

This document outlines changes proposed  
by the internal USDOT MMUCC 5th  
Edition Team.

# DOT Proposed Changes to MMUCC

Traffic Records Team, NHTSA

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## 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. NHTSA and GHSA are currently working on the next iteration of MMUCC and aim to publish the 5<sup>th</sup> Edition in 2017.

NHTSA – in collaboration with the Federal Highway Safety Administration (FHWA) and the Federal Motor Carrier Safety Administration (FMCSA) – is proposing a number of MMUCC enhancements for GHSA, its stakeholders, and the MMUCC Expert Panel to consider. DOT believes these proposed changes will reduce the burden on primary data collectors and improve the quality of crash data by addressing emerging safety issues, technological changes, and developments in how States collect, manage, and analyze their crash data.

## Overview of Proposed Enhancements

The Model Minimum Uniform Crash Criteria (MMUCC) provides a data set for describing motor vehicle crashes that will generate the information necessary to improve highway safety.

The proposed changes to the Model Minimum Uniform Crash Criteria (MMUCC) are designed to reduce the burden on primary data collectors and improve the quality of crash data by addressing emerging safety issues, technological changes, and developments in how States collect, manage, and analyze their crash data.

NHTSA, FMCSA, and FHWA are proposing the following changes to MMUCC:

1. Reformatting the MMUCC document
2. Reorganization of the MMUCC elements into circumstance-dependent sections triggered only when required:
  - a) Fatal Crash Section
  - b) Large Vehicle/Hazardous Materials (LVHM) Crash Section
  - c) Non-Motorist Crash Section
3. Changes and additions to ‘main’ MMUCC data elements

## I. Data Source and Formatting Changes to MMUCC

### Issue: Data Sources for MMUCC

The MMUCC 4<sup>th</sup> edition identifies 77 data elements collected at the scene of the crash and 33 data elements that are either linked or derived. As States increase data integration, some data elements that MMUCC identifies as collected on scene can now be linked or derived from other databases. For example, information linked or derived from “C6. Crash Location” can be used to populate “C.4 Crash County” and “C.5 Crash City Place Jurisdiction”, etc.

This proposal would reduce the number of data elements identified as “collected on scene”, and allow States the flexibility to rely more on data integration to populate fields. As data integration increases, the burden on law enforcement will decrease. Ultimately, whether or not an element can be linked or derived rather than collected manually is based upon a State’s actual capabilities rather than a prescribed/estimated level of integration.

Data Elements Collected at Scene	Data Elements Primarily Linked or Derived
<b>Crash</b> C2. Crash Classification, S2 C3. Crash Date and Time C6. Crash Location C7. First Harmful Event C8. Location of First Harmful Event Relative to the Trafficway C9. Manner of Crash/Collision Impact C11. Weather Conditions* C12. Light Condition* C13. Roadway Surface Condition C14+C15. Contributing Circumstances, Roadway Environment C16. Relation to Junction C18. School Bus-Related C19. Work Zone-Related (Construction/Maintenance/Utility)  <b>Vehicle</b> V1. MV Identification Number (VIN) V2. MV Unit Type and Number, S1 V4. MV License Plate Number V10+V22. Special Function of MV in Transport (Bus Use) V11. Emergency MV Use V13. Direction of Travel Before Crash V17. Traffic Control Device Type V18. MV Maneuver/Action V19. Vehicle Damage V20. Sequence of Events V21. Most Harmful Event for this MV V23. Hit and Run V24. Towed Due to Disabling Damage V25. Contributing Circumstances, MV V#. MV Automation Capability  <b>Person</b>	<b>Crash</b> C1. Case Identifier + C10 (LE Agency Identifier) C2. Crash Classification, S1 C4. Crash County C5. Crash City/Place (political jurisdiction) C17. Type of Intersection  CD1. Crash Severity CD2. Number of MVs Involved CD3. Number of Motorists CD5. Number of Non-Fatally Injured Persons CD6. Number of Fatalities CD7. Alcohol Involvement CD8. Drug Involvement CD9. Day of Week  <b>Vehicle</b> V2. MV Unit Type and Number, S2 V3. MV Registration State and Year V5. MV Make V6. MV Model Year V7. MV Model V8. MV Body Type Category V9. Total Occupants in MV V12. MV Posted/Statutory Speed Limit V14. Trafficway Description V15. Total Lanes in Roadway V16. Roadway Alignment and Grade  <b>Person</b> <u>Level 1</u> P2. Date of Birth, S2  <u>Level 2</u> P6. Occupant’s MV Unit Number

<p><u>Level 1</u></p> <p>P1. Name of Person Involved P2. Date of Birth, S1 P3. Sex P4. Person Type P5. Injury Status</p> <p><u>Level 2</u></p> <p>P7. Seating Position P8. Restraint Systems/Motorcycle Helmet Use P9. Air Bag Deployed P10. Ejection</p> <p><u>Level 3</u></p> <p>P12. Driver License Number, Class, CDL and Endorsements, S1 P13. Speeding Related P14. Driver Actions at Time of Crash</p> <p><u>Level 4</u></p> <p>P16. Distracted By P17. Condition at Time of the Crash P18. Law Enforcement Suspects Alcohol Use P19. Alcohol Test, S1-2 P20. Law Enforcement Suspects Drug Use P21. Drug Test, S1-2</p> <p><u>Level 6</u></p> <p>P28. Transported to First Medical Facility By, S2-3</p> <p><b>Fatal Section</b></p> <p>FS#. Attempted Avoidance Maneuver FS#. Pre-Impact Stability FS#. Alcohol Test Type and Results FS#. Drug Test Type and Results</p> <p><b>Large Vehicle/HM Section</b></p> <p>DL#. CMV License Status and Compliance with CDL Endorsements VL#. Trailer License Plate Number VL#. Trailer VIN(s) VL#. Trailer Make(s) VL#. Trailer Model(s) VL#. Trailer Model Year(s) V26. Motor Carrier Identification V27. Gross Vehicle Weight Rating/Gross Combination Weight Rating VL#. Vehicle Permitted V28. Vehicle Configuration V29. Cargo Body Type V30. Hazardous Materials (Cargo Only)</p> <p><b>Non-Motorist Section</b></p> <p>NM#/P27. Unit Number of MV Striking NM NM#/P23/P25. NM Pre-Crash Location and Action NM#/P24. NM Contributing Circumstances</p>	<p><u>Level 3</u></p> <p>P11. Driver License Jurisdiction P12. Driver License Number, Class, CDL and Endorsements, S2-4 P15. Violation Codes</p> <p>PL1. Driver License Restrictions PL2. Driver License Status PL3. Drug Test Result</p> <p><u>Level 4</u></p> <p>P19. Alcohol Test, S3 P21. Drug Test, S3</p> <p><u>Level 5</u></p> <p>P22. Non-Motorist Number</p> <p><u>Level 6</u></p> <p>P28. Transported to First Medical Facility By, S1 +4</p> <p>PL4. Injury Area PL5. Injury Diagnosis PL6. Injury Severity</p> <p><b>Roadway (17)</b></p> <p>RL1. Bridge/Structure ID Number RL2. Roadway Curvature RL3. Grade RL4. Part of National Highway System RL5. Roadway Functional Class RL6. Annual Average Daily Traffic RL7. Widths of Lane(s) and Shoulder(s) RL8. Width of Median RL9. Access Control RL10. Railway Crossing ID RL11. Roadway Lighting RL12. Pavement Markings, Longitudinal RL13. Presence/Type of Bicycle Facility RL14. Traffic Control Type at Intersection RL15. Mainline Number of Lanes at Intersection RL16. Cross-Street Number of Lanes at Intersection RL17. Total Volume of Entering Vehicles</p> <p><b>Non-Motorist Section</b></p> <p>NM#/CD4. Number of NMs</p>
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NM#/P26. NM Safety Equipment NM#. Initial Contact Point on NM	
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## Issue: Reformatting the MMUCC Document

The purpose of the proposed formatting changes is to improve how information within the MMUCC manual is organized and to conform to best practices for displaying information. Specific changes include:

- Eliminating use of multiple subfields to designate more than one attribute selection. List the attributes once and display the absolute or range of attributes that should/can be selected;
- Adding a visual representation for the number of selections allowed. Similar to the Alaska, National Park Service, or Connecticut crash reports;
- Unless a specific order is needed (like for KABCO and size of CMVs), alphabetizing attributes by the first letter of the first word, except for special attributes (None, Not Applicable, Other, Unknown) to limit bias;
- Adding edit checks to each data element; and
- Where appropriate, moving figures and tables attributable to an element from an appendix to the end of that element's entry. MMUCC Appendices G and H are excellent examples of content that should be migrated into the body of the document.

(Group + Type) Number. Data Element Name		
Definition	ENTER HERE	
<u>Attribute Values:</u>		
Subfield 1	<b>Subfield 1 Name/Category</b>	<b>Select 1</b>
00	None	<input type="checkbox"/>
01	Attribute one	
02	Attribute two	
03	Attribute three	
04	Attribute four	
...	...	
97	Not Applicable	
98	Other	
99	Unknown	
Subfield 2	<b>Subfield 2 Name/Category</b>	<b>Select 1-2</b>
00	None	<input type="checkbox"/>
01	Attribute one	
02	Attribute two	
...	...	
97	Not Applicable	<input type="checkbox"/>
98	Other	
99	Unknown	
Rationale	ENTER HERE	
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

Figure 1: Prototype of New MMUCC Layout for Data Elements

## II. Fatal Crash Section

### Issue: Improving Data Uniformity for Fatal Crashes

The analysis of fatal crashes is important for identifying safety risks and developing countermeasures. Many State and national safety programs rely on data derived from fatal crash analyses. The Fatality Analysis Reporting system (FARS) is the primary data system and source for motor vehicle crash statistics. FARS relies on crash reports and—at present—much of the information needed for FARS can only be found in the narrative, when it is in the crash report at all. As a result, FARS analysts are frequently challenged to locate and interpret key data from crash reports to complete the coding of a FARS case.

