

Regional Transportation Safety Information Management System (RTSIMS) Phase I

Technical Memorandum 2 Comparison of Data Fields in ALISS and MMUCC

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Executive Summary

Maricopa Association of Governments (MAG) has embarked on developing a Regional Transportation Safety Information Management System (RTSIMS) that will serve as the primary crash data analysis tool for MAG. The RTSIMS will provide an efficient and user-friendly interface to perform various statistical analyses to improve transportation safety in the region.

Development of RTSIMS will be accomplished in three phases. This document focuses on the results of Task 3 of Phase I. Task 3 synthesized the comparisons between ALISS and MMUCC done by ADOT and MAG.

Model Minimum Uniform Crash Criteria (MMUCC) has 111 data elements and a total of 625 data attributes according to the guidelines published in 2003. *77 of these 111 data elements are collected on the scene while 34 of these elements are either derived or obtained through database linkages.* These data elements are categorized into four major groups as follows:

- a. Crash
- b. Vehicle
- c. Person and
- d. Roadway

Comparison of ALISS and Arizona Traffic Accident Report form with MMUCC resulted in the following summary.

	Arizona Traffic Accident Report Form		ADOT ALISS	
	Present	MMUCC	Present	MMUCC
Data Elements	68	77	45	111
Data Attributes	259	622	256	787

Among the states for which a comparison of crash forms with MMUCC has been conducted by NHTSA's NCSA (National Center for Statistics & Analysis), less than 50 percent of the data element attributes have been included in the state crash forms compared to the eighty percent inclusion of the data elements from MMUCC.

For the data elements and the data attributes recommended by MMUCC that are missing in ALISS, there are three types of actions that can be taken for compliance.

- a. Modify Arizona Traffic Accident Report form only
- b. Modify ALISS / ALISS Data Entry Application only
- c. Modify Arizona Traffic Accident Report form and ALISS

Potential databases that may be investigated further to be linked to ALISS database are as follows

- Highway Performance Monitoring System (HPMS)
- Any existing Pavement Management Systems for the State and Local agencies
- Any existing Asset Management Systems for the State and Local agencies

Table of Contents

1	Introduction.....	1
2	ADOT ALISS Data Structure	2
3	MMUCC Structure.....	5
4	Comparison of ALISS with MMUCC	6
4.1	Derived (Linked) Data in MMUCC.....	9
5	Summary of Findings.....	9
	Appendix B: MMUCC vs. ALISS Comparison	10

List of Figures

Figure 1. Entities in MAG Region (Source: MAG Strategic Transportation Safety Plan). 1	
Figure 2. Tables in MS Access [®] based ADOT ALISS Database	4

List of Tables

Table 1. Primary Tables in ADOT ALISS Database.....	3
Table 2 Summary of Arizona Traffic Report form, ADOT ALISS and MMUCC Comparison	6
Table 3. Crash Data Elements and Attributes in MMUCC and ALISS.....	11
Table 4. Vehicle Data Elements and Attributes in MMUCC and ALISS	24
Table 5. Passenger Data Elements in ALISS and MMUCC.....	38
Table 6. Roadway Data Elements and Attributes in MMUCC and ALISS.....	51

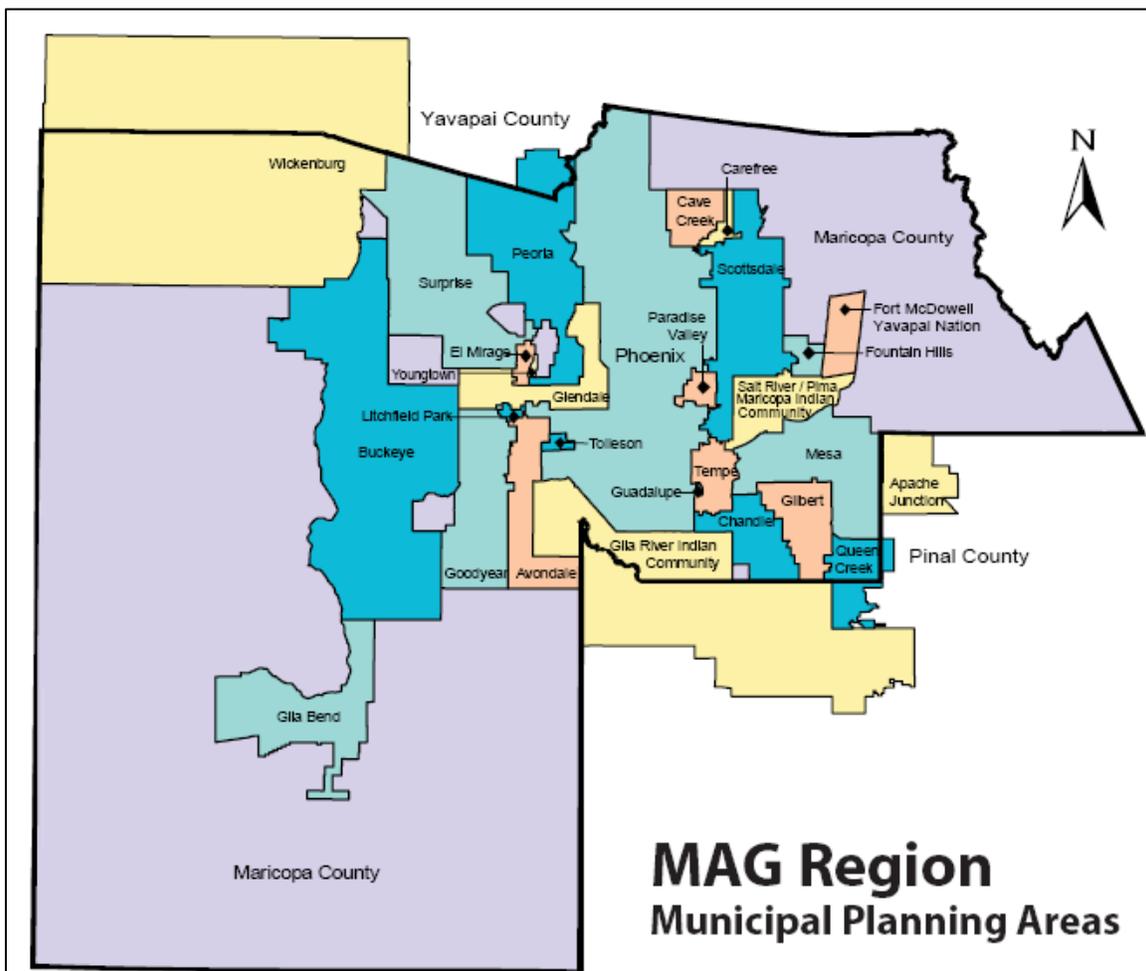
Acronyms

ADOT	Arizona Department of Transportation
ALISS	Accident Location Identification Surveillance System
AT	Attributed Element
BIN	Binary Elements
FHWA	Federal Highway Administration
GHSA	Governors Highway Safety Association
MMUCC	Model Minimum Uniform Crash Criteria
NCSA	Nation Center for Statistics and Analysis under NHTSA
NHTSA	National Highway Traffic Safety Administration
OF	Open Field Element
SQL	Structured Query Language
SQR	Structured Query Reporter
TCD	Table of Common Definitions

1 Introduction

The Maricopa Association of Governments’ (MAG) region currently includes all entities within Maricopa County and City of Apache Junction as shown in Figure 1 and MAG serves the designated Metropolitan Planning Organization for the Maricopa Region. MAG has embarked on developing a Regional Transportation Safety Information management System (RTSIMS) that will serve as the primary source of road safety information and analysis to support regional planning activities. The RTSIMS will provide an efficient and user-friendly interface to perform various statistical analyses to improve the transportation safety in the region.

Figure 1. Entities in MAG Region (Source: MAG Strategic Transportation Safety Plan)



The Accident Location Identification Surveillance System (ALISS) database is maintained by ADOT and contains all of the crash reports provided to ADOT by the cities, counties and other local law enforcement entities within the State. RTSIMS will contain ALISS data provided to MAG and other non-ALISS transportation data that are

pertinent to the MAG region. It will also have the ability to integrate new crash data into the crash data archive in an efficient manner and the ability to generate statistics and the corresponding graphics required for inclusion in MAG reports and for other purposes. The RTSIMS will also facilitate specific corridor safety analyses and the forecasting safety consequences of transportation planning alternatives.

Development of RTSIMS is to be carried out in three phases. The goal of RTSIMS Phase I is to develop a Table of Common Definitions (TCD) for all the crash data fields currently included in MS Access[®] based ALISS database and involves five tasks. Task 1 is project management and includes the kick-off meeting and briefings to MAG Transportation Safety Committee. Task 2 identifies the variables/data fields in ADOT ALISS database. Task 3 compares ADOT ALISS database with similar fields in MMUCC (Model Minimum Uniform Crash Criteria) guidelines and identifies the actions needed for MMUCC compliance. Task 4 is to identify crash data definitions used by local agencies differing from ADOT's ALISS definitions. Task 5 will generate consensus on the definitions of crash data fields and develop a Table of Common Definitions (TCD) applicable for all MAG member agencies as appropriate or will document the differences in the definitions to be used by MAG member agencies.

The Model Minimum Uniform Crash Criteria (MMUCC) was developed by the National Highway Traffic Safety Administration (NHTSA), the Federal Motor Carrier Safety Administration (FMCSA), the Federal Highway Administration (FHWA), and the Governors Highway Safety Association (GHSA). When implemented voluntarily in a state, the MMUCC provides a minimum, standardized data set for describing crashes of motor vehicles that will generate the information necessary to improve highway safety within each state and nationally.

ADOT and MAG have recently completed comparisons of ALISS with MMUCC. This project will synthesize the findings of these comparisons and others from other states. If consensus on a common definition for a particular data field is not possible, this project will clearly identify and document the different definitions used and the agencies that use those definitions.

This document (Technical Memorandum 2) focuses on the results of the third task of Phase I of RTSIMS development. In the earlier deliverable (Tech Memo 1), the structure of MS Access[®] based ADOT ALISS database was presented. This document highlights the findings from the comparison of ADOT ALISS and MMUCC. The actual comparison was completed by NHTSA at the request of ADOT and a follow-up comparative analysis was done by MAG.

2 ADOT ALISS Data Structure

The Accident Location Identification Surveillance System (ALISS) database is maintained by ADOT and contains most of the information contained in the accident reports provided to ADOT by the cities, counties and other local law enforcement entities within the State. Traffic accident reports are mailed by the investigating entity to ADOT Traffic Records Section. ADOT separates the bus/truck supplements and supplements for fatal crashes. Fatal crash reports are photocopied and retained in files. All accident

reports are then microfilmed and the hard copies of accident reports are recycled except for fatal crashes.

