

**Information Exchange Package Master Documentation**  
**Model Minimum Uniform Crash Criteria (MMUCC) Version 5.0**  
Created on 06/25/2019

**Table of Contents**

1. Introduction .....	2
2. Purpose and Scope.....	2
3. List of Artifacts .....	2
4. MMUCC Overview.....	3
5. XML SCHEMAS.....	4
5.1 NIEM Subset Schemas.....	4
5.2 Extension XML Schema .....	4
5.3 Exchange XML Schema.....	4
6. Additional Business Rules .....	4
7. Participants .....	5
8. Testing and Conformance .....	5
8.1 Testing.....	5
8.2 Conformance.....	5

## 1. Introduction

The Model Minimum Uniform Crash Criteria (MMUCC) IEPD is a standardized data set for describing information on motor vehicle crashes. This IEPD references version 5.0 of the MMUCC data set.

The Model Minimum Uniform Crash Criteria Guideline (MMUCC) is a minimum, standardized data set for describing motor vehicle crashes and the vehicles, persons, and environment involved. The Guideline is designed to generate the information necessary to improve highway safety within each state and nationally. This data set, originally published in the MMUCC Guideline, 1st Edition (1998), has been revised four times in the MMUCC Guideline, most recently in the 5th Edition (2017), in response to emerging highway safety issues and other highway safety needs.

## 2. Purpose and Scope

The purpose of the MMUCC IEPD is to provide participating agencies documentation that lists exchange specifications to be used for the exchange of motor vehicle crash information. This release of the MMUCC IEPD is based on the NIEM IEPD requirements document and contains written documentation, schemas, instance documents, a mapping spreadsheet, and additional documentation.

## 3. List of Artifacts

The following artifacts are included in the IEPD:

<b>Artifact File</b>	<b>Name Purpose</b>
mmucc-catalog.html	Hyperlinked catalog file for IEPD.
mmucc-MainDocumentation.pdf	This document.
mmucc-metadata.xml	IEPD metadata instance.

mmucc-DomainModel.jpg	Domain model diagram, as a JPG image.
mmucc-CMT.xlsx	Component Mapping Template (CMT) spreadsheet containing mapping of domain model entities to NIEM.
mmucc.xsd	NIEM-conformant exchange schema.
mmucc-extend.xsd	NIEM-conformant extension schema.
schema/niem/	Directory containing NIEM subset schemas.
schema/niem/wantlist.xml	Wantlist for NIEM subset used by MMUCC schemas.
mmucc-sampleXML.xml	A sample MMUCC instance.
Xml-catalog.xml	Entity resolution XML
mmucc-codelist.xsd	XML content code list
mmucc-codelist-ext.xsd	XML content code list extension
mmucc-ChangeLog.pdf	List of changes for MMUCC v5

#### 4. MMUCC Overview

The purpose of the MMUCC Exchange is to exchange crash information between interested participating agencies. The MMUCC Exchange describes the characteristics of a crash, the vehicle(s), person(s) and roadway(s) involved.

Additional information can be obtained by referring to the MMUCC guidelines document from the link below:

[MMUCC 5th Edition](#)

## 5. XML SCHEMAS

This section references the XML Schemas used to define the MMUCC exchange. The schemas use and are conformant to NIEM Version 4.1.

### 5.1 NIEM Subset Schemas

This group of schemas is included in the schema/niem directory of the IEPD directory structure.

### 5.2 Extension XML Schema

The extension schema is mmucc-exten.xsd in the schema/mmucc/5.0 directory. It uses the namespace mmucc="http://mmucc/mmucc-exten.xsd" and contains the extensions to the NIEM model.

### 5.3 Exchange XML Schema

The exchange schema is mmucc.xsd in the schema/mmucc/5.0 directory. It uses the namespace mmuccCrash=http://mmucc/mmucc.xsd and contains the declaration of the root element, mmuccCrash:Crash

## 6. Additional Business Rules

This section identifies business rules associated with the MMUCC IEPD. Refer to the following documentation for definitions of motor vehicle traffic crashes and business rules descriptions used in MMUCC guidelines:

- American Association of Motor Vehicle Administrators, *Traffic Records Systems Data Dictionary 6.1*, (<https://www.aamva.org>)

The MMUCC IEPD Business Rules include, but are not limited, to the following sample rules listed below:

- A crash must be associated with at least one motor vehicle within or outside the traffic way.

- All crashes statewide involving death, personal injury, or property damage of \$1,000 or more and all persons (injured and uninjured) involved in the crash must be reported.

## 7. Participants

U.S. Department of Transportation, National Highway Traffic Safety Administration sponsored the development of this IEPD. TTW Solutions, Inc. coordinated the development of this IEPD.

The following individuals participated in the development of the IEPD

<b>Participant</b>	<b>Organization</b>	<b>Workgroup Role</b>
John Siegler	USDOT/NHTSA	Sponsor
Sarah Weissman	USDOT/NHTSA	Sponsor
Mary Thomas	TTW Solutions, Inc.	Management/Mapping Table Development
Hai Zhao	TTW Solutions, Inc.	Mapping Table Development/XML Schema Development
Rong Lu & Jason Schwartz	TTW Solutions, Inc.	Mapping Table Development

## 8. Testing and Conformance

This section provides information on testing and conformance activities.

### 8.1 Testing

The integrity of the IEPD schemas have been tested by validating the schemas and sample instances with Altova XMLSpy version 2019 r3.

### 8.2 Conformance

The IEPD has been reviewed for conformance by the participants against:

- *NIEM Naming and Design Rules (NDR)*, version 4.0