### Proposed Changes:

Create a sub section of MMUCC to be completed only when there is a fatal crash. This section will include elements required by the Fatality Analysis Reporting System (FARS) and will greatly improve data quality. This section would be completed (“triggered”) only when the “Injury Status” (formerly P5) indicates a fatal injury.

- “PC20. Attempted Avoidance Maneuver” to MMUCC Fatal Section (FS).
- “PC21. Pre-Impact Stability” to MMUCC FS.
- “P18/NM17. Alcohol Test” to MMUCC FS.
- “P21/NM20. Drug Test” to MMUCC FS.

The addition of these data elements for fatal crashes would improve the quality of FARS crash data, which currently attempts to collect this information from the crash narrative. Providing a uniform standard of for data collection would lessen reliance on narratives and smooth/speed the FARS process significantly.

### New Data Element: Attempted Avoidance Maneuver

#### F#. Attempted Avoidance Maneuver

This element identifies movements/actions taken by the driver after the driver realizes there is an impending danger. This element assesses what the driver action was in response to his/her realization.

#### Attribute Values:

##### Subfield 1

- 01 Accelerating
- 02 Accelerating and Steering Left
- 03 Accelerating and Steering Right
- 04 Braking and Steering Left
- 05 Braking and Steering Right
- 06 Braking (Lockup)
- 07 Braking (Lockup Unknown)
- 08 Braking (No Lockup)
- 09 No Avoidance Maneuver
- 10 No Driver Present/Unknown if Driver Present
- 11 Releasing Brakes
- 12 Steering Left
- 13 Steering Right
- 98 Other Actions
- 99 Unknown

Rationale INSERT HERE.

#### Edit Checks:

- E(GT)#.01 Edit check one
- E(GT)#.02 Edit check two

Select 1

## New Data Element: Pre-Impact Stability

### F#. Pre-Impact Stability

**Definition** This element assesses the stability of the vehicle after the driver realizes there is an impending danger and takes action, but before the crash.

#### Attribute Values:

#### Subfield 1

- 01 No Driver Present/Unknown if Driver Present
- 02 Skidding Laterally, Clockwise Rotation
- 03 Skidding Laterally, Counter-Clockwise Rotation
- 04 Skidding Laterally, Rotation Direction Unknown
- 05 Skidding Longitudinally, Rotation Less Than 30 Degrees
- 06 Tracking

Select 1

- 98 Other Vehicle Loss-Of-Control
- 99 Pre-crash Stability Unknown

**Rationale** INSERT HERE.

#### Edit Checks:

E(GT)#.01 Edit check one  
E(GT)#.02 Edit check two

## New Data Element: Alcohol Test Type and Results

### F#. Alcohol Test Type and Results

**Definition** This element identifies the alcohol test type and results for this person.

#### Attribute Values:

#### Subfield 1

#### Test Type

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

Select 1

- 98 Other Test Type
- 99 Unknown Test Type

#### Subfield 2

#### Test Result

- 000-939 Actual Value
- 940 0.94 or Greater
- 996 Test Not Given
- 997 AC Test Performed, Results Unknown
- 998 Positive Reading with No Actual Value

Select 1

- 999 Unknown if Tested

**Rationale** INSERT HERE

#### Edit Checks:

E(GT)#.01 Edit check one  
E(GT)#.02 Edit check two

## New Data Element: Drug Test Type and Results

### F#. Drug Test Type and Results

**Definition** This element identifies the drug test type and results for this person.

Attribute Values:			
Subfield 1	<b>Test Type</b>	Select 1-2	
00	Blood	<input type="text"/>	
01	Both Blood <i>and</i> Urine		
02	Test Not Given		
03	Unknown Test Type		
04	Urine	<input type="text"/>	
98	Other Test Type		
99	Unknown if Tested		
Subfield 2	<b>Test Result</b>	Select 1	
000	Test Not Given	<input type="text"/>	
001	Tested No Drugs Found/Negative		
100-295	Narcotic*		
300-395	Depressant*		
400-495	Stimulant*		
500-595	Hallucinogen*		
600-695	Cannabinoid*		
700-795	Phencyclidine (PCP)*		
800-895	Anabolic Steroid*		
900-995	Inhalant*		
996	Other Drug		
997	Tested for Drugs, Results Unknown		
998	Tested for Drugs, Drugs Found, Type Unknown/Positive		
999	Unknown if Tested		
Rationale	*See specific drug listings in Appendix XYZ (page a).		
<u>Edit Checks:</u>			
E(GT)#.01	Edit check one		
E(GT)#.02	Edit check two		

## MMUCC Data Elements effected by Fatal Crash Section

Adopting the fatal crash data elements would also affect existing MMUCC data elements.

- Update “P5. Injury Status” to include trigger (\*\* notation) for Fatal Section.



### III. Large Vehicle/ Hazardous Material Section

#### Issue: Improving Data Quality for Crashes Involving Large Vehicles and Hazardous Materials

The Federal Motor Carrier Safety Administration (FMCSA) analyzes crashes involving large vehicles, including a truck with a gross vehicle weight rating greater than 10,000 pounds and any motor vehicle designed primarily to transport nine (9) or more persons, as well as vehicles carrying hazardous materials in order to identify safety risks and develop and evaluate safety countermeasures. The MMUCC 4<sup>th</sup> edition does not include specific enough data elements for large vehicles or hazardous materials, making it challenging to source and interpret key data from crash reports.

#### Proposed Changes:

Create a Large Vehicle/Hazardous Materials (LVHM) subsection to MMUCC, which would be completed only for crashes that involved a large truck or bus, or if a vehicle was carrying hazardous materials (HM). The LVHM Section would absorb data elements that are already in MMUCC, reducing the number of elements remaining in the main MMUCC crash form. The LVHM section would include the following elements, designated as “LV#” for ‘Large Vehicle’:

- **New Element:** Add the FARS element “D8. CMV License Status” and “D9. Compliance with CDL Endorsements” as a single, new element “LV1. CMV License Status and Compliance with CDL Endorsements”
- **Add a new element,** “LV2. Trailer License Plate Number”
- **Add a new element,** “LV3. Trailer VIN(s)”
- **Add a new element,** “LV4. Trailer Make(s)”
- **Add a new element,** “LV5. Trailer Model(s)”
- **Add a new element,** “LV6. Trailer Model Year(s)”
- Move MMUCC element “V26. Motor Carrier Identification” to “LV7. Motor Carrier Identification” and add Subfield 1 (Identification Type);
- Move MMUCC element “V27. Gross Weight Rating/Gross Combination Weight Rating” to “LV8. Gross Vehicle Weight Rating/Gross Combination Weight Rating”;
- **Add a new element,** “LV9 Vehicle Permitted”
- Move MMUCC element, “V28. Vehicle Configuration” to “LV10. Vehicle Configuration”
- Move MMUCC element, “V29. Cargo Body Type” to “LV11 Cargo Body Type”
- Move MMUCC element, “V30. Hazardous Materials (Cargo Only)” to LV12 Hazardous Materials (Cargo Only)” and add Subfield 2 (Hazardous Materials Class (MV displayed HM placard = yes));
- Include for reference the FMCSA Table 1 and Table 2 after “LV12 Hazardous Materials (Cargo Only)”.

#### New Data Element: CMV License Status and Compliance with CDL Endorsements

##### LV1. CMV License Status and Compliance with CDL Endorsements

**Definition** CDL Status indicates the status for a driver’s Commercial Driver’s License (CDL) if applicable. Compliance with CDL Endorsements indicates whether the vehicle driven at the time of the crash requires endorsement(s) on a CDL and whether this driver is complying with the CDL endorsements.

##### Attribute Values:

Subfield 1	<b>CMV License Status</b>
00	No CDL
01	Cancelled or Denied
02	Disqualified
03	Expired

Select 1

04	Revoked	
05	Suspended	
06	Learner's Permit	
07	Valid	
98	Other – Not Valid	
99	Unknown License Status	
Subfield 2	<b>Compliance with CDL Endorsement(s)</b>	Select 1
00	No Endorsement(s) Required for the Vehicle	<input type="text"/>
01	Endorsement(s) Required, Complied With	
02	Endorsement(s) Required, Not Complied With	
03	Endorsement(s) Required, Compliance Unknown	
99	Unknown if Required	
Rationale		
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

## New Data Element: Trailer License Plate Number

<b>LV2. Trailer License Plate Number</b>		
Definition	The alphanumeric identifier or other characters, exactly as displayed, on the registration plate or tag affixed to each trailer. For combination trucks, trailer plate numbers are obtained for a maximum of three trailers.	
<u>Attribute Values:</u>		
Subfield 1	<b>First Trailer Behind Tractor</b> License Plate 1 – <i>Alphanumeric identifier</i>	Specify
97	Not Applicable (Bus or truck with no trailing units)	<input type="text"/>
Subfield 2	<b>Second Trailer Behind Tractor</b> License Plate 2 – <i>Alphanumeric identifier</i>	Specify
97	Not Applicable (Bus or truck with no additional trailing units)	<input type="text"/>
Subfield 3	<b>Third Trailer Behind Tractor</b> License Plate 3 – <i>Alphanumeric identifier</i>	Specify
97	Not Applicable (Bus or truck with no additional trailing units)	<input type="text"/>
Rationale Critical for linkage between the crash and trailer registration files.		
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

