i.e., tags vs registration card, etc.). This attribute has the following context from the FARS/CRSS Coding and Validation Manual:

93 (Multiple State Registration) is used for commercial vehicles that are registered in more than one state under a valid reciprocal agreement (such as the International Registration Plan (IRP)).

The working group **APPROVED** the changes for consideration with one of the 53 attendees opposed.

5. (REJECTED) Additional Attribute for “V10. Special Function of Motor Vehicle in Transport” (Submitted by FARS CCB)

Change for Consideration

There is an opportunity to differentiate between transportation network companies that we operate versus ride on/in? For example, there's a difference between a Zip car that is rented for a time and drive myself versus getting into a Lyft/Uber car.

An additional attribute should be considered regarding e-scooters and other rentable micro-mobility transportation devices that are owned by a company but operated by a user.

2019 TRF Discussion

The discussion for this attribute is to identify motor vehicles that a person is allowed to drive the vehicle (e.g. Zip Car) separated from “Vehicle Used for Electronic Ride-hailing” in Special

Function. One attendee suggested this could be identified through registration information instead of Special Function. The group did agree that there is some merit to clarifying where a service akin to Zip car belongs.

Two people approved of this change. The working group **REJECTED** this change.

6. (APPROVED) Proposed Changes for “V17. Traffic Control Device”

(Submitted by Sarah Weissman Pascual)

Changes for Consideration

Change 1:

According to MUTCD, the old sign "Reduced Speed Ahead" is no longer recognized. The only allowable sign is W3-5, "Reduced Speed Limit Ahead".



W3-5

Change 2:

The existing attribute word choice is both inaccurate and vague. According to the MUTCD, adding flashing lights to a school zone sign would still be called a sign, not a signal. There are no school zone signals, only beacons, that may be active (requires push button activation) or passive (always flashing). A possible change could be to use “Flashing School Zone Beacon” as defined in the MUTCD. A discussion for this change is ideal.

Change 3:

The general intent for the term bicycle crossing needs to be discussed in order to define the attribute appropriately. Is the intent to collect where the markings are generally on the roadway or where the marking are located relative to where they are marked to cross the trafficway? A discussion for this change is ideal.

Change 4:

Change the attribute *Ramp Meter Signal* to *Ramp Control Signal* to allow for the attribute to be less prescriptive. The definition for the term will refer to “ramp metering”.

Attribute Values:

Subfield 1 **TCD Type(s)**

- 00 No Controls
- 01 Person (including flagger, law enforcement, crossing guard, etc.)

Signs

- 02 Bicycle Crossing Sign
- 03 “Curve Ahead” Warning Sign
- 04 **Flashing School Zone Sign**
- 05 “Intersection Ahead” Warning Sign
- 06 Other Warning Sign

- 07 Pedestrian Crossing Sign
- 08 Railroad Crossing Sign
- 09 “**Reduced Speed Limit Ahead**” Warning Sign
- 10 School Zone Sign
- 11 Stop Sign
- 12 Yield Sign

Signals

- 13 Flashing Railroad Crossing Signal (may include gates)
- ~~Flashing School Zone Signal~~
- 14 Flashing Traffic Control Signal
- 15 Lane Use Control Signal
- 16 Other Signal
- 17 Ramp **Control**
- 18 Traffic Control Signal

Pavement Markings

- 19 Bicycle Crossing
- 20 Other Pavement Marking (*excluding edgelines, centerlines, or lane lines*)
- 21 Pedestrian Crossing
- 22 Railroad Crossing
- 23 School Zone
- 98 Other
- 99 Unknown

2019 TRF Discussion

Since the Manual on Uniform Traffic Control Devices was discussed, it prompted a brief discussion on the standards that MMUCC is using to determine how items are defined. The discussion of the four changes as proposed changes as follows:

- Change 1: The traffic control used was based on an older standard. The proposed modification would be to “speed reduction” warning signs
- Change 2: There was no discussion regarding this change as NHTSA presented it.
- Change 3: There was no discussion regarding this change as NHTSA presented it.
- Change 4: There was no discussion regarding this change as NHTSA presented it.

The working group **APPROVED** the change for consideration.

7. (REJECTED) Additional Attribute for “V18. Motor Vehicle Maneuver/ Action”.

(Submitted by Sarah Weissman Pascual)

Change for Consideration

To have the data element consistent with FARS.

Attribute Values:

00 No Driver Present

- 01 Backing
- 02 Changing Lanes
- 03 Entering Traffic Lane
- 04 Leaving Traffic Lane
- 05 Making U-Turn
- 06 Movements Essentially Straight Ahead
- 07 Negotiating a Curve
- 08 Overtaking/Passing
- 09 Parked
- 10 Slowing
- 11 Stopped in Traffic
- 12 Turning Left
- 13 Turning Right

- 98 Other
- 99 Unknown

Usage Note: This may not be necessary since we designate a lack of driver in both V3 and F1? If there is no driver, the appropriate answer might be 99. Unknown, since there would be nobody to ask.

