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**National Highway  
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Administration**



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# **National Automotive Sampling System (NASS) General Estimates System (GES)**

## **Analytical Users Manual 1988-2010**

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**NASS GES Analytical User's Manual**  
**1988 – 2010**

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## 2010 FARS/NASS GES Standardization

The purpose of this document is to inform users of NHTSA's Fatality Analysis Reporting System (FARS) and National Automotive Sampling System General Estimates System (NASS GES) data about some of the more significant changes to the 2010 data as a result of the standardization of the data elements between the two systems. In addition to the changes outlined below, a listing of all specific data element changes can be found in the following table:

### [2010 Variables with Changes in Definitions, Attributes or SAS Codes](#)

The FARS/NASS GES Standardization began in 2006, with the second phase being implemented in the 2010 data collection year. The definition and element attribute changes introduced in 2010 are the most substantive and most numerous changes in one year in the reconciliation of the FARS and NASS GES data systems. In the 2011 data collection year – the third and final planned phase of the FARS/NASS GES Standardization – nearly all remaining data element attribute and file structure differences will be addressed. As a single, unified data entry system, FARS/NASS GES will be compatible with the Model Minimum Uniform Crash Criteria (MMUCC), the guideline used by nearly all States to develop and revise their crash forms and databases. Once complete, the FARS/NASS GES Standardization will simplify crash data coding and analysis as well as reduce costs and errors.

Probably the most notable changes were the introduction of precrash information in FARS (already collected in NASS GES) and a change to case structure or how the groups of related data elements are organized. For example, in 2009 a FARS case consisted of Crash, Vehicle, Driver and Person coding forms. In 2010, the Person level form was split into Motor Vehicle Occupant and Non-Motor Vehicle Occupant forms, and the Precrash form was added (new to FARS, though not to NASS GES).

These structure changes also include changes to how the data are now stored and made available. For example, for FARS, there are now 16 data tables rather than 4. This results from the changes in the number of coding forms and from changes in specific data elements. Several data elements that used to allow only a specified number of responses now have a "select-all-that-apply" format. There is a separate data table for each of these data elements.

At the Crash level, a Crash Events Table was added to FARS (and modified in NASS GES). In NASS GES, Non-Harmful Events were added to the Crash Events Table.

The precrash information represents not only a new coding form, but more importantly, largely a new concept for FARS, attempting to collect data about the conditions, events and driver actions that preceded and may have contributed to the crash. Precrash data is intended to improve crash avoidance research and has been included in NASS GES since 1992.

The new FARS Precrash form information consists of 23 data elements, 9 of which were previously coded at the Crash level, 3 each at the Vehicle and Driver levels, and 8 new elements. Nine trafficway descriptor data elements were moved from the crash level to the new precrash level. These elements provide details about the characteristics of the trafficway selected for each vehicle.

A Pedestrian/Bicycle crash typing software application was added to the Non-Motor Vehicle Occupant form for both systems to help identify the precrash actions for parties involved in certain non-motorist-related crashes.

Type of Intersection was added to both systems. Bus Use and Vehicle Configuration were two Vehicle level elements that are new to NASS GES in 2010 and modified for FARS (element attributes were consolidated and redefined). Condition at Time of Crash was added at the Driver and the Non-Motor Vehicle Occupant levels for both systems. For motor vehicle occupants, there is now an Indication of Misuse of Restraint System or Helmet Use in both systems.

Some of the information that had been collected under FARS Related Factors was redistributed to new data elements. For example, some Person Related Factors have been removed and are now captured in two new Non-Motor Vehicle Occupant elements; Non-Motorist Action/Circumstances Prior to Crash and Non-Motorist Action/Circumstances at Time of Crash. Some Vehicle Related Factors are now captured under the new Precrash elements, Contributing Circumstances, Motor Vehicle and Driver Distracted By. The Driver Level element, Violations Charged, is now a "Select-all-That-Apply" element.

Multiple data elements that are part of the Model Minimum Uniform Crash Criteria (MMUCC) had the attribute "Not Reported" added in 2010 to account for information missing from the case source materials.

To ensure that data quality was not compromised as a result of the standardization, NHTSA refined and enhanced its quality control processes. These enhancements enable the identification of coding discrepancies and development of training tailored to eliminate or reduce these discrepancies.

The final phase of the FARS/NASS GES standardization will occur during the 2011 data collection year, at which point FARS and NASS GES, while remaining separate data systems, will share a single data entry system and uniform set of data elements.

**New in 2010 NASS GES**

There were many changes to the 2010 NASS GES, most of which are the result of NHTSA's efforts to standardize variables in the NASS GES and the Fatality Analysis Reporting System (FARS). Additions, deletions, and changes are listed below.

More detailed information on each variable can be found in the NASS GES Coding and Editing Manuals, which NHTSA publishes for each year of data collection. While the 2010 changes are addressed in this Analytical User's Manual, data users should compare the 2009 and 2010 Coding and Editing Manuals for a more thorough understanding. Manuals for 1995 to the present can be found at:

<http://www-nrd.nhtsa.dot.gov/cats/listpublications.aspx?Id=k&ShowBy=DocType>.

**General changes to 2010 NASS GES are:**

- Non-harmful events are added to the Cevent (formerly the Event) data set.
- A new data set (Vevent) is added which lists the harmful and non-harmful events for each in-transport motor vehicle.
- Pedestrian/bicyclist typing is updated to use the coding procedures in the document "Pedestrian and Bicycle Crash Analysis Tool Version 2.0" (March 2006). The pedestrian/bicyclist typing information is collected for all pedestrians, bicyclists and people on personal conveyances and is in a data set which is new in 2010, Pbtype. In 2009 and before, the pedestrian/bicyclist information is available for the first qualifying person in the crash and is in the Accident data set.
- The data sets Nmprior and Nmcrash are added in 2010; they replace the Nmaction data set and contain information about what people (who are not occupants of motor vehicles) are doing prior to the crash (Nmprior) and any improper actions or contributing circumstances noted on the PAR (Nmcrash).
- The Trafcon data set is retired in 2010. In prior years (2002-2009) the Trafcon data set could contain multiple traffic controls for each in-transport motor vehicle. In 2010, one traffic control is coded per in-transport motor vehicle eliminating the need for the Trafcon data set. The traffic control coded in 2010 is the one which best describes the traffic controls in the vehicle's environment just prior to its critical precrash event.

## 2010 Variables with Changes in Definitions, Attributes or SAS Codes

### Accident:

A06	First Harmful Event EVENT1
A07	Manner of Collision MAN_COL
A09	Relation to Junction REL_JCT1/REL_JCT2
A10	Relation to Trafficway REL_ROAD
A11/V_A11	Trafficway Description VTRAFWAY (V41 in 2010)
A12/V_A12	Total Lanes of Roadway VNUM_LAN
A13/V_A13	Roadway Alignment VALIGN
A14/V_A14	Roadway Grade VPROFILE
A15/V_A15	Roadway Surface Conditions VSURCOND
A16/V_A16	Traffic Control Device VTRAFCON
A18/V_A18	Speed Limit VSPD_LIM
A19	Light Condition LGT_COND
A20	Atmospheric Conditions WEATHER/WEATHER1/WEATHER2
A21	School Bus Related SCH_BUS
A25	Work Zone WRK_ZONE

### Cevent/Vevent (only Event in 2009 and prior, modified in 2010):

E03/V24	Areas of Impact (This Vehicle)/ Areas of Impact – Initial GAD/IMPACT1
E03/V38	Areas of Impact (This Vehicle)/ Areas of Impact – Most Damaged GAD/IMPACT2
E04	Non-Collision Category or Object Contacted (Sequence of Events) OBJCONT
E05/V24	Areas of Impact (Other Vehicle) OBJGAD/IMPACT1
E06/VE06	Action E_ACTION

### Vehicle:

V02	Hit and Run HIT_RUN
V03	Vehicle Make MAKE
V04	Vehicle Model MODEL
V05	Body Type BODY_TYP
V06	Vehicle Model Year MODEL_YR
V07	Vehicle Identification Number VIN
V08	Special Use SPEC_USE
V09	Emergency Use EMER_USE
V10B	Number of Occupants NUMOCCS
V18	Extent of Damage DEFORMED
V19	Vehicle Removal TOWED
V20	Most Harmful Event V_EVENT
V31	Vehicle Motor Carrier Identification Number MCARR_ID
V33	Cargo Body Type CARGO_BT
V41	Trafficway Description VTRAFWAY (it was V_A11 in 2009)

### Parked:

PV05	Parked/Working Body Type PBODYTYP
PV06	Parked/Working Vehicle Model Year PMODEL_YR
PV07	Parked/Working Vehicle Identification Number PVIN
PV08	Parked/Working Special Use PSP_USE
PV10	Parked/Working Number of Occupants Coded POCCINVL

PV10B	Parked/Working Number of Occupants PNUMOCCS
PV18	Parked/Working Extent of Damage PVEH_SEV
PV19	Parked/Working Vehicle Removal PTOWED
PV31	Parked/Working Vehicle Motor Carriers Identification Number PCARIDNO
PV33	Parked/Working Cargo Body Type PCARGTYP
PV34	Parked/Working Hazardous Materials Placard PHAZPLAC
PV37	Parked/Working Vehicle Location PREL_RWY
PV38	Parked/Working Vehicle Areas of Impact – Most Damaged PIMPACT2

**Person:**

P03	Person Type PER_TYP
P04	Seating Position SEAT_POS
P06	Ejection EJECTION
P07	Age AGE
P08	Sex SEX
P09	Injury Severity INJ_SEV
P10	Transported to Medical Facility By HOSPITAL
P11A	Alcohol Test Status ALCHTEST
P11B	Alcohol Test Type ALTSTYPE
P11C	Alcohol Test Result ALTRSULT
P13	Non-Motorist Location at Time of Crash LOCATN
P15	Restraint System/Helmet Use REST_SYS
P17A	Drug Test Status DRUGTEST
P17B	Drug Test Type DRTSTYPE
P17C	Drug Test Result DRTRSULT
P21	Air Bag Deployed AIR_BAG

**Safetyeq:**

M_P20	Non-Motorist Safety Equipment Use MSAFEQMT
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**New Variables:****Accident:**

A28	Type of Intersection TYP_INT
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**Vehicle:**

V_A17	Device Functioning VTCONT_F
V39	Bus Use BUS_USE
V40	Vehicle Configuration V_CONFIG

**Person:**

P24	Any Indication of Mis-use of Restraint System/Helmet Use REST_MIS
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**Parked:**

PV38	Parked/Working Vehicle Areas of Impact – Most Damaged PIMPACT2
PV40	Parked/Working Vehicle Configuration PV_CONFIG

**Pbtype (new in 2010):**

PB27	Marked Crosswalk PBCWALK
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PB28	Sidewalk Present PBSWALK
PB29	School Zone PBSZONE
PB30	Crash Type (Pedestrian) PEDCTYPE
PB30B	Crash Type (Bicyclist) BIKECTYPE
PB31	Crash Type Location (Pedestrian) PEDLOC
PB31B	Crash Type Location (Bicyclist) BIKELOC
PB32	Pedestrian Position PEDPOS
PB32B	Bicyclist Position BIKEPOS
PB33	Pedestrian Initial Direction of Travel PEDDIR
PB33B	Bicyclist Direction BIKEDIR
PB34	Motorist Direction MOTDIR
PB35	Motorist Maneuver MOTMAN
PB36	Intersection Leg PEDLEG
PB37	Pedestrian Scenario PEDSNR
PB38	Crash Group (Pedestrian) PEDCGP
PB38B	Crash Group (Bicyclist) BIKECGP

**The following are new SAS tables in 2010:**

- Vevent
- Nmprior
- Nmcrash

**Deleted Variables:**

**Accident:**

A11	Trafficway Description TRAF_WAY
A12	Total Lanes of Roadway NO_LANES
A13	Roadway Alignment ALIGNMNT
A14	Roadway Grade PROFILE
A15	Roadway Surface Conditions SUR_COND
A16	Traffic Control Device TRAF_CON
A18	Speed Limit SP_LIMIT
A24	Pedestrian/Cyclist Crash Type PED_ACC

**Vehicle:**

V22	Vehicle Role VEH_ROLE
V25	Damaged Areas DAM_AREA
D02	Violations Charged VIOLATN
D04	Driver's Vision Obscured By VIS_OBSC
D06	Driver Maneuvered to Avoid DR_MANAV
D07	Driver Distracted By DR_DSTRD

**Person:**

P18	Condition (Impairment) at the Time of Crash IMPAIRMT
P19	Non-Motorist Action ACTION
P20	Non-Motorist Safety Equipment Use SAF_EQMT

**Nmaction (this table replaced by Nmrior and Nmcrash):**

M\_P19 Non-Motorist Action MACTION

**Trafcon (this table is not available in 2010):**

M\_A16 Traffic Control Device MTRAFCON

**Other Changes in the 2010 Coding and Editing Manual:**

The following variables have changes to the remarks and/or attribute definitions in 2010.

**Cevent/Vevent (only Event in 2009 and prior, modified in 2010):**

E06/VE06 Action E\_ACTION

**Vehicle:**

V21 Movement Prior to Critical Event P\_CRASH1

**Person:**

P03 Person Type PER\_TYP

P13 Non-Motorist Location at Time of Crash LOCATN

P15 Restraint System/Helmet Use REST\_SYS

**Parked:**

PV05 Parked/Working Body Type PBODYTYP

PV06 Parked/Working Vehicle Model Year PMODEL\_YR

PV07 Parked/Working Vehicle Identification Number PVIN

PV08 Parked/Working Special Use PSP\_USE

PV10 Parked/Working Number of Occupants Coded POCCINVL

PV10B Parked/Working Number of Occupants PNUMOCCS

PV18 Parked/Working Extent of Damage PVEH\_SEV

PV19 Parked/Working Vehicle Removal PTOWED

PV31 Parked/Working Vehicle Motor Carriers Identification Number PCARIDNO

PV33 Parked/Working Cargo Body Type PCARGTYP

PV34 Parked/Working Hazardous Materials Placard PHAZPLAC

PV37 Parked/Working Vehicle Location PREL\_RWY

PV38 Parked/Working Vehicle Areas of Impact – Most Damaged PIMPACT2

PV40 Parked/Working Vehicle Configuration PV\_CONFIG

**Biketraf:**

MB\_A16 Traffic Control Device-Cyclist BTRAFCON

Summary of the SAS Naming Changes in 2010

Locator Code	2009 SAS Name	New 2010 SAS Name	Variable Name
A05	N/A	LAND_USE	Land Use
A09A	REL_JCT	RELJCT1	Relation To Junction -Within Interchange Area?
A09B	REL_JCT	RELJCT2	Relation To Junction -Junction
A11	TRAF_WAY	Deleted this derived variable	Trafficway Description
A12	NO_LANES	Deleted this derived variable	Total Lanes in Roadway
A13	ALIGNMNT	Deleted this derived variable	Roadway Alignment
A14	PROFILE	Deleted this derived variable	Roadway Grade
A15	SUR_COND	Deleted this derived variable	Roadway Surface Condition
A16	TRAF_CON	Deleted this derived variable	Traffic Control Device
A17	N/A	N/A	Traffic Control Device Functioning
A18	SP_LIMIT	Deleted this derived variable	Speed Limit
A24	PED_ACC	Deleted (check new table, PBTYPY)	Ped/Cycle Accident Type
A27	N/A	TYP_INT	Type of Intersection
V12	FACTOR	Deleted in Vehicle table	Vehicle Contributing Factors (MFACTOR) stored in Factor table
V22	VEH_ROLE	Deleted in Vehicle table	Vehicle Role
V24	IMPACT	IMPACT1	Areas of Impact - Initial Damage Area
V31	CARINDUM	MCARR_ID	Carrier's Identification Number
V39	N/A	BUS_USE	Bus Use
V40	N/A	V_CONFIG	Vehicle Configuration
D02	VIOLATN	Deleted in Vehicle table	Violations Charged (MVIOLATN) stored in Violatn table
D04	VIS_OBSC	Deleted in Vehicle table	Violations Charged (MVISOBSC) stored in Vision table
D06	DRMAN_AV	Deleted in Vehicle table	Driver Maneuvered to Avoid (MDRMANAV) stored in Maneuver table
D07	DR_DSTRD	Deleted in Vehicle table	Driver Distracted By (MDRSTRD) stored in Distract table
P18	IMPAIRMT	Deleted in Person table	Condition at Time of Crash (MIMPAIR) stored in Impair table
P19	ACTION	Deleted in Person table	Non-Motorist Action (changed in 2010)

Locator Code	2009 SAS Name	New 2010 SAS Name	Variable Name
P20	SAF_EQMT	Deleted in Person table	Non-Motorist Safety Equipment Use (MSAFEQMT) stored in Safetyeq table
P24	N/A	REST_MIS	Indication of Restraints/Helmet Mis-Use
P25	N/A	MPR_ACT	Non-Motorist Actions/Circumstances At Time of Crash (MPR_ACT) stored in Nmcrash table
P26	N/A	MTM_CRSH	Non-Motorist Actions/Circumstances Prior to Crash (MTM_CRSH) stored in Nmprior table

The variables in RED are new to 2010 NASS GES.

The variables in BLUE are changed in 2010 NASS GES.

## Introduction

One of the primary objectives of the National Highway Traffic Safety Administration (NHTSA) is to reduce the staggering human toll and property damage that motor vehicle traffic crashes impose 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 National Automotive Sampling System (NASS) General Estimates System (GES) which began operation in 1988. Providing data about all types of crashes involving all types of vehicles, the NASS GES is used to identify highway safety problem areas, provide a basis for regulatory and consumer information initiatives, and form the basis for cost and benefit analyses of highway safety initiatives.

The NASS GES obtains its data from a nationally representative probability sample selected from the estimated 6 million police-reported crashes which occur annually. These crashes include those that result in a fatality or injury and those involving major property damage. 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 NASS GES 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 variables that are contained in the NASS GES and other useful information that will enable the users to become familiar the data system. NASS GES Coding and Editing Manuals provide more detailed definitions for each variable and attribute for a given year. Years 1995 to current are available at:

<http://www-nrd.nhtsa.dot.gov/cats/listpublications.aspx?Id=k&ShowBy=DocType>.

## NASS GES Operations

The National Automotive Sampling System (NASS) -General Estimates System (GES) data are obtained from a nationally representative probability sample selected from all police-reported crashes. The system began operation in 1988. To be eligible for the NASS GES sample, a police accident report (PAR) must be completed for the crash, and the crash must involve at least one motor vehicle traveling on a trafficway and must result in property damage, injury, or death.

The NASS GES is directed by the National Center for Statistics and Analysis, which is a component of Vehicle Safety (NVS) in NHTSA. The data are obtained by NASS GES data collectors in 60 geographic sites across the United States. These data collectors make weekly, biweekly, or monthly visits to approximately 400 police agencies within the 60 sites, where they randomly sample about 57,000 PARs per year. During the visit the data collectors compile a list all of qualifying crashes reported since their last visit and then select a sample of these crashes. The collectors send copies of the Police Crash Reports (PARs) for the selected crashes to the NASS quality control centers for coding. No other data are collected beyond the selected PARs—no driver license, vehicle registration, or medical information is obtained.

Trained personnel interpret and code data directly from the PARs onto an electronic data file. To protect individual privacy, no personal information such as names, addresses, specific crash location, etc., is coded.

During data coding, the data are checked for validity and consistency. After the data file is created, quality checks are performed on the data. When these are completed, the electronic data are made available to the public. The NASS GES 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 private citizens. Annual NASS GES data files are available for 1988 through 2010.

## NASS GES Sample Design

The PARs from which the NASS GES data are coded are a probability sample of police-reported crashes that occurred in the United States. Since each crash that occurred in the survey year had a chance of being selected, the design makes it possible to compute not only national estimates but also probable errors associated with the estimates.

The selection of the sample of PARs for the NASS GES is accomplished in three stages. The first stage is a sample of geographic areas, called Primary Sampling Units (PSUs), from across the United States. A PSU is a central city, a county surrounding a central city, an entire county, or a group of contiguous counties. The NASS GES divides the U.S. into 1,195 of these PSUs. The PSUs are then grouped into categories according to the following geographic regions and types of PSUs:

- Geographic Region: Northeast, Midwest, South, and West
- Type: Large Central City, Large Suburban Area, and All others.

The second stage of the design is a sample of police jurisdictions within each PSU. In most PSUs the number of police jurisdictions is more than can reasonably be visited by a data collector, so in most PSUs the police jurisdictions are sampled based upon probability proportional to the number of crashes investigated in the police jurisdiction. That is, as the number of crashes investigated increases, the probability of selecting that jurisdiction increases. An average of seven police jurisdictions have been selected within each PSU.

The third and final stage is the selection of crashes within the sampled police jurisdictions. The first step in this process is for the NASS GES data collector to compile a list of every crash that was reported in the police jurisdiction since their last visit. In some very large police jurisdictions the number of crashes is too large for each to be listed. In these jurisdictions the data collector selects a subsample of PARs, with those listed depending on the PAR number. These "listed" crashes are then grouped into 6 strata depending on the type of vehicle(s) involved, the severity of the injuries, and the tow status of the vehicle(s) involved. Within each of these 6 groups a systematic sample of crashes is selected, based on different sampling ratios.

### **From 2002 to the present, crashes have been grouped into six strata:**

- Group 1L: NASS crashes where an occupant of a towed passenger vehicle is killed. This category also includes crashes where an occupant of a towed passenger vehicle received an incapacitating injury and is transported for treatment. If the crash involves two or more passenger vehicles, at least two passenger vehicles must be towed and at least one of the occupants of a towed passenger vehicle must receive an incapacitating injury and be transported for treatment. No medium or heavy trucks may be involved.
- Group 1M: NASS crashes not qualifying for Group 1L, but at least one occupant of a towed passenger vehicle is injured and transported for treatment. No medium or heavy trucks may be involved.
- Group 1N: NASS crashes not qualifying for Group 1L or Group 1M, but a passenger vehicle is towed. No medium or heavy trucks may be involved.
- Group 2: NASS crashes not qualifying for Group 1, involving at least one medium or heavy truck in which a vehicle was towed due to damage or at least one involved person had a police-reported injury of K, A, B, or C;

- Group 3: NASS crashes not qualifying for Group 1 or 2 in which none of the vehicles involved in the crash was a medium or heavy truck and at least one person involved in the crash had a police-reported injury of K, A, or B; and,
- Group 4: NASS crashes not qualifying for Group 1, 2, or 3, No one in the crash can receive a K, A, or B injury.

**From 1990 to 2001 there were four strata:**

- Group 1: NASS crashes involving at least one passenger vehicle, i.e., a passenger car, sport utility vehicle, pickup truck or van) towed due to damage from the crash scene and no medium or heavy trucks are involved.
- Group 2: NASS crashes not qualifying for Group 1 involving at least one medium or heavy truck in which a vehicle was towed due to damage or at least one involved person had a police-reported injury of K, A, B, or C.
- Group 3: NASS crashes not qualifying for Group 1 or 2 in which none of the vehicles involved in the crash was a medium or heavy truck and at least one person involved in the crash had a police-reported injury of K, A, or B.
- Group 4: NASS crashes not qualifying for Group 1, 2 or 3. No one in the crash can receive a K, A, or B injury.

**In 1988 and 1989 there were three strata:**

- Group 1: NASS crashes involving at least one passenger vehicle, i.e., a passenger car, sport utility vehicle, pickup truck or van) towed due to damage from the crash scene.
- Group 2: NASS crashes not qualifying for Group 1 in which at least one person involved in the crash had a police reported injury K, A or B. No passenger vehicles involved in the crash were towed due to damage.
- Group 3: NASS not qualifying for Group 1 or 2. No one in the crash can receive a K, A or B injury.

In 2010, approximately 46,391 PARs were sampled and coded.

A thorough discussion of the sample design can be found in the ***National Accident Sampling System General Estimates System Technical Note***, DOT HS 807 796. The document is available at:

<http://www-nrd.nhtsa.dot.gov/Pubs/807796.PDF>.



## National Estimates

Since the NASS GES data are obtained from a probability sample of police-reported traffic crashes, national estimates can be made from these data. In order to calculate estimates of national crash characteristics, data from each PAR on the file must be weighted. The national weight has been added to the file for each PAR and is called "WEIGHT". Technically, this weight is the product of the inverse of the probabilities of selection at each of the three stages in the sampling process.