## New Data Element: Trailer VIN(s)

<b>LV3. Trailer VIN(s)</b>		
Definition	A unique combination of alphanumeric characters assigned to each trailer that is designed by the manufacturer.	
<u>Attribute Values:</u>		
Subfield 1	<b>First Trailer Behind Tractor</b> VIN 1 – <i>Manufacturer assigned number permanently affixed to trailer</i>	Specify
97	Not Applicable (Bus or truck with no trailing units)	<input type="text"/>
99	Unknown (information unavailable)	
Subfield 2	<b>Second Trailer Behind Tractor</b>	Specify

VIN 2 – <i>Manufacturer assigned number permanently affixed to trailer</i>		<input type="text"/>
97	Not Applicable (Bus or truck with no additional trailing units)	
99	Unknown (information unavailable)	
Subfield 3	<b>Third Trailer Behind Tractor</b>	<b>Specify</b>
VIN 3 – <i>Manufacturer assigned number permanently affixed to trailer</i>		<input type="text"/>
97	Not Applicable (Bus or truck with no additional trailing units)	
99	Unknown (information unavailable)	
Rationale	Important to identify specific trailer design characteristics and occupant protection systems for effectiveness evaluations.	
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

## New Data Element: Trailer Make(s)

<b>LV4. Trailer Make(s)</b>		
Definition	The distinctive (coded) name applied to a group of trailers by a manufacturer.	
<u>Attribute Values:</u>		
Subfield 1	<b>First Trailer Behind Tractor</b>	<b>Specify</b>
Make 1 – <i>Name assigned by manufacturer</i>		<input type="text"/>
97	Not Applicable (Bus or truck with no trailing units)	
99	Unknown (information unavailable)	
Subfield 2	<b>Second Trailer Behind Tractor</b>	<b>Specify</b>
Make 2 – <i>Name assigned by manufacturer</i>		<input type="text"/>
97	Not Applicable (Bus or truck with no additional trailing units)	
99	Unknown (information unavailable)	
Subfield 3	<b>Third Trailer Behind Tractor</b>	<b>Specify</b>
Make 3 – <i>Name assigned by manufacturer</i>		<input type="text"/>
97	Not Applicable (Bus or truck with no additional trailing units)	
99	Unknown (information unavailable)	
Rationale	Important for identifying trailer makes for evaluation, research and crash comparison purposes.	
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

## New Data Element: Trailer Model(s)

<b>LV5. Trailer Model(s)</b>		
Definition	The manufacturer-assigned code denoting a family of trailers within a make that have a degree of similarity in construction, such as body, chassis, etc.	
<u>Attribute Values:</u>		
Subfield 1	<b>First Trailer Behind Tractor</b>	<b>Specify</b>
Model 1 – <i>Name assigned by manufacturer</i>		<input type="text"/>
97	Not Applicable (Bus or truck with no trailing units)	
99	Unknown (information unavailable)	
Subfield 2	<b>Second Trailer Behind Tractor</b>	<b>Specify</b>
Model 2 – <i>Name assigned by manufacturer</i>		<input type="text"/>
97	Not Applicable (Bus or truck with no additional trailing units)	
99	Unknown (information unavailable)	

Subfield 3	<b>Third Trailer Behind Tractor</b> Model 3 – <i>Name assigned by manufacturer</i>	Specify
97	Not Applicable (Bus or truck with no additional trailing units)	<input type="text"/>
99	Unknown (information unavailable)	
Rationale	Important for identifying trailer models for evaluation, research and crash comparison purposes.	
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

## New Data Element: Trailer Model Year(s)

<b>LV6. Trailer Model Year(s)</b>		
Definition	The year which is assigned to a trailer by the manufacturer.	
<u>Attribute Values:</u>		
Subfield 1	<b>First Trailer Behind Tractor</b> Model Year 1 – <i>Year assigned by manufacturer</i>	Specify
97	Not Applicable (Bus or truck with no trailing units)	<input type="text"/>
99	Unknown (information unavailable)	
Subfield 2	<b>Second Trailer Behind Tractor</b> Model Year 2 – <i>Year assigned by manufacturer</i>	Specify
97	Not Applicable (Bus or truck with no additional trailing units)	<input type="text"/>
99	Unknown (information unavailable)	
Subfield 3	<b>Third Trailer Behind Tractor</b> Model Year 3 – <i>Year assigned by manufacturer</i>	Specify
97	Not Applicable (Bus or truck with no additional trailing units)	<input type="text"/>
99	Unknown (information unavailable)	
Rationale	Important for identifying trailer model years for evaluation, research and crash comparison purposes.	
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

## Move MMUCC Element V26 to the Large Vehicle/ Hazardous Material Section and Add Highlighted Subfields

<b>LV7. Motor Carrier Identification**</b>		
Definition	The identification number, name and address of an individual, partnership or corporation responsible for the transportation of persons or property as indicated on the shipping manifest.	
<u>Attribute Values:</u>		
Subfield 1	<b>Identification Type</b>	Specify 1
01	US DOT Number	<input type="text"/>
02	State Number	
97	Not Applicable	
99	Unknown/Unable to Determine	
Subfield 2	<b>Country/State Code</b> Non-US Country Code (e.g. Mexico or Canada) US State Code	Specify
		<input type="text"/>
Subfield 3	<b>Identification Number</b> US DOT Number – <i>up to 7 digits, right justified</i> If not a US DOT Number, include State issued Identification Number and State	Specify



E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

## New Data Element: Vehicle Permitted

### LV9. Vehicle Permitted

#### Definition

Drivers of a large truck are required to obtain an over dimension vehicle permit whenever the vehicle combination exceeds maximum size and/or weight limits. A permit is needed to haul any single, non-divisible load for which any of the following conditions apply:

- Vehicle is over height
- Vehicle is over length
- Vehicle is over weight

#### Attribute Values:

##### Subfield 1 Non-Standard Vehicle Permits?

Select 1-3

- 01 Over Height
- 02 Over Length
- 03 Over Weight

97 Not Applicable

##### Subfield 2 Escort/Pilot Vehicle Present?

Select 1

- 01 No
- 02 Yes

97 Not Applicable

Rationale **FMCSA to provide.**

#### Edit Checks:

E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

## Move MMUCC Element V28 to the Large Vehicle/ Hazardous Material Section

### LV10. Vehicle Configuration\*\*

Indicates the general configuration of this motor vehicle. (Refer to Appendix K for a chart displaying types of truck configurations.)

#### Attribute Values:

##### Subfield 1

Select 1

- 01 Vehicle 10,000 lbs or less placarded for hazardous materials
- 02 Bus/Large Van (seats for 9-15 occupants, including driver)
- 03 Bus (seats more than 15 occupants, including driver)
- 04 Single-Unit Truck (2-axle and GVWR more than 10,000 lbs)
- 05 Single-Unit Truck (3 or more axles)
- 06 Truck Pulling Trailer(s)
- 07 Truck Tractor (bobtail)
- 08 Truck Tractor/Semi-Trailer
- 09 Truck Tractor/Double
- 10 Truck Tractor/Triple
- 11 Truck More Than 10,000 lbs, cannot classify

99 Unknown

Rationale **\*\*Required by the Federal Motor Carrier Safety Administration (FMCSA) CFR 350.201.** This data element provides information about the general configuration of the motor vehicle that is important to evaluate the types of motor vehicles that have the most crashes and the effectiveness of various safety countermeasures. This data element is collected at the scene because FMCSA requires reporting within 90 days.

Edit Checks:

E(GT)#.01 Edit check one  
E(GT)#.02 Edit check two

## Move MMUCC Element V29 to the Large Vehicle/ Hazardous Material Section

### LV11. Cargo Body Type\*\*

The type of body for buses and trucks more than 10,000 GVWR. Refer to Appendix XYZ for chart displaying types of cargo body types.

Attribute Values:

Subfield 1 **Body Type**

Select 1

- 00 No Cargo Body – bobtail, light MV with hazardous materials [HM] placard, etc.
- 01 Bus
- 02 Auto Transporter
- 03 Cargo Tank
- 04 Concrete Mixer
- 05 Dump
- 06 Flatbed
- 07 Garbage/Refuse
- 08 Grain/Chips/Gravel
- 09 Intermodal Container Chassis
- 10 Log
- 11 Pole-Trailer
- 12 Van/Enclosed Box
- 13 Vehicle Towing Another Vehicle
  
- 97 Not Applicable – MV 10,000 lbs or less, not displaying HM placard
- 98 Other
- 99 Unknown

**Rationale** \*\*Required by the Federal Motor Carrier Safety Administration (FMCSA) CFR 350.201. This data element provides additional information about the motor vehicle, including all major cargo body types. The information it provides can be important in helping FMCSA make decisions on regulatory strategies for different types of motor vehicles. This data element is collected at the scene because FMCSA requires reporting within 90 days.

Edit Checks:

E(GT)#.01 Edit check one  
E(GT)#.02 Edit check two

## Move MMUCC Element V30 to the Large Vehicle/ Hazardous Material Section and Add the Highlighted Subfields

### LV12. Hazardous Materials (Cargo Only)\*\*

Indication of the hazardous materials identification and class being transported by the motor vehicle, and whether or not hazardous materials were released. (Refer to Appendix K for chart displaying hazardous materials classes and reporting information.)