Some of the cities, counties and other entities in the State may also maintain their own crash databases in electronic format.

An annual update of ALISS database is provided to the transportation agencies in Arizona in different formats as requested (i.e. SQR, SQL, InFaccs, Text files, MS Access[®] files, and GIS Shape files linked with Access). Maricopa Association of Governments (MAG) has been requesting and using the annual ALISS database updates in MS Access[®] format. So, this project focused on the MS Access[®] version of the ALISS database provided to MAG.

ALISS database has the accident data entered into several tables. A list of all of the tables in ALISS is shown in Figure 2. There are a total of seventy-two tables of which twelve tables (i.e. primary tables) house the data while the other sixty tables (i.e. secondary tables) define the range of values for the data fields of the twelve primary tables. The twelve primary tables are related through the common data field “microfilm” that exists in all tables. Details of the twelve primary tables are provided in Table 1.

Table 1. Primary Tables in ADOT ALISS Database

	Table Name	Number of Data Fields including “microfilm”
1	dbo_change_log	5
2	dbo_dtproperties	7
3	dbo_emergency_service	4
4	dbo_hazmat	27
5	dbo_incident	27
6	dbo_incident_location	18
7	dbo_nonvehicle_data	3
8	dbo_person	17
9	dbo_road_chracteristic	13
10	dbo_traffic_control_devc	3
11	dbo_traffic_unit	14
12	dbo_vehicle	18

Figure 2. Tables in MS Access® based ADOT ALISS Database

dbo_airbag_defn	dbo_restriction_defn
dbo_alignment_defn	dbo_road_character_defn
dbo_body_style_defn	dbo_road_characteristic
dbo_cargo_body_type_defn	dbo_road_condition_defn
dbo_change_log	dbo_road_surface_defn
dbo_citation_defn	dbo_scene_defn
dbo_collision_manner_defn	dbo_seat_number_defn
dbo_control_defn	dbo_sequence_of_events_defn
dbo_control_type_defn	dbo_service_code_defn
dbo_damage_defn	dbo_skid_defn
dbo_damage_severity_defn	dbo_special_location_defn
dbo_daylight_defn	dbo_stopped_defn
dbo_defect_defn	dbo_streetlight_present_defn
dbo_description_defn	dbo_sub_harmful_defn
dbo_driver_state_defn	dbo_surface_condition_defn
dbo_dtproperties	dbo_terrain_defn
dbo_emergency_service	dbo_traffic_control_dev
dbo_endorsement_defn	dbo_traffic_unit
dbo_familiar_defn	dbo_traffic_way_defn
dbo_first_harmful_defn	dbo_trailer_defn
dbo_gender_defn	dbo_travel_direction_defn
dbo_grade_defn	dbo_unit_action_defn
dbo_hazmat	dbo_unit_type_defn
dbo_incident	dbo_vehicle
dbo_incident_location	dbo_vehicle_configuration_defn
dbo_injury_defn	dbo_vehicle_state_defn
dbo_injury_severity_defn	dbo_vehicle_type_defn
dbo_intersection_related_defn	dbo_violation_defn
dbo_junction_defn	dbo_vision_defn
dbo_lane_defn	dbo_weather_defn
dbo_license_class_defn	
dbo_locale_defn	
dbo_nonvehicle_data	
dbo_nsc_reportable_defn	
dbo_operational_defn	
dbo_owner_defn	
dbo_ownerclass_defn	
dbo_person	
dbo_person_type_defn	
dbo_physical_defn	
dbo_prior_harmful_defn	
dbo_restraint_used_defn	

Tables shown within the red rectangles are the “primary” tables containing crash data

3 MMUCC Structure

The Model Minimum Uniform Crash Criteria (MMUCC) is a voluntary and collaborative effort to generate uniform crash data that are accurate, reliable and credible for data-driven highway safety decision making within a city, town, MPO, state, between states and at the national level. It recommends voluntary implementation of a “minimum set” of standardized data elements to promote comparability of data across different jurisdictions.

MMUCC has 111 data elements and a total of 625 data attributes according to the guidelines published in 2003. *77 of these 111 data elements are collected on the scene while 34 of these elements are either derived or obtained through database linkages.* These data elements are categorized into four major groups as follows:

- e. Crash
- f. Vehicle
- g. Person and
- h. Roadway

All of the data fields in the “Roadway” group are “linked data”. “linked data” are data generated when the crash data file is linked to injury, driver history, vehicle registration, roadway inventory or other data files outside of typical crash databases. A review of the MMUCC guidelines published in 2003 is currently underway and is expected to be completed in 2007 by NHTSA.

The MMUCC has three types of data elements (i.e. Open Field (OF), Attributed (AT) and Binary elements (BIN)). Open field elements are filled in by the investigating officer. Attributed elements have a specified set of variable values that the investigating officer is asked to choose from. Binary elements are elements that have only two variable values that are mutually exclusive (e.g. yes / no) and these can be open field or attributed elements. Some of the Open Field (OF) elements may actually be Attributed (AT) elements in MMUCC. The following is the distribution of data fields and data field attributes.

- 43 of the 77 data elements collected at the scene are Open Field (OF) (Note: Only 77 of the total 111 data elements in MMUCC are collected at the scene and others are linked)
- All of the 625 data element attributes are either Attributed (AT) or Binary (BIN) in MMUCC

The third task of this RTSIMS Phase I project focuses on identifying the data elements missing in ADOT ALISS database from MMUCC guidelines also on identifying the data element attributes that are missing for existing data elements in ADOT ALISS database.

Two surveys of a total of 32 states that had revised crash forms since 1996 were conducted in 2002 by NHTSA. This survey showed that the surveyed states incorporated

83 percent of MMUCC data elements on an average. Most of states surveyed reported that they were no resources for linking driver, vehicle and roadway data files. The survey also revealed that the data elements included in the accident reports for non-fatal crashes, especially PDO crashes were substantially lower compared to required data elements in MMUCC. The survey listed the following data elements from MMUCC as the least incorporated in the States' Crash Reporting Forms.

- Contributing Circumstances – Environment
- Underride / Override
- Direction of Force
- Vehicle Role
- Commercial Vehicle Trailer Information

Among the states for which a comparison of crash forms with MMUCC has been conducted by NHTSA's NCSA (National Center for Statistics & Analysis), less than 50 percent of the data element attributes have been included in the state crash forms compared to the eighty percent inclusion of the data elements from MMUCC.

The attributes associated with the following three data elements account for almost one-fourth of the total number of data attributes in MMUCC.

- First Harmful Event
- Sequence of Events
- Most Harmful Event

4 Comparison of ALISS with MMUCC

An evaluation report of Arizona Traffic Accident Report Form with the MMUCC completed by National Highway Traffic Safety Administration (NHTSA) shows that sixty-eight (88 %) of the required seventy-seven elements were present in Arizona Traffic Accident Report form. But, there were only two hundred and fifty nine (41 %) of the required six hundred and twenty two attributes associated with the data elements present. As indicated above, the data elements are only as good as the comprehensiveness of attributes associated with them.

This evaluation report also compared the ADOT ALISS database with MMUCC requirements for crash databases show that forty-five (39 %) of the one hundred and eleven data elements required by MMUCC were present in ADOT ALISS. But, the attributes associated with the data elements included in ADOT ALISS database covered only two hundred and fifty-six (32 %) of seven hundred and eighty-seven MMUCC data attributes for databases.

Table 2 Summary of Arizona Traffic Report form, ADOT ALISS and MMUCC Comparison

	Arizona Traffic Accident Report Form		ADOT ALISS	
	Present	MMUCC	Present	MMUCC
Data Elements	68	77	45	111
Data Attributes	259	622	256	787

Complete details of this comparison for each data attribute in MMUCC is provided in Appendix B.

A similar comparison by MAG found the ALISS database missing the following data elements from MMUCC recommended data elements and attributes.

- **Crash:**
 - i. Contributing Circumstances - Environment
 - ii. Contributing Circumstances – Road
 - iii. Work-Zone related
 - iv. School Bus related
- **Person:**
 - i. For All Occupants: Seating position, Occupant protection system use, Airbag deployed, Ejection
 - ii. For All Drivers: Driver License Number, Driver Name, Driver Action at Time of Crash and Driver Distracted By
 - iii. For All Drivers and Non-Motorists: Law Enforcement Suspects Alcohol Use, Alcohol Test, Law Enforcements Suspects Drug Use and Drug Test
 - iv. For Non-Motorists: Non Motorist Number, Non Motorist Action Prior to Crash, Actions at time of Crash, Condition at time of crash, location, safety equipment and unit number of motor vehicle striking Non Motorist
 - v. For All Injured Persons: Transported to Medical Facility by, Injury Area and Injury Description
- **Vehicle:**
 - i. For All Vehicles: VIN, License Plate Number, Vehicle Make, Model Yr., Model, Body type, Emergency motor vehicle use, Authorized Speed limit, Extend of Damage, Contributing Circumstances, Motor Carrier Identification, Gross Vehicle Rating, Commercial Vehicle Configuration, Cargo Body Type, Hazardous Materials Placard
- **Roadway (Linked Data):**
 - i. Bridge / Structure Identification Number, AADT, Width of Lane(s) and Shoulder, Width of Median, Railway Crossing ID, Pavement Markings, Bikeway, Delineator Presence, Mainline Number of Lanes at Intersection, Side Road Number of Lanes at Intersection and Total Vol. of Entering Vehicles

For the data elements and the data attributes recommended by MMUCC that are missing in ALISS, there are three types of remedies available.

A. Modify Arizona Traffic Accident Report form only

This can be applied to data elements and attributes identified in *Appendix B* as the ones that are already present in ALISS and are not available on Arizona Traffic Accident Report Form. This will help improve the accuracy of these elements as these will be recorded directly by the investigating officers than being derived from other recorded

information on Arizona Traffic Accident Report form. Examples include the following attributes for “Location of First Harmful Event” in MMUCC.

- i. On Roadway
- ii. Shoulder
- iii. Median
- iv. Roadside
- v. Separator
- vi. Unknown

These attributes are present in ALISS under the data element “traffic_way”. So, Arizona Traffic Accident Report form may be modified to include a data element named “Location of First Harmful Event”

B. Modify ALISS database or ADOT ALISS Data Entry Application only

This remedy can be applied to those data elements and attributes that have been identified to be on the Arizona Traffic Accident Report form but not in ALISS database in *Appendix B*. This may involve just modifying the ADOT ALISS data entry tool in use and adding more data elements in ALISS database.

Since, the recorded information is readily available on Arizona Traffic Accident Reports, these remedies will take lesser amount of effort to be implemented. Examples include the following.