2019 TRF Discussion

The primary discussion was about aligning with FARS. This attribute addition would be used for pre-crash information as part of the FARS case. An SME clarified that this attribute in FARS and CRSS as it is collected at the Pre-crash Level. In FARS and CRSS, this is a data entry/edit check-controlled attribute tied to the Driver Level element Driver Presence. Consequently, this would not be applicable in MMUCC as it is Vehicle Data.

The working group **REJECTED** this change.

8. (APPROVED) Change to “V24. Contributing Circumstances, Motor Vehicle” – Brakes (Attribute) to “Brake” or “Brake System”

(Submitted by MMUCC Technical Edits Team)

Change for Consideration

Change the attribute *Brakes* to *Brake* or *Brake System* to have the data element consistent with FARS.

Attribute Values:

- 00 None
- 01 **Brake System**
- 02 Exhaust System
- 03 Body, Doors
- 04 Steering
- 05 Power Train
- 06 Suspension
- 07 Tires
- 08 Wheels
- 09 Lights (head, signal, tail)
- 10 Windows/Windshield
- 11 Mirrors
- 12 Wipers
- 13 Truck Coupling / Trailer Hitch / Safety Chains
- 98 Other
- 99 Unknown

2019 TRF Discussion

There was no discussion of this change. The working group **APPROVED** the change for consideration.

9. (APPROVED) Inclusion of the Endorsement codes from the AAMVA D20 for “P12. Driver License Number, Class, CDL and Endorsements”

(Submitted by Sarah Weissman Pascual)

Change for Consideration

To use an existing guideline to update the endorsements listed within MMUCC.

P12. Driver License Number, Class, CDL and Endorsements

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

Class indicates the type of driver’s license issued by the State and the type of motor vehicle the driver is qualified to drive.

Class A: Any combination of vehicles with a gross combination weight rating

(GCWR) of 26,001 pounds or more provided the GVWR of the vehicle(s) being towed is in excess of 10,000 pounds.

Class B: Any single vehicle with a GVWR of 26,001 or more pounds, or any such vehicle towing a vehicle not in excess of 10,000 pounds GVWR.

Class C: Any single vehicle, or combination of vehicles, that does not meet the definition of Class A or Class B, but is either designed to transport 16 or more passengers, including the driver, or is used in the transportation of materials found to be hazardous which require the motor vehicle to be placarded.

Class M: Motorcycles, Mopeds, Motor-Driven Cycles.

Regular Driver License Class: Any regular or standard driver license issued for the operation of automobiles and light trucks by States that separate these vehicles from Class “C”. Other class designation codes such as “D”, “R” and others may be used by States to indicate a regular driver license class.

Commercial Driver License (CDL): This indicates whether the driver license is a commercial driver license (CDL). In addition, this information is important to separate the non-commercial licenses included by some States in Class C with the commercial licenses.

Endorsements: This indicates any endorsements to the driver license, both commercial and non-commercial. **Any endorsements on a driver license (not a permit) which authorize the operation of specified types of vehicles or the operation of vehicles carrying specified loads. Endorsements are specific to classifications of a driver license.**

N Tank - This endorsement is required for the operation of any tank vehicle, as defined in (49 CFR 383.5).

P Passenger - This endorsement is required for the operation of any vehicle used for transportation of sixteen or more occupants, including the driver.

S School Bus - This endorsement is required for the operation of a school bus. School bus means a CMV used to transport pre-primary, primary, or secondary school students from home to school, from school to home, or to and from school sponsored events. School bus does not include a bus used as common carrier (49 CFR 383.5).

T Doubles/Triples - This endorsement is required for the operation of any vehicle that would be referred to as a double or triple.

H Hazardous Material - This endorsement is required for the operation of any vehicle transporting hazardous materials requiring placarding, as defined by U.S. Department of Transportation regulations.

X Combined Tank/HAZ-MAT - This endorsement may be issued to any driver who qualifies for both the N and H endorsements.

L Motorcycles - Including Mopeds/Motorized Bicycles.

O Other Jurisdiction Specific Endorsement(s) – This code indicates one or more additional jurisdiction assigned endorsements. (E.g Emergency Vehicle (LA), Class A Farm Vehicle (OR), Tow Truck (NY))

Attribute Values:

Subfield 1	License Number <i>License Number – Alphanumeric identifier assigned by the authorizing jurisdiction (State, foreign country, U.S. government, Indian Nation, etc.).</i>	Specify <input type="text"/>
Subfield 2	Class	Select 1 <input type="text"/>
00	None	
01	Class A	
02	Class B	
03	Class C	
04	Class M	
05	Regular Driver License Class	
97	Not Applicable	
Subfield 3	Commercial Driver License (CDL)	Select 1 <input type="text"/>
01	No	
02	Yes	
Subfield 4	Endorsements	Select 1 <input type="text"/>
00	None/Not Applicable	
01	H - Hazardous Materials	
02	L - Motorcycles	
03	N - Tank Vehicle	
04	P - Passenger	
05	S - School	
06	T - Double/Triple Trailers	
07	X - Combination of Tank Vehicle and Hazardous Materials	
08	Other non-commercial license endorsements (e.g., motorcycle, etc.)	
Rationale	This information is mandated by FMCSA for commercial drivers. This element is critical to providing linkage between the crash and driver license files at the State level.	