Attribute Values:

Subfield 1 **Hazardous Materials ID (MV displayed HM placard = yes)**

Specify

xxxx 4-digit Hazardous Materials ID number or name taken from the middle of the diamond or from rectangular box

99 Unknown

Subfield 2 **Hazardous Materials Class (MV displayed HM placard = yes)**


Specify

X 1-digit Hazardous Materials Class number from the bottom of diamond

99 Unknown

Subfield 3 **Release of hazardous materials from a cargo compartment (e.g. trailer), cargo container (e.g. tank) or from a package?**

Select 1

01	No	
02	Yes	
97	Not Applicable	
99	Unknown if Released	
Rationale	<p><b>**Required by the Federal Motor Carrier Safety Administration (FMCSA) CFR 350.201.</b> FMCSA devotes special attention to motor carriers that transport hazardous materials (HM), including calculating risk assessments, determining response methods, imposing tighter regulations and conducting compliance reviews on a higher percentage of HM carriers. Getting good data on crashes involving trucks carrying HM and whether HM are spilled during the crashes helps FMCSA focus law enforcement efforts. This data element is collected at the scene because FMCSA requires reporting within 90 days.</p> <p><b><u>Guideline for recording multiple HMs:</u></b></p> <ul style="list-style-type: none"> <li>- If a HM spill has occurred and you know which material was released, always record that material;</li> <li>- If 2 HMs at different classes (1-9), report the material from the DOT Hazmat Table 1 and its associated 4-digit UN number before materials in Table 2. Table 1 includes Hazard Class/Divisions 1.1, 1.2, 1.3, 2.3, 4.3, 5.2, 6.1, 7;</li> <li>- If 2 HMs of the same class, report the material in greatest quantity if information is available, or the first material listed on report if not.</li> </ul>	
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	



## Add the Following Tables to Accompany Data Element Hazardous Materials

TABLE 1		
Category of material (Hazard class or division number and additional description, as appropriate)	Placard name	Placard design section reference (§)
1.1 .....	EXPLOSIVES 1.1 .....	172.522
1.2 .....	EXPLOSIVES 1.2 .....	172.522
1.3 .....	EXPLOSIVES 1.3 .....	172.522
2.3 .....	POISON GAS .....	172.540
4.3 .....	DANGEROUS WHEN WET .....	172.548
5.2 (Organic peroxide, Type B, liquid or solid, temperature controlled).	ORGANIC PEROXIDE .....	172.552
6.1 (material poisonous by inhalation (see § 171.8 of this subchapter)).	POISON INHALATION HAZARD .....	172.555
7 (Radioactive Yellow III label only) .....	RADIOACTIVE <sup>1</sup> .....	172.556
<sup>1</sup> RADIOACTIVE placard also required for exclusive use shipments of low specific activity material and surface contaminated objects transported in accordance with § 173.427(b)(4) and (5) or (c) of this subchapter.		
TABLE 2		
Category of material (Hazard class or division number and additional description, as appropriate)	Placard name	Placard design section reference (§)
1.4 .....	EXPLOSIVES 1.4 .....	172.523
1.5 .....	EXPLOSIVES 1.5 .....	172.524
1.6 .....	EXPLOSIVES 1.6 .....	172.525
2.1 .....	FLAMMABLE GAS .....	172.532
2.2 .....	NON-FLAMMABLE GAS .....	172.528
3 .....	FLAMMABLE .....	172.542
Combustible liquid .....	COMBUSTIBLE .....	172.544
4.1 .....	FLAMMABLE SOLID .....	172.546
4.2 .....	SPONTANEOUSLY COMBUSTIBLE .....	172.547
5.1 .....	OXIDIZER .....	172.550
5.2 (Other than organic peroxide, Type B, liquid or solid, temperature controlled).	ORGANIC PEROXIDE .....	172.552
6.1 (other than material poisonous by inhalation) .....	POISON .....	172.554
6.2 .....	(None) .....	.....
8 .....	CORROSIVE .....	172.558
9 .....	Class 9 (see § 172.504(f)(9)) .....	172.560
ORM-D .....	(None) .....	.....

*Additional questions for expert panels:*

## MMUCC Data Elements Affected by the Large Vehicle/ Hazardous Material Section

### Issue: Activating the Large Vehicle/Hazardous Materials (LVHM) Crash Section

In order to activate the Large Vehicle/Hazardous Materials (LVHM) Crash Section, “triggers” or specific data element values are needed, whose selection would prompt the law enforcement officer to complete the LVHM Section.

### Proposed Change:

- Update the following MMUCC data elements definition section to include trigger (\*\* notation) for LVHM Section.

**\*\*NOTE:** For combination trucks, include the same information about the trailer obtained at the scene for up to three trailers in the Large Truck & Bus Supplement (Section XYZ).

- V1. Motor Vehicle Identification Number (VIN)
- V4. Motor Vehicle License Plate Number
- V5. Motor Vehicle Make
- V6. Motor Vehicle Model Year
- V7. Motor Vehicle Model

### Issue: Accommodating the Large Vehicle/Hazardous Materials (LVHM) Crash Section for Any Vehicle Carrying Hazardous Material

The new Large Vehicle/Hazardous Materials (LVHM) Crash Section should be completed for *any* vehicle carrying hazardous materials. As a result, data element V8 needs to be updated to include additional scenarios. Specifically, FMCSA requested subfield 3 to help them track body types, the presence of hazardous materials, and the number of trailing units.

#### Proposed Changes:

- Move Subfield 1 of “V30. Hazardous Materials (Cargo Only) – Did this MV display a HM placard?” – to “V8. Motor Vehicle Body Type Category”, Subfield 2;
- Add Subfield 3, *Number of Trailing Units* to V8;
- Add attributes 11, 12, 14 and 15 to “V8. Motor Vehicle Body Type Category”.

### Add the Highlighted Subfields to MMUCC Data Element V8

#### V8. Motor Vehicle Body Type Category and HM Display

**Definition** The category indicating the general configuration or shape of a motor vehicle distinguished by characteristics such as number of doors, rows of seats, windows, or roof line. Personal conveyances – such as skateboards, motorized toy cars, and wheelchairs are not considered motor vehicles.

##### Attribute Values:

Subfield 1	Body Type	Select 1
01	All-Terrain Vehicle (ATV)	<input type="text"/>
02	Golf Cart	
03	Snowmobile	
04	Low Speed Vehicle	
05	Moped	
06	Motorcycle	
07	Passenger Car	
08	Passenger Van	
09	(Sport) Utility Vehicle	
10	Other Light Trucks (Less than 10,000 lbs GVWR)**	
11	Pickup (10,000 lbs or less)	
12	Pickup (Greater than 10,000 lbs)**	
13	Cargo Van (Less than 10,000 lbs)	
14	Medium Truck (10,001 – 26,000 lbs GVWR)**	
15	Heavy Truck (greater than 26,000 lbs GVWR)**	
16	Motor Home	
17	15-Passenger Van**	
18	Mini-bus**	
19	School Bus**	
20	Transit Bus**	
21	Motorcoach**	

22	Unknown Bus Type**	
98	Other	
Subfield 2	Did this motor vehicle display a hazardous materials (HM) placard?	Select 1
01	No	
02	Yes**	<input type="text"/>
Subfield 3	Number of Trailing Units	Select 1
01-03	Number of trailers behind tractor	<input type="text"/>
97	Not Applicable (Bus or truck with no trailing units)	
Rationale	Important to identify the specific type of motor vehicle involved in the crash for evaluation and comparison purposes. **If attribute is selected from Subfield 1 or 2, the Large Truck & Bus Supplement must be completed.	
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

### Issue: V10. Special Function of Motor Vehicle in Transport

Since the attribute values in data elements “V22. Bus Use” and “V10. Special Function of a Motor Vehicle in Transport” were so similar, FMCSA requested these elements be merged so that they could more easily be kept consistent with other elements within MMUCC.

### Proposed Change:

- Combine “V22. Bus Use” with “V10. Special Function of Motor Vehicle in Transport” and update definition text and attributes accordingly.

### Add the highlighted Subfields to MMUCC Data Element V10

<b>V10. Special Function of Motor Vehicle in Transport</b>		
The type of special function being served by this vehicle regardless of whether the function is marked on the vehicle, at the time of the crash. Buses are any motor vehicle with seats to transport nine (9) or more people, including the driver seat, but not including vans owned and operated for personal use.		
<i>Add additional clarification regarding “Non-Transport Emergency Services Vehicle” attribute and definition for new attribute “Safety Services Patrol”.</i>		
Definition		
<u>Attribute Values:</u>		
Subfield 1	<b>Special Function</b>	Select 1
00	No Special Function	
01	Ambulance	
02	Bus – School (Public or Private)	<input type="text"/>
03	Bus – Transit	
04	Bus – Charter	
05	Bus – Shuttle	
06	Bus – Other	
07	Construction Equipment	
08	Farm Equipment	
09	Farm Vehicle	
10	Fire Truck	
11	Highway/Maintenance	
12	Military	
13	Non-Transport Emergency Services Vehicle	
14	Other Incident Response	

15	Police
16	Public Utility
17	Rental Truck (Over 10,000 lbs)
18	Safety Service Patrols – Incident Response
19	Taxi
20	Towing – Incident Response
21	Truck Acting as Crash Attenuator
22	Vehicle Used for Electronic Ride-hailing (Uber, etc.)
98	Other
99	Unknown
Rationale	Important to evaluate the outcome of vehicles used for special uses that are involved in crashes.
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

## IV. Non-Motorist Section

### Issue: Poor Data Quality for Crashes involving Non-Motorists

Crashes involving non-motorists are a special subset of crashes and require law enforcement officers to pay special attention to data elements not normally collected for crashes only involving motor vehicles. Oftentimes data is incomplete, inconsistent, and inaccurate, which makes data analysis and the development of safety countermeasures challenging. Specifically, the MMUCC 4<sup>th</sup> edition limited the combination of data variables. For example, it could not indicate whether a non-motorist was in a physically separated bicycle lane, waiting to cross a road, or on their way to transit.