In 1995, the methodology for calculating the national weight in the NASS GES was evaluated. Based on 1992 state data obtained through state agencies for each of the 1,195 Primary Sampling Units (PSUs), it was determined that the number of fatal and injury crashes increased throughout the 12 geographical and urbanization areas, and that the changes were large enough to warrant some modification in procedures. PSUs in the NASS GES had not been reselected since the 1986 redesign because of the cost and time required to do so. To account for shifts in the distribution of crashes, the procedures used to stratify and select the PSUs in 1979 and 1986 were followed, without actually resampling the PSUs. Rather, the weights of the current PSUs were adjusted to reflect changes. The revised weights were phased into the 1993, 1994 and 1995 NASS GES files. Therefore, estimates from the NASS GES for 1993-95 were revised.

Because some of the changes were so dramatic, NHTSA decided to make adjustments to the PSU weights every three years. For more information on reweighting of the PSUs in the NASS GES, refer to the research note, ***Reweighting of the Primary Sampling Units in the National Automotive Sampling System***, published September 1997. This document is available at:

<http://www-nrd.nhtsa.dot.gov/Pubs/97.845.pdf>.

The second round for making adjustments to the PSU weights was implemented in 1998. Some of the same procedures used in the first round also were used in the second round. Using 1995 state data obtained through state agencies, the number of fatal and injury crashes throughout the 12 regional and urbanization areas were evaluated. Overall, there was a decrease in the number of crashes. The PSU weights were revised to reflect the shift and the revised weights were phased into the 1996 and 1997 NASS GES files. Therefore, estimates from the NASS GES for 1996-98 were revised.

A weight variable is provided in the NASS GES data files that produces the national estimates (see NASS GES Variables and Definitions).

The national estimates produced from NASS GES data may differ from the true values because they are based on a probability sample of crashes and not a census of all crashes. The size of these differences may vary depending on which sample of crashes was selected. The standard error of an estimate is a measure of the precision or reliability with which an estimate from this particular NASS GES sample approximates the results of a census.

It is impractical to compute a standard error for each national estimate crash characteristic. Instead, generalized standard errors for estimates of totals, and the method used to produce them, are provided in *Appendix D: Statistical Methods*.

For more information on NASS GES estimation and the reliability of these estimates, refer to the ***National Accident Sampling System General Estimates System Technical Note***, DOT HS 807 796, available at :

<http://www-nrd.nhtsa.dot.gov/cats/listpublications.aspx?Id=k&ShowBy=DocType>.

## NASS GES SAS Data Sets

NASS GES data are made available to the public in Statistical Analysis System (SAS) data sets. Over the years changes have been made to the type of data collected and the way the data are presented in the SAS data sets. Some variables have been dropped and new ones added, coding of individual variables has changed, and new SAS data sets have been created. Coding changes and the years for which individual data items are available are shown in the “Variables and Definitions” section of this document. The NASS GES Coding and Editing Manual contains a detailed description of each SAS variable including coding instructions and attribute definitions. The Coding Manual is published for each year of data collection. Years 1995 to current are available at:

<http://www-nrd.nhtsa.dot.gov/cats/listpublications.aspx?Id=k&ShowBy=DocType>

In this manual the word vehicle means in transport motor vehicle unless otherwise noted.

The SAS data sets and years of availability are:

- **Accident** - (1988-current): This data set contains information about crash characteristics and environmental conditions at the time of the crash. There is one record per crash.
- **Vehicle** - (1988-current): This data set contains information describing the in-transport motor vehicles and drivers of in-transport motor vehicles who are involved in the crash: There is one record per in-transport motor vehicle.
- **Person** - (1988-current): This data set contains information describing all persons involved in the crash including motorists (i.e., drivers and passengers of in-transport motor vehicles) and non-motorists (e.g., pedestrians and pedalcyclists). It provides information such as age, sex, and vehicle occupant restraint use and injury severity. There is one record per person.
- **Cevent** - (Modified in 2010, it was called Event from 1988 to 2009): The modification in 2010 includes non-harmful events. Information for all of the qualifying events (both harmful and non-harmful) which occurred in the crash are included in this data set. There is one record per event. For each in-transport motor vehicle, the event number of its most harmful event is stored in the Vehicle data set. This data set details the chronological sequence of events resulting from an unstabilized situation that constitutes a motor vehicle traffic crash.
- **Vevent** - (New in 2010): This data set contains the sequence of events for each in-transport motor vehicle involved in the crash. Included are the event numbers, non-harmful events (e.g., ran off road-right, crossed center line), objects struck and areas of impact. There is one record for each harmful and non-harmful event in which the vehicle is involved.
- **Factor** - (2002-current): This data set contains information about vehicle circumstances which may have contributed to the crash. There is at least one record per in-transport motor vehicle. Each factor is coded on a separate record.
- **Violatn** - (2002-current): This data set contains information about violations which were charged to drivers. There is at least one record per in-transport motor vehicle. Each violation is coded on a separate record.

- **Vision** - (2002-current): This data set contains information about circumstances which may have obscured the driver's vision. There is at least one record per in-transport motor vehicle. Each obstruction is coded on a separate record.
- **Maneuver** - (2002-current): This data set contains information about actions taken by the driver to avoid something or someone in the road. There is at least one record per in-transport motor vehicle. Each maneuver is coded on a separate record.
- **Distract** - (2002-current): This data set contains information about driver distractions. There is at least one record per in-transport motor vehicle. Each distraction is coded on a separate record.
- **Impair** - (2002-current): This data set contains information about physical impairments. From 2002 through 2009 this information is published for drivers and non-motorists (includes people in parked/working vehicles). Starting in 2010 this information is published for drivers and people who are not occupants of motor vehicles (does not include people in parked/working vehicles). There is one record per impairment and there is at least one record for each driver and non-motorist (2002-2009) or each driver and person who is not an occupant of a motor vehicle (2010).
- **Nmaction** - (2002-2009): This data set contains information on actions of non-motorists that may have contributed to the crash. There is one record per action, and there is at least one record for each non-motorist.
- **Nmcrash** - (New in 2010): This data set contains information about any improper actions of people who are not occupants of motor vehicles (e.g., pedestrians and bicyclists) or contributing circumstances noted on the PAR. 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.
- **Nmprior** - (New in 2010): This data set contains information about what people who are not occupants of motor vehicles (e.g., pedestrians and bicyclists) are doing prior to 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** - (2002-current): This data set contains information about safety equipment used by people who are not occupants of motor vehicles. There is one record per equipment item, and there is at least one record for each person who is not an occupant of a motor vehicle.
- **Trafcon** – (2002-2009): This data set contains information about traffic control devices for each in-transport motor vehicle in a crash. There is one record per traffic control device, and at least one record for every in-transport motor vehicle.
- **Biketraf** – (2002-current): This data set contains information about traffic control devices for each cyclist. There is one record per traffic control device, and at least one record for every cyclist.
- **Parked** – (2005-current): This data set contains information about parked and working vehicles which were involved in GES crashes. A parked vehicle is a motor vehicle which is stopped off the roadway, i.e., parked off the roadway. The definition of working vehicles has changed over the study years. From 2005 to 2008 working vehicles were defined as transport devices being used as equipment which would be classified under ANSI D16.1-1996 as motor vehicles, if not being used as equipment. In 2009 the definition changed to include only vehicles involved in trafficway maintenance, construction, or utility activities. Also, vehicles performing private maintenance, construction, or utility activities were excluded. Data users are strongly advised to

consult the annual GES Coding and Editing Manuals for a detailed discussion. There is one record per parked/working vehicle.

- **Parkevnt** – (2005-current): This data set contains information about events in which parked/working vehicles are involved. The structure of this data set is similar to the Event data set (2005-2009) and the Cevent data set (2010), with one record per event involving a parked/working vehicle. However, there are several differences between Event/Cevent and Parkevnt. In Event/Cevent, struck parked/working vehicles are not individually identified. Instead, parked vehicles are coded as "parked vehicle or other motor vehicle not in transport" (2005-2009) or "parked vehicle" (2010) and working motor vehicles are coded as non-fixed objects (2005-2008) or "parked vehicle or other motor vehicle not in transport" (2009) or as "working motor vehicle" (2010). In Parkevnt each parked/working vehicle is identified by parked vehicle number, event number, and case number. Merging Event/Cevent and Parkevnt data sets by CASENUM and EVENTNUM produces a list of events in which parked/working vehicles were involved and identifies the specific vehicles involved (both in-transport and parked/working).
- **Pbtype** – (2010-current): This data set contains information about circumstances related to pedestrians and bicyclists involved in the crash. There is one record for each pedestrian, bicyclist or person on a personal conveyance.

## NASS GES Imputation

The NASS GES data are obtained either directly from an item on the PAR or by interpreting the information provided in the PAR through reviewing the crash diagram, the Officer's written summary of the crash, or combinations of variables on the PAR. Because of this interpretation, and because the police officer may not have entered some item of information or provided complete information, data can be missing. Different statistical procedures have been used on NASS GES data to complete values for unknown data: univariate imputation and hot-deck imputation from 1988 to 2009, and sequential regression imputation as instituted in 2010. A thorough discussion of the 2009 and earlier imputation procedures can be found in Imputation in the NASS General Estimates System, DOT HS 807 985 available at:

<http://www-nrd.nhtsa.dot.gov/Pubs/807985.PDF>

The proportion of unknowns for a given variable varies from year to year. In some years the proportion is so low that it seems redundant to provide an imputed variable, however imputed variables are not removed for those years to avoid rounds of removing and then reinstating variables in the SAS data sets.

The univariate imputation procedure was developed in SAS to randomly assign values to the unknowns in the same proportion as the known values for that one variable. Since these imputed values are randomly assigned the analyst should use them only for univariate frequency distributions. The following is an example of univariate imputation using the variable *EJECTION*. The original distribution might be:

<b>No</b>	<b>60</b>
<b>Yes</b>	<b>40</b>
<b>Unknown</b>	<b><u>5</u></b>
<b>Total</b>	<b>105</b>

The SAS univariate imputation program would assign values to the five unknown values in the following proportions:

<b>No</b>	<b>60/100</b>
<b>Yes</b>	<b>40/100</b>

The new variable, *EJECT\_I* would have these values:

<b>No</b>	<b>63</b>
<b>Yes</b>	<b><u>42</u></b>
<b>Total</b>	<b>105</b>

Hot-deck imputation differs from univariate imputation in that the unknown values for a variable are replaced based on information from correlated variables. For example, the hot-deck imputation program for *SEX* used the following correlated variables: *AGE*, *HOURLY*, *DAY OF WEEK*, *VIOLATIONS CHARGED*, *PERSON TYPE*, *SEATING POSITION*, *DRUG & ALCOHOL INVOLVEMENT*, and *NUMBER OF OCCUPANTS & VEHICLES INVOLVED*. When *SEX* was unknown for a person record, the hot-deck program searches for another record that has a set of variables similar to the unknown sex record. When that record is found, the *SEX* value is used for the unknown *SEX* record.

From 1988 to 2009, hot-deck and univariate imputed variables can be identified by the *\_H* or *\_I* suffix in their SAS names. Hot-deck imputed *Body Type* is labeled *BDYTYP\_H* and univariate imputed *EJECTION* is labeled *EJECT\_I*. The imputed variables do not replace the originals; all original variables still exist on the data sets.

Imputation by sequential regression was instituted in 2010 using a software package called IVEware, developed at the University of Michigan. In this method, covariates are selected automatically using stepwise regression. Since it can be done in an automated fashion, this method replaced both univariate and hot-deck imputation in 2010. The only exception was body type, which was imputed in a univariate method. The specific variables imputed are consistent with those imputed in 1998-2009, except for five derived variables at the crash level that are no longer derived in 2010 (see table).

Starting in 2010, all imputed variables except body type use the sequential regression method and are identified by the *\_IM* suffix. As before, the imputed variables do not replace the originals; all original variables still exist on the data sets.

The following table gives the summary of the SAS name changes from 2009 and prior to 2010:

SAS Table	2009 SAS Name	2010 SAS Name	Label	2009 Imputed Names	2010 Imputed Names
ACCIDENT	ALCOHOL	ALCOHOL	Alcohol Involved	ALCHL_I	ALCHL_IM
ACCIDENT	ALIGNMNT	Deleted	Roadway Alignment	ALIGN_I	Discontinued
ACCIDENT	DAY_WEEK	DAY_WEEK	Day Of The Week	WKDY_I	WKDY_IM
ACCIDENT	EVENT1	EVENT1	First Harmful Event	EVENT1_I	EVENT1_IM
ACCIDENT	HOUR	HOUR	Hour	HOUR_I	HOUR_IM
ACCIDENT	LGT_COND	LGT_COND	Light Condition	LGTCON_I	LGTCON_IM
ACCIDENT	MAN_COL	MAN_COL	Manner Of Collision	MANCOL_I	MANCOL_IM
ACCIDENT	MAX_SEV	MAX_SEV	Maximum Injury Severity	MAXSEV_I	MAXSEV_IM
ACCIDENT	MINUTE	MINUTE	Minute	MINUTE_I	MINUTE_IM
ACCIDENT	NUM_INJ	NUM_INJ	Number Of Injured	NO_INJ_I	NO_INJ_IM
ACCIDENT	PROFILE	Deleted	Roadway Grade	PROFIL_I	Discontinued
ACCIDENT	REL_JCT	changed in 2010	Relation To Junction	RELJCT_I	changed in 2010
		RELJCT1	Relation To Junction - Within Interchange Area		RELJCT1_IM
		RELJCT2	Relation To Junction - Junction		RELJCT2_IM
ACCIDENT	SP_LIMIT	Deleted	Speed Limit	SPDLIM_H	Discontinued
ACCIDENT	SUR_COND	Deleted	Roadway Surface Condition	SURCON_I	Discontinued

SAS Table	2009 SAS Name	2010 SAS Name	Label	2009 Imputed Names	2010 Imputed Names
ACCIDENT	TRAF_CON	Deleted	Traffic Control Devices	TRFCON_I	Discontinued
ACCIDENT	WEATHER	WEATHER	Atmospheric Condition	WEATHR_I	WEATHR_IM
VEHICLE	BODY_TYP	BODY_TYP	Body Type	BDYTYP_H	BDYTYP_IM
VEHICLE	HIT_RUN	HIT_RUN	Hit And Run	HITRUN_I	HITRUN_IM
VEHICLE	IMPACT	IMPACT1	Area Of Impact - Initial	IMPACT_H	IMPACT1_IM
VEHICLE	MAX_VSEV	MAX_VSEV	Max Injury Severity	MXVSEV_I	MXVSEV_IM
VEHICLE	MODEL_YR	MODEL_YR	Model Year	MDLYR_I	MDLYR_IM
VEHICLE	NUM_INJV	NUM_INJV	Number Injured In Vehicle	NUMINJ_I	NUMINJ_IM
VEHICLE	P_CRASH1	P_CRASH1	Movement Prior To Critical Event	MANEUV_I	PCRASH1_IM
VEHICLE	VEH_ROLE	deleted in 2010	Vehicle Role	VROLE_I	deleted in 2010
VEHICLE	VIOLATN	only in its own table	Driver Violations	VLTN_I	deleted in 2010
VEHICLE	VEH_ALCH	VEH_ALCH	Driver Drinking In Vehicle	V_ALCH_I	V_ALCH_IM
VEHICLE	V_EVENT	V_EVENT	Most Harmful Event	V_EVNT_H	VEVENT_IM
PERSON	AGE	AGE	Age	AGE_H	AGE_IM
PERSON	EJECTION	EJECTION	Ejection	EJECT_I	EJECT_IM
PERSON	INJ_SEV	INJ_SEV	Injury Severity	INJSEV_H	INJSEV_IM
PERSON	PER_ALCH	PER_ALCH	Police-Reported Alcohol Involvement	PERALC_H	PERALCH_IM
PERSON	SEAT_POS	SEAT_POS	Seating Position	SEAT_H	SEAT_IM
PERSON	SEX	SEX	Sex	SEX_H	SEX_IM



<b>NASS GES Variable List</b>
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The following lists all SAS variables with their SAS data set locations.

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	Case Number	CASENUM	32
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A22	Police Jurisdiction (PJ)	PJ	35
A23	Case Stratum	STRATUM	36
	Case Weight	WEIGHT	38
V01/P01/PB01	Vehicle Number	VEH_NO	39
P02/PB02	Person Number	PER_NO	40
E01/VE01	Crash Event Sequence Number	EVENTNUM	41

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	Primary Sampling Unit Stratum	PSUSTRAT	43
A01A	Month of the Crash	MONTH	44
A01B	Year of the Crash	YEAR	44
A01C	Day of Week	DAY_WEEK	45
A01CI	Imputed Day of Week	WKDY_IM	45
A02A	Hour of the Crash	HOUR	46
A02AI	Imputed Hour of the Crash	HOUR_IM	46
A02B	Minute of the Crash	MINUTE	46
A02BI	Imputed Minute of the Crash	MINUTE_IM	46
A03	Number of Vehicles Involved	VEH_INVL	47
A03A	Number of Vehicles Coded (discontinued)	VEH_COD	47
A03B	Number of Persons Involved (discontinued)	PER_INVL	47
A03C	Number of Persons Coded (discontinued)	PER_COD	48
A03D	Number of Parked/Working Vehicles Involved	PVH_INVL	48
A04	Number of Forms Submitted for Persons Not in Motor Vehicles	NON_INVL	49
A04A	Number of Non-Motorists Coded (discontinued)	NON_COD	49
A05	Land Use	LAND_USE	50
A05A	Percentage Rural (discontinued)	RUR_URB	50
A06	First Harmful Event	EVENT1	51
A06I	Imputed First Harmful Event	EVENT1_IM	53
A07	Manner of Collision	MAN_COL	54
A07I	Imputed Manner of Collision	MANCOL_IM	54

A08	Interstate Highway	INT_HWY	55
A09A	Relation to Junction- Within Interchange Area	RELJCT1	56
A09B	Relation to Junction- Specific Location	RELJCT2	56
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A09I	Imputed Relation to Junction	RELJCT2_IM	58
A10	Relation to Trafficway	REL_ROAD	59
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A19I	Imputed Light Condition	LGTCOIM	69
A20	Atmospheric Conditions	WEATHER	70
A20	Atmospheric Conditions	WEATHER1	70
A20	Atmospheric Conditions	WEATHER2	70
A20I	Imputed Atmospheric Conditions	WEATHR_IM	71
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A24	Pedestrian/Cyclist Crash Type (discontinued)	PED_ACC	73
A25	Work Zone	WRK_ZONE	76
A26	National Highway System (NHS) Roadway Type (discontinued)	NHS_RWTP	77
A27	EMS On Scene (discontinued)	EMS	78
A28	Type of Intersection	TYP_INT	79
A90	Maximum Injury Severity in Crash	MAX_SEV	80
A90I	Imputed Maximum Injury Severity in Crash	MAXSEV_IM	80
A91	Number Known Injured in Crash	NUM_INJ	81
A91I	Imputed Number Known Injured in Crash	NO_INJ_IM	81
A92	Alcohol Involved in Crash	ALCOHOL	82
A92I	Imputed Alcohol Involved in Crash	ALCHL_IM	82

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V03	Vehicle Make	MAKE	85
V04	Vehicle Model	MODEL	88
V05	Body Type	BODY_TYP	89
V05I	Imputed Body Type	BDYTYP_IM	95
V06	Model Year	MODEL_YR	96
V06I	Imputed Model Year	MDLYR_IM	96
V07	Vehicle Identification Number	VIN	97
V08	Special Use	SPEC_USE	98
V09	Emergency Use	EMER_USE	99
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	Number of Occupants Coded (discontinued)	OCC_COD	100
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V14	Jackknife	JACKNIFE	106
V15	Rollover (discontinued)	ROLLOVER	107
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V18	Extent of Damage	DEFORMED	110
V19	Vehicle Removal	TOWED	111
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V20A	Most Harmful Event Number	MHENUM	114
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## Variable Definitions and Codes

The "Variable Definitions and Codes" section of this report provides detailed information on the variables, including SAS formats. If the SAS variable has an associated format, the format name appears in brackets following the SAS variable name. Format names are given for the last three years. Format names for earlier years can be obtained from a SAS PROC CONTENTS for the year(s) of interest.

All variables are numeric except the following:

- VIN (V07) Character all GES years
- Parked/Working Vehicle VIN (PV07) Character all years
- Driver Zip Code (D08) Character since 2002, numeric all prior years
- Motor Carrier ID (V31) Character since 2002, numeric all prior years
- Parked/Working Vehicle Motor Carrier ID (PV31) Character all years

There are 6 variables that are on each of the SAS data sets. They are:

### **Case Number**

---

**Definition:** This variable is a unique number assigned to each crash. It appears on each of the data sets and is used to merge the data sets.

**Additional Information:**

**SAS Name:** **CASENUM**

**Attribute Codes**

***1988-Later***

xx NASS GES Case Number

### Primary Sampling Unit (PSU)

---

**Definition:** A PSU is either a large central city, a county surrounding a city, or a group of counties. There are 60 possible values ranging from 1 to 97. This variable is on all NASS GES SAS data sets.

**Additional Information:**

**SAS Name:** PSU

**Attribute Codes**

**1988-Later**

1-97 Primary Sampling Unit Number

---

### Region of the Country

---

**Definition:** Indicates the region of the country where the crash occurred. It is based on the primary sampling unit. This variable is on all NASS GES SAS data sets.

**Additional Information:**

**SAS Name:** REGION

#### Attribute Codes

##### *1988-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)

**A22 Police Jurisdiction (PJ)**

---

**Definition:** The number of the police jurisdiction from which the PAR was originally sampled. This variable is on all NASS GES SAS data sets.

**Additional Information:**

**SAS Name:** PJ

**Attribute Codes*****1988-Later***

1-120 Police Jurisdiction Number

---

**A23 Case Stratum**

---

**Definition:** The number of the category in which the PAR was originally listed in NASS GES PAR Program or Stratification Record. This variable is on all NASS GES SAS data sets.

**Additional Information:** See *NASS GES Sample Design* for more information.

**SAS Name:** **STRATUM**

**Attribute Codes****1988-1989**

- 1 Group 1: NASS crashes involving at least one passenger vehicle, i.e., a passenger car, sport utility vehicle, pickup truck or van) towed due to damage from the crash scene.
- 2 Group 2: NASS crashes not qualifying for Group 1 in which at least one person involved in the crash had a police reported injury K, A or B. No passenger vehicles involved in the crash were towed due to damage.
- 3 Group 3: NASS not qualifying for Group 1 or 2. No one in the crash can receive a K, A or B injury.

**1990-2001**

- 1 Group 1: NASS crashes involving at least one passenger vehicle, i.e., a passenger car, sport utility vehicle, pickup truck or van) towed due to damage from the crash scene and no medium or heavy trucks are involved.
- 2 Group 2: NASS crashes not qualifying for Group 1 involving at least one medium or heavy truck in which a vehicle was towed due to damage or at least one involved person had a police-reported injury of K, A, B, or C.
- 3 Group 3: NASS crashes not qualifying for Group 1 or 2 in which none of the vehicles involved in the crash was a medium or heavy truck and at least one person involved in the crash had a police-reported injury of K, A, or B.
- 4 Group 4: NASS crashes not qualifying for Group 1, 2 or 3 . No one in the crash can receive a K, A, or B injury.

**2002-Later**

- 1 Group 1L: NASS crashes where an occupant of a towed passenger vehicle is killed. This category also includes crashes where an occupant of a towed passenger vehicle received an incapacitating injury and is transported for treatment. If the crash involves two or more passenger vehicles, at least two passenger vehicles must be towed and at least one of the occupants of a towed passenger vehicle must receive an incapacitating injury and be transported for treatment. No medium or heavy trucks may be involved
- 2 Group 2: NASS crashes not qualifying for Group 1 involving at least one medium or heavy truck in which a vehicle was towed due to damage or at least one involved person had a police-reported injury of K, A, B, or C.
- 3 Group 3: NASS crashes not qualifying for Group 1 or 2 in which none of the vehicles involved in the crash was a medium or heavy truck and at least one person involved in the crash had a police-reported injury of K, A, or B.
- 4 Group 4: NASS crashes not qualifying for Group 1, 2 or 3 . No one in the crash can receive a K, A, or B injury.

---

**A23 Case Stratum (continued)**

---

- 5 Group 1M: NASS crashes not qualifying for Group 1L, but at least one occupant of a towed passenger vehicle is injured and transported for treatment. No medium or heavy trucks may be involved.
- 6 Group 1N: NASS crashes not qualifying for Group 1L or Group 1M, but a passenger vehicle is towed and no medium or heavy trucks are involved.

### Case Weight

---

**Definition:** This is the variable used to produce national estimates from the data. This variable is on all NASS GES SAS data sets.