2019 TRF Discussion

While there was no additional discussion from the working group, we received additional comments from the team members in their comments. This element would benefit from some reorganization. It may be beneficial to add the MC endorsement, but it is not an endorsement associated with a CDL. As currently structured, it is not clear how to handle a CDL license-holder operating a vehicle that does not require a CDL (e.g., an owner-operator of a truck-tractor with a Class A CDL driving his car on the weekend).

The MC endorsement is just another version of the existing Class M: Motorcycles, Mopeds, Motor-Driven Cycles. That is, some states issue a Class M, others issue a Regular DL and then require a Motorcycle Endorsement.

The working group **APPROVED** for consideration.

10. **(APPROVED)** Changing attributes in “P16. Driver License Restrictions” to be modified to reflect attributes in AAMVA D20.

(Submitted by Sarah Weissman Pascual)

Change for Consideration

Uses an existing guideline for the attribute values.

Proposed change to definition:

Usage Note: The value 'other' is used to indicate other jurisdiction defined restrictions apply. When used, the restriction explanation is used to describe these additional restrictions. Federal Regulation 49 CFR 383.153, specifies codes E, K, M, N, O, L, V, Z but allows the other D20 code values.

Proposed element change:

Subfield 1	Driver Restrictions
00	None
01	Breath Alcohol Ignition Interlock Device
02	CDL Intrastate Only
03	CDL No Air Brakes Equipped
04	CDL No Full Air Brake equipped
05	CDL No Manual Transmission equipped
06	CDL No Tractor-Trailer
07	Corrective Lenses must be worn
08	Farm Waiver
09	Except Class A Bus
10	Except Class A and Class B Bus
11	Except Tractor-Trailer
12	Intermediate License Restrictions
13	Learner's Permit Restrictions

- 14 Limited to Daylight Only
- 15 Limited to Employment
- 16 Limited-Other
- 17 Mechanical Aid (special brakes, hand controls, or other adaptive devices)
- 18 Medical Variance
- 19 Military Vehicles Only
- 20 Motor Vehicles Without Air Brakes
- 21 No Class A and Class B Passenger Vehicle
- 22 No Class A Passenger Vehicle
- 23 Outside Mirror
- 24 Prosthetic Aid

- 98 Other

2019 TRF Discussion

There was no discussion for this change. There was one correction for consideration. Attribute “04- CDL No Full Air Break equipped” is to be corrected to reflect “04- CDL No Full Air Brake equipped”

The working group **APPROVED** this change for consideration.

11. (APPROVED) Change Subfield Name for “F2. Alcohol Test Type and Results”

(Submitted by Sarah Weissman Pascual)

Change for Consideration

Change the name of subfield 1 from *Test Type* to *Type of Test* to be consistent with P21.

Attribute Values:

- Subfield 1 **Type of Test**
 - 00 Test Not Given
 - 01 Breath Test (AC)
 - 02 Blood
 - 03 Blood Clot
 - 04 Blood Plasma/Serum
 - 05 Liver
 - 06 Preliminary Breath Test (PBT)
 - 07 Unknown if Tested
 - 08 Urine

09 Vitreous

98 Other Test Type

99 Unknown Test Type

2019 TRF Discussion

The only discussion was that several States are performing oral fluid screenings for drugs. The working group **APPROVED** this change for consideration.

12. (APPROVED) Update Definition for “LV8. Vehicle Configuration” Attribute

(Submitted by MMUCC Technical Review)

Change for Consideration

Update the definition provided for the attribute *Over Length* because FHWA does not provide a maximum length for a large vehicle trailer allowed on the national network (NN). A definition and appendix graphic displaying the information to help with context for the MMUCC 6th edition. This listing also includes the addition of vehicle weights as they are not included as part of the definition.

Partial information from the following link is provided below. See link for full entry:
https://ops.fhwa.dot.gov/freight/publications/size_regs_final_rpt/index.htm#length

LENGTH REQUIREMENTS

The Federal length limits are principally minimums that States must allow for the following vehicles on the NN and reasonable access routes.

Truck Tractor-Semitrailer Combinations

The minimum allowable length limit for the semitrailer in this combination is 14.63 m (48 feet) or the grandfathered limit for a particular State. (See discussion of Grandfathered Semitrailer Lengths on page 3.) A State may not impose an overall vehicle length limit on a truck tractor-semitrailer combination operating on the NN or reasonable access routes, even if the trailer is longer than the minimum length required by Federal law (Figure 2). A State may not impose an overall length limit on a truck tractor pulling a single semitrailer or a limit on the distance between the axles of such a truck tractor.