- i. Motor Vehicle Authorized Speed Limit (V12)
- ii. A number of attributes under Sequence of Events in the CMV supplement of Arizona Traffic Accident Report form
- iii. Hit and Run (V23)

C. Modify both ALISS and Arizona Traffic Accident Report

There are data elements and attributes that are recommended by MMUCC and are present neither in Arizona Traffic Accident Report form nor in ALISS. In these cases, both Arizona Traffic Accident Report form and ALISS will have to be modified to accommodate these data elements and attributes related to those elements. Examples include the following.

- i. Total Occupants in Motor Vehicle
- ii. Motor Vehicle Model
- iii. Most Harmful Event for This Vehicle

Depending on the importance of these elements as perceived by the crash data users, the MMUCC recommended data elements and data attributes will need to be included both on Arizona Traffic Accident Report form and ALISS.

Appendix B identifies the full list of the MMUCC recommended elements that fall into the above three categories.

4.1 Derived (Linked) Data in MMUCC

As noted above, all of the data elements and attributes under “Roadway” are of the “Derived Data” category. There are also few derived data elements under “Crash”, “Vehicle” and “Passenger”. These derived data are primarily recommended as data added at a stage in the crash data collection process later than the field investigation by the police officer. Currently, some of the data elements and attributes in the derived data category are collected in the Arizona Traffic Accident Reports (e.g. Driver License Restriction “PL1”). ADOT does not have ALISS database linked to other databases from where these data elements and attributes can be derived or linked. Potential databases that may be investigated further to be linked to ALISS database are as follows

- Highway Performance Monitoring System (HPMS)
- Any existing Pavement Management Systems for the State and Local agencies
- Any existing Asset Management Systems for the State and Local agencies

5 Summary of Findings

This technical memorandum documents the results of Task 3 of RTSIMS Phase I. This task analyzed the data fields in MS Access based ADOT ALISS database in comparison to 2003 Model Minimum Uniform Crash Criteria (MMUCC) guidelines with the help of a comparison study completed by NHTSA at the request of ADOT and another comparison study completed by MAG. An ALISS database structure and definitions were provided by MAG ITS and Safety Program.

This task also investigated similar comparisons completed by NHTSA at the request of other states. A data element / data attribute level comparison of ALISS with MMUCC is provided in *Appendix B*. The results of this task indicate that both Arizona Traffic Accident Report form and ALISS database need to be modified to include a list of data elements. In some cases, it may also be needed to modify some of the data elements included in ALISS and / or Arizona Traffic Accident Report form to include more data attributes.

The subsequent Tech Memos will identify local agency definitions of the data fields and the differences among those definitions. The final Tech Memo will contain a Table of Common Definitions (TCD).

Appendix B: MMUCC vs. ALISS Comparison

This appendix provides details on the tables provided in Appendix B.

Element Code: This is the first column in the tables in Appendix B. The following is the key to the element code values. The MMUCC has four major categories of data as explained earlier. The four categories are crash, vehicle, person and roadway.

- C – Crash (Collected at Scene)
- CD – Crash (Derived, Not Collected at Scene)
- P – Person (Collected at Scene)
- PL – Person (Linked, i.e. data obtained through a database linked to the crash database during post crash data processing)
- V – Vehicle
- RL – Roadway (Linked, i.e. all of the roadway data elements recommended by MMUCC are linked and not collected at the scene of the crash)

ATAR is used as a short form for Arizona Traffic Accident Report form in the tables in Appendix B

Table 3. Crash Data Elements and Attributes in MMUCC and ALISS

ELEM ENT	ELEMENT NAME	NATIONAL ELEMENT	ATTRIB UTE	ATTRIBUTE NAME	ON ATAR	IN ALISS	NEED FOR COMPLIANCE	COMMENTS
C01	Crash Case Identifier	yes						
			C01.01	State Specific Identifier	Yes	No	Entered into ALISS along with microfilm number	required both in DB and Form
C02	Crash Date and Time	yes						
			C02.01	Date and Time (YYYYMMDDHHMM)	Yes	Not in format	Format may be changed for compliance	
C03	Crash County	yes						
			C03.01	Name of the County	Yes	No	A modification in the ALISS data entry tool will lead to compliance	data entry tool can automatically create this information
C04	Crash City / Place	yes						
			C04.01	Name of the Political Jurisdiction	Yes	No	A modification in the ALISS data entry tool will lead to compliance	data entry tool can automatically create this information
C05	Crash Location	yes						
			C05.01	Latitude / Longitude Coordinates	No	No	Lat / Long is NOT needed when LRS is present	data entry tool can automatically create this information
			C05.02	Linear Referencing System (LRS)	Yes	Yes		
			C05.03	Link Node System	No	No	A modification in the ALISS data entry tool will lead to compliance	data entry tool can automatically create this information

C06	First Harmful Event	yes					ATAR Main Form needs to be modified to include "First Harmful Event"	Found only on CMV Supplement form	
			C06.01	Non-Collision: Overturn / Rollover	Yes	Yes			
			C06.02	Non-Collision: Fire / Explosion	Yes	Yes			
			C06.03	Non-Collision: Immersion	No	No			Both ATAR and ALISS will need to be modified
			C06.04	Non-Collision: Jackknife	Yes	No			A modification in the ALISS data entry tool will lead to compliance
			C06.05	Non-Collision: Cargo / Equipment Loss or Shift	Yes	No			A modification in the ALISS data entry tool will lead to compliance
			C06.06	Non-Collision: Fell / Jumped from Motor Vehicle	No	Yes			Will need a change in ATAR CMV Supplement Attribute List
			C06.07	Non-Collision: Thrown or Falling Object	No	Yes			Will need a change in ATAR CMV Supplement Attribute List
			C06.08	Non-Collision: Other Non-Collision	Yes	Yes			
			C06.09	Collision with P, MV, Non-FO: Pedestrian	Yes	Yes			
			C06.10	Collision with P, MV, Non-FO: Pedalcycle	Yes	Yes			
			C06.11	Collision with P, MV, Non-FO: Railway Vehicle (train, engine)	Yes	Yes			
			C06.12	Collision with P, MV, Non-FO: Animal	Yes	Yes			
			C06.13	Collision with P, MV, Non-FO: MOTOR Vehicle in Transport	Yes	Yes			
C06.14	Collision with P, MV, Non-FO: Parked Motor Vehicle	Yes	Yes						
							Livestock, pets, game, animal classification within animal collisions in ALISS		

			Collision with P, MV, Non-FO: Work Zone / Maintenance Equipment	Yes	Yes		
			Collision with P, MV, Non-FO: Other Non-Fixed Object	Yes	Yes		
			Collision with Fixed Object: Impact Attenuator / Crash Cushion	No	No	Both ATAR and ALISS will need to be modified	
			Collision with Fixed Object: Bridge Overhead Structure	No	No	Both ATAR and ALISS will need to be modified	
			Collision with Fixed Object: Bridge Pier or Support	No	Yes	Will need a change in ATAR CMV Supplement Format	
			Collision with Fixed Object: Bridge Rail	No	No	Both ATAR and ALISS will need to be modified	
			Collision with Fixed Object: Culvert	No	Yes	Will need a change in ATAR CMV Supplement Attribute List	
			Collision with Fixed Object: Curb	No	Yes	Will need a change in ATAR CMV Supplement Attribute List	
			Collision with Fixed Object: Ditch	No	No	Both ATAR and ALISS will need to be modified	
			Collision with Fixed Object: Embankment	No	No	Both ATAR and ALISS will need to be modified	
			Collision with Fixed Object: Guardrail Face	No	Yes	Will need a change in ATAR CMV Supplement Attribute List	has generic "Guardrail". No distinction between face and end
			Collision with Fixed Object: Guardrail End	No	Yes	Will need a change in ATAR CMV Supplement Attribute List	has generic "Guardrail". No distinction between face and end
			Collision with Fixed Object: Concrete Traffic Barrier	No	Yes	Will need a change in ATAR CMV Supplement Attribute List	"Median Barrier"
			Collision with Fixed Object: Other Traffic Barrier	No	Yes	Will need a change in ATAR CMV Supplement Attribute List	
			Collision with Fixed Object: Tree (standing)	No	Yes	Will need a change in ATAR CMV Supplement Attribute List	

			C06.30	Collision with Fixed Object: Utility Pole / Light Support	No	Yes	Will need a change in ATAR CMV Supplement Attribute List	
			C06.31	Collision with Fixed Object: Traffic Sign Support	No	Yes	Will need a change in ATAR CMV Supplement Attribute List	
			C06.32	Collision with Fixed Object: Traffic Signal Support	No	Yes	Will need a change in ATAR CMV Supplement Attribute List	
			C06.33	Collision with Fixed Object: Other Post, Pole or Support	No	No	Will need a change in ATAR CMV Supplement Attribute List	
			C06.34	Collision with Fixed Object: Fence	No	Yes	Will need a change in ATAR CMV Supplement Attribute List	
			C06.35	Collision with Fixed Object: Mailbox	No	No	Both ATAR and ALISS will need to be modified	
			C06.36	Collision with Fixed Object: Other Fixed Object (Wall, Building, Tunnel, etc.)	Yes	Yes		Has generic "Fixed Object"
			C06.37	Unknown	Yes	Yes		
C07	Location of First Harmful Event	yes						
			C07.01	On Roadway	No	Yes	ATAR will need to be modified to include "Location of First Harmful Event"	
			C07.02	Shoulder	No	Yes		
			C07.03	Median	No	Yes		
			C07.04	Roadside	No	Yes		
			C07.05	Gore	Yes	No	Forund in ATAR "Special Location"	
			C07.06	Seperator	No	Yes		
			C07.07	In Parking Lane or Zone	No	No	Both ATAR and ALISS will need to be modified	
			C07.08	Off Roadway, Location Unknown	No	No	Both ATAR and ALISS will need to be modified	
			C07.09	Outside Right-of-Way	No	No	Both ATAR and ALISS will need to be modified	
			C07.10	Unknown	No	Yes		