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

**SAS Name:** **WEIGHT**



The above variables as well as VEH\_NO are found on all vehicle-level data sets:

### **V01/P01/PB01      Vehicle Number**

---

**Definition:** This element identifies the number assigned to each vehicle in the case. This variable appears on each vehicle level data set and is used in conjunction with the CASENUM variable to merge information from vehicle level data sets.

**Additional Information:**

**SAS Name:** **VEH\_NO**

**Attribute Codes**

***1988-Later***

0	Non-Motorist
1-100	Assigned Vehicle Number

The above variables as well as PER\_NO are found on all person-level data sets:

### **P02/PB02    Person Number**

---

**Definition:** Assigned to each occupant, pedestrian, or non-motorists involved in the crash. The assumed driver of a hit-and-run vehicle is coded 1.

**Additional Information:** This variable is computer assigned.

**SAS Name:** PER\_NO

#### **Attribute Codes**

##### ***1988-Later***

1-999 Assigned Person Number

The Accident-level variables above and EVENTNUM are found on the CEVENT and VEVENT data sets:

### **E01/VE01    Crash Event Sequence Number**

---

**Definition:** Number assigned to each harmful event in a crash, in chronological order.

**Additional Information:**

**SAS Name:** **EVENTNUM**

**Attribute Codes**

*2000-Later*

1-100    Event Number

### The ACCIDENT Data Set

The Accident data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, AND PJ, which are discussed in the "NASS GES Variable List" section. CASENUM is the case identifier. It also contains:

### Primary Sampling Unit Stratum

---

**Definition:** The PSUs are grouped into 14 strata to reflect the first stage of the sample selection. This variable is used statistical software packages that use complex sample design for calculating variances, such as SUDAAN and SAS V9. See *Appendix D: Statistical Methods* for more information.

**SAS Name:** PSUSTRAT

#### Attribute Codes

##### *1988-Later*

1 to 14

**A01 Crash Date**

---

**A01A Month of the Crash**

---

**Definition:** The month in which the crash occurred.

**Additional Information:**

**SAS Name:** MONTH

**Attribute Codes**

**1988-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

**A01B Year of the Crash**

---

**Definition:** The last two digits of the year in which the crash occurred.

**Additional Information:** In 1999 year of the crash was changed to a four digit code.

**SAS Name:** YEAR

**Attribute Codes**

- | <b>1988-1998</b> | <b>1999-Later</b> |
|------------------|-------------------|
| 2 Digit Year     | 4 Digit Year      |

---

**A01C Day of Week**

---

**Definition:** The day of the week in which the crash occurred.

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

**SAS Name:** **WEEKDAY** 1988-2008  
**DAY\_WEEK** 2009-Present

**Attribute Codes****1988-Later**

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

---

**A01CI Imputed Day of Week**

---

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

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **WKDY\_I** 1988-2009  
**WKDY\_IM** 2010-Later

---

**A02 Crash Time**

---

**A02A Hour of the Crash**

---

**Definition:** The hour in which the crash occurred. Military time is used. Noon is coded as "12."

**Additional Information:** From 1988-2008 midnight was coded as HOUR=24 and MINUTE=0. Starting in 2009 midnight is coded as HOUR=0 and MINUTE=0. For all years, hour is coded 0 for one minute after midnight to fifty-nine minutes after midnight.

**SAS Name:** HOUR

**Attribute Codes**

<i>1988-2008</i>		<i>2009-Later</i>	
0-24	Hour	0-23	Hour
99	Unknown	99	Unknown

---

**A02AI Imputed Hour of the Crash**

---

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

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** HOUR\_I      *1988-2009*  
                   HOUR\_IM      *2010-Later*

---

**A02B Minute of the Crash**

---

**Definition:** The minute in which the crash occurred.

**Additional Information:**

**SAS Name:** MINUTE

**Attribute Codes**

<i>1988-Later</i>	
0-59	Minute
99	Unknown

---

**A02BI Imputed Minute of the Crash**

---

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

**Additional Information:** See *Understanding the NASS GES Imputation Process* section.

**SAS Name:** MINUTE\_I      *1988-2009*  
                   MINUTE\_IM      *2010-Later*



**A03 Number of Vehicles Involved**

---

**Definition:** The number of vehicles involved in the crash.

**Additional Information:**

**SAS Name:** VEH\_INVL

**Attribute Codes****1988-Later**

1-100 Number of Vehicles

**A03A Number of Vehicles Coded (discontinued)**

---

**Definition:** This variable was derived by counting the number of vehicles listed in the Vehicle data set for a crash.

**Additional Information:** This variable was discontinued in 1990.

**SAS Name:** VEH\_COD

**Attribute Codes****1988-1989**

x Number of Vehicles

**A03B Number of Persons Involved (discontinued)**

---

**Definition:** The number of persons involved in the crash.

**Additional Information:** The value 0 is coded when there are no persons involved in the crash. For example, if a parked vehicle slips into gear, rolls down a driveway and hits a vehicle parked on the street, the number of persons involved is 0. This variable was discontinued in 1990.

**SAS Name:** PER\_INVL

**Attribute Codes****1988-1989**

0-98 Number of Persons  
99 Unknown

---

**A03C Number of Persons Coded (discontinued)**

---

**Definition:** This variable is derived from the number of records in the Person data set for the crash.

**Additional Information:** A value 0 is coded when there are no persons coded in the crash. This number may be less than number of persons involved because some states report only the number of injured occupants, but no further information. This variable was discontinued in 1990.

**SAS Name:** PER\_COD

**Attribute Codes****1988-1989**

x Number of Persons

---

**A03D Number of Parked/Working Vehicles Involved**

---

**Definition:** This variable is derived from the number of records in the Parked Vehicle data set for the crash.

**Additional Information:** The Parked data set contains records for Parked and Working Vehicles.

From 2005 to 2008 working vehicles were defined as transport devices being used as equipment which would be classified under ANSI D16.1-1996 as motor vehicles, if not being used as equipment. In 2009 the definition changed to include only vehicles involved in trafficway maintenance, construction, or utility activities. Also, vehicles performing private maintenance, construction, or utility activities were excluded.

**SAS Name:** PVH\_INVL

**Attribute Codes****2005-Later**

0-30 Number of Parked/Working Vehicles in the Crash

**A04 Number of Forms Submitted for Persons Not in Motor Vehicles**

---

**Definition:** The number of non-motorists involved 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:**

**SAS Name:** NON\_INVL

**Attribute Codes**

<b>1988- 1998</b>	<b>1999- Later</b>	
0-25	0-98	Number of Non-Motorists

**A04A Number of Non-Motorists Coded (discontinued)**

---

**Definition:** This variable is derived by counting the number of records for non-motorists in the Person data set for the crash.

**Additional Information:** A value 0 is coded when there were no non-motorists coded in the crash. This variable was discontinued in 1990.

**SAS Name:** NON\_COD

**Attribute Codes**

<b>1988-1989</b>	
x	Number of Non-Motorists

**A05 Land Use**

---

**Definition:** The population of the area associated with the police jurisdiction from which the accident report is selected.

**Additional Information:** The variable was temporarily discontinued in 2009. The element value for this variable is computer generated. The attribute selected is based on the PSU and police jurisdiction from which the crash is selected. For example, if the crash is selected from PSU72, jurisdiction 1; the attribute selected by the computer is Within area of population 100,000+.

**SAS Name:** **LAND\_USE**

**Attribute Codes****1988-Later**

- 1 Within Area of Population 25,000-50,000
- 2 Within Area of Population 50,000-100,000
- 3 Within Area of Population 100,000+
- 8 Other Area
- 9 Unknown

**A05A Percentage Rural (discontinued)**

---

**Definition:**

**Additional Information:** This variable was discontinued in 1997.

**SAS Name:** **RUR\_URB**

**Attribute Codes****1988-1996**

- 0 Rural
- 1 10 % of Area is Rural
- 2 20 % of Area is Rural
- 3 30 % of Area is Rural
- 4 40 % of Area is Rural
- 5 50 % of Area is Rural
- 6 60 % of Area is Rural
- 7 70 % of Area is Rural
- 8 80 % of Area is Rural
- 9 90 % of Area is Rural
- 10 100 % of Area is Rural

**A06 First Harmful Event**

**Definition:** Indicates the first property damaging or injury producing event in the crash.

**Additional Information:**

**SAS Name:** **EVENT1**

**Attribute Codes**

1988- 1991	1992- 1998	1999- 2008	2009	2010- Later	
<i>NONCOLLISION</i>					
1	1	1	1	1	Rollover/Overturn
2	2	2	2	2	Fire/Explosion
3	3	3	3	3	Immersion
4	--	4	4	4	Gas Inhalation
5	5	5	5	--	Jackknife
--	--	--	--	5	Jackknife ( <i>Harmful to This Vehicle</i> )
6	6	6	6	--	Noncollision Injury ( <i>Injured In Vehicle Or Fell From Vehicle</i> )
--	50	7	7	7	Pavement Surface Irregularity ( <i>Ruts, Potholes, Grates, etc.</i> )
8	8	8	8	8	Other Noncollision
9	9	9	9	--	Noncollision-No Details
10	10	10	10	10	Thrown or Falling Object
--	--	--	--	11	Injured in Vehicle ( <i>Non-Collision</i> )
--	--	--	--	12	Cargo/Equipment Loss or Shift ( <i>Harmful to This Vehicle</i> )
--	--	--	--	13	Fell/Jumped from Vehicle
<i>COLLISION WITH OBJECT NOT FIXED</i>					
21	21	21	21	21	Pedestrian
22	22	22	22	--	Cycle or Cyclist ( <i>Pedalcyclist or Pedalcycle</i> )
--	--	--	--	22	Pedalcyclist
23	23	23	23	--	Railway Train
--	--	--	--	23	Railway Vehicle
24	24	24	24	--	Animal
--	--	--	--	24	Live Animal
--	--	--	--	49	Ridden Animal or Animal Drawn Conveyance
25	25	25	25	--	Motor Vehicle in Transport
26	26	26	26	--	Parked Motor Vehicle ( <i>or Other M.V. Not in Transport</i> )
27	27	27	27	--	Other Type Non-Motorist
--	--	--	--	27	Non-Motorist on Personal Conveyance
--	--	--	47	--	Vehicle Occupant
28	28	28	28	28	Other Object Not Fixed
29	29	29	29	--	Object Not Fixed-No Details
--	--	--	--	29	Parked Motor Vehicle
--	--	--	--	30	Working Motor Vehicle

**A06 First Harmful Event (continued)****Attribute Codes**

<b>1988- 1991</b>	<b>1992- 1998</b>	<b>1999- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
<i>COLLISION WITH FIXED OBJECT</i>					
31	31	31	31	31	Ground
32	32	32	32	32	Building
33	33	33	33	33	Impact Attenuator/Crash Cushion
34	34	34	34	--	Bridge Structure ( <i>Bridge Pier/Abutment/Parapet End/Rail</i> )
35	35	35	35	--	Guardrail
36	36	36	36	--	Concrete Traffic Barrier or Other Longitudinal Barrier Type
--	--	--	--	36	Concrete Traffic Barrier
37	37	37	37	--	Post, Pole or Support ( <i>Sign Post, Utility Post</i> )
38	38	38	38	--	Culvert or Ditch
39	39	39	39	39	Curb
40	40	40	40	40	Embankment
41	41	41	41	41	Fence
42	42	42	42	42	Wall
43	43	43	43	43	Fire Hydrant
44	44	44	44	44	Shrubbery
45	45	45	45	--	Tree
--	--	--	--	45	Tree ( <i>Standing Only</i> )
46	46	46	46	46	Boulder
48	59	58	58	58	Other Fixed Object
49	59	59	59	--	Fixed Object, No Details
--	--	--	--	71	Bridge Overhead Structure
--	--	--	--	72	Bridge Pier or Support
--	--	--	--	73	Bridge Rail ( <i>Includes Parapet</i> )
--	--	--	--	74	Guardrail Face
--	--	--	--	75	Guardrail End
--	--	--	--	76	Cable Barrier
--	--	--	--	77	Other Traffic Barrier
--	--	--	--	78	Traffic Sign Support
--	--	--	--	79	Traffic Signal Support
--	--	--	--	80	Utility Pole/Light Support
--	--	--	--	81	Other Post, Other Pole or Other Supports
--	--	--	--	82	Culvert
--	--	--	--	83	Ditch
--	--	--	--	84	Snow Bank
--	--	--	--	85	Mail Box

**A06 First Harmful Event (continued)**

---

**Attribute Codes**

<b>1988- 1991</b>	<b>1992- 1998</b>	<b>1999- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
<i>COLLISION WITH MOTOR VEHICLE IN TRANSPORT</i>					
--	--	--	--	90	Motor Vehicle In-Transport
--	--	--	--	91	Motor Vehicle In-Transport Strikes or is Struck by Cargo, Persons or Objects Set-in-Motion from/by Another Motor Vehicle In-Transport
--	--	--	--	92	Motor Vehicle in Motion Outside the Trafficway
<i>NOT REPORTED AND UNKNOWN</i>					
97	--	--	--	--	Other – No Details (*1988-1989 only)
--	--	--	--	97	Not Reported
99	99	99	99	99	Unknown

**A06I Imputed First Harmful Event**

---

**Definition:** This imputed variable has the same definition as First Harmful Event, excluding value 99 for unknown first harmful event and value 97 for not reported first harmful event.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **EVENT1\_I** 1988-2009  
**EVENT1\_IM** 2010-Later

**A07 Manner of Collision**

---

**Definition:** Indicates the orientation of the vehicles in a collision. If a non-collision, it is classified as such.

**Additional Information:**

**SAS Name:** MAN\_COL

**Attribute Codes**

1988- 1998	1999- 2009	2010- Later	
0	0	0	Not Collision with Motor Vehicle in Transport
1	1	--	Rear-End
--	--	1	Front-to-Rear
2	2	--	Head-On
--	--	2	Front-to-Front
3	3	3	Rear-to-Rear
4	4	4	Angle
5	5	5	Sideswipe, Same Direction
6	6	6	Sideswipe, Opposite Direction
--	--	7	Rear-to-Side
8	--	8	Other
9	9	9	Unknown
--	--	97	Not Reported

**A07I Imputed Manner of Collision**

---

**Definition:** This imputed variable has the same definition and element values as *Manner of Collision*, excluding value 9 for unknown manner of collision and value 97 for not reported manner of collision.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** MANCOL\_I 1988-2009  
MANCOL\_IM 2010-Later



**A08 Interstate Highway**

---

**Definition:** Indicates whether or not the crash occurred on an interstate highway. Interstate highway is a Federal Highway Administration classification.

**SAS Name:** INT\_HWY

**Attribute Codes****1988-Later**

- |   |         |
|---|---------|
| 0 | No      |
| 1 | Yes     |
| 9 | Unknown |

---

**A09 Relation to Junction**

---

**A09A Relation to Junction- Within Interchange Area**

---

**Definition:** This element identifies the crash's location with respect to presence in an interchange area and 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 A09B) and based on the location of the first harmful event of the crash.

**Additional Information:**

**SAS Name:** RELJCT1

**Attribute Codes****2010-Later**

- 0 No
- 1 Yes
- 8 Not Reported
- 9 Unknown

---

**A09B Relation to Junction- Specific Location**

---

**Definition:** This element identifies the crash's location with respect to presence in an interchange area and 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 C20A) and based on the location of the first harmful event of the crash.

**Additional Information:** In 1992, this variable was modified into two categories: *Non-Interchange Area* and *Interchange Area*.

**SAS Name:** REL\_JCT      1988-2009  
RELJCT2      2010-Later

**Attribute Codes****1988-1991**

- 0 Non-Junction
- 1 Intersection
- 2 Intersection Related
- 3 Interchange Area
- 4 Driveway, Alley Access, Etc.
- 5 Entrance/Exit Ramp
- 6 Rail Grade Crossing
- 8 Other
- 9 Unknown

**A09B Relation to Junction- Specific Location (continued)**

**1992- 1995- 1999-  
1994 1998 2009**

*NON-INTERCHANGE AREA*

0	0	0	Non-Junction
1	1	1	Intersection
2	2	2	Intersection Related
3	3	3	Driveway, Alley Access, Etc.
4	4	4	Entrance/Exit Ramp
5	5	5	Rail Grade Crossing
	6	6	On A Bridge
		7	Crossover Related
8	8	8	Other, Non-interchange
9	9	9	Unknown, Non-interchange

*INTERCHANGE AREA*

10	10	10	Non-Junction
11	11	11	Intersection
12	12	12	Intersection Related
13	13	13	Driveway, Alley Access, Etc.
14	14	14	Entrance/Exit Ramp
	16	16	On A Bridge
		17	Crossover Related
18	18	18	Other Location in Interchange
19	19	19	Unknown, Interchange Area
99	99	99	Unknown if Interchange

**2010-Later**

1	Non-Junction
2	Intersection
3	Intersection-Related
4	Driveway Access
5	Entrance/Exit Ramp Related
6	Railway Grade Crossing
7	Crossover-Related
8	Driveway Access Related
16	Shared-Use Path or Trail
17	Acceleration/Deceleration Lane
18	Through Roadway
19	Other location within interchange area
98	Not Reported
99	Unknown

**A09I Imputed Relation to Junction**

---

**Definition:** This imputed variable has the same definition and element values as *Relation to Junction*, excluding value 9, 19, 99 for unknown relation to junction and value 98 for not reported relation to junction.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** RELJCT\_I 1988-2009  
RELJCT1\_IM, RELJCT2\_IM 2010-Later

**A10 Relation to Trafficway**

---

**Definition:** This element identifies the attribute which best describes the location of the first harmful event.

**Additional Information:** Prior to 2009, this variable was called Relation to Roadway.

**SAS Name:** **REL\_RWY** 1988-2008  
**REL\_ROAD** 2009-Later

**Attribute Codes**

<b>1988- 1998</b>	<b>1999- 2001</b>	<b>2002- Later</b>	
1	1	1	On Roadway
2	--	--	On Shoulder or Parking Lane
--	2	2	On Shoulder
3	--	--	Off Roadway/Shoulder/Parking Lane
4	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	--	--	Other
--	8	8	Gore
--	--	9	Continuous Left Turn Lane
--	10	10	Separator
--	--	97	Not Reported
9	99	99	Unknown

## A11 Trafficway Flow

---

**Definition:** Indicates whether or not the roadway was divided.

**Additional Information:** If the crash involves vehicles traveling on different trafficways (e.g., first harmful event occurred in an intersection), the trafficway coded is based on the roadway surface type and number of travel lanes of the trafficways involved and a determination of which vehicle contributed most the cause of the crash.

Starting in 2002 this information is also available for each vehicle in a crash. The variable VTRAFWAY is in the Vehicle data set.

The information for variables A11/V\_41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002. From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** TRAF\_WAY

### Attribute Codes

1988- 2002	2003- 2009	
0	--	Not Physically Divided ( <i>Center 2-way Left Turn Lane</i> )
1	1	Not Physically Divided ( <i>Two Way Trafficway</i> )
2	2	Divided Highway ( <i>Median Strip, Barrier</i> )
3	3	One Way Trafficway
9	9	Unknown

---

**A12 Number of Travel Lanes**

---

**Definition:** Indicates the number of lanes of travel. 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.

**Additional Information:** If the crash involves vehicles traveling on different trafficways (e.g., first harmful event occurred in an intersection), the trafficway coded is based on the roadway surface type and number of travel lanes of the trafficways involved and a determination of which vehicle contributed most the cause of the crash.

Starting in 2002 this information is also available for each vehicle in a crash. The variable VNUM\_LAN is in the Vehicle data set.

The information for variables A11/V41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002. From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** NUM\_LAN 1988-2008  
NO\_LANES 2009

**Attribute Codes****1988-2009**

- 1 One Lane
- 2 Two Lanes
- 3 Three Lanes
- 4 Four Lanes
- 5 Five Lanes
- 6 Six Lanes
- 7 Seven or More Lanes
- 9 Unknown

### A13 Roadway Alignment

---

**Definition:** Horizontal alignment of roadway in the immediate vicinity of the first harmful event.

**Additional Information:** If the crash involves vehicles traveling on different trafficways (e.g., first harmful event occurred in an intersection), the trafficway coded is based on the roadway surface type and number of travel lanes of the trafficways involved and a determination of which vehicle contributed most the cause of the crash.

Starting in 2002 this information is also available for each vehicle in a crash. The variable VALIGN is in the Vehicle data set.

The information for variables A11/V\_41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002. From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** **ALIGN** 1988-2008  
**ALIGNMNT** 2009

#### Attribute Codes

##### 1988-2009

- 1 Straight
- 2 Curve
- 9 Unknown

### A13I Imputed Roadway Alignment

---

**Definition:** This imputed variable has the same definition and element values as *Roadway Alignment*, excluding value 9 for unknown roadway alignment and value 8 for not reported roadway alignment.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **ALIGN\_I**



## A14 Roadway Profile

---

**Definition:** Vertical alignment of roadway.

**Additional Information:** If the crash involves vehicles traveling on different trafficways (e.g., first harmful event occurred in an intersection), the trafficway coded is based on the roadway surface type and number of travel lanes of the trafficways involved and a determination of which vehicle contributed most the cause of the crash.

Starting in 2002 this information is also available for each vehicle in a crash. The variable VPROFILE is in the Vehicle data set.

The information for variables A11/V41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002. From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** PROFILE

### Attribute Codes

1988- 2001	2002- 2009	
1	1	Level
2	2	Grade ( <i>Uphill, Downhill, Unknown Slope</i> )
3	3	Hillcrest
8	--	Other
--	8	Sag
9	9	Unknown

## A14I Imputed Roadway Profile

---

**Definition:** This imputed variable has the same as definition and element values as *Roadway Profile*, excluding value 9 for unknown roadway profile and value 8 for not reported roadway profile.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** PROFIL\_I

---

## A15 Roadway Surface Condition

---

**Definition:** Condition of road surface at the time of the crash.

**Additional Information:** If the crash involves vehicles traveling on different trafficways (e.g., first harmful event occurred in an intersection), the trafficway coded is based on the roadway surface type and number of travel lanes of the trafficways involved and a determination of which vehicle contributed most the cause of the crash.

Starting in 2002 this information is also available for each vehicle in a crash. The variable VSURCOND is in the Vehicle data set.

The information for variables A11/V\_41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002. From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** SUR\_COND

### Attribute Codes

#### 1988-2009

- 1 Dry
- 2 Wet
- 3 Snow or Slush
- 4 Ice
- 5 Sand, Dirt, Oil
- 8 Other
- 9 Unknown

---

## A15I Imputed Roadway Surface Condition

---

**Definition:** This imputed variable has the same definition and element values as *Roadway Surface Condition*, excluding value 99 for unknown roadway surface condition and value 98 for not reported roadway surface condition.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** SURCON\_I

## A16 Traffic Control Device

**Definition:** Indicates whether or not a traffic control device was present for the crash and the type of traffic control device.

**Additional Information:** If the crash involves vehicles and cyclists subject to different traffic control devices, the device coded is based on the following priority:

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

From 2002-2009, this information is also available on the Vehicle data set (Vehicle.VTRAFCON), the Biketraf data set (BTRAFCON) and the Trafcon data set (MTRAFCON).

The information for variables A11/V41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002. From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** TRAF\_CON

### Attribute Codes

1988- 1990-  
1989 2009

0 0 No Controls

### NOT AT RAILROAD GRADE CROSSINGTRAFFIC SIGNALS:

#### TRAFFIC SIGNALS:

--	1	Traffic Control Signal ( <i>On Colors</i> )
1	--	Traffic Control Signal ( <i>On Colors</i> ) w/o Pedes. Signal
2	--	Traffic Control Signal ( <i>On Colors</i> ) w/ Pedes. Signal
3	--	Traffic Control Signal ( <i>On Colors</i> ) Pedes. Signal Not Known
4	4	Flashing Traffic Control Signal or Flashing Beacon
8	8	Other Traffic Signal
9	9	Unknown Traffic Signal

#### REGULATORY, SCHOOL ZONE OR WARNING SIGNS:

11	21	Stop Sign
12	22	Yield Sign
13	23	School Zone Related Sign
14	--	Warning Sign

**A16 Traffic Control Device (continued)**

---

**Attribute Codes****1988- 1990-  
1989 2009**

18	28	Other Sign
19	29	Unknown Sign
--	40	Advisory Speed Sign
--	41	Warning Sign For Road Conditions ( <i>Hill, Steep Grade, Etc.</i> )
--	42	Warning Sign For Road Construction
--	43	Warning Sign For Environment/Traffic ( <i>Fog Ahead, Wind, Crash Ahead, Etc.</i> )
--	49	Unknown Type Warning

**MISCELLANEOUS NOT AT RAILROAD CROSSING:**

21 51 Officer, Crossing Guard, Flagman, etc

**AT RAILROAD GRADE CROSSING:**

31	61	Active Devices ( <i>e.g. Gates, Flashing Lights, Traffic Signal</i> )
32	62	Passive Devices ( <i>Stop Sign, Cross Bucks</i> )

**OTHER:**

97	97	Traffic Control Present-No Details
98	98	Other Traffic Control ( <i>Whether Or Not At RR Grade Crossing</i> )
99	99	Unknown

**A16I Imputed Traffic Control Device**

---

**Definition:** This imputed variable has the same definition and element values as *Traffic Control Device*, excluding value 99 for unknown traffic control device and value 97 for not reported traffic control device.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** TRFCON\_I

---

**A17 Traffic Control Device Functioning**

---

**Definition:** This data element is a derived variable based on traffic control device from the crash data set. Traffic control device functioning attributes for vehicle(s)/"Bikes" with the same traffic control device as the crash data set are prioritized (1, 2, 3, 8, 9, 0) and the traffic control device functioning attribute with the highest priority selected.

