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Crash Report Sampling System Analytical User's Manual, 2016-2020

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16. Abstract

This is the updated and revised Crash Report Sampling System Analytical User's Manual for the period 2016 to 2020.

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Table of Contents

New in 2020 CRSS 1

Data Elements With Changes 1
Summary of SAS Naming Changes 9
New and Noteworthy 11

Introduction 16

CRSS Sample Design 17

CRSS Operations 19

National Estimates 20

CRSS Imputation 21

CRSS SAS Data Files 26

CRSS Data Element List 31

Data Element Definitions and Codes 43

Key Data Elements 44
The ACCIDENT Data File 56
The VEHICLE Data File 87
The PERSON Data File 173
The PARKWORK Data File 195
The PBTYPE Data File 249
The CEVENT Data File 274
The VEVENT Data File 282
The VSOE Data File 290
The CRASHRF Data File 295
The WEATHER Data File 298
The VEHICLESF Data File 300
The PVEHICLESF Data File 302
The DRIVERRF Data File 304
The DAMAGE Data File 307
The DISTRACT Data File 309
The DRIMPAIR Data File 312
The FACTOR Data File 314
The MANEUVER Data File 316
The VIOLATN Data File 318
The VISION Data File 322
The PERSONRF Data File 324
The NMCRASH Data File 327
The NMDISTRACT Data File 330
The NMIMPAIR Data File 332
The NMPRIOR Data File 333
The SAFETYEQ Data File 335
The VPICDECODE Data File 341
The VPICTRAILERDECODE Data File 342

References **343**
Appendix A: PC23 Crash Type Diagram **A-1**
Appendix B: Rules for Derived Data Elements **B-1**
Appendix C: Analytical Classification of Select CRSS Data Elements **C-1**
Appendix D: Auxiliary Data Files **D-1**
Appendix E: Summary Statistics **E-1**
Appendix F: Standard Errors **F-1**
Appendix G: Special Notes for Analysts **G-1**
Appendix H: Notable Changes **H-1**

New in 2020 CRSS

Data Elements With Changes

Below is a list of CRSS data elements that have substantial changes for 2020. Changes are denoted in bold/italics for additions and strikethrough for deletions. More detailed information on each data element can be found in the FARS/CRSS Coding and Validation Manual. The National Highway Traffic Safety Administration's National Center for Statistics and Analysis (NCSA) publishes these manuals for each year of data collection and they can be found at:

NCSA Publications- Manuals and Documentation

Data Element Id	Data Element Name	Sas Table.Name	Comments
C22	Type of Intersection	Accident.TYP_INT	▪ New Attribute: ***11 (Other Intersection Type)***
C26	Atmospheric Conditions	Weather.WEATHER	▪ Revised Format: "Select All that Apply" – moved to its own data file ▪ Removed Attribute: ~~*0 (No Additional Atmospheric Conditions)*~~ ▪ Changed SAS Name From Accident.WEATHER1 and Accident.WEATHER2 to Weather.WEATHER
C32	Related Factors-Crash Level	Crashrf.CRASHRF	▪ Revised Format: o "Select All that Apply" – moved to its own data file o 3 Numeric ▪ Revised Numeric: ***999*** (Reported as Unknown) ▪ Changed SAS Name From Accident.CF1, Accident.CF2 and Accident.CF3 to Crashrf.CRASHRF
V6	Hit and Run	Vehicle.HIT_RUN, Parkwork.PHIT_RUN	▪ Removed Attribute: ~~*9 (Reported as Unknown)*~~
NEW V9 Old V13	Vehicle Identification Number (VIN)	Vehicle.VIN, Vehicle.PVIN	▪ Changed Data Element ID from V13 to ***V9***

Data Element Id	Data Element Name	Sas Table.Name	Comments
NEW V10 Old V12	Vehicle Model Year	Vehicle.MOD_YEAR, Vehicle.PMODYEAR	▪ Changed Data Element ID from V12 to ***V10***
NEW V11	***vPIC Make***	Vehicle.VPICMAKE, Parkwork.PVPICMAKE	▪ New Data Element
NEW V12	***vPIC Model***	Vehicle.VPICMODEL, Parkwork.PVPICMODEL	▪ New Data Element
NEW V13	***vPIC Body Class***	Vehicle.VPICBODYCLASS, Parkwork.PVPICBODYCLASS	▪ New Data Element
NEW V14 Old V9	***NCSA*** Make	Vehicle.MAKE, Parkwork.PMAKE	▪ Revised Data Element Name: ~~*Vehicle*~~ ***NCSA*** Make ▪ Changed Data Element ID from V9 to ***V14***
NEW V15 Old V10	***NCSA*** Model	Vehicle.MODEL, Parkwork.PMODEL	▪ Revised Data Element Name: ~~*Vehicle*~~ ***NCSA*** Model ▪ Changed Data Element ID from V10 to ***V15***
NEW V16 Old V11	***NCSA*** Body Type	Vehicle.BODY_TYP, Parkwork.PBODYTYP	▪ Revised Data Element Name: ***NCSA*** Body Type ▪ Changed Data Element ID from V11 to ***V16*** ▪ Revised Attributes: o 42 (Light ~~*Truck*~~ ***Vehicle*** Based Motor home [chassis mounted]) o 65 (Medium/Heavy ~~*truck*~~ ***Vehicle*** based Motor Home) o 73 (Camper or Motor Home, Unknown ~~truck type~~ ***GVWR***)
NEW V17	***Final Stage Body Class***	Vehicle.ICFINALBODY, Parkwork.PICFINALBODY	▪ New Data Element

Data Element Id	Data Element Name	Sas Table.Name	Comments
NEW V18	***Power Unit GVWR***	Vehicle.GVWR_FROM, Vehicle.GVWR_TO, Parkwork.PGVWR_FROM, Parkwork.PGVWR_TO	▪ New Data Element
NEW V19 Old V14	Vehicle Trailing	Vehicle.TOW_VEH, Parkwork.PTRAILER	▪ Changed Data Element ID from V14 to ***V19***
NEW V20 Old V15	Trailer Vehicle Identification Number (VIN)	Vehicle.TRLR1VIN, Vehicle.TRLR2VIN, Vehicle.TRLR3VIN, Parkwork.PTRLR1VIN, Parkwork.PTRLR2VIN, Parkwork.PTRLR3VIN	▪ Changed Data Element ID from V15 to ***V20***
NEW V21	***Trailer GVWR***	Vehicle.TRLR1GVWR, Vehicle.TRLR2GVWR, Vehicle.TRLR3GVWR, Parkwork.PTRLR1GVWR, Parkwork.PTRLR2GVWR, Parkwork.PTRLR3GVWR	▪ New Data Element
NEW V22 Old V16	Jackknife	Vehicle.J_KNIFE	▪ Changed Data Element ID from V16 to ***V22***
NEW V23 Old V17	Motor Carrier Identification Number	Vehicle.MCARR_ID, Vehicle.MCARR_I1, Vehicle.MCARR_I2, Parkwork.PMCARR_ID, Parkwork.PMCARR_I1, Parkwork.PMCARR_I2	▪ Changed Data Element ID from V17 to ***V23*** ▪ Revised Attributes: o Issuing Authority: 99 (~~*Reported as*~~ Unknown) o Identification Number: 9s (~~*Reported as*~~ Unknown)
Old V18	GVWR/GCWR	Vehicle.GVWR, Parkwork.PGVWR	▪ Discontinued Data Element
NEW V24 Old V19	Vehicle Configuration	Vehicle.V_CONFIG, Parkwork.PV_CONFIG	▪ Changed Data Element ID from V19 to ***V24*** ▪ Revised Attribute: 99 (~~*Reported as*~~ Unknown)

Data Element Id	Data Element Name	Sas Table.Name	Comments
NEW V25 Old V20	Cargo Body Type	Vehicle.CARGO_BT, Parkwork.PCARGTYP	▪ Changed Data Element ID from V20 to ***V25*** ▪ Revised Attribute: 99 (~~*Reported as*~~ Unknown)
NEW V26 Old V21	Hazardous Materials Involvement/ Placard	Vehicle.HAZ_INV, Vehicle.HAZ_PLAC, Vehicle.HAZ_ID, Vehicle.HAZ_CNO, Vehicle.HAZ_REL, Parkwork.PHAZ_INV, Parkwork.PHAZPLAC, Parkwork.PHAZ_ID, Parkwork.PHAZ_CNO, Parkwork.PHAZ_REL	▪ Changed Data Element ID from V21 to ***V26***
NEW V27 Old V22	Bus Use	Vehicle.BUS_USE Parkwork.PBUS_USE	▪ Changed Data Element ID from V22 to ***V27***
NEW V28 Old V23	Special Use	Vehicle.SPEC_USE Parkwork.PSP_USE	▪ Changed Data Element ID from V23 to ***V28*** ▪ New Attribute: ***19 (Motor Vehicle Used for Vehicle Sharing Mobility)*** ▪ Revised Attribute: 20 (***Motor*** Vehicle Used for Electronic Ride-Hailing ~~*[Transportation Network Company]*~~)
NEW V29 Old V24	Emergency Motor Vehicle Use	Vehicle.EMER_USE, Parkwork.PEM_USE	▪ Changed Data Element ID from V24 to ***V29***
NEW V30 Old V25	Travel Speed	Vehicle.TRAV_SP	▪ Changed Data Element ID from V25 to ***V30***
NEW V32 Old V27	Rollover	Vehicle.ROLLOVER	▪ Changed Data Element ID from V27 to ***V32***
NEW V33 Old V28	Location of Rollover	Vehicle.ROLINLOC	▪ Changed Data Element ID from V28 to ***V33***

Data Element Id	Data Element Name	Sas Table.Name	Comments
NEW V34 Old V29	Areas of Impact - Initial Contact Point/ Damaged Areas	Vehicle.IMPACT1, Parkwork.PIMPACT1, Damage.DAMAGE	▪ Changed Data Element ID from V29 to ***V34*** ▪ Changed SAS Name From MDAREAS to DAMAGE
NEW V35 Old V30	Extent of Damage	Vehicle.DEFORMED Parkwork.PVEH_SEV	▪ Changed Data Element ID from V30 to ***V35***
NEW V36 Old V31	Vehicle Removal	Vehicle.TOWED Parkwork.PTOWED	▪ Changed Data Element ID from V31 to ***V36*** ▪ Revised Attribute: 3 (Towed ***But*** Not Due to Disabling Damage)
NEW V37 Old V32	Sequence of Events	Cevent.SOE, Vevent.SOE, Vsoe.SOE	▪ Changed Data Element ID from V32 to ***V37***
NEW V38 Old V33	Most Harmful Event	Vehicle.M_HARM, Parkwork.PM_HARM	▪ Changed Data Element ID from V33 to ***V38***
NEW V39 Old V34	Fire Occurrence	Vehicle.FIRE_EXP, Parkwork.PFIRE	▪ Changed Data Element ID from V34 to ***V39***
NEW V40 Old V35	Motor Vehicle Automated Driving Systems	Vehicle.ADS_PRES, Vehicle.ADS_LEV, Vehicle.ADS_ENG	▪ Changed Data Element ID from V35 to ***V40***

Data Element Id	Data Element Name	Sas Table.Name	Comments
NEW V41 Old V36	Related Factors-Vehicle Level	Vehiclesf.VEHICLESF, Pvehiclesf.PVEHICLESF	▪ Changed Data Element ID from V36 to ***V41*** ▪ Revised Format: o "Select All that Apply" – moved to its own data file o 3 Numeric ▪ Revised Numeric: ***999*** (Reported as Unknown) ▪ Changed SAS Name From Vehicle.VEH_SC1 and Vehicle.VEH_SC2 to Vehiclesf.VEHICLESF, and from Parkwork.PVEH_SC1 and Parkwork.PVEH_SC2 to Pvehiclesf.PVEHICLESF
D6	Driver's ZIP Code	Vehicle.DR_ZIP	▪ New Attribute: ***99998 (Not Reported)*** ▪ Revised Attribute: 99999 (***Reported as*** Unknown)
D21	Violations Charged	Violatn.VIOLATION	▪ Revised Attribute: 4 (Inattentive, Careless, Improper Driving, ***Driving Without Due Care***) ▪ Changed SAS Name From MVIOLATN to VIOLATION
D22	Speeding Related	Vehicle.SPEEDREL	▪ Revised Definition

Data Element Id	Data Element Name	Sas Table.Name	Comments
D24	Related Factors-Driver Level	Driverrf.DRIVERRF	▪ Revised Format: o "Select All that Apply" – moved to its own data file o 3 Numeric ▪ Revised Attributes: o 6 (Careless Driving, ***Inattentive Operation, Improper Driving, Driving Without Due Care***) o 34 (***Improper*** Passing ***Location*** ~~***on Right Side***~~) ▪ Revised Numeric: ***999*** (Reported as Unknown) ▪ Changed SAS Name From Vehicle.DR_SF1, Vehicle.DR_SF2, Vehicle.DR_SF3 and Vehicle.DR_SF4 to Driverrf.DRIVERRF
PC4	Contributing Circumstances, Motor Vehicle	Factor.VEHICLECC	▪ Revised Attribute: 0 (None ***Noted***) ▪ Removed Attribute: ~~***98 (Not Reported)***~~ ▪ Changed SAS Name From MFACTOR to VEHICLECC
PC14	Driver's Vision Obscured By	Vision.VISION	▪ Changed SAS Name From MVISOBSC to VISION
PC15	Driver Maneuvered to Avoid	Maneuver.MANEUVER	▪ Revised Attribute: 4 (***Contact*** Motor Vehicle ***[in this Crash]***) ▪ Changed SAS Name From MDRMANAV to MANEUVER
PC16	Driver Distracted By	Distract.DRDISTRACT	▪ Changed SAS Name From MDRDSTRD to DRDISTRACT

Data Element Id	Data Element Name	Sas Table.Name	Comments
P7/NM7	Person Type	Person.PER_TYP, Pbtype.PBPTYPE	▪ Remove Attribute: ~~*8 (Person on Personal Conveyances)*~~ ▪ New Attributes: o ***11 (Person on Motorized Personal Conveyance)*** o ***12 (Person on Non-Motorized Personal Conveyance)*** o ***13 (Person on Personal Conveyance, Unknown if Motorized or Non-Motorized)***
P22/ NM22	Transported to First Medical Facility by	Person.HOSPITAL	▪ Revised Attribute: 0 (Not Transported ***for Treatment***
P26/ NM26	Related Factors-Person Level	Personrf.PERSONRF	▪ Revised Format: o "Select All that Apply" – moved to its own data file o 3 Numeric ▪ New Attributes: o ***100 (Using a Shared Micromobility Device)*** o ***101 (Obstructed Sidewalk [for This Person])*** ▪ Revised Numeric: ***999*** (Reported as Unknown) ▪ Changed SAS Name From Person.P_SF1 and Person.P_SF2 to Personrf.PERSONRF
NM9-PB30	Crash Type – Pedestrian	Pbtype.PEDCTYPE	▪ Revised Attributes: o 741 (Dash **– *Run, No Visual Obstruction Noted***) o 742 (Dart out **– *Visual Obstruction Noted***)
NM9-PB38	Crash Group – Pedestrian	Pbtype.PEDCGP	▪ Revised Attribute: 740 (Dash **– *Run, No Visual Obstruction Noted***)/Dart out **– *Visual Obstruction Noted***)
NM11	Non-Motorist Action/ Circumstances	Nmprior.NMACTION	▪ Changed SAS Name From MPR_ACT to NMACTION
NM12	Non-Motorist Contributing Circumstances	Nmcrash.NMCC	▪ Changed SAS Name From MTM_CRSH to NMCC

Summary of SAS Naming Changes

Data Element ID	2019 SAS Name	New 2020 SAS Name	Data Element Name
C26	Accident.WEATHER1, Accident.WEATHER2	Weather.WEATHER	Atmospheric Conditions
C32	Accident.CF1, Accident.CF2, Accident.CF3,	Crashrf.CRASHRF	Related Factors- Crash Level
V11	N/A	Vehicle.VPICMAKE, Parkwork.PVPICMAKE	vPIC Make
V12	N/A	Vehicle.VPICMODEL, Parkwork.PVPICMODEL	vPIC Model
V13	N/A	Vehicle.VPICBODYCLASS, Parkwork.PVPICBODYCLASS	vPIC Body Class
V17	N/A	Vehicle.ICFINALBODY, Parkwork.PICFINALBODY	Final Stage Body Class
V18	N/A	Vehicle.GVWR_FROM, Vehicle.GVWR_TO, Parkwork.PGVWR_FROM, Parkwork.PGVWR_TO	Power Unit GVWR
V21	N/A	Vehicle.TRLR1GVWR, Vehicle.TRLR2GVWR, Vehicle.TRLR3GVWR, Parkwork.PTRLR1GVWR, Parkwork.PTRLR2GVWR, Parkwork.PTRLR3GVWR	Trailer GVWR
V34B	Damage.MDAREAS	Damage.DAMAGE	Damaged Areas
V41	Vehicle.VEH_SC1, Vehicle.VEH_SC2, Parkwork.PVEH_SC1, Parkwork.PVEH_SC2	Vehiclesf.VEHICLESF, Pvehiclesf.PVEHICLESF	Related Factors- Vehicle Level
D21	Violatn.MVIOLATN	Violatn.VIOLATION	Violations Charged
D24	Vehicle.DR_SF1, Vehicle.DR_SF2, Vehicle.DR_SF3, Vehicle.DR_SF4	Driverrf.DRIVERRF	Related Factors- Driver Level
PC4	Factor.MFACTOR	Factor.VEHICLECC	Contributing Circumstances, Motor Vehicle

Data Element ID	2019 SAS Name	New 2020 SAS Name	Data Element Name
PC14	Vision.MVISOBSC	Vision.VISION	Driver's Vision Obscured By
PC15	Maneuver.MDRMANAV	Maneuver.MANEUVER	Driver Maneuvered to Avoid
PC16	Distract.MDRDSTRD	Distract.DRDISTRACT	Driver Distracted By
P26/NM26	Person.P_SF1, Person.P_SF2, Person.P_SF3	Personrf.PERSONRF	Related Factors- Person Level
NM11	Nmprior.MPR_ACT	Nmprior.NMACTION	Non-Motorist Action/Circumstances
NM12	Nmcrash.MTM_CRSH	Nmcrash.NMCC	Non-Motorist Contributing Circumstances
NM13	Nmdistract.MNMDSTRD	Nmdistract.NMDISTRACT	Non-Motorist Distracted By

The data elements in RED are new to 2020 CRSS.

The data elements in BLUE are changed in 2020 CRSS.

New and Noteworthy

The Analytical User's Manual is updated annually to reflect necessary revisions and ensure quality data collection and analysis. CRSS data elements evolve based on any number of factors including the needs of end-users. Changes are made with careful consideration and collaboration among key stakeholders. Below are the notable changes, challenges, reclassifications, or other issues the analyst should be aware of for this year.

The Effect of the COVID-19 Pandemic on CRSS Data Collection

Beginning in the first quarter of 2020, the COVID-19 pandemic presented several challenges to CRSS data collection. As States implemented shutdowns and closures to limit exposure to COVID-19, several police jurisdictions closed their doors to non-essential personnel, thus the CRSS Samplers were unable to access crash reports for varying amounts of time. Additionally, some jurisdictions stopped responding to Property Damage Only (PDO) crashes and opted to complete citizen reports or desk reports for PDO motor vehicle crashes. CRSS only samples from police reported crashes on official crash reports. Thus, there was a decline in CRSS applicable cases to sample.

COVID-19 also had an impact on the transmission of crash report data. As agencies needed time to coordinate working remotely, the processes to key in and upload electronic crash reports were delayed across various sample sites ranging from weeks to months before NHTSA was able to receive data. The pandemic has impacted CRSS data collection, but NHTSA has adapted to the new safety protocols and changes in sampling schedules with police jurisdictions and has extended listings of crashes to incorporate the delay of receiving crash reports. The situation brought on by the current crisis is unlike anything our administration has experienced before. Nevertheless, NHTSA will continue to explore traffic safety during the COVID-19 pandemic.

CRSS Generalized Variance Function Study

In 2020 NHTSA's Mathematical Analysis Division completed a study to establish the General Variance Functions for CRSS. As for any probability-based sample, the estimates generated from CRSS data are subject to sampling errors. The magnitude of sampling error depends on the study variable, the estimator used, and the sample design. CRSS data is collected under a complex survey design with features such as multistage sampling, stratification, and unequal selection probabilities to ensure it is a nationally representative sample. CRSS case weights are derived corresponding to its complex design features in order to produce unbiased and robust estimates.

Estimation methods and computer software have been developed to make estimates from complex survey data. Specialized procedures for complex survey data analysis, such as SAS PROC SURVEY procedures and SUDAAN procedures, can be used in CRSS data analysis along with proper design statements to take the complex survey design into account. (See more on these methods in Appendix F: Standard Errors) However, for users who do not have access to specialized software and wish to have a quick assessment of the magnitude of the standard errors of CRSS estimates, the generalized variance functions can be used to generate ballpark standard error estimates for a large quantity of estimates. The study is published in the NHTSA Technical Report Crash Report Sampling System: Generalized Variance Functions.

Addition of VIN-Decoded Data

Prior to 2020 the descriptive vehicle information in Vehicle Make, Vehicle Model, and Body Type were coded from information in the police crash reports and based on a Vehicle Make/Model/Body Type table maintained by NCSA for this purpose. Starting in 2020 this table will no longer be updated and a new set of data elements has been added to the Vehicle and Parkwork data files. These new data elements are:

- *vPIC Make*
- *vPIC Model*
- *vPIC Body Class*
- *Final Stage Body Class*
- *Power Unit Gross Vehicle Weight Rating – From*
- *Power Unit Gross Vehicle Weight Rating – To*
- *Trailer Gross Vehicle Weight Rating* (data collected up to three trailers)

Elements *vPIC Make, vPIC Model, vPIC Body Class,* and *Final Stage Body Class* are also added to Person data file.

These data elements are mostly derived from VIN decoding using NHTSA's tool, Product Information Catalog and Vehicle Listing (vPIC), which is based on the vehicle manufacturer submissions to NHTSA mandated by Federal Motor Vehicle Safety Standard (FMVSS) 49 Code of Federal Regulation (CFR) 565. If a vehicle VIN or trailer VIN can be decoded cleanly, such as with no errors or minor issues, *vPIC Make, vPIC Model, vPIC Body Class, Power Unit* or *Trailer Gross Vehicle Weight Rating* (*From* and *To*) are coded using information derived from vPIC VIN decoder. If a VIN cannot be decoded cleanly or there is no VIN reported in the police crash report, these elements are coded by analysts using the information on the crash report. *Final Stage Body Class* is applicable only to incomplete vehicles and always coded using the information from police crash report.

To further differentiate between these new data elements and the historic NCSA descriptions for Make, Model, and Body Type, the following data elements have been renamed.

- Vehicle Make → *NCSA Make*
- Vehicle Model → *NCSA Model*
- Body Type → *NCSA Body Type*

Also, *Gross Vehicle Weight Ratio/Gross Vehicle Combination Ratio (GVWR/GCWR)* has been discontinued in response to the new vPIC data elements that collect GVWR for the power unit (upper and lower limits) and any trailers separately.The attributes represent vehicle Class 1 to Class 8.

It is important to note that the new VIN-derived data elements will eventually replace the NCSA ones and result in new body class designations that will differ from NCSA's historic body type classifications. See Appendix C: Analytical Classification of Select CRSS Data Elements for new classifications based on vPIC Body Class.

In addition to the data elements added to the existing data files, two additional data files are available with many data elements decoded from the VIN, one for vehicles (Vpicdecode) and one for trailers (Vpictrailerdecode). These data files have their own user manual, the *Product Information Catalog and Vehicle Listing (vPIC) Analytical User's Manual*, found in the NCSA Publications- Manuals and Documentation section of NHTSA's website.

For more information on NHTSA's Product Information Catalog and Vehicle Listing (vPIC), go to https://vpic.nhtsa.dot.gov/.

Addition of Non-Motorist Person Types

The data element *Person Type* has expanded to collect more specific types of non-motorists on motorized or non-motorized personal conveyances. A personal conveyance is a device, other than a transport device, used by a pedestrian for personal mobility assistance or recreation. These devices can be motorized or human powered, but not propelled by pedaling. Examples include rideable toys, roller skates, motorized and non-motorized skateboards, scooters and wheelchairs. The new attributes replace attribute 8 (Persons on Personal Conveyances) and include:

- 11 (Person on Motorized Personal Conveyance)
- 12 (Person on Non-Motorized Personal Conveyance)
- 13 (Person on Personal Conveyance, Unknown if Motorized or Non-Motorized)

These additions were necessitated by the growing variety and use of these devices. This allows these devices to be more clearly identified and targeted in analyses.

In addition, the NCSA Person Type Classifications in *Appendix C: Analytical Classification of Select CRSS Data Elements* were updated accordingly.

Change from Multiple Elements to Single Elements that Allow Selection of Multiple Values

Prior to 2020 *Atmospheric Conditions* and the *"Related Factor"* data elements were comprised of multiple elements to allow the selection of more than one attribute. For example, Crash Related Factors was made up of three elements (i.e., CF1, CF2, CF3) allowing up to three selections. This format, however, limited the number of selections to the available number of elements. Beginning in 2020 these elements have been changed to a single element that allows for the selection of all attributes that apply.

Changes to SAS Names

In 2020 the conversion of six more data elements to allow the coding of multiple attributes brought the total to 17 data files that store these "select all that apply" elements. With this many data files and elements, it was an appropriate time to standardize the SAS names for this type of element. It was also an opportunity to update the SAS names for two of these elements where the element name had changed but the SAS name had not (i.e., Non Motorist Action/Circumstances and Non-Motorist Contributing Circumstances). Nine SAS names were updated and are identified in the Summary of the SAS Naming Changes.

Changes to Imputed Elements

The imputed data element for *Relation to Junction-Within Interchange Area* (RELJCT1_IM) was added back to CRSS in 2020 after being removed in 2019. During the 2019 data collection year, the data element's unknown rate increased to over 60 percent due to additional quality control measures during the data collection process. For the 2020 data collection year, NHTSA incorporated a geolocator tool to assist in coding *Relation to Junction-Within Interchange Area*. A little over 7 percent of the data element was unknown or not reported in 2020 and NHTSA decided to reinstate *Relation to Junction – Within Interchange Area* as a candidate for imputation.

In addition, *Hit and Run* (HITRUN_IM) was removed from the imputation process due to the removal of the "Reported as Unknown" attribute (0.01% in 2019). More details on the imputation process can be found in CRSS Imputation section.

Analysis of Police-Reported Alcohol Involvement Elements

In recent years the percentage of "Not Reported" cases for *Police-Reported Alcohol Involvement* (DRINKING) increased to over 40 percent. In 2020 the percentage of unknown or not reported cases increased to over 45 percent. This percentage increase can be attributed to NHTSA's improved quality control over the data collection year. This process included but was not limited to establishing state specific coding instructions to help coders with the interpretation of the police crash report fields. In addition, NHTSA implemented new quality assurance plans to improve coding accuracy across the data collection system. Two other data elements, *Alcohol Involved in Crash* (ALCOHOL) and *Driver Drinking in Vehicle* (VEH_ALCH), are derived from the *Police-Reported Alcohol Involvement* data element. Additionally, *Police-Reported Alcohol Involvement* is the basis of the imputed data element, *Imputed Police-Reported Involvement* (PERALCH_IM), which is used to derive *Imputed Alcohol Involved in Crash* (ALCHL_IM) and *Imputed Driver Drinking in Vehicle* (V_ALCH_IM). NHTSA continues to impute the drinking related data elements, but analysts should be aware when using these data elements for analysis.

Limitations of Automated Driving Systems (ADS) Data in CRSS

In 2020, NHTSA continued to collect the data element Motor Vehicle Automated Driving Systems (ADS) that was added in the Fatality Analysis Reporting System (FARS) and the Crash Report Sampling System (CRSS) in 2019. These data are intended for crash avoidance and countermeasure research and development. However, when extensive quality control checks and analyses were performed using the 2019 and 2020 data, the results of the analyses highlighted inconsistencies in collecting and accurately identifying specifics with these elements that can lead to varying or misleading results. Limitations to collection include: only a small number of States have crash reports with ADS fields compatible with the FARS ADS definitions and attributes; a few States have crash reports with ADS-related fields, but these States' instructions and/or crash report element structures are not compatible with the FARS ADS definitions and attributes; and, the majority of States do not have an ADS field on their crash reports - identification of the presence of vehicle automation is only possible through the crash report narrative. At this time, the FARS ADS data are largely coded as "Not Reported."

Consequently, NHTSA has removed the ADS data elements from the 2019 and 2020 FARS and CRSS while additional research is conducted on how improvements can be made. However,

NHTSA will continue to collect these data for our internal quality control, review and analysis purposes only. The following data elements have been removed from the 2019 and 2020 files:

- Vehicle.ADS_PRES – Automation System or Systems Present in Vehicle
- Vehicle.ADS_LEV – Highest Automation System Level Present in Vehicle
- Vehicle. ADS_ENG – Highest Automation System Level Engaged at Time of Crash

Introduction

One of NHTSA's primary objectives is to reduce the human toll and property damage that motor vehicle traffic crashes inflict on our society. Crashes each year result in thousands of lives lost, hundreds of thousands of injured victims, and billions of dollars in property damage. Accurate data are required to support the development, implementation, and assessment of highway safety programs aimed at reducing this toll. NHTSA uses data from many sources, including the Crash Report Sampling System (CRSS). CRSS is a sample of police-reported crashes involving all types of motor vehicles, pedestrians, and cyclists, ranging from property-damage-only crashes to those that result in fatalities. CRSS is used to estimate the overall crash picture, identify highway safety problem areas, measure trends, drive consumer information initiatives, and form the basis for cost and benefit analyses of highway safety initiatives and regulations.

The CRSS obtains its data from a nationally representative probability sample selected from the more than six million police-reported crashes that occur annually. Although various sources suggest that there are many more crashes that are not reported to the police, the majority of these unreported crashes involve only minor property damage and no significant personal injury. By restricting attention to police-reported crashes, the CRSS concentrates on those crashes of greatest concern to the highway safety community and the general public.

This multi-year analytical user's manual provides documentation on the evolution of coding practices of the CRSS from 2016 to 2020. The manual will continue to grow each year and present the historical coding of the CRSS from inception through present. It includes documentation on the data elements that are contained in the CRSS and other useful information that will enable the users to become familiar with the data system. The FARS/CRSS Coding and Validation Manual provides more detailed definitions and coding rules for each data element and attribute. This manual is available at:

NCSA Publications — Manuals and Documentation — CRSS.

The compilation of CRSS data is a priority for NHTSA. These data store valuable information that will be preserved over time and are available for present and future use. This analytical user's manual should help improve the usefulness and accessibility of the data. With the exception of personal notes, there is no reason to keep older versions of this reference manual. All information in earlier editions has been retained in this newer version.

CRSS Sample Design

Beginning 2016, as part of the effort to modernize NHTSA's data collection system, NCSA designed two new national probability-based crash sampling systems – the CRSS to replace the NASS GES and the CISS to replace the CDS. CRSS was designed completely independent of GES or CISS. CRSS has the same scope as GES: all police reported motor vehicle crashes that occur on a trafficway. The source of the information for CRSS continues solely to be the police crash report.

The CRSS police crash report sample is selected in multiple stages to produce a nationally representative probability sample since nationwide direct selection is infeasible. A brief description of the selection process at each of the three stages is given below.

1st Stage— PSU Sample: At the first stage, 3,117 counties in the country were grouped into 707 primary sampling units (PSU). U.S. Territories, some remote areas in Alaska, and small islands in Hawaii were excluded. A CRSS PSU is either a county or a group of counties. The 707 PSUs in the PSU frame were stratified into 50 strata by the four Census regions, urbanicity, vehicle miles traveled, total number of crashes, total truck miles traveled, and road miles. First, 101 PSUs were selected using a stratified probability-proportional-to-size (PPS) sampling method. Then a sequence of sub-samples was selected from the original 101 PSU sample and strata were collapsed if necessary. This produced a sequence of nested PSU samples with different sample sizes selected from the collapsed strata. This sequence of nested PSU samples provides NHTSA flexibility to change and scale the PSU sample size in the future without reselecting the sample. Therefore, the final PSU sample was the result of a multiphase sampling mechanism in which the PSU selection probability is still approximately PPS. In the 2020 CRSS, 61 PSUs were selected from 25 PSU strata and 60 PSUs responded. (Note: In the 2016 CRSS, 60 PSUs were selected and 53 responded.)

2nd Stage – PJ Sample: The secondary sampling units (SSU) are police jurisdictions (PJs) or groups of police jurisdictions. Within each selected PSU, PJs were stratified into three strata by their measure of size (MOS) that is a combination of crash counts in six categories of interest. A Pareto sampling method was used to select PJ samples from each PJ strata. This method produces overlapping samples when the sample is reselected. This method reduces the potential of changes to the existing PJ sample when a new PJ sample has to be selected because of PJ frame changes. The PJ inclusion probability under Pareto sampling is approximately PPS. In the 2016 CRSS, a total of 350 SSUs were selected. In the 2020 CRSS, 301 PJs were selected, and 288 PJs responded.

Weight adjustments were made to mitigate the potential bias caused by the non-responding PJs. For some PSUs, NHTSA receives police crash reports (i.e., tertiary sampling unit) in electronic format through the Electronic Data Transfer (EDT) system. In these EDT PSUs, the police crash report sample can be selected directly from all police crash reports of the EDT PSU. In 2020 the second stage sample selection is conducted for 19 EDT PSUs by assigning all police crash reports to one consolidated (pseudo) PJ within an EDT PSU and selecting that PJ with certainty. This leads to a reduction in the number of selected PJs. NHTSA expects more PSUs to provide crash reports through the EDT system in the future.

3rd Stage – Police Crash Report Sample: The tertiary sampling units (TSU) are the police crash reports. The CRSS data collectors periodically obtain police crash reports from each selected PJ. During each collection, all new police crash reports accumulated since the last

collection are sequentially stratified into nine police crash report strata (see table below). These nine strata were formed based on the results of NHTSA's internal and public data needs assessments. The stratification allows NHTSA to over-sample in Strata 2-6.

From each stratum, a systematic sampling method is used to select the police crash report sample. The sampling intervals are determined in such a way that the final weights are approximately equal for all the police crash reports in the same stratum with the ultimate aim of reducing the sampling variance for the domain estimates. The target annual sample size is approximately 50,000 police crash reports.

Please refer to the NHTSA Technical Reports Crash Report Sampling System: Sample Design and Weighting and Crash Report Sampling System: Design Overview, Analytic Guidance, and FAQs for more in-depth discussions of the CRSS sample design.

CRSS Police Crash Report Domain Definition, Target Sample Allocation, and Population Distribution

Stratum	Description (Hierarchical Structure)	Target Percent of Sample	Estimated Percent of Population[1]
2	Crashes with killed or injured pedestrian	9%	1.9%
3	Crashes with killed or injured motorcycle rider	6%	1.5%
4	LMY passenger vehicle crashes with killed or incapacitated occupant	4%	0.4%
5	NLMY passenger vehicle crashes with killed or incapacitated occupant	7%	1.6%
6	LMY passenger vehicle crashes with injured occupant	14%	6.8%
7	Crashes involving medium or heavy truck or bus	6%	7.9%
8	NLMY passenger vehicle crashes with injured occupant	12%	14.3%
9	LMY passenger vehicle crashes AND no one is killed or injured	22%	27.0%
10	Crashes not in strata 2-9	20%	38.7%
Late Model Year (LMY) passenger vehicle: ≤ 4 years old, Non-Late Model Year (NLMY) passenger vehicle: ≥ 5 years old			

[1] Estimated percentage of population is based on 2020 CRSS estimates.

CRSS Operations

The CRSS obtains its data from a nationally representative probability sample selected from the more than six million police-reported crashes that occur annually. To be eligible for the CRSS sample, a crash report must be completed by the police; it must involve at least one motor vehicle traveling on a trafficway; and the crash must result in property damage, injury, or death.

These crash reports are chosen from 60 selected sites across the United States that reflect the geography, population, miles driven, and crashes in the United States. CRSS data collectors review crash reports from hundreds of law enforcement agencies within the sites, systematically sampling tens of thousands of crash reports each year. The collectors obtain copies of the selected crash reports and send them to a central location for coding. No other data is collected beyond that in the selected crash reports.

Trained personnel interpret and code data directly from the crash reports into an electronic data file. Approximately 120 data elements are coded into a common format. After coding, quality checks are performed on the data to ensure validity and consistency. When these are completed, CRSS data files and coding documentation become publicly available.

The CRSS data are also used to respond to requests from the international and national highway safety communities, State and local governments, the Congress, Federal agencies, research organizations, industry, the media, and the public.

National Estimates

The CRSS police crash report sample is a complex multi-stage, stratified sample with unequal selection probabilities. Estimates from CRSS data must be properly weighted to ensure unbiased and robust estimates. The CRSS weights were created using the following steps:

1. Calculate base weights - the inverse of selection probabilities - at all three stages (PSU, PJ, and Police Crash Report) to correct the selection bias caused by the unequal selection probabilities.
2. Adjust the base weights for non-response at all three stages to correct potential non-response bias.
3. Adjust the weights for duplicate crashes that were identified post sampling.
4. Calibrate PJ and Police Crash Report weights using the PSU level total crash report stratum counts to further correct potential non-response bias and coverage bias.
5. Calibrate case weights by benchmarking Census resident population counts and FARS crash counts.

The final CRSS weight variable that incorporates the above steps is called WEIGHT in the CRSS analysis file. Please refer to the NHTSA Technical Report Crash Report Sampling System: Sample Design and Weighting for a more in-depth discussion on the CRSS weighting procedure.

Complex sample design features employed in CRSS data collection should be considered in analysis of the CRSS data. Treating the CRSS sample as a simple random sample in estimation may cause severe bias to both point estimates and standard error estimates. Specialized computer software for complex survey data analysis, such as SAS PROC SURVEY procedures and SUDAAN procedures, should be used for CRSS data analysis along with proper design statements. Because of the low PSU level sampling rates, the CRSS PSU sample can be treated as a with-replacement sample with unequal selection probabilities. This simplifies the variance estimation.

In the CRSS analysis file, the variable PSUSTRAT defines the PSU strata, and PSU_VAR identifies sampled PSUs for variance estimation. Also, certainty PSU is treated as a stratum in PSUSTRAT. The PJs selected in the certainty PSU are treated as PSUs in PSU_VAR.

Because of the limited PSU sample size, CRSS data is mainly for national or major domain estimates. For other smaller analysis domains, the point estimates may have large standard errors.

Please refer to the NHTSA Technical Report Crash Report Sampling System: Design Overview, Analytic Guidance, and FAQs for more detailed information on CRSS estimation and examples.

CRSS Imputation

CRSS data are obtained either directly from an item on the police crash report or by interpreting the information provided in the crash report through a review of the crash diagrams, the police officer's written summary of the crash, or combinations of data elements on the report. During this process of data acquisition, some records of the data elements are found missing or entered as "unknown" or "not reported" resulting in incomplete data for analysis. To offer more complete CRSS data for analysis, NHTSA imputes selected data elements from the Accident, Vehicle, and Person files as follows:

- ***Accident file***: Alcohol Involved in Crash, Atmospheric Conditions, Crash Date (Day of Week), Crash time (Hour), Crash Time (Minute), First Harmful Event, Light Condition, Manner of Collision, Maximum Injury Severity in Crash, Number of Injured in Crash, Relation to Junction – Within Interchange Area, Relation to Junction – Specific Location;
- ***Vehicle file***: Areas of Impact- Initial Contact Point, Body Type, Driver Drinking in Vehicle, Number of Injured in Vehicle, Maximum Injury Severity in Vehicle, Most Harmful Event, Vehicle Model Year, Movement Prior to Critical Event;
- ***Person file***: Age, Police-Reported Alcohol Involvement, Ejection, Injury Severity, Seating Position, Sex.

The above data elements are consistent with the ones imputed in the corresponding three files of NASS GES data from 2010 to 2015. More details about GES data imputation in 2015 and earlier years are available in the 1988-2015 NASS GES Analytical User's Manual.

The imputation process for CRSS data imputes a single value for each unknown or not reported value. In other words, instead of filling in an unknown or not reported value with a set of plausible values, a single estimated value is used to replace the unknown or not reported value. The procedure is a multivariate imputation of each selected data element by means of its covariates. If this process produces inconsistent imputed values, a separate univariate imputation is conducted to impute the inconsistent imputed values. In the case of "Body Type," however, imputation is done by univariate imputation only.

The multivariate imputation is carried out by sequential regression modeling in which logistic regression models estimate unknown or not reported values for the categorical data elements, and linear regression models for the continuous data elements. In each case, the stepwise regression algorithm automatically selects the covariates and computes the imputed (predicted) values of the data element. This process is done using the SAS callable software "IVEware" developed at the University of Michigan (http://www.isr.umich.edu/src/smp/ive/). This multivariate imputation procedure may produce imputed values inconsistent with other observed values or may terminate prematurely because of the number of iterations or other convergence criteria provisioned in the software. Then the univariate imputation procedure will be used to impute the inconsistent values or the remaining unknown or not reported values. All data elements, except "Body Type," are first imputed by the multivariate regression method.

It should be noted that the data elements produced by the imputation do not replace the originals; all original data elements are kept intact in the CRSS data files. Rather, new imputed data elements are created from the original data elements having each unknown or not reported value substituted by the estimated value. The imputed data elements, identified by the suffix _IM (e.g.

AGE_IM, WEATHER_IM for the data elements AGE and WEATHER, respectively) are added as additional data elements to their respective files. It is also worth noting that:

- the imputed maximum severity MAXSEV_IM and imputed number of injured NO_INJ_IM at the accident level are derived from INJSEV_IM which contains the imputed values of the Injury Severity at the person level;
- the imputed maximum severity MXVSEV_IM and imputed number of injured NUMINJ_IM at the vehicle level are derived from INJSEV_IM that contains the imputed values of the Injury Severity at the person level;
- the imputed police reported alcohol involvement ALCHL_IM at the accident level is derived from PERALCH_IM that contains the imputed values of alcohol involvement at the person level;
- the imputed police reported alcohol involvement V_ALCH_IM at the vehicle level is derived from PERALCH_IM that contains the imputed values of alcohol involvement at the person level.

Overall, the CRSS imputation process employs IVEware software and several other programs written in SAS. Some text files input to this software provide additional controls to accurately and efficiently obtain the best estimates of the unknown or not reported values. In addition, the process makes provision for edit- and consistency-checks on the data to avoid any implausible value that might have been predicted by the applicable regression models. Please refer to the NHTSA Technical Report Crash Report Sampling System: Imputation for a more in-depth discussion on the CRSS imputation procedure.

The table below shows the SAS names and the corresponding SAS labels of the selected data elements for both the original and imputed versions for the Accident, Vehicle, and Person files.

Data Elements and Their Imputed Counterparts - SAS Names and Labels

SAS Data File	Data Element		Imputed Data Element	
	SAS Name	SAS Label	SAS Name	SAS Label
Accident				
Accident	ALCOHOL	Alcohol Involved in Crash	ALCHL_IM	Imputed Alcohol Involved in Crash
Accident	DAY_WEEK	Crash Date (Day of Week)	WKDY_IM	Imputed Day of Week
Accident	HARM_EV	First Harmful Event	EVENT1_IM	Imputed First Harmful Event
Accident	HOUR	Crash Time (Hour)	HOUR_IM	Imputed Hour
Accident	LGT_COND	Light Condition	LGTCON_IM	Imputed Light Condition
Accident	MINUTE	Crash Time (Minute)	MINUTE_IM	Imputed Minute
Accident	MAN_COLL	Manner of Collision	MANCOL_IM	Imputed Manner of Collision
Accident	MAX_SEV	Maximum Injury Severity in Crash	MAXSEV_IM	Imputed Maximum Injury Severity in Crash

SAS Data File	Data Element		Imputed Data Element	
	SAS Name	SAS Label	SAS Name	SAS Label
Accident	NUM_INJ	Number Injured in Crash	NO_INJ_IM	Imputed Number Injured in Crash
Accident	RELJCT1	Relation to Junction –	Accident	RELJCT1
Accident	RELJCT2	Relation to Junction –		
Specific Location	RELJCT2_IM	Imputed Relation to Junction – Specific Location		
Vehicle				
Vehicle	IMPACT1	Area of Impact – Initial Contact Point	IMPACT1_IM	Imputed Area of Impact – Initial Contact Point
Vehicle	BODY_TYP	Body Type	BDYTYP_IM	Imputed Body Type
Vehicle	VEH_ALCH	Driver Drinking in Vehicle	V_ALCH_IM	Imputed Driver Drinking in Vehicle
Vehicle	MAX_VSEV	Maximum Injury Severity in Vehicle	MXVSEV_IM	Imputed Maximum Injury Severity in Vehicle
Vehicle	MOD_YEAR	Vehicle Model Year	MDLYR_IM	Imputed Vehicle Model Year
Vehicle	P_CRASH1	Pre-Event Movement	PCRASH1_IM	Imputed Pre-Event Movement
Vehicle	M_HARM	Most Harmful Event	VEVENT_IM	Imputed Most Harmful Event
Vehicle	NUM_INJV	Number Injured in Vehicle	NUMINJ_IM	Imputed Number Injured in Vehicle
Person				
Person	AGE	Age	AGE_IM	Imputed Age
Person	EJECTION	Ejection	EJECT_IM	Imputed Ejection
Person	INJ_SEV	Injury Severity	INJSEV_IM	Imputed Injury Severity
Person	DRINKING	Police-Reported Alcohol Involvement	PERALCH_IM	Imputed Police Rep. Alcohol Inv.
Person	SEAT_POS	Seating Position	SEAT_IM	Imputed Seating Position
Person	SEX	Sex	SEX_IM	Imputed Sex

The following table shows percentages of “Not Reported” and “Reported as Unknown” values for the selected data elements for the Accident, Vehicle, and Person files in CRSS 2020 data.

Data Elements and Percentages of Unknown and Not Reported Values

SAS Data File	Data Element		Unknown/ Not Reported Percentage
	SAS Name	SAS Label	
Accident			
Accident	ALCOHOL	Alcohol Involved in Crash	39.78%
Accident	DAY_WEEK	Crash Date (Day of Week)	0.00%
Accident	HARM_EV	First Harmful Event	0.11%
Accident	HOUR	Crash Time (Hour)	0.61%
Accident	LGT_COND	Light Condition	0.96%
Accident	MINUTE	Crash Time (Minute)	0.61%
Accident	MAN_COLL	Manner of Collision	0.16%
Accident	MAX_SEV	Maximum Injury Severity in Crash	1.86%
Accident	NUM_INJ	Number Injured in Crash	1.86%
Accident	RELJCT1	Relation to Junction – Within Interchange Area	7.28%
Accident	RELJCT2	Relation to Junction – Specific Location	0.16%
Accident	WEATHER	Atmospheric Conditions	5.28%
Vehicle			
Vehicle	IMPACT1	Area of Impact – Initial Contact Point	2.52%
Vehicle	BODY_TYP	Body Type	4.71%
Vehicle	VEH_ALCH	Driver Drinking in Vehicle	35.24%
Vehicle	MAX_VSEV	Maximum Injury Severity in Vehicle	4.33%
Vehicle	MOD_YEAR	Vehicle Model Year	4.65%
Vehicle	P_CRASH1	Pre-Event Movement	1.71%
Vehicle	M_HARM	Most Harmful Event	0.07%
Vehicle	NUM_INJV	Number Injured in Vehicle	4.33%

SAS Data File	Data Element		Unknown/ Not Reported Percentage
	SAS Name	SAS Label	
Person			
Person	AGE	Age	8.12%
Person	EJECTION	Ejection	7.30%
Person	INJ_SEV	Injury Severity	3.66%
Person	DRINKING	Police-Reported Alcohol Involvement	48.55%
Person	SEAT_POS	Seating Position	1.43%
Person	SEX	Sex	4.57%

CRSS SAS Data Files

CRSS data are made available to the public in Statistical Analysis System (SAS) data files as well as comma-separated values (CSV) files. For the current data collection year, there are 28 data files. The current data files are: Accident, Vehicle, Person, Parkwork, Vpicdecode, Vpictrailerdecode, Pbtype, Cevent, Vevent, Vsoe, Crashrf, Weather, Vehiclesf, Pvehiclesf, Driverrf, Damage, Distract, Drimpair, Factor, Maneuver, Violatn, Vision, Personrf, Nmcrash, Nmdistract, Nmimpair, Nmprior, and Safetyeq data files. Seventeen of these data files contain only one data element and the coder can code multiple responses for these elements (i.e., "select all that apply"); thus, there is a record for each response. These data files are: Crashrf, Weather, Vehiclesf, Pvehiclesf, Driverrf, Damage, Distract, Drimpair, Factor, Maneuver, Violatn, Vision, Personrf, Nmcrash, Nmdistract, Nmimpair, and Nmprior. Two data files, Vpicdecode and Vpictrailerdecode, contain elements derived from the vehicle's and trailer's VIN, respectively. Details on these elements are found in a separate manual, the *Product Information Catalog and Vehicle Listing (vPIC) Analytical User's Manual*, found in the NCSA Publications - Manuals and Documentation section of NHTSA's website.

The data files are presented with their data elements in the Data Elements Definitions and Codes section. For each of the data elements, a brief definition is provided along with any additional information that could assist analyses. SAS names and values are also provided for the data elements. Discontinued data elements are moved to the end of the data file.