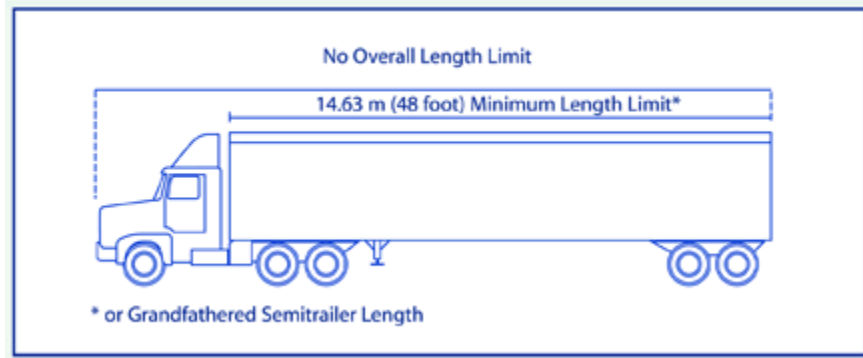


Figure 2. Truck Tractor-Semitrailer Combination

A truck tractor is defined as a non-cargo-carrying power unit used in combination with a semitrailer. A truck that carries cargo on the same chassis as the power unit and cab, commonly known as a straight truck, is not subject to Federal regulations, but is subject only to State provisions. Likewise, a straight truck towing a trailer or semitrailer is subject only to State vehicle length regulation, except that the total length of its two cargo-carrying units may not exceed a federally established limit of 65 feet. (See discussion of ISTEA "Freeze," on page 13.) The only instances where Federal regulations apply to a combination vehicle composed of a truck carrying cargo involve dromedaries, maxi-cube vehicles, and automobile and boat transporters, discussed later in this document.

Truck Tractor-Semitrailer-Trailer Combinations

The *minimum* length that States must allow for trailers and semitrailers in these combinations on the NN is 8.53 m (28 feet) (Figure 3). States must also allow the continued use of semitrailers 8.69 m (28 feet 6 inches) long that were in use on December 1, 1982, provided the overall length of the combination does not exceed 19.81 m (65 feet). The *maximum overall length* of cargo-carrying units that States may allow for twin trailer combinations *when one trailing unit is longer than 28.5 feet* is determined by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

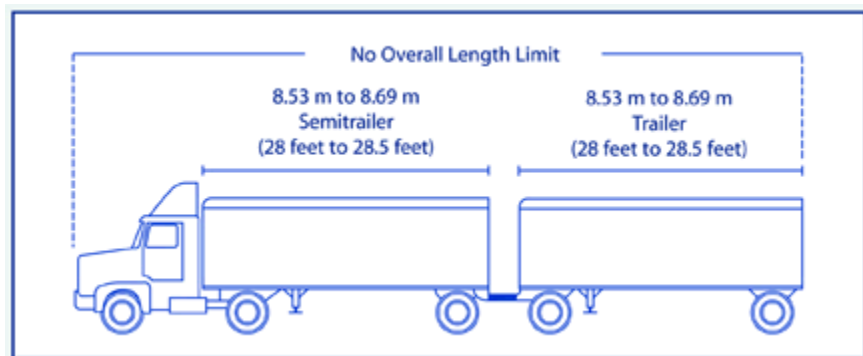


Figure 3. Truck Tractor-Semitrailer-Trailer Combination

Weight Requirement

Proposed Change:

- 80,000 pounds gross vehicle weight
- 20,000 pound single axle weight
- 34,000 pound tandem axle weight

2019 TRF Discussion

Within the definition, there must be detail added to include the regulation at the State level to refine the definition to the user. As this differs in each respective State, the definition should indicate reference to the State's regulations on OverLength and OverWeight. Consideration might also be given to whether a vehicle who is deemed to be overweight or overlength has the proper permits, as it perhaps should not be considered as such if it has been permitted. Since this is similar to item 12, the working group requested that these two changes be merged into one listing.

The working group **APPROVED** this change for consideration.

13. (APPROVED) Update Attribute in "NM2. Non-Motorist Action/Circumstance Prior to Crash" to Align to FARS

(Submitted by MMUCC Technical Review)

Change for Consideration

Update the attribute, *Adjacent to Roadway (e.g. Shoulder, Media)* to *Stationary and Adjacent to Roadway (e.g., Shoulder, Median, Sidewalk)* to align the attribute with the attribute in FARS. Current one overlays with the attribute "Walking/Cycling on Sidewalk"

Attribute Values:

Subfield 1	Action/Circumstance
00	None
	Adjacent to Roadway (e.g., Shoulder, Median)
01	Crossing Roadway
02	In Roadway – Other
03	Stationary and Adjacent to Roadway (e.g., Shoulder, Median, Sidewalk)
04	Waiting to Cross Roadway
05	Walking/Cycling Along Roadway Against Traffic (In or Adjacent to Travel Lane)
06	Walking/Cycling Along Roadway with Traffic (In or Adjacent to Travel Lane)
07	Walking/Cycling on Sidewalk
08	Working in Trafficway (Incident Response)

- 98 Other
- 99 Unknown

2019 TRF Discussion

The discussion for this attribute centered around a very clear definition for the inclusion of the word “adjacent” with the use of the attribute.