### Proposed Changes:

Given the challenges that data users experience when analyzing crashes involving non-motorists, NHTSA is proposing a separate non-motorist section with the following elements to be moved into the new Non-Motorist Section, which would only be filled out if a non-motorist is involved in the crash. Separating these data elements both highlights their importance and reduced the total number of elements collected in the main MMUCC crash section. The additional data collected, however, would prove invaluable in developing safety countermeasures. The following changes are proposed to create a separate Non-Motorist Section:

- Move “P27. Unit Number of Motor Vehicle Striking Non-Motorist” to NMS;
- Combine “P23. Non-Motorist Action/Circumstance Prior to Crash” and “P25. Non-Motorist Location at Time of Crash”, reformat into new element and move to NMS, named “NM#. Non-Motorist Location and Pre-Crash Action”;
- Reformat and update “P24. Non-Motorist Actions/Circumstances at Time of Crash” to “NM#. Non-Motorist Contributing Circumstances” and move to NMS;
- Move “P26. Non-Motorist Safety Equipment” to NMS update;
- **Add new element**, “NM#. Initial Contact Point on Non-Motorist” to NMS;
- Move and update element “CD4. Number of Non-Motorists” to NMS.

### Move MMUCC Data Element P27 to the Non-Motorist Section

<b>NM1. Unit Number of MV Striking Non-Motorist</b>	
Definition	Number assigned to identify the motor vehicle that struck the non-motorist in the crash.
<u>Attribute Values:</u>	
Subfield 1	<b>Unit number of MV that was the first MV to strike the non-motorist</b>
Rationale	Used for tracking. Important when multiple motor vehicles are involved in the crash.
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

### Combine MMUCC Data Elements P23 and P24 and Move to the Non-Motorist Section

<b>NM2. Non-Motorist Pre-Crash Location and Action</b>	
Definition	ENTER HERE
<u>Attribute Values:</u>	
Subfield 1	<b>Pre-Crash Location</b>
01	Bicycle Lane – physically separated (cycle track, grade/parking separated)
02	Bicycle Lane – marked (shared use lane, paint separated)

03	Driveway Access	<input type="text"/>
04	Intersection – in marked/unmarked crosswalk	
05	Intersection – outside marked/unmarked crosswalk	
06	Median/Crossing Island	
07	Midblock – marked crosswalk	
08	Non-Trafficway Area	
09	Shared-Use Path or Trail	
10	Shoulder/Roadside	
11	Sidewalk	
12	Travel Lane –against traffic	
13	Travel Lane –with traffic	
98	Other	
99	Unknown	
Subfield 2 <b>Pre-Crash Action</b>		Select 1
01	Crossing Roadway	<input type="text"/>
02	Waiting to Cross Roadway	
03	Walking/Running/Cycling	
04	Working (Incident Response)	
98	Other	
99	Unknown	
Subfield 3 <b>Origin/Destination</b>		Select 1
01	Going to or from School (K-12)	<input type="text"/>
02	Going to or from Transit	
97	Not Applicable	
99	Unknown	<input type="text"/>
Rationale	ENTER HERE	
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

## Move MMUCC Data Element P24 to the Non-Motorist Section and Add the Highlighted Attributes

<b>NM3. Non-Motorist Contributing Circumstances</b>		
Definition	ENTER HERE	
<u>Attribute Values:</u>		
Subfield 1		Select 1-4
01	Dart/Dash	<input type="text"/>
02	Disabled Vehicle Related (Working on, Pushing, Leaving/ Approaching)	
03	Distracted walking/running/cycling (texting/talking on-, listening to mobile device)	
04	Entering/Exiting Parked/Standing Vehicle	
05	Failure to Obey Traffic Signs, Signals, or Officer	
06	Failure to Yield Right-Of-Way	
07	Improper Passing	
08	Improper Turn/Merge	
09	Inattentive (Talking, Eating, Etc.)	
10	Not Visible (dark clothing, no lighting, etc.)	
11	Standing, Lying, Playing	
12	Under the influence of drugs/alcohol	
13	Wrong-Way Walking/Running/Cycling	<input type="text"/>

00	None
98	Other
99	Unknown
Rationale	ENTER HERE
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

## Move MMUCC Data Element P26 to the Non-Motorist Section and Add the Highlighted Attributes

<b>NM4. Non-Motorist Safety Equipment</b>	
Definition	The safety equipment(s) used by the non-motorist.
<u>Attribute Values:</u>	
Subfield 1	<b>Select 1-4</b>
01	Helmet
02	Lighting and/or reflectors
03	Protective Pads Used (elbows, knees, shins, etc.)
04	Reflective Wear (backpack, triangles, etc.)
00	None
98	Other
99	Unknown
Rationale	Used to evaluate effectiveness of non-motorist safety equipment. Important to calculate usage statistics for the development and evaluation of the effectiveness of educational countermeasures. The use of two sub-fields allows for the recording of two types of safety equipment, such as a helmet and reflective wear.
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

## New Data Element: Initial Contact Point on Non-Motorist

<b>NM5. Initial Contact Point on Non-Motorist</b>	
Definition	The first harmful event/point of a motor vehicle for this non-motorist.
<u>Attribute Values:</u>	
Subfield 1	<b>Select 1</b>
12	Front
03	Right
06	Rear
09	Left
98	Not Applicable – Pedestrian
99	Unknown
Rationale	Important for use in evaluating contributing circumstances, injury severity and non-motorist trafficway design. Refer back to P4. Person Type to cross-reference type of non-motorist or personal conveyance.
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

## Move MMUCC Data Element CD4 to the Non-Motorist Section and Add the Highlighted Text to the Definition

NM6. Number of Non-Motorists	
Definition	The total number of non-motorists refers to the count of persons that are not occupants of motor vehicles (pedestrians, pedalcyclists, etc.).
Attribute Values:	Specify
Subfield 1	Number of Non-Motorists
Rationale	Provides the total count of non-motorists involved in the crash without having to manually count the number of non-motorist records. This should be derived when possible.
Edit Checks:	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

## MMUCC Data Elements Effected by Non-Motorist Section

### Issue: Problem with Current MMUCC definition of Non-Motorist

The MMUCC 4<sup>th</sup> Edition identifies *occupants of motor vehicles not in transport* as non-motorists and treats them the same as pedestrians and pedalcyclists. This definition is inconsistent with FARS, which clearly identifies motorists (whether in transport or not) from non-motorists, and recognizes the physical differences between the two groups.

### Proposed Change:

Update the MMUCC definition of non-motorist to match FARS by moving *occupants of motor vehicles not in transport* out of the non-motorist group. In particular, change “Level 5: Non-Motorists (includes occupants of motor vehicles not in transport and occupants of non-motor vehicle transportation devices)” to “Level 5: Non-Motorists (persons – not occupants of motor vehicles)”.

- Occupants of motor vehicles not in transport will be listed as motor vehicle occupant, using ‘parked motor vehicle’ attributes or similar to designate their *not in transport* status.

Although this does not specifically change elements or their attributes, it does change where a law enforcement officer records such persons. Parked motor vehicles can be recorded in five (5) areas of MMUCC including:

- “C7. First Harmful Event”,
- “V2. Motor Vehicle Unit Type and Number,”
- “V18. Motor Vehicle Maneuver/Action”,
- “V20. Sequence of Events”, and
- “V21. Most Harmful Event for this Motor Vehicle”.

### Issue: Data Inconsistency in “RL13. Presence/Type of Bicycle Facility”

To be consistent with the bicycle facility options updated for the non-motorist crash section.

### Proposed Change:

- Update element “RL13. Presence/Type of Bicycle Facility” to include the expanded bicycle facility attributes, consistent with changes to “P24. Non-Motorist Contributing Circumstances”.



## Add the Highlighted Text

### RL13. Presence/Type of Bicycle Facility

**Definition** Any road, path, or way which 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.

#### Attribute Values:

<b>Subfield 1</b>	<b>Facility</b>	<b>Select 1</b>
00	None	<input type="text"/>
01	Bicycle Lane – physically separated (cycle track, grade/parking separated)	
02	Bicycle Lane – marked (shared use lane, paint separated)	
03	Unmarked Paved Shoulder	
04	Wide Curb Lane	
99	Unknown	
<b>Subfield 2</b>	<b>Signed Bicycle Route?</b>	<b>Select 1</b>
01	No	<input type="text"/>
02	Yes	
97	Not Applicable/Not a bicycle facility	
99	Unknown	

**Rationale** Needed to determine usage and safety of bicycle facilities. Needed to determine the location of bicycle crashes in relation to a bicycle facility. Important for ascertaining the relative safety performance of various types/classes of bike paths to guide future design/operation decisions.

#### Edit Checks:

E(GT)#.01 Edit check one  
E(GT)#.02 Edit check two

## V. Proposed Changes to Crash Data Elements

This part of the proposal identifies potential changes that are not directly linked to a new section, but remain critical to improving crash data quality and uniformity with other systems. For each proposed change, select whether you agree or disagree and provide any comments/explanation/questions in the open comment box.