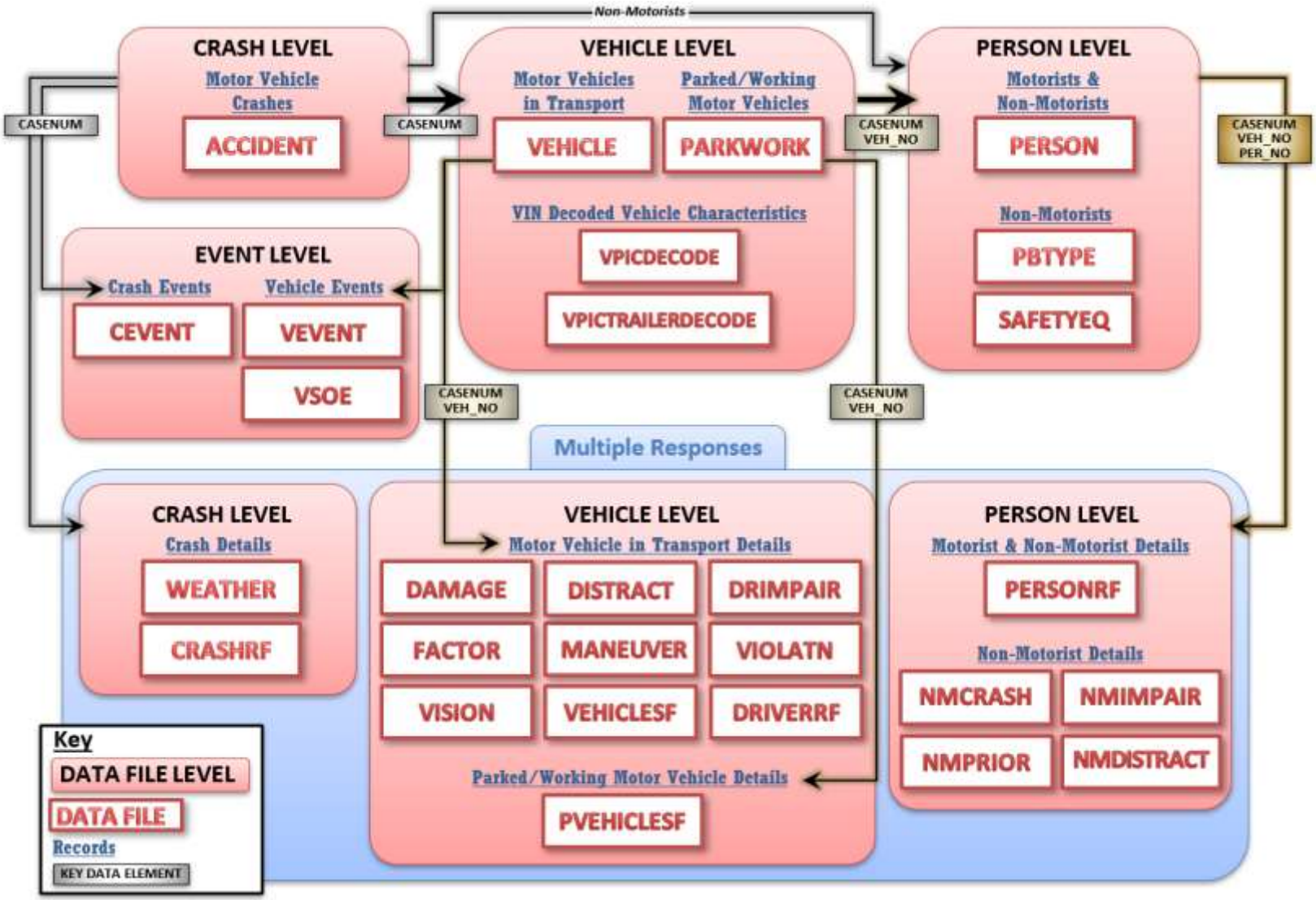
The SAS data files and years of availability are:

- ***Accident*** *– (2016-current)*: This data file contains information about crash characteristics and environmental conditions at the time of the crash. There is one record per crash.
- ***Vehicle*** *– (2016-current)*: This data file contains information describing the motor vehicles in transport and the drivers of motor vehicles in transport who are involved in the crash. There is one record per motor vehicle in transport. Parked and working vehicle information is in the Parkwork data file.
- ***Person*** *– (2016-current)*: This data file contains information describing all people involved in the crash including motorists (i.e., drivers and passengers of motor vehicles in transport) and non-motorists (e.g., pedestrians, pedalcyclists, and occupants of motor vehicles not in transport). It provides information such as age, sex, vehicle occupant restraint use, and injury severity. There is one record per person.
- ***Parkwork*** *– (2016-current)*: This data file contains information about parked and working vehicles that were involved in CRSS crashes. A parked vehicle is a motor vehicle that is stopped off the roadway. A working vehicle is a motor vehicle involved in trafficway maintenance, construction, or utility activities. It excludes vehicles performing private maintenance, construction, or utility activities. Data users are strongly advised to consult the annual FARS/CRSS Coding and Validation Manuals for a detailed description. There is one record per parked/working vehicle.

- ***Vpicdecode*** *– (2016-current)*: This data file contains vehicle features and specifications based on the vehicle's VIN that is decoded using NHTSA's Product Information Catalog and Vehicle Listing, known as vPIC. There is one record per vehicle. First released in 2020 NHTSA also provided this data file for the previous 4 years and plans to release more previous years in the future.
- ***Vpictrailerdecode*** *– (2016-current)*: This data file contains trailer features and specifications based on the trailer's VIN that is decoded using NHTSA's Product Information Catalog and Vehicle Listing, known as vPIC. There is one record per trailer. First released in 2020 NHTSA also provided this data file for the previous 4 years and plans to release more previous years in the future.
- ***Pbtype*** *– (2016-current)*: This data file contains information about crashes between motor vehicles and pedestrians, people on personal conveyances, and bicyclists. Data from the crash are enter into the Pedestrian and Bicycle Crash Analysis Tool (PBCAT). The output fields from PBCAT, including the pre-crash actions of the parties involved (crash type), are included in this data file. There is one record for each pedestrian, bicyclist or person on a personal conveyance.
- ***Cevent*** *– (2016-current)*: This data file contains information for all of the qualifying events (both harmful and non-harmful) that occurred in the crash. It details the chronological sequence of events resulting from an unstabilized situation that constitutes a motor vehicle traffic crash. There is one record per event. Included in each record is a description of the event or object contacted (e.g., ran off road-right, crossed center line, guardrail, parked motor vehicle), the vehicles involved, and the vehicles' area of impact.
- ***Vevent*** *– (2016-current)*: This data file contains the sequence of events for each motor vehicle in transport involved in the crash. This data file has the same data elements as the Cevent data file. In addition, this data file has a data element that records the sequential event number for each vehicle (VEVENTNUM). There is one record for each event for each motor vehicle in transport.
- ***Vsoe*** *– (2016-current)*: This data file contains the sequence of events for each motor vehicle in transport involved in the crash. This data file has a subset of the data elements contained in the Vevent data file (It is a simplified Vevent data file). There is one record for each event for each motor vehicle in transport.
- ***Crashrf*** *– (2020-current)*: This data file contains factors related to the crash based on a list of unusual conditions and special circumstances. Each factor is a separate record and there is at least one record for each crash.
- ***Weather*** *– (2020-current)*: This data file contains information describing the atmospheric conditions at the time of the crash. There is one record per condition and at least one record for each crash.
- ***Vehiclesf*** *– (2020-current)*: This data file contains factors related to the motor vehicles in transport involved in the crash based on a list of special circumstances. There is one record per factor and at least one record for each motor vehicle in transport.

- ***Pvehiclesf*** *– (2020-current)*: This data file contains factors related to parked and working vehicles involved in CRSS crashes based on a list of special circumstances. There is one record per factor and at least one record for each parked and working vehicle.
- ***Driverrf*** *– (2020-current)*: This data file contains factors related to the drivers of motor vehicles in transport involved in the crash based on a list of driver conditions, unusual situations, and special circumstances. There is one record per factor and at least one record for each driver.
- ***Damage*** *– (2016-current)*: This data set contains information about all of the areas on this vehicle that were damaged in the crash. There is one record per damaged area.
- ***Distract*** *– (2016-current)*: This data file contains information about driver distractions. Each distraction is a separate record. There is at least one record for each driver of a motor vehicle in transport.
- ***Drimpair*** *– (2016-current)*: This data file contains information about physical impairments of drivers of motor vehicles. There is one record per impairment and there is at least one record for each driver of a motor vehicle in transport.
- ***Factor*** *– (2016-current)*: This data file contains information about vehicle circumstances that may have contributed to the crash. Each factor is a separate record. There is at least one record per motor vehicle in transport.
- ***Maneuver*** *– (2016-current)*: This data file contains information about actions taken by the driver to avoid something or someone in the road. Each maneuver is a separate record. There is at least one record per motor vehicle in transport.
- ***Violatn*** *– (2016-current)*: This data file contains information about violations that were charged to drivers. Each violation is a separate record. There is at least one record per motor vehicle in transport.
- ***Vision*** *– (2016-current)*: This data file contains information about circumstances that may have obscured the driver's vision. Each obstruction is a separate record. There is at least one record per motor vehicle in transport.
- ***Personrf*** *– (2020-current)*: This data file contains factors related to each person, occupants and non-occupants, involved in the crash based on a list of unusual situations and special circumstances. There is one record per factor and at least one record for each person.
- ***Nmcrash*** *– (2016-current)*: This data file contains information about contributing circumstances or improper actions of people who are not occupants of motor vehicles (e.g., pedestrians and bicyclists) noted on the police report. There is one record per action and there is at least one record for each person who is not an occupant of a motor vehicle.
- ***Nmdistract*** *– (2019-current)*: This data file contains information about non-motorist distractions. Each distraction is a separate record. There is at least one record for each person who is not an occupant of a motor vehicle.

- ***Nmimpair*** *– (2016-current)*: This data file contains information about physical impairments of people who are not occupants of motor vehicles. There is one record per impairment and there is at least one record for each person who is not an occupant of a motor vehicle.
- ***Nmprior*** *– (2016-current)*: This data file contains information about the actions of people who are not occupants of motor vehicles (e.g., pedestrians and bicyclists) at the time of their involvement in the crash. There is one record per action and there is at least one record for each person who is not an occupant of a motor vehicle.
- ***Safetyeq*** *– (2016-current)*: This data file contains information about safety equipment used by people who are not occupants of motor vehicles. In 2016 the file contains a record for each type of safety equipment used by a person who is not an occupant of a motor vehicle. From 2017 onward the file contains multiple safety equipment data elements and only one record for each person who is not an occupant of a motor vehicle.


Non-Motorists
CRASH LEVEL
Motor Vehicle Crashes
ACCIDENT
VEHICLE LEVEL
Motor Vehicles in Transport
Parked/Working Motor Vehicles
VEHICLE
PARKWORK
VIN Decoded Vehicle Characteristics
VPICDECODE
VPICTRAILERDECODE
PERSON LEVEL
Motorists & Non-Motorists
PERSON
Non-Motorists
PBTYPE
SAFETYEQ
EVENT LEVEL
Crash Events
Vehicle Events
CEVENT
VEVENT
VSOE
CASENUM
CASENUM
CASENUM VEH_NO
CASENUM VEH_NO PER_NO
CASENUM VEH_NO
CASENUM VEH_NO
Multiple Responses
CRASH LEVEL
Crash Details
WEATHER
CRASHRF
VEHICLE LEVEL
Motor Vehicle in Transport Details
DAMAGE
DISTRACT
DRIMPAIR
FACTOR
MANEUVER
VIOLATN
VISION
VEHICLESF
DRIVERRF
Parked/Working Motor Vehicle Details
PVEHICLESF
PERSON LEVEL
Motorist & Non-Motorist Details
PERSONRF
Non-Motorist Details
NMCRASH
NMIMPAIR
NMPRIOR
NMDISTRACT
Key
DATA FILE LEVEL
DATA FILE
Records
KEY DATA ELEMENT

CRSS Data Element List

The following lists all SAS data elements with their SAS data file locations. Data elements that do not have a Data Element ID at the left side of the list have been discontinued (with the exception of some key data elements).

Key Data Elements			**44**
	Case Number	CASENUM	44
	Primary Sampling Unit (PSU)	PSU	45
	Primary Sampling Unit for Variance Estimation	PSU_VAR	46
	Primary Sampling Unit Stratum	PSUSTRAT	47
	Region of the Country	REGION	48
	Urbanicity	URBANICITY	49
C34	Stratum	STRATUM	50
C35	Police Jurisdiction (PJ)	PJ	51
	Case Weight	WEIGHT	52
V3/D3/PC3/P3/NM4	Vehicle Number	VEH_NO	53
P4/NM3	Person Number	PER_NO	54
C18	Event Number	EVENTNUM	55
C18	Vehicle Event Number	VEVENTNUM	55
The ACCIDENT Data File			**56**
C3	Number of Persons Not in Motor Vehicles	PEDS	57
C3A	Number of Persons Not in Motor Vehicles in Transport (MVIT)	PERNOTMVIT	57
C4	Number of Total Motor Vehicles	VE_TOTAL	58
C4A	Number of Motor Vehicles in Transport (MVIT)	VE_FORMS	58
C4B	Number of Parked/Working Vehicles	PVH_INVL	59
C5A	Number of Persons in Motor Vehiclesin Transport (MVIT)	PERMVIT	60
C8A	Month of Crash	MONTH	61
C8C	Day of Week	DAY_WEEK	62
C8CI	Imputed Day of Week	WKDY_IM	62
C8D	Year of Crash	YEAR	62
C9A	Hour of Crash	HOUR	63

C9AI	Imputed Hour of Crash	HOUR_IM	63
C9B	Minute of Crash	MINUTE	63
C9BI	Imputed Minute of Crash	MINUTE_IM	64
C19	First Harmful Event	HARM_EV	65
C19I	Imputed First Harmful Event	EVENT1_IM	67
C20	Manner of Collision of the First Harmful Event	MAN_COLL	68
C20I	Imputed Manner of Collision of the First Harmful Event	MANCOL_IM	68
C21A	Relation to Junction- Within Interchange Area	RELJCT1	69
C21AI	Imputed Relation to Junction-Within Interchange Area	RELJCT1_IM	69
C21B	Relation to Junction- Specific Location	RELJCT2	70
C21BI	Imputed Relation to Junction- Specific Location	RELJCT2_IM	71
C22	Type of Intersection	TYP_INT	72
C23	Relation to Trafficway	REL_ROAD	73
C24	Work Zone	WRK_ZONE	74
C25	Light Condition	LGT_COND	75
C25I	Imputed Light Condition	LGTCON_IM	75
C26	Atmospheric Conditions	WEATHER	76
C26I	Imputed Atmospheric Conditions	WEATHR_IM	77
C27	School Bus Related	SCH_BUS	78
C33	Interstate Highway	INT_HWY	79
C90	Maximum Injury Severity in Crash	MAX_SEV	80
C90I	Imputed Maximum Injury Severity in Crash	MAXSEV_IM	81
C91	Number Injured in Crash	NUM_INJ	82
C91I	Imputed Number Injured in Crash	NO_INJ_IM	82
C92	Alcohol Involved in Crash	ALCOHOL	83
C92I	Imputed Alcohol Involved in Crash	ALCHL_IM	83
	Atmospheric Conditions (discontinued)	WEATHER1	84

	Atmospheric Conditions (discontinued)	WEATHER2	84
	Related Factors- Crash Level (discontinued)	CF1	85
	Related Factors- Crash Level (discontinued)	CF2	85
	Related Factors- Crash Level (discontinued)	CF3	85

The VEHICLE Data File..... 87

V4	Number of Occupants	NUMOCCS	88
V5	Unit Type	UNITTYPE	89
V6	Hit and Run	HIT_RUN	90
V9	Vehicle Identification Number (VIN)	VIN	91
V10	Vehicle Model Year	MOD_YEAR	92
V10I	Imputed Vehicle Model Year	MDLYR_IM	92
V11	vPIC Make	VPICMAKE	93
V12	vPIC Model	VPICMODEL	94
V13	vPIC Body Class	VPICBODYCLASS	95
V14	NCSA Make	MAKE	98
V15	NCSA Model	MODEL	103
V16	NCSA Body Type	BODY_TYP	104
V16I	Imputed NCSA Body Type	BDYTYP_IM	108
V17	Final Stage Body Class	ICFINALBODY	109
V18	Power Unit Gross Vehicle Weight Rating (GVWR)	GVWR_FROM	110
V18	Power Unit Gross Vehicle Weight Rating (GVWR)	GVWR_TO	110
V19	Vehicle Trailing	TOW_VEH	111
V20	Trailer Vehicle Identification Number	TRLR1VIN	112
V20	Trailer Vehicle Identification Number	TRLR2VIN	112
V20	Trailer Vehicle Identification Number	TRLR3VIN	112
V21	Trailer Gross Vehicle Weight Rating (GVWR)	TRLR1GVWR	113
V21	Trailer Gross Vehicle Weight Rating (GVWR)	TRLR2GVWR	113

V21	Trailer Gross Vehicle Weight Rating (GVWR)	TRLR3GVWR	113
V22	Jackknife	J_KNIFE	114
V23	Motor Carrier Identification Number (MCID)	MCARR_ID	115
V23A	MCID Issuing Authority	MCARR_I1	116
V23B	MCID Identification Number	MCARR_I2	118
V24	Vehicle Configuration	V_CONFIG	119
V25	Cargo Body Type	CARGO_BT	120
V26A/HM1	Hazardous Materials Involvement	HAZ_INV	121
V26B/HM2	Hazardous Materials Placard	HAZ_PLAC	121
V26C/HM3	Hazardous Material Identification Number	HAZ_ID	122
V26D/HM4	Hazardous Material Class Number	HAZ_CNO	122
V26E/HM5	Release of Hazardous Material from the Cargo Compartment	HAZ_REL	123
V27	Bus Use	BUS_USE	123
V28	Special Use	SPEC_USE	124
V29	Emergency Motor Vehicle Use	EMER_USE	126
V30	Travel Speed	TRAV_SP	127
V32	Rollover	ROLLOVER	128
V33	Location of Rollover	ROLINLOC	129
V34A	Area of Impact – Initial Contact Point	IMPACT1	130
V34AI	Imputed Area of Impact – Initial Contact Point	IMPACT1_IM	131
V35	Extent of Damage	DEFORMED	132
V36	Vehicle Removal	TOWED	133
V38	Most Harmful Event	M_HARM	134
V38I	Imputed Most Harmful Event	VEVENT_IM	136
V39	Fire Occurrence	FIRE_EXP	137
V40A	Automation System or Systems Present in Vehicle	ADS_PRES	138
V40B	Highest Automation System Level Present in Vehicle	ADS_LEV	138
V40C	Highest Automation System Level Engaged at Time of Crash	ADS_ENG	139

V90	Maximum Injury Severity in Vehicle	MAX_VSEV	140
V90I	Imputed Maximum Injury Severity in Vehicle	MXVSEV_IM	141
V91	Number Injured in Vehicle	NUM_INJV	142
V91I	Imputed Number Injured in Vehicle	NUMINJ_IM	142
V92	Driver Drinking in Vehicle	VEH_ALCH	143
V92I	Imputed Driver Drinking in Vehicle	V_ALCH_IM	143
V100	NCSA Make Model Combined	MAK_MOD	144
D4	Driver Presence	DR_PRES	145
D6	Driver's Zip Code	DR_ZIP	146
D22	Speeding Related	SPEEDREL	147
PC5	Trafficway Description	VTRAFWAY	148
PC6	Total Lanes in Roadway	VNUM_LAN	149
PC7	Speed Limit	VSPD_LIM	150
PC8	Roadway Alignment	VALIGN	151
PC9	Roadway Grade	VPROFILE	152
PC11	Roadway Surface Condition	VSURCOND	153
PC12	Traffic Control Device	VTRAFCON	154
PC13	Traffic Control Device Functioning	VTCONT_F	155
PC17	Pre-Event Movement (Prior to Recognition of Critical Event)	P_CRASH1	156
PC17I	Imputed Pre-Event Movement (Prior to Recognition of Critical Event)	PCRASH1_IM	157
PC19	Critical Event- Precrash	P_CRASH2	158
PC20	Attempted Avoidance Maneuver	P_CRASH3	161
PC21	Pre-Impact Stability	PCRASH4	162
PC22	Pre-Impact Location	PCRASH5	163
PC23	Crash Type	ACC_TYPE	164
	Gross Vehicle Weight Rating (discontinued)	GVWR	168
	Imputed Hit and Run (discontinued)	HITRUN_IM	169
	Related Factors- Driver Level (discontinued)	R_SF1	170
	Related Factors- Driver Level (discontinued)	DR_SF2	170

	Related Factors- Driver Level (discontinued)	DR_SF3	170
	Related Factors- Driver Level (discontinued)	DR_SF4	170
	Related Factors- Vehicle Level (discontinued)	VEH_SC1	172
	Related Factors- Vehicle Level (discontinued)	VEH_SC2	172

The PERSON Data File 173

P5/NM5	Age	AGE	174
P5/NM5I	Imputed Age	AGE_IM	174
P6/NM6	Sex	SEX	174
P6/NM6I	Imputed Sex	SEX_IM	175
P7/NM7	Person Type	PER_TYP	175
P8/NM8	Injury Severity	INJ_SEV	176
P8/NM8I	Imputed Injury Severity	INJSEV_IM	176
P9	Seating Position	SEAT_POS	177
P9I	Imputed Seating Position	SEAT_IM	178
P10A	Restraint System Use	REST_USE	179
P10B	Indication of Restraint System Misuse	REST_MIS	180
P11A	Helmet Use	HELM_USE	181
P11B	Indication of Helmet Misuse	HELM_MIS	181
P12	Air Bag Deployed	AIR_BAG	182
P13	Ejection	EJECTION	183
P13I	Imputed Ejection	EJECT_IM	183
P16/NM16	Police-Reported Alcohol Involvement	DRINKING	184
P16/NM16I	Imputed Police-Reported Alcohol Involvement	PERALCH_IM	184
P18A/NM18A	Alcohol Test Status	ALC_STATUS	185
P18B/NM18B	Alcohol Test Type	ATST_TYP	185
P18C/NM18C	Alcohol Test Result	ALC_RES	186
P19/NM19	Police Reported Drug Involvement	DRUGS	187

P22/NM22	Transported to First Medical Facility By	HOSPITAL	188
NM4	Vehicle Number of Motor Vehicle Striking Non-Motorist	STR_VEH	189
NM10	Non-Motorist Location at Time of Crash	LOCATION	190
	Drug Test Status (discontinued)	DSTATUS	191
	Drug Test Type (discontinued)	DRUGTST1	191
	Drug Test Type (discontinued)	DRUGTST2	191
	Drug Test Type (discontinued)	DRUGTST3	191
	Drug Test Result (discontinued)	DRUGRES1	192
	Drug Test Result (discontinued)	DRUGRES2	192
	Drug Test Result (discontinued)	DRUGRES3	192
	Related Factors- Person Level (discontinued)	P_SF1	193
	Related Factors- Person Level (discontinued)	P_SF2	193
	Related Factors- Person Level (discontinued)	P_SF3	193

The PARKWORK Data File..... 195

C4A	Number of Motor Vehicles in Transport (MVIT)	PVE_FORMS	196
C8A	Month of Crash	PMONTH	197
C9A	Hour of Crash	PHOUR	198
C9B	Minute of Crash	PMINUTE	198
C19	First Harmful Event	PHARM_EV	199
C20	Manner of Collision of the First Harmful Event	PMAN_COLL	202
V4	Number of Occupants	PNUMOCCS	203
V5	Unit Type	PTYPE	204
V6	Hit and Run	PHIT_RUN	205
V9	Vehicle Identification Number (VIN)	PVIN	206
V10	Vehicle Model Year	PMODYEAR	207
V11	vPIC Make	PVPICMAKE	208
V12	vPIC Model	PVPICMODEL	209

V13	vPIC Body Class	PVPICBODYCLASS	210
V14	NCSA Make	PMAKE	213
V15	NCSA Model	PMODEL	218
V16	NCSA Body Type	PBODYTYP	219
V17	Final Stage Body Class	PICFINALBODY	223
V18	Power Unit Gross Vehicle Weight Rating (GVWR)	PGVWR_FROM	224
V18	Power Unit Gross Vehicle Weight Rating (GVWR)	PGVWR_TO	224
V19	Vehicle Trailing	PTRAILER	225
V20	Trailer Vehicle Identification Number	PTRLR1VIN	225
V20	Trailer Vehicle Identification Number	PTRLR2VIN	225
V20	Trailer Vehicle Identification Number	PTRLR3VIN	225
V21	Trailer Gross Vehicle Weight Rating (GVWR)	PTRLR1GVWR	226
V21	Trailer Gross Vehicle Weight Rating (GVWR)	PTRLR2GVWR	226
V21	Trailer Gross Vehicle Weight Rating (GVWR)	PTRLR3GVWR	226
V23	Motor Carrier Identification Number (MCID)	PMCARR_ID	227
V23A	MCID Issuing Authority	PMCARR_I1	228
V23B	MCID Identification Number	PMCARR_I2	230
V24	Vehicle Configuration	PV_CONFIG	231
V25	Cargo Body Type	PCARGTYP	232
V26A/HM1	Hazardous Materials Involvement	PHAZ_INV	233
V26B/HM2	Hazardous Materials Placard	PHAZPLAC	233
V26C/HM3	Hazardous Material Identification Number	PHAZ_ID	234
V26D/HM4	Hazardous Material Class Number	PHAZ_CNO	234
V26E/HM5	Release of Hazardous Material from the Cargo Compartment	PHAZ_REL	235
V27	Bus Use	PBUS_USE	236
V28	Special Use	PSP_USE	237
V29	Emergency Motor Vehicle Use	PEM_USE	238
V34A	Area of Impact – Initial Contact Point	PIMPACT1	239

V35	Extent of Damage	PVEH_SEV	240
V36	Vehicle Removal	PTOWED	241
V38	Most Harmful Event	PM_HARM	242
V39	Fire Occurrence	PFIRE	245
V100	NCSA Make Model Combined	PMAK_MOD	246
	Gross Vehicle Weight Rating (discontinued)	PGVWR	247
	Related Factors- Vehicle Level (discontinued)	PVEH_SC1	248
	Related Factors- Vehicle Level (discontinued)	PVEH_SC2	248

The PBTYPE Data File 249

P5/NM5	Age	PBAGE	250
P6/NM6	Sex	PBSEX	251
P7/NM7	Person Type	PBPTYPE	252
NM9-PB27	Marked Crosswalk Present	PBCWALK	253
NM9-PB28	Sidewalk Present	PBSWALK	254
NM9-PB29	School Zone	PBSZONE	255
NM9-PB30	Crash Type – Pedestrian	PEDCTYPE	256
NM9-PB30B	Crash Type – Bicycle	BIKECTYPE	258
NM9-PB31	Crash Location – Pedestrian	PEDLOC	261
NM9-PB31B	Crash Location – Bicycle	BIKELOC	262
NM9-PB32	Pedestrian Position	PEDPOS	263
NM9-PB32B	Bicyclist Position	BIKEPOS	264
NM9-PB33	Pedestrian Initial Direction of Travel	PEDDIR	265
NM9-PB33B	Bicyclist Initial Direction of Travel	BIKEDIR	266
NM9-PB34	Motorist Initial Direction of Travel	MOTDIR	267
NM9-PB35	Motorist Maneuver	MOTMAN	268
NM9-PB36	Intersection Leg	PEDLEG	269
NM9-PB37	Pedestrian Scenario	PEDSNR	270
NM9-PB38	Crash Group – Pedestrian	PEDCGP	272
NM9-PB38B	Crash Group – Bicycle	BIKECGP	273

The CEVENT Data File			**274**
C18A	Vehicle Number (This Vehicle)	VNUMBER1	275
C18B	Area of Impact (This Vehicle)	AOI1	276
V37	Sequence of Events	SOE	277
C18C	Vehicle Number (Other Vehicle)	VNUMBER2	280
C18D	Area of Impact (Other Vehicle)	AOI2	281
The VEVENT Data File			**282**
C18A	Vehicle Number (This Vehicle)	VNUMBER1	283
C18B	Area of Impact (This Vehicle)	AOI1	284
V37	Sequence of Events	SOE	285
C18C	Vehicle Number (Other Vehicle)	VNUMBER2	288
C18D	Area of Impact (Other Vehicle)	AOI2	289
The VSOE Data File			**290**
C18B	Area of Impact Associated with the Event	AOI	291
V37	Sequence of Events	SOE	292
The CRASHRF Data File			**295**
C32	Related Factors- Crash Level	CRASHRF	296
The WEATHER Data File			**298**
C26	Atmospheric Conditions	WEATHER	299
The VEHICLESF Data File			**300**
V41	Related Factors- Vehicle Level (Motor Vehicles in Transport)	VEHICLESF	301
The PVEHICLESF Data File			**302**
V41	Related Factors- Vehicle Level (Parked/Working Vehicles)	PVEHICLESF	303
The DRIVERRF Data File			**304**
D24	Related Factors- Driver Level	DRIVERRF	305
The DAMAGE Data File			**307**
V34B	Area of Impact – Damaged Areas	DAMAGE	308
The DISTRACT Data File			**309**
PC16	Driver Distracted By	DRDISTRACT	310

The DRIMPAIR Data File			**312**
D23	Condition (Impairment) at Time of Crash- Driver	DRIMPAIR	313
The FACTOR Data File			**314**
PC4	Contributing Circumstances, Motor Vehicle	VEHICLECC	315
The MANEUVER Data File			**316**
PC15	Driver Maneuvered to Avoid	MANEUVER	317
The VIOLATN Data File			**318**
D21	Violations Charged	VIOLATION	319
The VISION Data File			**322**
PC14	Driver's Vision Obscured By	VISION	323
The PERSONRF Data File			**324**
P26/NM26	Related Factors- Person Level	PERSONRF	325
The NMCRASH Data File			**327**
NM12	Non-Motorist Contributing Circumstances	NMCC	328
The NMDISTRACT Data File			**330**
NM13	Non-Motorist Distracted By	NMDISTRACT	331
The NMIMPAIR Data File			**332**
NM15	Condition (Impairment) at Time of Crash- Non-Motorist	NMIMPAIR	332
The NMPRIOR Data File			**333**
NM11	Non-Motorist Action/Circumstances	NMACTION	334
The SAFETYEQ Data File			**335**
NM14A	Non-Motorist Helmet Use	NMHELMET	336
NM14B	Non-Motorist Use of Protective Pads	NMPROPAD	337
NM14C	Non-Motorist Use of Other Protective Safety Equipment	NMOTHPRO	337
NM14D	Non-Motorist Use of Reflective Clothing/Carried Item	NMREFCLO	338
NM14E	Non-Motorist Use of Lighting	NMLIGHT	338

NM14F	Non-Motorist Use of Other Preventive Safety Equipment	NMOTHPRE	339
	Non-Motorist Safety Equipment Use (discontinued)	MSAFEQMT	340

The VPICDECODE Data File 341

The VPICTRAILERDECODE Data File 342

Data Element Definitions and Codes

This section represents the majority of the manual. It provides information on each data element, including definitions, SAS names, attribute codes and attribute labels. Over the years changes have been made to the data collected. Some data elements have been dropped, new ones added, and attribute codes of individual data elements have changed. Element changes and the years for which individual attributes are available are shown for each data element.

For a detailed description of each data element including coding instructions and attribute definitions, see the FARS/CRSS Coding and Validation Manual. The Coding Manual is published for each year of data collection and is available at:

NCSA Publications- Manuals and Documentation- CRSS.

Additionally, a SAS program (format[YY].sas) and SAS catalog (formats.sas7bcat) are provided with the data files each year for applying the labels and formats described in this section to the current year's attributes.

The data elements in this section are listed under the data file in which they are stored. Some data elements are provided in more than one data file to facilitate analyses. For example, Month of Crash (MONTH) is a crash-level data element but for convenience it is also provided in the Vehicle, Parkwork and Person files. For such elements, they are listed under the primary data file only.

All data elements are numeric except the following that are character.

- V13 Vehicle Identification Number (VIN, PVIN) *[12 characters]*
- V16 & V16B Motor Carrier ID (MCARR_ID) *[11]*, (MCARR_I2) *[9 characters]*
- D6 Driver's ZIP Code (DR_ZIP) *[5 characters]*
- NM9-PB37 Pedestrian Scenario (PEDSNR) *[10 characters]*

Key Data Elements

All of the data files contain the following nine crash-level data elements:

Case Number

Definition: This data element is the unique case number assigned to each crash. It appears on each data file and is used to merge information from the data files together.

Additional Information: This data element is assigned by the data entry system to each crash and is the unique identifier for the crash within the year. It is used as the key, when any two of these files from the same year are merged.

SAS Name: CASENUM

Attribute Codes

2016-Later

xx Case Number

Primary Sampling Unit (PSU)

Definition: This data element identifies the general geographic location from where the police report was sampled. A PSU is either a large central city, a county surrounding a city, or a group of counties.

Additional Information: See the section CRSS Sample Design for more information.

SAS Name: PSU

Attribute Codes

2016-Later

10-83 CRSS Primary Sampling Unit Number

Primary Sampling Unit for Variance Estimation

Definition: This data element provides the PSU identifier to be used for variance estimation.

Additional Information: See Appendix B: Rules for Derived Data Elements for an explanation of this data element and how it is derived.

SAS Name: **PSU_VAR**

Attribute Codes

2016-Later

10 to 206

Primary Sampling Unit Stratum

Definition: The PSUs are grouped into strata to reflect the first stage of the sample selection. This data element is used by statistical software packages that use complex sample design for calculating variances, such as SUDAAN and SAS V9.

Additional Information:

SAS Name: PSUSTRAT

Attribute Codes

2016-Later

1 to 25

Region of the Country

Definition: This data element identifies the region of the country where the crash occurred.

Additional Information: This data element is derived based on the State in which the Primary Sampling Unit is located where the crash occurred.

See Appendix B: Rules for Derived Data Elements for an explanation of this data element and how it is derived.

SAS Name: REGION

Attribute Codes

2016-Later

1 Northeast (PA, NJ, NY, NH, VT, RI, MA, ME, CT)

2 Midwest (OH, IN, IL, MI, WI, MN, ND, SD, NE, IA, MO, KS)

3 South (MD, DE, DC, WV, VA, KY, TN, NC, SC, GA, FL, AL, MS, LA, AR, OK, TX)

4 West (MT, ID, WA, OR, CA, NV, NM, AZ, UT, CO, WY, AK, HI)

Urbanicity

Definition: This data element describes whether the geographical area of the crash is essentially urban or rural. The area is considered urban if it has a population of 250,000 or greater, otherwise it is rural. Census population data is used to define urbanicity.

Additional Information: See Appendix B: Rules for Derived Data Elements for an explanation of this data element and how it is derived.

SAS Name: URBANICITY

Attribute Codes

2016-Later

1 Urban

2 Rural

C34 Stratum

Definition: This data element identifies the number of the category in which the police report was originally listed in the PARSE Program.

Additional Information: See CRSS Sample Design for more information.

SAS Name: STRATUM

Attribute Codes

2016-Later

2 CRSS crashes involving at least one injured (A, B, C, or ISU) or Killed (K) person who was not in a motor vehicle (i.e., non-motorist).
[Not a MV Occupant- Any Injury]

3 CRSS crashes not qualifying for Stratum 2 involving at least one injured (A, B, C, or ISU) or Killed (K) occupant of a motorcycle or moped.
[Motorcycle- Any Injury]

4 CRSS crashes not qualifying for Strata 2 or 3 involving at least one occupant of a late model year (LMY) passenger vehicle who was injured with a Suspected Serious Injury (A) or Killed (K).
[Late Model Year Passenger Vehicle- Serious Injury]

5 CRSS crashes not qualifying for Strata 2, 3, or 4 involving at least one occupant of a non-late model year (NLMY) passenger vehicle who was injured with a Suspected Serious Injury (A) or Killed (K).
[Non-Late Model Year Passenger Vehicle- Serious Injury]

6 CRSS crashes not qualifying for Strata 2, 3, 4, or 5 involving at least one occupant of a late model year (LMY) passenger vehicle who was injured (B, C, or ISU).
[Late Model Year Passenger Vehicle- Minor Injury]

7 CRSS crashes not qualifying for Strata 2, 3, 4, 5, or 6 involving at least one medium or heavy truck or bus (includes school bus, transit bus, and motor coach) with GVWR equal to or greater than 10,001 pounds.
[Medium/Heavy Truck or Bus]

8 CRSS crashes not qualifying for Strata 2, 3, 4, 5, 6, or 7 involving at least one occupant of a non-late model year (NLMY) passenger vehicle who was injured (B, C, or ISU).
[Non-Late Model Year Passenger Vehicle- Minor Injury]

9 CRSS crashes not qualifying for Strata 2, 3, 4, 5, 6, 7, or 8 involving at least one late model year (LMY) passenger vehicle AND no one in the crash was injured (A, B, C, or ISU) or Killed (K).
[Late Model Year Passenger Vehicle- No Injuries in Crash]

10 CRSS crashes not qualifying for Strata 2, 3, 4, 5, 6, 7, 8, or 9.
[Other]

C35 Police Jurisdiction (PJ)

Definition: This data element identifies the number of the police jurisdiction from which the police crash report was originally sampled.

Additional Information:

SAS Name: PJ

Attribute Codes

2016-Later

46-4060 CRSS Police Jurisdiction Number

Case Weight

Definition: This data element is used to produce national estimates from the data.

Additional Information: See the section National Estimates for more information.

SAS Name: **WEIGHT**

All of the vehicle level data files contain the preceding accident level data elements as well as VEH_NO:

V3/D3/PC3/P3/NM4 Vehicle Number

Definition: This data element is the consecutive number assigned to each vehicle in the case. This data element appears on each vehicle level data file and is used in conjunction with the CASENUM data element to merge information from vehicle level data files.

Additional Information: All vehicles (motor vehicles in transport as well as parked/working vehicles) are sequentially ordered starting with 1.

SAS Name: VEH_NO

Attribute Codes

2016-Later

0	Non-Motorist
1-999	Assigned Vehicle Number

All of the person level data files contain the preceding accident level and vehicle level data elements as well as PER_NO:

P4/NM3 Person Number

Definition: This data element is the consecutive number assigned to each person in the case (i.e., each occupant, pedestrian, or non-motorists involved in the crash). This data element appears on each person level data file and is used in conjunction with the CASENUM data element (and sometimes the VEH_NO data element) to merge information from person level data files.

Additional Information: This data element is computer assigned. Each occupant of the vehicle is numbered and each non-occupant is numbered; in the case of a non-occupant the vehicle number is zero. The numbers for occupants are consecutive, for each vehicle, beginning with 1. Numbers are never skipped. Drivers do not have to be coded 1. Non-occupants are identified by vehicle number 0 and are numbered consecutively starting with 1 for each non-motorist. To get drivers see data element PER_TYP, under Person Type.

SAS Name: PER_NO

Attribute Codes

2016-Later

1-999 Assigned Person Number

The CEVENT and VEVENT data files contain the preceding crash level data elements as well as EVENTNUM:

C18 Event Number

Definition: This data element is the consecutive number assigned to each harmful and non-harmful event in a crash, in chronological order.

Additional Information: Qualifying events are those that involve a motor vehicle in transport or an object set in motion by a motor vehicle in transport.

SAS Name: EVENTNUM

Attribute Codes

2016-Later

1-999 Event Number

The VEVENT and VSOE data files contain the preceding crash level data elements and VEH_NO as well as VEVENTNUM:

C18 Vehicle Event Number

Definition: This data element is the consecutive number assigned to each harmful and non-harmful event for this vehicle, in chronological order.

Additional Information: The vehicle's event number shows the chronological sequence of the qualifying harmful and non-harmful events involving a particular vehicle. Qualifying events are those that involve a motor vehicle in transport or an object set in motion by a motor vehicle in transport.

SAS Name: VEVENTNUM

Attribute Codes

2016-Later

1-999 Vehicle Event Number

The ACCIDENT Data File

The Accident data file includes crash data. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, and WEIGHT, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The Accident data file also contains the data elements on the following pages.

CASENUM is the unique case identifier for each record.

C3 Number of Persons Not in Motor Vehicles

Definition: This data element is the number of Person Forms (Not a Motor Vehicle Occupant) that are applicable to this case (i.e., non-occupants).

Additional Information: This represents the number of forms created for people *not* in motor vehicles. Prior to 2020 it is the number of people in the crash where "Person Type" is in (4, 5, 6, 7, 8, 10, or 19). Starting in 2020 the attributes are in (4, 5, 6, 7, 10, 11, 12, 13, or 19).

Note: People where "Person Type" = 3 (Occupant of a Motor Vehicle Not in Transport) are *not* included in this data element but are counted in C3A below.

SAS Name: PEDS

Attribute Codes

2016-Later

0-99 Number of Persons Not in Motor Vehicles

C3A Number of Persons Not in Motor Vehicles in Transport (MVIT)

Definition: This data element is a count of the number of non-motorists in the crash. A non-motorist is defined as a pedestrian, a cyclist, an occupant of a motor vehicle not in transport, a person riding a horse, an occupant of an animal drawn conveyance, person associated with non-motorist conveyance (e.g., baby carriage, skate board, wheelchair), or an other non-motorist (e.g., person outside a trafficway, person in a house).

Additional Information: Prior to 2020 this data element is calculated as the count of all people in the crash where "Person Type" is in (3, 4, 5, 6, 7, 8, 10, or 19). Starting in 2020, the attributes are in (3, 4, 5, 6, 7, 10, 11, 12, 13, or 19).

SAS Name: PERNOTMVIT

Attribute Codes

2016-Later

0-98 Number of Persons Not in Motor Vehicles in Transport

C4 Number of Total Motor Vehicles

Definition: This data element is the number of contact motor vehicles that the officer reported on the police crash report as a unit involved in the crash.

Additional Information: This number represents all of the motor vehicles in the crash. This includes the vehicles in transport that are documented in the Vehicle data file and the vehicles not in transport that are documented in the Parkwork data file. This data element only appears in the Accident data file.

SAS Name: VE_TOTAL

Attribute Codes

2016-Later

1-999 Number of Vehicles in Crash

C4A Number of Motor Vehicles in Transport (MVIT)

Definition: This data element is a count of the number of motor vehicles in transport involved in the crash. Legally parked vehicles are not included.

Additional Information: This data element is derived as the count of all vehicles in the crash where "Unit Type" = 1. It is the number of records in the Vehicle data file.

This data element also appears in the Vehicle and Person data files, and in the Parkwork data file as PVE_FORMS.

SAS Name: VE_FORMS

Attribute Codes

2016-Later

1-999 Number of Vehicles

C4B Number of Parked/Working Vehicles

Definition: This data element is a count of the number of parked and working motor vehicles involved in the crash.

Additional Information: This data element is derived as the count of all vehicles in the crash where "Unit Type" is in (2, 3, or 4). It is the number of records in the Parkwork data file.

Working vehicles include only vehicles involved in trafficway maintenance, construction, or utility activities. Vehicles performing private maintenance, construction, or utility activities are excluded.

SAS Name: PVH_INVL

Attribute Codes

2016-Later

0-999 Number of Parked/Working Vehicles in the Crash

C5A Number of Persons in Motor Vehicles in Transport (MVIT)

Definition: This data element is a count of the number of motorists in the crash. A motorist is a driver, passenger or unknown occupant type of a motor vehicle in transport.

Additional Information: This data element is derived as the count of all people in the crash where "Person Type" is in (1, 2, or 9).

Note: People where "Person Type" = 3 (Occupant of a Motor Vehicle Not in Transport) are *not* included in this data element.

SAS Name: PERMVIT

Attribute Codes

2016-Later

0-999	Number of Persons in Motor Vehicles in Transport

C8 Crash Date

C8A Month of Crash

Definition: This data element records the month in which the crash occurred.

Additional Information: This data element also appears in the Vehicle and Person data files and in the Parkwork data file as PMONTH.

SAS Name: MONTH

Attribute Codes

2016-Later

1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
10	October
11	November
12	December

C8C Day of Week

Definition: This data element records the day of the week on which the crash occurred.

Additional Information: This data element is derived from the SAS Weekday function. The SAS Weekday function returns the day of the week from a date.

See Appendix C: Analytical Classification of Select CRSS Data Elements for the standard NCSA classifications for this data element.

SAS Name: DAY_WEEK

Attribute Codes

2016-Later

1 Sunday
2 Monday
3 Tuesday
4 Wednesday
5 Thursday
6 Friday
7 Saturday
9 Unknown

C8CI Imputed Day of Week

Definition: This imputed data element has the same definition and data element values as Day of Week, excluding value 9 for unknown day of week.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: WKDY_IM

C8D Year of Crash

Definition: This data element records the year in which the crash occurred.

Additional Information:

SAS Name: YEAR

Attribute Codes

2016-Later

xxxx Year of the Crash

C9 Crash Time

C9A Hour of Crash

Definition: This data element records the hour at which the crash occurred.

Additional Information: Military time is used. Noon is coded as "12." Midnight is coded as HOUR=0 and MINUTE=0. Hour is coded 0 for 1 minute after midnight to 59 minutes after midnight.

See Appendix C: Analytical Classification of Select CRSS Data Elements for the standard NCSA classifications for this data element.

This data element also appears in the Vehicle and Person data files and in the Parkwork data file as PHOUR.

SAS Name: HOUR

Attribute Codes

2016-Later

0-23	Hour
99	Unknown

C9AI Imputed Hour of Crash

Definition: This imputed data element has the same definition and data element values as Hour of the Crash, excluding value 99 for unknown hour.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: HOUR_IM

C9B Minute of Crash

Definition: This data element records the minutes after the hour at which the crash occurred.

Additional Information: This data element also appears in the Vehicle and Person data files and in the Parkwork data file as PMINUTE.

SAS Name: MINUTE

Attribute Codes

2016-Later

0-59	Minute
99	Unknown

C9BI Imputed Minute of Crash

Definition: This imputed data element has the same definition and data element values as Minute of the Crash, excluding value 99 for unknown minutes.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: **MINUTE_IM**

C19 First Harmful Event

Definition: This data element describes the first injury or damage producing event of the crash.

Additional Information: "First Harmful Event" applies to the crash. "Most Harmful Event" (M_HARM) applies to the vehicle. "First Harmful Event," "Most Harmful Event," and the "Sequence of Events" data elements have the same harmful event attributes. "Sequence of Events" also has non-harmful event attributes.

This data element is derived from the "Sequence of Events" data element as the first value that is not between codes 60 and 79 (non-harmful events). See Appendix B: Rules for Derived Data Elements for an explanation of this data element and how it is derived.

This data element also appears in the Vehicle and Person data files and in the Parkwork data file as PHARM_EV.

SAS Name: HARM_EV

Attribute Codes

2016	*2017*	*2018-Later*	
NON-COLLISION HARMFUL EVENTS			
1	1	1	Rollover/Overturn
2	2	2	Fire/Explosion
3	3	3	Immersion or Partial Immersion
4	4	4	Gas Inhalation
5	5	5	Fell/Jumped From Vehicle
6	6	6	Injured in Vehicle (Non-Collision)
7	7	7	Other Noncollision
16	16	16	Thrown or Falling Object
44	44	44	Pavement Surface Irregularity (Ruts, Potholes, Grates, etc.)
51	51	51	Jackknife (Harmful to This Vehicle)
72	72	--	Cargo/Equipment Loss or Shift (Harmful to This Vehicle)
--	--	72	Cargo/Equipment Loss, Shift, or Damage (Harmful)
COLLISION WITH MOTOR VEHICLE IN TRANSPORT			
12	12	12	Motor Vehicle in Transport
54	54	54	Motor Vehicle in Transport Strikes or Is Struck by Cargo, Persons or Objects Set-in-Motion From/by Another Motor Vehicle in Transport
55	55	55	Motor Vehicle in Motion Outside the Trafficway

COLLISION WITH OBJECT NOT FIXED			
8	8	8	Pedestrian
9	9	9	Pedalcyclist
10	10	10	Railway Vehicle
11	11	11	Live Animal
14	14	14	Parked Motor Vehicle
15	15	15	Non-Motorist on Personal Conveyance
18	18	18	Other Object Not Fixed
45	45	45	Working Motor Vehicle
49	49	49	Ridden Animal or Animal Drawn Conveyance
73	73	73	Object That Had Fallen From Motor Vehicle in Transport
74	74	74	Road Vehicle on Rails
--	91	91	Unknown Object Not Fixed
COLLISION WITH FIXED OBJECT			
17	17	17	Boulder
19	19	19	Building
20	20	20	Impact Attenuator/Crash Cushion
21	21	21	Bridge Pier or Support
23	23	23	Bridge Rail (Includes Parapet)
24	24	24	Guardrail Face
25	25	25	Concrete Traffic Barrier
26	26	26	Other Traffic Barrier
30	30	30	Utility Pole/Light Support
31	31	31	Post, Pole or Other Support
32	32	32	Culvert
33	33	33	Curb
34	34	34	Ditch
35	35	35	Embankment
38	38	38	Fence
39	39	39	Wall
40	40	40	Fire Hydrant
41	41	41	Shrubbery
42	42	42	Tree (Standing Only)

43	43	43	Other Fixed Object
46	46	46	Traffic Signal Support
48	48	48	Snow Bank
50	50	50	Bridge Overhead Structure
52	52	52	Guardrail End
53	53	53	Mail Box
57	57	57	Cable Barrier
58	58	58	Ground
59	59	59	Traffic Sign Support
--	93	93	Unknown Fixed Object
--	--	98	Harmful Event, Details Not Reported (Since 2019)
99	99	--	Unknown
--	--	99	Reported as Unknown

C19I Imputed First Harmful Event

Definition: This imputed data element has the same definition as First Harmful Event, excluding values 98 and 99 for not reported and unknown first harmful events.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: **EVENT1_IM**

C20 Manner of Collision of the First Harmful Event

Definition: This data element describes the orientation of two motor vehicles in transport when they are involved in the "First Harmful Event" of a collision crash. If the "First Harmful Event" is not a collision between two motor vehicles in transport, it is classified as such.

Additional Information: Prior to 2019 this data element's name was "Manner of Collision."

This data element also appears in the Vehicle and Person data files and in the Parkwork data file as PMAN_COLL.

SAS Name: MAN_COLL

Attribute Codes

2016-2017	*2018*	*2019-Later*	
0	0	--	Not Collision With Motor Vehicle in Transport
--	--	0	First Harmful Event Was Not a Collision With Motor Vehicle in Transport
1	1	1	Front-to-Rear
2	2	2	Front-to-Front
6	6	6	Angle
7	7	7	Sideswipe – Same Direction
8	8	8	Sideswipe – Opposite Direction
9	9	9	Rear-to-Side
10	10	10	Rear-to-Rear
11	11	11	Other
98	98	98	Not Reported
99	--	--	Unknown
--	99	99	Reported as Unknown

C20I Imputed Manner of Collision of the First Harmful Event

Definition: This imputed data element has the same definition and data element values as "Manner of Collision of the First Harmful Event," excluding value 99 for unknown manner of collision and value 98 for not reported manner of collision.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: MANCOL_IM

C21 Relation to Junction

C21A Relation to Junction- Within Interchange Area

Definition: This data element identifies the crash's location with respect to presence in an interchange area. The coding of this data element is done in two sub-fields (see also C21B) and is based on the location of the "First Harmful Event" of the crash.

Additional Information:

SAS Name: RELJCT1

Attribute Codes

2016-2017	*2018-Later*	
0	0	No
1	1	Yes
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

C21AI Imputed Relation to Junction- Within Interchange Area

Definition: This imputed data element has the same definition and data element values as Relation to Junction – Within Interchange Area excluding value 8 for not reported and 9 for unknown.

Additional Information: See the CRSS Imputation section of this manual.

This imputed data element was discontinued in 2019 and added back in 2020.

SAS Name: RELJCT1_IM

C21B Relation to Junction- Specific Location

Definition: This data element identifies the crash's location with respect to presence in or proximity to components typically in junction or interchange areas. The coding of this data element is done in two sub-fields (see also C21A) and is based on the location of the "First Harmful Event" of the crash.

Additional Information:

SAS Name: RELJCT2

Attribute Codes

2016-2017	*2018-Later*	
1	1	Non-Junction
2	2	Intersection
3	3	Intersection Related
4	4	Driveway Access
5	5	Entrance/Exit Ramp Related
6	6	Railway Grade Crossing
7	7	Crossover Related
8	8	Driveway Access Related
16	16	Shared-Use Path Crossing
17	17	Acceleration/Deceleration Lane
18	18	Through Roadway
19	19	Other Location Within Interchange Area
20	20	Entrance/Exit Ramp
98	98	Not Reported
99	--	Unknown
--	99	Reported as Unknown

See Analysis of Pedestrian and Bicycle Crashes Around Intersections for guidance on analyzing Pedestrian/Bicyclist crash locations.