C08	Manner of Crash/Collision Impact	yes		Non-Collision Between Two Motor Vehicles in Transport	No	No	Will need a change in ATAR Form	May be covered in ATAR with "Non-Contact Non-Motorcycle"
			C08.01	Rear-End (Front-to-Rear)	Yes	Yes		
			C08.02	Head-On (Front-to-Front)	Yes	Yes		
			C08.03	Angle (Front-to-Side) Same Direction	No	No	Will need a change in ATAR Form and ALISS	ATAR has a generic "Angle" accident type
			C08.04	Angle (Front-to-Side) Opposite Direction	No	No	Will need a change in ATAR Form and ALISS	
			C08.05	Angle (Front-to-Side) Right Angle (includes broadside)	No	No	Will need a change in ATAR Form and ALISS	
			C08.06	Angle-Direction Not Specified	Yes	Yes		
			C08.07	Sideswipe-Same Direction	Yes	Yes		
			C08.08	Sideswipe-Opposite Direction	Yes	Yes		
			C08.09	Rear-to-Side	No	No	Will need a change in ATAR Form and ALISS	ATAR has a generic "Rear End" type
			C08.10	Rear-to-Rear	No	No	Will need a change in ATAR Form and ALISS	
			C08.11	Other	Yes	Yes		
			C08.12	Unknown	No	No	Will need a change in ATAR Form and ALISS	
			C08.13					
C09	Source of Information	yes		Law Enforcement Agency	Yes	No	Will need a change in ATAR Form and ALISS	
			C09.01	Motorist	No	No		
			C09.02	Law Enforcement Reporting Agency Identifier (ORI Codes)	Yes	No		
C10	Date and Time Crash Reported to Law Enforcement Agency	yes		YYYYMMDDHHMM	Yes	Not in format	Format may be changed for compliance	Has "police called" and "police arrived" on Fatal Supplement
			C10.01	Unknown	No	No	Will need a change in ATAR Form and ALISS	
			C10.02					

C11	Weather Conditions	yes	C11.01	Clear	Yes	Yes	Will need a change in ATAR Form and ALISS	Combined with Sand/dirt and soil		
			C11.02	Cloudy	Yes	Yes				
			C11.03	Fog,Smoke, Smog	Yes	Yes				
			C11.04	Rain	Yes	Yes				
			C11.05	Sleet, Hail (Freezing Rain or Drizzle)	Yes	Yes				
			C11.06	Snow	Yes	Yes				
			C11.07	Blowing Snow	No	No				
			C11.08	Severe Crosswinds	Yes	Yes				
			C11.09	Blowing Sand, Soil, Dirt	No	No			Will need a change in ATAR Form and ALISS	Combined with Snow
			C11.10	Other	No	No			Will need a change in ATAR Form and ALISS	
			C11.11	Unknown	No	No			Will need a change in ATAR Form and ALISS	
C12	Light Condition	yes	C12.01	Daylight	Yes	Yes	Will need a change in ATAR Form and ALISS	Dawn and Dusk Combined		
			C12.02	Dawn	Yes	Yes				
			C12.03	Dusk	No	No				
			C12.04	Dark-Lighted	Yes	No			Will need a change in ALISS Data Entry Application	
			C12.05	Dark-Not Lighted	Yes	No			Will need a change in ALISS Data Entry Application	
			C12.06	Dark-Unknown Lighting	No	Yes			Will need a change in ATAR	Darkness only
			C12.07	Other	No	No			Will need a change in ATAR Form and ALISS	
			C12.08	Unknown	No	No			Will need a change in ATAR Form and ALISS	

C13	Roadway Surface Condition	yes	C13.01	Dry	Yes	Yes	Will need a change in ATAR and ALISS	From "Road Condition in Form" Sand is combined with Mud, Dirt, Oil and Gravel Combined with Sand and Oil in ALISS
			C13.02	Wet	Yes	Yes		
			C13.03	Snow	Yes	Yes		
			C13.04	Slush	Yes	Yes		
			C13.05	Ice / Frost	Yes	Yes		
			C13.06	Water (standing, moving)	Yes	Yes		
			C13.07	Sand	No	No		
			C13.08	Mud, Dirt, Gravel	Yes	Yes		
			C13.09	Oil	No	No		
			C13.10	Other	Yes	Yes		
			C13.11	Unknown	Yes	Yes		
C14	Contributing Circumstances-Environment	yes	C14.01	None	No	No	Will need a modification in ADOT ALISS Data Entry Application	Oil is combined with mud, dirt, sand and gravel
			C14.02	Weather Conditions	Yes	Yes		
			C14.03	Physical Obstruction	Yes	Yes		
			C14.04	Glare	Yes	Yes		
			C14.05	Animal(s) in Roadway	No	No		
			C14.06	Other	Yes	Yes		
			C14.07	Unknown	Yes	Yes		

C15	Contributing Circumstances-Road	yes					
	C15.01	None	No	Yes			
	C15.02	Road Surface Condition (Wet, icy, snow, slush, etc.)	No	No	Will need modifications in both ATAR and ALISS	ATAR has Road surface condition	
	C15.03	Debris	No	No			
	C15.04	Rut, Holes, Bumps	Yes	Yes			
	C15.05	Work Zone (construction/maintenance/utility)	Yes	Yes	Will need modifications in both ATAR and ALISS	ATAR has a Traffic Control Device Condition (A-Device Operational, B-Damaged or Non-Functional Prior to Accident)	
	C15.06	Worn, Travel-Polished Surface	No	No			
	C15.07	Obstruction in Roadway	Yes	Yes			
	C15.08	Traffic Control Device Inoperative, Missing or Obscured	No	No			
	C15.09	Shoulders (none, low,soft, high)	Yes	Yes	Will need modifications in both ATAR and ALISS	ATAR has a Traffic Control Device Condition (A-Device Operational, B-Damaged or Non-Functional Prior to Accident)	
	C15.10	Non-Highway Work	No	No			
	C15.11	Other	No	No	Will need modifications in both ATAR and ALISS		
C15.12	Unknown	No	No	Will need modifications in both ATAR and ALISS			

C16	Relation to Junction	yes	C16.01	Non-Junction	Yes	Yes	ATAR and ALISS will need modifications to include more attributes to sub-categorize "Junction Area"		
			C16.02	Junction Non-Interchange Area: Intersection	Yes	Yes			
			C16.03	Junction Non-Interchange Area: Unknown Non-Interchange	No	No	ATAR and ALISS will need modifications to include "Unknown"		
			C16.04	Junction Non-Interchange Area: Intersection Related	Yes	Yes			
			C16.05	Junction Non-Interchange Area: Crossover Related	No	No			
			C16.06	Junction Non-Interchange Area: Entrance / Exit / Ramp	No	No			
			C16.07	Junction Non-Interchange Area: Railway Grade Crossing	No	No			
			C16.08	Junction Non-Interchange Area: Driveway, Alley-Access-Related	Yes	Yes			
			C16.09	Other Non-Interchange (crossings for bikes, snowmobile, school, etc.)	No	No			
			C16.10	Junction Non-Interchange Area: Unknown Non-Interchange	No	No	None		Repeated from above (C16.03)
			C16.11	Junction Interchange Area: Thru Roadway	No	No	ATAR and ALISS will need modifications to include more attributes to sub-categorize "Junction Area"		
			C16.12	Junction Interchange Area: Intersection	No	No	Same as above		
			C16.13	Junction Interchange Area: Intersection-Related	No	No	Same as above		
			C16.14	Junction Interchange Area: entrance / Exit Ramp	No	No	Same as above		
			C16.15	Junction Interchange Area: Other Part of Interchange	No	No	Same as above		

			C16.16	Junction Interchange Area: Unknown Interchange	No	No	Same as above	
			C16.17	Junction Interchange Area: Unknown Junction	No	No	Same as above	
C17	Type of Intersection	yes	C17.01	Not at Intersection	No	No	Both ATAR and ALISS will need to be modified to include "Type of Intersection"	
			C17.02	Four-way Intersection	No	No		
			C17.03	T-Intersection	No	No		
			C17.04	Y-Intersection	No	No		
			C17.05	Intersection as Part of Interchange	No	No		
			C17.06	Traffic Circle	No	No		
			C17.07	Roundabout	No	No		
			C17.08	Five-point or more	No	No		
			C17.09	Unknown	No	No		
C18	School Bus Related	yes	C18.01	No	No	No	Both ATAR and ALISS will need to be modified to include "School Bus Related"	
			C18.02	Yes, School Bus Directly Involved Yes, School Bus Indirectly	No	No		
			C18.03	Involved	No	No		
			C18.04	Unknown	No	No		

C19	Work Zone Related	yes		In or near a construction, maintenance or utility work zone?			In ATAR, Modify "Unusual Road Condition" to include more subcategories for work zones	
			C19.01	Yes	Yes	Yes		
			C19.02	No	No	No		
			C19.03	Unknown	No	No		
			C19.04	Location of the Crash: Before the First work Zone Warning Sign	No	No		
			C19.05	Location of the Crash: Advance Warning Area	No	No		
			C19.06	Location of the Crash: Transition Area	No	No		
			C19.07	Location of the Crash: Activity Area	No	No		
			C19.08	Location of the Crash: Termination Area	No	No		
			C19.09	Type of Work Zone: Lane Closure	Yes	Yes		
			C19.10	Type of Work Zone: Lane Shift / Crossover	No	No		
			C19.11	Type of Work Zone: Work on Shoulder or Median	No	No		
			C19.12	Type of Work Zone: Intermittent or Moving Vehicle	No	No		
			C19.13	Type of Work Zone: Other	No	No		
			C19.14	Workers Present? Yes	No	No		
			C19.15	Workers Present? No	No	No		
			C19.16	Workers Present? Unknown	No	No		

CD1	Crash Severity	yes					Will need to be linked to another database to obtain the crash severity based on the hospital records
			CD1.01	Fatal Injury(K)	N/A	Yes	
			CD1.02	Incapacitating Injury (A)	N/A	Yes	
			CD1.03	Non-Incapacitating injury (B)	N/A	Yes	
			CD1.04	Possible Injury (C)	N/A	Yes	
			CD1.05	Property Damage Only (O)	N/A	No	
			CD1.06	Unknown	N/A	Yes	
CD2	Number of Motor Vehicles Involved	yes			Yes	Yes	
CD3	Number of Motorists	yes			N/A	No	Can be derived from current ATAR. So, will need a modification in ADOT ALISS Data Entry Application
CD4	Number of Non-Motorists	yes			N/A	No	Can be derived from current ATAR. So, will need a modification in ADOT ALISS Data Entry Application
CD5	Number of Non-Fatally Injured Persons	yes			Yes	Yes	
CD6	Number of Fatalities	yes			Yes	Yes	
CD7	Alcohol Involvement	yes					ATAR has "Conditions Influencing Driver". So, may just need a modification in ADOT ALISS Data Entry Application
			CD7.01	No	N/A	No	
			CD7.02	Yes	N/A	No	
			CD7.03	Unknown	N/A	No	
CD8	Drug Involvement	yes					ATAR has "Conditions Influencing Driver". So, may just need a modification in ADOT ALISS Data Entry Application
			CD8.01	No	N/A	No	
			CD8.02	Yes	N/A	No	
			CD8.03	Unknown	N/A	No	

CD9	Day of Week	yes	CD9.01	Sunday	N/A	No	This can be included with just a modification in ADOT ALISS Data Entry Application	can be derived with current set up
			CD9.02	Monday	N/A	No		
			CD9.03	Tuesday	N/A	No		
			CD9.04	Wednesday	N/A	No		
			CD9.05	Thursday	N/A	No		
			CD9.06	Friday	N/A	No		
			CD9.07	Saturday	N/A	No		