**Additional Information:** The information for variables A11/V41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002. From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** DEV\_FUNC 1988-1989

**Attribute Codes****1988-1989**

- 0 No Controls
- 1 Device Not Functioning
- 2 Device Functioning
- 9 Unknown

---

## A18 Speed Limit

---

**Definition:** Posted speed limit in miles per hour.

**Additional Information:** If the crash involves vehicles traveling on different trafficways (e.g., first harmful event occurred in an intersection), the highest speed limit is coded.

Starting in 2002 this information is also available for each vehicle in a crash. The variable VSPD\_LIM is in the Vehicle data set.

The information for variables A11/V\_A11, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002. From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** **SPD\_LIM**      **1988-2008**  
                  **SP\_LIMIT**      **2009**

### Attribute Codes

#### **1988-2009**

0	No Statutory Limit ( <i>Parking Lot, Alley, etc.</i> )
5-75	Actual Speed Limit
99	Unknown

---

## A18I Imputed Speed Limit

---

**Definition:** This imputed variable has the element values as *Speed Limit*, excluding value 99 for unknown speed limit and value 97 for not reported speed limit.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **SPDLIM\_H**

**A19 Light Condition**

---

**Definition:** General light conditions at the time of the crash, including light from external roadway illumination fixtures.

**Additional Information:**

**SAS Name:** **LGHT\_CON** 1988-2008  
**LG\_T\_COND** 2009-Later

**Attribute Codes**

1988-1998	1999-2008	2009	2010-Later	
1	1	1	1	Daylight
2	2	--	--	Dark
--	--	2	2	Dark - Not Lighted
3	3	3	3	Dark - Lighted
4	4	4	4	Dawn
5	5	5	5	Dusk
6	--	--	--	Dawn or Dusk
--	--	6	6	Dark – Unknown Lighting
--	--	7	7	Other
--	--	--	8	Not Reported
9	9	9	9	Unknown

**A19I Imputed Light Condition**

---

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

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **LGTCON\_I** 1988-2009  
**LGTCON\_IM** 2010-Later

**A20 Atmospheric Conditions**

---

**Definition:** General atmospheric conditions at the time of crash.

**Additional Information:** This data element selects up to two values. If there are more than two atmospheric conditions, select the two conditions that most affect visibility.

Accident.WEATHER1 and Accident.WEATHER2 are two coded variables, and Accident.WEATHER is derived from these two.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** WEATHER 1988-2009  
WEATHER , WEATHER1 , WEATHER2 2010-Later

**Attribute Codes****1988-2009**

- 1 No Adverse Conditions
- 2 Rain
- 3 Sleet
- 4 Snow
- 5 Fog
- 6 Rain and Fog
- 7 Sleet and Fog
- 8 Other (*Smog, Smoke, Blowing Sand/Dust/Snow, Crosswind, Hail*)
- 9 Unknown

**2010-Later**

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



**A20I Imputed Atmospheric Conditions**

---

**Definition:** This imputed variable has the same definition and element values as *Atmospheric Conditions*, excluding value 9 for unknown atmospheric conditions and value 98 for not reported atmospheric conditions.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** WEATHR\_I 1988-2009  
WEATHR\_IM 2010-Later

**A21 School Bus-Related**

---

**Definition:** Indicates if 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.

**SAS Name:** **SCHL\_BUS** 1988-2008  
**SCH\_BUS** 2009-Later

**Attribute Codes**

1988- 2009	2010- Later	
0	0	No
1	1	Yes
--	7	Not Reported

**A24 Pedestrian/Cyclist Crash Type (discontinued)**

**Definition:** This element describes the crash situation involving the pedestrian/bicyclist.

**Additional Information:** SAS codes 1 through 99 pertain to cyclist crashes and 110 through 920 pertain to pedestrian crashes. In 1989 4-digit codes were added pertaining to wheelchair crashes. Wheelchair codes are similar to those for pedestrians, with a 1 added as the first digit. For example a pedestrian involved with a commercial bus is coded 110 and a wheelchair occupant involved with a commercial bus is coded 1110.

If more than one qualifying non-motorist is involved, the variable is coded with respect to the first one involved. Within the selected non-motorist type (pedestrian or cyclist) coding is prioritized in the order listed below, if more than one crash type applies.

This variable was discontinued in the ACCIDENT data set and moved to the PBTYPED data set in 2010.

**SAS Name:** **PED\_ACC**

**Attribute Codes**

**1988-2009** (Exceptions indicated by “ \* “)

- 0 No pedestrian/cyclist involved
- 9999 First qualifying non-motorist is an unknown person type

*CYCLIST:*

- 40 Play Vehicle (Big Wheel, Other Tricycle, or Bicyclist With Training Wheels)
- 11 Motorist Backing
- 29 Parking Lot, Other Open Area Or Location Such As Gas Station
- 97 Unknown Whether Parallel Or Crossing Approach Path

*PARALLEL PATH 1: MOTORIST TURNS OR MERGES INTO THE PATH OF THE CYCLIST*

- 35 Drive out - on Street Parking
- 22 Motorist Left Turn in Front of Cyclist
- 23 Motorist Left Turn Facing Cyclist
- 24 Motorist Right Turn in Front of Cyclist
- 61 Motorist Changes Lanes into Cyclist (\* Added in 2009)

*PARALLEL PATH 2 CYCLIST TURNS OR MERGES INTO THE PATH OF THE MOTORIST*

- 3 Ride-out from Sidewalk
- 18 Cyclist Left Turn, in Front of Traffic
- 19 Cyclist Left Turn, Facing Traffic
- 21 Cyclist Right Turn, from Wrong Side of Street
- 62 Cyclist Changes Lanes into Motorist (\* Added in 2009)

*PARALLEL PATH 3 OPERATOR IS ON THE WRONG SIDE OF THE STREET*

- 30 Head-on, Counteractive Evasive Actions
- 28 Wrong Way Motorist
- 26 Wrong Way Cyclist

---

**A24 Pedestrian/Cyclist Crash Type (continued)**

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*PARALLEL PATH 4 MOTORIST IS OVERTAKING THE CYCLIST*

- 13 Motorist Overtakes Undetected Cyclist
- 15 Motorist Overtaking, Counteractive Evasive Actions
- 16 Motorist Overtaking, Misjudges Passing Space
- 17 Motorist Overtaking Cyclist, Path Obstructed
- 39 Motorist Overtaking

*PARALLEL PATH 5 CYCLIST IS OVERTAKING A MOTOR VEHICLE*

- 27 Cyclist Overtaking

*PARALLEL PATH 6 OPERATOR LOSES CONTROL AND INADVERTENTLY SWERVES INTO THE PATH OF THE OTHER VEHICLE*

- 14 Motorist Lost Control
- 20 Cyclist Lost Control
- 98 Parallel Path, Unknown Type

*CROSSING PATH 1 CYCLIST DOES NOT CLEAR INTERSECTION BEFORE LIGHT TURNS GREEN FOR CROSS TRAFFIC*

- 6 Trapped
- 7 Multiple Threat

*CROSSING PATH 2 MOTORIST FAILS TO YIELD TO THE CYCLIST*

- 8 Drive Out, Driveway/Alley
- 12 Drive Through
- 9 Drive Out, Stop Sign
- 10 Right on Red
- 48 Drive Out, Intersection

*CROSSING PATH 3 CYCLIST FAILS TO YIELD TO THE MOTORIST, MIDBLOCK*

- 1 Ride Out, Residential Driveway
- 2 Ride Out, Commercial Driveway
- 4 Ride Out, Midblock
- 60 Ride Out – Unknown Driveway Type (\* Added in 2009)

*CROSSING PATH 4 CYCLIST FAILS TO YIELD TO THE MOTORIST AT AN INTERSECTION*

- 5 Ride Out, Stop Sign
- 49 Ride Out, Intersection
- 50 Ride Through (\* added in 2009)

*CROSSING PATH 5 MOTORIST IS TURNING*

- 33 Motorist Cuts Corner
- 34 Motorist Swings Wide

*CROSSING PATH 6 CYCLIST IS TURNING*

- 31 Cyclist Cuts Corner
- 32 Cyclist Swings Wide

**A24 Pedestrian/Cyclist Crash Type (continued)***CROSSING PATH 7 CRASH OCCURS AT AN INTERSECTION*

55	Controlled Intersection, Other
25	Uncontrolled Intersection, Other
90	Unknown if Controlled or Uncontrolled (* Added in 2009)
99	Crossing Path, Unknown Type

*PEDESTRIAN WHEEL CHAIR*

110	1110	Commercial Bus
120	1120	School Bus
130	1130	Ice Cream Vendor
140	1140	Mailbox Related
150	1150	Entering/Exiting
210	1210	Driverless Vehicle
220	1220	Backing Vehicle
230	1230	Hot Pursuit
310	1310	To/from Disabled Vehicle
320	1320	Disabled Vehicle Related
330	1330	Emergency Vehicle Related
410	1410	Working on Roadway
420	1420	Play Vehicle-Related
430	1430	Playing in Roadway
510	1510	Hitchhiking
520	1520	Expressway Crossing
531	1531	Walking/Running along Roadway with Traffic
532	1532	Walking/Running along Roadway against Traffic
539	1539	Walking/Running along Roadway Can't Specify
610	1610	Waiting to Cross At or Near Curb
620	1620	Pedestrian / Wheel Chair Not in Roadway
710	1710	Multiple Threat, Intersection
720	1720	Vehicle Turn/Merge - at Intersection
730	1730	Intersection Dash
740	1740	Trapped
750	1750	Pedestrian Walked /Wheel Chair Rolled into Vehicle, Intersection
760	1760	Intersection, Driver Violation
790	1790	Intersection-other
810	1810	Multiple Threat, Mid-block
821	1821	Mid-block Dart-out, First half
822	1822	Mid-block Dart-out, Second half
829	1829	Mid-block Dart-out, Can't specify
830	1830	Mid-block dash
840	1840	Pedestrian Walked / Wheel Chair Rolled into Vehicle, Mid-block
890	1890	Mid-block-other
910	1910	Other-weird
920	1920	Inadequate information

**A25 Work Zone**

---

**Definition:** 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:** From 1995 to 2003 this variable indicated whether the first harmful event occurred in a construction area or work zone. From 2004 to 2008 it was expanded to identify first harmful events that were related to, but did not necessarily occur in, a construction or work zone. Starting in 2009 it describes a “work zone crash”.

**SAS Name:** **WRK\_ZONE**

**Attribute Codes****1995-2003**

- 0 No
- 1 Yes, First Harmful Event In a Construction or Work Zone

**2004-2008**

- 3 No
- 4 Yes, First Harmful Event in Work or Construction Zone
- 5 Yes, First Harmful Event Related to, But Not In, Work or Construction Zone
- 6 Yes, First Harmful Event is In or is Related to a Work or Construction Zone, But it is Not Known Which
- 9 Unknown

**2009 2010-  
Later**

- 0 0 None
- 1 1 Construction
- 2 2 Maintenance
- 3 3 Utility
- 4 4 Work Zone, Type Unknown
- 7 Not Reported

---

**A26 National Highway System (NHS) Roadway Type (discontinued)**

---

**Definition:** This variable was added to indicate whether this roadway is designated as part of the National Highway System and the urban or rural character of the area through which the roadway travels.

**Additional Information:** This variable was added to the accident data set in 1995 and removed in 1999.

**SAS Name:** NHS\_RWTP

**Attribute Codes****1995-1998**

00 Not NHS Roadway

*URBAN*

- 1 Eisenhower Interstate (*EIS*)
- 2 Congressional High Priority Route
- 3 STRAHNET Route
- 4 STRAHNET Major Connector
- 5 Other NHS Route
- 9 Unknown Urban Route

*RURAL*

- 11 Eisenhower Interstate (*EIS*)
- 12 Congressional High Priority Route
- 13 STRAHNET Route
- 14 STRAHNET Major Connector
- 15 Other NHS Route
- 19 Unknown Urban Route

*URBAN OR RURAL*

- 21 Eisenhower Interstate (*EIS*)
- 22 Congressional High Priority Route
- 23 STRAHNET Route
- 24 STRAHNET Major Connector
- 25 Other NHS Route
- 98 Unknown if Urban or Rural
- 99 Unknown if NHS Route

**A27 EMS On Scene (discontinued)**

---

**Definition:** Indicates whether an EMS vehicle was present at the scene of the crash.

**Additional Information:** This variable was discontinued in 2009.

**SAS Name:** EMS

**Attribute Codes*****2005-2008***

- 0 No
- 1 Yes
- 6 Not on PAR
- 7 Not Coded
- 9 Unknown



**A28**    **Type of Intersection**

---

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

**Additional Information:**

**SAS Name:** `TYP_INT`

**Attribute Codes*****2010-Later***

- 0    Not an Intersection
- 1    Four-Way Intersection
- 2    T-Intersection
- 3    Y-Intersection
- 4    Traffic Circle
- 5    Roundabout
- 6    Five-Point, or More
- 7    Not Reported
- 9    Unknown

## A90 Maximum Injury Severity in Crash

---

**Definition:** Indicates the most severe injury of all persons involved in the crash, and is derived from the injury severity variable in the Person data set.

**Additional Information:** The following order of severity has been used since 2001.

- 4-Fatal
- 3- Incapacitating
- 2-Non- incapacitating
- 1-Possible Injury
- 5-Injured, Unknown Severity
- 0-No Injury
- 6-Died Prior
- 9-Unknown if Injured
- 8-No Person Involved in the Crash

From 1999 to 2000 the priority was different: Unknown if Injured had priority over No Injury.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** **MAX\_SEV**

### Attribute Codes

1988- 2009	2010- Later	
0	0	No Injury
1	1	Possible Injury
2	2	Non-incapacitating
3	3	Incapacitating
4	4	Fatal
5	5	Injured, Unknown Injury Severity
6	6	Died Prior
8	8	No Person Involved in the Crash
9	--	Unknown if Injured
--	9	Unknown if Injured/Not Reported

## A90I Imputed Maximum Injury Severity in Crash

---

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

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

This variable is derived from P09I, the imputed injury severity variable in the Person data set.

**SAS Name:** **MAXSEV\_I** 1988-2009  
**MAXSEV\_IM** 2010-Later

---

**A91**    **Number Known Injured in Crash**

---

**Definition:** Derived by counting all the persons with an injury severity of (1, 2, 3, 4, 5, or 9) in a crash.

**Additional Information:** See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** **NUM\_INJ**

**Attribute Codes****1988-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.

---

**A91I**    **Imputed Number Known Injured in Crash**

---

**Definition:** This imputed variable has the same definition and element values as *Number Known Injured in Crash*, excluding values 98 and 99 for no person involved and unknown number injured, respectively.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

This variable is derived from P09I, the imputed injury severity variable in the Person data set.

**SAS Name:**    **NO\_INJ\_I**        **1988-2009**  
                  **NO\_INJ\_IM**      **2010-Later**

---

**A92 Alcohol Involved in Crash**

---

**Definition:** This is a derived variable based on police-reported alcohol involvement from the Person data set. This variable indicates alcohol use for drivers, pedestrians, cyclists and other type of non-motorists (except occupants of motor vehicles not in transport) involved in the crash.

**Additional Information:** See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** **ALCOHOL**

**Attribute Codes 1988-Later**

- 1 Alcohol Involved
- 2 No Alcohol Involved
- 8 No Applicable Person Involved in the Crash (*The crash involved only passengers of in-transport motor vehicles, occupants of motor vehicles not in transport or unknown occupant types who are in an in-transport motor vehicle where there is no driver present*)
- 9 Unknown

---

**A92I Imputed Alcohol Involved in Crash**

---

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

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

This imputed variable is derived from P11I, the imputed police reported alcohol involvement in the Person data set.

**SAS Name:** **ALCHL\_I** 1988-2009  
**ALCHL\_IM** 2010-Later

### The VEHICLE Data Set

The Vehicle data set includes Vehicle as well as Driver and Precrash data. It contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, and VEH\_NO. CASENUM and VEH\_NO are the case identifiers. It also contains:

---

**V02 Hit and Run**

---

**Definition:** Hit and run is coded when a motor vehicle in-transport, or its driver, departs from the scene; vehicles not in transport are excluded. It does not matter whether the hit-and-run vehicle was striking or struck.

**Additional Information:**

**SAS Name:** **HIT\_RUN**

**Attribute Codes**

<b>1988- 2009</b>	<b>2010- Later</b>	
0	0	No
1	1	Yes
--	7	Not Reported
9	9	Unknown

---

**V02I Imputed Hit and Run**

---

**Definition:** This imputed variable has the same definition and element values as *Hit and Run*, excluding value 9 for unknown hit and run and value 8 for not reported hit and run.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **HITRUN\_I** 1988-2009  
**HITRUN\_IM** 2010-Later

---

**V03 Vehicle Make**

---

**Definition:** A numerical code indicating the make of each motor vehicle in transport.

**Additional Information:** See *Appendix A: Vehicle Make/Model Designation* for more detailed information.

This variable also appears in the Person data set and in the Parked data set as PMAKE.

**SAS Name:** MAKE

**Attribute Codes****1988-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
- 29 Other Domestic Manufacturers
- 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

---

**V03 Vehicle Make (continued)**

---

**Attribute Codes****1988-Later**

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	Daihatsu
61	Sterling
62	Land Rover
63	Kia
64	Daewoo
65	Mini (2002-2007 Only)
65	Smart (2008-Later)
69	Other Import
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 Rio/Rio
82	Freightliner/White
82/98	White/Autocar, White/GMC
83	FWD
84	International Harvester/Navistar
85	Kenworth
86	Mack
87	Peterbilt
88	Iveco/Magirus
90	Bluebird
91	Eagle Coach
92	Gillig
93	MCI
94	Thomas Built



**V03 Vehicle Make** *(continued)*

---

**Attribute Codes****1988-Later**

- 97 Not Reported
- 98 Other Make
- 99 Unknown Make

**V04 Vehicle Model**

---

**Definition:** A numerical code indicating the model of each motor vehicle in transport.

**Additional Information:** See *Appendix A: Vehicle Make/Model Designation* for more detailed information.

**SAS Name:** MODEL

This variable also appears in the Parked data set as PMODEL.

**Attribute Codes****1988-Later**

See *Appendix A: Vehicle Make/Model Designation* for make and model codes.

**V05 Body Type**

**Definition:** This element identifies a classification of this vehicle based on its general body configuration, size, shape, doors, etc.

**Additional Information:** Changes to this variable were made in:

- 1990: Attribute codes 11 and 12 were modified, attribute codes 13 Limousine and 22 Step Van or Walk-in Van were added, and attribute codes 33, 34, and 47 were deleted.
- 1992: Attribute codes 11, 12, 13, 14, 20, 21, 30, 31, 60, and 65 were modified.
- Attribute codes 15, 16, 17, 19, 23, 33, 45, and 64 were added. Some of the existing attribute coding changed.
- 1993: Attribute codes 24 and 25 were added. Prior to 1993 GVWR was measured in kilograms; in 1993 it changed to pounds.
- 1999: Attribute 17 was added.
- 2010: Attribute 98 (Not Reported) was added.

This variable also appears in the Parked data set as PBODYTYP.

**SAS Name:** **BODY\_TYP**

**Attribute Codes****1988-1989***AUTOMOBILES*

- 1 Convertible (*Excludes Sun-Roof, T-Bar*)
- 2 2-Door Sedan, Hardtop, Coupe
- 3 3-Door/2-Door Hatchback
- 4 4-Door Sedan, Hardtop
- 5 5-Door/4-Door Hatchback
- 6 Station Wagon (*Excluding Van And Truck Based*)
- 7 Hatchback, Number Of Doors Unknown
- 8 Other Automobile Type
- 9 Unknown Automobile Type

*AUTOMOBILE DERIVATIVES*

- 10 Auto Based Pickup (*Included El Camino, Caballero, Ranchero, And Brat*)
- 11 Auto Based Panel (*Cargo Station Wagon, Auto-Based Ambulance/Hearse*)
- 12 Large Limousine (*More Than Four Side Doors Or Stretched Chassis*)

*UTILITY VEHICLES*

- 14 Utility-(*Includes Jeep CJ-2-CJ7, Renegade, Landrover, Bronco, Landcruiser, Thing, Blazer, Bronco II, Jimmy, Ramcharger, Cherokee, Trailduster, Scout*)

*VAN-BASED LIGHT TRUCKS (≤10,000 LBS GVWR)*

- 20 Minivan (*Astro, Caravan, Plymouth Vista, Aerostar, Safari, Voyager, Dodge Vista, Toyota Cargo Van, Toyota Van, Vanagon, Vw Bus, Kombi*)
- 21 Standard Van (*Sportvan, Chevy Van, Club Wagon, Ford Econoline, Ram Van, Mini Ram Van, Chateau, Ram Wagon, Vandura, Rally Voyager, Beauville, Sportsman*)
- 28 Other Van Type
- 29 Unknown Van Type

**V05 Body Type (continued)****Attribute Codes****1988-1989***LIGHT CONVENTIONAL TRUCKS (PICKUP STYLE CAB, ≤10,000 LBS GVWR)*

- 30 Compact Pickup (< 4,500 Lbs GVWR, S-10, LUV, Ram 50, Rampage, Courier, Ranger, S-5, Pup, Mazda Pickup, Mitsubishi Truck, Nissan Pickup, Arrow Pickup, Scamp, Toyota Pickup, VW Pickup)
- 31 Standard Pickup (4,500 To 10,000 Lbs GVWR, C10-C30, K10-K30, T10, D100-D300, W150, F100-F350, Comanche, J10, J20)
- 32 Pickup With Slide-In Camper
- 33 Truck Based Station Wagon (4-Door; Includes Suburban, Travelall, Wagoneer)
- 34 Light Truck Based Suburban Limousine
- 39 Unknown (Pickup Style) Light Conventional Truck

*OTHER LIGHT TRUCKS (<10,000 LBS GVWR)*

- 40 Cab Chassis Based (Included Rescue Vehicle, Light Stake, Dump, And Tow Truck)
- 41 Truck Based Panel
- 42 Light Truck Based Motor Home (Chassis Mounted)
- 47 Other Light Conventional Truck Type (Not A Pickup)
- 48 Unknown Other Light Truck Type (Utility, Van, Pickup, Or Other Light Truck)
- 49 Unknown Light Vehicle Type (Automobile, Van, Or Light Truck)

*BUSES (EXCLUDES VAN BASED)*

- 50 School Bus Type (Designed To Carry Students, Not Cross Country Or Transit)
- 58 Other Bus (e.g., Transit, Intercity, Bus Based Motor Home)
- 59 Unknown Bus Type

*MEDIUM/HEAVY TRUCKS (>10,000 LBS GVWR)*

- 60 Single Unit Straight Truck
- 63 Medium/Heavy Truck Based Motor Home
- 65 Truck-Tractor (Cab Only, Or With Any Number Of Trailing Units; Any WEIGHT)
- 68 Unknown Medium/Heavy Truck Type
- 69 Unknown Truck Type (Light/Medium/Heavy)

*MOTORED CYCLES (DOES NOT INCLUDE ALL TERRAIN VEHICLES/CYCLES)*

- 70 Motorcycle
- 71 Moped (Motorized Bicycle)
- 72 Three Wheeled Motorcycle Or Moped
- 78 Other Motored Cycle Type (Minibike, Motor Scooter)
- 79 Unknown Motored Cycle Type

*OTHER VEHICLES*

- 80 ATV (All-Terrain Vehicle Including Dune/Swamp Buggy) And ATC (All Terrain Cycle)
- 81 Snowmobile
- 82 Farm Equipment Other Than Trucks
- 83 Construction Equipment Other Than Trucks (Includes Graders)
- 88 Other Type Vehicle (Includes Go-Cart, Fork Lift, City Street Sweeper)
- 89 Unknown Other Vehicle
- 99 Unknown Body Type