C21BI Imputed Relation to Junction- Specific Location

Definition: This imputed data element has the same definition and data element values as Relation to Junction – Specific Location, excluding value 98 for not reported and 99 for unknown.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: RELJCT2_IM

C22 Type of Intersection

Definition: This data element identifies and allows separation of various intersection types.

Additional Information:

SAS Name: TYP_INT

Attribute Codes

2016-2017	*2018-2019*	*2020-Later*	
1	1	1	Not an Intersection
2	2	2	Four-Way Intersection
3	3	3	T-Intersection
4	4	4	Y-Intersection
5	5	5	Traffic Circle
6	6	6	Roundabout
7	7	7	Five-Point, or More
10	10	10	L-Intersection
--	--	11	Other Intersection Type
98	98	98	Not Reported
99	--	--	Unknown
--	99	99	Reported as Unknown

C23 Relation to Trafficway

Definition: This data element identifies the location of the crash as it relates to its position within or outside the trafficway based on the "First Harmful Event."

Additional Information:

SAS Name: REL_ROAD

Attribute Codes

2016-2017	*2018-Later*	
1	1	On Roadway
2	2	On Shoulder
3	3	On Median
4	4	On Roadside
5	5	Outside Trafficway
6	6	Off Roadway – Location Unknown
7	7	In Parking Lane/Zone
8	8	Gore
10	10	Separator
11	11	Continuous Left Turn Lane
98	98	Not Reported
99	--	Unknown
--	99	Reported as Unknown

C24 Work Zone

Definition: This data element identifies a motor vehicle traffic crash in which the first harmful event occurs within the boundaries of a work zone or on an approach to or exit from a work zone, resulting from an activity, behavior, or control related to the movement of the traffic units through the work zone.

Additional Information: This data element identifies a “Work Zone Accident” as defined in ANSI D16.1, 7th Edition. If the crash qualifies as a "Work Zone Accident" then the type of work activity is identified. Use of the codes does not imply that the crash was caused by the construction, maintenance, or work activity.

SAS Name: WRK_ZONE

Attribute Codes

2016-Later

0 None

1 Construction

2 Maintenance

3 Utility

4 Work Zone, Type Unknown

C25 Light Condition

Definition: This data element records the type/level of light that existed at the time of the crash as indicated in the police crash report.

Additional Information:

SAS Name: LGT_COND

Attribute Codes

2016-2017	*2018-Later*	
1	1	Daylight
2	2	Dark – Not Lighted
3	3	Dark – Lighted
4	4	Dawn
5	5	Dusk
6	6	Dark – Unknown Lighting
7	7	Other
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

C25I Imputed Light Condition

Definition: This imputed data element has the same definition and data element values as Light Condition, excluding value 9 for unknown light condition and value 8 for not reported light condition.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: LGTCON_IM

C26 Atmospheric Conditions

Definition: This derived data element records the prevailing atmospheric conditions that existed at the time of the crash as indicated in the police crash report.

Additional Information: Prior to 2020 this data element was derived from up to two conditions that could be selected, WEATHER1 and WEATHER2 based on a hierarchy. The two coded data elements were discontinued after 2019 and moved to the Discontinued Accident Data Elements at the end of the Accident Data File section.

Beginning in 2020 all applicable atmospheric conditions are selected and stored in the Weather data file and this data element is derived from those multiple responses using the same hierarchy.

See Appendix B: Rules for Derived Data Elements for an explanation of how this data element is derived.

SAS Name: WEATHER

Attribute Codes

2016-2017	*2018-Later*	
1	1	Clear
2	2	Rain
3	3	Sleet or Hail
4	4	Snow
5	5	Fog, Smog, Smoke
6	6	Severe Crosswinds
7	7	Blowing Sand, Soil, Dirt
8	8	Other
10	10	Cloudy
11	11	Blowing Snow
12	12	Freezing Rain or Drizzle
98	98	Not Reported
99	--	Unknown
--	99	Reported as Unknown

C26I Imputed Atmospheric Conditions

Definition: This imputed data element has the same definition and data element values as Atmospheric Conditions, excluding value 99 for unknown atmospheric conditions and value 98 for not reported atmospheric conditions.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: **WEATHR_IM**

C27 School Bus Related

Definition: This data element identifies if a school bus, or motor vehicle functioning as a school bus, is related to the crash.

Additional Information: The number of school bus related crashes may not equal the number of crashes with school buses involved. For example, if a vehicle goes around a stopped school bus and hits a pedestrian, the school bus usually will not be coded, but the crash is school bus related.

This data element also appears in the Person data file.

SAS Name: SCH_BUS

Attribute Codes

2016-Later

0 No

1 Yes

C33 Interstate Highway

Definition: This data element identifies whether the crash occurred on an interstate highway. Interstate highway is a Federal Highway Administration classification.

Additional Information:

SAS Name: INT_HWY

Attribute Codes

2016-Later

0 No

1 Yes

9 Unknown

C90 Maximum Injury Severity in Crash

Definition: This data element records the single most severe injury of all people involved in the crash, and is derived from "Injury Severity" in the Person data file.

Additional Information: The following order of severity is used.

- 4-Fatal
- 3-Suspected Serious Injury
- 2-Suspected Minor Injury
- 1-Possible Injury
- 5-Injured, Unknown Severity
- 0-No Apparent Injury
- 6-Died Prior
- 9- Unknown/Not Reported
- 8-No Person Involved in Crash

See Appendix B: Rules for Derived Data Elements for an expanded explanation of this data element and how it is derived.

SAS Name: MAX_SEV

Attribute Codes

2016-Later

0	No Apparent Injury
1	Possible Injury
2	Suspected Minor Injury
3	Suspected Serious Injury
4	Fatal
5	Injured, Severity Unknown
6	Died Prior to Crash
8	No Person Involved in Crash
9	Unknown/Not Reported

C90I Imputed Maximum Injury Severity in Crash

Definition: This imputed data element has the same definition and data element values as Maximum Injury Severity in Crash, excluding value 9 for unknown maximum injury severity.

Additional Information: See the CRSS Imputation section of this manual.

This data element is derived from "Imputed Injury Severity" in the Person data file.

SAS Name: MAXSEV_IM

C91 Number Injured in Crash

Definition: This data element records the number of people injured in the crash and is derived by counting all people with "Injury Severity" of (1, 2, 3, 4, or 5) in the crash. This count includes fatally injured occupants.

Additional Information: See Appendix B: Rules for Derived Data Elements for an expanded explanation of this data element and how it is derived.

SAS Name: NUM_INJ

Attribute Codes

2016-Later

0	No Person Injured/Property Damage Only Crash
x	Number of Known Injured
98	No Person Involved in the Crash
99	All Persons in Crash Are Unknown if Injured.

C91I Imputed Number Injured in Crash

Definition: This imputed data element has the same definition and data element values as Number Known Injured in Crash, excluding value 99 for unknown number injured, which is imputed, and the attribute code 98, which is converted to code 0.

Additional Information: See the CRSS Imputation section of this manual.

This data element is derived from "Imputed Injury Severity" in the Person data file.

SAS Name: NO_INJ_IM

C92 Alcohol Involved in Crash

Definition: This data element records alcohol use for drivers, pedestrians, cyclists and other types of non-motorists (except occupants of motor vehicles not in transport) involved in the crash. The data element is derived from "Police-Reported Alcohol Involvement" in the Person data file.

Additional Information: 8 (No Applicable Person) is coded if the crash involved only passengers of motor vehicles in transport, occupants of motor vehicles not in transport or unknown occupant types who are in a motor vehicle in transport where there is no driver present.

See Appendix B: Rules for Derived Data Elements for an expanded explanation of this data element and how it is derived.

SAS Name: ALCOHOL

Attribute Codes

2016-Later

1 Alcohol Involved

2 No Alcohol Involved

8 No Applicable Person

9 Unknown

C92I Imputed Alcohol Involved in Crash

Definition: This data element has the same definition and data element values as Alcohol Involved in Crash, excluding value 9 for unknown alcohol involvement, which is imputed, and the value 8, which is converted to attribute code 2.

Additional Information: See the CRSS Imputation section of this manual.

This imputed data element is derived from "Imputed Police-Reported Alcohol Involvement" in the Person data file.

SAS Name: ALCHL_IM

Discontinued ACCIDENT Data Elements

Definition: This data element records the prevailing atmospheric conditions that existed at the time of the crash as indicated in the police crash report.

Additional Information: This data element identifies up to two values. If more than two atmospheric conditions were reported, the two conditions that most affect visibility were selected. Accident.WEATHER1 and Accident.WEATHER2 were the coded data elements, and Accident.WEATHER was derived from these two.

The two coded data elements were discontinued after 2019. Beginning in 2020 all applicable atmospheric conditions are selected and stored in the Weather data file. Only the derived data element WEATHER is still stored in the Accident data file. It is now derived from the multiple responses in the Weather data file using the same hierarchy.

SAS Name: WEATHER1, WEATHER2

Attribute Codes

2016-2017	*2018-2019*	
0	0	No Additional Atmospheric Conditions
1	1	Clear
2	2	Rain
3	3	Sleet or Hail
4	4	Snow
5	5	Fog, Smog, Smoke
6	6	Severe Crosswinds
7	7	Blowing Sand, Soil, Dirt
8	8	Other
10	10	Cloudy
11	11	Blowing Snow
12	12	Freezing Rain or Drizzle
98	98	Not Reported
99	--	Unknown
--	99	Reported as Unknown

Definition: This data element records factors related to the crash expressed in the case materials.

Additional Information: There are also vehicle-level-related factors in the Vehicle data file, VEH_SC1 and VEH_SC2 and driver-related factors, also in the Vehicle data file, namely DR_SF1, DR_SF2, DR_SF3, and DR_SF4. In addition there are person-related factors P_SF1, P_SF2, and P_SF3 in the Person data file.

The CRSS coder may have used any of the three data elements to code a related factor. One must test all three data elements to insure that the selected related factor is included.

Beginning in 2020 this data element was no longer collected at the Accident level. It is now collected in the Crashrf data file as CRASHRF.

SAS Name: CF1, CF2, CF3

Attribute Codes

2016-2017	*2018*	*2019*	
0	0	0	None
3	3	3	Other Maintenance or Construction-Created Condition
5	5	5	Surface Under Water
7	7	7	Surface Washed out (Caved in, Road Slippage)
--	12	12	Distracted Driver of a Non-Contact Vehicle
13	13	13	Aggressive Driving/Road Rage by Non-Contact Vehicle Driver
14	14	14	Motor Vehicle Struck By Falling Cargo or Something That Came Loose From or Something That Was Set in Motion By a Vehicle
15	15	15	Non-Occupant Struck By Falling Cargo, or Something Came Loose From or Something That Was Set in Motion By a Vehicle
16	16	16	Non-Occupant Struck Vehicle
17	17	17	Vehicle Set in Motion By Non-Driver
19	19	19	Recent Previous Crash Scene Nearby
20	20	20	Police-Pursuit-Involved
21	21	21	Within Designated School Zone
23	23	23	Indication of a Stalled/Disabled Vehicle
24	24	24	Unstabilized Situation Began and All Harmful Events Occurred off the Roadway
25	25	25	Toll Booth/Plaza Related
26	26	--	Backup Due to Prior Non-Recurring Incident
--	--	26	Prior Non-Recurring Incident
27	27	27	Backup Due to Prior Crash

28	28	--	Backup Due to Regular Congestion
--	--	28	Regular Congestion
--	--	30	Obstructed Crosswalks
--	--	31	Related to a Bus Stop
99	--	--	Unknown
--	99	99	Reported as Unknown

The VEHICLE Data File

The Vehicle data file includes motor vehicle in transport data as well as driver and precrash data. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The Vehicle data file also contains the data elements on the following pages.

CASENUM and VEH_NO are the unique identifiers for each record. CASENUM should be used to merge the Vehicle data file with the Accident data file. CASENUM and VEH_NO should be used to merge the Vehicle data file with other vehicle-level data files and the Person data file.

V4 Number of Occupants

Definition: This data element is a count of the number of occupants in this vehicle.

Additional Information: This data element also appears in the Parkwork data file as PNUMOCCS.

SAS Name: NUMOCCS

Attribute Codes

2016-Later

0	None
1-98	Number of Occupants
99	Unknown

V5 Unit Type

Definition: This data element identifies the type of unit that applies to this motor vehicle at the time it became an involved vehicle in the crash and was reported as a unit on the police crash report.

Additional Information: This data element also appears in the Parkwork data file as PTYPE. The valid attributes for PTYPE are:

2 Motor Vehicle Not in Transport Within the Trafficway

3 Motor Vehicle Not in Transport Outside the Trafficway

4 Working Motor Vehicle (Highway Construction, Maintenance, Utility Only)

SAS Name: UNITTYPE

Attribute Codes

2016-Later

1 Motor Vehicle in Transport (Inside or Outside the Trafficway)

V6 Hit and Run

Definition: This data element identifies whether this vehicle was a contact vehicle in the crash that did not stop to render aid (this can include drivers who flee the scene on foot). Hit and run is coded when a motor vehicle in transport, or its driver, departs from the scene; motor vehicles not in transport are excluded. It does not matter whether the hit-and-run vehicle was striking or struck.

Additional Information: This data element also appears in the Parkwork data file as PHIT_RUN.

SAS Name: HIT_RUN

Attribute Codes

2016-2017	*2018-2019*	*2020-Later*	
0	0	0	No
1	1	1	Yes
9	--	--	Unknown
--	9	--	Reported as Unknown

V9 Vehicle Identification Number (VIN)

Definition: This data element records the vehicle identification number (VIN) of this vehicle assigned by the vehicle manufacturer. The VIN contains information on the vehicle such as: manufacturer, model year, model, body type, restraint type, etc.

Additional Information: The vehicle manufacturers use the VIN to describe certain characteristics of a vehicle and to assign a serial number to the vehicle.

Prior to 2018 if a character of the VIN is missing or undecipherable, the VIN length will be less than 12 characters. Starting in 2018 an asterisk (*) is used for missing or undecipherable VIN characters. Prior to 2020 the Data Element ID was V13.

This data element also appears in the Parkwork data file as PVIN.

SAS Name: VIN

Attribute Codes

2016-2017	*2018-Later*	
000000000000	000000000000	No VIN Required
xxxxxxxxxxxx	xxxxxxxxxxxx	First 12 Characters of the VIN
888888888888	888888888888	Not Reported
999999999999	--	Unknown
--	999999999999	Reported as Unknown
--	*	VIN Character Missing or Not Decipherable

V10 Vehicle Model Year

Definition: This data element identifies the manufacturer's model year of this vehicle.

Additional Information: Prior to 2020 the Data Element ID was V12.

This data element also appears in the Person data file and in the Parkwork data file as PMODYEAR.

SAS Name: MOD_YEAR

Attribute Codes

2016-Later

xxxx	Actual Model Year
9998	Not Reported
9999	Unknown

V10I Imputed Vehicle Model Year

Definition: This imputed data element has the same definition and data element values as Model Year, excluding value 9999 for unknown model year and value 9998 for not reported.

Additional Information: Prior to 2020 the Data Element ID was V12I.

See the CRSS Imputation section of this manual.

SAS Name: MDLYR_IM

V11 vPIC Make

Definition: This element identifies the Make (manufacturer brand name) of this vehicle as per NHTSA vPIC submissions.

Additional Information: For more information on NHTSA's Product Information Catalog and Vehicle Listing (vPIC), go to https://vpic.nhtsa.dot.gov/.

A complete listing of vPIC Makes can be downloaded using the following URL: https://vpic.nhtsa.dot.gov/api/vehicles/getallmakes?format=csv.

The vPIC Make Name (make_name) and vPIC Make ID (make_id) in the listing can be used to download the vPIC Models for a particular vPIC Make. (See vPIC Model for more details.)

This data element also appears in the Person data file and in the Parkwork data file as PVPICMAKE.

SAS Name: VPICMAKE

Attribute Codes

2020-Later	
xxxxx	Actual 5-Digit Make
99997	Other
99998	Not Reported
99999	Unknown

V12 vPIC Model

Definition: This element identifies the Model of this vehicle using NHTSA's VIN decoder application, vPIC.

Additional Information: For more information on NHTSA's Product Information Catalog and Vehicle Listing (vPIC), go to https://vpic.nhtsa.dot.gov/.

A complete listing of vPIC Models for a particular vPIC Make can be downloaded using the following URLs as a guide. The first uses vPIC Make ID (make_id) as a search parameter and the second uses vPIC Make Name (make_name). (See vPIC Make for obtaining vPIC Make Names and IDs.)

- Replace * in the URL with vPIC Make ID:
  https://vpic.nhtsa.dot.gov/api/vehicles/GetModelsForMakeId/*?format=csv
- **Replace * in the URL with vPIC Make Name:**
  https://vpic.nhtsa.dot.gov/api/vehicles/getmodelsformake/*?format=csv

Example 1: Use the following URLs to download all the Models for ***Buick***:

Use ***Buick*** Make ID **468** as parameter:
https://vpic.nhtsa.dot.gov/api/vehicles/GetModelsForMakeId/**468**?format=csv

Use the Make Name "**Buick**" as parameter:
https://vpic.nhtsa.dot.gov/api/vehicles/getmodelsformake/**Buick**?format=csv

Example 2: Use the following URLs to download all the Models for ***Toyota***

Use ***Toyota*** Make ID **448** as parameter:
https://vpic.nhtsa.dot.gov/api/vehicles/GetModelsForMakeId/**448**?format=csv

Use the Make Name "**Toyota**" as parameter:
https://vpic.nhtsa.dot.gov/api/vehicles/getmodelsformake/**Toyota**?format=csv

This data element also appears in the Person data file and in the Parkwork data file as PVPICMODEL.

SAS Name: VPICMODEL

Attribute Codes

2020-Later	
xxxxx	Actual 5-Digit Model
99997	Other
99998	Not Reported
99999	Unknown

V13 vPIC Body Class

Definition: This element identifies a classification of this vehicle based on its general body configuration, size, shape, doors, etc. as defined by the manufacturer.

Additional Information: For more information on NHTSA's Product Information Catalog and Vehicle Listing (vPIC), go to https://vpic.nhtsa.dot.gov/.

See Appendix C: Analytical Classification of Select CRSS Data Elements for standard classifications for this data element.

Attributes with an asterisk (*) have the finished body class for an incomplete vehicle captured under Final Stage Body Class.

This data element also appears in the Person data file and in the Parkwork data file as PVPICBODYCLASS.

SAS Name: VPICBODYCLASS

Attribute Codes

2020-Later	
1	Convertible/Cabriolet
2	Minivan
3	Coupe
4	Low Speed Vehicle (LSV)/Neighborhood Electric Vehicle (NEV)
5	Hatchback/Liftback/Notchback
6	Motorcycle - Standard
7	Sport Utility Vehicle (SUV)/Multi-Purpose Vehicle (MPV)
8	Crossover Utility Vehicle (CUV)
9	Van
10	Roadster
11	Truck
12	Motorcycle - Scooter
13	Sedan/Saloon
15	Wagon
16	Bus
60	Pickup
62	Incomplete - Cutaway*
63	Incomplete - Chassis Cab (Single Cab)*
64	Incomplete - Glider*
65	Incomplete*

66 Truck-Tractor
67 Incomplete - Stripped Chassis*
68 Streetcar/Trolley
69 Off-Road Vehicle - All Terrain Vehicle (ATV) (Motorcycle-Style)
70 Incomplete - Chassis Cab (Double Cab)*
71 Incomplete - School Bus Chassis*
72 Incomplete - Commercial Bus Chassis*
73 Bus - School Bus
74 Incomplete - Chassis Cab (Number of Cab Unknown)*
75 Incomplete - Transit Bus Chassis*
76 Incomplete - Motor Coach Chassis*
77 Incomplete - Shuttle Bus Chassis*
78 Incomplete - Motor Home Chassis*
80 Motorcycle - Sport
81 Motorcycle - Touring/Sport Touring
82 Motorcycle - Cruiser
83 Motorcycle - Trike
84 Off-Road Vehicle - Dirt Bike/Off-Road
85 Motorcycle - Dual Sport/Adventure/Supermoto/On/Off-Road
86 Off-Road Vehicle - Enduro (off-road long-distance racing)
87 Motorcycle - Small/Minibike
88 Off-Road Vehicle - Go Kart
90 Motorcycle - Side Car
94 Motorcycle - Custom
95 Cargo Van
97 Off-Road Vehicle - Snowmobile
98 Motorcycle - Street
100 Motorcycle - Enclosed Three Wheeled/Enclosed Autocycle
103 Motorcycle - Unenclosed Three Wheeled/Open Autocycle
104 Motorcycle - Moped
105 Off-Road Vehicle - Recreational Off-Road Vehicle (ROV)
107 Incomplete - Bus Chassis*
108 Motorhome

109 Motorcycle - Cross Country
110 Motorcycle - Underbone
111 Step Van/Walk-in Van
112 Incomplete - Commercial Chassis*
113 Off-Road Vehicle - Motocross (Off-Road Short-Distance, Closed-Track Racing)
114 Motorcycle - Competition
117 Limousine
119 Sport Utility Truck (SUT)
124 Off-Road Vehicle - Golf Cart
125 Motorcycle - Unknown Body Type
126 Off-Road Vehicle - Farm Equipment
127 Off-Road Vehicle - Construction Equipment
996 Motorized Bicycle
997 Other
998 Not Reported
999 Unknown

V14 NCSA Make

Definition: This data element identifies the make (manufacturer) of this vehicle by NCSA historically.

Additional Information: Prior to 2020 this data element's name was "Vehicle Make" and the Data Element ID was V9.

This data element also appears in the Person data file and in the Parkwork data file as PMAKE.

SAS Name: MAKE

Attribute Codes

2016-Later

1 American Motors
2 Jeep/Kaiser-Jeep/Willys-Jeep
3 AM General
6 Chrysler
7 Dodge
8 Imperial
9 Plymouth
10 Eagle
12 Ford
13 Lincoln
14 Mercury
18 Buick/Opel
19 Cadillac
20 Chevrolet
21 Oldsmobile
22 Pontiac
23 GMC
24 Saturn
25 Grumman
26 Coda
29 Other Domestic Manufacturers
Avanti
Checker
DeSoto

Excalibur
Hudson
Packard
Panoz
Saleen
Studebaker
Stutz
Tesla

30 Volkswagen
31 Alfa Romeo
32 Audi
33 Austin/Austin Healey
34 BMW
35 Datsun/Nissan
36 Fiat
37 Honda
38 Isuzu
39 Jaguar
40 Lancia
41 Mazda
42 Mercedes-Benz
43 MG
44 Peugeot
45 Porsche
46 Renault
47 Saab
48 Subaru
49 Toyota
50 Triumph
51 Volvo
52 Mitsubishi
53 Suzuki
54 Acura

55 Hyundai
56 Merkur
57 Yugo
58 Infiniti
59 Lexus
60 Diahatsu
61 Sterling
62 Land Rover
63 Kia
64 Daewoo
65 Smart
67 Scion
69 Other Import
Aston Martin
Bentley
Bertone
Bricklin
Bugatti
Caterham
Citroen
DeLorean
Desta
Ferrari
Fisker
Gazelle
Hillman
Jensen
69 Other Import *(continued)*
Koenigsegg
Lada
Lamborghini
Lotus
Mahindra

Maserati
Maybach
McLaren
Mini Cooper
Morgan
Morris
Reliant (British)
Rolls-Royce
Simca
Singer
Spyker
Sunbeam
TVR

70 BSA
71 Ducati
72 Harley-Davidson
73 Kawasaki
74 Moto-Guzzi
75 Norton
76 Yamaha
78 Other Make Moped
79 Other Make Motored Cycle
80 Brockway
81 Diamond Reo/Reo
82 Freightliner/White
83 FWD
84 International Harvester/Navistar
85 Kenworth
86 Mack
87 Peterbilt
88 Iveco/Magirus
89 White/Autocar, White/GMC
90 Bluebird

91 Eagle Coach

92 Gillig

93 MCI

94 Thomas Built

97 Not Reported

98 Other Make

- Auto-Union-DKW
- Carpenter
- Collins Bus
- DINA
- Divco
- Hino
- Meyers Motors
- Mid Bus
- Neoplan
- Orion
- Oshkosh
- Scania
- Sterling
- Think
- UD
- Van Hool
- Western Star

99 Unknown Make

V15 NCSA Model

Definition: This data element identifies the NCSA model of this vehicle within a given NCSA make.

Additional Information: Prior to 2020 this data element's name was "Vehicle Model" and the Data Element ID was V10.

This data element also appears in the Person data file and in the Parkwork data file as PMODEL.

SAS Name: MODEL

Attribute Codes

2016-Later

See the current FARS/CRSS Coding and Validation Manual for vehicle model codes.

V16 NCSA Body Type

Definition: This data element identifies a classification of this vehicle based on its general body configuration, size, shape, doors, etc. as defined by NCSA.

Additional Information: Prior to 2020 this data element's name was "Body Type" and the Data Element ID was V11.

See Appendix C: Analytical Classification of Select CRSS Data Elements for the standard NCSA classifications for this data element.

This data element also appears in the Person data file and in the Parkwork data file as PBODYTYP.

SAS Name: BODY_TYP

Attribute Codes

2016	*2017-2019*	*2020-Later*	
AUTOMOBILES			
1	1	1	Convertible (Excludes Sun-Roof, T-Bar)
2	2	2	2-Door Sedan, Hardtop, Coupe
3	3	3	3-Door/2-Door Hatchback
4	4	4	4-Door Sedan, Hardtop
5	5	5	5-Door/4-Door Hatchback
6	6	6	Station Wagon (Excluding Van- and Truck-Based)
7	7	7	Hatchback, Number of Doors Unknown
8	8	8	Sedan/Hardtop, Number of Doors Unknown
9	9	9	Other or Unknown Automobile Type
17	17	17	3-Door Coupe
AUTOMOBILE DERIVATIVES			
10	10	10	Auto Based Pickup (Includes El Camino, Caballero, Ranchero, SSR, G8-ST, Baha, Brat, and Rabbit Pickup)
11	11	11	Auto Based Panel (Cargo Station Wagon, Auto-Based Ambulance/Hearse)
12	12	12	Large Limousine (More Than Four Side Doors or Stretched Chassis)
13	13	13	Three Wheel Automobile or Automobile Derivative
UTILITY VEHICLES			
14	14	14	Compact Utility (ANSI D-16 Utility Vehicle Categories "Small" and "Midsize")
15	15	15	Large Utility (ANSI D-16 Utility Vehicle Categories "Full Size" and "Large")
16	16	16	Utility Station Wagon

19	19	19	Utility Vehicle, Unknown Body Type
VAN-BASED LIGHT TRUCKS (GVWR ≤ 10,000 LBS)			
20	20	20	Minivan
21	21	21	Large Van – Includes Van-Based Buses
22	22	22	Step Van or Walk-in Van (GVWR Less Than or Equal to 10,000 lbs)
28	28	28	Other Van Type
29	29	29	Unknown Van Type
LIGHT CONVENTIONAL TRUCKS (PICKUP STYLE CAB, GVWR ≤10,000 LBS)			
30	--	--	Compact Pickup (S-10, LUV, Ram 50, Rampage, Courier, Ranger, S-5, Pup, Mazda Pickup, Mitsubishi Truck, Datsun/Nissan Pickup, Arrow Pickup, Scamp, Toyota Pickup, VW Pickup, D50, Colt P/U, T-10, S-15, T-15, Ram 100, Dakota, Sonoma)
31	--	--	Standard Pickup (C10-C35, Jeep P/U, Comanche, Ram P/U, K10-K35, D100-D350, W100-350, F100-F350, R100-500, R10-R35, V10-35, Silverado, Sierra, T100)
32	32	32	Pickup With Slide-in Camper (2016-2017 Only)
33	33	33	Convertible Pickup
--	34	34	Light Pickup
39	39	39	Unknown (Pickup Style) Light Conventional Truck
OTHER LIGHT TRUCKS (GVWR ≤10,000 LBS)			
40	40	40	Cab Chassis Based (Included Rescue Vehicle, Light Stake, Dump, and Tow Truck)
41	41	41	Truck-Based Panel
45	45	45	Other Light Conventional Truck Type
48	48	48	Unknown Light Truck Type
49	49	49	Unknown Light Vehicle Type (Automobile, Utility, Van, or Light Truck)
BUSES (EXCLUDES VAN BASED BUSES WITH A GVWR ≤ 10,000 LBS)			
50	50	50	School Bus (Designed to Carry Students, Not Cross Country or Transit)
51	51	51	Cross Country/Intercity Bus (i.e., Greyhound)
52	52	52	Transit Bus (City Bus)
55	55	55	Van-Based Bus (GVWR Greater Than 10,000 lbs)
58	58	58	Other Bus Type
59	59	59	Unknown Bus Type

MEDIUM/HEAVY TRUCKS (GVWR > 10,000 LBS)			
60	60	60	Step Van (GVWR Greater Than 10,000 lbs)
61	61	61	Single-Unit Straight Truck or Cab-Chassis (GVWR Range 10,001 to 19,500 lbs)
62	62	62	Single-Unit Straight Truck or Cab-Chassis (GVWR Range 19,501 to 26,000 lbs)
63	63	63	Single-Unit Straight Truck or Cab-Chassis (GVWR Greater Than 26,000 lbs)
64	64	64	Single Unit Straight Truck or Cab-Chassis (GVWR Unknown)
66	66	66	Truck-Tractor (Cab Only, or With Any Number of Trailing Units; Any Weight)
67	67	67	Medium/Heavy Pickup (GVWR > 10,000 lbs)
71	71	71	Unknown if Single-Unit or Combination-Unit Medium Truck (GVWR Range 10,001 to 26,000 lbs)
72	72	72	Unknown if Single-Unit or Combination-Unit Heavy Truck (GVWR Greater Than 26,000 lbs)
78	78	78	Unknown Medium/Heavy Truck Type
79	79	79	Unknown Truck Type (Light/Medium/Heavy)
MOTOR HOMES			
42	42	--	Light Truck-Based Motor Home (Chassis-Mounted)
--	--	42	Light Vehicle-Based Motor Home (Chassis-Mounted)
65	65		Medium/Heavy Truck-Based Motor Home
--	--	65	Medium/Heavy Vehicle-Based Motor Home
73	73	--	Camper or Motor Home, Unknown Truck Type
--	--	73	Camper or Motor Home, Unknown GVWR
MOTORED CYCLES, MOPEDS, ALL-TERRAIN VEHICLES, ALL-TERRAIN CYCLES			
80	--	--	Motorcycle
--	80	80	Two Wheel Motorcycle (Excluding Motor Scooters)
81	--	--	Moped (Motorized Bicycle)
--	81	81	Moped or Motorized Bicycle
82	--	--	Three Wheeled Motorcycle or Moped
--	82	82	Three-wheel Motorcycle (2 Rear Wheels)
83	--	--	Off-Road Motorcycle (2-Wheel)
--	83	83	Off-Road Motorcycle
--	84	84	Motor Scooter

--	85	85	Unenclosed Three Wheel Motorcycle/Unenclosed Autocycle (1 Rear Wheel)
--	86	86	Enclosed Three Wheel Motorcycle/Enclosed Autocycle (1 Rear Wheel)
--	87	87	Unknown Three Wheel Motorcycle Type
88	--	--	Other Motored Cycle Type (Minibike, Motor Scooter, Pocket Motorcycles, Pocket Bikes)
--	88	88	Other Motored Cycle Type (Minibikes, Pocket Motorcycles, "Pocket Bikes")
89	89	89	Unknown Motored Cycle Type
90	90	90	ATV (All-Terrain Vehicle)/ATC (All-Terrain Cycle)
OTHER VEHICLES			
91	91	91	Snowmobile
92	92	92	Farm Equipment Other Than Trucks
93	93	93	Construction Equipment Other Than Trucks (Includes Graders)
94	94	94	Low Speed Vehicle (LSV)/Neighborhood Electric Vehicle (NEV)
95	95	95	Golf Cart
--	96	96	Recreational Off-Highway Vehicle (ROV)
97	97	97	Other Vehicle Type (Includes Go-Cart, Fork-Lift, City Street Sweeper)
98	98	98	Not Reported
99	99	99	Unknown Body Type

V16I Imputed NCSA Body Type

Definition: The attributes for this imputed data element have changed over the years to mirror the values for "NCSA Body Type," excluding values 49, 79, and 99 for unknown light vehicle type, unknown truck type (light/medium/heavy), and unknown body type, respectively, and value 98 for not reported body type.

Additional Information: Prior to 2020 this data element's name was "Imputed Body Type" and the Data Element ID was V11I.

See the CRSS Imputation section of this manual.

SAS Name: BDYTYP_IM

V17 Final Stage Body Class

Definition: This element captures the completed/finished body class for an Incomplete Vehicle. An incomplete vehicle is completed by a final stage manufacturer. The intent of this data element is to capture the body class for incomplete vehicles when they are finished for road-use.

Additional Information: This data element is only applicable to incomplete vehicles under vPIC Body Class, and the attributes are a subset of the vPIC Body Class attributes. Information captured in this data element is based on the police crash report.

This data element also appears in the Person data file and in the Parkwork data file as PICFINALBODY.

SAS Name: ICFINALBODY

Attribute Codes

2020-Later	
0	Not Applicable
2	Minivan
4	Low Speed Vehicle (LSV)
7	Sport Utility Vehicle (SUV)/Multi-Purpose Vehicle (MPV)
8	Crossover Utility Vehicle (CUV)
9	Van
11	Truck
15	Wagon
16	Bus
60	Pickup
66	Truck-Tractor
68	Streetcar/Trolley
73	Bus-School Bus
95	Cargo Van
108	Motorhome
111	Step Van/Walk-in Van
117	Limousine
119	Sport Utility Truck
997	Other
998	Not Reported
999	Unknown

V18 Power Unit Gross Vehicle Weight Rating (GVWR)

Definition: This element identifies the range of Gross Vehicle Weight Rating of the power unit as identified by the manufacturer through the vehicle's VIN submission. GVWR_FROM defines the lowest value and GVWR_TO defines the highest value for the range of the GVWR specified by the manufacturer as the recommended loaded weight for a vehicle.

Additional Information: These data elements also appear in the Parkwork data file as PGVWR_FROM and PGVWR_TO.

SAS Name: GVWR_FROM, GVWR_TO

Attribute Codes

2020-Later	
11	Class 1: 6,000 lbs or less (2,722 kg or less)
12	Class 2: 6,001 - 10,000 lbs (2,722 - 4,536 kg)
13	Class 3: 10,001 - 14,000 lbs (4,536 - 6,350 kg)
14	Class 4: 14,001 - 16,000 lbs (6,350 - 7,258 kg)
15	Class 5: 16,001 - 19,500 lbs (7,258 - 8,845 kg)
16	Class 6: 19,501 - 26,000 lbs (8,845 - 11,794 kg)
17	Class 7: 26,001 - 33,000 lbs (11,794 - 14,969 kg)
18	Class 8: 33,001 lbs and above (14,969 kg and above)
98	Not Reported
99	Reported as Unknown

V19 Vehicle Trailing

Definition: This data element identifies whether this vehicle had any attached trailing units or was towing another motor vehicle. A trailing unit can be a horse trailer, fifth wheel trailer, camper, boat, truck trailer, towed vehicle or any other trailer.

Additional Information: Prior to 2020 the Data Element ID was V14.

This data element also appears in the Person data file and in the Parkwork data file as PTRAILER.

SAS Name: TOW_VEH

Attribute Codes

2016-Later

0 No Trailing Units

1 Yes, One Trailing Unit

2 Yes, Two Trailing Units

3 Yes, Three or More Trailing Units

4 Yes, Number of Trailing Units Unknown

5 Vehicle Towing Another Motor Vehicle – Fixed Linkage

6 Vehicle Towing Another Motor Vehicle – Non-fixed Linkage

9 Unknown

V20 Trailer Vehicle Identification Number

Definition: This data element records the vehicle identification number (VIN) of any trailing units of a combination vehicle.

Additional Information: Prior to 2018 if a character of the VIN is missing or undecipherable, the VIN length will be less than 12 characters. Starting in 2018 an asterisk (*) is used for missing or undecipherable VIN characters. Prior to 2020 the Data Element ID was V15.

These data elements also appear in the Parkwork data file as PTRLR1VIN, PTRLR2VIN, and PTRLR3VIN.

SAS Name: TRLR1VIN, TRLR2VIN, TRLR3VIN

Attribute Codes

2016-2017	*2018-Later*	
000000000000	000000000000	No VIN Required
xxxxxxxxxxxx	xxxxxxxxxxxx	First 12 Characters of the VIN
777777777777	777777777777	No Trailing Units
888888888888	888888888888	Not Reported
999999999999	--	Unknown
--	999999999999	Reported as Unknown
--	*	VIN Character Missing or Not Decipherable

V21 Trailer Gross Vehicle Weight Rating (GVWR)

Definition: This element identifies the Gross Vehicle Weight Rating of any trailing units as identified by the manufacturer in the vehicle's VIN.

Additional Information: These data elements also appear in the Parkwork data file as PTRLR1GVWR, PTRLR2GVWR, and PTRLR3GVWR.

SAS Name: TRLR1GVWR, TRLR2GVWR, TRLR3GVWR

Attribute Codes

2020-Later	
0	No Trailer GVWR Required
11	Class 1: 6,000 lbs or less (2,722 kg or less)
12	Class 2: 6,001 - 10,000 lbs (2,722 - 4,536 kg)
13	Class 3: 10,001 - 14,000 lbs (4,536 - 6,350 kg)
14	Class 4: 14,001 - 16,000 lbs (6,350 - 7,258 kg)
15	Class 5: 16,001 - 19,500 lbs (7,258 - 8,845 kg)
16	Class 6: 19,501 - 26,000 lbs (8,845 - 11,794 kg)
17	Class 7: 26,001 - 33,000 lbs (11,794 - 14,969 kg)
18	Class 8: 33,001 lbs and above (14,969 kg and above)
77	No Trailing Units
98	Not Reported
99	Reported as Unknown

V22 Jackknife

Definition: This data element identifies whether this vehicle experienced a jackknife anytime during the unstabilized situation.

Additional Information: Jackknife applies to a condition that occurs to a "semi" truck (i.e., cab and one or more trailers) while in motion. The condition reflects a loss of control of the truck by the driver in which the trailer yaws more than 15 degrees from its normal straight line path behind the cab. If the final resting configuration of the vehicle is in the jackknife position, it does not necessarily mean that the vehicle has jackknifed (such as, a crash occurring while the vehicle is backing up or parking).

Prior to 2020 the Data Element ID was V16.

SAS Name: J_KNIFE

Attribute Codes

2016-Later

0 Not an Articulated Vehicle

1 No

2 Yes, First Event

3 Yes, Subsequent Event

V23 Motor Carrier Identification Number (MCID)

Definition: This data element records the issuing authority and motor carrier identification number (if applicable) to this vehicle.

Additional Information: This 11-character data element is the combination of two data elements, the 2-digit "Motor Carrier Issuing Authority" code (MCARR_I1) followed by the 9-character "Identification Number" (MCARR_I2).

The Carrier Identification Number is found only on vehicles of interstate for-hire or private carriers in the transportation business. It is the unique number assigned to the Carrier by the United States Department of Commerce Commission, or the State. The number can be either a U.S. DOT number (on interstate private carriers) or an ICC MC number (interstate for-hire carriers). Collected only for buses and trucks over 4,500 kg GVWR (Body type = 60, 64, 66-79), this data element is applicable to the following vehicles:

- Medium/Heavy Trucks: vehicles with two axles/six tires and/or gross weight greater than 10,000 pounds.
- Buses with 16 or more seats (including the driver)
- Trucks and Vans of any size carrying hazardous cargo.
- Light commercial trucks pulling a trailer with gross combination weight rating (GCWR) greater than 10,000 pounds.

Prior to 2020 the Data Element ID was V17.

This data element also appears in the Parkwork data file as PMCARR_ID.

SAS Name: MCARR_ID

Attribute Codes

2016-Later

00000000000	Not Applicable
xxxxxxxxxxx	11-Character (Combination of MCARR_I1 followed by MCARR_I2)
77777777777	Not Reported
88888888888	None
99999999999	Unknown (Reported as Unknown, 2018-2019)

V23A MCID Issuing Authority

Definition: This data element records the issuing authority if applicable to this vehicle.

Additional Information: This data element is only applicable for the following vehicles:

- Medium/Heavy Trucks: vehicles with two axles/six tires and/or gross weight greater than 10,000 pounds.
- Buses with 16 or more seats (including the driver)
- Trucks and Vans of any size carrying hazardous cargo.
- Light commercial trucks pulling a trailer with gross combination weight rating (GCWR) greater than 10,000 pounds.

Prior to 2020 the Data Element ID was V17A.

This data element also appears in the Parkwork data file as PMCARR_I1.

SAS Name: MCARR_I1

Attribute Codes

2016-Later

0	Not Applicable
1-56	State Code [See next page]
57	U.S. DOT
58	MC/MX (ICC)
77	Not Reported
88	None
95	Canada
96	Mexico
99	Unknown
	(Reported as Unknown, 2018-2019)

Attribute Codes

2016-Later

1	Alabama
2	Alaska
3	American Samoa
4	Arizona
5	Arkansas
6	California
8	Colorado
9	Connecticut
10	Delaware
11	District of Columbia
12	Florida
13	Georgia
14	Guam
15	Hawaii
16	Idaho
17	Illinois
18	Indiana
19	Iowa
20	Kansas
21	Kentucky
22	Louisiana
23	Maine
24	Maryland
25	Massachusetts
26	Michigan
27	Minnesota
28	Mississippi
29	Missouri
30	Montana
31	Nebraska
32	Nevada
33	New Hampshire
34	New Jersey
35	New Mexico
36	New York
37	North Carolina
38	North Dakota
39	Ohio
40	Oklahoma
41	Oregon
42	Pennsylvania
43	Puerto Rico
44	Rhode Island
45	South Carolina
46	South Dakota
47	Tennessee
48	Texas
49	Utah
50	Vermont
51	Virginia
52	Virgin Islands
53	Washington
54	West Virginia
55	Wisconsin
56	Wyoming

V23B MCID Identification Number

Definition: This data element records the motor carrier identification number if applicable to this vehicle.

Additional Information: The Carrier Identification Number is found only on vehicles of interstate for-hire or private carriers in the transportation business. It is the unique number assigned to the Carrier by the United States Department of Commerce Commission, or the State. The number can be either a U.S. DOT number (on interstate private carriers) or an ICC MC number (interstate for-hire carriers). Collected only for buses and trucks over 4,500 kg GVWR (Body type = 60, 64, 66-79), this data element is applicable to the following vehicles:

- Medium/Heavy Trucks: vehicles with two axles/six tires and/or gross weight greater than 10,000 pounds.
- Buses with 16 or more seats (including the driver).
- Trucks and Vans of any size carrying hazardous cargo.
- Light commercial trucks pulling a trailer with gross combination weight rating (GCWR) greater than 10,000 pounds.

Prior to 2020 the Data Element ID was V17B.

This data element also appears in the Parkwork data file as PMCARR_I2.

SAS Name: MCARR_I2

Attribute Codes

2016-Later

000000000	Not Applicable
xxxxxxxxx	Actual 9-Digit Number
777777777	Not Reported
888888888	None
999999999	Unknown (Reported as Unknown, 2018-2019)

V24 Vehicle Configuration

Definition: This data element describes the general configuration of this vehicle if applicable.

Additional Information: Not Applicable is used for automobiles, motorcycles, passenger vans (with less than 9 seats, including driver) and single-unit light trucks or cargo vans (10,000 lbs or less GVWR), not carrying hazardous cargo.

Prior to 2020 the Data Element ID was V19.

This data element also appears in the Parkwork data file as PV_CONFIG.

SAS Name: V_CONFIG

Attribute Codes

2016-Later	
0	Not Applicable
1	Single-Unit Truck (2 Axles and GVWR More Than 10,000 lbs)
2	Single-Unit Truck (3 or More Axles)
4	Truck Pulling Trailer(s)
5	Truck Tractor (Bobtail)
6	Truck Tractor/Semi-Trailer
7	Truck Tractor/Double
8	Truck Tractor/Triple
10	Vehicle 10,000 lbs or Less Placarded for Hazardous Materials
19	Truck More than 10,000 lbs, Cannot Classify
20	Bus/Large Van (Seats for 9-15 Occupants, Including Driver)
21	Bus (Seats for More Than 15 Occupants, Including Driver)
99	Unknown (Reported as Unknown, 2018-2019)

V25 Cargo Body Type

Definition: This data element describes the primary cargo carrying capability of this vehicle if applicable.

Additional Information: Passenger vehicles and light trucks that display a hazardous cargo placard are coded "No Cargo Body," as are medium/heavy trucks with no cargo carrying capability. "Not Applicable" is coded only for passenger vehicles and light trucks and vans that do not display a hazardous cargo placard.

Prior to 2020 the Data Element ID was V20.

This data element also appears in the Parkwork data file as PCARGTYP.

SAS Name: CARGO_BT

Attribute Codes

2016-Later	
0	Not Applicable
1	Van/Enclosed Box
2	Cargo Tank
3	Flatbed
4	Dump
5	Concrete Mixer
6	Auto Transporter
7	Garbage/Refuse
8	Grain/Chips/Gravel
9	Pole-Trailer
10	Log
11	Intermodal Container Chassis
12	Vehicle Towing Another Vehicle
22	Bus
96	No Cargo Body
97	Other
98	Unknown Cargo Body Type
99	Unknown (Reported as Unknown, 2018-2019)

V26A/HM1 Hazardous Materials Involvement

Definition: This data element identifies whether this vehicle was carrying hazardous materials.

Additional Information: Prior to 2020 the Data Element ID was V21A/HM1.

This data element also appears in the Parkwork data file as PHAZ_INV.

SAS Name: HAZ_INV

Attribute Codes

2016-Later

1 No

2 Yes

V26B/HM2 Hazardous Materials Placard

Definition: This data element identifies the presence of hazardous materials for this vehicle and whether this vehicle displayed a hazardous materials placard.

Additional Information: Prior to 2020 the Data Element ID was V21B/HM2.

This data element also appears in the Parkwork data file as PHAZPLAC.

SAS Name: HAZ_PLAC

Attribute Codes

2016-Later

0 Not Applicable

1 No

2 Yes

8 Not Reported

V26C/HM3 Hazardous Material Identification Number

Definition: This data element identifies the 4-digit hazardous material identification number for this vehicle.

Additional Information: Prior to 2020 the Data Element ID was V21C/HM3.

This data element also appears in the Parkwork data file as PHAZ_ID.

SAS Name: HAZ_ID

Attribute Codes

2016-Later

0	Not Applicable
xxxx	Actual 4-Digit Number
8888	Not Reported

V26D/HM4 Hazardous Material Class Number

Definition: This data element identifies the single-digit hazardous material class number for this vehicle.

Additional Information: Prior to 2020 the Data Element ID was V21D/HM4.

This data element also appears in the Parkwork data file as PHAZ_CNO.

SAS Name: HAZ_CNO

Attribute Codes

2016-Later

0	Not Applicable
1	Explosives
2	Gases
3	Flammable/Combustible Liquid
4	Flammable Solid, Spontaneously Combustible, and Dangerous When Wet
5	Oxidizer and Organic Peroxide
6	Poison and Poison Inhalation Hazard
7	Radioactive
8	Corrosive
9	Miscellaneous
88	Not Reported

V26E/HM5 Release of Hazardous Material from the Cargo Compartment

Definition: This data element identifies whether any hazardous cargo was released from the cargo tank or compartment of this vehicle.

Additional Information: Prior to 2020 the Data Element ID was V21E/HM5.

This data element also appears in the Parkwork data file as PHAZ_REL.

SAS Name: HAZ_REL

2016-Later

0	Not Applicable
1	No
2	Yes
8	Not Reported

V27 Bus Use

Definition: This data element describes the common type of bus service this vehicle was being used as at the time of the crash or the primary use for the bus if not in service at the time of the crash.

Additional Information: Prior to 2020 the Data Element ID was V22.

This data element also appears in the Parkwork data file as PBUS_USE.

SAS Name: BUS_USE

Attribute Codes

2016-2017	*2018-Later*	
0	0	Not a Bus
1	1	School
4	4	Intercity
5	5	Charter/Tour
6	6	Transit/Commuter
7	7	Shuttle
8	8	Modified for Personal/Private Use
98	98	Not Reported
99	--	Unknown
--	99	Reported as Unknown

V28 Special Use

Definition: This data element identifies any special use associated with this vehicle at the time of the crash.

Additional Information: All military vehicles are classified as "4" even if they are police, ambulance, or fire trucks.

Prior to 2020 the Data Element ID was V23.

This data element also appears in the Person data file and in the Parkwork data file as PSP_USE.

SAS Name: SPEC_USE

Attribute Codes

2016-2018	*2019*	*2020-Later*	
0	0	0	No Special Use
1	1	1	Taxi
2	2	2	Vehicle Used for School Transport
3	3	3	Vehicle Used as Other Bus
4	4	4	Military
5	5	5	Police
6	6	6	Ambulance
7	7	7	Fire Truck
8	8	8	Non-Transport Emergency Services Vehicle
--	10	10	Safety Service Patrols – Incident Response
--	11	11	Other Incident Response
--	12	12	Towing – Incident Response
13	--	--	Incident Response
--	--	19	Motor Vehicle Used for Vehicle Sharing Mobility
--	20	--	Vehicle Used for Electronic Ride-Hailing (Transportation Network Company)
--	--	20	Motor Vehicle Used for Electronic Ride-Hailing
--	21	21	Mail Carrier
--	22	22	Public Utility
--	23	23	Rental Truck Over 10,000 lbs
--	24	24	Truck Operating With Crash Attenuator Equipment

98	98	98	Not Reported
99	--	--	Unknown
99	99	99	Reported as Unknown (Since 2018)

V29 Emergency Motor Vehicle Use

Definition: This data element identifies whether this vehicle was engaged in emergency use. Emergency Motor Vehicle Use indicates operation of any motor vehicle that is legally authorized by a government authority to respond to emergencies with or without the use of emergency warning equipment, such as a police vehicle, fire truck or ambulance while actually engaged in such response.

Additional Information: Prior to 2020 the Data Element ID was V24.

This data element also appears in the Person data file and in the Parkwork data file as PEM_USE.

SAS Name: EMER_USE

Attribute Codes

2016-2017	*2018-Later*	
0	0	Not Applicable
2	2	Non-Emergency, Non-Transport
3	3	Non-Emergency Transport
4	4	Emergency Operation, Emergency Warning Equipment Not in Use
5	5	Emergency Operation, Emergency Warning Equipment in Use
6	6	Emergency Operation, Emergency Warning Equipment in Use Unknown
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

V30 Travel Speed

Definition: This data element records the speed the vehicle was traveling prior to the occurrence of the crash as reported by the investigating officer.

Additional Information: Prior to 2020 the Data Element ID was V25.

SAS Name: TRAV_SP

Attribute Codes

2016-2017	*2018-Later*	
0	0	Stopped Motor Vehicle in Transport
1-151	1-151	Reported Speed up to 151 mph
997	997	Speed Greater Than 151 mph
998	998	Not Reported
999	--	Unknown
--	999	Reported as Unknown

V32 Rollover

Definition: This data element identifies this vehicle's involvement in a rollover or overturn during the crash. Rollover is defined as any vehicle rotation of 90 degrees or more about any true longitudinal or lateral axis. Rollover can occur at any time during the crash.