The working group **APPROVED** this change for consideration with two of the 53 attendees opposed.

14. (APPROVED) Update “R13. Presence/Type of Bicycle Facility” Attribute (Submitted by Sarah Weissman Pascual)

Change for Consideration

Update the attribute *Separate Bicycle Path/Trail* to *Separated Bike Lanes* to be consistent with NM4.

Attribute Values:

Subfield 1	Facility
00	None
01	Marked Bicycle Lane
02	Separated Bicycle Lanes
	Separate Bicycle Path/Trail
03	Unmarked Paved Shoulder
04	Wide Curb Lane
99	Unknown

2019 TRF Discussion

The only discussion point was to correct the verbiage in the proposed changes document from “02-Separated Bike Lanes” to “02-Separated Bicycle Lanes”.

The working group **APPROVED** this change for consideration.

15. (APPROVED) Arrow for Mapping example in Table 2 similar to Figures 22 and 23

(Submitted by MMUCC Technical Review)

Change for Consideration

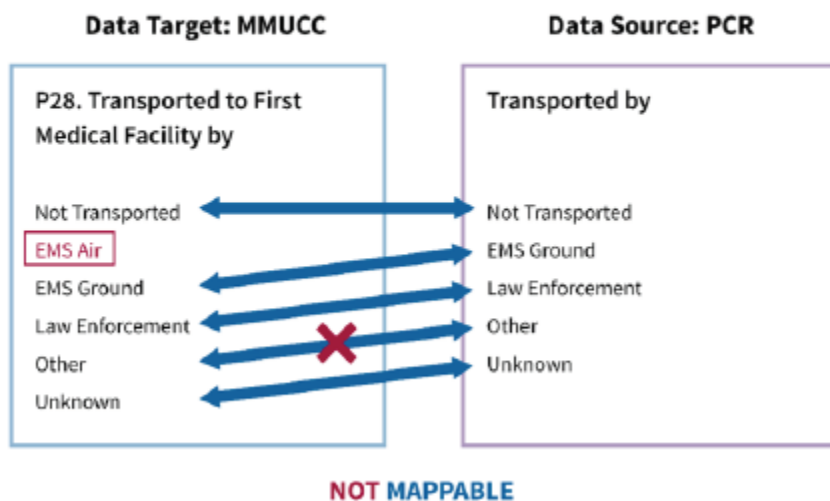
To make the example in Table 2 display the items that map and those that do not graphically. Existing Table 2 in Mapping to MMUCC Section:

Table 2: Example of a Mapping Table

Target Data: MMUCC			Ability to Map? 1 = Yes 0 = No	Source: State Element
Data Element	Data Attribute (Subfield 1)			Data Element/ Data Attribute
C11	Weather Conditions	Blowing Sand, Soil, Dirt	0	(9) Blowing Sand, Soil, Dirt, or Snow cannot be split.
		Blowing Snow	0	
		Clear	0	(1) No Adverse Condition (Clear, Cloudy) cannot be split.
		Cloudy	0	
		Fog, Smog, Smoke	1	(2) Fog (7) Smoke/Dust includes Dust
		Freezing Rain or Freezing Drizzle	0	
		Rain	1	(4) Rain
		Severe Crosswinds	1	(10) Severe Crosswinds
		Sleet or Hail	1	(6) Sleet/Hail
		Snow	1	(5) Snow
		Other	0	
		Unknown	0	

Replaced with a *similar* graphic to this:

Figure 23: State Crash Report Attribute “Other” Cannot Be Mapped to the MMUCC



2019 TRF Discussion

There was no noted discussion for this change.

Approval of Change

The working group **APPROVED** this change for consideration with one of the 53 attendees opposed.

III. 2018 Evaluated Changes

The following changes were discussed during the 2018 Traffic Records Forum. The MMUCC session was attended by 33 attendees, who considered each proposed change.

1. **(APPROVED) Add Element, “Travel Speed of Motor Vehicle in Transport”**

(Proposed by State Government user) For the purposes of his research, the user made it clear that understanding the actual travel speed of the vehicle was critical to understanding the relationships between speed, crash severity and injury outcomes.

2018 TRF Discussion

This proposed change was APPROVED for consideration during the MMUCC 6th Edition update process, tentatively scheduled to begin in 2021. The vote was greater than 70% in favor of inclusion, for an audience of 30+ attendees.

There was detailed discussion of the merits and challenges of this proposed element. A couple LEOs in attendance opposed the estimated version in lieu of a calculated element. Other LEOs mentioned they currently have something like this, that they populate for more serious crashes. Stakeholders were generally in favor of this information, but unsure if they wanted estimated speed, calculated speed or both options.