Table 4. Vehicle Data Elements and Attributes in MMUCC and ALISS

ELEMENT	ELEMENT NAME	NATIONAL ELEMENT	ATTRIBUTE	ATTRIBUTE NAME	ON ATAR	IN ALISS	ACTION / RECOMMENDATION	COMMENTS
V01	Motor Vehicle Identification Number	yes			Yes	No		
V02	Motor Vehicle Unit Type and Number	yes	V02.01	Type: Motor Vehicle in Transport	Yes	No		
			V02.02	Type: Parked Motor Vehicle				
			V02.03	Type: Working Vehicle / Equipment				
			V02.04	Number				
V03	Motor Vehicle Registration State and Year	yes	V03.01	State Identifier	Yes	Yes		
			V03.02	Year of Motor Vehicle Registration (YYYY)	Yes	No		
V04	Motor Vehicle License Plate Number	yes			Yes	No	Left out for Privacy Reasons	
V05	Motor Vehicle Make	yes			Yes	No	Left out for Privacy Reasons	
V06	Motor Vehicle Model Year	yes			Yes	No	Left out for Privacy Reasons	
V07	Motor Vehicle Model	yes			No	No	Left out for Privacy Reasons	

V08	Motor Vehicle Body Type Category	yes							
	V08.01	Passenger Car	No	Yes					Small, Medium, and Large
	V08.02	(Sports) Utility Vehicle	No	No					
	V08.03	Passenger Van	No	No					
	V08.04	Cargo Van (10,000 lbs (4536 kg) or less)	No	No					
	V08.05	Pickup	No	Yes					
	V08.06	Motor Home	No	Yes					
	V08.07	School Bus	No	Yes					
	V08.08	Transit Bus	No	Yes				Has Type 1 and 2	
	V08.09	Motor Coach	No	No					
	V08.10	Other Bus	No	No					
	V08.11	Motorcycle	No	Yes					
	V08.12	Moped	No	Yes					
	V08.13	Low Speed Vehicle	No	No					
	V08.14	Other Light Trucks (10,000 lbs (4536 kg) or less)	No	No					
	V08.15	Medium / Heavy Duty Trucks (More than 10,000 lbs (4536 kg))	No	No					
	V08.16	Other	No	Yes					
V09	Total Occupants in Motor Vehicle	yes		No	No				
V10	Special Function of Motor Vehicle in Transport	yes							
	V10.01	No Special Function	No	No				Found under Body Style	
	V10.02	Taxi	No	Yes					
	V10.03	Vehicle Used as School Bus	No	No					
	V10.04	Vehicle Used as Other Bus	No	No				Found under Body Style	
	V10.05	Military	No	Yes					
	V10.06	Police	No	No				Emergency Vehicle	
	V10.07	Ambulance	No	Yes					
	V10.08	Fire Truck	No	No					
	V10.09	Unknown	No	No					

V11	Emergency Motor Vehicle Use	yes	V11.01	No	No	No		
			V11.02	Yes	No	No		
			V11.03	Unknown	No	No		
V12	Motor Vehicle Authorized Speed Limit	yes	V12.01	Authorized Value (miles per hour)	Yes	No		
			V12.02	Not Applicable	No	No		
			V12.03	Unknown	No	No		
V13	Direction of Travel Before Crash	yes	V13.01	Northbound	Yes	Yes		
			V13.02	Southbound	Yes	Yes		
			V13.03	Eastbound	Yes	Yes		
			V13.04	Westbound	Yes	Yes		
			V13.05	Not on Roadway				
			V13.06	Unknown	Yes	Yes		
V14	Traffic Way Description	yes	V14.01	Two Way, Not Divided	Yes	Yes		
			V14.02	Two Way, Not Divided with a Continuous Left Turn Lane	No	No		
			V14.03	Two Way, Divided, Unprotected (painted > 4 feet) Median	Yes	Yes		
			V14.04	Two-way, Divided, Positive Median Barrier	Yes	Yes		
			V14.05	One-Way Traffic	Yes	Yes		
			V14.06	Unknown	Yes	Yes		
V15	Total Lanes in Roadway	yes			Yes	Yes		

V16	Roadway Alignment and Grade	yes	V16.01	Horizontal Alignment: Straight	Yes	Yes	On fatal supplement form only and has generic curve
			V16.02	Horizontal Alignment: Curve Left	Yes	Yes	
			V16.03	Horizontal Alignment: Curve Right	No	No	
			V16.04	Grade: Level	Yes	Yes	
			V16.05	Grade: Hillcrest	Yes	Yes	
			V16.06	Grade: Uphill	Yes	Yes	
			V16.07	Grade: Downhill	Yes	Yes	
			V16.08	Sag (bottom)	Yes	Yes	
			V17	Traffic Control Device	yes	V17.01	
V17.02	Type TCD: Person (including flagger, law enforcement, crossing guard, etc.)	Yes				Yes	
V17.03	Type TCD: Traffic Control Signal	Yes				Yes	
V17.04	Type TCD: Flashing Traffic Control Signal	Yes				Yes	
V17.05	Type TCD: School Zone Signs	No				No	Both ATAR and ALISS data entry application need to be modified for compliance
V17.06	Type TCD: Stop Signs	Yes				Yes	
V17.07	Type TCD: Yield Signs	No				No	Both ATAR and ALISS data entry application need to be modified for compliance
V17.08	Type TCD: Warning Signs	Yes				Yes	
V17.09	Type TCD: Railway Crossing Signs	Yes				Yes	ATAR needs modification for compliance to include "Other"
V17.10	Type TCD: Other	No				Yes	

			V17.12 Working Properly? Yes	Yes	Yes		
			V17.13 Working Properly? No	Yes	Yes		
V18	Motor Vehicle Maneuver / Action	yes	V18.01 Movements Essentially Straight Ahead	Yes	Yes		
			V18.02 Backing	Yes	Yes		
			V18.03 Changing Lane	Yes	Yes		
			V18.04 Overtaking / Passing	Yes	Yes		
			V18.05 Turning Right	Yes	Yes		
			V18.06 Turning Left	Yes	Yes		
			V18.07 Making U-Turn	Yes	Yes		
			V18.08 Leaving Traffic Lane	No	No		Has "entering alley or driveway"
			V18.09 Entering Traffic Lane	No	No		Has "leaving alley or driveway"
			V18.10 Slowing	Yes	Yes		
			V18.11 Negotiating a Curve	No	No		
			V18.12 Parked	Yes	Yes		
			V18.13 Stopped in Traffic	Yes	Yes		
			V18.14 Other	Yes	Yes		
			V18.15 Unknown	Yes	Yes		
V19	Area(s) of Impact	yes	V19.01 Areas of Initial Impact: Non-Collision	No	No		
			Areas of Initial Impact: 12-Point Clock				
			V19.02 Diagram	No	No		
			V19.03 Areas of Initial Impact: Top (Roof)	No	No		
			V19.04 Areas of Initial Impact: Undercarriage	No	No		
			V19.05 Areas of Initial Impact: Unknown	No	No		
			V19.06 Most Damaged Area: Non-Collision	Yes	No		
			Most Damaged Area: 12-Point Clock				
			V19.07 Diagram	No	No		Has an 8-Point Diagram
			V19.08 Most Damaged Area: Top (Roof)	Yes	No		
			V19.09 Most Damaged Area: Undercarriage	Yes	No		
			V19.10 Most Damaged Area: Unknown	Yes	No		

V20	Sequence of Events	yes						
			V20.01	Non Collision: Overturn / Rollover	Yes	No		
			V20.02	Non Collision: Fire / Explosion	Yes	No		
							Both ATAR and ALISS data entry application need to be modified for compliance	
			V20.03	Non-Collision: Immersion	No	No		
			V20.04	Non-Collision: Jackknife	Yes	No		
			V20.05	Non-Collision: Cargo / Equipment Loss or Shift	Yes	No		
			V20.06	Non-Collision: Equipment Failure (blown tire, brake failure, etc.)	Yes	No		
			V20.07	Non-Collision: Separation of units	Yes	No		
								Has generic "ran off road". Left and Right are not distinguished
			V20.08	Non-Collision: Ran-off Road Right	Yes	No		
							Both ATAR and ALISS data entry application need to be modified for compliance	
			V20.09	Non Collision: Ran-off Road Left	No	No		
			V20.10	Non Collision: Cross Median / Centerline	Yes	No		
			V20.11	Non Collision: Downhill Runway	Yes	No		
							Both ATAR and ALISS data entry application need to be modified for compliance	
			V20.12	Non Collision: Fell / Jumped from Motor vehicle	No	No		
							Both ATAR and ALISS data entry application need to be modified for compliance	
			V20.13	Non Collision: Thrown or Falling Object	No	No		
			V20.14	Non Collision: Other Non-Collision	Yes	No		
			V20.15	Collision with P, MV, or Non-Fixed Object: Pedestrian	Yes	No		
			V20.16	Collision with P, MV, or Non-Fixed Object: Pedalcycle	Yes	No		

			Collision with P, MV, or Non-Fixed Object: Railway Vehicle (train, engine)	Yes	No	
		V20.17	Collision with P, MV, or Non-Fixed Object: Animal	Yes	No	
		V20.18	Collision with P, MV, or Non-Fixed Object: Motor Vehicle in Transport	Yes	No	
		V20.19	Collision with P, MV, or Non-Fixed Object: Parked Motor Vehicle	Yes	No	
		V20.20	Collision with P, MV, or Non-Fixed Object: Struck by Falling, Shifting Cargo or A	No	No	Both ATAR and ALISS data entry application need to be modified for compliance
		V20.21	Collision with P, MV, or Non-Fixed Object: Work Zone / Maintenance Equipment	Yes	No	
		V20.22	Collision with P, MV, or Non-Fixed Object: Other Non-Fixed Object	Yes	No	
		V20.23	Collision with Fixed Object: Impact Attenuator / Crash Cushion	No	No	Both ATAR and ALISS data entry application need to be modified for compliance
		V20.24	Collision with Fixed Object: Bridge Overhead Structure	No	No	Both ATAR and ALISS data entry application need to be modified for compliance
		V20.25	Collision with Fixed Object: Bridge Pier of Support	No	No	Both ATAR and ALISS data entry application need to be modified for compliance
		V20.26	Collision with Fixed Object: Bridge Rail	No	No	Both ATAR and ALISS data entry application need to be modified for compliance
		V20.27	Collision with Fixed Object: Culvert	No	No	Both ATAR and ALISS data entry application need to be modified for compliance
		V20.28				