Additional Information: Prior to 2020 the Data Element ID was V27.

This data element also appears in the Person data file.

SAS Name: ROLLOVER

Attribute Codes

2016-Later

0 No Rollover

1 Rollover, Tripped By Object/Vehicle

2 Rollover, Untripped

9 Rollover, Unknown Type

V33 Location of Rollover

Definition: This data element identifies the location of the trip point or start of this vehicle's roll.

Additional Information: Prior to 2020 the Data Element ID was V28.

SAS Name: ROLINLOC

Attribute Codes

2016-Later

0 No Rollover

1 On Roadway

2 On Shoulder

3 On Median/Separator

4 In Gore

5 On Roadside

6 Outside of Trafficway

7 In Parking Lane/Zone

9 Unknown

V34A Area of Impact – Initial Contact Point

Definition: This data element identifies the area on this vehicle that produced the first instance of injury to non-motorists or occupants of this vehicle, or that resulted in the first instance of damage to other property or to this vehicle.

Additional Information: This data element is derived from the crash events for the vehicle. It is the first recorded "Area of Impact (This Vehicle)" value for this vehicle. See Appendix B: Rules for Derived Data Elements for an explanation of this data element and how it is derived.

Prior to 2020 the Data Element ID was V29A.

This data element also appears in the Person data file and in the Parkwork data file as PIMPACT1.

SAS Name: IMPACT1

Attribute Codes

2016	*2017*	*2018*	*2019-Later*	
0	0	0	0	Non-Collision
1-12	1-12	1-12	1-12	Clock Points
13	13	13	13	Top
14	14	14	14	Undercarriage
18	18	18	18	Cargo/Vehicle Parts Set-in-Motion
19	19	19	--	Other Objects Set-in-Motion
--	--	--	19	Other Objects or Person Set-in-Motion
--	20	20	20	Object Set in Motion, Unknown if Cargo/Vehicle Parts or Other
61	61	61	61	Left
62	62	62	62	Left-Front Side
63	63	63	63	Left-Back Side
81	81	81	81	Right
82	82	82	82	Right-Front Side
83	83	83	83	Right-Back Side
98	98	98	98	Not Reported
99	99	--	--	Unknown
--	--	99	99	Reported as Unknown

V34AI Imputed Area of Impact – Initial Contact Point

Definition: This imputed data element has the same definition and data element values as Initial Contact Point, excluding value 99 for unknown initial contact point and value 98 for not reported initial contact point.

Additional Information: Prior to 2020 the Data Element ID was V29AI.

See the CRSS Imputation section of this manual.

SAS Name: **IMPACT1_IM**

V35 Extent of Damage

Definition: This data element records the amount of damage sustained by this vehicle as indicated on the police crash report based on an operational damage scale.

Additional Information: Prior to 2020 the Data Element ID was V30.

This data element also appears in the Parkwork data file as PVEH_SEV.

SAS Name: DEFORMED

Attribute Codes

2016-2017	*2018-Later*	
0	0	No Damage
2	2	Minor Damage
4	4	Functional Damage
6	6	Disabling Damage
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

V36 Vehicle Removal

Definition: This data element describes the mode by which this vehicle left the scene of the crash.

Additional Information: Prior to 2020 the Data Element ID was V31.

This data element also appears in the Parkwork data file as PTOWED.

SAS Name: TOWED

Attribute Codes

2016-2017	*2018-2019*	*2020-Later*	
2	2	2	Towed Due to Disabling Damage
3	3	--	Towed Not Due to Disabling Damage
--	--	3	Towed But Not Due to Disabling Damage
5	5	5	Not Towed
--	7	7	Towed, Unknown Reason
8	8	8	Not Reported
9	--	--	Unknown
--	9	9	Reported as Unknown

V38 Most Harmful Event

Definition: This data element describes the event that resulted in the most severe injury or, if no injury, the greatest property damage involving this vehicle.

Additional Information: "First Harmful Event" applies to the crash (HARM_EV). "Most Harmful Event" applies to the vehicle. "First Harmful Event," "Most Harmful Event," and the "Sequence of Events" data elements have the same harmful event attributes. "Sequence of Events" also has non-harmful event attributes.

Prior to 2020 the Data Element ID was V33.

This data element also appears in the Parkwork data file as PM_HARM.

SAS Name: M_HARM

Attribute Codes

2016	*2017*	*2018-Later*	
NONCOLLISION			
1	1	1	Rollover/Overturn
2	2	2	Fire/Explosion
3	3	3	Immersion or Partial Immersion
4	4	4	Gas Inhalation
5	5	5	Fell/Jumped From Vehicle
6	6	6	Injured in Vehicle (Non-Collision)
7	7	7	Other Noncollision
16	16	16	Thrown or Falling Object
44	44	44	Pavement Surface Irregularity (Ruts, Potholes, Grates, etc.)
51	51	51	Jackknife (Harmful to This Vehicle)
72	72	--	Cargo/Equipment Loss or Shift (Harmful to This Vehicle)
--	--	72	Cargo/Equipment Loss, Shift, or Damage (Harmful)
COLLISION WITH MOTOR VEHICLE IN TRANSPORT			
12	12	12	Motor Vehicle in Transport
54	54	54	Motor Vehicle in Transport Strikes or Is Struck by Cargo, Persons or Objects Set-in-Motion From/by Another Motor Vehicle in Transport
55	55	55	Motor Vehicle in Motion Outside the Trafficway
COLLISION WITH OBJECT NOT FIXED			
8	8	8	Pedestrian
9	9	9	Pedalcyclist

10	10	10	Railway Vehicle
11	11	11	Live Animal
14	14	14	Parked Motor Vehicle
15	15	15	Non-Motorist on Personal Conveyance
18	18	18	Other Object Not Fixed
45	45	45	Working Motor Vehicle
49	49	49	Ridden Animal or Animal Drawn Conveyance
73	73	73	Object That Had Fallen From Motor Vehicle in Transport
74	74	74	Road Vehicle on Rails
--	91	91	Unknown Object Not Fixed
COLLISION WITH FIXED OBJECT			
17	17	17	Boulder
19	19	19	Building
20	20	20	Impact Attenuator/Crash Cushion
21	21	21	Bridge Pier or Support
23	23	23	Bridge Rail (Includes Parapet)
24	24	24	Guardrail Face
25	25	25	Concrete Traffic Barrier
26	26	26	Other Traffic Barrier
30	30	30	Utility Pole/Light Support
31	31	31	Post, Pole or Other Support
32	32	32	Culvert
33	33	33	Curb
34	34	34	Ditch
35	35	35	Embankment
38	38	38	Fence
39	39	39	Wall
40	40	40	Fire Hydrant
41	41	41	Shrubbery
42	42	42	Tree (Standing Only)
43	43	43	Other Fixed Object
46	46	46	Traffic Signal Support
48	48	48	Snow Bank

50	50	50	Bridge Overhead Structure
52	52	52	Guardrail End
53	53	53	Mail Box
57	57	57	Cable Barrier
58	58	58	Ground
59	59	59	Traffic Sign Support
--	93	93	Unknown Fixed Object
--	--	98	Harmful Event, Details Not Reported (Since 2019)
99	99	--	Unknown
--	--	99	Reported as Unknown

V38I Imputed Most Harmful Event

Definition: This imputed data element has the same data element values as Most Harmful Event, excluding values 98 and 99 for not reported and unknown most harmful events.

Additional Information: Prior to 2020 the Data Element ID was V33I.

See the CRSS Imputation section of this manual.

SAS Name: **VEVENT_IM**

V39 Fire Occurrence

Definition: This data element identifies whether a fire in any way related to the crash occurred in this vehicle.

Additional Information: Prior to 2020 the Data Element ID was V34.

This data element also appears in the Person data file and in the Parkwork data file as PFIRE.

SAS Name: FIRE_EXP

Attribute Codes

2016-Later

0 No or Not Reported

1 Yes

V40A Automation System or Systems Present in Vehicle

Definition: This data element indicates the presence of an Automation System or Systems in this vehicle.

Additional Information: An automation system is the hardware and software that are collectively capable of performing part of or all the dynamic driving task on a sustained basis. Automated Driving System (ADS), is used generically to describe any system capable of level 1-5 driving automation.

Prior to 2020 the Data Element ID was V35A.

SAS Name: **ADS_PRES**

Attribute Codes

2019-Later

0	No
1	Yes
98	Not Reported
99	Reported as Unknown

V40B Highest Automation System Level Present in Vehicle

Definition: This data element indicates the highest level of automation present in this vehicle.

Additional Information: These systems do not have to be engaged in this vehicle at the time of the crash.

Prior to 2020 the Data Element ID was V35B.

SAS Name: **ADS_LEV**

Attribute Codes

2019-Later

0	Level 0 – No Automation
1	Level 1 – Driver Assistance Present
2	Level 2 – Partial Automation Present
3	Level 3 – Conditional Automation Present
4	Level 4 – High Automation Present
5	Level 5 – Full Automation Present
9	Automation Present, Level Unknown
98	Not Reported
99	Reported as Unknown

V40C Highest Automation System Level Engaged at Time of Crash

Definition: This data element indicates the highest level of automation that was known to have been engaged in this vehicle at the time of the crash.

Additional Information: Prior to 2020 the Data Element ID was V35C.

SAS Name: ADS_ENG

Attribute Codes

2019-Later

0	Level 0 – No Automation
1	Level 1 – Driver Assistance Engaged
2	Level 2 – Partial Automation Engaged
3	Level 3 – Conditional Automation Engaged
4	Level 4 – High Automation Engaged
5	Level 5 – Full Automation Engaged
6	Automation Systems Engaged, Level Unknown
9	Automation Systems Present, Unknown if Any Engaged
90	Automation Systems Present, Not Engaged
98	Not Reported
99	Reported as Unknown

V90 Maximum Injury Severity in Vehicle

Definition: This data element records the single most severe injury level reported for any occupant in this vehicle. This data element is derived by comparing "Injury Severity" from the Person data file for each occupant record in this vehicle. The following is the order of severity codes.

- 4-Fatal
- 3-Suspected Serious Injury
- 2-Suspected Minor Injury
- 1-Possible Injury
- 5-Injured, Unknown Severity
- 0-No Apparent Injury
- 6-Died Prior
- 9- Unknown/Not Reported
- 8-No Person in Vehicle

Additional Information: See Appendix B: Rules for Derived Data Elements for an expanded explanation of this data element and how it is derived.

SAS Name: MAX_VSEV

Attribute Codes

2016-Later

0	No Apparent Injury
1	Possible Injury
2	Suspected Minor Injury
3	Suspected Serious Injury
4	Fatal
5	Injured, Severity Unknown
6	Died Prior to Crash
8	No Person in Vehicle
9	Unknown/Not Reported

V90I Imputed Maximum Injury Severity in Vehicle

Definition: This imputed data element has the same definition and data element values as Maximum Injury Severity in Vehicle, excluding value 9 for unknown maximum injury severity.

Additional Information: See the CRSS Imputation section of this manual.

The data element is derived from "Imputed Injury Severity" in the Person data file.

SAS Name: MXVSEV_IM

V91 Number Injured in Vehicle

Definition: This data element records the number of people injured in the vehicle and is derived by counting all the people with "Injury Severity" of (1, 2, 3, 4, or 5) in a vehicle. This count includes fatally injured occupants.

Additional Information: See Appendix B: Rules for Derived Data Elements for an expanded explanation of this data element and how it is derived.

SAS Name: NUM_INJV

Attribute Codes

2016-Later

0	No Person Injured in Vehicle
1-97	Actual Number
98	No Person in the Vehicle
99	All Persons in the Vehicle Are Unknown if Injured

V91I Imputed Number Injured in Vehicle

Definition: This imputed data element has the same definition and data element values as "Number Injured in Vehicle," excluding value 99 for unknown number injured, which is imputed, and the attribute code 98, which is converted to code 0.

Additional Information: See the CRSS Imputation section of this manual.

This data element is derived from "Imputed Injury Severity" in the Person data file.

SAS Name: NUMINJ_IM

V92 Driver Drinking in Vehicle

Definition: This data element records alcohol use by the driver of the vehicle. The data element is derived from "Police-Reported Alcohol Involvement" in the Person data file.

Additional Information: See Appendix B: Rules for Derived Data Elements for an expanded explanation of this data element and how it is derived.

SAS Name: VEH_ALCH

Attribute Codes

2016-Later

1 Alcohol Involved

2 No Alcohol Involved

8 No Driver Present/Unknown if Driver Present

9 Unknown

V92I Imputed Driver Drinking in Vehicle

Definition: This data element has the same definition and data element values as Driver "Drinking in Vehicle," excluding value 9 for unknown alcohol involvement, which is imputed, and value 8, which is converted to attribute code 2.

Additional Information: See the CRSS Imputation section of this manual.

This imputed data element is derived from "Imputed Police-Reported Alcohol Involvement" in the Person data file.

SAS Name: V_ALCH_IM

V100 NCSA Make Model Combined

Definition: This derived data element represents the 5-digit combination of two data elements, the 2-digit "NCSA Make" code (MAKE) followed by the 3-digit "NCSA Model" code (MODEL).

Additional Information: Prior to 2020 this data element's name was "Make Model Combined."

This data element also appears in the Person data file and in the Parkwork data file as PMAK_MOD.

SAS Name: MAK_MOD

Attribute Codes

2016-Later

See the current FARS/CRSS Coding and Validation Manual for vehicle make and model codes.

D4 Driver Presence

Definition: This data element identifies whether a driver was present in this vehicle at the onset of the unstabilized situation.

Additional Information:

SAS Name: DR_PRES

Attribute Codes

2016-Later

0 No Driver Present/Not Applicable

1 Yes

9 Unknown

D6 Driver's ZIP Code

Definition: This data element records the ZIP Code of the driver's address as listed on the police crash report.

Additional Information:

SAS Name: DR_ZIP

Attribute Codes

2016-2019	*2020-Later*	
00000	00000	Not Resident of U.S. or Territories
xxxxx	xxxxx	Actual ZIP Code
99997	99997	No Driver Present/Unknown if Driver Present
--	99998	Not Reported
99999	--	Unknown
--	99999	Reported as Unknown

D22 Speeding Related

Definition: This data element identifies if the driver was speeding and it was related to the crash as identified by law enforcement.

Additional Information:

SAS Name: SPEEDREL

Attribute Codes

2016-2017	*2018-Later*	
0	0	No
2	2	Yes, Racing
3	3	Yes, Exceeded Speed Limit
4	4	Yes, Too Fast for Conditions
5	5	Yes, Specifics Unknown
8	8	No Driver Present/Unknown if Driver Present
9	--	Unknown
--	9	Reported as Unknown

PC5 Trafficway Description

Definition: This data element identifies the attribute that best describes the trafficway flow just prior to this vehicle's critical precrash event.

Additional Information:

SAS Name: VTRAFWAY

Attribute Codes

2016-2017	*2018-Later*	
0	0	Non-Trafficway or Driveway Access
1	1	Two-Way, Not Divided
2	2	Two-Way, Divided, Unprotected Median
3	3	Two-Way, Divided, Positive Median Barrier
4	4	One-Way Trafficway
5	5	Two-Way, Not Divided With a Continuous Left-Turn Lane
6	6	Entrance/Exit Ramp
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

PC6 Total Lanes in Roadway

Definition: This data element identifies the attribute that best describes the number of travel lanes just prior to this vehicle's critical precrash event.

Additional Information: The number of lanes refers to the number of lanes of a continuous cross-section of roadway. For example, a local roadway with one lane going north and one lane going south would be coded as two lanes. However, if a trafficway is a divided highway with two lanes going north, a median, and two lanes going south, then the number of lanes is coded as two. If a trafficway has two lanes going north immediately adjacent to two lanes going south, one continuous cross-section of roadway, then the number of lanes is coded as four. This data element can be used with the Trafficway Description data element VTRAFWAY to determine the trafficway geometry. For example: If (VNUM_LAN=2) AND (VTRAFWAY=1), then one has a two-lane roadway that is not physically divided, which is what most people think of as a two-lane road (i.e., one lane going in each direction).

If the roadway is a divided trafficway, the number of travel lanes counts only lanes in the direction of travel of the first harmful event. If the roadway is an undivided trafficway, the number of travel lanes are all the lanes regardless of their direction of travel.

SAS Name: VNUM_LAN

Attribute Codes

2016-2017	*2018-Later*	
0	0	Non-Trafficway or Driveway Access
1	1	One Lane
2	2	Two Lanes
3	3	Three Lanes
4	4	Four Lanes
5	5	Five Lanes
6	6	Six Lanes
7	7	Seven or More Lanes
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

PC7 Speed Limit

Definition: This data element records the posted speed limit in miles per hour.

Additional Information:

SAS Name: VSPD_LIM

Attribute Codes

2016-2017	*2018-Later*	
0	0	No Statutory Limit/Non-Trafficway or Driveway Access
5-95	5-95	Speed Limit (in 5 mph Increments)
98	98	Not Reported
99	--	Unknown
--	99	Reported as Unknown

PC8 Roadway Alignment

Definition: This data element identifies the attribute that best represents the roadway alignment prior to this vehicle's critical precrash event.

Additional Information:

SAS Name: VALIGN

Attribute Codes

2016-2017	*2018-Later*	
0	0	Non-Trafficway or Driveway Access
1	1	Straight
2	2	Curve Right
3	3	Curve Left
4	4	Curve – Unknown Direction
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

PC9 Roadway Grade

Definition: This data element identifies the attribute that best represents the roadway grade prior to this vehicle's critical precrash event.

Additional Information:

SAS Name: VPROFILE

Attribute Codes

2016-2017	*2018-Later*	
0	0	Non-Trafficway or Driveway Access
1	1	Level
2	2	Grade, Unknown Slope
3	3	Hillcrest
4	4	Sag (Bottom)
5	5	Uphill
6	6	Downhill
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

PC11 Roadway Surface Condition

Definition: This data element identifies the attribute that best represents the roadway surface condition prior to this vehicle's critical precrash event.

Additional Information:

SAS Name: VSURCOND

Attribute Codes

2016-2017	*2018-Later*	
0	0	Non-Trafficway or Driveway Access
1	1	Dry
2	2	Wet
3	3	Snow
4	4	Ice/Frost
5	5	Sand
6	6	Water (Standing or Moving)
7	7	Oil
8	8	Other
10	10	Slush
11	11	Mud, Dirt, Gravel
98	98	Not Reported
99	--	Unknown
--	99	Reported as Unknown

PC12 Traffic Control Device

Definition: This data element identifies the attribute that best describes the traffic controls in the vehicle's environment just prior to this vehicle's critical precrash event.

Additional Information: If a vehicle is controlled by more than one device, the device coded is based on the following priority:

- 51 - Officer, Crossing Guard, Flagman, etc.
- The lowest numbered device shown below.
- 0 - No traffic control device.

SAS Name: VTRAFCON

Attribute Codes

2016-2017	*2018-Later*	
0	0	No Controls
TRAFFIC SIGNALS		
1	1	Traffic Control Signal (on Colors) Without Pedestrian Signal
2	2	Traffic Control Signal (on Colors) With Pedestrian Signal
3	3	Traffic Control Signal (on Colors) Not Known if Pedestrian Signal
4	4	Flashing Traffic Control Signal
7	7	Lane Use Control Signal
8	8	Other Highway Traffic Signal
9	9	Unknown Highway Traffic Signal
REGULATORY SIGNS		
20	20	Stop Sign
21	21	Yield Sign
23	23	School Zone Sign/Device
28	28	Other Regulatory Sign
29	29	Unknown Regulatory Sign
OTHER SIGNS AND SIGNALS		
40	40	Warning Sign
50	50	Person
65	65	Railway Crossing Device
98	98	Other
NOT REPORTED AND UNKNOWN		
97	97	Not Reported
99	--	Unknown
--	99	Reported as Unknown

PC13 Traffic Control Device Functioning

Definition: This data element identifies the functionality of the traffic control device recorded for this vehicle in the data element "Traffic Control Device."

Additional Information:

SAS Name: VTCONT_F

Attribute Codes

2016-2017	*2018*	*2019-Later*	
0	0	0	No Controls
1	1	1	Device Not Functioning
2	2	2	Device Functioning – Functioning Improperly
3	3	3	Device Functioning Properly
--	--	4	Device Not Functioning or Device Functioning Improperly, Specifics Unknown
8	8	8	Not Reported
9	--	--	Unknown
--	9	9	Reported as Unknown

PC17 Pre-Event Movement (Prior to Recognition of Critical Event)

Definition: This data element identifies the attribute that best describes this vehicle's activity prior to the driver's realization of an impending critical event or just prior to impact if the driver took no action or had no time to attempt any evasive maneuvers.

Additional Information: These data elements were designed to identify: (1) what the vehicle was doing just prior to the critical precrash event, (2) what made the vehicle's situation critical, (3) what was the corrective action made, if any, to this critical situation, and what was the (4) location and (5) stability of the vehicle just prior to impact.

SAS Name: P_CRASH1

Attribute Codes

2016-Later

0 No Driver Present/Unknown if Driver Present
1 Going Straight
2 Decelerating in Road
3 Accelerating in Road
4 Starting in Road
5 Stopped in Roadway
6 Passing or Overtaking Another Vehicle
7 Disabled or "Parked" in Travel Lane
8 Leaving a Parking Position
9 Entering a Parking Position
10 Turning Right
11 Turning Left
12 Making a U-turn
13 Backing Up (Other Than for Parking Position)
14 Negotiating a Curve
15 Changing Lanes
16 Merging
17 Successful Corrective Action to a Previous Critical Event
98 Other
99 Unknown

PC17I Imputed Pre-Event Movement (Prior to Recognition of Critical Event)

Definition: This imputed data element has the same definition and data element values as Movement Prior to Critical Event, excluding value 99 for unknown movement prior to critical event.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: **PCRASH1_IM**

PC19 Critical Event- Precrash

Definition: This data element identifies the attribute that best describes the critical event that made this crash imminent (i.e., something occurred that made the collision possible).

Additional Information: A critical event is coded for each vehicle and identifies the circumstances leading to the vehicle's first impact in the crash.

These data elements were designed to identify: (1) what the vehicle was doing just prior to the critical precrash event, (2) what made the vehicle's situation critical, (3) what was the corrective action made, if any, to this critical situation, and what was the (4) location and (5) stability of the vehicle just prior to impact.

SAS Name: P_CRASH2

Attribute Codes

2016-2018	*2019-Later*	
	THIS VEHICLE LOSS OF CONTROL DUE TO:	
1	1	Blow Out/Flat Tire
2	2	Stalled Engine
3	3	Disabling Vehicle Failure (e.g., wheel fell off)
4	4	Non-Disabling Vehicle Problem (e.g., hood flew up)
5	--	Poor Road Conditions (Puddle, Pothole, Ice, etc.)
--	5	Suddenly Encountered Poor Road Conditions (puddle, pothole, ice, etc.)
6	--	Traveling Too Fast for Conditions
--	6	Traveling Too Fast for Conditions or Road Configuration
8	8	Other Cause of Control Loss
9	9	Unknown Cause of Control Loss
	THIS VEHICLE TRAVELING:	
10	10	Over the Lane Line on Left Side of Travel Lane
11	11	Over the Lane Line on Right Side of Travel Lane
12	12	Off the Edge of the Road on the Left Side
13	13	Off the Edge of the Road on the Right Side
14	14	End Departure
15	15	Turning Left
16	16	Turning Right
17	17	Crossing Over (Passing Through) Junction
18	18	This Vehicle Decelerating
19	19	Unknown Travel Direction

20	20	Backing
21	21	Making a U-Turn
OTHER MOTOR VEHICLE IN LANE		
50	50	Other Vehicle Stopped
51	51	Traveling in Same Direction with Lower Steady Speed
52	52	Traveling in Same Direction while Decelerating
53	53	Traveling in Same Direction with Higher Speed
54	54	Traveling in Opposite Direction
55	55	In Crossover
56	56	Backing
59	--	Unknown Travel Direction of the Other Motor Vehicle in Lane
--	59	Unknown Travel Direction/Speed of the Other Motor Vehicle in Lane
OTHER MOTOR VEHICLE ENCROACHING INTO LANE		
60	60	From Adjacent Lane (Same Direction)-Over Left Lane Line
61	61	From Adjacent Lane (Same Direction)-Over Right Lane Line
62	62	From Opposite Direction Over Left Lane Line
63	63	From Opposite Direction Over Right Lane Line
64	64	From Parking Lane/Shoulder, Median/Crossover, Roadside
65	65	From Crossing Street, Turning Into Same Direction
66	66	From Crossing Street, Across Path
67	67	From Crossing Street, Turning Into Opposite Direction
68	68	From Crossing Street, Intended Path Not Known
70	70	From Driveway, Turning Into Same Direction
71	71	From Driveway, Across Path
72	72	From Driveway, Turning Into Opposite Direction
73	73	From Driveway, Intended Path Not Known
74	74	From Entrance to Limited Access Highway
78	78	Encroaching By Other Vehicle – Details Unknown
PEDESTRIAN, PEDACYLIST OR OTHER NON-MOTORIST		
80	80	Pedestrian in Road
81	81	Pedestrian Approaching Road
82	82	Pedestrian Unknown Location
83	83	Pedalcyclist/Other Non-Motorist in Road

84	84	Pedalcyclist/Other Non-Motorist Approaching Road
85	85	Pedalcyclist or Other Non-Motorist Unknown Location
OBJECT OR ANIMAL		
87	87	Animal in Road
88	88	Animal Approaching Road
89	89	Animal Unknown Location
90	90	Object in Road
91	91	Object Approaching Road
92	92	Object Unknown Location
OTHER		
98	98	Other Critical Precrash Event
UNKNOWN		
99	99	Unknown

PC20 Attempted Avoidance Maneuver

Definition: This data element identifies the attribute that best describes the movements/actions taken by this driver, within a critical crash envelope, in response to the "Critical Precrash Event."

Additional Information: This data element identifies the actions taken by the driver in response to the impending danger. Because this data element focuses upon the driver's action just prior to the first harmful event it is coded independently of any maneuvers associated with this vehicle's "Crash Type."

These data elements were designed to identify: (1) what the vehicle was doing just prior to the critical precrash event, (2) what made the vehicle's situation critical, (3) what was the corrective action made, if any, to this critical situation, and what was the (4) location and (5) stability of the vehicle just prior to impact.

SAS Name: P_CRASH3

Attribute Codes

2016-Later

0 No Driver Present/Unknown if Driver Present

1 No Avoidance Maneuver

5 Releasing Brakes

6 Steering Left

7 Steering Right

8 Braking and Steering Left

9 Braking and Steering Right

10 Accelerated

11 Accelerating and Steering Left

12 Accelerating and Steering Right

15 Braking and Unknown Steering Direction

16 Braking

98 Other Actions

99 Unknown/Not Reported

PC21 Pre-Impact Stability

Definition: This data element identifies the attribute that best describes the stability of this vehicle after the "Critical Precrash Event," but before the impact.

Additional Information: These data elements were designed to identify: (1) what the vehicle was doing just prior to the critical precrash event, (2) what made the vehicle's situation critical, (3) what was the corrective action made, if any, to this critical situation, and what was the (4) location and (5) stability of the vehicle just prior to impact.

SAS Name: PCRASH4

Attribute Codes

2016-Later

0 No Driver Present/Unknown if Driver Present

1 Tracking

2 Skidding Longitudinally – Rotation Less Than 30 Degrees

3 Skidding Laterally – Clockwise Rotation

4 Skidding Laterally – Counterclockwise Rotation

5 Skidding Laterally – Rotation Direction Unknown

7 Other Vehicle Loss-of-Control

9 Precrash Stability Unknown

PC22 Pre-Impact Location

Definition: This data element identifies the attribute that best describes the location of this vehicle after the "Critical Precrash Event," but before the impact.

Additional Information: These data elements were designed to identify: (1) what the vehicle was doing just prior to the critical precrash event, (2) what made the vehicle's situation critical, (3) what was the corrective action made, if any, to this critical situation, and what was the (4) location and (5) stability of the vehicle just prior to impact.

SAS Name: PCRASH5

Attribute Codes

2016-Later

0 No Driver Present/Unknown if Driver Present

1 Stayed in Original Travel Lane

2 Stayed on Roadway But Left Original Travel Lane

3 Stayed on Roadway, Not Known if Left Original Travel Lane

4 Departed Roadway

5 Remained off Roadway

6 Returned to Roadway

7 Entered Roadway

9 Unknown

PC23 Crash Type

Definition: This data element identifies the attribute that best describes the type of crash this vehicle was involved in based on the "First Harmful Event" and the precrash circumstances. For graphic descriptions of possible values see Appendix A: PC23 Crash Type Diagram.

Additional Information:

SAS Name: ACC_TYPE

Attribute Codes

2016-Later

0 No Impact

CATEGORY I: SINGLE DRIVER

CONFIGURATION A: RIGHT ROADSIDE DEPARTURE

1 Drive off Road

2 Control/Traction Loss

3 Avoid Collision with Vehicle, Pedestrian, Animal

4 Specifics Other

5 Specifics Unknown

CONFIGURATION B: LEFT ROADSIDE DEPARTURE

6 Drive off Road

7 Control/Traction Loss

8 Avoid Collision With Vehicle, Pedestrian, Animal

9 Specifics Other

10 Specifics Unknown

CONFIGURATION C: FORWARD IMPACT

11 Parked Vehicle

12 Stationary Object

13 Pedestrian/Animal

14 End Departure

15 Specifics Other

16 Specifics Unknown

CATEGORY II: SAME TRAFFICWAY, SAME DIRECTION

CONFIGURATION D: REAR END

20 Stopped

21 Stopped, Straight

22 Stopped, Left

23 Stopped, Right

24 Slower

25 Slower, Going Straight

26 Slower, Going Left

27 Slower, Going Right

28 Decelerating (Slowing)

29 Decelerating (Slowing), Going Straight

30 Decelerating (Slowing), Going Left

31 Decelerating (Slowing), Going Right

32 Specifics Other

33 Specifics Unknown

CONFIGURATION E: FORWARD IMPACT

34 Control/Traction Loss, Avoiding Non-Contact Vehicle- Vehicle's Frontal Area Impacts Another Vehicle

35 Control/Traction Loss, Avoiding Non-Contact Vehicle- Vehicle Is Impacted by Frontal Area of Another Vehicle

36 Control/Traction Loss, Avoiding Non-Fixed Object- Vehicle's Frontal Area Impacts Another Vehicle

37 Control/Traction Loss, Avoiding Non-Fixed Object- Vehicle Is Impacted by Frontal Area of Another Vehicle

38 Avoiding Non-Contact Vehicle- Vehicle's Frontal Area Impacts Another Vehicle

39 Avoiding Non-Contact Vehicle- Vehicle Is Impacted by Frontal Area of Another Vehicle

40 Avoiding Non-Fixed Object- Vehicle's Frontal Area Impacts Another Vehicle

41 Avoiding Non-Fixed Object- Vehicle Is Impacted by Frontal Area of Another Vehicle

42 Specifics Other

43 Specifics Unknown

CONFIGURATION F: SIDESWIPE/ANGLE

44 Straight Ahead on Left

45 Straight Ahead on Left/Right

46 Changing Lanes to the Right

47 Changing Lanes to the Left

48 Specifics Other

49 Specifics Unknown

CATEGORY III: SAME TRAFFICWAY, OPPOSITE DIRECTION

CONFIGURATION G: HEAD-ON

50 Lateral Move (Left/Right)

51 Lateral Move (Going Straight)

52 Specifics Other

53 Specifics Unknown

CONFIGURATION H: FORWARD IMPACT

54 Control/Traction Loss, Avoiding Non-Contact Vehicle- Vehicle's Frontal Area Impacts Another Vehicle

55 Control/Traction Loss, Avoiding Non-Contact Vehicle- Vehicle Is Impacted by Frontal Area of Another Vehicle

56 Control/Traction Loss, Avoiding Non-Fixed Object- Vehicle's Frontal Area Impacts Another Vehicle

57 Control/Traction Loss, Avoiding Non-Fixed Object- Vehicle Is Impacted by Frontal Area of Another Vehicle

58 Avoiding Non-Contact Vehicle- Vehicle's Frontal Area Impacts Another Vehicle

59 Avoiding Non-Contact Vehicle- Vehicle Is Impacted by Frontal Area of Another Vehicle

60 Avoiding Non-Fixed Object- Vehicle's Frontal Area Impacts Another Vehicle

61 Avoiding Non-Fixed Object- Vehicle Is Impacted by Frontal Area of Another Vehicle

62 Specifics Other

63 Specifics Unknown

CONFIGURATION I: SIDESWIPE/ANGLE

64 Lateral Move (Left/Right)

65 Lateral Move (Going Straight)

66 Specifics Other

67 Specifics Unknown

CATEGORY IV: CHANGING TRAFFICWAY, VEHICLE TURNING

CONFIGURATION J: TURN ACROSS PATH

68 Initial Opposite Directions (Left/Right)

69 Initial Opposite Directions (Going Straight)

70 Initial Same Directions (Turning Right)

71 Initial Same Directions (Going Straight)

72 Initial Same Directions (Turning Left)

73 Initial Same Directions (Going Straight)

74 Specifics Other

75 Specifics Unknown

CONFIGURATION K: TURN INTO PATH

76 Turn Into Same Direction (Turning Left)

77 Turn Into Same Direction (Going Straight)

78 Turn Into Same Direction (Turning Right)

79 Turn Into Same Direction (Going Straight)

80 Turn Into Opposite Directions (Turning Right)

81 Turn Into Opposite Directions (Going Straight)

82 Turn Into Opposite Directions (Turning Left)

83 Turn Into Opposite Directions (Going Straight)

84 Specifics Other

85 Specifics Unknown

CATEGORY V: INTERSECTING PATHS (VEHICLE DAMAGE)

CONFIGURATION L: STRAIGHT PATHS

86 Striking from the Right

87 Struck on the Right

88 Striking from the Left

89 Struck on the Left

90 Specifics Other

91 Specifics Unknown

CATEGORY VI: MISCELLANEOUS

CONFIGURATION M: BACKING, ETC.

92 Backing Vehicle

93 Other Vehicle or Object

93 Other Vehicle

97 Untripped Rollover

98 Other Crash Type

99 Unknown Crash Type

Discontinued VEHICLE Data Elements

Gross Vehicle Weight Rating (discontinued)

Definition: This data element identifies the gross vehicle weight rating of this vehicle if applicable.

Additional Information: The Gross Vehicle Weight Rating (GVWR) or Gross Combination Weight Rating (GCWR) is a value specified by the manufacturer for a single-unit truck, truck tractor, or trailer. In the absence of a gross vehicle weight rating, an estimate of the gross weight of a fully loaded unit can be substituted.

This data element is the gross vehicle weight of the Power Unit only. The weight of trailers is not added. Beginning in 2020 this data element is replaced by two data elements, Power Unit GVWR and Trailer GVWR, which are derived from their VINs.

This data element also appears in the Parkwork data file as PGVWR.

SAS Name: GVWR

Attribute Codes

2016-2017	*2018-2019*	
0	0	Not Applicable
1	1	10,000 lbs or Less
2	2	10,001 lbs - 26,000 lbs
3	3	26,001 lbs or More
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

Imputed Hit and Run (discontinued)

Definition: This imputed data element has the same definition and data element values as "Hit and Run," excluding value 9 for unknown hit and run.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: **HITRUN_IM** ***(2016-2019***

Related Factors- Driver Level (discontinued)

Definition: This data element records factors related to this driver expressed in the case materials.

Additional Information: There are also crash-level-related factors in the Accident data file, CF1, CF2, and CF3; vehicle-related factors, namely VEH_SC1 and VEH_SC2 in the Vehicle data file; and person-related factors P_SF1, P_SF2, and P_SF3 in the person data file.

The CRSS coder may have used any of the four data elements to code a related factor. One must test all four data elements to insure that the selected related factor is included.

The person-related factors P_SF1, P_SF2, and P_SF3 are all set to 0 for drivers.

Beginning in 2020 this data element was no longer collected at the Vehicle level. It is now collected in the Driverrf data file as DRIVERRF.

SAS Name: DR_SF1, DR_SF2, DR_SF3, DR_SF4

Attribute Codes

2016	*2017*	*2018*	*2019*	
0	0	0	0	None
6	6	6	6	Careless Driving
8	8	8	8	Road Rage/Aggressive Driving
--	--	9	--	Emergency Services Personnel
--	--	10	10	Looked But Did Not See
16	16	16	16	Police or Law Enforcement Officer
18	18	18	18	Traveling on Prohibited Trafficways
20	20	20	20	Leaving Vehicle Unattended with Engine Running; Leaving Vehicle Unattended in Roadway
21	21	21	21	Overloading or Improper Loading of Vehicle with Passenger or Cargo
22	22	22	22	Towing or Pushing Vehicle Improperly
23	23	23	23	Failing to Dim Lights or to Have Lights on When Required
24	24	24	24	Operating Without Required Equipment
--	--	--	29	Intentional Illegal Driving off the Roadway
32	32	32	32	Opening Vehicle Closure into Moving Traffic or Vehicle Is in Motion or Operating at Erratic or Suddenly Changing Speeds
36	36	36	36	Operating the Vehicle in an Erratic, Reckless, Careless or Negligent Manner
37	37	37	37	Police Pursuing this Driver or Police Officer in Pursuit
50	50	50	50	Driving Wrong Way on One-Way Trafficway

51	51	51	51	Driving on Wrong Side of Two-Way Trafficway (Intentionally or Unintentionally)
54	54	54	54	Stopping in Roadway (Vehicle Not Abandoned)
--	55	55	55	Improper Management of Vehicle Controls
--	56	56	56	Object Interference with Vehicle Controls
--	57	57	57	Driving with Tire-Related Problems
58	58	58	58	Over Correcting
59	59	59	59	Getting off/out of a Vehicle
--	60	60	60	Alcohol and/or Drug Test Refused
91	91	91	91	Non-Traffic Violation Charged (Manslaughter, Homicide or Other Assault Offense Committed Without Malice)
--	--	--	94	Emergency Medical Service Personnel
--	--	--	95	Fire Personnel
--	--	--	96	Tow Operator
--	--	--	97	Transportation (Maintenance Workers, Safety Service Patrol Operators, etc.)
99	99	--	--	Unknown
--	--	99	99	Reported as Unknown

Related Factors- Vehicle Level (discontinued)

Definition: This data element records factors related to this vehicle expressed in the case materials.

Additional Information: There are also crash-level-related factors in the Accident data file, CF1, CF2, and CF3; driver-related factors in the Vehicle data file, namely DR_SF1, DR_SF2, DR_SF3, and DR_SF4; and person-related factors P_SF1, P_SF2, and P_SF3 in the Person data file.

The CRSS coder may have used either of the two data elements to code a related factor. One must test both data elements to insure that the selected related factor is included.

These data elements also appear in the Parkwork data file as PVEH_SC1 and PVEH_SC2.

Prior to 2019 the Data Element ID was V34. Beginning in 2020 this data element was no longer collected at the Vehicle level. It is now collected in the Vehiclesf data file as VEHICLESF.

SAS Name: VEH_SC1, VEH_SC2

Attribute Codes

2016-2017	*2018*	*2019*	
0	0	0	None
--	--	29	Default Code Used for Vehicle Numbering
30	30	30	Multi-Wheeled Motorcycle Conversion
33	33	33	Vehicle Being Pushed by Non-Motorist
35	35	35	Reconstructed/Altered Vehicle
39	39	39	Highway Construction, Maintenance or Utility Vehicle, in Transport (Inside or Outside Work Zone)
40	40	--	Highway Incident Response Vehicle
41	41	41	Police Fire or EMS Vehicle Working at the Scene of an Emergency or Performing Other Traffic Control Activities
42	42	42	Other Working Vehicle (Not Construction, Maintenance, Utility, Police, Fire, or EMS Vehicle)
44	44	44	Adaptive Equipment
--	45	45	Slide-in Camper
99	--	--	Unknown
--	99	99	Reported as Unknown

The PERSON Data File

The Person data file includes motorist and non-motorist data. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, VEH_NO, and PER_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The Person data file also contains the data elements on the following pages.

CASENUM, VEH_NO, and PER_NO are the unique identifiers for each record. CASENUM should be used to merge the Person data file with the Accident data file for a set of all motorists and non-motorists. CASENUM and VEH_NO should be used to merge the Person data file with the Vehicle and Parkwork data files for a set of all motor vehicle occupants. CASENUM and PER_NO should be used to merge the Person data file with non-motorist person-level data files.

In the Person data file, motor vehicle occupants are PER_TYPE = 1, 2, 3, 9. Motor vehicle occupants have assigned vehicle numbers starting with 1. When PER_TYPE = 3, the occupied vehicle will be found in the PARKWORK data file. Non-motor vehicle occupants are PER_TYPE = 4, 5, 6, 7, 8, 10, 11, 12, 13, or 19. VEH_NO = 0 for non-motor vehicle occupants.

P5/NM5 Age

Definition: This data element identifies this person's age at the time of the crash, in years, with respect to their last birthday.

Additional Information:

SAS Name: AGE

Attribute Codes

2016-2017	*2018-Later*	
0	0	Less Than One Year
1-120	1-120	Years of Age
998	998	Not Reported
999	--	Unknown
--	999	Reported as Unknown

P5/NM5I Imputed Age

Definition: This imputed data element has the same definition and data element values as Age, excluding the value 999 for unknown age and value 998 for not reported age.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: AGE_IM

P6/NM6 Sex

Definition: This data element identifies the sex of this person involved in the crash.

Additional Information:

SAS Name: SEX

Attribute Codes

2016-2017	*2018-Later*	
1	1	Male
2	2	Female
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

P6/NM6I Imputed Sex

Definition: This imputed data element has the same definition and data element values as Sex, excluding value 9 for unknown sex and value 8 for not reported sex.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: **SEX_IM**

P7/NM7 Person Type

Definition: This data element describes the role of this person involved in the crash.

Additional Information: See Appendix C: Analytical Classification of Select CRSS Data Elements for the standard NCSA classifications for this data element.

SAS Name: **PER_TYP**

Attribute Codes

2016-2019	*2020-Later*	
MOTORISTS		
1	1	Driver of a Motor Vehicle in Transport
2	2	Passenger of a Motor Vehicle in Transport
9	9	Unknown Occupant Type in a Motor Vehicle in Transport
NON-MOTORISTS-OCCUPANT		
3	3	Occupant of a Motor Vehicle Not in Transport
4	4	Occupant of a Non-Motor Vehicle Transport Device
NON-MOTORISTS-NON-OCCUPANT		
5	5	Pedestrian
6	6	Bicyclist
7	7	Other Cyclist
8	--	Persons on Personal Conveyances
10	10	Persons in or on Buildings
--	11	Person on Motorized Personal Conveyance
--	12	Person on Non-Motorized Personal Conveyance
--	13	Person on Personal Conveyance, Unknown if Motorized or Non-Motorized
19	19	Unknown Type of Non-Motorist

P8/NM8 Injury Severity

Definition: This data element describes the severity of the injury to this person in the crash using the KABCO scale.

Additional Information: See the Accident data file for C90 Maximum Injury Severity in Crash and the Vehicle data file for V90 Maximum Injury Severity in Vehicle, both of which are derived from this data element.

See Appendix C: Analytical Classification of Select CRSS Data Elements for the standard NCSA classifications for this data element.

SAS Name: INJ_SEV

Attribute Codes

2016-Later

0 No Apparent Injury (O)

1 Possible Injury (C)

2 Suspected Minor Injury (B)

3 Suspected Serious Injury (A)

4 Fatal Injury (K)

5 Injured, Severity Unknown (U)

6 Died Prior to Crash

9 Unknown/Not Reported

P8/NM8I Imputed Injury Severity

Definition: This imputed data element has the same definition and data element values as Injury Severity, excluding value 9 for unknown if injured or not reported if injured.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: INJSEV_IM

P9 Seating Position

Definition: This data element identifies the location of this person in or on the vehicle.

Additional Information: More than one person can be assigned the same seat position, however this is coded only when a person is sitting on someone's lap.

SAS Name: SEAT_POS

Attribute Codes

2016-2018	*2019-Later*	
0	0	Not a Motor Vehicle Occupant
11	11	Front Seat – Left Side (Driver's Side)
12	12	Front Seat – Middle
13	13	Front Seat – Right Side
18	18	Front Seat – Other
19	19	Front Seat – Unknown
21	21	Second Seat – Left Side
22	22	Second Seat – Middle
23	23	Second Seat – Right Side
28	28	Second Seat – Other
29	29	Second Seat – Unknown
31	31	Third Seat – Left Side
32	32	Third Seat – Middle
33	33	Third Seat – Right Side
38	38	Third Seat – Other
39	39	Third Seat – Unknown
41	41	Fourth Seat – Left Side
42	42	Fourth Seat – Middle
43	43	Fourth Seat – Right Side
48	48	Fourth Seat – Other
49	49	Fourth Seat – Unknown
50	50	Sleeper Section of Cab (Truck)
51	51	Other Passenger in Enclosed Passenger or Cargo Area
52	52	Other Passenger in Unenclosed Passenger or Cargo Area
53	53	Other Passenger in Passenger or Cargo Area, Unknown Whether or Not Enclosed

54	54	Trailing Unit
55	55	Riding on Exterior of Vehicle
--	56	Appended to a Motor Vehicle for Motion
98	98	Not Reported
99	99	Unknown/Reported as Unknown (Since 2018)

P9I Imputed Seating Position

Definition: This imputed data element has the same definition and data element values as Seating Position, excluding values 19, 29, 39, 49, and 99 for unknown seating position and values 98 for not reported seating position.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: SEAT_IM

P10A Restraint System Use

Definition: This data element records the restraint equipment in use by this occupant at the time of the crash.

Additional Information: Prior to 2019 this data element's name was "Restraint System/Helmet Use" that included helmet use, and the Data Element ID was P10. Starting in 2019 helmet use is captured as part of the data element "Helmet Use."

See Appendix C: Analytical Classification of Select CRSS Data Elements for the standard NCSA classifications for this data element.

SAS Name: REST_USE

Attribute Codes

2016	*2018*	*2019-Later*	
0	--	--	Not Applicable
1	1	1	Shoulder Belt Only Used
2	2	2	Lap Belt Only Used
3	3	3	Shoulder and Lap Belt Used
4	4	4	Child Restraint – Type Unknown
5	5	--	DOT-Compliant Motorcycle Helmet
--	--	6	Racing-Style Harness Used
7	--	--	None Used
8	8	8	Restraint Used – Type Unknown
10	10	10	Child Restraint System – Forward Facing
11	11	11	Child Restraint System – Rear Facing
12	12	12	Booster Seat
16	16	--	Helmet, Other Than DOT-Compliant Motorcycle Helmet
17	17	--	No Helmet
19	19	--	Helmet, Unknown if DOT-Compliant
--	20	20	None Used/Not Applicable
29	29	--	Unknown if Helmet Worn
96	96	96	Not a Motor Vehicle Occupant
97	97	97	Other
98	98	98	Not Reported
99	99	99	Unknown/Reported as Unknown (Since 2018)

P10B Indication of Restraint System Misuse

Definition: This data element identifies any mis-use of the available restraint system used by this person.

Additional Information: Prior to 2019 this data element's name was "Indication of Misuse of Restraint System/Helmet" that included helmet misuse, and the Data Element ID was P11. Starting in 2019 helmet misuse is captured as part of the data element "Indication of Helmet Misuse."

SAS Name: REST_MIS

Attribute Codes

2016-2018	*2019-Later*	
0	--	No
--	0	No Indication of Misuse
1	--	Yes
--	1	Yes, Indication of Misuse
--	7	None Used/Not Applicable
8	8	Not a Motor Vehicle Occupant

P11A Helmet Use

Definition: This data element records the helmet use by this occupant at the time of the crash.

Additional Information: This data element is applicable to occupants of body types 80-91, 96, and 97. (See NCSA Body Type)

See Appendix C: Analytical Classification of Select CRSS Data Elements for the standard NCSA classifications for this data element.

Prior to 2019 this data was collected as part of the data element "Restraint System/Helmet Use," and the Data Element ID was P10.

SAS Name: HELM_USE

Attribute Codes

2019-Later

5	DOT-Compliant Motorcycle Helmet
16	Helmet, Other Than DOT-Compliant Motorcycle Helmet
17	No Helmet
19	Helmet, Unknown if DOT-Compliant
20	Not Applicable
96	Not a Motor Vehicle Occupant
98	Not Reported
99	Unknown/Reported as Unknown

P11B Indication of Helmet Misuse

Definition: This data element identifies any mis-use of the helmet used by this person.

Additional Information: This data element is applicable to occupants of body types 80-91, 96, and 97.

Prior to 2019 this data was collected as part of the data element "Indication of Misuse of Restraint System/Helmet," and the Data Element ID was P11.

SAS Name: HELM_MIS

Attribute Codes

2019-Later

0	No Indication of Misuse
1	Yes, Indication of Misuse
7	None Used/Not Applicable
8	Not a Motor Vehicle Occupant

P12 Air Bag Deployed

Definition: This data element records air bag availability and deployment for this person as reported in the police crash report.

Additional Information: This data element is designed to collect both air bag availability and deployment for each occupied seat position. Variation in the presentation of the source data on the State crash report forms and the selections coded on the police report may produce unlikely combinations or missing data. For example:

1. If the seat position does not have an air bag at the time of manufacture, but the information on the police report indicates an air bag was available or deployed, the information on the police report takes precedence.
2. If the seat position has an air bag installed at the time of manufacture and the police report indicates there is no air bag available, then the police report information takes precedence.

SAS Name: AIR_BAG

Attribute Codes

2016	*2017*	*2018-Later*	
0	--	--	Not Applicable
1	1	1	Deployed – Front
2	2	2	Deployed – Side (Door, Seat Back)
3	3	3	Deployed – Curtain (Roof)
7	7	7	Deployed – Other (Knee, Air Belt, etc.)
8	8	8	Deployed – Combination
9	9	9	Deployment – Unknown Location
20	20	20	Not Deployed
28	--	--	Switched off
97	97	97	Not a Motor Vehicle Occupant
98	98	98	Not Reported
99	99	--	Deployment Unknown
--	--	99	Reported as Deployment Unknown

P13 Ejection

Definition: This data element describes the ejection status and the degree of ejection for this person, excluding motorcycle occupants.

Additional Information:

SAS Name: EJECTION

Attribute Codes

2016-2017	*2018-Later*	
0	0	Not Ejected
1	1	Totally Ejected
2	2	Partially Ejected
3	3	Ejected – Unknown Degree
7	7	Not Reported
8	8	Not Applicable
9	--	Unknown
--	9	Reported as Unknown if Ejected

P13I Imputed Ejection

Definition: This imputed data element had the same definition and data element values as Ejection, excluding 9 (Unknown) and 7 (Not Reported).

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: EJECT_IM

P16/NM16 Police-Reported Alcohol Involvement

Definition: This data element records whether alcohol was involved for this person and reflects the judgment of law enforcement.

