

## MMUCC 5.0 Change Log

The following NIEM referred data element/types have been updated to satisfy NIEM 4.1 and MMUCC 5.0 upgrade:

- **R5. Roadway Functional Class** (mmucc:RoadwayFunctionClass) – Attributes were modified to come in line with roadway functional classes listed in MIRE.
- **V10. Special Function of Motor Vehicle in Transport** (Combines MMUCC 4th Edition Elements “V10. Special Function of Motor Vehicle in Transport” and “V22. Bus Use”). Revised and added attributes.
- **V15. Total Lanes in Roadway** (mmucc:RoadwayTotalLanesQuantity) - Corrected the definition to bring MMUCC in line with the FARS definition. Specifically, the inclusion of auxiliary lanes was different in the MMUCC 4th Edition.
- **V20. Sequence of Events** (mmucc:VehicleEventSequenceCode): Definition revised to bring in line with FARS, including the inclusion and labeling of Non-Harmful Events. Additionally, the attribute clusters were also reorganized to bring in line with FARS labels, including Non-Harmful Events. Attribute 27 (Strikes Object at Rest from MV in Transport) was added to Collision with Person, Motor Vehicle, or Non-Fixed Object.
- **P16. Driver License Restrictions** (mmucc:DrivingRestriction, mmucc:DriverLicenseRestrictionCode, mmucc:AlcoholInterlockPresentCode): Linked Element in MMUCC 4th Edition. Attribute 01 (Alcohol Interlock Device) added to Subfield 1, Driver Restrictions. Subfield 2, Alcohol Interlock Present? Added.
- **P19. Condition at Time of the Crash** (mmucc:ConditionCrash): Change in definition from “motorist or non-motorist” to “driver or non-motorist”. Definition of attribute 01 (Asleep or Fatigued) changed to include “...was drowsy or asleep”.
- **P23. Drug Test** (mucc:DrugPresenceTest, mmucc:DrugTestStatusCode, mmucc:DrugTestCategory, mmucc:DrugTestResultCode): MMUCC 4th Edition Linked element “PL3. Drug Test Result” becomes Subfield 4, Drug Test Result of MMUCC 5th Edition element “P23. Drug Test”.
- **P25. Injury Area** (mmucc:PersonInjuryAreaCode): Linked Element in MMUCC 4th Edition. The element definition was updated.
- **LV10. Hazardous Materials (Cargo Only)** (mmucc:VehicleHazMatCargo, mmucc:HazmatPlacardNumber, mmucc:HazmatPlacardClass, mmucc:HazMatCargoReleaseCode): Definition revised to reflect updated set of subfields. Subfield 1, Did this motor vehicle display a hazardous materials (HM) placard?, was moved to 5th Edition element V8, Subfield 4.
- **NM4. Non-Motorist Location at Time of Crash**

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(mmucc:NonMotoristLocationCode): Attributes relating to bicycle facilities updated to better reflect FHWA guidance on bicycle facilities.

### The following data element/type has been removed from MMUCC 5.0:

- RL14. “Traffic Control Type at Intersection” was deleted.

### The following data elements/types have been created in MMUCC 5.0:

- **Level 3: All Drivers** (mmucc:AllDrivers)
- **Level 4: All Drivers and Non-Motorists** (mmucc:AllDriversAndNon-Motorists)
- **F2. Alcohol Test Type and Results** (mmucc:AlcoholTestTypeAndResult, mmucc:AlcoholTestCode, mmucc:AlcoholTestResult)
- **F3. Drug Test Type and Results** (mmucc:DrugTestTypeAndResult, mmucc:DrugTestType, mmucc:DrugTestResultCode)
- **LV1. CMV License Status and Compliance with CDL Endorsements** (mmucc:CMVLicenseStatusComplianceWithCDLEndorsements, mmucc:CMVLicenseStatus, mmucc:ComplianceWithCDLEndorsements)
- **LV2. Trailer License Plate Number(s)** (mmucc:TrailerLicensePLateNumber, mmucc:LicensePlate1, mmucc:LicensePlate2, mmucc:LicensePlate3)
- **LV3. Trailer VIN(s)** (mmucc:TrailerVIN, mmucc:VIN1, mmucc:VIN2, mmucc:VIN3)
- **LV4. Trailer Make(s)** (mmucc:TrailerMake, mmucc:TrailerMake1, mmucc:TrailerMake2, mmucc:TrailerMake3)
- **LV5. Trailer Model(s)** (mmucc:TrailerModel, mmucc:TrailerModel1, mmucc:TrailerModel2, mmucc:TrailerModel3)
- **LV6. Trailer Model Year(s)** (mmucc:TrailerModelYear, mmucc:TrailerModelYear1, mmucc:TrailerModelYear2, mmucc:TrailerModelYear3)
- **LV11. Total Number of Axles** (mmucc:TotalNumberOfAxles, mmucc:TotalNumberOfAxles\_Trailer1, mmucc:TotalNumberOfAxles\_Trailer2, mmucc:TotalNumberOfAxles\_Trailer3)
- **NM6.Initial Contact Point on Non-Motorist** (mmucc:NonMotoristContactPointCode)
- **DV1. Motor Vehicle Automated Driving System(s)** (mmucc:MotorVehicleAutomatedDrivingSystem, mmucc:AutomationSystemOrSystemsInVehicle, mmucc:AutomationSystemLevelsInVehicle, mmuccAutomationSystemLevelsEngagedAtTimeOfCrash)