		V20.29	Collision with Fixed Object: Curb	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.30	Collision with Fixed Object: Ditch	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.31	Collision with Fixed Object: Embankment	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.32	Collision with Fixed Object: Guardrail Face	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.33	Collision with Fixed Object: Guardrail End	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.34	Concrete Traffic Barrier	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.35	Other Traffic Barrier	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.36	Tree (standing)	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.37	Utility Pole / Light Support	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.38	Traffic Sign Support	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.39	Traffic Signal Support	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.40	Other Post, Pole, Support	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.41	Fence	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.42	Mailbox	No	No	Both ATAR and ALISS data entry application need to be modified for compliance	
		V20.43	Other Fixed Object (wall, building, tunnel, etc.)	Yes	No	Both ATAR and ALISS data entry application need to be modified for compliance	Has generic "Fixed Object"

V21	Most Harmful Event for this Motor Vehicle	yes	V21.01	Non-Collision: Overturn / Rollover	No	No	Most Harmful Event will have to added to both ATAR and ALISS Data for compliance with MMUCC
			V21.02	Non-Collision: Fire / Explosion	No	No	
			V21.03	Non-Collision: Immersion	No	No	
			V21.04	Non-Collision: Jackknife	No	No	
			V21.05	Non-Collision: Cargo / Equipment Loss or Shift	No	No	
			V21.06	Non-Collision: Fell / Jumped from Motor Vehicle	No	No	
			V21.07	Non-Collision: Thrown or Falling Object	No	No	
			V21.08	Collision with P, MV, or Non-Fixed Object: Pedestrian	No	No	
			V21.09	Collision with P, MV, or Non-Fixed Object: Pedalcycle	No	No	
			V21.10	Collision with P, MV, or Non-Fixed Object: Railway Vehicle (train, engine)	No	No	
			V21.11	Collision with P, MV, or Non-Fixed Object: Animal	No	No	
			V21.12	Collision with P, MV, or Non-Fixed Object: Motor Vehicle in Transport	No	No	
			V21.13	Collision with P, MV, or Non-Fixed Object: Parked Motor Vehicle	No	No	
			V21.14	Collision with P, MV, or Non-Fixed Object: Work Zone / Maintenance Equipment	No	No	

		V21.15	Collision with P, MV, or Non-Fixed Object: Other Non-Fixed Object	No	No		
		V21.16	Collision with Fixed Object: Impact Attenuator / Crash Cushion	No	No		
		V21.17	Collision with Fixed Object: Bridge Overhead Structure	No	No		
		V21.18	Collision with Fixed Object: Bridge Pier of Support	No	No		
		V21.19	Collision with Fixed Object: Bridge Rail	No	No		
		V21.20	Collision with Fixed Object: Culvert	No	No		
		V21.21	Collision with Fixed Object: Curb	No	No		
		V21.22	Collision with Fixed Object: Ditch	No	No		
		V21.23	Collision with Fixed Object: Embankment	No	No		
		V21.24	Collision with Fixed Object: Guardrail Face	No	No		
		V21.25	Collision with Fixed Object: Guardrail End	No	No		
		V21.26	Collision with Fixed Object: Concrete Traffic Barrier	No	No		
		V21.27	Collision with Fixed Object: Other Traffic Barrier	No	No		
		V21.28	Collision with Fixed Object: Tree (standing)	No	No		
		V21.29	Collision with Fixed Object: Utility Pole / Light Support	No	No		

			V21.30	Collision with Fixed Object: Traffic Sign Support	No	No		
			V21.31	Collision with Fixed Object: Traffic Signal Support	No	No		
			V21.32	Collision with Fixed Object: Other Post, Pole, or Support	No	No		
			V21.33	Collision with Fixed Object: Fence	No	No		
			V21.34	Collision with Fixed Object: Mailbox	No	No		
			V21.35	Collision with Fixed Object: Other Fixed Object (wall, building, tunnel, etc.)	No	No		
			V21.36	Collision with Fixed Object: Unknown	No	No		
V22	Underride / Override	yes	V22.01	No Underride or Override	No	No		
			V22.02	Underride, Compartment Intrusion	No	No		
			V22.03	Underride, No Compartment Intrusion	No	No		
			V22.04	Underride, Compartment Intrusion Unknown	No	No		
			V22.05	Override, Motor Vehicle in Transport	No	No		
			V22.06	Override, Other Motor Vehicle	No	No		
			V22.07	Unknown if Underride or Override	No	No		
V23	Hit and Run	yes	V23.01	No, Did Not Leave Scene	Yes	No	Unknown will need to be added to the form and ALISS Database for compliance	Has Yes / No checkbox
			V23.02	Yes, Driver or Car and Driver Left Scene	Yes	No		
			V23.03	Unknown	Yes	No		

V24	Extent of Damage	yes	V24.01	No Damage	No	No	ATAR will have to be changed to include the "extent of damage" variable Change ALISS to include "No Damage" Change ALISS to include "Minor Damage"	Has part of this variable "02 DAMAGE" "driveable" indicates In ALISS, "disabled/towed" indicates disabling damage
			V24.02	Minor Damage	No	No		
			V24.03	Functional Damage	No	Yes		
			V24.04	Disabling Damage	No	Yes		
			V24.05	Unknown	No	Yes		
V25	Contributing Circumstances, Motor Vehicle	yes	V25.01	Brakes	Yes	Yes	Both ATAR and ALISS data entry application need to be modified for compliance Both ATAR and ALISS data entry application need to be modified for compliance Both ATAR and ALISS data entry application need to be modified for compliance Both ATAR and ALISS data entry application need to be modified for compliance Both ATAR and ALISS data entry application need to be modified for compliance Both ATAR and ALISS data entry application need to be modified for compliance Both ATAR and ALISS data entry application need to be modified for compliance Both ATAR and ALISS data entry application need to be modified for compliance	MMUCC recommends two fields for this variable
			V25.02	Steering	Yes	Yes		
			V25.03	Power Train	No	No		
			V25.04	Suspension	No	No		
			V25.05	Tires	Yes	Yes		
			V25.06	Wheels	No	No		
			V25.07	Lights (head, signal, tail)	Yes	Yes		
			V25.08	Windows / Windshield	No	No		
			V25.09	Mirrors	No	No		
			V25.10	Wipers	Yes	Yes		
			V25.11	Truck Coupling / Trailer Hitch / Safety Chains	No	No		
			V25.12	Other	Yes	Yes		
			V25.13	Unknown	Yes	Yes		
			V25.14	None	Yes	No		

V26	Motor Carrier Identification	yes	V26.01	7 digit US DOT Number	Yes	Yes	in ALISS, "USDOT" in ALISS, "ICC"
			V26.02	If no US DOT Number, State issued ID Name and Number	Yes	Yes	
			V26.03	Name	Yes	No	
			V26.04	Street or PO Box	Yes	No	
			V26.05	City	Yes	No	
			V26.06	State (two-letter code)	Yes	No	
			V26.07	Zip Code	Yes	No	
			V26.08	Country	No	No	
			V27	Gross Vehicle Weight Rating	yes	V27.01	
V27.02	GVWR:10,001 - 26,000 lbs (4,536 to 11,793 kg)	Yes				Yes	
V27.03	GVWR: More than 26,000 lbs (11,793 kg)	Yes				Yes	
V28	Commercial Motor Vehicle Configuration	yes	V28.01	Passenger Vehicles Carrying Hazardous Material	Yes	No	
			V28.02	Single-Unit Truck (2 axles)	Yes	Yes	
			V28.03	Single-Unit Truck (3 or more axles)	Yes	Yes	
			V28.04	Truck Pulling Trailer(s)	Yes	No	
			V28.05	Truck Tractor (bobtail)	Yes	Yes	
			V28.06	Truck Tractor / Semi-Trailer	Yes	Yes	
			V28.07	Truck Tractor / Double	Yes	Yes	
			V28.08	Truck Tractor / Triple	Yes	Yes	
			V28.09	Truck More Than 10,000 lbs (4,536 kg), Cannot Classify	Yes	No	
			V28.10	Bus / Large Van (seats for 9 - 15 occupants, including driver)	Yes	No	
			V28.11	Bus (seats for more than 15 occupants, including driver)	Yes	No	
			V28.12	Unknown	No	No	

V29	Commercial Cargo Body Type	yes	V29.01	No Cargo Body	No	No	"Vehicle_Type" in ALISS
			V29.02	Bus	Yes	Yes	
			V29.03	Van / Enclosed Box	Yes	Yes	
			V29.04	Hopper (grain / chips / gravel)	Yes	No	
			V29.05	Pole	Yes	No	
			V29.06	Cargo Tank	Yes	Yes	
			V29.07	Flatbed	Yes	Yes	
			V29.08	Dump	Yes	Yes	
			V29.09	Concrete Mixer	Yes	Yes	
			V29.10	Auto Transporter	Yes	No	
			V29.11	Garbage / Refuse	Yes	No	
			V29.12	Other	Yes	No	
			V29.13	Not Applicable (motor vehicle less than 10,000 lbs)	Yes	No	
			V29.14	Unknown	No	No	
V30	Hazardous Material Placard (Cargo Only)	yes	V30.01	Yes	Yes	Yes	PLACARD in ALISS CLASS_CODE in ALISS HAZ_RELEASED in ALISS HAZ_RELEASED in ALISS
			V30.02	No	Yes	Yes	
			V30.03	Unknown	No	No	
			V30.04	4-digit placard number (from middle of diamond)	Yes	Yes	
			V30.05	1-digit placard number (from bottom of diamond)	Yes	Yes	
			V30.06	Release of hazardous materials: Yes	Yes	Yes	
			V30.07	Release of hazardous materials: No	Yes	Yes	
			V30.08	Release of hazardous materials: Unknown	No	No	

Table 5. Passenger Data Elements in ALISS and MMUCC

ELEM ENT	ELEMENT NAME	NATIONAL ELEMENT	ATTRIB UTE	ATTRIBUTE NAME	ON ATAR	IN ALISS	ACTION / RECOMMENDATION	COMMENTS
P01	Date of Birth	yes	P01.01	Date of Birth:YYYYMMDD	Yes	Yes	"Unknown" need to be added to ATAR and ALISS for Compliance	BIRTHDATE in ALISS For Passengers only
			P01.02	Date of Birth: Unknown	No	No		
			P01.03	Age: AAA	Yes	Yes		
P02	Sex		V02.01	Male	Yes	Yes	"Unknown" need to be added to ATAR and ALISS for Compliance	
			V02.02	Female	Yes	Yes		
			V02.03	Unknown	No	No		
P03	Person Type	yes	P03.01	Driver	Yes	Yes		05 PERSON_TYPE, 07 UNIT Type
			P03.02	Passenger	Yes	Yes		
			P03.03	Non-Motorist (non-occupant of vehicle in transport): Pedestrian	Yes	Yes		
			P03.04	Non-Motorist (non-occupant of vehicle in transport): Other Pedest. (wheelchair)	No	No		
			P03.05	Non-Motorist (non-occupant of vehicle in transport): Bicyclist	Yes	Yes		
			P03.06	Non-Motorist (non-occupant of vehicle in transport): Other Cyclist	No	No		
			P03.07	Non-Motorist (non-occupant of vehicle in transport): Occupant of Motor Vehicle N	No	No		
			P03.08	Non-Motorist (non-occupant of vehicle in transport): Occupant of a Non-Motor Veh	No	No		
			P03.09	Unknown Type of Non-Motorist	No	No		
			P03.10	Unknown	No	No		