Additional Information: This data element does not indicate that alcohol was a cause of the crash. If a police crash report indicates that opened or unopened alcohol bottles were found in the vehicle, then this information does not by itself constitute involvement.

Prior to 2019 the Data Element ID was P16/NM15.

SAS Name: DRINKING

Attribute Codes

2016-2017	*2018-Later*	
0	0	No (Alcohol Not Involved)
1	1	Yes (Alcohol Involved)
8	8	Not Reported
9	--	Unknown (Police Reported)
--	9	Reported as Unknown

P16/NM16I Imputed Police-Reported Alcohol Involvement

Definition: The definition and data element values are the same as Police-Reported Alcohol Involvement, excluding 8 for not reported and 9 for unknown alcohol involvement.

Additional Information: See the CRSS Imputation section of this manual.

SAS Name: PERALCH_IM

P18/NM18 Alcohol Test

P18A/NM18A Alcohol Test Status

Definition: This data element identifies whether an alcohol test was given to this person.

Additional Information: Prior to 2019 the Data Element ID was P18A/NM17A.

SAS Name: ALC_STATUS

Attribute Codes

2016	*2017*	*2018-Later*	
0	0	0	Test Not Given
1	--	--	Test Refused
2	2	2	Test Given
8	8	8	Not Reported
9	9	--	Unknown if Tested
--	--	9	Reported as Unknown if Tested

P18B/NM18B Alcohol Test Type

Definition: This data element identifies the type of alcohol test that was given to this person.

Additional Information: If a valid blood test is administered along with another type of test then blood test is coded.

Prior to 2019 the Data Element ID was P18B/NM17B.

SAS Name: ATST_TYP

Attribute Codes

2016-2017	*2018-Later*	
0	0	Test Not Given
1	1	Blood
2	2	Breath Test (AC)
3	3	Urine
8	8	Other Test Type
10	10	Preliminary Breath Test (PBT)
--	11	Breath Test, Unknown Type
95	95	Not Reported
98	98	Unknown Test Type

99	--	Unknown if Tested
--	99	Reported as Unknown if Tested

P18C/NM18C Alcohol Test Result

Definition: This data element identifies the alcohol test result for this person.

Additional Information: A BAC of .10 is coded as 100. The decimal is implied. The BAC is expressed in grams per deciliter (g/dL) or a clinical evaluation of the same.

See Appendix C: Analytical Classification of Select CRSS Data Elements for the standard NCSA classifications for this data element.

Prior to 2019 the Data Element ID was P18C/NM17C.

SAS Name: ALC_RES

Attribute Codes

2016-2017	*2018-Later*	
0-939	0-939	Actual Value
940	940	0.94 or Greater
995	995	Not Reported
996	996	Test Not Given
997	997	Test Performed, Results Unknown
998	998	Positive Reading With No Actual Value
999	--	Unknown if Tested
--	999	Reported as Unknown if Tested

P19/NM19 Police Reported Drug Involvement

Definition: This data element records whether drugs were involved for this person and reflects the judgment of law enforcement.

Additional Information: Involvement is not an indication that drugs were in any way cause of the crash, even though it may have been. If the police crash report indicates that drugs were found in the vehicle, then this information does not by itself constitute involvement.

Prior to 2019 the Data Element ID was P19/NM18.

SAS Name: DRUGS

Attribute Codes

2016-2017	*2018-Later*	
0	0	No (Drugs Not Involved)
1	1	Yes (Drugs Involved)
8	8	Not Reported
9	--	Unknown (Police Reported)
--	9	Reported as Unknown

P22/NM22 Transported to First Medical Facility By

Definition: This data element identifies the mode of transportation to a hospital or medical facility provided for this person.

Additional Information: Prior to 2019 the Data Element ID was P22/NM21.

SAS Name: HOSPITAL

Attribute Codes

2016-2017	*2018-2019*	*2020-Later*	
0	0	--	Not Transported
--	--	0	Not Transported for Treatment
1	1	1	EMS Air
2	2	2	Law Enforcement
3	3	3	EMS Unknown Mode
4	4	4	Transported Unknown Source
5	5	5	EMS Ground
6	6	6	Other
8	8	8	Not Reported
9	--	--	Unknown
--	9	9	Reported as Unknown

NM4 Vehicle Number of Motor Vehicle Striking Non-Motorist

Definition: This data element identifies the "Vehicle Number" (VEH_NO) of the motor vehicle in transport that made contact with this non-motorist.

Additional Information: This data element applies only to non-motorists/non-occupants and reflects the vehicle that made contact with the non-motorist/non-occupant being coded.

The number must match the vehicle number of the striking vehicle. This number is similar to VEH_NO, except that the non-motorist/non-occupant was struck by the vehicle, rather than being within the vehicle.

SAS Name: STR_VEH

Attribute Codes

2016-2017	*2018-Later*	
0	0	Occupant of Motor Vehicle
1-998	1-998	Vehicle Number of Striking Vehicle
999	--	Unknown

NM10 Non-Motorist Location at Time of Crash

Definition: This data element identifies the attribute that best describes the location of this non-motorist with respect to the roadway at the time of the crash.

Additional Information: Non-motorists who are occupants of motor vehicles not in transport are coded with respect to the location of the vehicle.

SAS Name: LOCATION

Attribute Codes

2016-2017	*2018-Later*	
0	0	Not Applicable-Motor Vehicle Occupant
1	1	At Intersection-In Marked Crosswalk
2	2	At Intersection-Unmarked/Unknown if Marked Crosswalk
3	3	At Intersection-Not in Crosswalk
9	9	At Intersection-Unknown Location
10	10	Not at Intersection-In Marked Crosswalk
11	11	Not at Intersection-On Roadway, Not in Marked Crosswalk Unknown
13	13	Not at Intersection-On Roadway, Crosswalk Availability Unknown
14	14	Parking Lane/Zone
16	16	Bicycle Lane
20	20	Shoulder/Roadside
21	21	Sidewalk
22	22	Median/Crossing Island
23	23	Driveway Access
24	24	Shared-Use Path
25	25	Non-Trafficway Area
28	28	Other
98	98	Not Reported
99	--	Unknown Location
--	99	Reported as Unknown Location

See Analysis of Pedestrian and Bicycle Crashes Around Intersections for guidance on analyzing Pedestrian/Bicyclist crash locations.

Discontinued PERSON Data Elements

Drug Test Status (discontinued)

Definition: This data element identifies whether a drug test was given to this person.

Additional Information:

SAS Name: DSTATUS

Attribute Codes

2016	*2017*	
0	0	Test Not Given
1	--	Test Refused
2	2	Test Given
8	8	Not Reported
9	9	Unknown if Tested

Drug Test Type (discontinued)

Definition: This data element identifies the type of drug test that was given to this person.

Additional Information:

SAS Name: DRUGTST1, DRUGTST2, DRUGTST3

Attribute Codes

2016-2017	
0	Test Not Given
1	Blood
2	Urine
3	Both Blood and Urine Tests
6	Not Reported
7	Unknown Test Type
8	Other Test Type
9	Unknown if Tested

Drug Test Result (discontinued)

Definition: This data element identifies the drug test result for this person.

SAS Name: DRUGRES1, DRUGRES2, DRUGRES3

Attribute Codes

2016-2017

0	Test Not Given
1	Tested for Drugs, No Drugs Found/Negative
95	Not Reported
997	Tested for Drugs, Result Unknown
998	Tested for Drugs, Drugs Found, Type Unknown/Positive
999	Unknown if Tested

Related Factors- Person Level (discontinued)

Definition: This data element records factors related to motor vehicle occupants other than drivers and people not in motor vehicles as expressed in the case materials.

Additional Information: There are also vehicle-level-related factors in the Vehicle data file, VEH_SC1 and VEH_SC2 and driver-related factors, also in the Vehicle data file, namely DR_SF1, DR_SF2, DR_SF3, and DR_SF4. There are also crash-related factors CF1, CF2, and CF3 in the Accident data file.

Any of the three data elements may have been used to code a related factor. One must test all three data elements to insure that the selected related factor is included.

Person-related factors for all drivers are coded 0. Person-related factors for non-drivers can have non-zero values as listed below.

Prior to 2019 the Data Element ID was P26/NM25. Beginning in 2020 this data element was no longer collected at the Person level. It is now collected in the Personrf data file as PERSONRF.

SAS Name: P_SF1, P_SF2, P_SF3

Attribute Codes

2016	*2017*	*2018*	*2019*	
0	0	0	0	None/Not Applicable-Driver
5	5	5	5	Interfering With Driver*
9	9	9	9	Construction/Maintenance/Utility Worker/Highway Department, Contractor, Utility Company Personnel, etc.
--	10	10	10	Alcohol and/or Drug Test Refused
13	13	13	13	Motorized Wheelchair Rider**
21	21	21	21	Overloading or Improper Loading of Vehicle with Passengers or Cargo
--	--	31	31	Default Code Used for Vehicle Numbering**
32	32	32	32	Opening Vehicle Closure into Moving Traffic or While Vehicle Is in Motion*
--	--	--	53	Non-Motorist Previously Used a Motor Vehicle for Motion**
--	--	--	54	Non-Motorist Attempting to Use a Motor Vehicle for Motion**
--	--	--	55	Non-Motorist Attempting to Use or Previously Used a Motor Vehicle for Motion, Details Not Reported**
56	56	56	56	Non-Driver Flees Scene
86	86	86	--	Emergency Services Personnel
87	87	87	87	Police or Law Enforcement Officer
89	89	89	89	Parked Motor Vehicle With Equipment Extending into the Travel Lane*

90	90	90	90	Non-Motorist Pushing a Vehicle**
91	91	91	91	Portable Electronic Devices
92	92	92	92	Person in Ambulance Treatment Compartment*
93	93	93	93	Non-Motorist Wearing Motorcycle Helmet**
--	--	--	94	Emergency Medical Services Personnel
--	--	--	95	Fire Personnel
--	--	--	96	Tow Operator
--	--	--	97	Transportation (Maintenance Workers, Safety Service Patrol Operators, etc.)
99	99	--	--	Unknown
--	--	99	99	Reported as Unknown

***** Attribute is only applicable to occupants (other than drivers) of motor vehicles.

- ** Attribute is only applicable to people not in motor vehicles.

The PARKWORK Data File

The Parkwork data file includes Vehicle data elements applicable to Parked and Working Vehicles. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The Parkwork data file also contains the data elements on the following pages.

CASENUM and VEH_NO are the unique identifiers for each record. CASENUM should be used to merge the Parkwork data file with the Accident data file. CASENUM and VEH_NO should be used to merge the Parkwork data file with the Person data file.

C4A Number of Motor Vehicles in Transport (MVIT)

Definition: This data element is a count of the number of motor vehicles in transport involved in the crash. Legally parked vehicles are not included.

Additional Information: See this data element in the Accident data file section for more information.

SAS Name: PVE_FORMS

Attribute Codes

2016-Later

1-100 Number of Vehicles

C8 Crash Date

C8A Month of Crash

Definition: This data element records the month in which the crash occurred.

Additional Information: See this data element in the Accident data file section for more information.

SAS Name: PMONTH

Attribute Codes

2016-Later

1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
10	October
11	November
12	December

C9 Crash Time

C9A Hour of Crash

Definition: This data element records the hour at which the crash occurred.

Additional Information: See this data element in the Accident data file section for more information.

SAS Name: PHOUR

Attribute Codes

2016-Later

0-23 Hour

99 Unknown

C9B Minute of Crash

Definition: This data element records the minutes after the hour at which the crash occurred.

Additional Information: See this data element in the Accident data file section for more information.

SAS Name: PMINUTE

Attribute Codes

2016-Later

0-59 Minute

99 Unknown

C19 First Harmful Event

Definition: This data element describes the first injury or damage producing event of the crash.

Additional Information: See this data element in the Accident data file section for more information.

SAS Name: PHARM_EV

Attribute Codes

2016	*2017*	*2018-Later*	
NONCOLLISION			
1	1	1	Rollover/Overturn
2	2	2	Fire/Explosion
3	3	3	Immersion or Partial Immersion
4	4	4	Gas Inhalation
5	5	5	Fell/Jumped From Vehicle
6	6	6	Injured in Vehicle (Non-Collision)
7	7	7	Other Noncollision
16	16	16	Thrown or Falling Object
44	44	44	Pavement Surface Irregularity (Ruts, Potholes, Grates, etc.)
51	51	51	Jackknife (Harmful to This Vehicle)
72	72	--	Cargo/Equipment Loss or Shift (Harmful to This Vehicle)
--	--	72	Cargo/Equipment Loss, Shift, or Damage (Harmful)
COLLISION WITH MOTOR VEHICLE IN TRANSPORT			
12	12	12	Motor Vehicle in Transport
54	54	54	Motor Vehicle in Transport Strikes or Is Struck by Cargo, Persons or Objects Set-in-Motion From/by Another Motor Vehicle in Transport
55	55	88	Motor Vehicle in Motion Outside the Trafficway
COLLISION WITH OBJECT NOT FIXED			
8	8	8	Pedestrian
9	9	9	Pedalcyclist
10	10	10	Railway Vehicle
11	11	11	Live Animal
14	14	14	Parked Motor Vehicle
15	15	15	Non-Motorist on Personal Conveyance

18	18	18	Other Object Not Fixed
45	45	45	Working Motor Vehicle
49	49	49	Ridden Animal or Animal Drawn Conveyance
73	73	73	Object That Had Fallen From Motor Vehicle in Transport
74	74	74	Road Vehicle on Rails
--	91	91	Unknown Object Not Fixed
COLLISION WITH FIXED OBJECT			
17	17	17	Boulder
19	19	19	Building
20	20	20	Impact Attenuator/Crash Cushion
21	21	21	Bridge Pier or Support
23	23	23	Bridge Rail (Includes Parapet)
24	24	24	Guardrail Face
25	25	25	Concrete Traffic Barrier
26	26	26	Other Traffic Barrier
30	30	30	Utility Pole/Light Support
31	31	31	Post, Pole or Other Support
32	32	32	Culvert
33	33	33	Curb
34	34	34	Ditch
35	35	35	Embankment
38	38	38	Fence
39	39	39	Wall
40	40	40	Fire Hydrant
41	41	41	Shrubbery
42	42	42	Tree (Standing Only)
43	43	43	Other Fixed Object
46	46	46	Traffic Signal Support
48	48	48	Snow Bank
50	50	50	Bridge Overhead Structure
52	52	52	Guardrail End
53	53	53	Mail Box
57	57	57	Cable Barrier

58	58	58	Ground
59	59	59	Traffic Sign Support
--	93	93	Unknown Fixed Object
--	--	98	Harmful Event, Details Not Reported (Since 2019)
99	99	--	Unknown
--	--	99	Reported as Unknown

C20 Manner of Collision of the First Harmful Event

Definition: This data element describes the orientation of two motor vehicles in transport when they are involved in the "First Harmful Event" of a collision crash. If the "First Harmful Event" is not a collision between two motor vehicles in transport, it is classified as such.

Additional Information: See this data element in the Accident data file section for more information.

SAS Name: PMAN_COLL

Attribute Codes

2016-2017	*2018*	*2019-Later*	
0	0	--	Not Collision With Motor Vehicle in Transport
--	--	0	First Harmful Event Was Not a Collision With Motor Vehicle in Transport
1	1	1	Front-to-Rear
2	2	2	Front-to-Front
6	6	6	Angle
7	7	7	Sideswipe, Same Direction
8	8	8	Sideswipe, Opposite Direction
9	9	9	Rear-to-Side
10	10	10	Rear-to-Rear
11	11	11	Other
98	98	98	Not Reported
99	--	--	Unknown
--	99	99	Reported as Unknown

V4 Number of Occupants

Definition: This data element is a count of the number of occupants in this vehicle.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PNUMOCCS

Attribute Codes

2016-Later

0	None
1-98	Number of Occupants
99	Unknown

V5 Unit Type

Definition: This data element identifies the type of unit that applies to this motor vehicle at the time it became an involved vehicle in the crash and was reported as a unit on the police crash report.

Additional Information: This data element also appears in the Vehicle data file as UNITTYPE. The only valid attribute for UNITTYPE is 1 (Motor Vehicle in Transport [Inside or Outside the Trafficway]).

SAS Name: PTYPE

Attribute Codes

2016-Later

2 Motor Vehicle Not in Transport Within the Trafficway

3 Motor Vehicle Not in Transport Outside the Trafficway

4 Working Motor Vehicle (Highway Construction, Maintenance, Utility Only)

V6 Hit and Run

Definition: This data element identifies whether this vehicle was a contact vehicle in the crash that did not stop to render aid (this can include drivers who flee the scene on foot). Hit and run is coded when a motor vehicle in transport, or its driver, departs from the scene; motor vehicles not in transport are excluded. It does not matter whether the hit-and-run vehicle was striking or struck.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PHIT_RUN

Attribute Codes

2016-2017	*2018-2019*	*2020-Later*	
0	0	0	No
1	1	1	Yes
9	--	--	Unknown
--	9	--	Reported as Unknown

V9 Vehicle Identification Number (VIN)

Definition: This data element records the vehicle identification number (VIN) of this vehicle assigned by the vehicle manufacturer. The VIN contains information on the vehicle such as: manufacturer, model year, model, body type, restraint type, etc.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PVIN

Attribute Codes

2016-2017	*2018-Later*	
000000000000	000000000000	No VIN Required
xxxxxxxxxxxx	xxxxxxxxxxxx	First 12 Characters of the VIN
888888888888	888888888888	Not Reported
999999999999	--	Unknown
--	999999999999	Reported as Unknown
--	*	VIN Character Missing or Not Decipherable

V10 Vehicle Model Year

Definition: This data element identifies the manufacturer's model year of this vehicle.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PMODYEAR

Attribute Codes

2016-Later

xxxx	Actual Model Year
9998	Not Reported
9999	Unknown

V11 vPIC Make

Definition: This element identifies the Make (manufacturer brand name) of this vehicle as per NHTSA vPIC submissions.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PVPICMAKE

Attribute Codes

2020-Later	
xxxxx	Actual 5-Digit Make
99997	Other
99998	Not Reported
99999	Unknown

V12 vPIC Model

Definition: This element identifies the Model of this vehicle using NHTSA's VIN decoder application, vPIC.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PVPICMODEL

Attribute Codes

2020-Later	
xxxxx	Actual 5-Digit Model
99997	Other
99998	Not Reported
99999	Unknown

V13 vPIC Body Class

Definition: This element identifies a classification of this vehicle based on its general body configuration, size, shape, doors, etc. as defined by the manufacturer.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PVPICBODYCLASS

Attribute Codes

2020-Later	
1	Convertible/Cabriolet
2	Minivan
3	Coupe
4	Low Speed Vehicle (LSV)/Neighborhood Electric Vehicle (NEV)
5	Hatchback/Liftback/Notchback
6	Motorcycle - Standard
7	Sport Utility Vehicle (SUV)/Multi-Purpose Vehicle (MPV)
8	Crossover Utility Vehicle (CUV)
9	Van
10	Roadster
11	Truck
12	Motorcycle - Scooter
13	Sedan/Saloon
15	Wagon
16	Bus
60	Pickup
62	Incomplete - Cutaway
63	Incomplete - Chassis Cab (Single Cab)
64	Incomplete - Glider
65	Incomplete
66	Truck-Tractor
67	Incomplete - Stripped Chassis
68	Streetcar/Trolley
69	Off-Road Vehicle - All Terrain Vehicle (ATV) (Motorcycle-Style)
70	Incomplete - Chassis Cab (Double Cab)

71 Incomplete - School Bus Chassis
72 Incomplete - Commercial Bus Chassis
73 Bus - School Bus
74 Incomplete - Chassis Cab (Number of Cab Unknown)
75 Incomplete - Transit Bus Chassis
76 Incomplete - Motor Coach Chassis
77 Incomplete - Shuttle Bus Chassis
78 Incomplete - Motor Home Chassis
80 Motorcycle - Sport
81 Motorcycle - Touring/Sport Touring
82 Motorcycle - Cruiser
83 Motorcycle - Trike
84 Off-Road Vehicle - Dirt Bike/Off-Road
85 Motorcycle - Dual Sport/Adventure/Supermoto/On/Off-Road
86 Off-Road Vehicle - Enduro (Off-Road Long-Distance Racing)
87 Motorcycle - Small/Minibike
88 Off-Road Vehicle - Go Kart
90 Motorcycle - Side Car
94 Motorcycle - Custom
95 Cargo Van
97 Off-Road Vehicle - Snowmobile
98 Motorcycle - Street
100 Motorcycle - Enclosed Three Wheeled/Enclosed Autocycle
103 Motorcycle - Unenclosed Three Wheeled/Open Autocycle
104 Motorcycle - Moped
105 Off-Road Vehicle - Recreational Off-Road Vehicle (ROV)
107 Incomplete - Bus Chassis
108 Motorhome
109 Motorcycle - Cross Country
110 Motorcycle - Underbone
111 Step Van/Walk-in Van
112 Incomplete - Commercial Chassis
113 Off-Road Vehicle - Motocross (Off-Road Short-Distance, Closed-Track Racing)

114 Motorcycle - Competition
117 Limousine
119 Sport Utility Truck (SUT)
124 Off-Road Vehicle - Golf Cart
125 Motorcycle - Unknown Body Type
126 Off-Road Vehicle - Farm Equipment
127 Off-Road Vehicle - Construction Equipment
996 Motorized Bicycle
997 Other
998 Not Reported
999 Unknown

V14 NCSA Make

Definition: This data element identifies the make (manufacturer) of this vehicle by NCSA historically.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PMAKE

Attribute Codes

2016-Later

1 American Motors
2 Jeep/Kaiser-Jeep/Willys-Jeep
3 AM General
6 Chrysler
7 Dodge
8 Imperial
9 Plymouth
10 Eagle
12 Ford
13 Lincoln
14 Mercury
18 Buick/Opel
19 Cadillac
20 Chevrolet
21 Oldsmobile
22 Pontiac
23 GMC
24 Saturn
25 Grumman
26 Coda
29 Other Domestic Manufacturers
Avanti
Checker
DeSoto
Excalibur

Hudson
Packard
Panoz
Saleen
Studebaker
Stutz
Tesla

30 Volkswagen
31 Alfa Romeo
32 Audi
33 Austin/Austin Healey
34 BMW
35 Datsun/Nissan
36 Fiat
37 Honda
38 Isuzu
39 Jaguar
40 Lancia
41 Mazda
42 Mercedes-Benz
43 MG
44 Peugeot
45 Porsche
46 Renault
47 Saab
48 Subaru
49 Toyota
50 Triumph
51 Volvo
52 Mitsubishi
53 Suzuki
54 Acura
55 Hyundai

56 Merkur
57 Yugo
58 Infiniti
59 Lexus
60 Diahatsu
61 Sterling
62 Land Rover
63 Kia
64 Daewoo
65 Smart
67 Scion
69 Other Import
- Aston Martin
- Bentley
- Bertone
- Bricklin
- Bugatti
- Caterham
- Citroen
- DeLorean
- Desta
- Ferrari
- Fisker
- Gazelle
- Hillman
- Jensen

69 Other Import *(continued)*
- Koenigsegg
- Lada
- Lamborghini
- Lotus
- Mahindra
- Maserati

Maybach
McLaren
Mini Cooper
Morgan
Morris
Reliant (British)
Rolls-Royce
Simca
Singer
Spyker
Sunbeam
TVR

70 BSA
71 Ducati
72 Harley-Davidson
73 Kawasaki
74 Moto-Guzzi
75 Norton
76 Yamaha
78 Other Make Moped
79 Other Make Motored Cycle
80 Brockway
81 Diamond Reo/Reo
82 Freightliner/White
83 FWD
84 International Harvester/Navistar
85 Kenworth
86 Mack
87 Peterbilt
88 Iveco/Magirus
89 White/Autocar, White/GMC
90 Bluebird
91 Eagle Coach

92 Gillig

93 MCI

94 Thomas Built

97 Not Reported

98 Other Make

- Auto-Union-DKW
- Carpenter
- Collins Bus
- DINA
- Divco
- Hino
- Meyers Motors
- Mid Bus
- Neoplan
- Orion
- Oshkosh
- Scania
- Sterling
- Think
- UD
- Van Hool
- Western Star

99 Unknown Make

V15 NCSA Model

Definition: This data element identifies the NCSA model of this vehicle within a given NCSA make.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PMODEL

Attribute Codes

2016-Later

See the current FARS/CRSS Coding and Validation Manual for vehicle model codes.

V16 NCSA Body Type

Definition: This data element identifies a classification of this vehicle based on its general body configuration, size, shape, doors, etc. as defined by NCSA.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PBODYTYP

Attribute Codes

2016	*2017-2019*	*2020-Later*	
AUTOMOBILES			
1	1	1	Convertible (Excludes Sun-Roof, T-Bar)
2	2	2	2-Door Sedan, Hardtop, Coupe
3	3	3	3-Door/2-Door Hatchback
4	4	4	4-Door Sedan, Hardtop
5	5	5	5-Door/4-Door Hatchback
6	6	6	Station Wagon (Excluding Van- and Truck-Based)
7	7	7	Hatchback, Number of Doors Unknown
8	8	8	Sedan/Hardtop, Number of Doors Unknown
9	9	9	Other or Unknown Automobile Type
17	17	17	3-Door Coupe
AUTOMOBILE DERIVATIVES			
10	10	10	Auto Based Pickup (Includes El Camino, Caballero, Ranchero, SSR, G8-ST, Baha, Brat, and Rabbit Pickup)
11	11	11	Auto Based Panel (Cargo Station Wagon, Auto-Based Ambulance/Hearse)
12	12	12	Large Limousine (More Than Four Side Doors or Stretched Chassis)
13	13	13	Three Wheel Automobile or Automobile Derivative
UTILITY VEHICLES			
14	14	14	Compact Utility (ANSI D-16 Utility Vehicle Categories “Small” and “Midsize”)
15	15	15	Large Utility (ANSI D-16 Utility Vehicle Categories “Full Size” and “Large”)
16	16	16	Utility Station Wagon
19	19	17	Utility Vehicle, Unknown Body Type

VAN-BASED LIGHT TRUCKS (GVWR ≤ 10,000 LBS)			
20	20	20	Minivan
21	21	21	Large Van – Includes Van-Based Buses
22	22	22	Step Van or Walk-in Van (GVWR ≤ 10,000 lbs)
28	28	28	Other Van Type
29	29	29	Unknown Van Type
LIGHT CONVENTIONAL TRUCKS (PICKUP STYLE CAB, GVWR ≤10,000 LBS)			
30	--	--	Compact Pickup (S-10, LUV, Ram 50, Rampage, Courier, Ranger, S-5, Pup, Mazda Pickup, Mitsubishi Truck, Datsun/Nissan Pickup, Arrow Pickup, Scamp, Toyota Pickup, VW Pickup, D50, Colt P/U, T-10, S-15, T-15, Ram 100, Dakota, Sonoma)
31	--	--	Standard Pickup (C10-C35, Jeep P/U, Comanche, Ram P/U, K10-K35, D100-D350, W100-350, F100-F350, R100-500, R10-R35, V10-35, Silverado, Sierra, T100)
32	32	32	Pickup With Slide-in Camper (2016-2017 Only)
33	33	33	Convertible Pickup
--	34	34	Light Pickup
39	39	39	Unknown (Pickup Style) Light Conventional Truck
OTHER LIGHT TRUCKS (GVWR ≤10,000 LBS)			
40	40	40	Cab Chassis Based (Included Rescue Vehicle, Light Stake, Dump, and Tow Truck)
41	41	41	Truck-Based Panel
45	45	45	Other Light Conventional Truck Type
48	48	48	Unknown Light Truck Type
49	49	49	Unknown Light Vehicle Type (Automobile, Utility, Van, or Light Truck)
BUSES (EXCLUDES VAN BASED BUSES WITH A GVWR ≤ 10,000 LBS)			
50	50	50	School Bus (Designed to Carry Students, Not Cross Country or Transit)
51	51	51	Cross Country/Intercity Bus (i.e., Greyhound)
52	52	52	Transit Bus (City Bus)
55	55	55	Van-Based Bus (GVWR > 10,000 lbs)
58	58	58	Other Bus Type
59	59	59	Unknown Bus Type

MEDIUM/HEAVY TRUCKS (GVWR > 10,000 LBS)			
60	60	60	Step Van (GVWR > 10,000 lbs)
61	61	61	Single-Unit Straight Truck or Cab-Chassis (GVWR Range 10,001 to 19,500 lbs)
62	62	62	Single-Unit Straight Truck or Cab-Chassis (GVWR Range 19,501 to 26,000 lbs)
63	63	63	Single-Unit Straight Truck or Cab-Chassis (GVWR > 26,000 lbs)
64	64	64	Single Unit Straight Truck or Cab-Chassis (GVWR Unknown)
66	66	66	Truck-Tractor (Cab Only, or With Any Number of Trailing Units; Any Weight)
67	67	67	Medium/Heavy Pickup (GVWR > 10,000 lbs)
71	71	71	Unknown if Single-Unit or Combination-Unit Medium Truck (GVWR Range 10,001 to 26,000 lbs)
72	72	72	Unknown if Single-Unit or Combination-Unit Heavy Truck (GVWR > 26,000 lbs)
78	78	78	Unknown Medium/Heavy Truck Type
79	79	79	Unknown Truck Type (Light/Medium/Heavy)
MOTOR HOMES			
42	42	--	Light Truck-Based Motor Home (Chassis Mounted)
--	--	42	Light Vehicle-Based Motor Home (Chassis Mounted)
65	65	--	Medium/Heavy Truck-Based Motor Home
--	--	65	Medium/Heavy Vehicle-Based Motor Home
73	73	--	Camper or Motor Home, Unknown Truck Type
--	--	73	Camper or Motor Home, Unknown GVWR
MOTORED CYCLES, MOPEDS, ALL-TERRAIN VEHICLES, ALL-TERRAIN CYCLES			
80	--	--	Motorcycle
--	80	80	Two Wheel Motorcycle (Excluding Motor Scooters)
81	--	--	Moped (Motorized Bicycle)
--	81	81	Moped or Motorized Bicycle
82	--	--	Three Wheeled Motorcycle or Moped
--	82	82	Three-wheel Motorcycle (2 Rear Wheels)
83	--	--	Off-Road Motorcycle (2-Wheel)
--	83	83	Off-Road Motorcycle
--	84	84	Motor Scooter

--	85	85	Unenclosed Three Wheel Motorcycle/Unenclosed Autocycle (1 Rear Wheel)
--	86	86	Enclosed Three Wheel Motorcycle/Enclosed Autocycle (1 Rear Wheel)
--	87	87	Unknown Three Wheel Motorcycle Type
88	--	--	Other Motored Cycle Type (Minibike, Motor Scooter, Pocket Motorcycles, Pocket Bikes)
--	88	88	Other Motored Cycle Type (Mini-bikes, Pocket Motorcycles, "Pocket Bikes")
89	89	89	Unknown Motored Cycle Type
90	90	90	ATV (All-Terrain Vehicle)/ATC (All-Terrain Cycle)
OTHER VEHICLES			
91	91	91	Snowmobile
92	92	92	Farm Equipment Other Than Trucks
93	93	93	Construction Equipment Other Than Trucks (Includes Graders)
94	94	94	Low Speed Vehicle (LSV)/Neighborhood Electric Vehicle (NEV)
95	95	95	Golf Cart
--	96	96	Recreational Off-Highway Vehicle (ROV)
97	97	97	Other Vehicle Type (Includes Go-Cart, Fork-Lift, City Street Sweeper)
98	98	98	Not Reported
99	99	99	Unknown Body Type

V17 Final Stage Body Class

Definition: This element captures the completed/finished body class for an Incomplete Vehicle. An incomplete vehicle is completed by a final stage manufacturer. The intent of this data element is to capture the body class for incomplete vehicles when they are finished for road-use.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PICFINALBODY

Attribute Codes

	2020-Later
0	Not Applicable
2	Minivan
4	Low Speed Vehicle (LSV)
7	Sport Utility Vehicle (SUV)/Multi-Purpose Vehicle (MPV)
8	Crossover Utility Vehicle (CUV)
9	Van
11	Truck
15	Wagon
16	Bus
60	Pickup
66	Truck-Tractor
68	Streetcar/Trolley
73	Bus-School Bus
95	Cargo Van
108	Motorhome
111	Step Van/Walk-in Van
117	Limousine
119	Sport Utility Truck
997	Other
998	Not Reported
999	Unknown

V18 Power Unit Gross Vehicle Weight Rating (GVWR)

Definition: This element identifies the range of Gross Vehicle Weight Rating of the power unit as identified by the manufacturer through the vehicle's VIN submission. GVWR_FROM defines the lowest value and GVWR_TO defines the highest value for the range of the GVWR specified by the manufacturer as the recommended loaded weight for a vehicle.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PGVWR_FROM, PGVWR_TO

Attribute Codes

2020-Later	
11	Class 1: 6,000 lbs or less (2,722 kg or less)
12	Class 2: 6,001 - 10,000 lbs (2,722 - 4,536 kg)
13	Class 3: 10,001 - 14,000 lbs (4,536 - 6,350 kg)
14	Class 4: 14,001 - 16,000 lbs (6,350 - 7,258 kg)
15	Class 5: 16,001 - 19,500 lbs (7,258 - 8,845 kg)
16	Class 6: 19,501 - 26,000 lbs (8,845 - 11,794 kg)
17	Class 7: 26,001 - 33,000 lbs (11,794 - 14,969 kg)
18	Class 8: 33,001 lbs and above (14,969 kg and above)
98	Not Reported
99	Reported as Unknown

V19 Vehicle Trailing

Definition: This data element identifies whether this vehicle had any attached trailing units or was towing another motor vehicle. A trailing unit can be a horse trailer, fifth wheel trailer, camper, boat, truck trailer, towed vehicle or any other trailer.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PTRAILER

Attribute Codes

2016-Later

0	No Trailing Units
1	Yes, One Trailing Unit
2	Yes, Two Trailing Units
3	Yes, Three or More Trailing Units
4	Yes, Number of Trailing Units Unknown
5	Vehicle Towing Another Motor Vehicle – Fixed Linkage
6	Vehicle Towing Another Motor Vehicle – Non-fixed Linkage
9	Unknown

V20 Trailer Vehicle Identification Number

Definition: This data element records the vehicle identification number (VIN) of any trailing units of a combination vehicle.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PTRLR1VIN, PTRLR2VIN, PTRLR3VIN

Attribute Codes

2016-2017	*2018-Later*	
000000000000	000000000000	No VIN Required
xxxxxxxxxxxx	xxxxxxxxxxxx	First 12 Characters of the VIN
777777777777	777777777777	No Trailing Units
888888888888	888888888888	Not Reported
999999999999	--	Unknown
--	999999999999	Reported as Unknown
--	*	VIN Character Missing or Not Decipherable

V21 Trailer Gross Vehicle Weight Rating (GVWR)

Definition: This element identifies the Gross Vehicle Weight Rating of any trailing units as identified by the manufacturer in the vehicle's VIN.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PTRLR1GVWR, PTRLR2GVWR, PTRLR3GVWR

Attribute Codes

2020-Later	
0	No Trailer GVWR Required
11	Class 1: 6,000 lbs or less (2,722 kg or less)
12	Class 2: 6,001 - 10,000 lbs (2,722 - 4,536 kg)
13	Class 3: 10,001 - 14,000 lbs (4,536 - 6,350 kg)
14	Class 4: 14,001 - 16,000 lbs (6,350 - 7,258 kg)
15	Class 5: 16,001 - 19,500 lbs (7,258 - 8,845 kg)
16	Class 6: 19,501 - 26,000 lbs (8,845 - 11,794 kg)
17	Class 7: 26,001 - 33,000 lbs (11,794 - 14,969 kg)
18	Class 8: 33,001 lbs and above (14,969 kg and above)
77	No Trailing Units
98	Not Reported
99	Reported as Unknown

V23 Motor Carrier Identification Number (MCID)

Definition: This data element records the issuing authority and motor carrier identification number if applicable to this vehicle.

Additional Information: This 11-character data element is the combination of two data elements, the 2-digit Motor Carrier Issuing Authority code (MCARR_I1) followed by the 9-character Identification Number (MCARR_I2).

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PMCARR_ID

Attribute Codes

2016-Later

00000000000	Not Applicable
xxxxxxxxxxx	11-Character (Combination of MCARR_I1 followed by MCARR_I2)
77777777777	Not Reported
88888888888	None
99999999999	Unknown (Reported as Unknown, 2018-2019)

V23A MCID Issuing Authority

Definition: This data element records the issuing authority if applicable to this vehicle.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PMCARR_I1

Attribute Codes

2016-Later

0	Not Applicable
1-56	State Code [See next page]
57	U.S. DOT
58	MC/MX (ICC)
77	Not Reported
88	None
95	Canada
96	Mexico
99	Unknown
	(Reported as Unknown, 2018-2019)

Attribute Codes

2016-Later

1	Alabama
2	Alaska
3	American Samoa
4	Arizona
5	Arkansas
6	California
8	Colorado
9	Connecticut
10	Delaware
11	District of Columbia
12	Florida
13	Georgia
14	Guam
15	Hawaii
16	Idaho
17	Illinois
18	Indiana
19	Iowa
20	Kansas
21	Kentucky
22	Louisiana
23	Maine
24	Maryland
25	Massachusetts
26	Michigan
27	Minnesota
28	Mississippi
29	Missouri
30	Montana
31	Nebraska
32	Nevada
33	New Hampshire
34	New Jersey
35	New Mexico
36	New York
37	North Carolina
38	North Dakota
39	Ohio
40	Oklahoma
41	Oregon
42	Pennsylvania
43	Puerto Rico
44	Rhode Island
45	South Carolina
46	South Dakota
47	Tennessee
48	Texas
49	Utah
50	Vermont
51	Virginia
52	Virgin Islands
53	Washington
54	West Virginia
55	Wisconsin
56	Wyoming

V23B MCID Identification Number

Definition: This data element records the motor carrier identification number if applicable to this vehicle.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PMCARR_I2

Attribute Codes

2016-Later

000000000	Not Applicable
xxxxxxxxx	Actual 9-Digit Number
777777777	Not Reported
888888888	None
999999999	Unknown (Reported as Unknown, 2018-2019)

V24 Vehicle Configuration

Definition: This data element describes the general configuration of this vehicle if applicable.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PV_CONFIG

Attribute Codes

2016-Later	
0	Not Applicable
1	Single-Unit Truck (2 Axles and GVWR More Than 10,000 lbs)
2	Single-Unit Truck (3 or More Axles)
4	Truck Pulling Trailer(s)
5	Truck Tractor (Bobtail)
6	Truck Tractor/Semi-Trailer
7	Truck Tractor/Double
8	Truck Tractor/Triple
10	Vehicle 10,000 lbs or Less Placarded for Hazardous Materials
19	Truck More than 10,000 lbs, Cannot Classify
20	Bus/Large Van (Seats for 9-15 Occupants, Including Driver)
21	Bus (Seats for More Than 15 Occupants, Including Driver)
99	Unknown (Reported as Unknown, 2018-2019)

V25 Cargo Body Type

Definition: This data element identifies the primary cargo carrying capability of this vehicle if applicable.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PCARGTYP

Attribute Codes

2016-Later	
0	Not Applicable
1	Van/Enclosed Box
2	Cargo Tank
3	Flatbed
4	Dump
5	Concrete Mixer
6	Auto Transporter
7	Garbage/Refuse
8	Grain/Chips/Gravel
9	Pole-Trailer
10	Log
11	Intermodal Container Chassis
12	Vehicle Towing Another Vehicle
22	Bus
96	No Cargo Body
97	Other
98	Unknown Cargo Body Type
99	Unknown (Reported as Unknown, 2018-2019)

V26A/HM1 Hazardous Materials Involvement

Definition: This data element identifies whether this vehicle was carrying hazardous materials.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PHAZ_INV

Attribute Codes

2016-Later

1 No

2 Yes

V26B/HM2 Hazardous Materials Placard

Definition: This data element identifies the presence of hazardous materials for this vehicle and whether this vehicle displayed a hazardous materials placard.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PHAZPLAC

Attribute Codes

2016-Later

0 Not Applicable

1 No

2 Yes

8 Not Reported

V26C/HM3 Hazardous Material Identification Number

Definition: This data element identifies the 4-digit hazardous material identification number for this vehicle.

Additional Information: In 2018 this data element was changed to alphanumeric to retain all four digits.

See this data element in the Vehicle data file section for more information.

SAS Name: PHAZ_ID

Attribute Codes

2016-Later

0	Not Applicable
xxxx	Actual 4-Digit Number
8888	Not Reported

V26D/HM4 Hazardous Material Class Number

Definition: This data element identifies the single-digit hazardous material class number for this vehicle.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PHAZ_CNO

Attribute Codes

2016-Later

0	Not Applicable
1	Explosives
2	Gases
3	Flammable/Combustible Liquid
4	Flammable Solid, Spontaneously Combustible, and Dangerous When Wet
5	Oxidizer and Organic Peroxide
6	Poison and Poison Inhalation Hazard
7	Radioactive
8	Corrosive
9	Miscellaneous
88	Not Reported

V26E/HM5 Release of Hazardous Material from the Cargo Compartment

Definition: This data element identifies whether any hazardous cargo was released from the cargo tank or compartment of this vehicle.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PHAZ_REL

Attribute Codes

2016-Later

0 Not Applicable

1 No

2 Yes

8 Not Reported

V27 Bus Use

Definition: This data element describes the common type of bus service this vehicle was being used as at the time of the crash or the primary use for the bus if not in service at the time of the crash.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PBUS_USE

Attribute Codes

2016-2017	*2018-Later*	
0	0	Not a Bus
1	1	School
4	4	Intercity
5	5	Charter/Tour
6	6	Transit/Commuter
7	7	Shuttle
8	8	Modified for Personal/Private Use
98	98	Not Reported
99	--	Unknown
--	99	Reported as Unknown

V28 Special Use

Definition: This data element identifies any special use associated with this vehicle at the time of the crash.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PSP_USE

Attribute Codes

2016-2018	*2019*	*2020-Later*	
0	0	0	No Special Use
1	1	1	Taxi
2	2	2	Vehicle Used for School Transport
3	3	3	Vehicle Used as Other Bus
4	4	4	Military
5	5	5	Police
6	6	6	Ambulance
7	7	7	Fire Truck
8	8	8	Non-Transport Emergency Services Vehicle
--	10	10	Safety Service Patrols – Incident Response
--	11	11	Other Incident Response
--	12	12	Towing – Incident Response
13	--	--	Incident Response
--	--	19	Motor Vehicle Used for Vehicle Sharing Mobility
--	20	--	Vehicle Used for Electronic Ride-Hailing (Transportation Network Company)
--	--	20	Motor Vehicle Used for Electronic Ride-Hailing
--	21	21	Mail Carrier
--	22	22	Public Utility
--	23	23	Rental Truck Over 10,000 lbs
--	24	24	Truck Operating With Crash Attenuator Equipment
98	98	98	Not Reported
99	--	--	Unknown
99	99	99	Reported as Unknown (Since 2018)

V29 Emergency Motor Vehicle Use

Definition: This data element identifies whether this vehicle was engaged in emergency use. Emergency Use indicates operation of any motor vehicle that is legally authorized by a government authority to respond to emergencies with or without the use of emergency warning equipment, such as a police vehicle, fire truck or ambulance while actually engaged in such response.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PEM_USE

Attribute Codes

2016-2017	*2018-Later*	
0	0	Not Applicable
2	2	Non-Emergency, Non-Transport
3	3	Non-Emergency Transport
4	4	Emergency Operation, Emergency Warning Equipment Not in Use
5	5	Emergency Operation, Emergency Warning Equipment in Use
6	6	Emergency Operation, Emergency Warning Equipment in Use Unknown
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

V34A Area of Impact – Initial Contact Point

Definition: This data element identifies the area on this vehicle that produced the first instance of injury to non-motorists or occupants of this vehicle, or that resulted in the first instance of damage to other property or to this vehicle.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PIMPACT1

Attribute Codes

2016	*2017*	*2018*	*2019-Later*	
0	0	0	0	Non-Collision
1-12	1-12	1-12	1-12	Clock Points
13	13	13	13	Top
14	14	14	14	Undercarriage
18	18	18	18	Cargo/Vehicle Parts Set-in-Motion
19	19	19	--	Other Objects Set-in-Motion
--	--	--	19	Other Objects or Person Set-in-Motion
--	20	20	20	Object Set in Motion, Unknown if Cargo/Vehicle Parts or Other
61	61	61	61	Left
62	62	62	62	Left-Front Side
63	63	63	63	Left-Back Side
81	81	81	81	Right
82	82	82	82	Right-Front Side
83	83	83	83	Right-Back Side
98	98	98	98	Not Reported
99	99	--	--	Unknown
--	--	99	99	Reported as Unknown

V35 Extent of Damage

Definition: This data element records the amount of damage sustained by this vehicle as indicated on the police crash report based on an operational damage scale.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PVEH_SEV

Attribute Codes

2016-2017	*2018-Later*	
0	0	No Damage
2	2	Minor Damage
4	4	Functional Damage
6	6	Disabling Damage
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

V36 Vehicle Removal

Definition: This data element describes the mode by which this vehicle left the scene of the crash.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PTOWED

Attribute Codes

2016-2017	*2018-2019*	*2020-Later*	
2	2	2	Towed Due to Disabling Damage
3	3	--	Towed Not Due to Disabling Damage
--	--	3	Towed But Not Due to Disabling Damage
5	5	5	Not Towed
--	7	7	Towed, Unknown Reason
8	8	8	Not Reported
9	--	--	Unknown
--	9	9	Reported as Unknown

V38 Most Harmful Event

Definition: This data element describes the event that resulted in the most severe injury or, if no injury, the greatest property damage involving this vehicle.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PM_HARM

Attribute Codes

2016	*2017*	*2018-Later*	
NONCOLLISION			
1	1	1	Rollover/Overturn
2	2	2	Fire/Explosion
3	3	3	Immersion or Partial Immersion
4	4	4	Gas Inhalation
5	5	5	Fell/Jumped From Vehicle
6	6	6	Injured in Vehicle (Non-Collision)
7	7	7	Other Noncollision
16	16	16	Thrown or Falling Object
44	44	44	Pavement Surface Irregularity (Ruts, Potholes, Grates, etc.)
51	51	51	Jackknife (Harmful to This Vehicle)
72	72	--	Cargo/Equipment Loss or Shift (Harmful to This Vehicle)
--	--	72	Cargo/Equipment Loss, Shift, or Damage (Harmful)
COLLISION WITH MOTOR VEHICLE IN TRANSPORT			
12	12	12	Motor Vehicle in Transport
54	54	54	Motor Vehicle in Transport Strikes or Is Struck by Cargo, Persons or Objects Set-in-Motion From/by Another Motor Vehicle in Transport
55	55	55	Motor Vehicle in Motion Outside the Trafficway
COLLISION WITH OBJECT NOT FIXED			
8	8	8	Pedestrian
9	9	9	Pedalcyclist
10	10	10	Railway Vehicle
11	11	11	Live Animal
14	14	14	Parked Motor Vehicle
15	15	15	Non-Motorist on Personal Conveyance

18	18	18	Other Object Not Fixed
45	45	45	Working Motor Vehicle
49	49	49	Ridden Animal or Animal Drawn Conveyance
73	73	73	Object That Had Fallen From Motor Vehicle in Transport
74	74	74	Road Vehicle on Rails
--	91	91	Unknown Object Not Fixed
COLLISION WITH FIXED OBJECT			
17	17	17	Boulder
19	19	19	Building
20	20	20	Impact Attenuator/Crash Cushion
21	21	21	Bridge Pier or Support
23	23	23	Bridge Rail (Includes Parapet)
24	24	24	Guardrail Face
25	25	25	Concrete Traffic Barrier
26	26	26	Other Traffic Barrier
30	30	30	Utility Pole/Light Support
31	31	31	Post, Pole or Other Support
32	32	32	Culvert
33	33	33	Curb
34	34	34	Ditch
35	35	35	Embankment
38	38	38	Fence
39	39	39	Wall
40	40	40	Fire Hydrant
41	41	41	Shrubbery
42	42	42	Tree (Standing Only)
43	43	43	Other Fixed Object
46	46	46	Traffic Signal Support
48	48	48	Snow Bank
50	50	50	Bridge Overhead Structure
52	52	52	Guardrail End
53	53	53	Mail Box
57	57	57	Cable Barrier

58	58	58	Ground
59	59	59	Traffic Sign Support
--	93	93	Unknown Fixed Object
--	--	98	Harmful Event, Details Not Reported (Since 2019)
99	99	--	Unknown
--	--	99	Reported as Unknown

V39 Fire Occurrence

Definition: This data element identifies whether a fire in any way related to the crash occurred in this vehicle.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PFIRE

Attribute Codes

2016-Later

0 No or Not Reported

1 Yes

V100 NCSA Make Model Combined

Definition: This derived data element represents the 5-digit combination of two data elements, the 2-digit "NCSA Make" code (MAKE) followed by the 3-digit "NCSA Model" code (MODEL).

Additional Information: Prior to 2020 this data element's name was "Make Model Combined."

See this data element in the Vehicle data file section for more information.

SAS Name: PMAK_MOD

Attribute Codes

2016-Later

See the current FARS/CRSS Coding and Validation Manual for vehicle make and model codes.

Discontinued PARKWORK Data Elements

Gross Vehicle Weight Rating (discontinued)

Definition: This data element identifies the gross vehicle weight rating of this vehicle if applicable.

Additional Information: See this data element in the Vehicle data file section for more information.

SAS Name: PGVWR

Attribute Codes

2016-2017	*2018-2019*	
0	0	Not Applicable
1	1	10,000 lbs or Less
2	2	10,001 lbs - 26,000 lbs
3	3	26,001 lbs or More
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

Related Factors- Vehicle Level (discontinued)

Definition: This data element records factors related to this vehicle expressed in the case materials.

Additional Information: Beginning in 2020 this data element was no longer collected at the Vehicle level. It is now collected in the Pvehiclesf data file as PVEHICLESF.

SAS Name: PVEH_SC1, PVEH_SC2

Attribute Codes

2016-2017	*2018*	*2019*	
0	0	0	None
--	--	29	Default Code Used for Vehicle Numbering
30	30	30	Multi-Wheeled Motorcycle Conversion
33	33	33	Vehicle Being Pushed by Non-Motorist
35	35	35	Reconstructed/Altered Vehicle
39	39	39	Highway Construction, Maintenance or Utility Vehicle, in Transport (Inside or Outside Work Zone)
40	40	--	Highway Incident Response Vehicle
41	41	41	Police Fire or EMS Vehicle Working at the Scene of an Emergency or Performing Other Traffic Control Activities
42	42	42	Other Working Vehicle (Not Construction, Maintenance, Utility, Police, Fire, or EMS Vehicle)
44	44	44	Adaptive Equipment
--	45	45	Slide-in Camper
99	--	--	Unknown
--	99	99	Reported as Unknown

The PBTYPE Data File

The Pbtype data file includes data on pedestrians, bicyclists, and people on personal conveyances. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, VEH_NO, and PER_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The Pbtype data file also contains the data elements on the following pages.

CASENUM, VEH_NO, and PER_NO are the unique identifiers. CASENUM should be used to merge the Pbtype data file with the Accident data file.