### The following data elements/types have been modified in MMUCC 5.0:

- **C2. Crash Classification** (mmucc:CrashClassification): **Subfield 3**, “*Secondary Crash?*” (mmucc:SecondaryCrash) added.

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- **C3. Crash Date and Time** (mmucc:CrashDateTime): **Subfield 2**, “Time of Roadway Clearance” (mmucc:TimeOfRoadwayClearance) added.
- **C7. First Harmful Event** (mmucc:CrashFirstHarmfulEventCode):  
Split attribute, *Work Zone/Maintenance* into two attributes:  
10 Construction Equipment (backhoe, bulldozer, etc.)  
11 Farm Equipment (tractor, combine harvester, etc.)
- **C10. Source of Information** (mmucc:CrashInformationSourceCode): **Subfield 2**, “Law Enforcement Agency Identifier” (mmucc:LawEnforcementAgencyIdentifier) added.
- **C12. Light Condition** (mmucc:CrashLightConditionCode): Combined attributes, *Dawn* and *Dusk* into a single attribute, *Dawn/Dusk*.
- **C14. Crash environment Contributing Circumstances** (mmucc:CrashEnvironmentContributingCircumstancesCode) - Combined MMUCC 4.0, “C14. Contributing Circumstances, Environment” and “C15. Contributing Circumstances, Road” into a single element.  
Added attributes: 05 *Obstructed Crosswalks*  
10 *Related to a Bus-Stop*  
16 *Traffic Incident* Deleted the phrase, “Backup Due to” from attributes 07 (*Prior Crash*), 08 (*Prior Non-Recurring Incident*) and 09 (*Regular Congestion*)
- **C15. Relation to Junction** (mmucc:CrashRelationToJunction)  
Combined 6 related attributes into 3:  
03 *Driveway Access or Related*  
04 *Entrance/Exit Ramp or Related*  
05 *Intersection or Related*
- **C16. Type of intersection** (mmucc:CrashIntersectionCategory) - Revised Element into 3 subfields: Subfield 1, *Number of Approaches*; Subfield 2, *Overall Intersection Geometry*; and Subfield 3, *Overall Traffic Control Device*.
- **C18. Work Zone Related** (Construction/maintenance/Utility) (mmucc:CrashWorkZoneRelated ) - Revised attributes for Subfield 5, *Law Enforcement Present*.
- **C19. Crash Severity** (mmucc:CrashSeverityCode) – no longer a derived element
- **C20. Number of Motor Vehicles Involved** (mmucc:NumberOfMotorVehiclesInvolved) – no longer a derived element
- **C21. Number of Motorists** (mmucc:NumberOfMotoristsInvolved) – no longer a derived element. Definition of “Motorist” modified to include occupants of all motor vehicles involved in the crash including those in vehicles not in transport