**V05 Body Type (continued)****Attribute Codes****1990-1991***AUTOMOBILES*

- 1 Convertible (*Excludes Sun-Roof, T-Bar*)
- 2 2-Door Sedan, Hardtop, Coupe
- 3 3-Door/2-Door Hatchback
- 4 4-Door Sedan, Hardtop
- 5 5-Door/4-Door Hatchback
- 6 Station Wagon (*Excluding Van And Truck Based*)
- 7 Hatchback, Number Of Doors Unknown
- 8 Other Automobile Type
- 9 Unknown Automobile Type

*AUTOMOBILE DERIVATIVES*

- 10 Auto Based Pickup (*Included El Camino, Caballero, Ranchero, And Brat*)
- 11 Ambulance
- 12 Hearse
- 13 Limousine

*UTILITY VEHICLES*

- 14 Utility- (*Includes Jeep CJ-2-CJ7, Renegade, Landrover, Bronco, Landcruiser, Thing, Blazer, Bronco II, Jimmy, Ramcharger, Cherokee, Trailduster, Scout*)

*VAN-BASED LIGHT TRUCKS (≤ 10,000 LBS GVWR)*

- 20 Minivan (*Astro, Caravan, Plymouth Vista, Aerostar, Safari, Voyager, Dodge Vista, Toyota Cargo Van, Toyota Van, Vanagon, Vw Bus, Kombi*)
- 21 Large Van (*Sportvan, Chevy Van, Club Wagon, Ford Econoline, Ram Van, Chateau, Ram Wagon, Vandura, Rally Voyager, Beauville, Sportsman*)
- 22 Step Van Or Walk-In Van (*< 10,000 Lbs GVWR*)
- 28 Other Van Type
- 29 Unknown Van Type

*LIGHT CONVENTIONAL TRUCKS (PICKUP STYLE CAB, ≤ 10,000 LBS GVWR)*

- 30 Compact Pickup (*S-10, LUV, Ram 50, Rampage, Courier, Ranger, S-5, Pup, Mazda Pickup, Mitsubishi Truck, Nissan Pickup, Arrow Pickup, Scamp, Toyota Pickup, VW Pickup*)
- 31 Standard Pickup (*C10-C30, K10-K30, T10, D100-D300, W150, F100-F350, Comanche, J10, J20*)
- 32 Pickup With Slide-In Camper
- 39 Unknown (*Pickup Style*) Light Conventional Truck

*OTHER LIGHT TRUCKS (< 10,000 LBS GVWR)*

- 40 Cab Chassis Based (*Included Rescue Vehicle, Light Stake, Dump, And Tow Truck*)
- 41 Truck Based Panel
- 42 Light Truck Based Motor Home (*Chassis Mounted*)
- 48 Unknown Other Light Truck Type (*Utility, Van, Pickup, Or Other Light Truck*)
- 49 Unknown Light Vehicle Type (*Automobile, Van, Or Light Truck*)

**V05 Body Type (continued)****Attribute Codes****1990-1991***BUSES (EXCLUDES VAN BASED)*

- 50 School Bus Type (*Designed To Carry Students, Not Cross Country Or Transit*)
- 58 Other Bus (e.g., *Transit, Intercity, Bus Based Motor Home*)
- 59 Unknown Bus Type

*MEDIUM/HEAVY TRUCKS (>10,000 LBS GVWR)*

- 60 Single Unit Straight Truck
- 63 Medium/Heavy Truck Based Motor Home
- 65 Truck-Tractor (*Cab Only, Or With Any Number Of Trailing Units; Any WEIGHT*)
- 68 Unknown Medium/Heavy Truck Type
- 69 Unknown Truck Type (*Light/Medium/Heavy*)

*MOTORED CYCLES (DOES NOT INCLUDE ALL TERRAIN VEHICLES/CYCLES)*

- 70 Motorcycle
- 71 Moped (*Motorized Bicycle*)
- 72 Three Wheeled Motorcycle Or Moped
- 78 Other Motored Cycle Type (*Minibike, Motor Scooter*)
- 79 Unknown Motored Cycle Type

*OTHER VEHICLES*

- 80 ATV (*All-Terrain Vehicle Including Dune/Swamp Buggy*) And ATC (*All Terrain Cycle*)
- 81 Snowmobile
- 82 Farm Equipment Other Than Trucks
- 83 Construction Equipment Other Than Trucks (*Includes Graders*)
- 88 Other Type Vehicle (*Includes Go-Cart, Fork Lift, City Street Sweeper*)
- 89 Unknown Other Vehicle
- 99 Unknown Body Type

**1992- 2010-****2009 Later** (Exceptions indicated by " \* ")*AUTOMOBILES*

- 1 1 Convertible (*Excludes Sun-Roof, T-Bar*)
- 2 2 2-Door Sedan, Hardtop, Coupe
- 3 3 3-Door/2-Door Hatchback
- 4 4 4-Door Sedan, Hardtop
- 5 5 5-Door/4-Door Hatchback
- 6 6 Station Wagon (*Excluding Van And Truck Based*)
- 7 7 Hatchback, Number Of Doors Unknown
- 17 17 3-Door Coupe (*\*Added In 1999*)
- 8 -- Other Automobile Type
- 8 Sedan/Hardtop, Number of Doors Unknown
- 9 -- Unknown Automobile Type
- 9 Other or Unknown Automobile Type

**V05 Body Type (continued)****Attribute Codes**

**1992- 2010-  
2009 Later** (Exceptions indicated by “ \* “)

**AUTOMOBILE DERIVATIVES**

10	10	Auto Based Pickup ( <i>Includes El Camino, Caballero, Ranchero, SSR, G8-ST, Baha, Brat, And Rabbit Pickup</i> )
11	11	Auto Based Panel ( <i>Cargo Station Wagon, Auto-Based Ambulance/Hearse</i> )
12	12	Large Limousine ( <i>More Than Four Side Doors Or Stretched Chassis</i> )
13	13	Three Wheel Automobile Or Automobile Derivative

**UTILITY VEHICLES**

14	14	Compact Utility ( <i>ANSI D-16 Utility Vehicle Categories “Small” and “Midsize”</i> )
15	15	Large Utility ( <i>ANSI D-16 Utility Vehicle Categories “Full Size” and “Large”</i> )
16	16	Utility Station Wagon
19	19	Utility Vehicle, Unknown Body Type

**VAN-BASED LIGHT TRUCKS (< 4,536 KG GVWR)**

20	20	Minivan
21	21	Large Van – Includes Van-Based Buses
22	22	Step Van Or Walk-In Van ( $\leq 4,536$ Kg GVWR)
23	--	Van-Based Motor-Home
24	--	Van-Based School Bus ( <i>*Added In 1993</i> )
25	--	Van-Based Other Bus ( <i>*Added In 1993</i> )
28	28	Other Van Type
29	29	Unknown Van Type

**LIGHT CONVENTIONAL TRUCKS (PICKUP STYLE CAB,  $\leq 4,536$  KG GVWR)**

30	30	Compact Pickup ( <i>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</i> )
31	31	Standard Pickup ( <i>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</i> )
32	32	Pickup With Slide-In Camper
33	33	Convertible Pickup
39	39	Unknown ( <i>Pickup Style</i> ) Light Conventional Truck

**OTHER LIGHT TRUCKS ( $\leq 4,536$  KG GVWR)**

40	40	Cab Chassis Based ( <i>Included Rescue Vehicle, Light Stake, Dump, And Tow Truck</i> )
41	41	Truck Based Panel
45	45	Other Light Conventional Truck Type
48	--	Unknown Other Light Truck Type ( <i>Utility, Van, Pickup, Or Other Light Truck</i> )
--	48	Unknown Light Truck Type ( <i>Not A Pickup</i> )
49	49	Unknown Light Vehicle Type ( <i>Automobile, Utility, Van, Or Light Truck</i> )

**V05 Body Type (continued)****Attribute Codes**

**1992- 2010-  
2009 Later** (Exceptions indicated by “ \* “)

*BUSES (EXCLUDES VAN BASED)*

50	50	School Bus ( <i>Designed To Carry Students, Not Cross Country Or Transit</i> )
--	51	Cross Country/Intercity Bus ( <i>Motor Coach</i> )
--	52	Transit Bus ( <i>City Bus</i> )
58	58	Other Bus Type ( <i>e.g., Transit, Intercity, Bus Based Motor Home</i> )
59	59	Unknown Bus Type

*MEDIUM/HEAVY TRUCKS (>4,536 KG GVWR)*

60	60	Step Van
--	61	Single-Unit Straight Truck ( <i>10,000 lbs&lt;GVWR&lt; or =19,500 lbs</i> )
--	62	Single-Unit Straight Truck ( <i>19,500 lbs&lt;GVWR&lt; or =26,000 lbs</i> )
--	63	Single-Unit Straight Truck ( <i>GVWR&gt;26,000 lbs</i> )
64	--	Single Unit Straight Truck
66	66	Truck-Tractor ( <i>Cab Only, Or With Any Number Of Trailing Units; Any Weight</i> )
--	67	Medium/Heavy Pickup ( <i>GVWR &gt; 10,000 lbs, Since 2001</i> )
--	68	Single-Unit Straight Truck ( <i>GVWR unknown</i> )
--	71	Unknown if Single-Unit or Combination-Unit Medium Truck ( <i>10,000 lbs &lt; GVWR &lt; 26,000 lbs</i> )
--	72	Unknown if Single-Unit or Combination-Unit Heavy Truck ( <i>GVWR&gt;26,000 lbs</i> )
78	78	Unknown Medium/Heavy Truck Type
79	79	Unknown Truck Type ( <i>Light/Medium/Heavy</i> )

*MOTOR HOMES*

42	42	Light Truck Based Motor Home ( <i>Chassis Mounted</i> )
65	65	Medium/Heavy Truck-Based Motor Home
--	73	Camper or Motor Home, Unknown Truck Type

*MOTORED CYCLES, MOPEDS, ALL-TERRAIN VEHICLES*

80	80	Motorcycle
81	81	Moped ( <i>Motorized Bicycle</i> )
82	82	Three Wheeled Motorcycle Or Moped
--	83	Off-Road Motorcycle ( <i>2-Wheel</i> )
88	88	Other Motored Cycle Type ( <i>Minibike, Motor Scooter, Pocket Motorcycles, Pocket Bikes</i> )
89	89	Unknown Motored Cycle Type
90	90	ATV ( <i>All-Terrain Vehicle; Includes 3 or 4 Wheels</i> )



**V05 Body Type (continued)**

---

**Attribute Codes**

**1992- 2010-  
2009 Later** (Exceptions indicated by “ \* “)

*OTHER VEHICLES*

91	91	Snowmobile
92	92	Farm Equipment Other Than Trucks
93	93	Construction Equipment Other Than Trucks ( <i>Includes Graders</i> )
97	97	Other Vehicle Type ( <i>Includes Go-Cart, Fork-Lift, City Street Sweeper, Dune/Swamp Buggy, Golf Cart</i> )
--	98	Not Reported
99	99	Unknown Body Type

**V05I Imputed Body Type**

---

**Definition:** This attributes for this imputed variable have changed over the years to mirror the values for *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:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **BDYTYP\_H** 1988-2009  
**BDYTYP\_IM** 2010-Later

**V06 Model Year**

---

**Definition:** The model year of the vehicle.

**Additional Information:** From 1988 to 1998, model years earlier than 1941 were coded "1940." Starting in 1999 the actual model year was coded for all vehicles.

This variable also appears in the Parked data set as PMODEL\_YR.

**SAS Name:** MODEL\_YR

**Attribute Codes**

<b>1988- 1998</b>	<b>1999- 2009</b>	<b>2010- Later</b>	
1940	--	--	Model Year 1940 and Earlier
1941-xxxx	xxxx	xxxx	Actual Model Year
--	--	7777	Not Reported
9999	9999	9999	Unknown

**V06I Imputed Model Year**

---

**Definition:** This imputed variable has the same definition and element values as Model Year, excluding value 9999 for unknown model year and value 7777 for not reported.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** MDLYR\_I 1988-2009  
MDLYR\_IM 2010-Later

**V07 Vehicle Identification Number**

**Definition:** The vehicle identification number 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:** If a character of the VIN is missing or undecipherable, that character is blank. From 1988-2008 the first 11 characters of the VIN are used; from 2009 onward the first 12 are used.

This variable also appears in the Parked data set as PVIN.

**SAS Name:** VIN

**Attribute Codes**

*1988-2008 (character data type, length 11)*

*2009-Later (character data type, length 12)*

<b>1988- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
00000000000	000000000000	000000000000	No VIN
xxxxxxxxxxx	xxxxxxxxxxxxx	xxxxxxxxxxxxx	Actual VIN
--	--	888888888888	Not Reported
99999999999	999999999999	999999999999	Unknown VIN

**V08 Special Use**

**Definition:** Indicates whether the vehicle has a special use. Special use means "in use" and not necessarily emergency use.

**Additional Information:** All military vehicles are classified as "4" even if they are police, ambulance, or fire trucks. The Remarks and Attribute descriptions changed considerably in the 2009 Coding and Editing Manual. The analyst should compare the 2008 and 2009 NASS GES Coding and Editing Manuals for more detailed information.

This variable also appears in the Parked data set as PSP\_USE.

**SAS Name:** **SPEC\_USE**

**Attribute Codes**

<b>1988- 1991</b>	<b>1992- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
0	0	0	0	No Special Use
1	1	1	1	Taxi
2	2	2	2	Vehicle Used as School Bus
3	3	3	3	Vehicle Used as Other Bus
4	4	4	4	Military
5	5	5	5	Police
6	6	6	6	Ambulance
7	--	7	7	Fire Truck
--	7	--	--	Fire Truck and Car
8	--	--	--	Other
--	--	8	8	Emergency Services Vehicle
--	10	--	--	Hearse
--	11	--	--	Farm Equipment
--	12	--	--	Construction Equipment
--	--	--	77	Not Reported
9	99	9	99	Unknown

---

**V09 Emergency Use**

---

**Definition:** Indicates whether certain types of Special Use vehicles are on an emergency run.

**Additional Information:** From 1988-2008 this includes military, police, ambulance, and fire vehicles. In 2009 it also includes emergency services vehicles. Value "0" is coded if an applicable vehicle was not on an emergency run or it was not one of the applicable vehicles.

This variable also appears in the Parked data set as PEM\_USE.

**SAS Name:** **EMCY\_USE** 1988-2008  
**EMER\_USE** 2009-Later

**Attribute Codes**

<b>1988- 2009</b>	<b>2010- Later</b>	
0	--	No Emergency Use or Not an Applicable Vehicle
--	0	No
1	1	Yes
--	7	Not Reported
9	9	Unknown

**V10 Number of Occupants Coded**

---

**Definition:** The number of occupants coded for this vehicle.

**Additional Information:** This variable has been in the Vehicle data set for all NASS GES years. The SAS name has stayed the same but the definition has changed. From 1988 to 1989 V10 (OCC\_INVL) represented the number of occupants in the vehicle and V10A (OCC\_COD) represented the number of occupants in the vehicle that were coded. The number coded and the number involved are not always the same because, for example, some PARs have information only for injured occupants. In 1990 V10A (OCC\_COD) was dropped and V10 (OCC\_INVL) changed to represent the number of occupants coded. The definition of V10 has stayed the same since 1990. In 2000 V10B (NUMOCCS), representing the total number of occupants, was added to the Vehicle data set.

This variable also appears in the Parked data set as POCCINVL.

**SAS Name:** OCC\_INVL

**Attribute Codes**

<b>1988-1989</b>	<b>1990-1999</b>	<b>2000- Later</b>	
0	0	0	None
1-95	1-29	1-95	Number of Occupants Involved
--	30	--	30 or More
96	--	--	96 or More
97	--	--	Unknown-Only Injured Reported
--	--	--	Not Reported
99	--	--	Unknown

---

**Number of Occupants Coded (discontinued)**

---

**Definition:** Derived by counting the number of occupants including drivers that were coded for this vehicle.

**Additional Information:** This variable was dropped from the Vehicle data set in 1990.

**SAS Name:** OCC\_COD

**Attribute Codes****1988-1989**

0-30	Number of Occupants Coded
99	Unknown

---

**V10B Number of Occupants**

---

**Definition:** Indicates the number of persons including drivers that were occupants of this vehicle.

**Additional Information:** This variable also appears in the Parked data set as PNUMOCCS.

**SAS Name:** NUMOCCS

**Attribute Codes**

<i>2000- 2008</i>	<i>2009</i>	<i>2010- Later</i>	
0	0	0	None
1-998	1-95	1-95	Number of Occupants Involved
--	96	96	Ninety-six or More
--	--	97	Not Reported
999	99	99	Unknown

---

**V11 Travel Speed**

---

**Definition:** Travel speed in miles per hour.

**Additional Information:**

**SAS Name:** **SPEED**      *1988-2008*  
                  **TRAV\_SP**      *2009-Later*

**Attribute Codes**

**1988-1999**

0      Stopped Vehicle  
1-96   Travel Speed (*MPH*)  
97     97 MPH or Greater  
99     Unknown

**2000-2008**

0      Stopped Vehicle  
1-998   Travel Speed (*MPH*)  
999     Unknown

**2009-Later**

0      Stopped Motor Vehicle In-Transport  
1-151   Reported Speed Up to 151 MPH  
997     Greater than 151 MPH  
998     Not Reported  
999     Unknown



## V12 Contributing Circumstances, Motor Vehicle

**Definition:** This element describes the possible pre-existing motor vehicle defects or maintenance conditions that may have contributed to the crash.

**Additional Information:** From 1988 to 1994 the data element was called Vehicle Defects and the SAS name was DEFECT; in 1995 the name was changed to Vehicle Contributing Factors to include of all factors that may have contributed to this vehicle's involvement in the crash. The SAS name changed to FACTOR.

Starting in 2002 multiple contributing factors for a vehicle are available in the Factor data set (SAS variable MFACTOR).

From 2002 to 2009, the Vehicle.FACTOR is rolled up from the Factor data set. If there are no records, then the value 00 is assigned. If there is a single record, then the SAS code for that record is assigned. If there are multiple records, then the minimum SAS code of all the records is assigned.

Starting in 2010, Vehicle.FACTOR is discontinued and is only available in the Factor data set. The variable name changed to be Contributing Circumstances, Motor Vehicle.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived in 2009 and before.

**SAS Name:** **DEFECT**      **1988-1994**  
**FACTOR**      **1995-2009**

### Attribute Codes

<b>1988- 1994</b>	<b>1995- 2009</b>	
0	0	None
1	1	Tires
2	2	Brake System
3	3	Steering System-Tie Rod, Kingpin, Ball Joint, etc.
4	4	Suspension-Springs, Shock Absorbers, McPherson Struts, Control Arms, etc.
5	5	Power Train-Universal Joint, Drive Shaft, Transmission, etc.
6	6	Exhaust System
7	7	Headlights
8	8	Signal Lights
9	9	Other Lights
10	10	Wipers
11	11	Wheels
12	12	Mirrors
13	13	Driver Seating and Control
14	14	Body, Doors
15	15	Trailer Hitch
50	50	Hit-and-Run Vehicle

---

**V12 Contributing Circumstances, Motor Vehicle (continued)**

---

**Attribute Codes**

<b>1988- 1994</b>	<b>1995- 2009</b>	
97	--	Vehicle Defects-No Details
--	97	Vehicle Contributing Factors-No Details
98	--	Other Vehicle Defects
--	98	Other Vehicle Contributing Factors
99	--	Unknown if Vehicle Has Defects
--	99	Unknown if Vehicle Has Contributing Factors

**V13 Vehicle Trailing**

**Definition:** Indicates if vehicle was pulling a trailer unit. A trailer unit can be a horse trailer, fifth wheel trailer, camper, boat, truck trailer, towed vehicle or any other trailer.

**Additional Information:** Prior to 2009 if each linkage was non-fixed then Vehicle Trailer=no.

This variable also appears in the Parked data set as PTRAILER.

**SAS Name:** **TRAILER**      *1988-2008*  
**TOW\_VEH**      *2009-Later*

**Attribute Codes**

<i>1988- 1998</i>	<i>1999- 2008</i>	<i>2009- Later</i>	
0	1	0	No Trailing Units
1	2	1	Yes, One Trailing Unit
2	3	2	Yes, Two Trailing Units
3	4	3	Yes, Three or More Trailing Units
4	5	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	6	9	Unknown

**V14 Jackknife**

---

**Definition:** Indicates if a jackknife occurred. Jackknife occurs when the trailer does not follow directly behind the power unit (tracking) and the driver did not initiate the non-tracking situation.

**Additional Information:** Jackknife is defined differently for V14 and A06, First Harmful Event. In A06 jackknife is defined as sufficient rotation between a vehicle/trailer that they contact each other. For V14, contact is not required

**SAS Name:** JACKNIFE

**Attribute Codes****1988-Later**

- 0 No Jackknife Noted on PAR
- 1 Jackknife Occurred

**V15 Rollover (discontinued)**

---

**Definition:** Indicates if a rollover occurred (tripped or untripped). Rollover is defined as any vehicle rotation of 90 degrees or more about any true longitudinal or lateral axis.

**Additional Information:** The coding of this variable changed after 1991. See *V30 Rollover (V30 Rollover Type* from 1992-2009).

**SAS Name:** **ROLLOVER**

**Attribute Codes****1988-1991**

- 0 No Rollover Noted on PAR
- 1 Rollover Occurred

**V16 Fire Occurrence**

---

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

**Additional Information:** This variable also appears in the Parked data set as PFIRE.

**SAS Name:** **FIRE**            *1988-2008*  
                  **FIRE\_EXP**        *2009-Later*

**Attribute Codes*****1988-2008***

- 0 No Fire Noted on PAR
- 1 Fire Occurred in Vehicle

***2009-Later***

- 0 No or Not Reported
- 1 Yes

---

**V17 Maximum Damage Area (discontinued)**

---

**Definition:** This element reports the most severe area of damage on the vehicle.

**Additional Information:** In 1990, this variable was replaced with *Initial Point of Impact* (V24) and *Damage Areas* (V25).

**SAS Name:** DAM\_AREA

**Attribute Codes****1988-1989**

- 0 No Damage
- 1 Front
- 2 Right Side
- 3 Left Side
- 4 Back
- 5 Top
- 6 Undercarriage
- 8 Multiple Damage Areas
- 9 Damage Area Not Determinable or Unknown

---

**V17H Hot-Deck Imputed Damage Area (discontinued)**

---

**Definition:** This imputed variable has the same definition and element values as Maximum Damage Area, excluding value 9 for damage area not determinable or unknown.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

In 1990, this variable was dropped from the Vehicle data set.

**SAS Name:** DAM\_AR\_H

**V18    Extent of Damage**

**Definition:** This element indicates the amount of damage sustained by the vehicle in this crash as indicated in the case materials based on an operational damage scale.

**Additional Information:** Prior to 2009 this variable was called Damage Severity.

This variable also appears in the Parked data set as PVEH\_SEV.

**SAS Name:**    **VEH\_SEV**      **1988-2008**  
                   **DEFORMED**    **2009-Later**

**Attribute Codes**

<b>1988- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
0	0	0	No Damage
1	2	2	Minor Damage
2	--	--	Functional ( <i>Moderate</i> )
--	4	4	Functional Damage
3	--	--	Disabling ( <i>Severe</i> )
--	6	6	Disabling Damage
--	--	7	Not Reported
9	9	9	Unknown



**V19 Vehicle Removal**

**Definition:** This element describes the mode in which the vehicle left the scene of the crash.

**Additional Information:** Prior to 2009 only the power unit of an articulated combination was considered, i.e. if only the trailing unit was towed then TOWED=Driven. Starting in 2009 the disposal status of the trailing unit is also considered. Prior to 2009 the variable name was '*Manner of Leaving Screen*'.

This variable also appears in the Parked data set as PTOWED.