P5/NM5 Age

Definition: This data element identifies the person's age, in years, with respect to the person's last birthday.

Additional Information:

SAS Name: PBAGE

Attribute Codes

2016-2017	*2018-Later*	
0	0	Less Than One Year
1-120	1-120	Age in Years
998	998	Not Reported
999	--	Unknown
--	999	Reported as Unknown

P6/NM6 Sex

Definition: This data element identifies the sex of the person involved in the crash

Additional Information:

SAS Name: PBSEX

Attribute Codes

2016-2017	*2018-Later*	
1	1	Male
2	2	Female
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

P7/NM7 Person Type

Definition: This data element describes the role of this person involved in the crash.

Additional Information:

SAS Name: PBPTYPE

Attribute Codes

2016-2019	*2020-Later*	
5	5	Pedestrian
6	6	Bicyclist
7	7	Other Cyclist
8	--	Person on Personal Conveyances
--	11	Person on Motorized Personal Conveyance
--	12	Person on Non-Motorized Personal Conveyance
--	13	Person on Personal Conveyance, Unknown if Motorized or Non-Motorized

NM9-PB27 Marked Crosswalk Present

Definition: This data element indicates if a marked crosswalk was present at the crash site.

Additional Information: This data element is applicable to both pedestrians and bicyclists.

SAS Name: PBCWALK

Attribute Codes

2016-Later

0 None Noted

1 Yes

9 Unknown

NM9-PB28 Sidewalk Present

Definition: This data element indicates if a sidewalk was present at the crash site.

Additional Information: This data element is applicable to both pedestrians and bicyclists.

SAS Name: PBSWALK

Attribute Codes

2016-Later

0 None Noted

1 Yes

9 Unknown

NM9-PB29 School Zone

Definition: This data element indicates if the crash occurred in a school zone.

Additional Information: This data element is applicable to both pedestrians and bicyclists.

SAS Name: PBSZONE

Attribute Codes

2016-Later

0 None Noted

1 Yes

9 Unknown

NM9-PB30 Crash Type – Pedestrian

Definition: This data element summarizes the circumstances of the crash for this pedestrian.

Additional Information: This data element is applicable to pedestrians only.

SAS Name: PEDCTYPE

Attribute Codes

2016	*2017-2019*	*2020-Later*	
0	0	0	Not a Pedestrian
120	120	120	Dispute-Related
130	130	130	Pedestrian on Vehicle
140	140	140	Vehicle Into Vehicle or Vehicle Into Object
150	150	150	Motor Vehicle Loss of Control
160	160	160	Pedestrian Loss of Control
190	190	190	Other Unusual Circumstances
211	211	211	Backing Vehicle – Non-Trafficway – Driveway
212	212	212	Backing Vehicle – Driveway Access
213	213	213	Backing Vehicle – Trafficway
214	214	214	Backing Vehicle – Non-Trafficway – Parking Lot
219	219	219	Backing Vehicle – Other/Unknown
220	220	220	Driverless Vehicle
230	230	230	Disabled Vehicle-Related
240	240	240	Emergency Vehicle-Related
250	250	250	Play Vehicle-Related
311	311	311	Working in Roadway
312	312	312	Playing in Roadway
313	313	313	Lying in Roadway
320	320	320	Entering/Exiting Parked or Stopped Vehicle
330	330	330	Mailbox-Related
341	--	--	Transit Bus-Related
--	341	341	Transit Bus Stop-Related
342	342	342	School Bus Stop-Related
360	360	360	Ice Cream/Vendor Truck-Related
410	410	410	Walking/Running Along Roadway With Traffic – From Behind

420	420	420	Walking/Running Along Roadway With Traffic – From Front
430	430	430	Walking/Running Along Roadway Against Traffic – From Behind
440	440	440	Walking/Running Along Roadway Against Traffic – From Front
459	459	459	Walking/Running Along Roadway – Direction/Position Unknown
461	461	461	Motorist Entering Driveway
465	465	465	Motorist Exiting Driveway
469	469	469	Driveway Access – Other/Unknown
510	510	510	Waiting to Cross – Vehicle Turning
520	520	520	Waiting to Cross – Vehicle Not Turning
590	590	590	Waiting to Cross – Vehicle Action Unknown
610	610	610	Standing in Roadway
620	620	620	Walking in Roadway
680	680	680	Not at Intersection – Other/Unknown
690	690	690	At Intersection – Other/Unknown
710	710	710	Multiple Threat
730	730	730	Trapped
741	741	--	Dash
--	--	741	Dash – Run, No Visial Obstruction Noted
742	742	--	Dart-out
--	--	742	Dash out – Visual Obstruction Noted
760	760	760	Pedestrian Failed to Yield
770	770	770	Motorist Failed to Yield
781	781	781	Motorist Left Turn – Parallel Paths
782	782	782	Motorist Left Turn – Perpendicular Paths
791	791	791	Motorist Right Turn – Parallel Paths
792	792	792	Motorist Right Turn on Red – Parallel Paths
794	794	794	Motorist Right Turn on Red – Perpendicular Paths
795	795	795	Motorist Right Turn – Perpendicular Paths
799	799	799	Motorist Turn/Merge – Other/Unknown
830	830	830	Non-Trafficway – Parking Lot
890	890	890	Non-Trafficway – Other/Unknown
900	900	900	Other – Unknown Location
910	910	910	Crossing an Expressway

NM9-PB30B Crash Type – Bicycle

Definition: This data element summarizes the circumstances of the crash for this bicyclist.

Additional Information: This data element is applicable to bicyclists only.

SAS Name: BIKECTYPE

Attribute Codes

2016-Later

0	Not a Cyclist
111	Motorist Turning Error – Left Turn
112	Motorist Turning Error – Right Turn
113	Motorist Turning Error – Other
114	Bicyclist Turning Error – Left Turn
115	Bicyclist Turning Error – Right Turn
116	Bicyclist Turning Error – Other
121	Bicyclist Lost Control – Mechanical Problems
122	Bicyclist Lost Control – Oversteering, Improper Braking, Speed
123	Bicyclist Lost Control – Alcohol/Drug Impairment
124	Bicyclist Lost Control – Surface Conditions
129	Bicyclist Lost Control – Other/Unknown
131	Motorist Lost Control – Mechanical Problems
132	Motorist Lost Control – Oversteering, Improper Braking, Speed
133	Motorist Lost Control – Alcohol/Drug Impairment
134	Motorist Lost Control – Surface Conditions
139	Motorist Lost Control – Other/Unknown
141	Motorist Drive-out – Sign-Controlled Intersection
142	Bicyclist Ride-out – Sign-Controlled Intersection
143	Motorist Drive-Through – Sign-Controlled Intersection
144	Bicyclist Ride-Through – Sign-Controlled Intersection
147	Multiple Threat – Sign-Controlled Intersection
148	Sign-Controlled Intersection – Other/Unknown
151	Motorist Drive-out – Right Turn on Red
152	Motorist Drive-out – Signalized Intersection
153	Bicyclist – Ride-out – Signalized Intersection
154	Motorist Drive-Through – Signalized Intersection

155 Bicyclist Ride-Through – Signalized Intersection
156 Bicyclist Failed to Clear – Trapped
157 Bicyclist Failed to Clear – Multiple Threat
158 Signalized Intersection – Other/Unknown
159 Bicyclist Failed to Clear – Unknown
160 Crossing Paths – Uncontrolled Intersection
180 Crossing Paths – Intersection – Other/Unknown
211 Motorist Left Turn – Same Direction
212 Motorist Left Turn – Opposite Direction
213 Motorist Right Turn – Same Direction
214 Motorist Right Turn – Opposite Direction
215 Motorist Drive-in/out – Parking
216 Bus/Delivery Vehicle Pullover
217 Motorist Right Turn on Red – Same Direction
218 Motorist Right Turn on Red – Opposite Direction
219 Motorist Turn/Merge – Other/Unknown
221 Bicyclist Left Turn – Same Direction
222 Bicyclist Left Turn – Opposite Direction
223 Bicyclist Right Turn – Same Direction
224 Bicyclist Right Turn – Opposite Direction
225 Bicyclist Ride-out – Parallel Path
231 Motorist Overtaking – Undetected Bicyclist
232 Motorist Overtaking – Misjudged Space
235 Motorist Overtaking – Bicyclist Swerved
239 Motorist Overtaking – Other/Unknown
241 Bicyclist Overtaking – Passing on Right
242 Bicyclist Overtaking – Passing on Left
243 Bicyclist Overtaking – Parked Vehicle
244 Bicyclist Overtaking – Extended Door
249 Bicyclist Overtaking – Other/Unknown
250 Wrong-Way/Wrong-Side – Bicyclist
255 Wrong-Way/Wrong-Side – Motorist
259 Wrong-Way/Wrong-Side – Unknown

280 Parallel Paths – Other/Unknown
311 Bicyclist Ride-out – Residential Driveway
312 Bicyclist Ride-out – Commercial Driveway
313 Bicyclist Ride-out – Driveway, Unknown Type
318 Bicyclist Ride-out – Other Midblock
319 Bicyclist Ride-out – Unknown
321 Motorist Drive-out – Residential Driveway
322 Motorist Drive-out – Commercial Driveway
323 Motorist Drive-out – Driveway, Unknown Type
328 Motorist Drive-out – Other Midblock
329 Motorist Drive-out – Midblock – Unknown
357 Multiple Threat – Midblock
380 Crossing Paths – Midblock – Other/Unknown
610 Backing Vehicle
700 Play Vehicle-Related
800 Unusual Circumstances
910 Non-Trafficway
970 Unknown Approach Paths
980 Unknown Location

NM9-PB31 Crash Location – Pedestrian

Definition: This data element identifies where the pedestrian crash occurred with respect to an intersection.

Additional Information: This data element is applicable to pedestrians only.

SAS Name: PEDLOC

Attribute Codes

2016-Later

1 At Intersection

2 Intersection-Related

3 Not at Intersection

4 Non-Trafficway Location

7 Not a Pedestrian

9 Unknown/Insufficient Information

See Analysis of Pedestrian and Bicycle Crashes Around Intersections for guidance on analyzing Pedestrian/Bicyclist crash locations.

NM9-PB31B Crash Location – Bicycle

Definition: This data element identifies where the bicyclist crash occurred with respect to an intersection.

Additional Information: This data element is applicable to bicyclists only.

SAS Name: BIKELOC

Attribute Codes

2016-Later

1 At Intersection

2 Intersection-Related

3 Not at Intersection

4 Non-Trafficway Location

7 Not a Cyclist

9 Unknown/Insufficient Information

See Analysis of Pedestrian and Bicycle Crashes Around Intersections for guidance on analyzing Pedestrian/Bicyclist crash locations.

NM9-PB32 Pedestrian Position

Definition: This data element identifies the position/location of the pedestrian with respect to the trafficway when contacted.

Additional Information: This data element is applicable to pedestrians only.

SAS Name: PEDPOS

Attribute Codes

2016-Later

1	Intersection Area
2	Crosswalk Area
3	Travel Lane
4	Paved Shoulder/Bicycle Lane/Parking Lane
5	Sidewalk/Shared-Use Path/Driveway Access
6	Unpaved Right-of-Way
7	Non-Trafficway – Driveway
8	Non-Trafficway – Parking Lot/Other
9	Other/Unknown
77	Not a Pedestrian

See Analysis of Pedestrian and Bicycle Crashes Around Intersections for guidance on analyzing Pedestrian/Bicyclist crash locations.

NM9-PB32B Bicyclist Position

Definition: This data element identifies the position/location of the bicyclist with respect to the trafficway when contacted.

Additional Information: This data element is applicable to bicyclists only.

SAS Name: BIKEPOS

Attribute Codes

2016-Later

1 Travel Lane

2 Bicycle Lane/Paved Shoulder/Parking Lane

3 Sidewalk/Crosswalk/Driveway Access

4 Shared-Use Path

5 Non-Trafficway – Driveway

6 Non-Trafficway – Parking Lot/Other

7 Not a Cyclist

8 Other

9 Unknown

See Analysis of Pedestrian and Bicycle Crashes Around Intersections for guidance on analyzing Pedestrian/Bicyclist crash locations.

NM9-PB33 Pedestrian Initial Direction of Travel

Definition: This data element identifies the initial direction of travel of the pedestrian prior to being contacted in the crash.

Additional Information: This data element is applicable to pedestrians only.

SAS Name: PEDDIR

Attribute Codes

2016	*2017-Later*	
1	1	Northbound
2	2	Eastbound
3	3	Southbound
4	4	Westbound
7	7	Not a Pedestrian
8	8	Not Applicable
9	--	Unknown Initial Direction of Travel
--	9	Not Derived/Unknown Initial Direction of Travel

NM9-PB33B Bicyclist Initial Direction of Travel

Definition: This data element identifies the initial travel direction of the bicyclist with respect to the flow of traffic prior to being contacted in the crash.

Additional Information: This data element is applicable to bicyclists only.

SAS Name: BIKEDIR

Attribute Codes

2016-Later

1 With Traffic

2 Facing Traffic

3 Not Applicable

7 Not a Cyclist

9 Unknown

NM9-PB34 Motorist Initial Direction of Travel

Definition: This data element identifies the initial direction of travel of the motorist prior to being involved in a pedestrian crash.

Additional Information: This data element is applicable to pedestrians only.

SAS Name: MOTDIR

Attribute Codes

2016-Later

1 Northbound

2 Eastbound

3 Southbound

4 Westbound

7 Not a Pedestrian

8 Not Applicable

9 Unknown Initial Direction of Travel

NM9-PB35 Motorist Maneuver

Definition: This data element identifies if the motorist was engaged in a turning maneuver at an intersection prior to being involved in a pedestrian crash. The data element indicates the maneuver being made by the motorist at the time of a pedestrian collision.

Additional Information: This data element is applicable to pedestrians only.

SAS Name: MOTMAN

Attribute Codes

2016-Later

1 Left Turn

2 Right Turn

3 Straight Through

7 Not a Pedestrian

8 Not Applicable

9 Unknown Motorist Maneuver

NM9-PB36 Intersection Leg

Definition: The data element identifies the leg of the intersection where the pedestrian crash occurred.

Additional Information: This data element is applicable to pedestrians only.

SAS Name: PEDLEG

Attribute Codes

2016-Later

1 Nearside

2 Farside

7 Not a Pedestrian

8 Not Applicable

9 Unknown/None of the Above

NM9-PB37 Pedestrian Scenario

Definition: This data element identifies the location and travel directions of the motorist and pedestrian for those crashes that occur at intersections. This data element summarizes the movements of the pedestrian and motorist in an intersection area.

Additional Information: This data element is applicable to pedestrians only.

SAS Name: PEDSNR

Attribute Codes

2016	*2017-Later*	
MOTORIST TRAVELING STRAIGHT THROUGH – CRASH OCCURRED ON NEAR (APPROACH) SIDE OF INTERSECTION		
1a	1a	Pedestrian Within Crosswalk Area, Traveled From Motorist's Left.
1b	1b	Pedestrian Within Crosswalk Area, Traveled From Motorist's Right.
1c	1c	Pedestrian Within Crosswalk Area, Approach Direction Unknown.
--	1d	Pedestrian Within Crosswalk Area, Other
2a	2a	Pedestrian Outside Crosswalk Area, Traveled From Motorist's Left.
2b	2b	Pedestrian Outside Crosswalk Area, Traveled From Motorist's Right.
2c	2c	Pedestrian Outside Crosswalk Area, Approach Direction Unknown.
--	2d	Pedestrian Outside Crosswalk Area, Other
MOTORIST TRAVELING STRAIGHT THROUGH – CRASH OCCURRED ON FAR SIDE OF INTERSECTION		
3a	3a	Pedestrian Within Crosswalk Area, Traveled From Motorist's Left.
3b	3b	Pedestrian Within Crosswalk Area, Traveled From Motorist's Right.
3c	3c	Pedestrian Within Crosswalk Area, Approach Direction Unknown.
--	3d	Pedestrian Within Crosswalk Area, Other
4a	4a	Pedestrian Outside Crosswalk Area, Traveled From Motorist's Left.
4b	4b	Pedestrian Outside Crosswalk Area, Traveled From Motorist's Right.
4c	4c	Pedestrian Outside Crosswalk Area, Approach Direction Unknown.
--	4d	Pedestrian Outside Crosswalk Area, Other
MOTORIST TURNING RIGHT – CRASH OCCURRED ON NEAR (APPROACH) SIDE OF INTERSECTION		
5a	5a	Pedestrian Within Crosswalk Area, Traveled From Motorist's Left.
5b	5b	Pedestrian Within Crosswalk Area, Traveled From Motorist's Right.
5c	5c	Pedestrian Within Crosswalk Area, Approach Direction Unknown.
--	5d	Pedestrian Within Crosswalk Area, Other
6a	6a	Pedestrian Outside Crosswalk Area, Traveled From Motorist's Left.

6b	6b	Pedestrian Outside Crosswalk Area, Traveled From Motorist's Right.
6c	6c	Pedestrian Outside Crosswalk Area, Approach Direction Unknown.
--	6d	Pedestrian Outside Crosswalk Area, Other
MOTORIST TURNING RIGHT – CRASH OCCURRED ON FAR SIDE OF INTERSECTION		
7a	7a	Pedestrian Within Crosswalk Area, Approach Direction Same as Motorist's.
7b	7b	Pedestrian Within Crosswalk Area, Approach Direction Opposite Motorist's.
7c	7c	Pedestrian Within Crosswalk Area, Approach Direction Unknown.
--	7d	Pedestrian Within Crosswalk Area, Other
8a	8a	Pedestrian Outside Crosswalk Area, Approach Direction Same as Motorist's.
8b	8b	Pedestrian Outside Crosswalk Area, Approach Direction Opposite Motorist's.
8c	8c	Pedestrian Outside Crosswalk Area, Approach Direction Unknown.
--	8d	Pedestrian Outside Crosswalk Area, Other
MOTORIST TURNING LEFT – CRASH OCCURRED ON NEAR (APPROACH) SIDE OF INTERSECTION		
9a	9a	Pedestrian Within Crosswalk Area, Traveled From Motorist's Left.
9b	9b	Pedestrian Within Crosswalk Area, Traveled From Motorist's Right.
9c	9c	Pedestrian Within Crosswalk Area, Approach Direction Unknown.
--	9d	Pedestrian Within Crosswalk Area, Other
10a	10a	Pedestrian Outside Crosswalk Area, Traveled From Motorist's Left.
10b	10b	Pedestrian Outside Crosswalk Area, Traveled From Motorist's Right.
10c	10c	Pedestrian Outside Crosswalk Area, Approach Direction Unknown.
--	10d	Pedestrian Outside Crosswalk Area, Other
MOTORIST TURNING LEFT – CRASH OCCURRED ON FAR SIDE OF INTERSECTION		
11a	11a	Pedestrian Within Crosswalk Area, Approach Direction Same as Motorist's.
11b	11b	Pedestrian Within Crosswalk Area, Approach Direction Opposite Motorist's.
11c	11c	Pedestrian Within Crosswalk Area, Approach Direction Unknown.
--	11d	Pedestrian Within Crosswalk Area, Other
12a	12a	Pedestrian Outside Crosswalk Area, Approach Direction Same as Motorist's.
12b	12b	Pedestrian Outside Crosswalk Area, Approach Direction Opposite Motorist's.
12c	12c	Pedestrian Outside Crosswalk Area, Approach Direction Unknown.
--	12d	Pedestrian Outside Crosswalk Area, Other
7	7	Not a Pedestrian
8	8	Not Applicable
--	99	Unknown/Insufficient Information

NM9-PB38 Crash Group – Pedestrian

Definition: This data element provides general groupings of the more specific individual Pedestrian Crash Types.

Additional Information: This data element is applicable to pedestrians only.

SAS Name: PEDCGP

Attribute Codes

2016	*2017-2019*	*2020-Later*	
0	0	0	Not a Pedestrian
100	100	100	Unusual Circumstances
200	200	200	Backing Vehicle
310	310	310	Working or Playing in Roadway
340	--	--	Bus-Related
--	340	340	Bus Stop-Related
350	350	350	Unique Midblock
400	400	400	Walking/Running Along Roadway
460	460	460	Driveway Access/Driveway Access Related
500	500	500	Waiting to Cross
600	600	600	Pedestrian in Roadway – Circumstances Unknown
720	720	720	Multiple Threat/Trapped
740	740	--	Dash/Dart-out
--	--	740	Dash – Run, No Visual Obstruction Noted/ Dart-out – Visual Obstruction Noted
750	750	750	Crossing Roadway – Vehicle Not Turning
790	790	790	Crossing Roadway – Vehicle Turning
800	800	800	Non-Trafficway
910	910	910	Crossing Expressway
990	990	990	Other/Unknown – Insufficient Details

NM9-PB38B Crash Group – Bicycle

Definition: This data element provides general groupings of the more specific individual Bicyclist Crash Types.

Additional Information: This data element is applicable to bicyclists only.

SAS Name: BIKECGP

Attribute Codes

2016-Later

0	Not a Cyclist
110	Loss of Control/Turning Error
140	Motorist Failed to Yield – Sign-Controlled Intersection
145	Bicyclist Failed to Yield – Sign-Controlled Intersection
150	Motorist Failed to Yield – Signalized Intersection
158	Bicyclist Failed to Yield – Signalized Intersection
190	Crossing Paths – Other Circumstances
210	Motorist Left Turn/Merge
215	Motorist Right Turn/Merge
219	Parking/Bus-Related
220	Bicyclist Left Turn/Merge
225	Bicyclist Right Turn/Merge
230	Motorist Overtaking Bicyclist
240	Bicyclist Overtaking Motorist
258	Wrong-Way/Wrong-Side
290	Parallel Paths – Other Circumstances
310	Bicyclist Failed to Yield – Midblock
320	Motorist Failed to Yield – Midblock
600	Backing Vehicle
850	Other/Unusual Circumstances
910	Non-Trafficway
990	Other/Unknown – Insufficient Details

The CEVENT Data File

The Cevent data file includes harmful and non-harmful events in the crash. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and EVENTNUM, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The Cevent data file also contains the data elements on the following pages.

CASENUM and EVENTNUM are the unique identifiers for each record. CASENUM should be used to merge the Cevent data file with the Accident data file.

C18A Vehicle Number (This Vehicle)

Definition: This data element identifies the "Vehicle Number" (VEH_NO) of this motor vehicle in transport described in this event.

Additional Information: This is the vehicle described in "Sequence of Events" for this event.

SAS Name: VNUMBER1

Attribute Codes

2016-Later

1-999 Vehicle Number

C18B Area of Impact (This Vehicle)

Definition: This data element identifies the impact point, if any, on this motor vehicle in transport that produced property damage or personal injury in this event.

Additional Information: This is the impact area of the vehicle recorded in "Vehicle Number (This Vehicle)" and described in "Sequence of Events."

SAS Name: AOI1

Attribute Codes

2016	*2017*	*2018*	*2019-Later*	
0	0	0	0	Non-Collision
1-12	1-12	1-12	1-12	Clock Points
13	13	13	13	Top
14	14	14	14	Undercarriage
18	18	18	18	Cargo/Vehicle Parts Set-in-Motion
19	19	19	--	Other Objects Set-in-Motion
--	--	--	19	Other Objects or Person Set-in-Motion
--	20	20	20	Object Set in Motion, Unknown if Cargo/Vehicle Parts or Other
55	55	55	55	Non-Harmful Event
61	61	61	61	Left
62	62	62	62	Left-Front Side
63	63	63	63	Left-Back Side
81	81	81	81	Right
82	82	82	82	Right-Front Side
83	83	83	83	Right-Back Side
98	98	98	98	Not Reported
99	99	--	--	Unknown
--	--	99	99	Reported as Unknown

V37 Sequence of Events

Definition: This data element describes this event. A motor vehicle traffic crash is a series of events resulting from an unstabilized situation. This series of harmful and non-harmful events is recorded in chronological order based on the police crash report narrative and diagram.

Additional Information: "First Harmful Event, Most Harmful Event," and the "Sequence of Events" data elements have the same harmful event attributes. "Sequence of Events" also has non-harmful event attributes. Prior to 2020 the Data Element ID was V32.

SAS Name: SOE

Attribute Codes

2016	*2017*	*2018-Later*	
NON-HARMFUL EVENTS			
60	60	60	Cargo/Equipment Loss or Shift (Non-Harmful)
61	61	61	Equipment Failure (Blown Tire, Brake Failure, etc.)
62	62	62	Separation of Units
63	63	63	Ran off Roadway-Right
64	64	64	Ran off Roadway-Left
65	65	65	Cross Median
66	66	66	Downhill Runaway
67	67	67	Vehicle Went Airborne
68	68	68	Cross Centerline
69	69	69	Re-entering Roadway
70	70	70	Non-harmful, Swaying Trailer/Jackknife
71	71	71	End Departure
79	79	79	Ran off Roadway - Direction Unknown
NON-COLLISION HARMFUL EVENTS			
1	1	1	Rollover/Overturn
2	2	2	Fire/Explosion
3	3	3	Immersion or Partial Immersion
4	4	4	Gas Inhalation
5	5	5	Fell/Jumped From Vehicle
6	6	6	Injured in Vehicle (Non-Collision)
7	7	7	Other Noncollision
16	16	16	Thrown or Falling Object
44	44	44	Pavement Surface Irregularity (Ruts, Potholes, Grates, etc.)

51	51	51	Jackknife (Harmful to This Vehicle)
72	72	--	Cargo/Equipment Loss or Shift (Harmful to This Vehicle)
--	--	72	Cargo/Equipment Loss, Shift, or Damage (Harmful)
COLLISION WITH MOTOR VEHICLE IN TRANSPORT			
12	12	12	Motor Vehicle in Transport
54	54	54	Motor Vehicle in Transport Strikes or Is Struck by Cargo, Persons or Objects Set-in-Motion From/by Another Motor Vehicle in Transport
55	55	55	Motor Vehicle in Motion Outside the Trafficway
COLLISION WITH OBJECT NOT FIXED			
8	8	8	Pedestrian
9	9	9	Pedalcyclist
10	10	10	Railway Vehicle
11	11	11	Live Animal
14	14	14	Parked Motor Vehicle
15	15	15	Non-Motorist on Personal Conveyance
18	18	18	Other Object Not Fixed
45	45	45	Working Motor Vehicle
49	49	49	Ridden Animal or Animal Drawn Conveyance
73	73	73	Object That Had Fallen From Motor Vehicle in Transport
74	74	74	Road Vehicle on Rails
--	91	91	Unknown Object Not Fixed
COLLISION WITH FIXED OBJECT			
17	17	17	Boulder
19	19	19	Building
20	20	20	Impact Attenuator/Crash Cushion
21	21	21	Bridge Pier or Support
23	23	23	Bridge Rail (Includes Parapet)
24	24	24	Guardrail Face
25	25	25	Concrete Traffic Barrier
26	26	26	Other Traffic Barrier
30	30	30	Utility Pole/Light Support
31	31	31	Post, Pole or Other Support
32	32	32	Culvert

33	33	33	Curb
34	34	34	Ditch
35	35	35	Embankment
38	38	38	Fence
39	39	39	Wall
40	40	40	Fire Hydrant
41	41	41	Shrubbery
42	42	42	Tree (Standing Only)
43	43	43	Other Fixed Object
46	46	46	Traffic Signal Support
48	48	48	Snow Bank
50	50	50	Bridge Overhead Structure
52	52	52	Guardrail End
53	53	53	Mail Box
57	57	57	Cable Barrier
58	58	58	Ground
59	59	59	Traffic Sign Support
--	93	93	Unknown Fixed Object
--	--	98	Harmful Event, Details Not Reported (Since 2019)
99	99	--	Unknown
--	--	99	Reported as Unknown

C18C Vehicle Number (Other Vehicle)

Definition: This data element identifies the "Vehicle Number" (VEH_NO) of the other motor vehicle, if any, in this event.

Additional Information: This is the vehicle contacted by the motor vehicle in transport recorded in "Vehicle Number (This Vehicle)." Another vehicle must have been involved in this event for this data element to be a valid vehicle number (i.e., "Sequence of Events" for this event must be 12, 14, 45, 54, or 55).

SAS Name: **VNUMBER2**

Attribute Codes

2016-Later

1-999	Vehicle Number
5555	Non-Harmful Event
9999	Not a Motor Vehicle

C18D Area of Impact (Other Vehicle)

Definition: This data element identifies the impact point on the other motor vehicle, if any, in this event.

Additional Information: This is the impact area of the vehicle recorded in "Vehicle Number (Other Vehicle)." Another vehicle must have been involved in this event for this data element to be a valid impact location (i.e., "Sequence of Events" for this event must be 12, 14, 45, 54, or 55).

SAS Name: AOI2

Attribute Codes

2016	*2017*	*2018*	*2019-Later*	
0	0	0	0	Non-Collision
1-12	1-12	1-12	1-12	Clock Points
13	13	13	13	Top
14	14	14	14	Undercarriage
18	18	18	18	Cargo/Vehicle Parts Set-in-Motion
19	19	19	--	Other Objects Set-in-Motion
--	--	--	19	Other Objects or Person Set-in-Motion
--	20	20	20	Object Set in Motion, Unknown if Cargo/Vehicle Parts or Other
55	55	55	55	Non-Harmful Event
61	61	61	61	Left
62	62	62	62	Left-Front Side
63	63	63	63	Left-Back Side
77	77	77	77	Not a Motor Vehicle
81	81	81	81	Right
82	82	82	82	Right-Front Side
83	83	83	83	Right-Back Side
98	98	98	98	Not Reported
99	99	--	--	Unknown
--	--	99	99	Reported as Unknown

The VEVENT Data File

The Vevent data file includes harmful and non-harmful events for each motor vehicle in transport. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, VEH_NO, EVENTNUM, and VEVENTNUM, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The Vevent data file also contains the data elements on the following pages.

CASENUM, VEH_NO, and VEVENTNUM are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Vevent data file with the Vehicle data file.

C18A Vehicle Number (This Vehicle)

Definition: This data element identifies the "Vehicle Number" (VEH_NO) of the motor vehicle in transport described in this event.

Additional Information: This is the vehicle described in "Sequence of Events" for this event.

If Vehicle #1 (V1) impacts Vehicle #2 (V2), then we have at least 2 Vevent records.

Example:

VEH_NO	EVENTNUM	VNUMBER1	SOE	VNUMBER2
1	1	1	12	2
2	1	1	12	2

The explanation of these 2 records is as follows:

V1 was involved in event 1 where V1 impacts V2.

V2 was involved in event 1 where V1 impacts V2.

SAS Name: VNUMBER1

Attribute Codes

2016-Later

1-999 Vehicle Number

C18B Area of Impact (This Vehicle)

Definition: This data element identifies the impact point, if any, on this motor vehicle in transport that produced property damage or personal injury in this event.

Additional Information: This is the impact area of the vehicle recorded in "Vehicle Number (This Vehicle)" and described in "Sequence of Events."

SAS Name: AOI1

Attribute Codes

2016	*2017*	*2018*	*2019-Later*	
0	0	0	0	Non-Collision
1-12	1-12	1-12	1-12	Clock Points
13	13	13	13	Top
14	14	14	14	Undercarriage
18	18	18	18	Cargo/Vehicle Parts Set-in-Motion
19	19	19	--	Other Objects Set-in-Motion
--	--	--	19	Other Objects or Person Set-in-Motion
--	20	20	20	Object Set in Motion, Unknown if Cargo/Vehicle Parts or Other
55	55	55	55	Non-Harmful Event
61	61	61	61	Left
62	62	62	62	Left-Front Side
63	63	63	63	Left-Back Side
81	81	81	81	Right
82	82	82	82	Right-Front Side
83	83	83	83	Right-Back Side
98	98	98	98	Not Reported
99	99	--	--	Unknown
--	--	99	99	Reported as Unknown

V37 Sequence of Events

Definition: This data element describes this event. A motor vehicle traffic crash is a series of events resulting from an unstabilized situation. This series of harmful and non-harmful events is recorded in chronological order based on the police crash report narrative and diagram.

Additional Information: "First Harmful Event, Most Harmful Event," and the "Sequence of Events" data elements have the same harmful event attributes. "Sequence of Events" also has non-harmful event attributes. Prior to 2020 the Data Element ID was V32.

SAS Name: SOE

Attribute Codes

2016	*2017*	*2018-Later*	
NON-HARMFUL EVENTS			
60	60	60	Cargo/Equipment Loss or Shift (Non-Harmful)
61	61	61	Equipment Failure (Blown Tire, Brake Failure, etc.)
62	62	62	Separation of Units
63	63	63	Ran off Roadway-Right
64	64	64	Ran off Roadway-Left
65	65	65	Cross Median
66	66	66	Downhill Runaway
67	67	67	Vehicle Went Airborne
68	68	68	Cross Centerline
69	69	69	Re-entering Roadway
70	70	70	Non-harmful, Swaying Trailer/Jackknife
71	71	71	End Departure
79	79	79	Ran off Roadway - Direction Unknown
NON-COLLISION HARMFUL EVENTS			
1	1	1	Rollover/Overturn
2	2	2	Fire/Explosion
3	3	3	Immersion or Partial Immersion
4	4	4	Gas Inhalation
5	5	5	Fell/Jumped From Vehicle
6	6	6	Injured in Vehicle (Non-Collision)
7	7	7	Other Noncollision
16	16	16	Thrown or Falling Object
44	44	44	Pavement Surface Irregularity (Ruts, Potholes, Grates, etc.)

51	51	51	Jackknife (Harmful to This Vehicle)
72	72	--	Cargo/Equipment Loss or Shift (Harmful to This Vehicle)
--	--	72	Cargo/Equipment Loss, Shift, or Damage (Harmful)
COLLISION WITH MOTOR VEHICLE IN TRANSPORT			
12	12	12	Motor Vehicle in Transport
54	54	54	Motor Vehicle in Transport Strikes or Is Struck by Cargo, Persons or Objects Set-in-Motion From/by Another Motor Vehicle in Transport
55	55	55	Motor Vehicle in Motion Outside the Trafficway
COLLISION WITH OBJECT NOT FIXED			
8	8	8	Pedestrian
9	9	9	Pedalcyclist
10	10	10	Railway Vehicle
11	11	11	Live Animal
14	14	14	Parked Motor Vehicle
15	15	15	Non-Motorist on Personal Conveyance
18	18	18	Other Object Not Fixed
45	45	45	Working Motor Vehicle
49	49	49	Ridden Animal or Animal Drawn Conveyance
73	73	73	Object That Had Fallen From Motor Vehicle in Transport
74	74	74	Road Vehicle on Rails
--	91	91	Unknown Object Not Fixed
COLLISION WITH FIXED OBJECT			
17	17	17	Boulder
19	19	19	Building
20	20	20	Impact Attenuator/Crash Cushion
21	21	21	Bridge Pier or Support
23	23	23	Bridge Rail (Includes Parapet)
24	24	24	Guardrail Face
25	25	25	Concrete Traffic Barrier
26	26	26	Other Traffic Barrier
30	30	30	Utility Pole/Light Support
31	31	31	Post, Pole, or Other Support
32	32	32	Culvert

33	33	33	Curb
34	34	34	Ditch
35	35	35	Embankment
38	38	38	Fence
39	39	39	Wall
40	40	40	Fire Hydrant
41	41	41	Shrubbery
42	42	42	Tree (Standing Only)
43	43	43	Other Fixed Object
46	46	46	Traffic Signal Support
48	48	48	Snow Bank
50	50	50	Bridge Overhead Structure
52	52	52	Guardrail End
53	53	53	Mail Box
57	57	57	Cable Barrier
58	58	58	Ground
59	59	59	Traffic Sign Support
--	93	93	Unknown Fixed Object
--	--	98	Harmful Event, Details Not Reported (Since 2019)
99	99	--	Unknown
--	--	99	Reported as Unknown

C18C Vehicle Number (Other Vehicle)

Definition: This data element identifies the "Vehicle Number" (VEH_NO) of the other motor vehicle, if any, in this event.

Additional Information: This is the vehicle contacted by the motor vehicle in transport recorded in "Vehicle Number (This Vehicle)." Another vehicle must have been involved in this event for this data element to be a valid vehicle number (i.e., "Sequence of Events" for this event must be 12, 14, 45, 54, or 55).

SAS Name: **VNUMBER2**

Attribute Codes

2016-Later

1-999	Vehicle Number
5555	Non-Harmful Event
9999	Not a Motor Vehicle

C18D Area of Impact (Other Vehicle)

Definition: This data element identifies the impact point on the other motor vehicle, if any, in this event.

Additional Information: This is the impact area of the vehicle recorded in "Vehicle Number (Other Vehicle)." Another vehicle must have been involved in this event for this data element to be a valid impact location (i.e., "Sequence of Events" for this event must be 12, 14, 45, 54, or 55).

SAS Name: AOI2

Attribute Codes

2016	*2017*	*2018*	*2019-Later*	
0	0	0	0	Non-Collision
1-12	1-12	1-12	1-12	Clock Points
13	13	13	13	Top
14	14	14	14	Undercarriage
18	18	18	18	Cargo/Vehicle Parts Set-in-Motion
19	19	19	--	Other Objects Set-in-Motion
--	--	--	19	Other Objects or Person Set-in-Motion
--	20	20	20	Object Set in Motion, Unknown if Cargo/Vehicle Parts or Other
55	55	55	55	Non-Harmful Event
61	61	61	61	Left
62	62	62	62	Left-Front Side
63	63	63	63	Left-Back Side
77	77	77	77	Not a Motor Vehicle
81	81	81	81	Right
82	82	82	82	Right-Front Side
83	83	83	83	Right-Back Side
98	98	98	98	Not Reported
99	99	--	--	Unknown
--	--	99	99	Reported as Unknown

The VSOE Data File

The Vsoe data file includes harmful and non-harmful events for each motor vehicle in transport. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, VEH_NO, and VEVENTNUM, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The Vsoe data file also contains the data elements on the following pages.

CASENUM, VEH_NO, and VEVENTNUM are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Vsoe data file with the Vehicle data file.

C18B Area of Impact Associated with the Event

Definition: This data element identifies the impact point, if any, on this motor vehicle in transport that produced property damage or personal injury in this event.

Additional Information: This is the impact area of the vehicle recorded in "Vehicle Number (This Vehicle)" and described in "Sequence of Events."

SAS Name: AOI

Attribute Codes

2016	*2017*	*2018*	*2019-Later*	
0	0	0	0	Non-Collision
1-12	1-12	1-12	1-12	Clock Points
13	13	13	13	Top
14	14	14	14	Undercarriage
18	18	18	18	Cargo/Vehicle Parts Set-in-Motion
19	19	19	--	Other Objects Set-in-Motion
--	--	--	19	Other Objects or Person Set-in-Motion
--	20	20	20	Object Set in Motion, Unknown if Cargo/Vehicle Parts or Other
55	55	55	55	Non-Harmful Event
61	61	61	61	Left
62	62	62	62	Left-Front Side
63	63	63	63	Left-Back Side
81	81	81	81	Right
82	82	82	82	Right-Front Side
83	83	83	83	Right-Back Side
98	98	98	98	Not Reported
99	99	--	--	Unknown
--	--	99	99	Reported as Unknown

V37 Sequence of Events

Definition: The events in sequence related to this motor vehicle, regardless of injury and/or property damage. Events for the vehicle are recorded in the order in which they occur, time-wise, from the police crash report narrative and diagram.

Additional Information: "First Harmful Event," "Most Harmful Event," and the "Sequence of Events" data elements have the same harmful event attributes. "Sequence of Events" also has non-harmful event attributes.Prior to 2020 the Data Element ID was V32.

SAS Name: SOE

Attribute Codes

2016	*2017*	*2018-Later*	
NON-HARMFUL EVENTS			
60	60	60	Cargo/Equipment Loss or Shift (Non-Harmful)
61	61	61	Equipment Failure (Blown Tire, Brake Failure, etc.)
62	62	62	Separation of Units
63	63	63	Ran off Roadway-Right
64	64	64	Ran off Roadway-Left
65	65	65	Cross Median
66	66	66	Downhill Runaway
67	67	67	Vehicle Went Airborne
68	68	68	Cross Centerline
69	69	69	Re-entering Roadway
70	70	70	Non-harmful, Swaying Trailer/Jackknife
71	71	71	End Departure
79	79	79	Ran off Roadway - Direction Unknown
NON-COLLISION HARMFUL EVENTS			
1	1	1	Rollover/Overturn
2	2	2	Fire/Explosion
3	3	3	Immersion or Partial Immersion
4	4	4	Gas Inhalation
5	5	5	Fell/Jumped From Vehicle
6	6	6	Injured in Vehicle (Non-Collision)
7	7	7	Other Noncollision
16	16	16	Thrown or Falling Object
44	44	44	Pavement Surface Irregularity (Ruts, Potholes, Grates, etc.)

51	51	51	Jackknife (Harmful to This Vehicle)
72	72	--	Cargo/Equipment Loss or Shift (Harmful to This Vehicle)
--	--	72	Cargo/Equipment Loss, Shift, or Damage (Harmful)
COLLISION WITH MOTOR VEHICLE IN TRANSPORT			
12	12	12	Motor Vehicle in Transport
54	54	54	Motor Vehicle in Transport Strikes or Is Struck by Cargo, Persons or Objects Set-in-Motion From/by Another Motor Vehicle in Transport
55	55	55	Motor Vehicle in Motion Outside the Trafficway
COLLISION WITH OBJECT NOT FIXED			
8	8	8	Pedestrian
9	9	9	Pedalcyclist
10	10	10	Railway Vehicle
11	11	11	Live Animal
14	14	14	Parked Motor Vehicle
15	15	15	Non-Motorist on Personal Conveyance
18	18	18	Other Object Not Fixed
45	45	45	Working Motor Vehicle
49	49	49	Ridden Animal or Animal Drawn Conveyance
73	73	73	Object That Had Fallen From Motor Vehicle in Transport
74	74	74	Road Vehicle on Rails
--	91	91	Unknown Object Not Fixed
COLLISION WITH FIXED OBJECT			
17	17	17	Boulder
19	19	19	Building
20	20	20	Impact Attenuator/Crash Cushion
21	21	21	Bridge Pier or Support
23	23	23	Bridge Rail (Includes Parapet)
24	24	24	Guardrail Face
25	25	25	Concrete Traffic Barrier
26	26	26	Other Traffic Barrier
30	30	30	Utility Pole/Light Support
31	31	31	Post, Pole or Other Support
32	32	32	Culvert

33	33	33	Curb
34	34	34	Ditch
35	35	35	Embankment
38	38	38	Fence
39	39	39	Wall
40	40	40	Fire Hydrant
41	41	41	Shrubbery
42	42	42	Tree (Standing Only)
43	43	43	Other Fixed Object
46	46	46	Traffic Signal Support
48	48	48	Snow Bank
50	50	50	Bridge Overhead Structure
52	52	52	Guardrail End
53	53	53	Mail Box
57	57	57	Cable Barrier
58	58	58	Ground
59	59	59	Traffic Sign Support
--	93	93	Unknown Fixed Object
--	--	98	Harmful Event, Details Not Reported (Since 2019)
99	99	--	Unknown
--	--	99	Reported as Unknown

The CRASHRF Data File

The Crashrf data file identifies each crash related factor as a separate record. That is, there can be more than one record for each crash. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, and WEIGHT, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains CRASHRF that is described below.

CASENUM and CRASHRF are the unique identifiers for each record. CASENUM should be used to merge the Crashrf data file with the Accident data file.

C32 Related Factors- Crash Level

Definition: This data element records factors related to the crash expressed in the case materials.

Additional Information: There are also vehicle related factors in the Vehiclesf and Pvehiclesf data files, driver related factors in the Driverrf data file, and person related factors in the Personrf data file.

Prior to 2020 this data element was collected at the Crash level and up to three factors could be selected. These three elements were discontinued and moved to the Discontinued Accident Data Elements at the end of the Accident Data File section. Refer to the discontinued element for a history of this data element's attributes.

SAS Name: CRASHRF

Attribute Codes

2020-Later	
0	None
3	Other Maintenance or Construction-Created Condition
5	Surface Under Water
7	Surface Washed out (Caved in, Road Slippage)
12	Distracted Driver of a Non-Contact Vehicle
13	Aggressive Driving/Road Rage by Non-Contact Vehicle Driver
14	Motor Vehicle Struck By Falling Cargo or Something That Came Loose From or Something That Was Set in Motion By a Vehicle
15	Non-Occupant Struck By Falling Cargo, or Something Came Loose From or Something That Was Set in Motion By a Vehicle
16	Non-Occupant Struck Vehicle
17	Vehicle Set in Motion By Non-Driver
19	Recent Previous Crash Scene Nearby
20	Police-Pursuit-Involved
21	Within Designated School Zone
23	Indication of a Stalled/Disabled Vehicle
24	Unstabilized Situation Began and All Harmful Events Occurred off the Roadway
25	Toll Booth/Plaza Related
26	Prior Non-Recurring Incident
27	Backup Due to Prior Crash
28	Regular Congestion

30	Obstructed Crosswalks
31	Related to a Bus Stop
999	Reported as Unknown

The WEATHER Data File

The Weather data file identifies each atmospheric condition as a separate record. That is, there can be more than one record for each crash. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, and WEIGHT, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains WEATHER that is described below.

CASENUM and WEATHER are the unique identifiers for each record. CASENUM should be used to merge the Weather data file with the Accident data file.

C26 Atmospheric Conditions

Definition: This data element records the prevailing atmospheric conditions that existed at the time of the crash as indicated in the police crash report.

Additional Information: Prior to 2020 this data element identified up to two values. If more than two atmospheric conditions were reported, the two conditions that most affect visibility were selected. Accident.WEATHER1 and Accident.WEATHER2 were the coded data elements, and Accident.WEATHER was derived from these two. The two coded data elements were discontinued after 2019 and moved to the Discontinued Accident Data Elements at the end of the Accident Data File section.

Beginning in 2020 all applicable atmospheric conditions are selected and stored in this data file. Only the derived data element WEATHER is still stored in the Accident data file and is now derived from the multiple responses in this data file using the same hierarchy.

SAS Name: WEATHER

Attribute Codes

2020-Later	
1	Clear
2	Rain
3	Sleet or Hail
4	Snow
5	Fog, Smog, Smoke
6	Severe Crosswinds
7	Blowing Sand, Soil, Dirt
8	Other
10	Cloudy
11	Blowing Snow
12	Freezing Rain or Drizzle
98	Not Reported
99	Reported as Unknown

The VEHICLESF Data File

The Vehiclesf data file identifies each vehicle related factor for a motor vehicle in transport as a separate record. That is, there can be more than one record for each vehicle. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains VEHICLESF that is described below.

CASENUM, VEH_NO, and VEHICLESF are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Vehiclesf data file with vehicles from the Vehicle data file.

V41 Related Factors- Vehicle Level (Motor Vehicles in Transport)

Definition: This data element records factors related to this motor vehicle in transport expressed in the case materials.

Additional Information: There are also crash related factors in the Crashrf data file, vehicle related factors in the Pvehiclesf data file (for parked/working vehicles), driver related factors in the Driverrf data file, and person related factors in the Personrf data file.

Pre-existing vehicle defects are captured in the data element "Contributing Circumstances, Motor Vehicle" (Factor.MFACTOR).

Prior to 2020 this data element's ID was V36 and it was collected at the Vehicle level with up to two factors being selected. These two elements were discontinued and moved to the Discontinued Vehicle Data Elements at the end of the Vehicle Data File section. Refer to the discontinued element for a history of this data element's attributes.

SAS Name: VEHICLESF

Attribute Codes

2020-Later	
0	None
29	Default Code Used for Vehicle Numbering
30	Multi-Wheeled Motorcycle Conversion
33	Vehicle Being Pushed by Non-Motorist
35	Reconstructed/Altered Vehicle
39	Highway Construction, Maintenance or Utility Vehicle, in Transport (Inside or Outside Work Zone)
41	Police Fire or EMS Vehicle Working at the Scene of an Emergency or Performing Other Traffic Control Activities
42	Other Working Vehicle (Not Construction, Maintenance, Utility, Police, Fire, or EMS Vehicle)
44	Adaptive Equipment
45	Slide-in Camper
999	Reported as Unknown

The PVEHICLESF Data File

The Pvehiclesf data file identifies each vehicle related factor for a parked/working motor vehicle as a separate record. That is, there can be more than one record for each vehicle. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains PVEHICLESF that is described below.

CASENUM, VEH_NO, and PVEHICLESF are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Pvehiclesf data file with vehicles from the Vehicle data file.

V41 Related Factors- Vehicle Level (Parked/Working Vehicles)

Definition: This data element records factors related to this parked/working motor vehicle expressed in the case materials.

Additional Information: There are also crash related factors in the Crashrf data file, vehicle related factors in the Vehiclesf data file (for motor vehicles in transport), driver related factors in the Driverrf data file, and person related factors in the Personrf data file.

Prior to 2020 this data element's ID was V36 and it was collected at the Vehicle level with up to two factors being selected. These two elements were discontinued and moved to the Discontinued Parkwork Data Elements at the end of the Parkwork Data File section. Refer to the discontinued element for a history of this data element's attributes.

SAS Name: PVEHICLESF

Attribute Codes

2020-Later	
0	None
29	Default Code Used for Vehicle Numbering
30	Multi-Wheeled Motorcycle Conversion
33	Vehicle Being Pushed by Non-Motorist
35	Reconstructed/Altered Vehicle
39	Highway Construction, Maintenance or Utility Vehicle, in Transport (Inside or Outside Work Zone)
41	Police Fire or EMS Vehicle Working at the Scene of an Emergency or Performing Other Traffic Control Activities
42	Other Working Vehicle (Not Construction, Maintenance, Utility, Police, Fire, or EMS Vehicle)
44	Adaptive Equipment
45	Slide-in Camper
999	Reported as Unknown

The DRIVERRF Data File

The Driverrf data file identifies each driver related factor as a separate record. That is, there can be more than one record for each driver. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains DRIVERRF that is described below.

CASENUM, VEH_NO, and DRIVERRF are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Driverrf data file with drivers from the Vehicle data file.

D24 Related Factors- Driver Level

Definition: This data element records factors related to this driver expressed in the case materials.

Additional Information: There are also crash related factors in the Crashrf data file, vehicle related factors in the Vehiclesf and Pvehiclesf data files, and person related factors in the Personrf data file.

Person related factors are all set to 0 for drivers.

Prior to 2020 this data element was collected at the Vehicle level and up to four factors could be selected. These four elements were discontinued and moved to the Discontinued Vehicle Data Elements at the end of the Vehicle Data File section. Refer to the discontinued element for a history of this data element's attributes.