### Issue: Improving efficiency by combining “C14. Contributing Circumstances, Environment” and “C15. Contributing Circumstances, Road”

The MMUCC elements “C14. Contributing Circumstances, Environment” and “C15. Contributing Circumstances, Road” collect similar information. Specifically C14 had only 4 attributes, two of which referred to other MMUCC elements (weather, obstructions).

#### Proposed Change:

- Combine the elements “C14. Contributing Circumstances, Environment” and “C15. Contributing Circumstances, Road” into a single element (since they are so similar and have significant overlap).

### Add the Highlighted Text

C15. Contributing Circumstances – Roadway Environment			
Definition	ENTER HERE		
Attribute Values:			
Subfield 1			Select 1-4
00	None		
01	Animal(s)		<input type="checkbox"/>
02	Backup Due to Prior Crash		
03	Backup Due to Prior Non-Recurring Incident		<input type="checkbox"/>
04	Backup Due to Regular Congestion		
05	Debris		
06	Glare		<input type="checkbox"/>
07	Non-Highway Work		
08	Obstruction in Roadway		<input type="checkbox"/>
09	Road Surface Condition		
10	Rut, Holes, Bumps		<input type="checkbox"/>
11	Shoulders (none, low, soft, high)		
12	Toll Booth/Plaza Related		
13	Traffic Control Device		
14	Traffic Incident		
15	Visual Obstruction(s)		
16	Weather Conditions		
17	Work Zone		
18	Worn, Travel-polished Surface		
98	Other		
99	Unknown		

### Issue: Difficulty distinguishing between the attributes “Driveway access” and “driveway access-related” in “C16. Relation to Junction”

Identifying the difference between *Driveway access* and *Driveway access-related* requires a high degree of technical expertise. This has implications for data quality.

### Proposed Change:

- Add the attribute *HOV/HOT Lane* to element “C16. Relation to Junction” and combine attributes *Driveway Access* and *Driveway Access-Related* into a single attribute, *Driveway Access or Related*.

This change would be consistent with the proposed change to element V14 by adding HOV/HOT lanes. In addition this change simplifies data related to driveway access.

### Add the Highlighted Text

<b>C16. Relation to Junction</b>	
Definition	The coding of this data element is based on the location of the first harmful event of the crash. It identifies the crash's location with respect to presence in a junction or proximity to components typically in junction or interchange areas. <b>See Appendix X and Y.</b>
<u>Attribute Values:</u>	
Subfield 1	<b>Within Interchange Area?</b>
01	No
02	Yes
99	Unknown
Subfield 2	<b>Specific Location</b>
01	Acceleration/Deceleration Lane
02	Crossover Related
03	<b>Driveway Access or Related</b>
04	Entrance/Exit Ramp
05	Entrance/Exit Ramp Related
06	<b>HOV/HOT Lane</b>
07	Intersection
08	Intersection Related
09	Non-Junction
10	Railway Grade Crossing
11	Shared Use Path or Trail
98	Other Location Not Listed (median, shoulder and roadside)
99	Unknown
Rationale	
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

### Issue: Limitation of “C17. Type of Intersection” to collect complete information

The MMUCC 4<sup>th</sup> edition element “C17. Type of Intersection” collected incomplete information on intersection types. Specifically, a user could either define the number of approaches to an intersection or its geometry, but not both. In addition, traffic control was changed in the 4<sup>th</sup> edition to be collected only at the vehicle level, providing no information for the overall intersection, which is important for traffic engineers.

### Proposed Change:

A FHWA stakeholder proposed the following enhancement of C17 that would enable the collection of more useful information:

- Delete existing attributes;
- Add subfield 1 to provide attributes on number of intersection legs;
- Add subfield 2 to provide overall intersection geometry attributes;

- Add subfield 3 to provide overall intersection traffic control attributes, in order of TCD priority;

### Replace with the Highlighted Text

<b>C17. Type of Intersection</b>	
<b>Definition</b>	An intersection consists of two or more roadways that intersect at the same level. See Appendix H for a diagram of the intersection.
<b>Attribute Values:</b>	
<b>Subfield 1</b>	<b>Number of Approaches</b> <span style="float: right;"><b>Select 1</b></span>
00	Not an intersection
02	(2) Two
03	(3) Three
04	(4) Four
05	(5+) Five or more
<b>Subfield 2</b>	<b>Overall Intersection Geometry</b> <span style="float: right;"><b>Select 1</b></span>
01	Angled/Skewed <b>Y</b>
02	Roundabout/Traffic Circle <b>O</b>
03	Perpendicular <b>+ or T</b>
97	Not Applicable/Not an Intersection
<b>Subfield 3</b>	<b>Overall Traffic Control Device</b> <span style="float: right;"><b>Select 1</b></span>
01	Signalized
02	Stop – All Way
03	Stop – Partial
04	Yield
05	No Control
97	Not Applicable/Not an Intersection
<b>Rationale</b>	Important for site-specific safety studies to identify actual or potential safety problem locations.
<b>Edit Checks:</b>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

## VI. Proposed Changes to Vehicle Data Elements

### Issue: Difficulty Identifying Trafficways Involving HOV or HOT Lanes

The MMUCC 4<sup>th</sup> Edition could not identify complex trafficways such as HOV or HOT lanes. Given the increased use of HOV and HOT lanes, it is important to capture information on them to understand their relative safety.

#### Proposed Change:

- Add Subfield 2 *HOV/HOT Lanes Present* to element “V14. Traffic Way Description”.

#### Add the Highlighted Text

<b>V14. Trafficway Description</b>	
Definition	Indication of whether or not the trafficway for this vehicle is divided and whether it serves one-way or two-way traffic. A divided trafficway is one on which roadways for travel in opposite directions are physically separated by a median. <i>Add sentence on HOV/HOT lanes.</i> See Appendix XYZ (page ____ ) for diagram of the trafficway.
<u>Attribute Values:</u>	
Subfield 1	<b>Divided?</b> <span style="float: right;">Select 1</span>
01	Two-Way, Not Divided
02	Two-Way, Not Divided, With a Continuous Left Turn Lane
03	Two-Way, Divided, Unprotected (Painted >4 Feet) Median
04	Two-Way, Divided, Positive Median Barrier
05	One-Way Trafficway
99	Unknown
Subfield 2	<b>HOV/HOT Lanes Present</b> <span style="float: right;">Select 1</span>
00	None present
01	HOV lanes, Divided, Positive Median Barrier
02	HOV lanes, Divided, Median Rumble Strips
03	HOV lanes, Not Divided, Buffer Area
04	HOV lanes, Not Divided, Pavement Markings
05	HOV lanes, Other
06	HOT lanes, Divided, Positive Median Barrier
07	HOT lanes, Divided, Median Rumble Strips
08	HOT lanes, Not Divided, Buffer Area
09	HOT lanes, Not Divided, Pavement Markings
10	HOT lanes, Other
Rationale	Used in classifying crashes as well as identifying the environment of a particular crash. Note that the data must be in a road inventory file or collected by the reporting officer at the scene. It is not readily derived from other road data such as classification or route. Important to guide future trafficway design and traffic control.
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

### Issue: Inconsistent Definition for “V15. Total Lanes in Roadway”

The definition of the MMUCC data element “V15. Total Lanes in Roadway” is inconsistent with the FARS definition. The MMUCC 4<sup>th</sup> edition did not include turning lanes in the definition of the total number of lanes in the roadway, while FARS does. This difference negatively impacts data quality.

### Proposed Change:

- Update the MMUCC definition of total lanes in roadway to match FARS shown in element “V15. Total Lanes in Roadway”. The definition would change to:

**Definition:** Total number of lanes in the roadway on which this MV was traveling. A roadway is one part of a divided trafficway or, if undivided, the same as the trafficway. The number of lanes includes turn bays, acceleration, deceleration, or center 2-way left turn lanes if in cross section of roadway and not physically separated. However, the number of lanes counted does not include any lanes unusable by restriction of the right-of-way (e.g. closed due to construction).

### Issue: V17. Traffic Control Device Type

FHWA and their stakeholders seek to improve data related to ramp meters and to include the attribute, *Lane-Use Control Signals*, which are becoming more widely used.

### Proposed Change:

- Add the attribute, *Lane-Use Control Signal* to Subfield 1 of element “V17. Traffic Control Device Type” and update the attribute, *Traffic Control Signal* to include (*includes ramp meters*).

### Add the Highlighted Text

#### V17. Traffic Control Device Type

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

#### Attribute Values:

##### Subfield 1 **TCD Type**

Select 1

- 01 Flashing Traffic Control Signal
- 02 **Lane-Use Control Signal**
- 03 Person (including flagger, law enforcement, crossing guard, etc.)
- 04 Railway Crossing Device
- 05 School Zone Sign/Device
- 06 Stop Sign
- 07 **Traffic Control Signal (includes ramp meters)**
- 08 Yield Sign
- 09 Warning Sign
- 00 No Controls
- 98 Other
- 99 Unknown

##### Subfield 2 **Inoperative/Missing?**

Select 1

- 01 No
- 02 Yes
- 99 Unknown

**Rationale** This element needs to be collected at the scene because the presence of specific devices is better verified at the time of the crash. It is also important for ascertaining the relationship between the use of various traffic control devices (TCD) and crashes and identifying the need for upgraded TCDs at specific crash locations.

#### Edit Checks:

- E(GT)#.01 Edit check one
- E(GT)#.02 Edit check two

### Issue: Inability of “V18. Motor Vehicle Maneuver/Action” to Determine Lane Type

To improve safety programs, FHWA seeks to better understand vehicle location in more complex roadway systems. MMUCC 4<sup>th</sup> edition was unable to define maneuver types related to lane type.