**SAS Name:** TOWED

**Attribute Codes**

<b>1988- 1989</b>	<b>1999- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
1	1	1	1	Driven Away
2	--	--	--	Towed Away
--	2	--	--	Towed Due to Damage
--	--	2	2	Towed Due to Disabling Damage
--	3	--	--	Towed Not Due to Damage
--	--	3	3	Towed Not Due to Disabling Damage
3	4	--	--	Abandoned
--	--	4	4	Abandoned/ Left at Scene
--	--	--	7	Not Reported
4	9	9	9	Unknown

**V20 Most Harmful Event**

**Definition:** Indicates the most severe property damage or injury producing event for the vehicle.

**Additional Information:**

**SAS Name:** **V\_EVENT**

**Attribute Codes**

1988- 1991	1992- 1998	1999- 2008	2009	2010- Later	
<i>NONCOLLISION</i>					
1	1	1	1	1	Rollover/Overturn
2	2	2	2	2	Fire/Explosion
3	3	3	3	3	Immersion
4	--	4	4	4	Gas Inhalation
5	5	5	5	--	Jackknife
--	--	--	--	5	Jackknife ( <i>Harmful to This Vehicle</i> )
6	6	6	6	--	Noncollision Injury ( <i>Injured In Vehicle Or Fell From Vehicle</i> )
--	50	7	7	7	Pavement Surface Irregularity ( <i>Ruts, Potholes, Grates, etc.</i> )
8	8	8	8	8	Other Noncollision
9	9	9	9	--	Noncollision-No Details
10	10	10	10	10	Thrown or Falling Object
--	--	--	--	11	Injured in Vehicle ( <i>Non-Collision</i> )
--	--	--	--	12	Cargo/Equipment Loss or Shift ( <i>Harmful to This Vehicle</i> )
--	--	--	--	13	Fell/Jumped from Vehicle
<i>COLLISION WITH OBJECT NOT FIXED</i>					
21	21	21	21	21	Pedestrian
22	22	22	22	--	Cycle or Cyclist ( <i>Pedalcyclist or Pedalcycle</i> )
--	--	--	--	22	Pedalcyclist
23	23	23	23	--	Railway Train
--	--	--	--	23	Railway Vehicle
24	24	24	24	--	Animal
--	--	--	--	24	Live Animal
--	--	--	--	49	Ridden Animal or Animal Drawn Conveyance
25	25	25	25	--	Motor Vehicle in Transport
26	26	26	26	--	Parked Motor Vehicle ( <i>or Other M.V. Not in Transport</i> )
27	27	27	27	--	Other Type Non-Motorist
--	--	--	--	27	Non-Motorist on Personal Conveyance
--	--	--	47	--	Vehicle Occupant

**V20 Most Harmful Event (continued)****Attribute Codes**

<b>1988- 1991</b>	<b>1992- 1998</b>	<b>1999- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
28	28	28	28	28	Other Object Not Fixed
29	29	29	29	--	Object Not Fixed-No Details
--	--	--	--	29	Parked Motor Vehicle
--	--	--	--	30	Working Motor Vehicle
<b>COLLISION WITH FIXED OBJECT</b>					
31	31	31	31	31	Ground
32	32	32	32	32	Building
33	33	33	33	33	Impact Attenuator/Crash Cushion
34	34	34	34	--	Bridge Structure ( <i>Bridge Pier/Abutment/Parapet End/Rail</i> )
35	35	35	35	--	Guardrail
36	36	36	36	--	Concrete Traffic Barrier or Other Longitudinal Barrier Type
--	--	--	--	36	Concrete Traffic Barrier
37	37	37	37	--	Post, Pole or Support ( <i>Sign Post, Utility Post</i> )
38	38	38	38	--	Culvert or Ditch
39	39	39	39	39	Curb
40	40	40	40	40	Embankment
41	41	41	41	41	Fence
42	42	42	42	42	Wall
43	43	43	43	43	Fire Hydrant
44	44	44	44	44	Shrubbery
45	45	45	45	--	Tree
--	--	--	--	45	Tree ( <i>Standing Only</i> )
46	46	46	46	46	Boulder
48	59	58	58	58	Other Fixed Object
49	59	59	59	--	Fixed Object, No Details
--	--	--	--	71	Bridge Overhead Structure
--	--	--	--	72	Bridge Pier or Support
--	--	--	--	73	Bridge Rail ( <i>Includes Parapet</i> )
--	--	--	--	74	Guardrail Face
--	--	--	--	75	Guardrail End
--	--	--	--	76	Cable Barrier
--	--	--	--	77	Other Traffic Barrier
--	--	--	--	78	Traffic Sign Support
--	--	--	--	79	Traffic Signal Support
--	--	--	--	80	Utility Pole/Light Support
--	--	--	--	81	Other Post, Other Pole or Other Supports
--	--	--	--	82	Culvert
--	--	--	--	83	Ditch
--	--	--	--	84	Snow Bank
--	--	--	--	85	Mail Box

**V20 Most Harmful Event (continued)****Attribute Codes**

1988- 1991	1992- 1998	1999- 2008	2009	2010- Later	
<i>COLLISION WITH MOTOR VEHICLE IN TRANSPORT</i>					
--	--	--	--	90	Motor Vehicle In-Transport
--	--	--	--	91	Motor Vehicle In-Transport Strikes or is Struck by Cargo, Persons or Objects Set-in-Motion from/by Another Motor Vehicle In-Transport
--	--	--	--	92	Motor Vehicle in Motion Outside the Trafficway
<i>NOT REPORTED AND UNKNOWN</i>					
97	--	--	--	--	Other – No Details (*1988-1989 only)
--	--	--	--	97	Not Reported
99	99	99	99	99	Unknown

**V20I Imputed Most Harmful Event**

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

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **V\_EVNT\_H** 1988-2009  
**VEVENT\_IM** 2010-Later

**V20A Most Harmful Event Number**

**Definition:** Indicates the number of the event that caused the most severe property damage or injury for the vehicle.

**Additional Information:** This variable may be used to identify the specific event in the Event data set.

This variable was added to the Event data set in 1999.

**SAS Name:** **MHENUM**

**Attribute Codes****2000-Later**

1-xx Event Number

**V21 Movement Prior to Critical Event**

**Definition:** Records the attribute which 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 to any evasive maneuvers.

**Additional Information:** In 1992, variables V21, V26-V29 were added to the Vehicle data set. These variables 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**

1992- 1994	1995- 1998	1999- Later	
--	0	0	No Driver Present
1	1	1	Going Straight
2	2	2	Decelerating in Traffic Lane
--	3	3	Accelerating in Traffic Lane
3	4	4	Starting in Traffic Lane
4	5	5	Stopped in Traffic Lane
5	6	6	Passing or Overtaking Another Vehicle
6	7	7	Disabled or Parked in Travel Lane
7	8	8	Leaving a Parking Position
8	9	9	Entering a Parking Position
10	10	10	Turning Right
11	11	11	Turning Left
12	12	12	Making U-turn
13	13	13	Backing Up ( <i>Other Than For Parking Position</i> )
15	14	14	Negotiating a Curve
16	15	15	Changing Lanes
17	16	16	Merging
18	17	17	Successful Corrective Action to a Previous Critical Event
94	--	--	More than Two Vehicles Involved
98	97	97	Other
99	99	99	Unknown

**V21I Imputed Movement Prior to Critical Event**

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

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** MANEUV\_I                      1988-2009  
                   PCRASH1\_IM                2010-Later

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**V210 Vehicle Maneuver (discontinued)**

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**Definition:** Reports the last action this vehicle's driver engaged in either just prior to the impact or just before the driver's realized the impending danger.

**Additional Information:** This variable changed in 1992, when NASS GES began to collect precrash information. V21, Vehicle Maneuver, was changed to Movement Prior to Critical Event. In addition to changing the definition, element values were added, modified, or deleted and the SAS name changed. See the next page for variable definition and coding for NASS GES years 1992 to current.

**SAS Name:** **MANEUVER**

**Attribute Codes****1988-1991**

- 1 Going Straight
- 2 Slowing or Stopping in Traffic Lane
- 3 Starting in Traffic Lane
- 4 Stopped in Traffic Lane
- 5 Passing or Overtaking Another Vehicle
- 6 Leaving a Parked Position
- 7 Parked
- 8 Entering a Parked Position
- 9 Maneuvering to Avoid an Animal, Pedestrian, Object or Vehicle
- 10 Turning Right
- 11 Turning Left
- 12 Making U-turn
- 13 Backing Up (*Other Than For Parking Purposes*)
- 14 Changing Lanes or Merging
- 15 Negotiating a Curve
- 98 Other
- 99 Unknown

---

**V210I Imputed Vehicle Maneuver (discontinued)**

---

**Definition:** This imputed variable, used in 1988-1991, has the same as definition and element values as Vehicle Maneuver, excluding value 99 for unknown vehicle maneuver.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **MANEUV\_I**

**V22 Vehicle Role (discontinued)**

---

**Definition:** Indicates vehicle role in single or multi-vehicle crashes.

**Additional Information:** This variable was discontinued in 2010.

**SAS Name:** **VEH\_ROLE**

**Attribute Codes****1988-2009**

- 0 Non-Collision
- 1 Striking
- 2 Struck
- 3 Both
- 9 Unknown

**V22I Imputed Vehicle Role (discontinued)**

---

**Definition:** This imputed variable has the same definition and element values as *Vehicle Role*, excluding value 9 for unknown vehicle role.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

This variable was discontinued in 2010.

**SAS Name:** **VROLE\_I**

---

**V23 Accident Type**

---

**Definition:** Categorizes the precrash situation. For graphic descriptions of possible values see *Appendix B: Accident Type Diagram*.

**Additional Information:** Attribute Code 97, Untripped Rollover was added in 1992 and removed in 1999.

**SAS Name:** ACC\_TYPE

**Attribute Codes****1988-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



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**V23 Accident Type (continued)**

---

**Attribute Codes****1988-Later**

- 30 Decelerating (*Slowing*), Going Left
- 31 Decelerating (*Slowing*), Going Right
- 32 Specifics Other
- 33 Specifics Unknown

**CONFIGURATION E: FORWARD IMPACT**

- 34 This Vehicles Frontal Area Impacts Another Vehicle.
- 35 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 36 This Vehicles Frontal Area Impacts Another Vehicle.
- 37 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 38 This Vehicles Frontal Area Impacts Another Vehicle.
- 39 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 40 This Vehicles Frontal Area Impacts Another Vehicle.
- 41 This 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 This Vehicles Frontal Area Impacts Another Vehicle.
- 55 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 56 This Vehicles Frontal Area Impacts Another Vehicle.
- 57 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 58 This Vehicles Frontal Area Impacts Another Vehicle.
- 59 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 60 This Vehicles Frontal Area Impacts Another Vehicle.
- 61 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 62 Specifics Other
- 63 Specifics Unknown

**V23 Accident Type (continued)****Attribute Codes****1988-Later***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
- 97 Untripped Rollover (*1992 to 1998 only*)
- 98 Other Accident Type
- 99 Unknown Accident Type

**V24 Initial Point of Impact**

**Definition:** The first impact point that produced property damage or personal injury (regardless of FIRST or MOST HARMFUL EVENT).

**Additional Information:** This variable was added to the Vehicle data set in 1990.

This variable also appears in the Parked data set as PIMPACT1 (PIMPACT prior to 2010).

**SAS Name:** **IMPACT**      **1988-2009**  
**IMPACT1**      **2010-Later**

**Attribute Codes**

<b>1990- 1991</b>	<b>1992- 2006</b>	<b>2007- 2009</b>	
0	--	--	No Damage/Non-Collision
--	0	0	Non-Collision
1	1	1	Front
2	2	2	Right Side
3	3	3	Left Side
4	4	4	Back
5	5	5	Top
6	6	6	Undercarriage
7	--	--	Corner
--	11	11	Front Right Corner
--	12	12	Front Left Corner
--	13	13	Back Right Corner
--	14	14	Back Left Corner
--	--	15	Object Set in Motion
99	99	99	Point of Impact Unknown

**2010-Later**

0	Non-Collision
21-32	Clock Points
33	Top
34	Undercarriage
38	Set-In-Motion ( <i>Not a Clock Point</i> )
55	Non-Harmful Event
61	Left
62	Left-Front Half
63	Left-Back Half
81	Right
82	Right-Front Half
83	Right-Back Half
97	Not Reported
99	Unknown

**V24I Imputed Initial Point of Impact**

---

**Definition:** This imputed variable has the same definition and element values as Initial Point of Impact, excluding value 99 for unknown initial point of impact and value 97 for not reported initial point of impact.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **IMPACT\_H** 1988-2009  
**IMPACT1\_IM** 2010-Later

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**V25 Damage Areas (discontinued)**

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**Definition:** This vehicle's specific areas damaged due to impact. The totality of the damage is used when determining the specific areas. Five digits are used to indicate up to five specific areas of damage on the vehicle.

**Additional Information:** This variable replaced Maximum Damage Area (V17) in 1990.

Five digits are used to indicate up to five specific areas of damage on the vehicle. If there are no records coded for the vehicle, then 99999 is assigned. If any of the records have SAS code 0 (no damage) coded, then 00000 is assigned. If there is a record with SAS code 7, and there is also a record with SAS code 9, then 99999 is assigned. Please note that "Unknowns" has priority over ALL, otherwise the value is set to 70000. If there is a record for all values 1 through 6, then the value is set to 70000 ("ALL" should have been coded instead). If none of the above conditions apply, then an ordered string of the SAS code values between 1 and 6, and the string is padded at the start with 9's if there is a record with SAS code 9, and padded with 0's if not. For example, if the records have SAS codes 3, 1, 5, and 9, then the result would be 99135.

*Examples of complete codes are:*

*0 = No damage*

*12000 = Front and right damage only*

*12999 = Front and right damage and unknown if damaged in other areas*

This variable was discontinued in 2010.

**SAS Name:** **DAM\_AREA**

**Attribute Codes****1990-2009**

- 0 No damage
- 1 Front
- 2 Right side
- 3 Left side
- 4 Back
- 5 Top
- 6 Undercarriage
- 7 All areas damaged
- 9 Unknown damage areas

**V26 Critical Event**

**Definition:** Identifies the critical event which made the crash imminent (i.e., something occurred which 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. From 1992 to 1993 coding distinguishes between events initiated by "this" vehicle, events initiated by the "other" vehicle, and events initiated by non-motorists. In 1994 coding changed to eliminate the concept of initiation, and to add factors. In 1999 there were extensive additions, deletions, and renumbering.

In 1992, variables V21, V26-V29 were added to the Vehicle data set. These variables 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****1992-1993**

0 Not Applicable/No Collision

**I. CRITICAL EVENT INITIATED BY THIS VEHICLE***LOSS OF CONTROL DUE TO:*

- 1 Blow Out or Flat Tire
- 2 Stalled Engine
- 3 Disabling Vehicle Failure (e.g., *Wheel Fell Off*)
- 4 Minor Vehicle Failure
- 5 Poor Road Conditions (*Puddle, Pothole, Ice, etc.*)
- 6 Excessive Speed
- 9 Other or Unknown Reason

*TRAVELING OVER EDGE OF ROADWAY:*

- 10 Over Left Edge of Roadway
- 11 Over Right Edge of Roadway
- 12 End Departure
- 19 Unknown Which Edge

*IN ANOTHER VEHICLE'S LANE:*

- 20 Stopped
- 21 Traveling In Same Direction With Lower Speed
- 22 Traveling In Same Direction With Higher Speed
- 23 Traveling In Opposite Direction

*ENCROACHING INTO ANOTHER VEHICLE'S LANE: AT NON-JUNCTION*

- 26 From Adjacent Lane (*Opposite Direction*)
- 30 From Adjacent Lane (*Same Direction*)-Over Left Lane Line
- 31 From Adjacent Lane (*Same Direction*)-Over Right Lane Line

**V26 Critical Event (continued)***ENCROACHING INTO ANOTHER VEHICLE'S LANE: AT JUNCTION*

- 33 Entering Intersection-Turning Into Same Direction
- 34 Entering Intersection-Straight Across Path
- 35 Entering Intersection-Turning Into Opposite Direction
- 36 Entering Intersection-Intended Path Unknown
- 37 Entering Driveway, Alley Access, Etc.
- 38 From Driveway, Alley Access, Etc.-Turning Into Same Direction
- 39 From Driveway, Alley Access, Etc.-Straight Across Path
- 40 From Driveway, Alley Access, Etc.-Turning Into Opposite Direction
- 41 From Driveway, Alley Access, Etc.-Intended Path Unknown
- 42 Entering From "Yield" Entrance (*Ramp/Channel*)
- 48 Encroaching-Details Unknown
- 49 This Vehicle Initiated Critical Event-Details Unknown

**II. CRITICAL EVENT INITIATED BY THE OTHER VEHICLE***MOTOR VEHICLE ALREADY IN THIS VEHICLE'S LANE:*

- 50 Stopped
- 51 Traveling In Same Direction With Lower Speed
- 52 Traveling In Same Direction With Higher Speed
- 53 Traveling In Opposite Direction

*ANOTHER VEHICLE ENCROACHING INTO THIS VEHICLE'S LANE: AT NON-JUNCTION*

- 56 From Adjacent Lane (*Opposite Direction*)
- 60 From Adjacent Lane (*Same Direction*)-Over Left Lane Line
- 61 From Adjacent Lane (*Same Direction*)-Over Right Lane Line
- 64 From Parallel/Diagonal Parking Lane

*ANOTHER VEHICLE ENCROACHING INTO THIS VEHICLE'S LANE: AT JUNCTION*

- 65 Entering Intersection-Turning Into Same Direction
- 66 Entering Intersection-Straight Across Path
- 67 Entering Intersection-Turning Into Opposite Direction
- 68 Entering Intersection-Intended Path Unknown
- 69 Entering Driveway, Alley Access, Etc.
- 70 From Driveway, Alley Access, Etc.-Turning Into Same Direction
- 71 From Driveway, Alley Access, Etc.-Straight Across Path
- 72 From Driveway, Alley Access, Etc.-Turning Into Opposite Direction
- 73 From Driveway, Alley Access, Etc.-Intended Path Unknown
- 74 Entering From "Yield" Entrance (*Ramp/Channel*)
- 78 Encroaching-Details Unknown
- 79 Other Vehicle Initiated Critical Event-Details Unknown

**III. CRITICAL EVENT INITIATED BY PEDESTRIAN, PEDALCYCLIST, OTHER NON-MOTORIST, ANIMAL OR OBJECT**

- 80 Pedestrian In Roadway
- 81 Pedestrian Approaching Roadway
- 83 Pedalcyclist/Other Non-Motorist In Roadway
- 84 Pedalcyclist/Other Non-Motorist Approaching Roadway
- 86 Pedestrian/Pedalcyclist/Other Non-Motorist-Unknown Location
- 87 Animal In Roadway

**V26 Critical Event (continued)**

- 88 Animal Approaching Roadway
- 90 Object In Roadway
- 93 Animal Or Object-Unknown Location

**IV. MISCELLANEOUS**

- 94 More Than Two Vehicles Involved
- 98 Other Event
- 99 Unknown

**Attribute Codes**

**1994- 1999-** (exceptions indicated by "\*\*")  
**1998 Later**

0 -- Not Applicable/No Collision

**THIS VEHICLE LOSS OF CONTROL DUE TO:**

- 10 1 Blow Out or Flat Tire
- 20 2 Stalled Engine
- 30 3 Disabling Vehicle Failure (e.g., Wheel Fell Off)
- 40 4 Non-Disabling Vehicle Problem (e.g., Hood Flew Up)
- 50 5 Poor Road Conditions (Puddle, Pothole, Ice, etc.)
- 60 6 Traveling Too Fast For Conditions
- 99 -- Other or Unknown Reason
- 8 Other Cause of Control Loss
- 9 Unknown Cause of Control Loss

**THIS VEHICLE TRAVELING:**

- 10 Over The Lane Line on Left Side of Travel Lane
- 11 Over The Lane Line on Right Side of Travel Lane
- 100 12 Off The Edge of The Road on The Left Side
- 101 13 Off The Edge of The Road on The Right Side
- 199 -- Unknown Which Edge
- 102 14 End Departure
- 15 Turning Left At Intersection
- 16 Turning Right At Intersection
- 17 Crossing Over (Passing Through) Intersection
- 18 This Vehicle Decelerating
- 19 Unknown Travel Direction

**IN ANOTHER VEHICLE'S LANE:**

- 200 -- Stopped
- 210 -- Traveling In Same Direction With Lower/Steady Speed
- 215 -- Traveling In Same Direction While Decelerating (\*Added In 1995)
- 220 -- Traveling In Same Direction With Higher Speed
- 230 -- Traveling In Opposite Direction

**ENCROACHING INTO ANOTHER VEHICLE'S LANE: AT NON-JUNCTION**

- 300 -- From Adjacent Lane (Opposite Direction)
- 310 -- From Adjacent Lane (Same Direction)-Over Left Lane Line
- 320 -- From Adjacent Lane (Same Direction)-Over Right Lane Line
- 330 -- From Parallel/Diagonal Parking Lane



**V26 Critical Event (continued)***ENCROACHING INTO ANOTHER VEHICLE'S LANE: AT JUNCTION*

410	--	Entering Intersection-Turning Into Same Direction
411	--	Entering Intersection-Straight Across Path
412	--	Entering Intersection-Turning Across Path
413	--	Entering Intersection-Turning Into Opposite Direction
429	--	Entering Intersection-Intended Path Unknown
430	--	Entering Driveway, Alley Access, Etc.
440	--	From Driveway, Alley Access, Etc.-Turning Into Same Direction
441	--	From Driveway, Alley Access, Etc.-Straight Across Path
442	--	From Driveway, Alley Access, Etc.-Turning Into Opposite Direction
459	--	From Driveway, Alley Access, Etc.-Intended Path Unknown
460	--	Entering From "Yield" Entrance ( <i>Ramp/Channel</i> )
497	--	Encroaching-Other
498	--	Encroaching-Details Unknown
499	--	This Vehicle Initiated Critical Event-Details Unknown

*OTHER MOTOR VEHICLE IN LANE*

500	50	Other Vehicle Stopped
510	51	Traveling in Same Direction with Lower/Steady Speed
515	52	Traveling in Same Direction while Decelerating ( <i>*Added In 1995</i> )
520	53	Traveling in Same Direction with Higher Speed
530	54	Traveling in Opposite Direction
--	55	In Crossover
--	56	Backing
--	59	Unknown Travel Direction Of The Other Motor Vehicle in Lane

*OTHER MOTOR VEHICLE ENCROACHING INTO LANE*

600	--	From Adjacent Lane ( <i>Opposite Direction</i> )
610	60	From Adjacent Lane ( <i>Same Direction</i> )-Over Left Lane Line
620	61	From Adjacent Lane ( <i>Same Direction</i> )-Over Right Lane Line
--	62	From Opposite Direction Over Left Lane Line
--	63	From Opposite Direction Over Right Lane Line
630	--	From Parallel/Diagonal Parking Lane
--	64	From Parking Lane, Median, Shoulder, Roadside
710	--	Entering Intersection-Turning Into Same Direction
--	65	From Crossing Street, Turning Into Same Direction
711	--	Entering Intersection-Straight Across Path
--	66	From Crossing Street, Across Path
712	--	Entering Intersection-Turning Across Path
713	--	Entering Intersection-Turning Into Opposite Direction
--	67	From Crossing Street, Turning Into Opposite Direction
729	--	Entering Intersection-Intended Path Unknown
--	68	From Crossing Street, Intended Path Unknown
730	--	Entering Driveway, Alley Access, Etc.
740	70	From Driveway, Turning Into Same Direction
741	71	From Driveway, Across Path
742	72	From Driveway, Turning Into Opposite Direction
759	73	From Driveway, Intended Path Not Known

**V26 Critical Event (continued)**


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--	74	From Entrance to Limited Access Highway
760	--	Entering From "Yield" Entrance ( <i>Ramp/Channel</i> )
797	--	Encroaching-Other
798	78	Encroaching By Other Vehicle-Details Unknown
799	--	Other Vehicle Initiated Critical Event-Details Unknown
<i>PEDESTRIAN, PEDACYLIST OR OTHER NON-MOTORIST</i>		
800	80	Pedestrian in Roadway
801	81	Pedestrian Approaching Roadway
--	82	Pedestrian Unknown Location
810	83	Pedalcyclist/Other Non-Motorist in Roadway
811	84	Pedalcyclist/Other Non-Motorist Approaching Roadway
--	85	Pedalcyclist Or Other Non-Motorist Unknown Location
829	--	Pedestrian/Pedalcyclist/Other Non-Motorist Unknown Location
<i>OBJECT OR ANIMAL</i>		
830	87	Animal in Roadway
831	88	Animal Approaching Roadway
--	89	Animal Unknown Location
840	90	Object in Roadway
841	91	Object Approaching Roadway
--	92	Object Unknown Location
859	--	Animal Or Object-Unknown Location
<i>OTHER</i>		
994	--	More Than Two Vehicles Involved
998	98	Other Critical Precrash Event
<i>UNKNOWN</i>		
999	99	Unknown Critical Event

**V27 Corrective Action Attempted**

**Definition:** Describes the actions taken by the driver of the vehicle in response to the impending danger. Because this variable 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 Accident Type (V23).