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- **C22. Number of Non-Motorists** (mmucc:NumberOfNonMotoristsVehiclesInvolved) – no longer a derived element
- **C23. Number of Non-Fatally Injured Persons** (mmucc:NumberOfNonFatallyInjuredPersons) – no longer a derived element
- **C24. Number of Fatalities** (mmucc:NumberOfFatalities) – no longer a derived element
- **C25. Alcohol Involvement** (mmucc:CrashAlcoholInvolvementCode) – no longer a derived element
- **C26. Drug Involvement** (mmucc:CrashDrugInvolvementCode) – no longer a derived element
- **C27. Day of Week** (mmucc:CrashDayOfWeek) – no longer a derived element
- **V1. Vehicle Identification Number (VIN)** (mmucc:VehicleIdentificationNumber): Name change: deleted “Motor”
- **V2. Vehicle Unit Type and Number** (mmucc:VehicleUnitTypeNumber, mmucc:VehicleUnitType, mmucc:VehicleUnitNumber)
- **V5. Vehicle Make** (j:VehicleMakeCode)
- **V8. Vehicle Body Type Category** (mmucc:VehicleBodyCategory)
  - Element revised into 4 subfields that separate Body Type from Size of Vehicle and added subfields for Trailing Units and Hazardous Materials Placarding as follows:
    - Subfield 1, *Body Type Category*
    - Subfield 2, *Number of Trailing Units*
    - Subfield 3, *Vehicle Size*
    - Subfield 4, *Did this motor vehicle display a hazardous materials (HM) placard?*
- **V14. Trafficway Description** (mmucc:TrafficwayDescriptionCode, j:TravelDirectionBeforeCrashCode, mmucc:TrafficwayDividedCode, mmucc:TrafficwayBarrierTypeCode, mmucc:TrafficwayHOVHOTCode, mmucc:TrafficwayCrashHOVHOTRelatedCode): Revised into 5 subfields to specify whether or not the trafficway is divided, whether it serves one-way or two-way traffic, the type of lane it is, whether there was a barrier, if HOV/HOT lanes are present and whether they were related to the crash: New subfields include:
  - Subfield 1, *Travel Directions*
  - Subfield 2, *Divided?*
  - Subfield 3, *Barrier Type*
  - Subfield 4, *HOV/HOT Lanes*
  - Subfield 5, *Crash Related to HV/HOT Lane?*
- **V17. Traffic Control Device Type** (mmucc:VehicleTrafficControlDevice, mmucc:TrafficControlDeviceCategory, mmucc:VehicleTrafficControlDeviceFunctionalityCode): Reordered and added additional attributes. Increased the number of selections to 4 devices.

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- **V19. Vehicle Damage** (mmucc:VehicleDamage, mmucc:InitialImpactAreaCode, mmucc:MostDamagedAreaCode, mmucc:VehicleDamageExtentCode ): Subfield 1 definition was amended to include additional information on how to code for cargo loss or if the vehicle is not at the scene. Subfield 2, *Damaged Areas* now permits coding of 13 damaged areas on the vehicle. (One less than selecting the attribute, *All areas*)
- **V21. Most Harmful Event for this Motor Vehicle** (mmucc:VehicleMostHarmfulEventCode): Attribute 17 (*Strikes Object at Rest from MV in Transport*) was added to *Collision With Person, Motor Vehicle, or Non-Fixed Object*.
- **V24. Contributing Circumstances, Motor Vehicle** (mmucc:VehicleContributingCircumstancesCode): Number of selections changed from two to one.
- **P4. Person Type** (mmucc:PersonType, mmucc:MotoristPersonType, mmucc:NonMotoristPersonType, mmucc:IncidentResponderCode): The definition of Motorist and Non-Motorist were changed. Non-Motorist no longer includes “Occupant of MV Not in Transport”; that has been shifted to Motorist. Subfield 2, “*Incident Responder?*” added.
- **P8. Restraint Systems/Motorcycle Helmet Use** (mmucc:OccupantRestraintSystemMotorcycleHelmetUseCode, mmucc:OccupantRestraintSystemUseCode, mmucc:OccupantMotorcycleHelmetUseCode, mmucc:HelmetAnyIndicationOfImproperUse):
  - Added attributes *Stretcher* and *Wheelchair*.
  - Element revised into 2 subfields:
    - Subfield 1, *Restraint Systems*
    - Subfield 2, *Any Indication of Improper Use?*
- **P9. Air Bag Deployed** (mmucc:OccupantAirBagDeployedCode): Revised element to permit selecting up to 4 types of airbags and revised attributes.
- **P11. Level 3: All Drivers** (mmucc:DriverLicenseJurisdiction, mmucc:DriverLicenseJurisdictionTypeCode, mmucc:DriverLicenseJurisdictionCode): Attributes revised into 2 subfields to collect actual State names: Subfield 2, *Name of Jurisdiction*
- **P18. Distracted By** (mmucc:DriverDistractionCode, mmucc:PersonDistractionActionCode, mmucc:PersonDistractionSourceCode): The element was moved from Level 3 (All Drivers) to Level 4 (All Drivers and Non-Motorists), to enable collection of distraction information on involved non-motorists.
  - The element structure was revised to include two subfields: Subfield 1, *Action* and Subfield 2, *Source*.
- **NM2. Non-Motorist Action/Circumstance Prior to Crash**

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(mmucc:NonMotoristActionPriorCrash,  
mmucc:NonMotoristActionBeforeCrashCode,  
mmucc:NonMotoristOriginDestinationCode): Subfield 2 changed list of attributes.

- **NM5. Non-Motorist Safety Equipment**  
(mmucc:NonMotoristSafetyEquipmentCode) : Attributes revised.
- **LV8. Vehicle Configuration** (mmucc:VehicleConfigurationCode,  
mmucc:VehicleConfigurationSpecialSizingCode,  
mmucc:VehicleConfigurationPermittedLoadCode): Two subfields were added:  
Subfield 2, *Special Sizing*, and Subfield 3, *Permitted?*.