SAS Name: DRIVERRF

Attribute Codes

2020-Later	
0	None
6	Careless Driving, Inattentive Operation, Improper Driving, Driving Without Due Care
8	Road Rage/Aggressive Driving
10	Looked But Did Not See
16	Police or Law Enforcement Officer
18	Traveling on Prohibited Trafficways
20	Leaving Vehicle Unattended With Engine Running; Leaving Vehicle Unattended in Roadway
21	Overloading or Improper Loading of Vehicle With Passenger or Cargo
22	Towing or Pushing Vehicle Improperly
23	Failing to Dim Lights or to Have Lights on When Required
24	Operating Without Required Equipment
29	Intentional Illegal Driving off the Roadway
32	Opening Vehicle Closure into Moving Traffic or Vehicle Is in Motion or Operating at Erratic or Suddenly Changing Speeds
36	Operating the Vehicle in an Erratic, Reckless, Careless or Negligent Manner
37	Police Pursuing this Driver or Police Officer in Pursuit
50	Driving Wrong Way on One-Way Trafficway
51	Driving on Wrong Side of Two-Way Trafficway (Intentionally or Unintentionally)
54	Stopping in Roadway (Vehicle Not Abandoned)
55	Improper Management of Vehicle Controls

56 Object Interference with Vehicle Controls

57 Driving With Tire-Related Problems

58 Over Correcting

59 Getting off/out of a Vehicle

60 Alcohol and/or Drug Test Refused

91 Non-Traffic Violation Charged (Manslaughter, Homicide or Other Assault Offense Committed Without Malice)

94 Emergency Medical Service Personnel

95 Fire Personnel

96 Tow Operator

97 Transportation (Maintenance Workers, Safety Service Patrol Operators, etc.)

999 Reported as Unknown

The DAMAGE Data File

The Damage data file identifies each area of damage as a separate record. That is, there can be more than one damage record for each vehicle. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains DAMAGE that is described below.

CASENUM, VEH_NO, and DAMAGE are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Damage data file with vehicles from the Vehicle data file.

V34B Area of Impact – Damaged Areas

Definition: This data element identifies all the areas on this vehicle that were damaged in the crash as reflected in the case materials.

Additional Information: Prior to 2020 the Data Element ID was V29B.

SAS Name: **MDAREAS** ***2016-2019***
DAMAGE ***2020-Later***

Attribute Codes

2016-Later

1-12	Clock Points
13	Top
14	Undercarriage
15	No Damage
99	Damage Areas Unknown

The DISTRACT Data File

The Distract data file identifies each driver distraction as a separate record. That is, there can be more than one distraction record for each driver. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains DRDISTRACT that is described below.

CASENUM, VEH_NO, and DRDISTRACT are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Distract data file with drivers from the Vehicle data file.

PC16 Driver Distracted By

Definition: This data element identifies the attributes that best describe this driver's attention to driving prior to the driver's realization of an impending critical event or just prior to impact if realization of an impending critical event does not occur. This element reports on the presence of any distractions that may or may not have contributed to the crash.

Additional Information: Distraction from the primary task of driving occurs when drivers divert their attention from the driving task to some other activity. Also, driving while daydreaming or lost in thought is identified as distracted driving by NHTSA. Physical conditions/impairments (fatigue, alcohol, medical condition, etc.) or psychological states (anger, emotional, depressed, etc.) are not identified as distractions by NHTSA.

SAS Name: **MDRDSTRD** ***2016-2019***
DRDISTRACT ***2020-Later***

Attribute Codes

2016-2017	*2018-Later*	
0	0	Not Distracted
1	--	Looked But Did Not See
3	3	By Other Occupants
4	4	By a Moving Object in Vehicle
5	5	While Talking or Listening to Mobile Phone
6	6	While Manipulating Mobile Phone
7	7	While Adjusting Audio or Climate Controls
9	9	While Using Other Component/Controls Integral to Vehicle
10	10	While Using or Reaching for Device/Object Brought Into Vehicle
12	12	Distracted By Outside Person, Object or Event
13	13	Eating or Drinking
14	14	Smoking Related
15	15	Other Mobile Phone Related
16	16	No Driver Present/Unknown if Driver Present
17	17	Distraction/Inattention
18	18	Distraction/Careless
19	19	Careless/Inattentive
92	92	Distraction (Distracted), Details Unknown
93	93	Inattention (Inattentive), Details Unknown
96	96	Not Reported

97	97	Lost in Thought/Day Dreaming
98	98	Other Distraction
99	--	Unknown if Distracted
--	99	Reported as Unknown if Distracted

The DRIMPAIR Data File

The Drimpair data file identifies each driver impairment as a separate record. That is, there can be more than one impairment record for each driver. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains DRIMPAIR that is described below.

CASENUM, VEH_NO, and DRIMPAIR are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Drimpair data file with drivers from the Vehicle data file.

D23 Condition (Impairment) at Time of Crash- Driver

Definition: This data element identifies physical impairments to this driver that may have contributed to the crash as identified by law enforcement.

Additional Information:

SAS Name: DRIMPAIR

Attribute Codes

2016	*2017*	*2018-Later*	
0	0	0	None/Apparently Normal
1	1	1	Ill, Blackout
2	2	2	Asleep or Fatigued
3	3	3	Walking With a Cane or Crutches, etc.
4	--	--	Paraplegic or Restricted to Wheelchair
--	4	4	Paraplegic or in a Wheelchair
5	5	5	Impaired Due to Previous Injury
6	6	6	Deaf
7	7	7	Blind
8	8	8	Emotional (Depressed, Angry, Disturbed, etc.)
9	9	9	Under the Influence of Alcohol, Drugs or Medication
10	10	10	Physical Impairment – No Details
95	95	95	No Driver Present/Unknown if Driver Present
96	96	96	Other Physical Impairment
98	98	98	Not Reported
99	99	--	Unknown if Impaired
--	--	99	Reported as Unknown if Impaired

The FACTOR Data File

The Factor data file identifies each vehicle factor as a separate record. That is, there can be more than one factor record for each vehicle. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains VEHICLECC that is described below.

CASENUM, VEH_NO, and VEHICLECC are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Factor data file with vehicles from the Vehicle data file.

PC4 Contributing Circumstances, Motor Vehicle

Definition: This data element describes this vehicle's possible pre-existing defects or maintenance conditions that may have contributed to the crash.

Additional Information:

SAS Name: **MFACTOR** ***2016-2019***
VEHICLECC ***2020-Later***

Attribute Codes

2016-2017	*2018-2019*	*2020-Later*	
0	0	--	None
--	--	0	None Noted
1	1	1	Tires
2	2	2	Brake System
3	3	3	Steering System-Tie Rod, Kingpin, Ball Joint, etc.
4	4	4	Suspension-Springs, Shock Absorbers, McPherson Struts, Control Arms, etc.
5	5	5	Power Train-Universal Joint, Drive Shaft, Transmission, etc.
6	6	6	Exhaust System
7	7	7	Headlights
8	8	8	Signal Lights
9	9	9	Other Lights
10	10	10	Wipers
11	11	11	Wheels
12	12	12	Mirrors
13	13	13	Windows/Windshield
14	14	14	Body, Doors
15	15	15	Truck Coupling/Trailer Hitch/Safety Chains
16	16	16	Safety Systems
17	17	17	Vehicle Contributing Factors-No Details
97	97	97	Other
98	98	--	Not Reported
99	--	--	Unknown
--	99	99	Reported as Unknown

The MANEUVER Data File

The Maneuver data file identifies each avoidance attempt as a separate record. That is, there can be more than one maneuver record for each driver. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains MANEUVER that is described below.

CASENUM, VEH_NO, and MANEUVER are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Maneuver data file with vehicles from the Vehicle data file.

PC15 Driver Maneuvered to Avoid

Definition: This data element identifies the things this driver attempted to avoid while the vehicle was on the road portion of the trafficway, just prior to the first harmful event for this vehicle.

Additional Information:

SAS Name: **MDRMANAV** ***2016-2019***
MANEUVER ***2020-Later***

Attribute Codes

2016-2017	*2018-2019*	*2020 Later*	
0	0	0	Driver Did Not Maneuver to Avoid
1	1	1	Object
2	2	2	Poor Road Conditions (Puddle, Ice, Pot Hole, etc.)
3	3	3	Live Animal
4	4	--	Motor Vehicle
--	--	4	Contact Motor Vehicle (in this Crash)
5	5	5	Pedestrian, Pedalcyclist, or Other Non-Motorist
92	92	92	Phantom/Non-Contact Motor Vehicle
95	95	95	No Driver Present/Unknown if Driver Present
98	98	98	Not Reported
99	--	--	Unknown
--	99	99	Reported as Unknown

The VIOLATN Data File

The Violatn data file identifies each violation as a separate record. That is, there can be more than one violation record for each driver. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains VIOLATION that is described below.

CASENUM, VEH_NO, and VIOLATION are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Violatn data file with drivers from the Vehicle data file.

D21 Violations Charged

Definition: This data element identifies all violations charged to this driver.

Additional Information:

SAS Name: **MVIOLATN** ***2016-2019***
VIOLATION ***2020-Later***

Attribute Codes

2016-2019	*2020-Later*	
0	0	None
RECKLESS/CARELESS/HIT-AND-RUN TYPE OFFENSES		
1	1	Manslaughter or Homicide
2	2	Willful Reckless Driving; Driving to Endanger; Negligent Driving
3	3	Unsafe Reckless (Not Willful, Wanton Reckless) Driving
4	--	Inattentive, Careless, Improper Driving
--	4	Inattentive, Careless, Improper Driving, Driving Without Due Care
5	5	Fleeing or Eluding Police
6	6	Fail to Obey Police, Fireman, Authorized Person Directing Traffic
7	7	Hit-And-Run, Fail to Stop After Crash
8	8	Fail to Give Aid, Information, Wait for Police After Crash
9	9	Serious Violation Resulting in Death
10	10	Use of Telecommunications Device
IMPAIRMENT OFFENSES		
11	11	Driving While Intoxicated (Alcohol or Drugs) or BAC Above Limit (Any Detectable BAC for CDLs)
12	12	Driving While Impaired
13	13	Driving Under Influence of Substance Not Intended to Intoxicate
14	14	Drinking While Operating
15	15	Illegal Possession of Alcohol or Drugs
16	16	Driving With Detectable Alcohol
18	18	Refusal to Submit to Chemical Test
19	19	Alcohol, Drug or Impairment Violations Generally
SPEED-RELATED OFFENSES		
21	21	Racing
22	22	Speeding (Above the Speed Limit)

23	23	Speed Greater Than Reasonable and Prudent (Not Necessarily Over the Limit)
24	24	Exceeding Special Limit (for Trucks, Buses, Cycles, or on Bridge, in School Zone, etc.)
25	25	Energy Speed (Exceeding 55 mph, Non-Pointable)
26	26	Driving Too Slowly
29	29	Speed Related Violations, Generally
RULES OF THE ROAD – TRAFFIC SIGN & SIGNALS		
31	31	Fail to Stop for Red Signal
32	32	Fail to Stop for Flashing Red
33	33	Violation of Turn on Red (Fail to Stop and Yield, Yield to Pedestrians Before Turning)
34	34	Fail to Obey Flashing Signal (Yellow or Red)
35	35	Fail to Obey Signal, Generally
36	36	Violate RR Grade Crossing Device/Regulations
37	37	Fail to Obey Stop Sign
38	38	Fail to Obey Yield Sign
39	39	Fail to Obey Traffic Control Device
RULES OF THE ROAD – TURNING, YIELDING, SIGNALING		
41	41	Turn in Violation of Traffic Control (Disobey Signs, Turn Arrow or Pavement Markings; This Is Not a Right-on-Red Violation)
42	42	Improper Method and Position of Turn (Too Wide, Wrong Lane)
43	43	Fail to Signal for Turn or Stop
45	45	Fail to Yield to Emergency Vehicle
46	46	Fail to Yield, Generally
48	48	Enter Intersection When Space Insufficient
49	49	Turn, Yield, Signaling Violations, Generally
RULES OF THE ROAD – WRONG SIDE, PASSING & FOLLOWING		
51	51	Driving Wrong Way on One-Way Road
52	52	Driving on Left, Wrong Side of Road, Generally
53	53	Improper, Unsafe Passing
54	54	Pass on Right (Drive off Pavement to Pass)
55	55	Pass Stopped School Bus
56	56	Fail to Give Way When Overtaken
58	58	Following Too Closely

59	59	Wrong Side, Passing, Following Violations, Generally
RULES OF THE ROAD – LANE USAGE		
61	61	Unsafe or Prohibited Lane Change
62	62	Improper Use of Lane (Enter of 3-Lane Road, HOV Designated Lane)
63	63	Certain Traffic to Use Right Lane (Trucks, Slow-Moving, etc.)
66	66	Motorcycle Lane Violations (More Than Two per Lane, Riding Between Lanes, etc.)
67	67	Motorcyclist Attached to Another Vehicle
69	69	Lane Violations, Generally
NON-MOVING – LICENSE AND REGISTRATION VIOLATIONS		
71	71	Driving While License Withdrawn
72	72	Other Driver License Violations
73	73	Commercial Driver Violations (Log Book, Hours, Permits Carried)
74	74	Vehicle Registration Violations
75	78	Fail to Carry Insurance Card
76	76	Driving Uninsured Vehicle
79	79	Non-Moving Violations, Generally
EQUIPMENT		
81	81	Lamp Violations
82	82	Brake Violations
83	83	Failure to Require Restraint Use (By Self or Passengers)
84	84	Motorcycle Equipment Violations (Helmet, Special Equipment)
85	85	Violation of Hazardous Cargo Regulations
86	86	Size, Weight, Load Violations
89	89	Equipment Violations, Generally
LICENSE, REGISTRATION & OTHER VIOLATIONS		
91	91	Parking
92	92	Theft, Unauthorized Use of Motor Vehicle
93	93	Driving Where Prohibited (Sidewalk, Limited Access, off Truck Route)
95	95	No Driver Present/Unknown if Driver Present
97	97	Not Reported
98	98	Other Moving Violation (Coasting, Backing, Opening Door)
99	99	Unknown Violations

The VISION Data File

The Vision data file identifies each visual obstruction as a separate record. That is, there can be more than one vision record for each driver. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains VISION that is described below.

CASENUM, VEH_NO, and VISION are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Vision data file with drivers from the Vehicle data file.

PC14 Driver's Vision Obscured By

Definition: This data element records impediments to this driver's visual field that were noted in the police crash report.

Additional Information:

SAS Name: **MVISOBSC** ***2016-2019***
VISION ***2020-Later***

Attribute Codes

2016-2017	***2018-Later***	
0	0	No Obstruction Noted
1	1	Rain, Snow, Fog, Smoke, Sand, Dust
2	2	Reflected Glare, Bright Sunlight, Headlights
3	3	Curve, Hill, or Other Roadway Design Features
4	4	Building, Billboard, or Other Structure
5	5	Trees, Crops, Vegetation
6	6	In-Transport Motor Vehicle (Including Load)
7	7	Not In-Transport Motor Vehicle (Parked, Working)
8	8	Splash or Spray of Passing Vehicle
9	9	Inadequate Defrost or Defog System
10	10	Inadequate Vehicle Lighting System
11	11	Obstructing Interior to the Vehicle
12	12	External Mirrors
13	13	Broken or Improperly Cleaned Windshield
14	14	Obstructing Angles on Vehicle
95	95	No Driver Present/Unknown if Driver Present
97	97	Vision Obscured – No Details
98	98	Other Visual Obstruction
99	--	Unknown
--	99	Reported as Unknown

The PERSONRF Data File

The Personrf data file identifies each person related factor for motorists and non-motorists as a separate record. That is, there can be more than one record for each person. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, VEH_NO, and PER_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains PERSONRF that is described below.

CASENUM, VEH_NO, PER_NO, and PERSONRF are the unique identifiers for each record. CASENUM, VEH_NO, and PER_NO should be used to merge the Personrf data file with motorists and non-motorists from the Person data file. VEH_NO equals 0 for non-motorists in this data file.

P26/NM26 Related Factors- Person Level

Definition: This data element records factors related to motor vehicle occupants (other than drivers) and people not in motor vehicles as expressed in the case materials.

Additional Information: There are also crash related factors in the Crashrf data file, vehicle related factors in the Vehiclesf and Pvehiclesf data files, and driver related factors in the Driverrf data file.

Person related factors are all set to 0 for drivers.

Attributes with a single asterisk (*) are only applicable to occupants (other than drivers) of motor vehicles. Attributes with a double asterisk (**) are only applicable to people not in motor vehicles.

Prior to 2020 this data element was collected at the Person level and up to three factors could be selected. These three elements were discontinued and moved to the Discontinued Person Data Elements at the end of the Person Data File section. Refer to the discontinued element for a history of this data element's attributes.

SAS Name: PERSONRF

Attribute Codes

2020-Later	
0	None/Not Applicable-Driver
5	Interfering With Driver*
9	Construction/Maintenance/Utility Worker
10	Alcohol and/or Drug Test Refused
13	Motorized Wheelchair Rider**
21	Overloading or Improper Loading of Vehicle With Passengers or Cargo
31	Default Code Used for Vehicle Numbering**
32	Opening Vehicle Closure into Moving Traffic or While Vehicle Is in Motion*
53	Non-Motorist Previously Used a Motor Vehicle for Motion**
54	Non-Motorist Attempting to Use a Motor Vehicle for Motion**
55	Non-Motorist Attempting to Use or Previously Used a Motor Vehicle for Motion, Details Not Reported**
56	Non-Driver Flees Scene
87	Police or Law Enforcement Officer
89	Parked Motor Vehicle With Equipment Extending Into the Travel Lane*
90	Non-Motorist Pushing a Vehicle**
91	Portable Electronic Devices
92	Person in Ambulance Treatment Compartment*

93	Non-Motorist Wearing Motorcycle Helmet**
94	Emergency Medical Services Personnel
95	Fire Personnel
96	Tow Operator
97	Transportation (Maintenance Workers, Safety Service Patrol Operators, etc.)
100	Using a Shared Micromobility Device**
101	Obstructed Sidewalk (for This Person)**
999	Reported as Unknown

The NMCRASH Data File

The Nmcrash data file identifies each non-motorist action or circumstance that may have contributed to the crash as a separate record. That is, there can be more than one contributing circumstance record for each non-motorist. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, VEH_NO, and PER_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains NMCC that is described below.

CASENUM, PER_NO, and NMCC are the unique identifiers for each record. CASENUM, VEH_NO, and PER_NO should be used to merge the Nmcrash data file with non-motorists from the Person data file. VEH_NO equals 0 for all records in this data file.

NM12 Non-Motorist Contributing Circumstances

Definition: This data element describes the actions and/or circumstances of this non-motorist that law enforcement indicated may have contributed to the crash.

Additional Information: It selects all that apply. This data element is based on the judgment of the law enforcement officer investigating the crash.

SAS Name: **MTM_CRSH** ***2016-2019***
NMCC ***2020-Later***

Attribute Codes

2016-2017	*2018*	*2019-Later*	
0	0	0	None Noted
1	1	--	Dart-out
--	--	1	Dart-out – Visual Obstruction Noted
2	2	2	Failure to Yield Right-of-Way
3	3	3	Failure to Obey Traffic Signs, Signals, or Officer
4	4	4	In Roadway Improperly (Standing, Lying, Working, Playing)
5	5	5	Entering/Exiting Parked or Stopped Vehicle
6	6	6	Inattentive (Talking, Eating, etc.)
7	7	7	Improper Turn/Merge
8	8	8	Improper Passing
9	9	9	Wrong-Way Riding or Walking
10	10	10	Riding on Wrong Side of Road
11	11	--	Dash
--	--	11	Dash – Run, No Visual Obstruction Noted
12	12	12	Improper Crossing of Roadway or Intersection (Jaywalking)
13	13	13	Failing to Have Lights on When Required
14	14	14	Operating Without Required Equipment
15	15	15	Improper or Erratic Lane Changing
16	16	16	Failure to Keep in Proper Lane or Running off Road
17	17	17	Making Improper Entry to or Exit From Trafficway
18	18	18	Operating in Other Erratic, Reckless, Careless or Negligent Manner
19	19	19	Not Visible (Dark Clothing, No Lighting, etc.)
20	20	20	Passing With Insufficient Distance or Inadequate Visibility or Failing to Yield to Overtaking Vehicle

21	21	21	Other
99	--	--	Unknown
--	99	99	Reported as Unknown

The NMDISTRACT Data File

The Nmdistract data file identifies each non-motorist distraction as a separate record. That is, there can be more than one distraction record for each non-motorist. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, VEH_NO, and PER_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains NMDISTRACT that is described below.

CASENUM, PER_NO, and NMDISTRACT are the unique identifiers for each record. CASENUM, VEH_NO, and PER_NO should be used to merge the Nmdistract data file with non-motorists from the Person data file. VEH_NO equals 0 for all records in this data file.

NM13 Non-Motorist Distracted By

Definition: This data element identifies the attributes that best describe this non-motorist's attention prior to the non-motorist's involvement in this crash. This element reports on the presence of any distractions that may or may not have contributed to the crash.

Additional Information: Distraction, for a non-motorist, occurs when a non-motorist's attention is diverted from the task of navigating in public to some other activity. Also, daydreaming or lost in thought are identified as distractions by NHTSA. Physical conditions/impairments (fatigue, alcohol, medical condition, etc.) or psychological states (anger, emotional, depressed, etc.) are not identified as distractions by NHTSA.

SAS Name: **MNMDSTRD** ***2019***
NMDISTRACT ***2020-Later***

Attribute Codes

2019-Later	
0	Not Distracted
2	By Other Non-Motorist(s)
3	By a Driver or Occupant of a Motor Vehicle
5	While Talking or Listening to Mobile Phone
6	While Manipulating Mobile Phone
7	Adjusting or Listening to Portable Audio Device (Other Than on a Mobile Phone)
8	Adjusting, Talking to, or Manipulating Other Portable Electronic Device
12	Distracted by Animal, Other Object, Event, or Activity
13	Eating or Drinking
14	Smoking-Related
15	Other Mobile Phone Related
17	Distraction/Inattention
18	Distraction/Careless
19	Careless/Inattentive
92	Distraction (Distracted), Details Unknown
93	Inattention (Inattentive), Details Unknown
97	Lost in Thought/Day Dreaming
98	Other Distraction
96	Not Reported
99	Reported as Unknown if Distracted

The NMIMPAIR Data File

The Nmimpair data file identifies each non-motorist impairment as a separate record. That is, there can be more than one impairment record for each non-motorist. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, VEH_NO, and PER_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains NMIMPAIR that is described below.

CASENUM, PER_NO, and NMIMPAIR are the unique identifiers for each record. CASENUM, VEH_NO, and PER_NO should be used to merge the Nmimpair data file with non-motorists from the Person data file. VEH_NO equals 0 for all records in this data file.

NM15 Condition (Impairment) at Time of Crash- Non-Motorist

Definition: This data element identifies physical impairments to this non-motorist that may have contributed to the crash as identified by law enforcement.

Additional Information: Prior to 2019 the Data Element ID was NM14.

SAS Name: NMIMPAIR

Attribute Codes

2016	*2017*	*2018-Later*	
0	0	0	None/Apparently Normal
1	1	1	Ill, Blackout
2	2	2	Asleep or Fatigued
3	3	3	Walking With a Cane or Crutches, etc.
4	--	--	Paraplegic or Restricted to Wheelchair
--	4	4	Paraplegic or in a Wheelchair
5	5	5	Impaired Due to Previous Injury
6	6	6	Deaf
7	7	7	Blind
8	8	8	Emotional (Depressed, Angry, Disturbed, etc.)
9	9	9	Under the Influence of Alcohol, Drugs or Medication
10	10	10	Physical Impairment – No Details
96	96	96	Other Physical Impairment
98	98	98	Not Reported
99	99	--	Unknown if Impaired
--	--	99	Reported as Unknown if Impaired

The NMPRIOR Data File

The Nmprior data file identifies each non-motorist action at the time of their involvement in the crash as a separate record. That is, there can be more than one action record for each non-motorist. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSUSTRAT, PSU_VAR, REGION, URBANICITY, WEIGHT, VEH_NO, and PER_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains NMACTION that is described below.

CASENUM, PER_NO, and NMACTION are the unique identifiers for each record. CASENUM, VEH_NO, and PER_NO should be used to merge the Nmprior data file with non-motorists from the Person data file. VEH_NO equals 0 for all records in this data file.

NM11 Non-Motorist Action/Circumstances

Definition: This data element describes the actions of the non-motorist immediately prior to their involvement in the crash.

Additional Information: It is also an indication of whether the non-motorist was walking/cycling to/from school in addition to the action of the non-motorist immediately prior to their involvement in the crash.

SAS Name: **MPR_ACT** ***2016-2019***
NMACTION ***2020-Later***

Attribute Codes

2016-2017	***2018-Later***	
1	1	Going to or From School (K-12)
2	2	Waiting to Cross Roadway
3	3	Crossing Roadway
4	4	Jogging/Running
5	5	Movement Along Roadway with Traffic (In or Adjacent to Travel Lane)
6	6	Movement Along Roadway Against Traffic (In or Adjacent to Travel Lane)
8	8	In Roadway-Other (Working, Playing, etc.)
9	--	Adjacent to Roadway (e.g., Shoulder, Median)
--	9	Stationary and Adjacent to Roadway (e.g., Shoulder, Median, Sidewalk)
10	10	Working in Trafficway (Incident Response)
11	11	Entering/Exiting a Parked or Stopped Vehicle
12	12	Disabled Vehicle Related (Working on, Pushing, Leaving/Approaching)
14	14	Other
16	16	Movement Along Roadway – Direction Unknown
98	98	Not Reported
99	--	Unknown
--	99	Reported as Unknown

The SAFETYEQ Data File

The Safetyeq data file includes non-motorist safety equipment. It contains the data elements CASENUM, PSU, PJ, STRATUM, PSU_VAR, REGION, URBANICITY, WEIGHT, VEH_NO, and PER_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. The data file also contains the data elements on the following pages.

CASENUM and PER_NO are the unique identifiers for each record. CASENUM, VEH_NO, and PER_NO should be used to merge the Safetyeq data file with non-motorists from the Person data file. VEH_NO equals 0 for all records in this data file.

Prior to 2017 the Safetyeq data file identified each item of safety equipment as a separate record. That is, there could be more than one safety equipment record for each non-motorist. The data element that captured each item of safety equipment is MSAFEQMT. This element has been moved to the Discontinued Safetyeq Data Elements.

NM14 Non-Motorist Safety Equipment Use

NM14A Non-Motorist Helmet Use

Definition: This data element indicates if the non-motorist was wearing a safety helmet.

Additional Information: This includes all helmets (e.g., bicycle helmet, motorcycle helmet, racing helmets).

Prior to 2019 the Data Element ID was NM13A.

SAS Name: NMHELMET

Attribute Codes

2017	*2018-Later*	
1	1	No
2	2	Yes
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

NM14B Non-Motorist Use of Protective Pads

Definition: This data element indicates if the non-motorist was wearing padded, shaped attachments to protect specific areas of the body (e.g., elbows, knees, shins) from injury.

Additional Information: Prior to 2019 the Data Element ID was NM13B.

SAS Name: NMPROPAD

Attribute Codes

2017	*2018-Later*	
1	1	No
2	2	Yes
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

NM14C Non-Motorist Use of Other Protective Safety Equipment

Definition: This data element indicates if the non-motorist was using protective safety equipment other than a helmet or pads (e.g., eye wear/face shields, gloves, wrist guards).

Additional Information: Prior to 2019 the Data Element ID was NM13C.

SAS Name: NMOTHPRO

Attribute Codes

2017	*2018-Later*	
1	1	No
2	2	Yes
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

NM14D Non-Motorist Use of Reflective Clothing/Carried Item

Definition: This data element indicates if the non-motorist was wearing or carrying some type of reflective item (e.g., jacket, backpack, vest).

Additional Information: Prior to 2019 the Data Element ID was NM13D.

SAS Name: NMREFCLO

Attribute Codes

2017	*2018-Later*	
1	1	No
2	2	Yes
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

NM14E Non-Motorist Use of Lighting

Definition: This data element indicates if the non-motorist was using a light on his/her person or on a pedalcycle or personal conveyance for safety purposes, to include flashlights.

Additional Information: Prior to 2019 the Data Element ID was NM13E.

SAS Name: NMLIGHT

Attribute Codes

2017	*2018-Later*	
1	1	No
2	2	Yes
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

NM14F Non-Motorist Use of Other Preventive Safety Equipment

Definition: This data element indicates if the non-motorist was using preventive safety equipment other than a reflective clothing/carried item or light (e.g., bicycle reflectors and flags, reflectors and triangles on a buggy, hi-glo orange clothing, rollerblade stoppers).

Additional Information: Prior to 2019 the Data Element ID was NM13F.

SAS Name: NMOTHPRE

Attribute Codes

2017	*2018-Later*	
1	1	No
2	2	Yes
8	8	Not Reported
9	--	Unknown
--	9	Reported as Unknown

Discontinued SAFETYEQ Data Elements

Non-Motorist Safety Equipment Use (discontinued)

Definition: This data element indicates the safety equipment that was used by this non-motorist involved in the crash.

Additional Information: There can be one or more safety equipment responses for each non-motorist.

SAS Name: MSAFEQMT

Attribute Codes

2016

1 None Used

2 Helmet

3 Reflective Clothing (Jacket, Backpack, etc.)

4 Protective Pads (Elbows, Knees, Shins, etc.)

5 Lighting

7 Other Safety Equipment

8 Not Reported

9 Unknown if Used

The VPICDECODE Data File

The Vpicdecode data file provides specification data for all vehicles derived from the VIN. It contains the data elements CASENUM and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. CASENUM and VEH_NO are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Vpicdecode data file with the Vehicle or Parkwork data file.

The Vpicdecode data file contains approximately 200 data elements derived from the VIN using NHTSA's Product Information Catalog and Vehicle Listing, known as vPIC. There is one record for each VIN that can be cleanly decoded. If a VIN has issues and cannot be decoded cleanly, there will not be a record. For the definition of clean decoding, and descriptions of the data elements, see the *Product Information Catalog and Vehicle Listing (vPIC) Analytical User's Manual* found in the NCSA Publications- Manuals and Documentation section of NHTSA's website.

The VINs decoded in CRSS Vpicdecode file are based on two sources:

- The VINs from the police crash report that are coded by CRSS coding staff;
- The VINs that NHTSA obtains from third parties: each year, after CRSS cases are coded, NHTSA uses the license plate number and vehicle registration information to find missing VINs or incomplete VINs in the vehicle records. Once these additional VINs are obtained, the vPICDecode file is created using both sets of VINs.

The VPICTRAILERDECODE Data File

The Vpictrailerdecode data file provides specification data for all trailers derived from the VIN. It contains the data elements CASENUM and VEH_NO, which are described in the Key Data Elements at the beginning of the Data Element Definitions and Codes section. CASENUM, VEH_NO, and TRAILER_NO are the unique identifiers for each record. CASENUM and VEH_NO should be used to merge the Vpictrailerdecode data file with the Vehicle or Parkwork data file.

The Vpictrailerdecode data file contains approximately forty data elements derived from the VIN using NHTSA's Product Information Catalog and Vehicle Listing, known as vPIC. There is one record for each trailer VIN that can be cleanly decoded. If a VIN has issues and cannot be decoded cleanly, there will not be a record. For the definition of clean decoding, and descriptions of the data elements, see the *Product Information Catalog and Vehicle Listing (vPIC) Analytical User's Manual* found in the NCSA Publications- Manuals and Documentation section of NHTSA's website.

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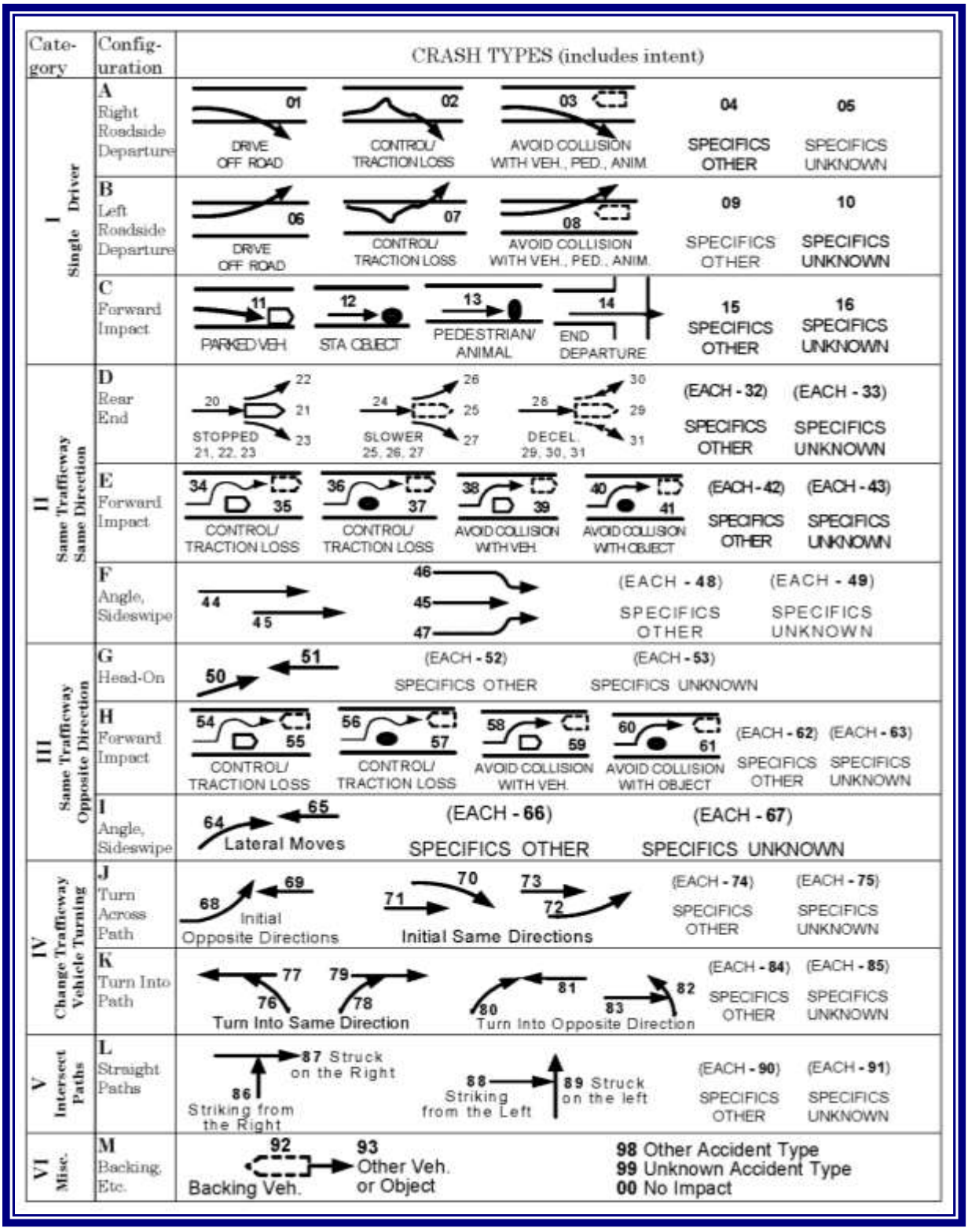
Appendix A: PC23 Crash Type Diagram

PC23 Crash Type Diagram



Appendix B: Rules for Derived Data Elements

Rules for Derived Data Elements

Several derived data elements are included in the data files. A derived data element is any element that is not coded (i.e., not directly entered into the system) but translated from existing data. Derived data elements include:

- translations from coded data elements (e.g., “Driver Drinking in Vehicle”);
- translations from collected information (e.g., “Urbanicity”);
- records counted from vehicle and person levels as crash level counters (e.g., “Number of Parked/Working Vehicles”);
- data extracted across several records (e.g., “First Harmful Event”); and
- element combinations (e.g., “Motor Carrier Issuing Authority and ID Number”).

The derived data elements are provided to facilitate analyses and as a common platform for presenting findings. These elements and the translations used to derive them are described in this Appendix.

Crash Level Counts

Number of Motor Vehicles in Transport (MVIT)

Accident. VE_FORMS

(also provided as Vehicle.VE_FORMS, Parkwork.PVE_FORMS, Person.VE_FORMS)

Logic of Derivation

All Vehicle records linked to the crash are used. This data element is derived as the count of all vehicles in the crash where "Unit Type" = 1. It is the number of records in the Vehicle data file.

Number of Parked/Working Vehicles

Accident. PVH_INVL

Logic of Derivation

All Vehicle records linked to the crash are used. This data element is derived as the count of all vehicles in the crash where "Unit Type" is in (2, 3, or 4). It is the number of records in the Parkwork data file.

Number of Persons in Motor Vehicles in Transport (MVIT)

Accident. PERMVIT

Logic of Derivation

All Person records linked to the crash are used. This data element is derived as the count of all people in the crash where "Person Type" is in (1, 2, or 9).

Number of Persons Not in Motor Vehicles in Transport (MVIT)

Accident. PERNOTMVIT

Logic of Derivation

All Person records linked to the crash are used. Prior to 2020 this data element is derived as the count of all people in the crash where "Person Type" is in (3, 4, 5, 6, 7, 8, 10, or 19). Starting in 2020 the attributes are in (3, 4, 5, 6, 7, 10, 11, 12, 13, or 19).

Crash and Vehicle Level Derived Data Elements

Maximum Injury Severity in Crash

Accident.MAX_SEV

Attribute Labels	2016-Later
No Apparent Injury	0
Possible Injury	1
Suspected Minor Injury	2
Suspected Serious Injury	3
Fatal	4
Injured, Severity Unknown	5
Died Prior to Crash	6
No person involved in the Crash	8
Unknown if Injured/Not Reported	9

Logic of Derivation

All Person records linked to the crash are used. If there are no records, then the value 8 is assigned. If there is a single record, then the SAS code for Person.INJ_SEV is used. If there are multiple records, all SAS codes for Person.INJ_SEV are obtained and prioritized. Follow the priority ranking of each attribute as follows: 4, 3, 2, 1, 5, 0, 6, 9.

Maximum Injury Severity in Vehicle

Vehicle.MAX_VSEV

Attribute Labels	**2016-Later**
No Apparent Injury	0
Possible Injury	1
Suspected Minor Injury	2
Suspected Serious Injury	3
Fatal	4
Injured, Severity Unknown	5
Died Prior to Crash	6
No person in Vehicle	8
Unknown if Injured/Not Reported	9

Logic of Derivation

All Person records linked to the vehicle are used. If there are no records, then the value 8 is assigned. If there is a single record, then the SAS code for Person.INJ_SEV is used. If there are multiple records, all SAS codes for Person.INJ_SEV are obtained and prioritized. Follow the priority ranking of each attribute as follows: 4, 3, 2, 1, 5, 0, 6, 9.

Number Injured in Crash

Accident.NUM_INJ

Attribute Labels	**2016-Later**
No Person Injured/Property Damage Only Crash	0
Number of Known Injured	x
No Person involved in the Crash	98
All Persons in Crash Are Unknown if Injured	99

Logic of Derivation

All Person records linked to the crash are used. If there are no records, then the value 98 is assigned. If the SAS code for Person.INJ_SEV is 9 for all people in the crash, then the value is 99. If not, the value assigned is the number (count) of Person records where the SAS code for Person.INJ_SEV is between 1 and 5.

Number Injured in Vehicle

Vehicle.NUM_INJV

Attribute Labels	**2016-Later**
No Person Injured in Vehicle	0
Number of Known Injured	1-97
No Person involved in the Vehicle	98
All Persons in Vehicle Are Unknown if Injured	99

Logic of Derivation

All Person records linked to the vehicle are used. If there are no records, then the value 98 is assigned. If the SAS code for Person.INJ_SEV is 9 for all people in the vehicle, then the value is 99. If not, the value assigned is the number (count) of Person records where the SAS code for Person.INJ_SEV is between 1 and 5.

Alcohol Involved in Crash

Accident.ALCOHOL

Attribute Labels	2016-Later
Alcohol Involved	1
No Alcohol involved	2
No applicable person	8
Unknown	9

Alcohol Involved in Crash is derived based on Police-Reported Alcohol Involvement from the Person data file as follows:

Police Reported Alcohol Involvement

Attribute Labels	2016-Later
No (Alcohol Not Involved)	0
Yes (Alcohol Involved)	1
Not Reported	8
Reported as Unknown	9

Logic of Derivation

Alcohol Involved in Crash is calculated based on drivers and non-motorists [except occupants of motor vehicles not in transport] in the crash and are referred to here as "involved active participants." This translates to Person Type NOT in 2, 3, or 9.

The following order of alcohol involvement is used. The SAS value for the case was determined by:

- 1 (Alcohol Involved)

  If "Police Reported Alcohol Involvement" is Yes for any of the involved active participants in the crash,

  Then Alcohol Involved in Crash should be 1 (Alcohol Involved).

- 2 (No Alcohol Involved)

  If "Police Reported Alcohol Involvement" is No for ALL of the involved active participants in the crash,

  Then Alcohol Involvement in Crash should be 2 (No Alcohol Involved).

- 9 (Unknown)

  If NOT #1 (Alcohol Involved) and "Police Reported Alcohol Involvement" is Unknown or Not Reported for ANY of the involved active participants,

  Then Alcohol Involvement in Crash should be 9 (Unknown).

- 8 (No Applicable Person)

  Default value if no active participants coded for this case.

Examples:

Case 1: *V1 Driver- alcohol is No, V2 Driver- alcohol is Unknown, one non-motorist- alcohol is No, V3 with the situation that three unknown occupants with none coded the role of driver- alcohol for occ1 is Yes, alcohol for occ2 is No, alcohol for occ3 is Unknown.*

Alcohol Involved in Crash is 9 (Unknown).

Case 2: *V1 driver, alcohol is Unknown, one non-motorist, alcohol is No,*

Alcohol Involved in Crash is 9 (Unknown).

Case 3: *V1 driver, alcohol is No, one non-motorist, alcohol is unknown,*

Alcohol Involved in Crash is 9 (Unknown).

Note: For a single vehicle crash, if a motor vehicle in transport is listed as having a driver present, but no occupant is coded with the role of driver, then Alcohol Involved in Crash equals 9 (Unknown) unless all occupants are coded No (Alcohol Not involved) or all the occupants are coded Yes (Alcohol Involved). In the case where all occupants are coded No (Alcohol Not Involved) then Alcohol Involved in Crash is 2 (No Alcohol Involved). In the case where all occupants are coded Yes (Alcohol Involved), then Alcohol Involved in Crash is 1 (Alcohol Involved). In the case where not all occupants are coded Yes or No, then Alcohol Involved in Crash equals 9 (Unknown). For a multi-vehicle crash or a crash having non-motorists, the highest priority alcohol value in each vehicle in the case and each applicable non-motorist is taken.

Driver Drinking in Vehicle

Vehicle.VEH_ALCH

Attribute Labels	**2016-Later**
Alcohol Involved	1
No Alcohol involved	2
No Driver Present/Unknown if Driver Present	8
Unknown	9

Logic of Derivation

- If "Driver Presence" equals 0 (No Driver Present/Not Applicable) or 9 (Unknown), Then "Driver Drinking in Vehicle" is set to 8 (No Driver Present/Unknown if Driver Present).
- If "Driver Presence" equals 1 (Yes) and there is a person in the vehicle where "Person Type" equals 1 (Driver of a Motor Vehicle in Transport),
  Then "Police-Reported Alcohol Involvement" for the driver is used for the derivation of "Driver Drinking in Vehicle" as follows:

Police-Reported Alcohol Involvement		Driver Drinking in Vehicle	
▪ 0 No (Alcohol Not Involved)	→	2	No Alcohol Involved
▪ 1 Yes (Alcohol Involved)	→	1	Alcohol Involved
▪ 8 Not Reported	→	9	Unknown
▪ 9 Unknown (Police-Reported)	→	9	Unknown

- If "Driver Presence" equals 1 (Yes) and there is ***not*** a person in the vehicle where "Person Type" equals 1 (Driver of a Motor Vehicle in Transport),
  Then
  - If "Police Reported Alcohol Involvement" is the same for the occupants of the vehicle where "Person Type" equals 9 (Unknown Occupant Type in a Motor Vehicle in Transport),
    Then "Driver Drinking in Vehicle" is derived from "Police Reported Alcohol Involvement" as shown above,
  - Else "Driver Drinking in Vehicle" is set to 9 (Unknown).

Example:

V1 Driver- alcohol is No, V2 Driver- alcohol is unknown, one non-motorist- alcohol is No, V3 (driver present) with the situation that three unknown occupants with none coded the role of driver- alcohol for occ1 is Yes, alcohol for occ2 is No, occ3 for alcohol is Unknown.

Driver Drinking in Vehicle for V1 is 2 (No Alcohol Involved), for V2 is 9 (Unknown), for V3 is 9 (Unknown).

Note: If a motor vehicle in transport is listed as having a driver present, but no occupant is coded with the role of driver, then Driver Drinking in Vehicle equals 9 (Unknown) unless all the unknown occupant types (PER_TYP=9) are coded No (Alcohol Not Involved) or all the unknown occupant types are coded Yes (Alcohol Involved). In the case where all the unknown occupant types are coded Yes (Alcohol Involved) then Driver Drinking in Vehicle is 2 (No Alcohol Involved). In the case where all the unknown occupant types are coded Yes (Alcohol Involved) then Driver Drinking in Vehicle is 1 (Alcohol Involved). For example, if there is a vehicle where there is a driver present and there are two unknown occupant types, both coded Yes (Alcohol Involved) but neither is coded as the driver; then Driver Drinking in Vehicle equals 1 (Alcohol Involved). Another example: if there is a vehicle where there is a driver present and there are two unknown occupant types (neither coded as the driver--that is, the police report indicates it is unknown who was actually driving), and one is coded Yes (Alcohol Involved) and the other is coded No (Alcohol Not Involved); then Driver Drinking in Vehicle equals 9 (Unknown).

Atmospheric Conditions

Accident.WEATHER

Attribute Labels	2016-2019	2020-Later
No Additional Atmospheric Conditions	0	--
Clear	1	1
Rain	2	2
Sleet or Hail	3	3
Snow	4	4
Fog, Smog, Smoke	5	5
Severe Crosswinds	6	6
Blowing Sand, Soil, Dirt	7	7
Other	8	8
Cloudy	10	10
Blowing Snow	11	11
Freezing Rain or Drizzle	12	12
Not Reported	98	98
Unknown/Reported as Unknown	99	99

Logic of Derivation

Prior to 2020 this data element is derived from the coded data elements, Accident.WEATHER1 and Accident.WEATHER2. Beginning in 2020 this data element is derived from Weather.WEATHER that allows the coding of all applicable attributes.

The following priority ranking of the attributes is used to derive Accident.WEATHER:

- Snow
- Blowing Snow
- Sleet or Hail
- Freezing Rain or Drizzle
- Rain
- Fog, Smog, Smoke
- Severe Crosswinds
- Blowing Sand, Soil, Dirt
- Other
- Cloudy
- Clear
- Not Reported
- Unknown
- No Additional Atmospheric Conditions

Region of the Country

Accident.REGION

Logic of Derivation

This element is derived from the data element "Primary Sampling Unit (PSU)" where the crash occurred. The country is divided into four regions with each of the 50 States and the District of Columbia falling into one of the regions. Region of the Country, therefore, is based on the State in which the Primary Sampling Unit is located.

Urbanicity

Accident.URBANICITY

Logic of Derivation

This element is derived from the data element "Primary Sampling Unit (PSU)" where the crash occurred. A PSU is considered Urban if the county (or counties) in the PSU has a population of 250,000 or greater, otherwise it is Rural.

Primary Sampling Unit for Variance Estimation

Accident.PSU_VAR

Logic of Derivation

This element is derived from the data elements "Primary Sampling Unit (PSU)" and "Police Jurisdiction" where the crash occurred.

First Harmful Event

Accident.HARM_EV
(also provided as Vehicle.HARM_EV, Parkwork.PHARM_EV, Person.HARM_EV)

Logic of Derivation

This data element is derived from the set of all crash events. Each event in a crash is recorded in chronological order. The data element that records the event is "Sequence of Events" and includes both harmful and non-harmful events. First Harmful Event, therefore, is the first "Sequence of Events" value that is not between codes 60 and 79 (non-harmful events).

Initial Contact Point

Vehicle. IMPACT1, Parkwork.PIMPACT1

(also provided as Person.IMPACT1)

Logic of Derivation

This data element is derived from the set of all crash events for a vehicle. Each event in a crash is recorded in chronological order. The data element that records each impact for a vehicle is "Area of Impact (This Vehicle)" or "Area of Impact (Other Vehicle)." The area of impact is only coded for harmful events, that is "Sequence of Events" values that are not between codes 60 and 79. Initial Contact Point, therefore, is the vehicle's first recorded Area of Impact value for a harmful event. Note that the vehicle may be "This Vehicle" or the "Other Vehicle" in the crash event.

NCSA Make Model Combined

Vehicle. MAK_MOD, Parkwork. PMAK_MOD

(also provided as Person. MAK_MOD)

Logic of Derivation

This 5-digit data element is the combination of two data elements, the 2-digit "Vehicle Make" code followed by the 3-digit "Vehicle Model" code.

Motor Carrier Identification Number

Vehicle. MCARR_ID, Parkwork. PMCARR_ID

Logic of Derivation

This 11-character data element is the combination of two data elements, the 2-digit "Motor Carrier Issuing Authority" code followed by the 9-character "Identification Number."

Appendix C: Analytical Classification of Select CRSS Data Elements

Analytical Classification of Select CRSS Data Elements

Several data elements in the CRSS are classified or collapsed according to analytical needs. In various NCSA's published reports and analysis, select CRSS data elements have been given a standard classification. This section shows how CRSS data elements are classified, assisting users in understanding and duplicating statistics presented in NCSA's published reports.

For analytical purposes, fatal crashes and fatalities are extracted from the Fatality Analysis Reporting System (FARS), not CRSS. FARS contains data on a census of fatal traffic crashes within the 50 States, the District of Columbia, and Puerto Rico. To be included in FARS, a crash must involve a motor vehicle traveling on a trafficway customarily open to the public and result in the death of a person (occupant of a vehicle or non-motorist) within 30 days of the crash. Since FARS contains records on all fatal crashes, it is a more accurate representation of fatal crashes and fatalities than the sample contained in CRSS.

It is important to note that these are NCSA's classifications and are subject to modification.