### Proposed Change:

Add Subfield 2 to element “V18. Motor Vehicle Maneuver/Action” to be consistent with the proposed change to element V14.

### Add the Highlighted Text

<b>V18. Motor Vehicle Maneuver/Action</b>		
Definition	The controlled maneuver for this MV prior to the beginning of the sequence of events.	
<u>Attribute Values:</u>		
Subfield 1	<b>MV Maneuver</b>	Select 1
01	Backing	<input type="text"/>
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	<input type="text"/>
99	Unknown	
Subfield 2	<b>Lane Type</b>	
01	General Purpose Lane	<input type="text"/>
02	HOV Lane	
03	HOT Lane	
97	Not applicable	
Rationale		
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

### Issue: Difficulty Defining Specific Initial Point of Contact in “V19. Vehicle Damage”

The MMUCC 4<sup>th</sup> edition uses a 12-point clock diagram to identify the initial point of contact; this is often difficult to identify and can adversely affect data quality.

### Proposed Change:

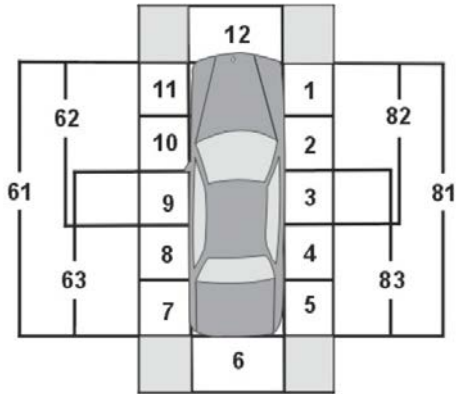
- Update the “V19. Vehicle Damage” element to use the FARS expanded 18-point crash diagram for Subfield 1, *Initial Point of Contact*. FARS updated the initial point of contact diagram to indicate larger areas. Adopting this diagram will improve data quality.

### Add the Highlighted Text

<b>V19. Vehicle Damage</b>		
Definition	ENTER HERE	
<u>Attribute Values:</u>		
Subfield 1	<b>Initial Point of Contact</b>	Select 1
00	Non-Collision	

01-12

81  
82  
83  
  
61  
62  
63



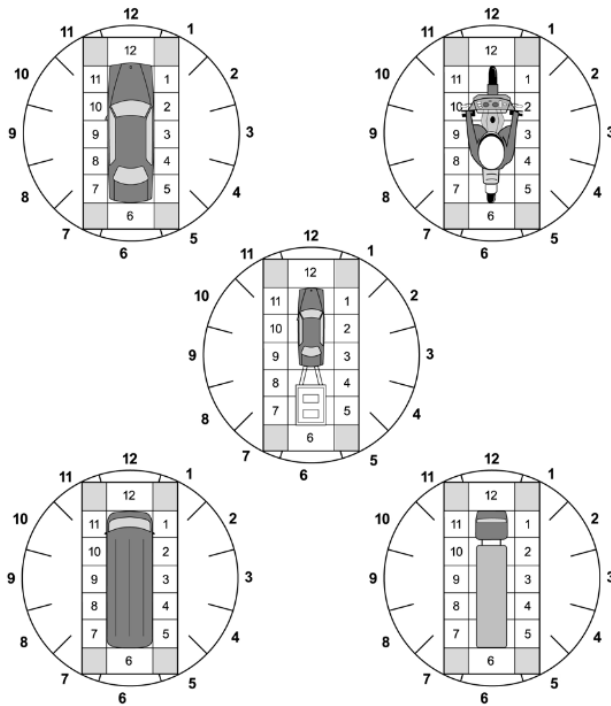
13  
14  
15 Cargo Loss  
Top  
99 Undercarriage

Unknown

Subfield 2 **Damaged Area(s)**  
00 No damage

Select 1-2

01-12



13 All areas  
14 Top  
15 Undercarriage  
  
99 Unknown

Subfield 2 **Extent of Damage**

Select 1

00 No Damage  
01 Minor Damage



02	Functional Damage	<input type="checkbox"/>
03	Disabling Damage	
99	Unknown	
Rationale	ENTER HERE	
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

### Issue: Changing attributes for “V20. Sequence of Events” and “V21. Most Harmful Event for this MV”

FHWA is requesting changes to the attribute, *Guardrail End*, to *Guardrail End Terminal* to align with their current vocabulary. In addition, a GAO report (GAO-13-24) directed NHTSA to collect information on “*Object that had fallen from a motor vehicle in transport*”.

#### Proposed Change:

- Modify the attribute, *Guardrail End* in element “V20. Sequence of Events” and “V21. Most Harmful Event for this MV” to show *Guardrail End Terminal*, and (from GAO request) add attribute, *Object That Had Fallen from Motor Vehicle in Transport*.

### Add the Highlighted Text

<b>V20. Sequence of Events</b>		
Definition	The sequence of events are events in sequence related to this motor vehicle, including both non-collision and collision events. For examples, refer to Appendix XYZ.	
<u>Attribute Values:</u>		
Subfield 1		Select 1-4
<b>Non-Collision</b>		
01	Cargo/Equipment Loss or Shift	<input type="checkbox"/>
02	Cross Centerline	
03	Cross Median	
04	Downhill Runaway	
05	Equipment Failure (blown tire, brake failure, etc.)	<input type="checkbox"/>
06	Fell/Jumped From Motor Vehicle	
07	Fire/Explosion	<input type="checkbox"/>
08	Immersion, Full or Partial	
09	Jackknife	<input type="checkbox"/>
10	Other Non-Collision	
11	Overturn/Rollover	
12	Thrown or Falling Object	
13	Ran Off Roadway Left	
14	Ran Off Roadway Right	
15	Reentering Roadway	
16	Separation of Units	
<b>Collision With Person, Motor Vehicle, or Non-Fixed Object</b>		
17	Animal (live)	
18	Motor Vehicle in Transport	
20	Object That Had Fallen from MV 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	Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	
28	Work Zone/Maintenance Equipment	

<b>Collision With Fixed Object</b>	
29	Bridge Overhead Structure
30	Bridge Pier or Support
31	Bridge Rail
32	Cable Barrier
33	Concrete Traffic Barrier
34	Culvert
35	Curb
36	Ditch
37	Embankment
38	Fence
39	<b>Guardrail End Terminal</b>
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 Collision With Fixed Object
Rationale	Important for use in conjunction with <b>V21. Most Harmful Event for this MV</b> and <b>V18. Motor Vehicle Maneuver/Action</b> to generate complete information about the crash.
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

## Add the Highlighted Text

<b>V21. Most Harmful Event for this MV</b>	
Definition	The most harmful event is that which resulted in the most severe injury or greatest property damage, if no injury, involving this motor vehicle.
<u>Attribute Values:</u>	
Subfield 1	<b>Select 1-4</b>
<b>Non-Collision</b>	
01	Cargo/Equipment Loss or Shift
02	Fell/Jumped From Motor Vehicle
03	Fire/Explosion
04	Immersion, Full or Partial
05	Jackknife
06	Other Non-Collision
07	Overturn/Rollover
08	Thrown or Falling Object
<b>Collision With Person, Motor Vehicle, or Non-Fixed Object</b>	
09	Animal (live)
10	Motor Vehicle in Transport
11	<b>Object That Had Fallen from MV in Transport</b>
12	Other Non-Fixed Object
13	Other Non-motorist
14	Parked Motor Vehicle
15	Pedalcycle
16	Pedestrian
17	Railway Vehicle (train, engine)
18	Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle
19	Work Zone/Maintenance Equipment

<b>Collision With Fixed Object</b>	
20	Bridge Overhead Structure
21	Bridge Pier or Support
22	Bridge Rail
23	Cable Barrier
24	Concrete Traffic Barrier
25	Culvert
26	Curb
27	Ditch
28	Embankment
29	Fence
30	<b>Guardrail End Terminal</b>
31	Guardrail Face
32	Impact Attenuator/Crash Cushion
33	Mailbox
34	Other Fixed Object (wall, building, tunnel, etc.)
35	Other Post, Pole or Support
36	Other Traffic Barrier
37	Traffic Sign Support
38	Traffic Signal Support
39	Tree (standing)
40	Utility Pole/Light Support
41	Unknown Collision With Fixed Object
99	Unknown
Rationale	Important for use in conjunction with <b>V20. Sequence of Events</b> and <b>V18. Motor Vehicle Maneuver/Action</b> to generate complete information about the crash.
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

## VII. Proposed Changes to Person Data Elements

### Issue: Identifying Incident Responders Involved in Crashes

FHWA seeks to collect additional information about secondary crashes involving incident responders. Currently it is difficult to systematically quantify the number of incident responders who are involved in secondary crashes. This data will enhance safety programs for incident responders.

#### Proposed Change:

- Add Subfield 2, *Incident Responder?* and Subfield 3, *Type of Incident Responder* to element “P4. Person Type”.