P04	Injury Status	yes						
			P04.01	Fatal Injury (K)	Yes	Yes		
			P04.02	Nonfatal Injury: Incapacitating (A)	Yes	Yes		
			P04.03	Nonfatal Injury: Non-Incapacitating (B)	Yes	Yes		
			P04.04	Nonfatal Injury: Possible (C)	Yes	Yes		
			P04.05	No Injury (O)	Yes	Yes		
			P04.06	Unknown	Yes	Yes		
P05	Occupant's M	yes			Yes	No	Modify ALISS to include Occupant's Vehicle Unit Number	
P06	Seating Positi	yes						
			P06.01	Row: Front	Yes	Yes		
			P06.02	Row: Second	Yes	Yes		
			P06.03	Row: Third	Yes	Yes		
			P06.04	Row: Fourth	No	No		
			P06.05	Row: Other Row (bus, 15 passenger van, etc.)	No	Yes		
			P06.06	Row: Unknown	No	No		
			P06.07	Seat: Left (usually the motor vehicle or motorcycle driver except for postal veh	Yes	Yes		
			P06.08	Seat: Middle	Yes	Yes		
			P06.09	Seat: Right	Yes	Yes		
			P06.10	Seat: Other	No	No		
			P06.11	Seat: Unknown	No	No		
			P06.12	Other Location: Not Applicable	No	No		
			P06.13	Other Location: Sleeper Section of Cab (truck)	No	No		
			P06.14	Other Location: Other Enclosed Cargo Area	No	No		Has "not in passenger compartment" in ATAR

			P06.15	Other Location: Unenclosed Cargo Area	No	No		
			P06.16	Other Location: Trailing Unit	No	No		
			P06.17	Other Location: Riding on Motor Vehicle Exterior (non-trailing unit)	No	No		
			P06.18	Other Location: Unknown	Yes	Yes		
P07	Occupant Protection System	yes	P07.01	Not Applicable (non-motorist)	No	No		in ALISS, "06 RESTRAINT_USED"
			P07.02	None Used-Motor Vehicle Occupant	Yes	Yes		
			P07.03	Shoulder and Lap Belt Used	Yes	Yes		
			P07.04	Shoulder Belt Only Used	No	No		
			P07.05	Lap Belt Only Used	Yes	Yes		
			P07.06	Restraint Used-Type Unknown	No	No		
			P07.07	Child Restraint System--Forward Facing	No	Yes		has generic "child restraint"
			P07.08	Child Restraint System--Rear Facing	No	No		
			P07.09	Booster Seat	No	No		
			P07.10	Child Restraint Type Unknown	Yes	No		has generic "child restraint"
			P07.11	Helmet Used	Yes	Yes		
			P07.12	Other	Yes	Yes		
			P07.13	Unknown	Yes	No		
P08	Air Bag Deployed	yes	P08.01	Not Applicable	No	No		in ALISS, "01 AIRBAG"
			P08.02	Not Deployed	No	No		
			P08.03	Deployed-Front	Yes	Yes		"Airbag deployed" in an attribute under Safety Devices. "Airbag deployed" in ALISS
			P08.04	Deployed-Side	No	No		
			P08.05	Deployed-Other (knee, air belt, etc.)	No	No		
			P08.06	Deployed-Combination	No	No		
			P08.07	Deployment Unknown	No	No		

P09	Ejection	yes	P09.01 P09.02 P09.03 P09.04 P09.05	Not Ejected Ejected, Partially Ejected, Totally Not Applicable Unknown	Yes Yes Yes No Yes	No No No No No	Both ATAR and ALISS need to be modified to include "Ejection"	Included only in the Fatal Supplement of ATAR
P10	Driver License Jurisdiction	yes	P10.01 P10.02 P10.03 P10.04 P10.05 P10.06 P10.07 P10.08 P10.09	Not Applicable Not Licensed State Indian Nation U.S. Government Canadian Province Mexican State International License (other than Mexico, Canada) Unknown	No No Yes No No No No No No	No No Yes No Yes Yes Yes No Yes	Both ATAR and ALISS need to be modified to include "Not Licensed", etc.	in ALISS "09 DRIVER STATE"
P11	Driver License Number and Class	yes	P11.01 P11.02 P11.03 P11.04 P11.05 P11.06 P11.07	Alphanumeric identifier assigned by the jurisdiction (state, foreign country, U. Class: None Class: Not Applicable Class: Class A Class: Class B Class: Class C Class: Class M	Yes No No No No No No	No No No Yes Yes Yes Yes		ATAR has open field for driver license class. In ALISS, 'o4 License_Class"
P12	Driver Name	yes	P12.01	Name	Yes	No	Modify ALISS to include "Driver Name" for Compliance	

P13	Driver Actions at Time of Crash	yes	<p>P13.01 No Improper Driving</p> <p>P13.02 Ran Off Road</p> <p>P13.03 Failed to Yield Right-of-Way</p> <p>P13.04 Disregarded Traffic Signs</p> <p>P13.05 Ran Red Light (not included in violation codes)</p> <p>P13.06 Disregarded Other Road Markings</p> <p>P13.07 Exceeded Posted Speed Limit</p> <p>P13.08 Drove Too Fast For Conditions</p> <p>P13.09 Improper Turn</p> <p>P13.10 Improper Backing</p> <p>P13.11 Improper Passing</p> <p>P13.12 Wrong Side or Wrong Way</p> <p>P13.13 Followed Too Closely</p> <p>P13.14 Failed to Keep in Proper Lane</p> <p>P13.15 Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive</p> <p>P13.16 Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Mot</p> <p>P13.17 Over-Correcting / Over-Steering</p> <p>P13.18 Other Improper Action</p> <p>P13.19 Unknown</p>	<p>Yes</p> <p>No</p> <p>Yes</p> <p>No</p> <p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>		<p>MMUCC recommends 4 fields for this variable. In ALISS, 03 PRIOR_HARMFUL, 08 VIOLATION</p> <p>Has "Ran Stop Sign"</p> <p>Has "Disregarded traffic signal"</p>
P14	Driver Condition at Time of Crash	yes	<p>P14.01 Apparently Normal</p> <p>P14.02 Emotional (depressed, angry, disturbed, etc.)</p> <p>P14.03 Ill (sick)</p> <p>P14.04 Fell Asleep, Fainted, Fatigued, etc.</p> <p>P14.05 Under the Influence of medications/Drugs/Alcohol</p>	<p>Yes</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>Yes</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>		<p>in ALISS, 02 PHYSICAL</p>

P20	Drug Test	yes	P20.01	Test Status: Test Not Given	Yes	No	Included in ATAR Fatal Supplement only
			P20.02	Test Status: Test Refused	No	No	
			P20.03	Test Status: Test Given	Yes	No	
			P20.04	Test Status: Unknown if Tested	Yes	No	
			P20.05	Type of Test: Blood	Yes	No	
			P20.06	Type of Test: Urine	No	No	
			P20.07	Type of Test: Serum	No	No	
			P20.08	Type of Test: Other	No	No	
			P20.09	Drug Test Result: Positive	Yes	No	
			P20.10	Drug Test Result: Negative	No	No	
			P20.11	Drug Test Result: Unknown	No	No	
			P21	Non-Motorist Number	yes	P21.01	
P22	Non-Motorist Action Prior to Crash	yes	P22.01	Entering or Crossing Recreational Pursuit (walking, running, jogging, playing, etc.)	No	Yes	
			P22.02	Walking To/From School	Yes	Yes	
			P22.03	Cycling	No	No	
			P22.04	Working	No	No	
			P22.05	Pushing Motor Vehicle	Yes	Yes	
			P22.06	Approaching or Leaving Motor Vehicle	No	No	
			P22.07	Playing or Working on Motor Vehicle	Yes	Yes	
			P22.08	Standing	No	Yes	
			P22.09	Other	Yes	Yes	
			P22.10	Unknown	Yes	Yes	
			P22.11		Yes	Yes	

P23	Non-Motorist Actions at Time of Crash	yes	P23.01 P23.02 P23.03 P23.04 P23.05 P23.06 P23.07 P23.08 P23.09 P23.10	Improper Crossing Darting In Roadway (standing, on knees, lying, etc.) Failure to Yield Right-of-Way Not Visible (dark clothing) Inattentive (talking, eating, etc.) Failure to Obey Traffic Signs, Signals, or Officer Wrong Side of Road Other Unknown	Yes No No No No No No Yes No No	No No No No No No No No No No		MMUCC recommends 2 fields for this variable "Did not use crosswalk" is found under Violations / Behavior in ATAR "Walked on the Wrong Side of the Road" is found under Violations / Behavior in ATAR
P24	Non-Motorist Condition at Time of Crash	yes	P24.01 P24.02 P24.03 P24.04 P24.05 P24.06 P24.07 P24.08	Apparently Normal Physically Impaired Emotional (depression, angry, disturbed, etc.) Ill (sick) Asleep, Fainted, Fatigued, etc. Under the Influence of Medications/Drugs/Alcohol Other Unknown	Yes Yes No Yes Yes Yes Yes Yes Yes	Yes Yes No Yes Yes Yes Yes Yes Yes		in ALISS, 02 PHYSICAL

P25	Non-Motorist Location at Time of Crash	yes				Modify both ATAR and ALISS to include	
			P25.01	Marked Crosswalk at Intersection	No		No
			P25.02	At Intersection But No Crosswalk	No		No
			P25.03	Non-Intersection Crosswalk	No		No
			P25.04	Driveway Access Crosswalk	No		No
			P25.05	In Roadway (not in crosswalk or intersection)	No		No
			P25.06	Median (but not on shoulder)	No		No
			P25.07	Island	No		No
			P25.08	Shoulder	No		No
			P25.09	Sidewalk	No		No
			P25.10	Roadside	No		No
			P25.11	Outside Trafficway	No		No
			P25.12	Dedicated Bike Lane	No		No
			P25.13	Shared-Use Path or Trails	No		No
			P25.14	Inside Building	No		No
			P25.15	Other	No		No
			P25.16	Unknown	No		No
P26	Non-Motorist Safety Equip	yes					
			P26.01	Safety Equipment Used by Non-Motorist: None	No	No	
			P26.02	Safety Equipment Used by Non-Motorist: Helmet	Yes	Yes	
			P26.03	Safety Equipment Used by Non-Motorist: Protective Pads Used (elbows, knees, shin	No	No	
				Safety Equipment Used by Non-Motorist: Reflective Clothing (jacket, backpack, et	No	No	
			P26.04	Safety Equipment Used by Non-Motorist: Lighting	No	No	
			P26.05	Safety Equipment Used by Non-Motorist: Other	No	No	
			P26.06	Safety Equipment Used by Non-Motorist: Not Applicable	No	No	
			P26.07	Safety Equipment Used by Non-Motorist: Unknown	No	No	
P26.08	Safety Equipment Used by Non-Motorist: Unknown	No	No				