The group settled on two possible solutions:

Option 1 would include both in a combo element, separated by subfields.

Option 2 would include both as separate elements, estimated travel speed (as outlined here) in *Main* MMUCC, and calculated speed at collision impact in the Fatal Crash Section. (Specific element details to be determined by expert panel)

V#. Travel Speed of Motor Vehicle in Transport

Definition: The travel speed the motor vehicle in transport was traveling prior to the occurrence of the crash.

Attribute Values:

000	Stopped Motor Vehicle
001-150	Reported Speed Up to 150 (miles per hour)
997	Greater than 150 miles per hour
999	Unknown

Rationale: Important to evaluate the speed of vehicles to determine the role of travel speed in crashes and impact on crash severity.

Edit Checks:

E(V) #.01 Travel speed of motor vehicle in transport only applicable if “V2. Motor Vehicle Unit Type and Number” Subfield 1 is = to 01(Motor Vehicle in Transport).

E(V) #.02 If “V18. Motor Vehicle Maneuver/Action” is = to 11(Stopped in Traffic), then V# must = 000.

2. (APPROVED) Add Element, “Crash Events” that would replace “C7. First Harmful Event”, “C8. Location of First Harmful Event Relative to the Trafficway”, “V19. Vehicle Damage” (Subfield 1, Initial Point of Contact), and “V20. Sequence of Events”.

(Proposed by NHTSA) The FARS Crash Events table records in chronological sequence the set of events that constitute a crash. From this crash-level sequence of events, the following are derived “C7. First Harmful Event”, “C8. Location of First Harmful Event Relative to the Trafficway”, “V19. Vehicle Damage” (Subfield 1, Initial Point of Contact), and “V20. Sequence of Events”.

2018 TRF Discussion

This proposed change was APPROVED for consideration during the MMUCC 6th Edition update process, tentatively scheduled to begin in 2021. The vote was greater than 70% in favor of inclusion, for an audience of 30+ attendees.

There was detailed discussion of the merits and challenges of this proposed element, including how this would impact how LEOs currently are trained. A couple LEOs were concerned that their training would need to be changed. Other LEOs and many stakeholders agreed that this is more consistent with how crash events unfold and would greatly benefit crash analysis. Overall, the group was in favor of considering this addition, pending a working group to detail out the framework of the new table and the removal of the existing elements.

C#. Crash Events

Definition: The crash events table records in chronological sequence the set of events that constitute a crash. *First harmful event* is defined as the first injury- or damage-producing event of the crash. *Location of the harmful event relative to the trafficway* defines its position within or outside the trafficway. See “Figure 1: Diagram of the Trafficway” (p. 10) for diagrams of the trafficway.

V# (This)	The vehicle number for this vehicle.
AoI (This)	Area of Impact for this vehicle.
LRT (This)	The location of the <i>harmful</i> sequence of event relative to the trafficway. <i>Non-harmful sequence of events use attribute ‘00 Not a harmful event.’</i>
SoE	Sequence of Events
V# (Other)	The vehicle number for the other vehicle.
AoI (Other)	Area of Impact for the other vehicle.

<i>Event No.</i>	<i>V# (This)</i>	<i>AoI (This)</i>	<i>LRT (This)</i>	<i>SoE</i>	<i>V# (Other)</i>	<i>AoI (Other)</i>
1						
2						
3						
4						
5						
...						
999						

Event Number

Attribute Values:

001 – 999 *Actual Number*

Remarks: This is an auto-assigned or sequential number beginning with ‘001.’ The event number(s) show the chronological sequence of the qualifying harmful and non-harmful events in the crash. Qualifying events are those that involve an in-transport motor vehicle or an object set-in-motion by an in-transport motor vehicle.

Vehicle Number (This Vehicle)

Attribute Values:

001 – 999 *Actual Number*

Remarks: Enter the number of the in-transport motor vehicle associated with the event in the Sequence of Events column of the Crash Events Table. Vehicles are assigned the Police Crash Report’s vehicle number unless a vehicle number from the Police Crash Report is not used in the case (e.g., non-contact vehicle).

Area of Impact (This Vehicle)

Attribute Values:

Subfield 1 **Initial Point of Contact**

00 Non-Collision

01

02

03

04

05

06

07

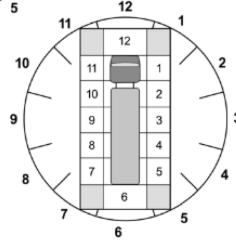
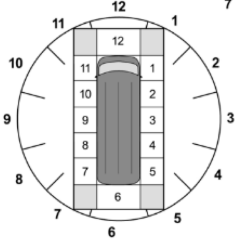
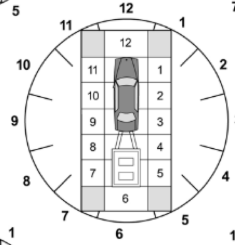
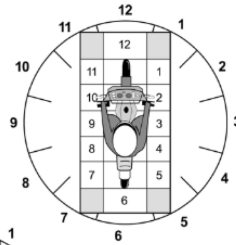
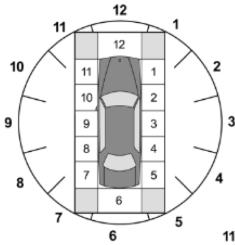
08