### Add the Highlighted Text

<b>P4. Person Type</b>		
Definition	Type of person involved in a crash.	
Attribute Values:		
Subfield 1	<b>Person Type</b> <b>Occupant of MV</b> Driver Passenger  <b>Non-Motorist (not occupant of MV)</b> Bicyclist Other Cyclist Pedestrian Other Pedestrian (wheelchair, person in a building, skater, personal conveyance, etc.) Occupant of a Non-Motor Vehicle Transportation Device Unknown Type of Non-Motorist  Unknown	Select 1 <input type="text"/>
Subfield 2	<b>Incident Responder?</b> 01 No 02 Yes	Select 1 <input type="text"/>
Subfield 3	<b>Type of Incident Responder</b> 01 EMS 02 Fire 03 Police 04 Tower 05 Transportation (i.e. maintenance workers, safety service patrol operators, etc.)  Not Applicable/Not an Incident Responder 97 Other 98 Unknown 99	Select 1 <input type="text"/>
Rationale	Person type and presence of incident responders allows classification to evaluate specific countermeasures designed for specific groups of people.	
Edit Checks:		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

### Issue: Confusion Regarding Restraint Systems / Motorcycle Helmet Use

The MMUCC 4<sup>th</sup> edition cannot adequately classify helmets that are not DOT compliant. Specifically, Snell helmets could be classified as “Other”– but may or may not be DOT compliant.

### Proposed Change:

Modify the attribute *Helmet, Other Than DOT-Compliant Motorcycle Helmet* in Subfield 1 of element “P8. Restraint Systems/Motorcycle Helmet Use” to *Helmet, Not DOT-Compliant Motorcycle Helmet*; and add Subfield 2, *Any Indication of Misuse*?

This simplifies the options since DOT compliance is the only indicator truly needed. The second Subfield was added to improve data required for FARS.

### Add the Highlighted Text

<b>P8. Restraint Systems / Motorcycle Helmet Use</b>	
Definition	The restraint equipment in use by the occupant, or the helmet use by a motorcyclist, at the time of the crash.
<u>Attribute Values:</u>	
Subfield 1	Select 1
<b>Restraint Systems</b>	
01	Booster Seat
02	Child Restraint System – Forward Facing
03	Child Restraint System – Rear Facing
04	Child Restraint – Type Unknown
05	Lap Belt Only Used
06	None Used – Motor Vehicle Occupant
07	Restraint Used – Type Unknown
08	Shoulder and Lap Belt Used
09	Shoulder Belt Only Used
<b>Motorcycle Helmet Use</b>	
10	DOT-Compliant Motorcycle Helmet
11	Helmet, Not DOT-Compliant Motorcycle Helmet
12	Helmet, Unknown If DOT-Compliant
13	No Helmet
97	Not Applicable
98	Other
99	Unknown
Subfield 2	Select 1
<b>Any Indication of Misuse?</b>	
01	No
02	Yes
Rationale	Proper classification of the use of available occupant restraint systems and helmet use is vital to evaluating the effectiveness of such equipment.
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

### Issue: Lack of Specificity for Driver License Jurisdiction

The MMUCC 4<sup>th</sup> Edition lacks elements or subfields capable of identifying a particular jurisdiction.

### Proposed Change

Add Subfield P11, *Driver License Jurisdiction*, to include ability to specify the Driver License State, Province, or Nation.

### Add the Highlighted Text

<b>P11. Driver License Jurisdiction</b>	
Definition	The geographic or political entity issuing a driver license. Includes the States of the United States (including the District of Columbia and outlying areas), Indian Nations, U.S. Government, Canadian Provinces, and Mexican States (including the Distrito Federal), as well as other jurisdictions.
<u>Attribute Values:</u>	
Subfield 1	<b>Type</b> <span style="float: right;">Select 1</span>
00	Not Licensed
01	Canadian Province
02	Indian Nation
03	International License (other than Mexico, Canada)
04	Mexican State
05	State
06	U.S. Government
97	Not Applicable
99	Unknown
Subfield 2	<b>Name of Jurisdiction</b> <span style="float: right;">Specify</span>
	Include the specific State, Province, or Nation indicated on the Driver's License.
Rationale	Necessary to evaluate the effectiveness of various licensing laws. This element is also critical in providing linkage between the crash and driver license files at the State level.
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

### Issue: "P12. Driver License Number, Type, Class, CDL and Endorsements" Lacks Detail on GDL

The MMUCC 4th Edition lacks elements or subfields capable of capturing information on specific GDL license types, which is important for analyzing driver-related crashes and developing appropriate safety countermeasures.

### Proposed Change

Add FARS "D7. Non-CDL License Type/Status", Subfield 1 (Type) as subfield in MMUCC "P12. Driver License Number, Class, CDL, and Endorsements".

### Add the Highlighted Text

<b>P12. Driver License Number, Type, Class, CDL and Endorsements</b>	
Definition	A unique set of alphanumeric characters assigned by the authorizing agent issuing a driver license to the individual.
	<b>Class A</b>
	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.
	<b>Class B</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.
	<b>Class C</b>
	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.
	<b>Regular Driver License Class</b>

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.		
<b>Class M</b> Motorcycles, Mopeds, Motor-Driven Cycles		
<u>Attribute Values:</u>		
Subfield 1	<b>Driver License Number</b> License Number – <i>Alphanumeric identifier assigned by the authorizing jurisdiction (State, foreign country, U.S. government, Indian Nation, etc.)</i>	Specify <input type="text"/>
Subfield 2	<b>Type</b>	Select 1 <input type="text"/>
00	Not Licensed	
01	Full Driver License	
02	Intermediate Driver License	
03	Learner's Permit	
04	Temporary License	
99	Unknown License Type	
Subfield 3	<b>Class</b>	Select 1 <input type="text"/>
01	Class A	
02	Class B	
03	Class C	
04	Class M	
05	Regular Driver License Class	
00	None	
97	Not Applicable	
Subfield 4	<b>Commercial Driver License (CDL)?</b>	Select 1 <input type="text"/>
01	No	
02	Yes	
Subfield 5	<b>Endorsements</b>	Select 1 <input type="text"/>
01	H – Hazardous Materials	
02	N – Tank Vehicle	
03	P – Passenger	
04	S – School	
05	T – Double/Triple Trailers	
06	X – Combination of Tank Vehicle and Hazardous Materials	
97	None/Not Applicable	
98	Other non-commercial license endorsements (e.g. motorcycle)	
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.	
<u>Edit Checks:</u>		
E(GT)#.01	Edit check one	
E(GT)#.02	Edit check two	

### Issue: P16. Driver Distracted By

The MMUCC 4th Edition element "P16. Driver Distracted By" is narrow and prescriptive. It only collects data for drivers engaged in seven types of distractive behaviors and nothing for non-motorists. As written, this data element cannot be used to collect data on distracted pedestrian crashes or for collecting other types of distractive behavior.

### Proposed Change

Move "P16. Driver Distracted By" from Level 3 (All Drivers) to Level 4 (All Drivers and Non-Motorists) as "P#. Distracted By" and change the format of the element to allow two subfields: Action and Source.

These changes will permit users to capture more behavior combinations and would be flexible enough to accommodate new types of distractive activities and technologies.

P16. Distracted By		
Definition	Distractions that may have influenced driver/non-motorist performance, involving both an action taken by the driver/non-motorist and the source of the distraction.	
Attribute Values:		
Subfield	Action	Select 1
1		
00	Not Distracted	
01	Talking/listening	<input type="text"/>
02	Manually Operating (texting, dialing, playing game, etc.)	
03	Daydreaming/Lost in Thought	
04	Other Action (looking away from task, etc.)	
99	Unknown	
Subfield	Source	Select 1
2		
01	Portable Device	<input type="text"/>
02	Vehicle-Integrated Device	
03	Passenger/Other Non-Motorist	
04	External (to vehicle/non-motorist area)	
05	Other Behavioral Distraction (eating, personal hygiene, etc.)	
97	Not Applicable	
99	Unknown	



## VIII. New Data Element for Automated Vehicles

### Issue: Addressing Emerging Autonomous Vehicle Technology

Automated vehicle technology is rapidly evolving, with many vehicles already on our roads with some level of automation capability. To ensure good data will be available in 5-10 years when this technology becomes more mainstream, we propose adding this element now, in recognition that it takes an average of ten or more years for States to adopt changes.

### Proposed Change:

### New Data Element: MV Automation Capability

<b>V#. MV Automation Capability</b>	
Definition	<b>No-Automation:</b> The driver is in complete and sole control of the primary vehicle controls – brake, steering, throttle, and motive power – at all times.  <b>Partial Automation:</b> <ul style="list-style-type: none"><li>Automation at this level involves one or more specific control functions. Examples include electronic stability control or pre-charged brakes, where the vehicle automatically assists with braking to enable the driver to regain control of the vehicle or stop faster than possible by acting alone.</li><li>This level involves automation of at least two primary control functions designed to work in unison to relieve the driver of control of those functions. An example of combined functions enabling a Level 2 system is adaptive cruise control in combination with lane centering.</li><li>Vehicles at this level of automation enable the driver to cede full control of all safety-critical functions under certain traffic or environmental conditions and in those conditions to rely heavily on the vehicle to monitor for changes in those conditions requiring transition back to driver control. The driver is expected to be available for occasional control, but with sufficiently comfortable transition time. The Google car is an example of limited self-driving automation.</li></ul> <b>Full Automation:</b> The vehicle is designed to perform all safety-critical driving functions and monitor roadway conditions for an entire trip. Such a design anticipates that the driver will provide destination or navigation input, but is not expected to be available for control at any time during the trip. This includes both occupied and unoccupied vehicles.
<u>Attribute Values:</u>	
Subfield 2	<b>Vehicle Automation Level</b>
00	No Automation
01	Partial Automation
02	Full Automation
97	<b>Not Applicable/Not a MV</b>
Rationale	INSERT HERE.
<u>Edit Checks:</u>	
E(GT)#.01	Edit check one
E(GT)#.02	Edit check two

Select 1