P28	Transported to Medical Facility By	yes	P28.01	Source of Transport: Not Transported	No	No	On the crash level, ATAR has a checkbox to indicate if someone was transported Has ambulance status on ATAR Fatal supplement On the crash level, ATAR has "injured taken to/by"
			P28.02	Source of Transport: EMS	Yes	No	
			P28.03	Source of Transport: Law Enforcement	No	No	
			P28.04	Source of Transport: Other	No	No	
			P28.05	Source of Transport: Unknown	No	No	
			P28.06	EMS Response Agency Identifier ID or EMS Agency That Responds	No	No	
			P28.07	EMS Response Run Number	No	No	
			P28.08	Name of medical facility receiving patient	No	No	
			PL1	Driver License Restriction	yes	PL1.01	
PL1.02	Corrective Lenses					Yes	
PL1.03	Mechanical Devices (special brakes, hand controls, or other adaptive device)					Yes	
PL1.04	Prosthetic Aid					No	
PL1.05	Automatic Transmission					Yes	
PL1.06	Outside Mirror					Yes	
PL1.07	Limit to Daylight Only					Yes	
PL1.08	Limit to Employment Only					No	
PL1.09	Must Be Accompanied By an Adult					Yes	
PL1.10	Limited - Other					No	
PL1.11	CDL Intrastate Only					Yes	
PL1.12	Motor Vehicles without Air Brakes					Yes	
PL1.13	Military Vehicles Only					No	
PL1.14	Except Class A Bus					No	
PL1.15	Except Class A and Class B Bus					No	
PL1.16	Except Tractor-Trailer					No	
PL1.17	Farm Waiver					No	
PL1.18	Other					Yes	

PL2	Commercial Motor Vehicle Endorsements	yes	PL2.01	T-Double/Triple Trailer	Yes	ATAR has a blank field to indicate endorsements in ALISS, 02 ENDORSEMENT Modify ALISS to include "Other"
			PL2.02	P-Passenger Vehicle	Yes	
			PL2.03	N-Tank Vehicle	Yes	
				H-Required To be Placarded For		
			PL2.04	Hazardous Materials	Yes	
			PL2.05	X-Combined Tank/HAZ-MAT	Yes	
			PL2.06	Other	No	
PL3	Driver License Status	yes		Type Applicable For This Person: Non-CDL Driver's License	No	Modify ALISS to include "Driver License Status". May need linking with MVD database
				Type Applicable For This Person: Non-CDL Restricted Driver's License	No	
				Type Applicable For This Person: Commercial Driver License (CDL)	No	
			PL3.04	Status: Not Licensed	No	
			PL3.05	Status: Valid License	No	
			PL3.06	Status: Suspended	No	
			PL3.07	Status: Revoked	No	
			PL3.08	Status: Expired	No	
			PL3.09	Status: Cancelled or Denied	No	
			PL3.10	Status: Disqualified (CDL)	No	
			PL3.11	Status: Unknown	No	
			PL4	Drug Test Result	yes	
PL4.02	Cocaine	No				
PL4.03	Opiate	No				
PL4.04	Amphetamine	No				
PL4.05	PCP	No				
PL4.06	Other Controlled Substance	No				
	Other Drug (excludes post crash drugs and nicotine, Aspirin, etc.)					
PL4.07		No				

PL5	Injury Area	yes					Modify ALISS to include "Injury Area". May need linking with another database (e.g. Department of Health Services)
			PL5.01	Head		No	
			PL5.02	Face		No	
			PL5.03	Neck		No	
			PL5.04	Thorax (Chest)		No	
			PL5.05	Abdomen and Pelvis		No	
			PL5.06	Spine		No	
			PL5.07	Upper Extremity		No	
			PL5.08	Lower Extremity		No	
			PL5.09	Unspecified		No	
PL6	Injury Description	yes				No	
PD1	Age	yes	Age in Years		Yes	No	in ATAR, for passengers only

Table 6. Roadway Data Elements and Attributes in MMUCC and ALISS

ELEM ENT	ELEMENT NAME	NATIONAL ELEMENT	ATTRIBU TE	ATTRIBUTE NAME	ON ATAR	IN ALISS	ACTION / RECOMME NDATION	COMMENTS
RL01	Bridge / Structure Identification Number	yes				No		
RL02	Roadway Curvature	yes	RL02.01	Curve: Radius		No		
			RL02.02	Length		No		
			RL02.03	Superelevation		No		
			RL02.04	Unit of Measure (feet or meters)		No		
			RL02.05	Not Applicable		No		
RL03	Grade	yes	RL03.01	Direction or Slope: Up (+) or Down (-)		No		
			RL03.02	Percent of Slope (Nearest Percent of Slope)		No		
RL04	Part of National Highway System	yes	RL04.01	Yes		No		
			RL04.02	Not Applicable		No		
			RL04.03	Unknown		No		
RL05	Roadway Functional Class	yes	RL05.01	Rural: Principal Arterial - Interstate		No		
			RL05.02	Rural: Principal Arterial - Other		No		
			RL05.03	Rural: Minor Arterial		No		
			RL05.04	Rural: Major Collector		No		
			RL05.05	Rural: Minor Collector		No		
			RL05.06	Rural: Local		No		
			RL05.07	Rural: Unknown Rural		No		
			RL05.08	Urban: Principal - Interstate		No		
			RL05.09	Urban: Principal Arterial - Other Freeway or Expressway		No		
			RL05.10	Urban: Principal Arterial - Other		No		
			RL05.11	Urban: Minor Arterial		No		
			RL05.12	Urban: Collector		No		
			RL05.13	Urban: Local		No		
			RL05.14	Urban: Unknown Urban		No		

RL06	Annual Average Daily Traffic	yes	RL06.01 RL06.02	Calendar Year Motor Vehicles Per Day (ADT)	No No		
RL07	Width of Lanes and Shoulders	yes	RL07.01 RL07.02	Lane Width (in feet or meters) Shoulder Width (in feet or meters)	No No		
RL08	Width of Median	yes	RL08.01	Width of Median (in feet or meters)	No		
RL09	Access Control	yes	RL09.01 RL09.02 RL09.03	Full Access Control Partial Access Control No Access Control	No No No		
RL10	Railway Crossing	yes			No		
RL11	Roadway Lighting	yes	RL11.01 RL11.02 RL11.03	No Lighting Spot Illumination Continuous Lighting	No No No		
RL12	Pavement Markings,	yes	RL12.01 RL12.02 RL12.03 RL12.04 RL12.05 RL12.06 RL12.07 RL12.08 RL12.09 RL12.10 RL12.11 RL12.12	Function and Color: Centerline, Skip-Dash, Yellow Function and Color: Centerline, Solid, Yellow Function and Color: Centerline, Solid Double, Yellow Function and Color: No Passing Barrier, Right or Left, Yellow Function and Color: Lane Line, Skip-Dash, White Function and Color: Lane Line, Solid, White Function and Color: Edge Line, Left, Yellow Function and Color: Edge Line, Right, White Function and Color: Left Turn Lane Lines, Combination of Solid and Skip-Dash, Ye Function and Color: Turn Arrow Symbols, Right, Thru, Left, or Combination of Two Function and Color: Unknown Material: Paint	No No No No No No No No No No No No No		

			RL12.13	Material: Thermoplastic		No		
			RL12.14	Material: Raised Markers		No		
			RL12.15	Material: Permanent Inlay		No		
			RL12.16	Material: Tape		No		
			RL12.17	Material: Other		No		
			RL12.18	Material: Unknown		No		
RL13	Bikeway	yes	RL13.01	No Bikeway		No		
			RL13.02	Bicycle Route (signed)		No		
			RL13.03	Bicycle Lane (striped) - Right Only		No		
			RL13.04	Bicycle Lane (striped) - Both Sides		No		
			RL13.05	Bicycle Lane (striped) - Left Only		No		
			RL13.06	Separate Bicycle Path / Trail		No		
			RL13.07	Unknown		No		
RL14	Delineator Presence	yes	RL14.01	None		No		
			RL14.02	Delineators, Right		No		
			RL14.03	Delineators, Left		No		
			RL14.04	Delineators, Both Sides		No		
			RL14.05	Unknown		No		
RL15	Traffic Control Type at Intersection	yes	RL15.01	No Control		No		
			RL15.02	Stop Sign on Cross Street Only		No		
			RL15.03	Stop Signs on Mainline Only		No		
			RL15.04	Four-Way Stops		No		
			RL15.05	Four-Way Flasher (red on cross street)		No		
			RL15.06	Four-Way Flasher (red on mainline)		No		
			RL15.07	Four-Way Flasher (red on all legs)		No		
			RL15.08	Yield Signs on Cross Street Only		No		
			RL15.09	Yield Signs on Mainline Only		No		
			RL15.10	Signals Pre-Timed (two phase)		No		
			RL15.11	Signals Semi-Actuated (two-phase)		No		
			RL15.12	Signals Semi-Actuated (multi-phase)		No		
			RL15.13	Signals Fully-Actuated (two-phase)		No		
			RL15.14	Signals Fully-Actuated (multi-phase)		No		
			RL15.15	Other		No		
			RL15.16	Unknown		No		
			RL15.17	Signals Pre-Timed (multi-phase)		No		

RL16	Mainline Number of Lanes at Intersection	yes	RL16.01	One Lane	No		
			RL16.02	Two Lanes	No		
			RL16.03	Three Lanes	No		
			RL16.04	Four to Six Lanes	No		
			RL16.05	Seven or More Lanes	No		
			RL16.06	Unknown	No		
RL17	Side-Road Number of Lanes at Intersection	yes	RL17.01	One Lane	No		
			RL17.02	Two Lanes	No		
			RL17.03	Three Lanes	No		
			RL17.04	Four to Six Lanes	No		
			RL17.05	Seven or More Lanes	No		
			RL17.06	Unknown	No		
RL18	Total Volume of Entering Vehicles	yes		Actual or estimated traffic volume expressed as an average annual daily count	No		