The following tables show the specific coding schemes of select CRSS data elements that are used in NCSA's publications and analysis:

Time of Day/Day of Week

Classification	Data Year and Code
	2016-Later
Time of Day	**HOUR (Military)**
Daytime (6:00 a.m. – 5:59 p.m.)	6-17
Nighttime (6:00 p.m. – 5:59 a.m.)	0-5, 18-23
Unknown	99
Day of Week	**WKDY_I with HOUR_I**
Weekday 6 a.m. Monday thru 5:59 p.m. Friday	(WKDY_I =2 and 6<=HOUR_I<=23) or (WKDY_I in (3,4,5)) or (WKDY_I =6 and (0<= HOUR_I <=17)
Weekend 6 p.m. Friday thru 5:59 a.m. Monday	(WKDY_I =6 and 18<= HOUR_I <=23) or (WKDY_I in (1,7)) or (WKDY_I =2 and (0<= HOUR_I <=5))
Unknown	NA

Return

Vehicle Classification by vPIC Data Elements

Classification	Description	2020-Later
Passenger Cars	Vehicles with VPIC Body Class in the following list: • 1 (Convertible/Cabriolet) • 3 (Coupe) • 5 (Hatchback/Liftback/ Notchback) • 10 (Roadster) • 13 (Sedan/Saloon) • 15 (Wagon)	[VPICBODYCLASS] IN (1, 3, 5, 10, 13, 15)
Light Trucks, Vans, and Multi-Purpose Vehicle	Vehicles with VPIC Body Class or Final Stage Body Class(1) in the following list with a GVWR range in Class 1 or 2 (GVWR of 10K lbs or less): • 2 (Minivan) • 7 (Sport Utility Vehicle/Multi-Purpose Vehicle) • 8 (Crossover Utility Vehicle) • 9 (Van) • 11 (Truck) • 60 (Pickup) • 95 (Cargo Van) • 111 (Step Van/Walk-in Van) • 119 (Sport Utility Truck)	([VPICBODYCLASS] IN (2, 7, 8, 9, 11, 60, 95, 111, 119) OR [ICFINALBODY] IN (2, 7, 8, 9, 11, 60, 95, 111, 119)) AND ([GVWR_FROM] IN (11,12) AND [GVWR_TO] IN (11,12))
Light Utility Vehicles	Vehicles with VPIC Body Class or Final Stage Body Class in the following list with a GVWR range in Class 1 or 2 (GVWR of 10K lbs or less): • 7 (Sport Utility Vehicle/Multi-Purpose Vehicle) • 8 (Crossover Utility Vehicle)	([VPICBODYCLASS] IN (7, 8) OR [ICFINALBODY] IN (7, 8)) AND ([GVWR_FROM] IN (11,12) AND [GVWR_TO] IN (11,12))

Classification	Description	2020-Later
Light Pickups/Trucks	Vehicles with VPIC Body Class or Final Stage Body Class in the following list with a GVWR range in Class 1 or 2 (GVWR of 10K lbs or less): • 11 (Truck) • 60 (Pickup) • 119 (Sport Utility Truck)	([VPICBODYCLASS] IN (11, 60, 119) OR [ICFINALBODY] IN (11, 60, 119)) AND ([GVWR_FROM] IN (11,12) AND [GVWR_TO] IN (11,12))
Light Vans	Vehicles with VPIC Body Class or Final Stage Body Class in the following list with a GVWR range in Class 1 or 2 (GVWR of 10K lbs or less): • 2 (Minivan) • 9 (Van) • 95 (Cargo Van) • 111 (Step Van/Walk-in Van)	([VPICBODYCLASS] IN (2, 9, 95, 111) OR [ICFINALBODY] IN (2, 9, 95, 111)) AND ([GVWR_FROM] IN (11,12) AND [GVWR_TO] IN (11,12))
Large Trucks	Vehicles with VPIC Body Class or Final Stage Body Class in the following list with a GVWR range of Class 3 or higher (GVWR greater than 10K lbs) : • 7 (Sport Utility Vehicle/Multi-Purpose Vehicle) • 8 (Crossover Utility Vehicle) • 9 (Van) • 11 (Truck) • 60 (Pickup) • 66 (Truck-Tractor) • 95 (Cargo Van) • 111 (Step Van/Walk-in Van) • 119 (Sport Utility Truck)	([VPICBODYCLASS] IN (7, 8, 9, 11, 60, 66, 95, 111, 119) OR [ICFINALBODY] IN (7, 8, 9, 11, 60, 66, 95, 111, 119)) AND ([GVWR_FROM] IN (13,14,15,16,17,18) AND [GVWR_TO] IN (13,14,15,16,17,18,98,99))

Classification	Description	2020-Later
Medium-Duty Trucks	Vehicles with VPIC Body Class or Final Stage Body Class in the following list with a GVWR range in Classes 3 to 6 (GVWR between 10K and 26K lbs): • 7 (Sport Utility Vehicle/Multi-Purpose Vehicle) • 8 (Crossover Utility Vehicle) • 9 (Van) • 11 (Truck) • 60 (Pickup) • 66 (Truck-Tractor) • 95 (Cargo Van) • 111 (Step Van/Walk-in Van) • 119 (Sport Utility Truck)	([VPICBODYCLASS] IN (7, 8, 9, 11, 60, 66, 95, 111, 119) OR [ICFINALBODY] IN (7, 8, 9, 11, 60, 66, 95, 111, 119)) AND ([GVWR_FROM] IN (13,14,15,16) AND [GVWR_TO] IN (13,14,15,16))
Heavy-Duty Trucks	Vehicles with VPIC Body Class or Final Stage Body Class in the following list with a GVWR range in Class 7 or 8 (GVWR greater than 26K lbs): • 7 (Sport Utility Vehicle/Multi-Purpose Vehicle) • 8 (Crossover Utility Vehicle) • 9 (Van) • 11 (Truck) • 60 (Pickup) • 66 (Truck-Tractor) • 95 (Cargo Van) • 111 (Step Van/Walk-in Van) • 119 (Sport Utility Truck)	([VPICBODYCLASS] IN (7, 8, 9, 11, 60, 66, 95, 111, 119) OR [ICFINALBODY] IN (7, 8, 9, 11, 60, 66, 95, 111, 119)) AND ([GVWR_FROM] IN (17,18) AND [GVWR_TO] IN (17,18))
Buses	Vehicles with VPIC Body Class or Final Stage Body Class in the following list: • 16 (Bus) • 68 (Streetcar/Trolley) • 73 (Bus - School Bus)	[VPICBODYCLASS] IN (16, 68, 73) OR [ICFINALBODY] IN (16, 68, 73)

Classification	Description	2020-Later
Motorcycles	Vehicles with VPIC Body Class in the following list: • 6 (Motorcycle – Standard) • 12 (Motorcycle – Scooter) • 80 (Motorcycle – Sport) • 81 (Motorcycle – Touring/Sport Touring) • 82 (Motorcycle – Cruiser) • 83 (Motorcycle – Trike) • 85 (Motorcycle – Dual Sport/ Adventure/Supermoto/ On/Off-Road) • 87 (Motorcycle – Small/ Minibike) • 90 (Motorcycle – Side Car) • 94 (Motorcycle – Custom) • 98 (Motorcycle – Street) • 100 (Motorcycle – Enclosed Three Wheeled/Enclosed Autocycle) • 103 (Motorcycle – Unenclosed Three Wheeled/Open Autocycle) • 104 (Motorcycle – Moped) • 109 (Motorcycle – Cross County) • 110 (Motorcycle – Underbone) • 114 (Motorcycle – Competition) • 125 (Motorcycle – Unknown Body Class) • 996 (Motorized Bicycle)	[VPICBODYCLASS] IN (6, 12, 80, 81, 82, 83, 85, 87, 90, 94, 98, 100, 103, 104, 109, 110, 114, 125, 996)
Off-Road Vehicles	Vehicles with VPIC Body Class in the following list: • 69 (Off-Road Vehicle – All Terrain Vehicle (ATV) [Motorcycle-style]) • 84 (Off-Road Vehicle – Dirt Bike/Off-Road) • 86 (Off-Road Vehicle – Enduro [off-road long distance racing]) • 88 (Off-Road Vehicle – Go Kart) • 97 (Off-Road Vehicle – Snowmobile) • 105 (Off-Road Vehicle – Recreational Off-Road Vehicle [ROV]) • 113 (Off-Road Vehicle – Motocross [off-road short distance, closed track racing]) • 124 (Off-Road Vehicle – Golf Cart) • 126 (Off-Road Vehicle – Farm Equipment) • 127 (Off-Road Vehicle – Construction Equipment)	[VPICBODYCLASS] IN (69, 84, 86, 88, 97, 105, 113, 124, 126, 127)

Classification	Description	2020-Later
Low-Speed Vehicles	Vehicles with VPIC Body Class as 4 (Low-Speed Vehicle)	[VPICBODYCLASS]=4
Other	Vehicles with VPIC Body Class or Final Stage Body Class in the following list: • 108 (Motorhome) • 117 (Limousine) • 997 (Other, Specify)	[VPICBODYCLASS] IN (108, 117) OR [ICFINALBODY] IN (108, 117, 997)
Unknown	Vehicles not meeting the criteria specified above.	

(1) Final Stage Body Class is only applicable to vPIC Body Classes that belong to one of the incomplete vehicle classes. See vPIC Body Class for applicable incomplete body classes.

Vehicle Classification by NCSA Data Elements

Classification	Data Year and Code
	2016-Later
	(BODY_TYP)
Passenger Cars	01-11, 17
Light Trucks & Vans	14-16, 19-22, 28-41, 45-49, or (79 and TOW_VEH =0 or 9)
Large Trucks	60-64, 66, 67, 71, 72, 78, or (79 and TOW_VEH in 1-4)
Motorcycles[1]	80-89
Buses	50-59
Other/Unknown Vehicles	12, 13, 42, 65, 73, 90-97, 98, 99, or (79 and TOW_VEH =5 or 6)
Passenger Vehicles	01-11, 14-22, 28-41, 45-49, or (79 and TOW_VEH=0 or 9)
Utility Vehicles (a.k.a. On/Off Road)	14-16, 19
Pickups[2]	30-39
Vans	20, 21, 22, 28, 29
Medium Trucks	60-62, 64, 67, 71
Heavy Trucks	63, 66, 72, 78, or (79 and TOW_VEH in 1-4)
Combination Trucks	(60-63, 64, 67, 71, 72, 78 and TOW_VEH in (1-4)) or 66
Single Unit Trucks	60-63, 64, 67, 71, 72, 78, 79 and TOW_VEH in (0, 5, 6, 9)
Unknown (not in Imputed Body Type)	98, 99

(1) In 2017 new attributes were added to the motorcycle range: motor scooter (84); unenclosed three wheel motorcycle/unenclosed autocycle (1 rear wheel) (85); enclosed three wheel motorcycle/enclosed autocycle (1 rear wheel) (86); unknown three wheel motorcycle type (87).

(2) In 2017 attributes compact pickup (30) and standard pickup (31) were deleted and replaced with attribute light pickup (34). In 2018 attribute pickup with slide in camper (32) was deleted.

Return

Injury Severity

CRSS Description	Data Year and Code	Classification
	2016-Later	
No Apparent Injury (O)	0	Not Injured
Died Prior	6	
Possible Injury (C)	1	Injured
Suspected Minor Injury (B)	2	
Suspected Serious Injury (A)	3	
Unknown Injury Severity (U)	5	
Fatal (K)*	4	Killed

* Fatality counts from the FARS are used in NCSA's publications and analysis.

Return

Person Type

CRSS Description	Data Year and Code		Classification
	2016-2019	2020-Later	
Occupants			
Driver of a motor vehicle in transport	1	1	Driver
Passenger of a motor vehicle in transport	2	2	Passenger
Unknown occupant type of a motor vehicle in transport [(1)]	9	9	
Non-occupants			
Occupant of a motor vehicle not in transport [(2)]	3	3	Other non-occupant
Occupant of a non-motor vehicle transport device [(3)]	4	4	
Pedestrian	5	5	Pedestrian
Bicyclist	6	6	Pedalcyclist
Other Cyclist	7	7	Pedalcyclist
Persons on personal conveyances	8	-	Other non-occupant
Persons in/on buildings	10	10	
Person on motorized personal conveyance	-	11	
Person on non-motorized personal conveyance	-	12	
Person on personal conveyance, unknown if motorized or non-motorized	-	13	
Unknown type of non-occupant	19	19	Unknown non-occupant type

(1) Customarily, "Unknown Occupant" is placed in the "Passenger" category, unless they need to be distinguished from "Passengers."

(2) "Occupant of motor vehicle not in transport" refers to occupants of parked motor vehicles (any motor vehicle stopped off the roadway). This includes occupants of motor vehicles in motion outside the trafficway boundaries.

(3) "Occupant of non-motor vehicle transport device" refers to people riding in an animal-drawn conveyance, on an animal, or injured occupants of railway trains, etc.

Return

Restraint System Use

The restraint use classification should be used for all vehicle occupants, except for motorcyclists. However, most restraint use analysis focuses on child safety seat use or belt use for passenger vehicle occupants. Be sure to include the appropriate vehicle body type occupied in your selection criteria - see the section on *Vehicle Body Type Classification*.

CRSS Description	Data Year and Code			Classification
	2016	2017-2018	2019-Later	
Not Applicable	0	--	--	Not Used
None Used – Motor Vehicle Occupant	7	--	--	
None Used/Not Applicable	--	20	20	
No Helmet	17	17	--	
DOT-Compliant Motorcycle Helmet	5	5	--	
Helmet, Other Than DOT-Compliant Motorcycle Helmet	16	16	--	
Helmet, Unknown if DOT-Compliant	19	19	--	
Shoulder and Lap Belt Used	3	3	3	Used
Shoulder Belt Only	1	1	1	
Lap Belt Only	2	2	2	
Racing-Style Harness Used	--	--	6	
Child Restraint System – Forward Facing	10	10	10	
Child Restraint System – Rear Facing	11	11	11	
Booster Seat	12	12	12	
Child Restraint – Type Unknown	4	4	4	
Other Restraint/ Safety Equipment Used	97	97	97	
Restraint Used – Type Unknown	8	8	8	
Not Reported	98	98	98	Unknown
Unknown if Helmet Worn	29	29	--	
Unknown if Used/ Reported as Unknown if Used	99	99	99	

Return

Helmet Use

The helmet use classification should be used for motorcyclists only. Be sure to include the appropriate vehicle body type occupied in your selection criteria - see the section on *Vehicle Body Type Classification*.

CRSS Description	Data Year and Code			Classification
	2016	2017-2018	2019-Later	
Not Applicable	0	--	--	Not Helmeted
None Used – Motor Vehicle Occupant	7	--	--	
None Used/Not Applicable	--	20	20	
Shoulder and Lap Belt Used	3	3	--	
Shoulder Belt Only	1	1	--	
Lap Belt Only	2	2	--	
Child Restraint System – Forward Facing	10	10	--	
Child Restraint System – Rear Facing	11	11	--	
Booster Seat	12	12	--	
Child Restraint – Type Unknown	4	4	--	
No Helmet	17	17	17	
Helmet Used Improperly	(5, 16, 19) and REST_MIS=1	(5, 16, 19) and REST_MIS=1	(5, 16, 19) and HELM_MIS=1	
Restraint Used – Other or Type Unknown	(8, 97) and REST_MIS=1	(8, 97) and REST_MIS=1	--	
DOT-Compliant Motorcycle Helmet	5 and REST_MIS=0	5 and REST_MIS=0	5 and HELM_MIS=0	Helmeted
Other/Unknown Helmet	(16, 19) and REST_MIS=0	(16, 19) and REST_MIS=0	(16, 19) and HELM_MIS=0	
Other Restraint/ Safety Equipment Used	97 and REST_MIS=0	97 and REST_MIS=0	--	
Restraint Used – Type Unknown	8 and REST_MIS=0	8 and REST_MIS=0	--	
Not Reported	98	98	98	Unknown
Unknown if Helmet Worn	29	29	--	
Unknown if Used/ Reported as Unknown if Used	99	99	99	

Return

Alcohol Test Result

CRSS Description	Data Year and Code	Classification	
	2016-Later		
.00 - Actual Value	0-9	No Alcohol	Tested with Known Results
.01-.93 – Actual Value	10-939	Positive BAC	
.94 or Greater	940		
Positive Reading with No Actual Value	998		
None Given	996	Not Tested	Unknown BAC
AC Test Performed, Results Unknown	997	Tested, with Unknown Results	
Unknown if Tested/ Not Reported	-	Unknown if Tested	
Unknown if Tested/ Reported as Unknown if Tested	999		
Not Reported	995		

Return

Appendix D: Auxiliary Data Files

Auxiliary Data Files

A set of auxiliary files contains elements derived from the CRSS datasets to make it easier to extract certain data classifications and topical areas, such as commonly used age groups, speeding involved crashes, and distraction involved crashes. There is an Accident (acc_aux), Vehicle (veh_aux), and Person (per_aux) level auxiliary file for each year of data. A listing of data elements in each file follows:

Accident File (acc_aux)

Variable	Description
A_CRAINJ	Crash Injury Type
A_CT	Crash Type
A_D15_19	Crashes Involving a Young Driver (Aged 15-19)
A_D15_20	Crashes Involving a Young Driver (Aged 15-20)
A_D16_19	Crashes Involving a Young Driver (Aged 16-19)
A_D16_20	Crashes Involving a Young Driver (Aged 16-20)
A_D16_24	Crashes Involving a Young Driver (Aged 16-24)
A_D21_24	Crashes Involving a Young Driver (Aged 21-24)
A_D65PLS	Crashes Involving an Older Driver (Aged 65+)
A_DOW	Day of Week
A_HR	Involving a Hit and Run
A_INTER	Interstate
A_INTSEC	Intersection
A_JUNC	Junction
A_LT	Involving a Large Truck
A_MANCOL	Manner of Collision
A_MC	Involving a Motorcycle
A_PED	Involving a Pedestrian
A_PEDAL	Involving a Pedalcyclist
A_RELRD	Relationship to the Trafficway
A_ROLL	Involving a Rollover
A_SPCRA	Involving Speeding
A_TOD	Time of Day

Vehicle File (veh_aux)

Variable	Description
A_BODY	Vehicle Type
A_IMP1	Initial Impact Point
A_MOD_YR	Vehicle Model Year
A_SPVEH	Speeding Vehicle
A_VROLL	Rollover

Person File (per_aux)

Variable	Description
A_AGE1	Age Group 1
A_AGE2	Age Group 2
A_AGE3	Age Group 3
A_AGE4	Age Group 4
A_AGE5	Age Group 5
A_AGE6	Age Group 6
A_AGE7	Age Group 7
A_AGE8	Age Group 8
A_AGE9	Age Group 9
A_EJECT	Ejection
A_HELMUSE*	Helmet Use (use for motorcyclists only)
A_LOC	Non-Motorist Location
A_PERINJ	Injury Type
A_PTYPE	Person Type
A_RESTUSE*	Restraint Use (use for all vehicle occupants except motorcyclists)

*Note A_HELMUSE focuses on motorcycle helmet use and should be used when doing helmet use analysis for motorcyclists. When using these variables, be sure to include the appropriate body types in your selection criteria as well (see Vehicle Classification by NCSA Data Elements). For the specific type of restraint system used – child seat, lap belt, shoulder belt, DOT-compliant motorcycle helmet, etc. – refer to the Restraint System Use (REST_USE) and Helmet Use (HELM_USE) in the Person data file.

Appendix E: Summary Statistics

Summary Statistics

The following two tables provide a summary of descriptive statistics from the CRSS data files. Table 1: Unweighted Sample represents the actual number of records and Table 2: Weighted Sample represents the national estimates. These statistics provide the analyst a benchmark to compare against numbers obtained from the analytical data files.

Table 1: Unweighted Sample

Year	Crashes	Vehicles (in Transport)	People	Drivers	Occupants	Pedestrians	Pedalcyclists
2016	46,511	82,149	117,759	82,000	113,405	2,257	1,576
2017	54,969	97,625	138,913	97,388	133,408	2,881	1,946
2018	48,443	86,105	120,230	85,916	115,774	2,444	1,436
2019	54,409	96,717	135,410	96,488	129,980	2,949	1,802
2020	54,745	94,718	131,962	94,500	126,460	2,882	1,923

Table 2: Weighted Sample

Year	Crashes	Vehicles (in Transport)	People	Drivers	Occupants	Pedestrians	Pedalcyclists
2016	6,821,129	12,094,306	16,617,091	12,074,087	16,386,624	95,492	69,929
2017	6,452,285	11,547,079	15,758,853	11,521,902	15,557,000	78,671	55,067
2018	6,734,416	12,049,038	16,208,490	12,024,889	15,997,232	81,573	51,286
2019	6,755,841	12,144,348	16,279,944	12,118,123	16,069,748	83,296	54,219
2020	5,250,837	9,145,835	12,156,001	9,126,739	11,997,178	61,799	43,195

Drivers: PERSON TYPE = 1

Occupants: PERSON TYPE IN (1,2,9)

Pedestrians: PERSON TYPE = 5

Pedalcyclists: PERSON TYPE IN (6, 7)

Appendix F: Standard Errors

Standard Errors

The estimates generated using CRSS data are subject to sampling errors because they are based on a probability sample of crashes instead of all crashes. The sampling error is a measure of the variability of an estimator from its mean under repeated sample selections. The magnitude of sampling error depends on the study variable, the estimator used, and the CRSS sample design.

For various reasons, it is necessary to use design features such as stratification, clustering, and unequal selection probabilities to select the CRSS probability sample. As a result, the CRSS sample is not a simple random sample. Failing to consider these design features in estimation can cause bias to both CRSS point estimates and the associated standard error estimates.

Estimation methods and computer software have been developed to make estimates from complex survey data like CRSS. Specialized procedures for complex survey data analysis, such as SAS PROC SURVEY procedures and SUDAAN procedures, should be used for CRSS data analysis along with proper design statements. A SAS PROC SURVEY procedure and a SUDAAN procedure are provided below as examples of CRSS estimation. See the NHTSA Technical Report Crash Report Sampling System: Design Overview, Analytic Guidance, and FAQs for some basic concepts of complex survey data analysis and more examples.

SAS and SUDAAN Examples for Single Year CRSS Estimation

```
/*SAS Example*/
PROC SURVEYFREQ DATA=IMPUTED.ACCIDENT VARMETHOD=JK;
     STRATA PSUSTRAT;
     CLUSTER PSU_VAR;
     TABLES MAXSEV_IM;
     WEIGHT WEIGHT;
     RUN;

/*SUDAAN Example*/
PROC CROSSTAB DATA=IMPUTED.ACCIDENT DESIGN=JACKKNIFE NOTSORTED;
     NEST PSUSTRAT PSU_VAR;
     WEIGHT WEIGHT;
     TABLES MAXSEV_IM;
     CLASS MAXSEV_IM;
     PRINT NSUM="SAMSIZE" WSUM="POPSIZE" SEWGT;
     RUN;
```

For readers who do not have access to the specialized software, the generalized variance function (GVF) method can be used to generate ballpark standard error estimates for a large quantity of estimates in a simpler way. In this approach, it is assumed that in CRSS, the standard error (Ste)

of a point estimate X can be approximated by a known generalized variance function f of X indexed by estimated parameters, say, a, b, and c:

$$Ste \approx f(X; a, b, c)$$

The survey statisticians normally provide the estimated parameters a, b, c and specify the GVF form $f(X; a, b, c)$. To have a quick estimate of the standard error of X, the data user simply first estimates X and plugs X into $f(X; a, b, c)$ to calculate Ste.

In 2020 NHTSA conducted a study to determine the GVFs for CRSS. The CRSS GVF was determined as:

$$ste(X) = e^{a+b*\ln(X)+c*ln^2(x)}$$

For more detailed information about NHTSA's CRSS GVF study, see Crash Report Sampling System: Generalized Variance Functions.

The following table lists estimated coefficients for crash, vehicle, and person level GVFs since 2016.

Estimated coefficients of CRSS GVFs since 2016

Year	Crash Level Coefficients	Vehicle Level Coefficients	Person Level Coefficients
2016	a = 1.92772 b = 0.38750 c = 0.01947	a = 1.17146 b = 0.53866 c = 0.01425	a = 1.79032 b = 0.40622 c = 0.01930
2017	a = 2.33171 b = 0.30826 c = 0.02344	a = 1.43152 b = 0.48824 c = 0.01629	a = 2.05394 b = 0.35287 c = 0.02119
2018	a = 2.33242 b = 0.31521 c = 0.02258	a = 1.69299 b = 0.44262 c = 0.01787	a = 2.02774 b = 0.35777 c = 0.02075
2019	a = 2.19494 b = 0.33465 c = 0.02185	a = 1.70176 b = 0.43713 c = 0.01826	a = 2.14416 b = 0.32619 c = 0.02238
2020	a = 1.81266 b = 0.38881 c = 0.01959	a = 1.69637 b = 0.42507 c = 0.01877	a = 1.88630 b = 0.36439 c = 0.02074

Example 1: To use these GVFs to estimate the standard errors, use the vehicle level "hit-and-run" indicator variable HITRUN_IM as an example. The total number of "hit-and-run" vehicles in 2018 CRSS is estimated as $X = 817{,}573$ (the summation of the weights of all "hit-and-run" vehicles). Using the 2018 vehicle level model coefficients listed in the table above, the corresponding GVF standard error estimate is:

$$ste(X) = e^{1.69299+0.44262*\ln(817{,}573)+0.01787*(\ln(817{,}573))^2} = 61{,}756$$

At the end of this section, tables of pre-calculated point and GVF standard error estimates are also provided from 2016. Alternatively, these tables can also be used to estimate standard errors.

Example 2: For the "hit-and-run" point estimate $X = 817{,}573$, there is no standard error estimate in the 2018 CRSS GVF Standard Error Estimate table below. We need to make approximation by interpolation. The following is an excerpt of the 2018 CRSS GVF Standard Error Estimate table around estimate $X = 817{,}573$ at vehicle level:

2018 CRSS GVF Standard Error Estimates	
Vehicle	
Estimate (X)	**Standard Error***
800,000	60,500
900,000	67,500

$X = 817{,}573$ is between $X = 800{,}000$ and $X = 900{,}000$. We approximate the standard error for estimate $X = 817{,}573$ by interpolation as the following:

$$ste(X) = 60{,}500 + \frac{817{,}573 - 800{,}000}{900{,}000 - 800{,}000} * (67{,}500 - 60{,}500) = 61{,}730$$

Example 3: GVFs may also be used to estimate the standard error of a proportion estimate. Here, the proportion estimate is referred to as the ratio of two total estimates:

$$\hat{R} = \frac{\hat{X}_d}{\hat{X}_p}$$

where $\hat{X}_p$ is the total estimate of variable X (numeric or categorical) for population p, $\hat{X}_d$ is the total estimate of variable X for domain d within population p. So, in general $\hat{X}_d \leq \hat{X}_p$.

The GVF for the standard error estimate of the above proportion estimate is:

$$ste(\hat{R}) = \hat{R}\sqrt{\frac{var(\hat{X}_d)}{\hat{X}_d^2} - \frac{var(\hat{X}_p)}{\hat{X}_p^2}}$$

For more discussion on this formula, see Crash Report Sampling System: Generalized Variance Functions.

In Example 1, it is estimated $\hat{X}_d = 817{,}573$ "hit-and-run" vehicles in 2018. This comprises 6.7854% of total vehicles involved in police reported crashes (X_p=12,049,038 – the summation of the weights of all sampled vehicles). To estimate the associated standard error of this proportion estimate $\hat{R} = 6.7854\%$, notice:

$$var(\hat{X}_d) = ste^2(X_d) = 61{,}756^2$$

$$var(\hat{X}_p) = \left[e^{1.69299+0.44262*\ln(12{,}049{,}038)+0.01787*(\ln(12{,}049{,}038))^2}\right]^2 = 856{,}137^2$$

$$ste(\hat{R}) = 6.7854\% * \sqrt{\left(\frac{61{,}756}{817{,}573}\right)^2 - \left(\frac{856{,}137}{12{,}049{,}038}\right)^2} \approx 0.17\%$$

In some cases, this method still generates imaginary number standard error estimate due to approximation and rounding. It should be noted that the CRSS GVF is mainly for the standard error of the total estimates. For estimates that are non-linear in totals such as percentage, ratio, and regression estimates, special software should be used in general.

2016 CRSS Estimates and GVF Standard Error Estimates

Crash		Vehicle		Person	
Estimate (X)	**Standard Error***	**Estimate (X)**	**Standard Error***	**Estimate (X)**	**Standard Error***
1,000	300	1,000	300	1,000	200
5,000	800	5,000	900	5,000	800
6,000	900	10,000	1,500	10,000	1,300
7,000	1,000	20,000	2,700	20,000	2,200
8,000	1,100	30,000	3,800	30,000	3,100
9,000	1,200	40,000	4,800	40,000	3,900
10,000	1,300	50,000	5,800	50,000	4,700
20,000	2,200	60,000	6,800	60,000	5,400
30,000	3,000	70,000	7,700	70,000	6,200
40,000	3,700	80,000	8,700	80,000	6,900
50,000	4,400	90,000	9,600	90,000	7,600
60,000	5,200	100,000	10,500	100,000	8,300
70,000	5,800	200,000	19,300	200,000	15,100
80,000	6,500	300,000	27,800	300,000	21,700
90,000	7,200	400,000	36,000	400,000	28,000
100,000	7,900	500,000	44,100	500,000	34,300
200,000	14,200	600,000	52,100	600,000	40,600
300,000	20,200	700,000	60,000	700,000	46,800
400,000	26,000	800,000	67,900	800,000	53,000
500,000	31,700	900,000	75,700	900,000	59,100
600,000	37,400	1,000,000	83,500	1,000,000	65,300
700,000	43,000	2,000,000	160,500	2,000,000	126,300
800,000	48,600	3,000,000	236,700	3,000,000	187,500
900,000	54,200	4,000,000	312,800	4,000,000	249,100
1,000,000	59,700	5,000,000	388,800	5,000,000	311,200
2,000,000	114,500	6,000,000	464,900	6,000,000	373,800
3,000,000	169,000	7,000,000	541,200	7,000,000	436,900

Crash		Vehicle		Person	
Estimate (X)	**Standard Error***	**Estimate (X)**	**Standard Error***	**Estimate (X)**	**Standard Error***
4,000,000	223,600	8,000,000	617,700	8,000,000	500,500
5,000,000	278,600	9,000,000	694,300	9,000,000	564,500
6,000,000	333,800	10,000,000	771,200	10,000,000	629,000
6,500,000	361,500	11,000,000	848,300	11,000,000	693,800
7,000,000	389,300	12,000,000	925,500	12,000,000	759,200
*: $ste(X) = e^{a+bln(X)+cln(X)^2}$					
a = 1.92772 b = 0.38750 c = 0.01947		a = 1.17146 b = 0.53866 c = 0.01425		a = 1.79032 b = 0.40622 c = 0.01930	

2017 CRSS Estimates and GVF Standard Error Estimates

Crash		Vehicle		Person	
Estimate (X)	**Standard Error***	**Estimate (X)**	**Standard Error***	**Estimate (X)**	**Standard Error***
1,000	300	1,000	300	1,000	200
5,000	800	5,000	900	5,000	700
6,000	900	10,000	1,500	10,000	1,200
7,000	1,000	20,000	2,600	20,000	2,100
8,000	1,100	30,000	3,600	30,000	2,800
9,000	1,200	40,000	4,600	40,000	3,500
10,000	1,300	50,000	5,500	50,000	4,200
20,000	2,200	60,000	6,500	60,000	4,900
30,000	3,000	70,000	7,400	70,000	5,600
40,000	3,800	80,000	8,300	80,000	6,200
50,000	4,500	90,000	9,100	90,000	6,900
60,000	5,200	100,000	10,000	100,000	7,500
70,000	5,900	200,000	18,400	200,000	13,600
80,000	6,600	300,000	26,400	300,000	19,400
90,000	7,300	400,000	34,200	400,000	25,100
100,000	8,000	500,000	41,900	500,000	30,700
200,000	14,600	600,000	49,600	600,000	36,300
300,000	20,900	700,000	57,200	700,000	41,800
400,000	27,100	800,000	64,700	800,000	47,300
500,000	33,300	900,000	72,200	900,000	52,800
600,000	39,400	1,000,000	79,700	1,000,000	58,300
700,000	45,500	2,000,000	153,900	2,000,000	112,900
800,000	51,700	3,000,000	227,900	3,000,000	167,700
900,000	57,800	4,000,000	302,000	4,000,000	223,000
1,000,000	63,900	5,000,000	376,400	5,000,000	278,900
2,000,000	125,300	6,000,000	451,200	6,000,000	335,300
3,000,000	187,800	7,000,000	526,300	7,000,000	392,300

Crash		Vehicle		Person	
Estimate (X)	**Standard Error***	**Estimate (X)**	**Standard Error***	**Estimate (X)**	**Standard Error***
4,000,000	251,400	8,000,000	601,800	8,000,000	449,700
5,000,000	316,100	9,000,000	677,700	9,000,000	507,700
6,000,000	381,700	10,000,000	753,900	10,000,000	566,100
6,500,000	414,900	11,000,000	830,500	11,000,000	625,000
7,000,000	448,400	12,000,000	907,400	12,000,000	684,300
*: $ste(X) = e^{a+bln(X)+cln(X)^2}$					
a = 2.33171 b = 0.30826 c = 0.02344		a = 1.43152 b = 0.48824 c = 0.01629		a = 2.05394 b = 0.35287 c = 0.02119	

2018 CRSS Estimates and GVF Standard Error Estimates

Crash		Vehicle		Person	
Estimate (X)	**Standard Error***	**Estimate (X)**	**Standard Error***	**Estimate (X)**	**Standard Error***
1,000	300	1,000	300	1,000	200
5,000	800	5,000	900	5,000	700
6,000	900	10,000	1,500	10,000	1,200
7,000	1,000	20,000	2,500	20,000	2,000
8,000	1,100	30,000	3,500	30,000	2,800
9,000	1,200	40,000	4,400	40,000	3,500
10,000	1,300	50,000	5,300	50,000	4,100
20,000	2,100	60,000	6,200	60,000	4,800
30,000	2,900	70,000	7,000	70,000	5,400
40,000	3,700	80,000	7,800	80,000	6,100
50,000	4,400	90,000	8,700	90,000	6,700
60,000	5,100	100,000	9,500	100,000	7,300
70,000	5,800	200,000	17,300	200,000	13,200
80,000	6,400	300,000	24,800	300,000	18,800
90,000	7,100	400,000	32,100	400,000	24,200
100,000	7,700	500,000	39,300	500,000	29,600
200,000	14,000	600,000	46,400	600,000	34,900
300,000	19,900	700,000	53,500	700,000	40,200
400,000	25,700	800,000	60,500	800,000	45,400
500,000	31,500	900,000	67,500	900,000	50,700
600,000	37,200	1,000,000	74,500	1,000,000	55,900
700,000	42,800	2,000,000	143,800	2,000,000	107,600
800,000	48,500	3,000,000	213,000	3,000,000	159,400
900,000	54,100	4,000,000	282,500	4,000,000	211,400
1,000,000	59,700	5,000,000	352,300	5,000,000	263,900
2,000,000	115,700	6,000,000	422,500	6,000,000	316,800
3,000,000	172,100	7,000,000	493,200	7,000,000	370,100

Crash		Vehicle		Person	
Estimate (X)	**Standard Error***	**Estimate (X)**	**Standard Error***	**Estimate (X)**	**Standard Error***
4,000,000	229,200	8,000,000	564,300	8,000,000	423,800
5,000,000	286,900	9,000,000	635,700	9,000,000	477,900
6,000,000	345,300	10,000,000	707,600	10,000,000	532,300
6,500,000	374,700	11,000,000	779,900	11,000,000	587,200
7,000,000	404,300	12,000,000	852,600	12,000,000	642,400
*: $ste(X) = e^{a+bln(X)+cln(X)^2}$					
a = 2.33242 b = 0.31521 c = 0.02258		a = 1.69299 b = 0.44262 c = 0.01787		a = 2.02774 b = 0.35777 c = 0.02075	

2019 CRSS Estimates and GVF Standard Error Estimates

Crash		Vehicle		Person	
Estimate (X)	**Standard Error***	**Estimate (X)**	**Standard Error***	**Estimate (X)**	**Standard Error***
1,000	300	1,000	300	1,000	200
5,000	800	5,000	900	5,000	700
6,000	900	10,000	1,400	10,000	1,100
7,000	1,000	20,000	2,500	20,000	1,900
8,000	1,100	30,000	3,500	30,000	2,700
9,000	1,200	40,000	4,400	40,000	3,300
10,000	1,200	50,000	5,300	50,000	4,000
20,000	2,100	60,000	6,100	60,000	4,600
30,000	2,900	70,000	7,000	70,000	5,300
40,000	3,600	80,000	7,800	80,000	5,900
50,000	4,300	90,000	8,600	90,000	6,500
60,000	5,000	100,000	9,500	100,000	7,100
70,000	5,700	200,000	17,300	200,000	12,800
80,000	6,400	300,000	24,800	300,000	18,400
90,000	7,000	400,000	32,200	400,000	23,800
100,000	7,700	500,000	39,400	500,000	29,100
200,000	13,800	600,000	46,600	600,000	34,400
300,000	19,700	700,000	53,800	700,000	39,700
400,000	25,500	800,000	60,900	800,000	44,900
500,000	31,200	900,000	68,000	900,000	50,200
600,000	36,900	1,000,000	75,100	1,000,000	55,400
700,000	42,500	2,000,000	145,500	2,000,000	107,800
800,000	48,100	3,000,000	215,900	3,000,000	160,700
900,000	53,600	4,000,000	286,900	4,000,000	214,200
1,000,000	59,200	5,000,000	358,300	5,000,000	268,500
2,000,000	114,700	6,000,000	430,200	6,000,000	323,400
3,000,000	170,400	7,000,000	502,700	7,000,000	378,900

Crash		Vehicle		Person	
Estimate (X)	**Standard Error***	**Estimate (X)**	**Standard Error***	**Estimate (X)**	**Standard Error***
4,000,000	226,800	8,000,000	575,700	8,000,000	435,100
5,000,000	283,700	9,000,000	649,100	9,000,000	491,800
6,000,000	341,200	10,000,000	723,100	10,000,000	549,000
6,500,000	370,200	11,000,000	797,500	11,000,000	606,800
7,000,000	399,300	12,000,000	872,300	12,000,000	665,100
*: $ste(X) = e^{a+bln(X)+cln(X)^2}$					
a = 2.19494 b = 0.33465 c = 0.02185		a = 1.70176 b = 0.43713 c = 0.01826		a = 2.14416 b = 0.32619 c = 0.02238	

2020 CRSS Estimates and GVF Standard Error Estimates

Crash		Vehicle		Person	
Estimate (X)	**Standard Error***	**Estimate (X)**	**Standard Error***	**Estimate (X)**	**Standard Error***
1,000	200	1,000	300	1,000	200
5,000	700	5,000	800	5,000	700
6,000	800	10,000	1,300	10,000	1,100
7,000	900	20,000	2,300	20,000	1,900
8,000	1,000	30,000	3,200	30,000	2,600
9,000	1,100	40,000	4,100	40,000	3,200
10,000	1,200	50,000	4,900	50,000	3,900
20,000	2,000	60,000	5,700	60,000	4,500
30,000	2,700	70,000	6,500	70,000	5,100
40,000	3,400	80,000	7,200	80,000	5,700
50,000	4,100	90,000	8,000	90,000	6,300
60,000	4,700	100,000	8,800	100,000	6,800
70,000	5,400	200,000	16,000	200,000	12,400
80,000	6,000	300,000	23,000	300,000	17,700
90,000	6,600	400,000	29,800	400,000	22,900
100,000	7,200	500,000	36,500	500,000	28,000
200,000	13,100	600,000	43,200	600,000	33,000
300,000	18,600	700,000	49,900	700,000	38,100
400,000	24,000	800,000	56,500	800,000	43,100
500,000	29,400	900,000	63,100	900,000	48,100
600,000	34,700	1,000,000	69,700	1,000,000	53,100
700,000	39,900	2,000,000	135,200	2,000,000	102,600
800,000	45,100	3,000,000	201,000	3,000,000	152,400
900,000	50,300	4,000,000	267,200	4,000,000	202,500
1,000,000	55,500	5,000,000	334,000	5,000,000	253,100
2,000,000	106,700	6,000,000	401,400	6,000,000	304,200
3,000,000	157,800	7,000,000	469,300	7,000,000	355,700

4,000,000	209,100	8,000,000	537,700	8,000,000	407,700
5,000,000	260,700	9,000,000	606,600	9,000,000	460,000
6,000,000	312,600	10,000,000	676,000	10,000,000	512,800
6,500,000	338,700	11,000,000	745,900	11,000,000	566,000
7,000,000	364,900	12,000,000	816,200	12,000,000	619,500
*: $ste(X) = e^{a+bln(X)+cln(X)^2}$					
a = 1.81266 b = 0.38881 c = 0.01959		a = 1.69637 b = 0.42507 c = 0.01877		a = 1.88630 b = 0.36439 c = 0.02074	

Appendix G: Special Notes for Analysts

Special Notes for Analysts

2018 Increase in National Estimate of Property Damage Only (PDO) Crashes Due to Change in Police Reporting Procedures

Motor vehicle crashes that include fatalities, injuries, or property damage in excess of a pre-determined dollar amount are considered reportable crashes. Previously, at five CRSS sampled data collection sites, police officers could report the property damage costs to vehicles involved in a crash as "Unknown." Due to updates to the State's reporting criteria for these data collection sites, "unknown" property damage cost was removed as an option. This change converted many PDO crashes with unknown property damage costs that were previously non-reportable crashes into reportable crashes in 2018. This in turn caused the increase of the national PDO crash estimate.

Analysis of Pedestrian and Bicycle Crashes Around Intersections

When using the Accident, Person, and Pbtype data files to study pedestrian and cyclist crashes, care must be taken when describing their locations in and around intersections.

The Accident data file contains the data element, "Relation to Junction-Specific Location." This element identifies the location of the "First Harmful Event" of the crash and not necessarily the location of any pedestrian or bicyclist involved. In addition, this element's attributes have specific definitions for *Intersection* (in the intersection) and *Intersection-Related*.

The Person data file contains the data element, "Non-Motorist Location at Time of Crash." This element employs the defined concepts of *At Intersection* and *Not at Intersection*, but does not include the concept of *Intersection-Related*.

Finally, the Pbtype data file contains the data elements, "Crash Location – Pedestrian," "Crash Location – Bicycle," "Pedestrian Position," and "Bicyclist Position." These elements employ the defined concepts of *At Intersection*, *Not at Intersection*, and *Intersection Related* (defined somewhat differently from the Accident file concept).

The following graphics may be helpful aids in conjunction with the FARS/CRSS Coding and Validation Manual and the Pedestrian-Bicyclist Crash Typing Manual:

C21b RELATION TO JUNCTION

02 (Intersection)

02 (Intersection) is used when the **FIRST HARMFUL EVENT** occurs in an area which:

(1) contains a crossing or connection of two or more roadways not classified as a driveway access, **and**

(2) is embraced within the prolongation of the lateral curb lines or, if none, the lateral boundary lines of the roadways.

03 (Intersection-Related)

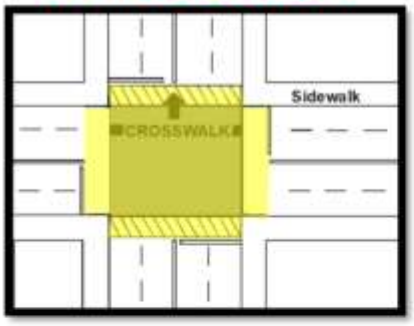
03 (Intersection-Related) means that the **FIRST HARMFUL EVENT:**

(1) occurs on an approach to or exit from an intersection **and**

(2) results from an activity, behavior, or control related to the movement of traffic units through the intersection.

NM10 NON-MOTORIST LOCATION AT TIME OF CRASH

AT INTERSECTION



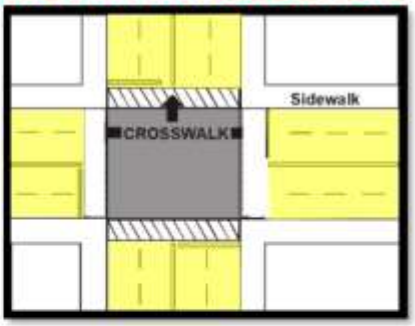
"At intersection" means: The **person** is on a roadway (travel lanes) either:

(1) in the intersection,

(2) in an area between a crosswalk and the perimerter of the intersection, **or**

(3) in a crosswalk (whether marked or unmarked) adjacent to an intersection. If there are no crosswalks, "at intersection" means only the intersection, which is the area embraced within the prolongation of the lateral curb lines or, if none, the lateral boundary lines of the roadways.

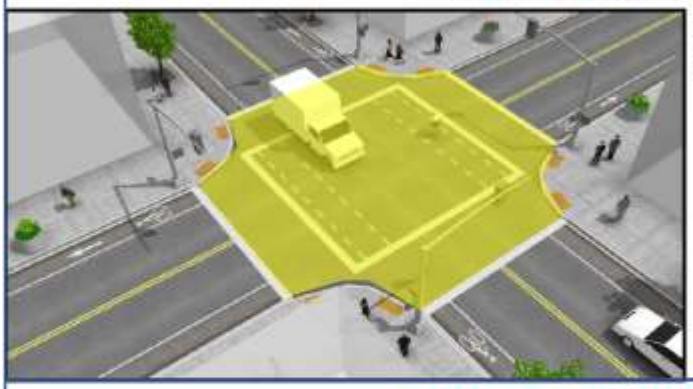
NOT AT INTERSECTION



The **person** is on a roadway (travel lanes), but not "At Intersection."

PB31/PB31b Pedestrian/Bicycle Crash Location

AT INTERSECTION



1 (At Intersection) is used when a **person** is on a roadway (travel lanes):

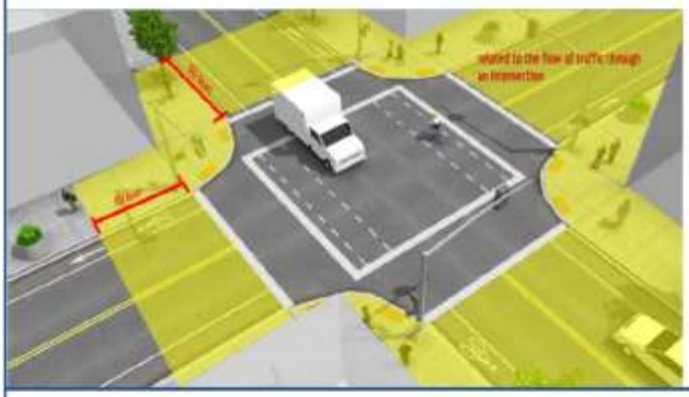
(1) in the intersection,

(2) in an area between a crosswalk and the perimeter of the intersection,

OR

(3) in a crosswalk (whether marked or unmarked) adjacent to an intersection.

INTERSECTION RELATED



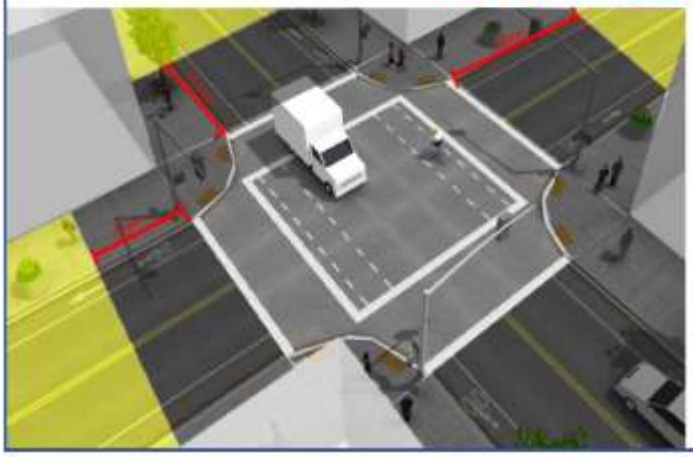
2 (Intersection-Related) is used when a **person** is:

- within the trafficway 50 feet out from the perimeter of an "At intersection" area including the entire cross section of the trafficway (e.g., medians, turn lanes, bike lanes, parking lanes, shoulders, sidewalks, etc.)

OR

- the crash is related to the flow of traffic through an intersection (e.g., the result of queuing traffic).

NOT AT INTERSECTION



3 (Not At Intersection) is used when a **person** is:

- within the trafficway more than 50 feet out from the perimeter of an "At Intersection" area

AND

- the crash is not identified as related to the movement of the traffic units through an intersection.

This includes the entire cross section of the trafficway (e.g., medians, turn lanes, bike lanes, parking lanes, shoulders, sidewalks, etc.).

This attribute is the default when the case materials give no indication that the crash is within 50 feet of an intersection.

Appendix H: Notable Changes

Notable Changes

Addition of Automated Driving System Data Elements

Automated Driving System (ADS) data elements were added to CRSS to start collecting information on autonomous vehicles in 2019. Motor vehicle Automated Driving Systems are defined by the Model Minimum Uniform Crash Criteria (MMUCC), 5th ed., as "The hardware and software that are collectively capable of performing part or all of the dynamic driving task on a sustained basis; this term is used generically to describe any system capable of level 1-5 driving automation." The automation level refers to the SAE International standard (SAE J3016). For details on Automated Driving Systems, see NHTSA's website.

Three ADS data elements were added: one to capture the presence of an Automation System or Systems in the vehicle (ADS_PRES); a second to capture the highest level of automation present in the vehicle (ADS_LEV); and a third to capture the highest level of automation that was known to have been engaged in this vehicle at the time of the crash (ADS_ENG). Currently, information on ADS is not available on most crash reports and is limited in the data decoded from VINs, but States are beginning to update crash reports to collect information on autonomous vehicles. The addition of these data elements to CRSS prepares for future enhanced collection of ADS in vehicles involved in crashes.

Separation of Restraint System/Helmet Use into Two Data Elements

The 2019 change to *Restraint System/Helmet Use* is in response to more vehicle types where the use of both helmets and belt restraints are possible (e.g., three-wheel motorcycles and ROVs). Splitting the data element into two data elements, *Restraint System Use* and *Helmet Use*, allows both pieces of information to be captured. Analysts will be able to examine the varying State safety equipment laws for both seat belt and helmet use, and will no longer need to rely on focus groups and observational studies on use. *Restraint System Use* retained the SAS name REST_USE and the new SAS name for *Helmet Use* is HELM_USE.

A similar change to *Indication of Misuse* of *Restraint System/Helmet* was made to correspond to the change in *Restraint System/Helmet Use*. This data element was also split into two new data elements, *Restraint System Misuse* and *Helmet Misuse*. *Restraint System Misuse* retained the SAS name REST_MIS and the new SAS name for *Helmet Misuse* is HELM_MIS.

Addition of Attributes for Incident Responders

The *Related Factors–Driver Level* and *Related Factors–Person Level* data elements were modified in 2019 to capture information on specific types of emergency services personnel, tow operators, and transportation workers involved in crashes. This may provide more detail for analyses and evaluation of "move over" laws, which require other drivers to slow down and move over for emergency vehicles and hazard vehicles. Specifically, attribute 86 (Emergency Services Personnel) was replaced with 94 (Emergency Medical Services Personnel), 95 (Fire Personnel), 96 (Tow Operator), and 97 (Transportation [maintenance workers, safety service patrol operators, etc.]). Existing attribute 87 (Police or Law Enforcement Officer) remains unchanged.

Addition of the Nmdistract Data File and Non-Motorist Distracted By Data Element

The data element *Non-Motorist Distracted By* was added to CRSS in 2019 to begin capturing non-motorist distractions. Previously CRSS only captured distractions for drivers of motor vehicles in transport. The data element is defined as identifying the attributes that best describe the non-motorist's attention prior to their involvement in the crash. Distraction, for a non-motorist, occurs when a non-motorist's attention is diverted from the task of navigating in public to some other activity. Also, daydreaming or lost in thought are identified as distractions by NHTSA. Physical conditions/impairments (fatigue, alcohol, medical condition, etc.) or psychological states (anger, emotional, depressed, etc.) are not identified as distractions by NHTSA.

Non-Motorist Distracted By is structured the same as the current *Driver Distracted By* data element, both of which allow all applicable attributes to be recorded. Therefore, a separate Nmdistract data file is necessary to store (potentially) multiple distraction records for each non-motorist. Details on this new data element and data file can be found in The Nmdistract Data File section.

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**National Highway
Traffic Safety
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