**Additional Information:** In 1992, variables V21, V26-V29 were added to the Vehicle data set. These variables 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**

1992- 1998	1999- Later	
0	--	Not Applicable/ No Corrective Action Attempted
1	--	Braked/Slowed
5	--	Backed
--	0	No Driver Present
--	1	No Avoidance Maneuver
--	2	Braking ( <i>No Lockup</i> )
--	3	Braking ( <i>Lockup</i> )
--	4	Braking ( <i>Lockup Unknown</i> )
--	5	Releasing Brakes
2	6	Steering to Left
3	7	Steering to Right
11	8	Braking And Steering to Left
12	9	Braking And Steering to Right
4	10	Accelerated
13	11	Accelerating And Steering to Left
14	12	Accelerating And Steering to Right
15	--	Steered in Both Directions
94	--	More than Two Vehicles Involved
97	--	Corrective Action Attempted-No Details
98	--	Other Single or Multiple Corrective Action
--	98	Other Actions
99	99	Unknown if Driver Attempted Any Corrective Action

**V28 Precrash Vehicle Control**

**Definition:** Assesses the stability of the vehicle during the period immediately prior to this vehicle's initial involvement in the crash sequence.

**Additional Information:** In 1992, variables V21, V26-V29 were added to the Vehicle data set. These variables 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.

In 1999 extensive additions and deletions were made.

**SAS Name:** **PCRASH4**

**Attribute Codes**

<b>1995- 1998</b>	<b>1999- Later</b>	
0	0	No Driver Present
1	--	Vehicle Control Maintained
2	--	Vehicle Rotated ( <i>Yawed</i> ) Clockwise
3	--	Vehicle Rotated ( <i>Yawed</i> ) Counter-Clockwise
4	--	Vehicle Slid/Skid Longitudinally-No Rotation
9	--	Vehicle Rotated ( <i>Yawed</i> ) Unknown Direction
20	--	Combination of 02-09
94	--	More Than Two Vehicles Involved
98	--	Other or Unknown Type of Vehicle Control Was Lost
--	1	Tracking
--	2	Skidding Longitudinally-Rotation Less Than 30 Degrees
--	3	Skidding Laterally-Clockwise Rotation
--	4	Skidding Laterally-Counterclockwise Rotation
--	7	Other Vehicle Loss of Control
--	9	Precrash Stability Unknown

---

**V280 Vehicle Control After Corrective Action (discontinued)**

---

**Definition:** Assesses the stability of the vehicle during the period immediately after the attempted corrective action up to the initial impact in the crash sequence. The stability of the vehicle prior to a corrective action is not considered.

**Additional Information:** In 1992, variables V21, V26-V29 were added to the Vehicle data set. These variables 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.

In 1995, the name and definition of this variable changed to reflect the control of the vehicle at the time of the critical event and the first harmful event, not the control as a result of any corrective action.

**SAS Name:** P\_CRASH4

**Attribute Codes****1992-1994**

- 0 No Driver Present
- 1 Vehicle Control Maintained After Corrective Action
- 2 Vehicle Rotated (*Yawed*) Clockwise
- 3 Vehicle Rotated (*Yawed*) Counter-Clockwise
- 4 Vehicle Slid/Skid Longitudinally-No Rotation
- 5 Vehicle Slid/Skid Laterally-No Rotation
- 9 Vehicle Rotated (*Yawed*) Unknown Direction
- 20 Combination of 02-09
- 94 More than Two Vehicles Involved
- 98 Other or Unknown Type of Vehicle Control Was Lost After Corrective Action
- 99 Unknown if Vehicle Control Was Lost After Corrective Action

**V29 Precrash Location**

---

**Definition:** Identifies the path of this vehicle prior to its first involvement in the crash sequence, and further reports the results of the vehicle's precrash stability coded in variable V28.

**Additional Information:** In 1992, variables V21, V26-V29 were added to the Vehicle data set. These variables 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**

<b>1995- 1998</b>	<b>1999- Later</b>	
0	0	No Driver Present
1	1	Vehicle Stayed In Original Travel Lane
2	2	Vehicle Stayed On Roadway But Left Original Travel Lane
3	3	Vehicle Stayed On Roadway, Not Known If Left Original Travel Lane
4	4	Vehicle Departed Roadway
6	5	Vehicle Remained Off Roadway
7	6	Vehicle Returned To Roadway
--	7	Vehicle Entered Roadway
94	--	More Than Two Vehicles Involved
99	99	Vehicle Path Unknown

---

**V290 Vehicle Path After Corrective Action (discontinued)**

---

**Definition:** Identifies the consequences of the corrective action identified in variable V27 and further reports the results of the vehicle's precrash stability coded in variable V28. The response for this variable must relate directly to the response coded for variable V27.

**Additional Information:** In 1995 the name and definition of this variable changed to reflect the control of the vehicle at the time of the critical event and the first harmful event, not the control as a result of any corrective action.

**SAS Name:** **P\_CRASH5**

**Attribute Codes****1992-1994**

- 0 No Corrective Action
- 1 Vehicle Stayed in Travel Lane Where Corrective Action was Initiated
- 2 Vehicle Stayed on Roadway But Left Travel Lane Where Corrective Action was Initiated
- 3 Vehicle Stayed on Roadway, Not Known if Left Travel Lane Where Corrective Action was Initiated
- 4 Vehicle Departed Roadway
- 5 Corrective Action Initiated Off Roadway
- 94 More Than Two Vehicles Involved
- 99 Vehicle Path Unknown

**V30 Rollover**

---

**Definition:** Indicates if a rollover occurred (tripped or untripped). 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 1992, information pertaining to rollover is in the variable Rollover (V15). In 1992 V30 was added to the Vehicle data set to include more specific rollover information. Prior to 2009 the variable name was '*Rollover Type*'.

This variable also appears in the Parked data set as PROLLOVR.

**SAS Name:** **ROLLOVER**

**Attribute Codes**

<b>1992- 2008</b>	<b>2009- Later</b>	
0	0	No Rollover
--	1	Rollover, Tripped By Object/Vehicle
20	--	Tripped Rollover-By Curb
21	--	Tripped Rollover-By Guardrail
22	--	Tripped Rollover-By Ditch
23	--	Tripped Rollover-By Soft Soil
28	--	Tripped Rollover-Other
29	--	Tripped Rollover-Unknown Mechanism
10	2	Rollover, Untripped
99	9	Rollover, Unknown Type

**V30A Location of Rollover**

---

**Definition:** Identifies the location of the start, or trip point, of the vehicle's roll.

**Additional Information:** This variable also appears in the Parked data set as PROLINLOC.

**SAS Name:** **ROLINLOC**

**Attribute Codes**

<b>2009-Later</b>	
0	No Rollover
1	On Roadway
2	On Shoulder
3	On Median/Separator
4	In Gore
5	On Roadside
6	Outside of Trafficway
9	Unknown



**V31 Carrier's Identification Number**

**Definition:** This ID number is found only on vehicles of interstate for-hire or private carriers in the transportation business. The Carrier's ID 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 US 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 (Bodytype (V5)= 60, 64, 66-79).

**Additional Information:** In 2002 the variable changed from numeric to character to preserve leading zeros. The SAS name changed from C\_ID\_NO to CARIDNUM. In 2003 the length was changed from 8 characters to 9 characters.

This variable also appears in the Parked data set as PCARIDNO.

**SAS Name:** **C\_ID\_NO** 1992-2001  
**CARIDNUM** 2002-2009  
**MCARR\_ID** 2010-Later

**Attribute Codes**

**1992-2001**

0	Not Applicable
xxxxxx	U.S. DOT or ICC MC Number
999999	Unknown

<b>2002</b>	<b>2003-2009</b>	<b>2010-Later</b>	
00000000	000000000	000000000	Not Applicable
xxxxxxx	xxxxxxx	1-999999996	U.S. DOT or ICC MC Number
--	--	999999997	Not Reported
99999999	999999999	999999999	Unknown

**V32 Number of Axles on Vehicle, Including Trailers (discontinued)**

---

**Definition:** Coded only for buses and trucks over 4,500 kg GVWR (Bodytype (V5)= 60, 64, 66-79) The variable was discontinued in 2009.

**Additional Information:** This variable also appears in the Parked data set as PAXLES (prior to 2010).

**SAS Name:** AXLES

**Attribute Codes****1992-2008**

0	Not Applicable
2-20	Number Of Axles
99	Unknown

**V33 Cargo Body Type**

**Definition:** This element identifies the primary cargo carrying capability of this vehicle when applicable.

**Additional Information:** From 1992 to 2008 specific cargo body type was coded only for buses and trucks over 4,500 kg GVWR (Bodytype (V5)= 60, 64, 66-79). All other vehicles were coded "Not applicable." Starting in 2009 passenger vehicles and light trucks that display a hazardous cargo placard are coded "No Cargo Body Type," 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. Before 2009 "Unknown" was coded for both unknown cargo body type and unknown vehicle type. Starting in 2009 "Unknown" is coded only for unknown vehicle type. See the annual Coding and Editing Manuals for more information.

This variable also appears in the Parked data set as PCARGTYP.

**SAS Name:** **CARG\_TYP** 1992-2008  
**CARGO\_BT** 2009-Later

**Attribute Codes**

<b>1992- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
0	0	0	Not Applicable
1	22	22	Bus
2	1	1	Van/Enclosed Box
3	2	2	Cargo Tank
4	3	3	Flatbed
5	4	4	Dump
6	5	5	Concrete Mixer
7	6	6	Auto Transporter
8	7	7	Garbage/Refuse
--	8	8	Grain/Chips/Gravel
--	9	9	Pole-Trailer
--	10	10	Log
--	11	11	Intermodal Container Chassis
--	12	12	Vehicle Towing Another Vehicle
--	--	28	Not Reported
--	96	96	No Cargo Body
98	97	97	Other
--	98	98	Unknown Cargo Body Type
99	99	99	Unknown

**V33A Hazardous Materials Involvement (HM1)**

---

**Definition:** Indicates whether the vehicle was carrying hazardous materials.

**Additional Information:** This variable also appears in the Parked data set as PHAZ\_INV.

**SAS Name:** HAZ\_INV

**Attribute Codes****2009-Later**

- 1 No
- 2 Yes

**V34 Hazardous Materials Placard (HM2)**

---

**Definition:** Indicates the presence of hazardous materials and whether the vehicle displayed a hazardous materials placard.

**Additional Information:** Prior to 2009 Yes and No were coded only for buses and trucks over 4,500 kg GVWR (Bodytype (V5)= 60, 64, 66-79). Starting in 2009 body type was not a factor in coding this variable. See the annual Coding and Editing Manuals for more information. From 2005-2008 the variable name was "Hazardous Materials Placarded."

This variable also appears in the Parked data set as PHAZPLAC (PHAZ\_MAT prior to 2009).

**SAS Name:** **HAZ\_MAT** 2005-2008  
**HAZ\_PLAC** 2009-Later

**Attribute Codes**

<b>2005- 2008</b>	<b>2009- Later</b>	
0	0	Not Applicable
2	1	No
1	2	Yes
--	8	Not Reported
9	--	Unknown

**V35 4-Digit Hazardous Material Identification Number (HM3)**

---

**Definition:**

**Additional Information:** Prior to 2009 placard numbers were coded only for buses and trucks over 4,500 kg GVWR (Bodytype (V5)= 60, 64, 66-79). Other vehicles were coded "Not Applicable," or "Unknown" if body type was unknown. Starting in 2009 body type was not a factor in coding this variable. From 2005-2008 the variable name was "Hazardous Materials Placard Number." See the annual Coding and Editing Manuals for more information.

This variable also appears in the Parked data set as PHAZ\_ID (PHAZM\_NO prior to 2009).

**SAS Name:** **HAZM\_NO** 1992-2008  
**HAZ\_ID** 2009-Later

**Attribute Codes**

1992-2008	2009-Later	
0	0	Not Applicable
xxxx	xxxx	Actual 4-Digit Number
--	8888	Not Reported
9999	--	Unknown

**V35A 1-Digit Hazardous Material Class Number (HM4)**

---

**Definition:** Indicates the single-digit hazardous material class number for the vehicle.

**Additional Information:** This variable was added in 2009 and is coded for all vehicles.

This variable also appears in the Parked data set as PHAZ\_CNO.

**SAS Name:** **HAZ\_CNO**

**Attribute Codes****2009-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

**V36 Release of Hazardous Material from the Cargo Compartment (HM5)**

**Definition:** Indicates whether or not any hazardous cargo was released from the cargo tank or compartment.

**Additional Information:** Prior to 2009 Yes and No were coded only for buses and trucks over 4,500 kg GVWR (Bodytype (V5)= 60, 64, 66-79). Other vehicles were coded Not Applicable, or Unknown if body type was unknown. Starting in 2009 body type is not a factor in coding this variable. Prior to 2009 the variable name was "Hazardous Materials Release."

This variable also appears in the Parked data set as PHAZ\_REL (PHAZMA\_R prior to 2009).

**SAS Name:** **HAZ\_MA\_R** 2005-2008  
**HAZ\_REL** 2009-Later

2005- 2008	2009- Later	
0	0	Not Applicable
2	1	No
1	2	Yes
--	8	Not Reported
9	--	Unknown

---

**V38 Area of Impact- Most Damaged**

---

**Definition:** This element identifies the area on this vehicle that was most damaged during an event it underwent in the crash.

**Additional Information:** The striking vehicle, not the vehicle struck, determines the under/override condition. After the crash, in the case of an override or under/override one vehicle is over the other. If the striking vehicle is over the other, then the crash is an override. If the striking vehicle is under the other, the crash is an under/override.

This variable also appears in the Parked data set as PIMPACT2.

**SAS Name:** **IMPACT2**

**Attribute Codes*****2010-Later***

0	Non-Collision
21-32	Clock points
33	Top
34	Undercarriage
38	Set-in-Motion (Not a Clock Point)
61	Left
62	Left-Front Half
63	Left-Back Half
81	Right
82	Right-Front Half
83	Right-Back Half
97	Not Reported
99	Unknown



**V39 Bus Use**

---

**Definition:** This element describes the common type of bus service this vehicle was being used as at the time of the crash.

**Additional Information:**

**SAS Name:** **BUS\_USE**

**Attribute Codes*****2010-Later***

0	Not a Bus
1	School
4	Transit/Commuter
5	Intercity
6	Charter/Tour
7	Shuttle
8	Modified for Personal/Private Use
97	Not Reported
99	Unknown

---

**V40 Vehicle Configuration**

---

**Definition:** This element identifies the general configuration of this vehicle when 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.

This variable also appears in the Parked data set as PV\_CONFIG.

**SAS Name:** V\_CONFIG

**Attribute Codes****2010-****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, i.e., Tractor Only, No Trailer)
6	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)
97	Not Reported
99	Unknown

## V41/V\_A11 Trafficway Description

---

**Definition:** This element identifies the value indicated in the case materials which best describes the trafficway flow just prior to this vehicle's critical precrash event.

**Additional Information:** This variable has been coded at the Accident level and included in Accident data set (SAS variable TRAF\_WAY) since 1988. Starting in 2002 the trafficway flow for each vehicle in a crash is available in the Vehicle data set.

The information for variables A11/V41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002.

From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

**SAS Name:** **VTRAFWAY**

### Attribute Codes

	2003-	
2002	2009	
--	0	Not Physically Divided- Center 2-way Left Turn Lane
1	1	Not Physically Divided- Two Way Trafficway
2	2	Divided Highway ( <i>Median Strip, Barrier</i> )
3	3	One Way Trafficway
9	9	Unknown

### 2010-Later

0	Non-Trafficway Area
1	Two-Way, Not Divided
5	Two-Way, Not Divided With a Continuous Left-Turn Lane
2	Two-Way, Divided, Unprotected ( <i>Painted &gt; 4 Feet</i> ) Median
3	Two-Way, Divided, Positive Median Barrier
4	One-Way Trafficway
6	Entrance/Exit Ramp
8	Not Reported
9	Unknown

**V90 Maximum Injury Severity in Vehicle**

**Definition:** Indicates the single most severe injury level reported for any occupant in this vehicle. This variable is derived by comparing the injury severity for each occupant record in this vehicle. The following order of severity codes has been used since 2001.

- 4-Fatal
- 3- Incapacitating
- 2-Non- incapacitating
- 1-Possible Injury
- 5-Injured, Unknown Severity
- 0-No Injury
- 6-Died Prior
- 9-Unknown if Injured
- 8-No Person in the Vehicle

**Additional Information:** From 1999 to 2000 the priority was different: Unknown if Injured had priority over No Injury.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** **MAX\_VSEV**

**Attribute Codes**

<b>1988- 2009</b>	<b>2010- Later</b>	
0	0	No Injury
1	1	Possible Injury
2	2	Non-incapacitating
3	3	Incapacitating
4	4	Fatal
5	5	Injured, Unknown Injury Severity
6	6	Died Prior
8	8	No Person in Vehicle
9	--	Unknown
--	9	Unknown if Injured/Not Reported

**V90I Imputed Maximum Injury Severity in Vehicle**

---

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

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

The variable is derived from the Imputed Injury Severity (P09I) in the Person data set.

**SAS Name:** **MXVSEV\_I** 1988-2009  
**MXVSEV\_IM** 2010-Later

---

**V91**    **Number Injured in Vehicle**

---

**Definition:** Derived by counting all the persons with Injury Severity (P9) of (1, 2, 3, 4, 5, or 9) in a vehicle. This count includes fatally injured occupants.

**Additional Information:** See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** **NUM INJV**

**Attribute Codes****1988-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 variable has the same definition and element values as Number Injured in Vehicle, excluding values 98 (No person in the Vehicle) and 99 (Unknown if Injured).

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

This variable is derived from the Imputed Injury Severity (P09I) variable.

**SAS Name:** **NUMINJ\_I**    *1988-2009*  
**NUMINJ\_IM**    *2010-Later*

---

**V92 Driver Drinking in Vehicle**

---

**Definition:** Reports alcohol use by driver of the vehicle. The variable is derived from the police-reported alcohol involvement variable in the Person data set.

**Additional Information:** In 1988, this variable reported alcohol use by any occupant in the vehicle, including the driver. In 1989, this variable was changed from Alcohol Involved in Vehicle to Driver Drinking in Vehicle to report alcohol use by the driver.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived.

**SAS Name:** **VEH ALCH**

**Attribute Codes****1988-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 variable has the same definition and element values as Driver Drinking in Vehicle, excluding values 8 (No Driver Present) and 9 (Unknown).

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

This imputed variable is derived from Imputed Police Reported Alcohol Involvement (P11I) in the Person data set.

**SAS Name:** **V\_ALCH\_I** 1988-2009  
**V\_ALCH\_IM** 2010-Later

**D01 Driver Presence**

---

**Definition:** This variable indicates whether a driver was present for motor vehicles in transport.

**Additional Information:**

**SAS Name:** DR\_PRES

**Attribute Codes****1988-2008**

- 0 Unattended Vehicle (*Driverless, Or No Driver Involved*)
- 1 Driver Operated Vehicle
- 2 Hit And Run
- 9 Unknown Driver Presence

**2009-Later**

- 0 No Driver Present / Not Applicable
- 1 Yes
- 9 Unknown



---

**D02 Violations Charged (discontinued)**

---

**Definition:** Indicates which violations are charged to drivers.

**Additional Information:** Starting in 2002 multiple violations for a driver are available in the Violatn data set (SAS variable MVIOLATN).

From 1988 to 2009, if a driver has more than one violation the lowest of the attribute codes shown below is chosen. But the renumbering in 2009 causes the violation rolled up to the driver to be different than in 2008 in some cases when there are multiple charges selected.

Note that the priority used in the 2008 and prior, in SAS, is

- 1-- Alcohol or Drugs,
- 2-- Speeding,
- 3-- Alcohol or Drugs and Speeding,
- 4-- Reckless Driving,
- 5-- Driving With a Suspended or Revoked License,
- 6-- Failure to Yield Right-of-Way,
- 7-- Running a Traffic Signal or Stop Sign,
- 97-- Violation charged, no details (1990-2008),
- 98-- Other Violation (1990-2008),
- 50-- Hit & Run (and No Information) (1990-2008),
- 96-- Not Reported (1999-2008),
- 99-- Unknown if charged(1988-2008),
- 0-- None.
- 95-- no driver present (2000-2008),

And the order of 50, 96, 99, 0 and 95 makes no difference because no other violations are allowed when any of these was selected.

In 2009, the hierarchy is as follows, similar to what FARS chooses, but not the same.

In FARS, up to three violations are coded based on the following hierarchy: codes "01-09" (Serious Violations) are coded first, followed by "11-19," (Impairment Offenses), Racing, Pass Stopped School Bus, and Driving While License Withdrawn. Beyond this hierarchy, choose violations which are not reflected in other elements, such as Related Factors.

But in NASS GES, the attribute with the lowest SAS codes is chosen. If the codes 0-None or 95-no driver present are selected, then no other violation can be selected.

Starting in 2010, this variable is only available in the Violatn data set.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived in 2009 and before.

**SAS Name:** VIOLATN

**D02 Violations Charged (continued)****Attribute Codes**

<b>1988- 1989</b>	<b>1990- 1998</b>	<b>1999</b>	<b>2000- 2008</b>	
0	0	0	0	None
1	1	1	1	Alcohol or Drugs
2	2	2	2	Speeding
3	3	3	3	Alcohol or Drugs and Speeding
4	4	4	4	Reckless Driving
5	5	5	5	Driving With a Suspended or Revoked License
6	6	6	6	Failure to Yield Right-of-Way
7	7	7	7	Running a Traffic Signal or Stop Sign
--	50	50	50	Hit & Run ( <i>and No Information</i> )
--	--	--	95	No Driver Present
--	--	96	96	Not Reported
--	97	97	97	Violation Charged-No Details
8	98	98	98	Other Violation
9	99	99	99	Unknown if Charged

**2009**

0 None

**RECKLESS/CARELESS/HIT-AND-RUN TYPE OFFENSES**

- 1 Manslaughter or Homicide
- 2 Willful Reckless Driving; Driving to Endanger; Negligent Driving
- 3 Unsafe Reckless (*Not Willful, Wanton Reckless*) Driving
- 4 Inattentive, Careless, Improper Driving
- 5 Fleeing or Eluding Police
- 6 Fail to Obey Police, Fireman, Authorized Person Directing Traffic
- 7 Hit-And-Run, Fail to Stop After Crash
- 8 Fail to Give Aid, Information, Wait For Police After Crash
- 9 Serious Violation Resulting in Death

**IMPAIRMENT OFFENSES**

- 11 Driving While Intoxicated (*Alcohol Or Drugs*) or BAC Above Limit
- 12 Driving While Impaired
- 13 Driving Under Influence of Substance Not Intended to Intoxicate
- 14 Drinking While Operating
- 15 Illegal Possession of Alcohol or Drugs
- 16 Driving With Detectable Alcohol
- 18 Refusal to Submit to Chemical Test
- 19 Alcohol, Drug or Impairment Violations Generally

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**D02 Violations Charged (continued)**

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*SPEED-RELATED OFFENSES*

- 21 Racing
- 22 Speeding (*Above The Speed Limit*)
- 23 Speed Greater Than Reasonable & Prudent (*Not Necessarily Over The Limit*)
- 24 Exceeding Special Limit
- 25 Energy Speed (*Exceeding 55 Mph, Non-Pointable*)
- 26 Driving Too Slowly
- 29 Speed Related Violations, Generally

*RULES OF THE ROAD – TRAFFIC SIGN & SIGNALS*

- 31 Fail to Stop For Red Signal
- 32 Fail to Stop For Flashing Red
- 33 Violation of Turn On Red (*Fail to Stop & Yield, Yield to Pedestrians Before Turning*)
- 34 Fail to Obey Flashing Signal (*Yellow or Red*)
- 35 Fail to Obey Signal, Generally
- 36 Violate RR Grade Crossing Device/Regulations
- 37 Fail to Obey Stop Sign
- 38 Fail to Obey Yield Sign
- 39 Fail to Obey Traffic Control Device

*RULES OF THE ROAD – TURNING, YIELDING, SIGNALING*

- 41 Turn in Violation of Traffic Control
- 42 Improper Method & Position of Turn (*Too Wide, Wrong Lane*)
- 43 Fail to Signal For Turn or Stop
- 45 Fail to Yield To Emergency Vehicle
- 46 Fail to Yield, Generally
- 48 Enter Intersection When Space Insufficient
- 49 Turn, Yield, Signaling Violations, Generally

*RULES OF THE ROAD – WRONG SIDE, PASSING & FOLLOWING*

- 51 Driving Wrong Way On One-Way Road
- 52 Driving On Left, Wrong Side Of Road, Generally
- 53 Improper, Unsafe Passing
- 54 Pass On Right (*Drive Off Pavement To Pass*)
- 55 Pass Stopped School Bus
- 56 Fail to Give Way When Overtaken
- 58 Following Too Closely
- 59 Wrong Side, Passing, Following Violations, Generally

*RULES OF THE ROAD – LANE USAGE*

- 61 Unsafe or Prohibited Lane Change
- 62 Improper Use of Lane (*Enter of 3-Lane Road, HOV Designated Lane*)
- 63 Certain Traffic to Use Right Lane (*Trucks, Slow-Moving, etc.*)
- 66 Motorcycle Lane Violations (*More than Two per Lane, Riding Between Lanes, etc.*)
- 67 Motorcyclist Attached to Another Vehicle
- 69 Lane Violations, Generally

**D02 Violations Charged (continued)**

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*NON-MOVING – LICENSE AND REGISTRATION VIOLATIONS*

- 71 Driving While License Withdrawn (*Including Violation of Provisions of Work Permit*)
- 72 Other Driver License Violations
- 73 Commercial Driver Violations (*Log Book, Hours, Permits Carried*)
- 74 Vehicle Registration Violations
- 75 Fail to Carry Insurance Card
- 76 Driving Uninsured Vehicle
- 79 Non-Moving Violations, Generally

*EQUIPMENT*

- 81 Lamp Violations
- 82 Brake Violations
- 83 Failure to Require Restraint Use (*By Self Or Passengers*)
- 84 Motorcycle Equipment Violations (*Helmet, Special Equipment*)
- 85 Violation Of Hazardous Cargo Regulations
- 86 Size, Weight, Load Violations
- 89 Equipment Violations, Generally

*LICENSE, REGISTRATION & OTHER VIOLATIONS*

- 91 Parking
- 92 Theft, Unauthorized Use Of Motor Vehicle
- 93 Driving Where Prohibited (*Sidewalk, Limited Access, Off Truck Route*)
- 95 No Driver Present / Unknown if Driver Present
- 97 Not Reported (*Added in 2010*)
- 98 Other Moving Violation (*Coasting, Backing, Opening Door*)
- 99 Unknown Violation

**D02I Imputed Violations Charged (discontinued)**

---

**Definition:** From 1988 to 2008 this variable had the same definition and element values as Violations Charged, excluding value 99 for Unknown if charged. It also excluded value 96 (2004-2008) and value 97 (2010-on) for Not Reported.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **VLTN\_I 1988-2009**

This variable was discontinued in 2010.