09

10

11

12



13 T_i

14 Undercarriage

15 Cargo Loss

16 Vehicle Not at Scene

99 Unknown

Remarks: Identifies the contact point (if applicable) for the vehicle coded in Vehicle Number (This Vehicle) associated with this event. If the event is a Collision event, code the value that identifies the impact area or indicates this vehicle set an object in motion. If the event is a Non-Collision event, use the attribute 00 (Non-Collision). If the event is a Non-Harmful event, then skip entry of an Areas of Impact (This Vehicle) value for that event.

Location of Harmful Event Relative to the Trafficway (This)

Attribute Values:

- 00 Not a harmful event
- 1 Gore
- 2 In Parking Lane or Zone
- 3 Median
- 4 Off-Roadway, Location Unknown
- 5 On Roadway
- 6 On Shoulder, Left Side
- 7 On Shoulder, Right Side
- 8 Outside Road/Right-of-Way
- 9 Roadside
- 10 Separator/Traffic Island
- 99 Unknown

Sequence of Events

Attribute Values:

Non-Harmful Events

- 1 Cross Centerline
- 2 Cross Median
- 3 End Departure (T-intersection, dead-end, etc.)
- 4 Downhill Runaway
- 5 Equipment Failure (blown tire, brake failure, etc.)
- 6 Ran Off Roadway Left
- 7 Ran Off Roadway Right
- 8 Reentering Roadway
- 9 Separation of Units
- 10 Other Non-Harmful Event

Non-Collision Harmful Events

- 11 Cargo/Equipment Loss or Shift
- 12 Fell/Jumped From Motor Vehicle
- 13 Fire/Explosion
- 14 Immersion, Full or Partial
- 15 Jackknife
- 16 Other Non-Collision Harmful Event
- 17 Overturn/Rollover
- 18 Thrown or Falling Object

Collision With Person, Motor Vehicle, or Non-Fixed Object

- 19 Animal (live)
- 20 Motor Vehicle in Transport
- 21 Other Non-Fixed Object
- 22 Other Non-Motorist
- 23 Parked Motor Vehicle
- 24 Pedalcycle
- 25 Pedestrian
- 26 Railway Vehicle (train, engine)
- 27 Strikes Object at Rest from MV in Transport
- 28 Struck by Falling, Shifting Cargo or Anything Set
in Motion by Motor Vehicle
- 29 Work Zone/Maintenance Equipment

Collision With Fixed Object

- 30 Bridge Overhead Structure
- 31 Bridge Pier or Support
- 32 Bridge Rail
- 33 Cable Barrier
- 34 Concrete Traffic Barrier
- 35 Culvert
- 36 Curb
- 37 Ditch
- 38 Embankment
- 39 Fence/Guardrail End Terminal
- 40 Guardrail Face
- 41 Impact Attenuator/Crash Cushion
- 42 Mailbox
- 43 Other Fixed Object (wall, building, tunnel, etc.)
- 44 Other Post, Pole, or Support
- 45 Other Traffic Barrier
- 46 Traffic Sign Support
- 47 Traffic Signal Support

- 48 Tree (standing)
- 49 Utility Pole/Light Support
- 50 Unknown Fixed Object

Remarks: Sequence of Events should be listed in sequential order based upon the beginning of each event, regardless of how long each event requires. All events, both harmful and non-harmful should be recorded in sequence from the first event that initiated the sequence of events that define a crash until the end event where all parties are stopped, and the crash event has concluded. Vehicle-level sequence of events and first harmful event can be derived from this crash events table.

FARS Guidance:

~~This data element is derived from the Crash Events Table. Recording of Crash Events ends at the last harmful event of the entire crash. Therefore, a non-harmful event (e.g., Crossing the Centerline) that occurs following the last harmful event of the crash will not be included. Correction to the Sequence Events order must be made by revision to the Crash Events Table. This field uses the same values and Remarks as the Vehicle Level data element Sequence of Events.~~

I am interpreting this guidance to mean that FARS requires both a crash level SOE AND the vehicle level element as well. Adding a large, complicated element that does not replace several existing elements will be difficult (not a minimum, etc.).

I recommend we ignore their guidance and collect all SOEs, to properly REPLACE the previous elements, and let the FARS Analysts pull out what they require.

Vehicle Number (Other Vehicle)

Attribute Values:

001 – 999 *Actual Number*

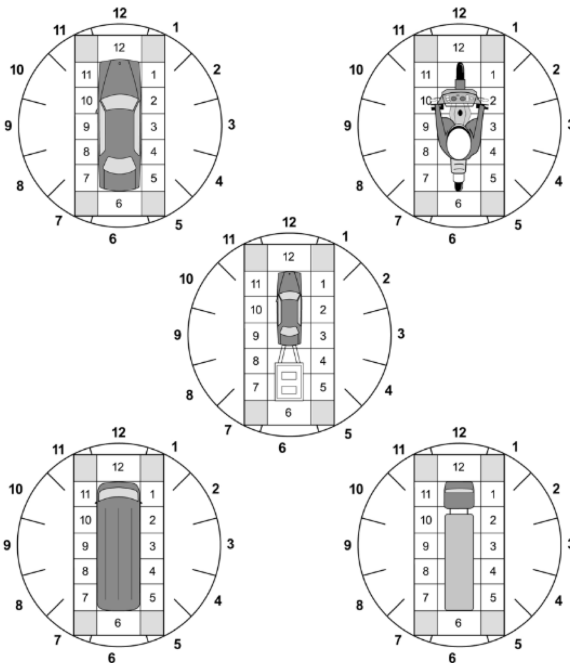
Area of Impact (Other Vehicle)

Attribute Values:

Subfield 1 Initial Point of Contact

00 Non-Collision

01
02
03
04
05
06
07
08
09
10
11
12



17 Top
18 Undercarriage
19 Cargo Loss

20 Vehicle Not at Scene

99 Unknown

Rationale: Insert reason here.

Edit Checks:

E(C) #.01 Insert edit check here.

E(C) #.02 Insert edit check here.

DRAFT

3. (APPROVED) Change Subfield selections for element, “DV1. Motor Vehicle Automated Driving System(s)”

(Proposed by 2018 TRF stakeholders) During the 2018 Traffic Records Forum MMUCC session, the audience proposed and approved for later consideration a change to Subfields 2 and 3 from “Select 1-5” to “Select 1”.

The idea from the conversation was to select the highest level of automation in the vehicle (Subfield 2) and then the highest level engaged at time of crash (Subfield 3), as opposed to everything available and active. The stakeholders felt this would enhance the resulting data for analysis and decision-making.

2018 TRF Discussion

This proposed change was APPROVED for consideration during the MMUCC 6th Edition update process, tentatively scheduled to begin in 2021. The vote was greater than 70% in favor of inclusion, for an audience of 30+ attendees.

Attribute Values:

Subfield 1	Automation System in Vehicle	Select 1
01	No	
02	Yes	<input type="checkbox"/>
99	Unknown	
Subfield 2	Highest Automation System Level in Vehicle	Select 1
00	No Automation	
01	Driver Assistance	<input type="checkbox"/>
02	Partial Automation	<input type="checkbox"/>
03	Conditional Automation	
04	High Automation	
05	Full Automation	
06	Automation Level Unknown	
99	Unknown	
Subfield 3	Highest Automation System Level Engaged at Time of Crash	Select 1
00	No Automation	
01	Driver Assistance	<input type="checkbox"/>
02	Partial Automation	<input type="checkbox"/>
03	Conditional Automation	
04	High Automation	
05	Full Automation	
06	Automation Level Unknown	
99	Unknown	

4. **(REJECTED) Proposal to Add Additional Data Elements to LVHM to Collect More Information in Underride Crashes**

(Proposed by www.stopunderrides.org) The following 'checklist' of questions were proposed by an activist Mom whose family was impacted by an underride fatality. She/they hope to collect better data to inform research, analysis and eventually statutory changes if the data warrants it.

For context, I have included their full list, but most of these questions are already answered by existing MMUCC elements (and FARS elements with a fatality) or possibly through the integration of trailer VINs and inspection reports. Questions that warrant review for possible inclusion in the LVHM are highlighted for discussion.

1. Did airbags deploy?
2. Did the car's crumple zone function as intended?
3. Did the truck enter any part of the passenger occupant space?
4. With what part of the truck did the car initially collide?
5. If it collided in the rear, at what point on the rear guard did it make contact?
6. What happened to the rear underride guard?
7. What appeared to be the condition of the rear underride guard? Did it look like it was properly maintained? Was it rusty, corroded, have cracks, etc.?
8. Did the underride prevention equipment have any record of maintenance?
9. Was it a tractor trailer or a single unit truck?
10. What make and model was the truck (trailer)?
11. Were there any serious injuries? If so, where was the person sitting in the passenger vehicle?
12. Were there any fatalities?
13. If so, where was the person sitting in the passenger vehicle?
14. If so, what was listed as the primary cause of death?

2018 TRF Discussion

This proposed change was REJECTED for consideration during the MMUCC 6th Edition update process, tentatively scheduled to begin in 2021. The vote was 0% in favor of inclusion, for an audience of 30+ attendees.

Not one stakeholder felt this would add helpful information, or that it was reasonable to collect. In particular, they felt the information being sought is highly subjective, which will lead to data quality and analysis issues.