---

**D03 Driver Physical/Mental Impairment (discontinued)**

---

**Definition:** Identifies driver's physical or mental impairment that may have contributed to the cause of the accident. If two or more impairments apply, the lowest of the attribute codes is chosen.

**Additional Information:** In 1988 and 1989 a distinction was made between impairment for drivers and for non-motorists; the variable for driver impairment was in the Vehicle data set and the variable for non-motorist impairment was in the Person data set. In 1990 these variables were replaced by a single variable in the Person data set: *Person's Physical Impairment* (P18) was used for both driver and non-motorist impairment. See discussion of *Person's Physical Impairment* (P18) for further changes.

**SAS Name:** DR\_IMPMT

**Attribute Codes****1988-1989**

- 0 No Impairments
- 1 Drowsy, Sleepy, Asleep, Fatigued
- 2 Ill, Blackout
- 3 Emotional (e.g., Depression, Angry, Disturbed)
- 4 Drugs-Medication
- 5 Other Drugs (Marijuana, Cocaine, etc.)
- 6 Restricted to Wheelchair
- 7 Impaired Due to Previous Injury
- 8 Deaf
- 50 Hit-and Run Vehicle
- 97 Physical/Mental Impairment-No Details
- 98 Other Physical/Mental Impairment
- 99 Unknown Physical/Mental Condition

**D04 Driver's Vision Obscured By (discontinued)**

**Definition:** Identifies visual circumstances that may have contributed to the cause of the crash.

**Additional Information:** In 2004 the codes 93-Not on PAR and 94-Not Coded replaced 96-Not Reported. Not on PAR is coded if no block exists on the PAR for reporting obscured driver vision and no other information is available. Not Coded is used if there is a specific location on the police report for obscured driver vision but the investigating officer fails to make an assessment, and there is no other information available.

Starting in 2009 this type of unknown (Not on PAR, Not Coded) is coded 99. If a driver's vision is obscured by more than one item, the lowest of the attribute codes is chosen.

Starting in 2002 multiple obstructions for a driver are available in the Vision data set (SAS variable MVISOBSC). The Vehicle.VIS\_OBSC is rolled up from the Vision data set. If there are no records, then the value 00 is assigned. If there is a single record, then the SAS code for that record is assigned. If there are multiple records, then the minimum SAS code of all the records is assigned.

Starting in 2010, this variable is only available in the Vision data set.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived in 2009 and before.

**SAS Name:** VIS OBSC

**Attribute Codes**

1988 1991	1992- 1998	1999	2000- 2003	2004- 2008	2009	
0	0	0	0	0	0	No Obstruction noted
1	--	--	--	--	1	Rain, Snow, Fog, Smoke, Sand, Dust
	1	1	1	1	--	Rain, Snow, Smoke, Sand, Dust
2	2	2	2	2	2	Reflected Glare, Bright Sunlight, Headlights
3	3	3	3	3	--	Curve or Hill
--	--	--	--	--	3	Curve, Hill, or Other Roadway Design Feature
4	4	4	4	4	--	Building, Billboard, or Other Design Features ( <i>includes signs, Embankment</i> )
--	--	--	--	--	4	Building, Billboard, or Other Structure
5	5	5	5	5	5	Trees, Crops, Vegetation
6	6	6	6	6	6	Moving In-Transport Motor Vehicle ( <i>Including Load</i> )
7	7	7	7	7	--	Parked Vehicle
--	--	--	--	--	7	Not-in-Transport Motor Vehicle ( <i>Parked, Working</i> )
8	8	8	8	8	8	Splash or Spray of Passing Vehicle
9	9	9	9	9	9	Inadequate Defrost or Defog System
10	10	10	10	10	10	Inadequate Vehicle Lighting System
11	11	11	11	11	11	Obstruction Interior to Vehicle

**D04 Driver's Vision Obscured By (continued)**

12	12	12	12	12	12	External Mirrors
13	13	13	13	13		Head Restraints
14	14	14	14	14	13	Broken or Improperly Cleaned Windshield
--	--	--	--	--	14	Obstructing Angles on Vehicle
15	15	15	15	15	--	Fog
50	50	50	50	50	--	Hit & Run Vehicle ( <i>And No Information</i> )
--	--	--	--	93	--	Not on PAR
--	--	--	--	94	--	Not Coded
--	--	--	95	95	--	No Driver Present
--	--	--	--	--	95	No Driver Present / Unknown if Driver Present
--	--	96	96	--	--	Not Reported
97	97	97	97	97	97	Vision Obscured-No Details
98	98	98	98	98	98	Other Visual Obstruction
99	99	99	99	99	99	Unknown Whether Vision was Obstructed

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**D05 Driver's Action (discontinued)**

---

**Definition:** Indicates if the driver was avoiding, swerving, or sliding due to one of the following. If two or more actions were noted on the PAR, the lowest of the attribute codes was chosen.

**Additional Information:** In 1990 this variable was replaced with *Driver Maneuvered to Avoid* (D6).

**SAS Name :** DR\_ACT

**Attribute Codes****1988-1989**

- 0 Not Avoiding, Swerving, or Sliding
- 1 Severe Crosswind
- 2 Wind from Passing Truck
- 3 slippery or Loose Surface
- 4 Tire Blow-out or Flat
- 5 Debris or Objects in Road
- 6 Ruts, Holes, Bumps in Road
- 7 Animals in Road
- 8 Vehicle in Road
- 9 Phantom Vehicle
- 10 Pedestrian, Pedalcyclist, or Other Non-motorist in Road
- 11 Water, Snow, Oil slick in Road
- 50 Hit-and Run Vehicle
- 97 Avoiding, Swerving, or Sliding-No Details
- 98 Other Cause
- 99 Unknown Action



**D06 Driver Maneuvered to Avoid (discontinued)**

**Definition:** Identifies an action taken by the driver to avoid something or someone in the road. The maneuver may have subsequently contributed to the cause of the crash. If a driver made more than one avoidance maneuver, the lowest of the attribute codes shown below is chosen.

**Additional Information:** Starting in 2002 multiple maneuvers for a driver are available in the Maneuver data set (SAS variable MDRMANAV). The Vehicle.DRMAN\_AV is rolled up from the Maneuver data set. If there are no records, then the value 00 is assigned. If there is a single record, then the SAS code for that record is assigned. If there are multiple records, then the minimum SAS code of all the records is assigned.

Starting in 2010, this variable is only available in the Maneuver data set.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived in 2009 and before.

**SAS Name:** DRMAN\_AV

**Attribute Codes**

<b>1990- 1998</b>	<b>1999</b>	<b>2000- 2001</b>	<b>2002- 2003</b>	<b>2004- 2009</b>	
0	0	0	0	0	Driver Did Not Maneuver To Avoid
1	1	1	1	1	Object In Road
2	2	2	2	2	Poor Road Conditions ( <i>Puddle, Ice, Pot Hole, etc.</i> )
3	3	3	3	3	Animal In Road
4	4	4	4	4	Vehicle In Road
5	5	5	5	5	Pedestrian, Pedalcyclist, or Other Non-Motorist in the Road
50	50	50	50	50	Hit & Run ( <i>And No Information</i> )
--	--	--	--	92	Phantom /Non-Contact Motor Vehicle
--	--	--	93	93	Not on PAR
--	--	--	94	94	Not Coded
--	--	95	95	95	No Driver Present
--	96	96	--	--	Not Reported
97	97	97	97	97	Avoidance Maneuver-No details
99	99	99	99	99	Unknown If Driver Maneuvered To Avoid

**D07 Driver Distracted By (discontinued)**

**Definition:** Identifies a distraction which may have influenced driver performance and contributed to the cause of the crash. The distraction can be either inside the vehicle (internal) or outside the vehicle (external). If a driver had more than one distraction, the lowest of the attribute codes is chosen.

**Additional Information:** Starting in 2002 multiple distractions for a driver are available in the Distract data set (SAS variable MDRDSTRD). The Vehicle.DR\_DSTRD is rolled up from the Distract data set. If there are no records, then the value 00 is assigned. If there is a single record, then the SAS code for that record is assigned. If there are multiple records, then the minimum SAS code of all the records is assigned with the exceptions that SAS code 98 has priority over SAS code 92, and all other values have priority over SAS code 0..

Starting in 2010, this variable is only available in the Distract data set.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived in 2009 and before.

**SAS Name:** DR\_DSTRD

**Attribute Codes**

**1990-1998**

- 0 Not Distracted
- 1 Passengers, Occupants
- 2 Vehicle Instrument Display (*Radio, CB, Heating*)
- 3 Phone
- 4 Other Internal Distractions
- 5 Other Crash ("*Rubbernecking*")
- 6 Other External Distractions
- 50 Hit & Run (*And No Information*)
- 97 Distractions-No Details
- 99 Unknown if Distracted

	<b>2000- 2001</b>	<b>2002- 2003</b>	<b>2004- 2006</b>	<b>2007- 2009</b>	
<b>1999</b>					
0	0	0	0	0	Not Distracted
1	1	1	1	1	Looked But Did Not See
3	3	3	3	3	By Other Occupants
4	4	4	4	4	By Moving Object In Vehicle
5	5	5	5	5	While Talking Or Listening To Cellular Phone
6	6	6	6	6	While Dialing Cellular Phone
7	7	7	7	7	While Adjusting Climate Control
8	8	8	8	8	While Adjusting Radio, Cassette Or CD
9	9	9	9	9	While Using Other Devices Integral To Vehicle
10	10	10	10	10	While Using Or Reaching For Other Devices
11	11	11	11	11	Sleepy Or Fell Asleep
12	12	12	12	12	Distracted By Outside Person Or Object
13	13	13	13	13	Eating Or Drinking
14	14	14	14	14	Smoking Related

**D07 Driver Distracted By (continued)****Attribute Codes**

<b>1999</b>	<b>2000- 2001</b>	<b>2002- 2003</b>	<b>2004- 2006</b>	<b>2007- 2009</b>	
--	--	--	--	15	Other Cellular Phone Related
--	--	--	--	50	Hit & Run <i>(And No Information)</i>
--	--	--	92	92	Distraction Or Inattention, Details Unknown
--	--	93	93	93	Not On PAR
--	--	94	94	94	Not Coded
--	95	95	95	95	No Driver Present
96	96	--	--	--	Not Reported
97	97	97	97	97	Inattentive Or Lost In Thought
98	98	98	--	--	Other Distraction Or Inattention
--	--	--	98	98	Other Distraction
99	99	99	99	99	Unknown If Distracted

---

**D08 Driver's Zip Code**

---

**Definition:** The zip code of the driver's address as listed on the police accident report.

**Additional Information:** This variable was added to the Vehicle data set in 1992. It changed from numeric to character in 2002 and the SAS name changed from DR\_ZIP\_C to DZIPCODE.

**SAS Name:** **DR\_ZIP\_C** 1992-2001 (numeric)  
**DZIPCODE** 2002-Later (character, length 5)

**Attribute Codes**

<b>1992-1999</b>	<b>2000-Later</b>	
0	--	Not Resident of U.S. or Territories or Driver Not Present
--	0	Not Resident of U.S. or Territories
xxxxx	xxxxx	Actual Zip Code
--	99998	No Driver Present
99999	99999	Unknown

---

**D09 Speed Related**

---

**Definition:** This variable indicates whether this vehicle's speed is a contributing factor to the cause of the crash.

**Additional Information:** This variable was added to the Vehicle data set in 1997.

**SAS Name:** **SPEEDREL**

**Attribute Codes**

<i>1997- 1999</i>	<i>2000- 2009</i>	<i>2010- Later</i>	
0	0	0	No
1	1	1	Yes
--	8	--	No Driver Present
--	--	8	No Driver Present/Unknown if Driver Present
9	9	9	Unknown

**V\_A12 Total Lanes in Roadway**

**Definition:** Indicates the number of lanes of travel on this vehicle's roadway. 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.

**Additional Information:** This variable has been coded at the Accident level and been on the Accident data set (SAS variable DNUM\_LAN) since 1988. Starting in 2002 the number of lanes for each vehicle in a crash is available in the Vehicle data set.

The information for variables A11/V41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002.

From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

**SAS Name:** **VNUM\_LAN**

**Attribute Codes**

<b>2002- 2009</b>	<b>2010- Later</b>	
--	0	Non-Trafficway Area
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	Not Reported
9	9	Unknown

---

**V\_A13 Roadway Alignment**

---

**Definition:** Horizontal alignment of this vehicle's roadway in the immediate vicinity of the first harmful event.

**Additional Information:** This variable has been coded at the Accident level and included in Accident data set (SAS variable ALIGN) since 1988. Starting in 2002 the roadway alignment for each vehicle in a crash is available in the Vehicle data set.

The information for variables A11/V41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002.

From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

**SAS Name:** **VALIGN**

**Attribute Codes**

<b>2002- 2009</b>	<b>2010- Later</b>	
--	0	Non-Trafficway Area
1	1	Straight
2	--	Curve
--	2	Curve Right
--	3	Curve Left
--	4	Curve - Unknown Direction
--	8	Not Reported
9	9	Unknown

**V\_A14 Roadway Profile**

---

**Definition:** Vertical alignment of this vehicle's roadway in the immediate vicinity of the first harmful event.

**Additional Information:** This variable has been coded at the Accident level and included in Accident data set (SAS variable PROFILE) since 1988. Starting in 2002 the roadway profile for each vehicle in a crash is available in the Vehicle data set.

The information for variables A11/V41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002.

From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

**SAS Name:** **VPROFILE**

**Attribute Codes**

<b>2002- 2009</b>	<b>2010- Later</b>	
--	0	Non-Trafficway Area
1	1	Level
2	--	Grade
--	2	Grade, Unknown Slope
3	3	Hillcrest
--	4	Sag ( <i>Bottom</i> )
--	5	Uphill
--	6	Downhill
8	--	Sag
--	8	Not Reported
9	9	Unknown



**V\_A15 Roadway Surface Condition**

**Definition:** Condition of this vehicle's road surface at the time of the crash.

**Additional Information:** This variable has been coded at the Accident level and included in Accident data set (SAS variable SUR\_COND) since 1988. Starting in 2002 the roadway surface condition for each vehicle in a crash is available in the Vehicle data set.

The information for variables A11/V41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002.

From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

**SAS Name:** VSURCOND

**Attribute Codes**

<b>2002- 2009</b>	<b>2010- Later</b>	
--	0	Non-Trafficway Area
1	1	Dry
2	2	Wet
3	--	Snow or Slush
--	3	Snow
4	--	Ice
--	4	Ice/Frost
5	--	Sand, Dirt, Oil
--	5	Sand
--	6	Water ( <i>Standing or Moving</i> )
--	7	Oil
8	8	Other
--	10	Slush
--	11	Mud, Dirt, Gravel
--	98	Not Reported
9	99	Unknown

**V\_A16 Traffic Control Device - Vehicle**

**Definition:** Indicates whether or not a traffic control device was present for the vehicle and the type of traffic control device.

**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.

This variable has been coded at the Accident level and has been included in the Accident data set (SAS variable TRAF\_CON) since 1988.

The information for variables A11/V41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002.

From 2002-2009, this information is also available on the Vehicle data set (Vehicle.VTRAFCON) to store a selected vehicle control device for each vehicle, the Biketraf data set (Biketraf.BTRAFCON) to store all traffic control devices for cyclists, and the Trafcon data set (Trafcon.MTRAFCON) to store all traffic control devices for a vehicle.

From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

Starting in 2010 this is a single-response question, so the Trafcon data set is discontinued, however, the Biketraf data set will still be available in 2010. From 2010 onward, this variable will be available only in the vehicle data set (Vehicle.VTRAFCON) and Accident data set (Accident.DTRAFCON).

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived prior to 2010.

**SAS Name:** **VTRAFCON**

**Attribute Codes**

**2002- 2010-  
2009 Later**

0 0 No Controls

**NOT AT RAILROAD GRADE CROSSING****TRAFFICWAY TRAFFIC SIGNALS:**

1	--	Traffic Control Signal ( <i>On Colors</i> )
--	1	Traffic Control Signal ( <i>On Colors</i> ) Without Pedestrian Signal
--	2	Traffic Control ( <i>On Colors</i> ) With Pedestrian Signal
--	3	Traffic Control Signal ( <i>On Colors</i> ) Not Known if Pedestrian Signal
4	--	Flashing Traffic Control Signal or Flashing Beacon
--	4	Flashing Traffic Control Signal
8	8	Other Highway Traffic Signal
9	9	Unknown Highway Traffic Signal

**V\_A16 Traffic Control Device - Vehicle (continued)***REGULATORY, SCHOOL ZONE SIGNS:*

21	21	Stop Sign
22	22	Yield Sign
23	23	School Zone Sign/Device
28	28	Other Regulatory Sign
29	29	Unknown Regulatory Sign
--	5	Lane Use Control Signal

*WARNING SIGNS:*

40	--	Advisory Speed Sign
41	--	Warning Sign For Road Conditions ( <i>Hill, Steep Grade, etc.</i> )
42	--	Warning Sign For Road Construction
43	--	Warning Sign For Environment/Traffic ( <i>Fog Ahead, Wind, Crash Ahead, etc.</i> )
--	44	Warning Sign
49	--	Unknown Type Warning

*MISCELLANEOUS, NOT AT RAILROAD CROSSING:*

51	--	Officer, Crossing Guard, Flagman, etc
--	51	Person

**AT RAILROAD GRADE CROSSING:**

61	--	Active Devices ( <i>e.g., Gates, Flashing Lights, Traffic Signal</i> )
62	--	Passive Devices ( <i>e.g., Stop Sign, Cross Bucks</i> )
--	63	Railway Crossing Device

**OTHER:**

97	--	Traffic Control Present-No Details
--	97	Not Reported
98	--	Other Traffic Control ( <i>Whether or Not At RR Grade Crossing</i> )
--	98	Other
99	99	Unknown

---

**V\_A17 Traffic Control Device Functioning**

---

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

**Additional Information:** This variable was added to the file in 2010 to indicate whether or not the traffic control device was functioning.

The information for A17/V\_A17 was collected at the vehicle level.

The information for variables A11/V\_A11, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002.

From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

**SAS Name:** VTCONT\_F

**Attribute Codes****2010-Later**

- 0 No Controls
- 1 Device Not Functioning
- 2 Device Functioning – Functioning Improperly
- 3 Device Functioning Properly
- 8 Not Reported
- 9 Unknown

**V\_A18 Speed Limit**

---

**Definition:** Posted speed limit in miles per hour.

**Additional Information:** This variable has been coded at the Accident level and included in Accident data set (SAS variable DSPD\_LIM) since 1988. Starting in 2002 the speed limit for each vehicle in a crash is available in the Vehicle data set.

The information for variables A11/V41, A12/V\_A12, A13/V\_A13, A14/V\_A14, A15/V\_A15, A16/V\_A16, A17/V\_A17, A18/V\_A18 was collected at the vehicle level starting in 1999. The vehicle level variables first appeared in the SAS files in 2002. From 1999 through 2003, the coding instructions were to code the value indicated on the PAR. In 2004, the coding instructions were modified to code the value indicated on the PAR which best represents the environment just prior to the vehicle's critical precrash event.

**SAS Name:** **VSPD\_LIM**

**Attribute Codes**

<b>2002- 2009</b>	<b>2010- Later</b>	
0	--	No Statutory Limit ( <i>Parking Lot, Alley, etc.</i> )
--	0	No Statutory Limit /Non-Trafficway Area
5-75	5-75	Actual Speed Limit
--	97	Not Reported
99	99	Unknown

### The PERSON Data Set

The Person data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, VEH\_NO, and PER\_NO. CASENUM, VEH\_NO and PER\_NO are the case identifiers. CASENUM and VEH\_NO should be used to merge the Person data set with the Vehicle data set.

In the Person data set, VEH\_NO equals 0 for non-motorists (PER\_TYPE 3,4,5,6 or 8). The Person data set also contains:

**P03 Person Type**

**Definition:** Indicates the role of the person in the vehicle.

**Additional Information:** From 1988 to 2004 a person in or on a working vehicle was coded Person Type=8 (Other or Unknown Non-Occupant). From 2005 to 2008 such a person was coded 7 (Person in or on a Working Vehicle). Starting in 2009 such a person is coded 3 (Occupant of a Motor Vehicle Not in Transport).

**SAS Name:** **PER\_TYPE** 1988-2008  
**PER\_TYP** 2009-Later

**Attribute Codes**

**1988- 2005- 2010-**  
**2004 2008 2009 Later**

*MOTORISTS*

1	1	1	1	Driver of a Motor Vehicle in Transport
2	2	2	2	Passenger of a Motor Vehicle in Transport
9	9	9	9	Unknown Occupant Type in a Motor Vehicle in Transport
--	--	--	77	Not Reported Occupant Type in a Motor Vehicle in Transport

*NON-MOTORISTS-OCCUPANT*

3	3	3	3	Occupant of a Motor Vehicle Not in Transport
4	4	4	4	Occupant of a Non-Motor Vehicle Transport Device

*NON-MOTORISTS-NON-OCCUPANT*

5	5	5	5	Pedestrian
6	6	--	--	Cyclist ( <i>Pedalcyclist</i> )
--	--	6	6	Bicyclist
--	--	7	7	Other Cyclist
--	--	8	8	Persons on Personal Conveyances
--	--	10	10	Persons in or on Buildings
--	7	--	--	Person in or on a Working Vehicle
8	8	--	--	Other or Unknown Non-Occupant
--	--	19	19	Unknown Type of Non-Motorist
--	--	--	78	Not Reported Type of Non-Motorist

**P04 Seating Position**

**Definition:** Indicates the location of the occupants in the vehicle. 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.

**Additional Information:**

**SAS Name:** SEAT\_POS

**Attribute Codes**

<b>1988- 1991-</b>	<b>1992- 2002</b>	<b>2003- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
0	0	0	0	0	Non-Motorist
11	11	11	11	11	Front Seat-Left Side ( <i>Driver's Side</i> )
12	12	12	12	12	Front Seat-Middle
13	13	13	13	13	Front Seat-Right Side
18	18	18	18	18	Front Seat-Other
19	19	19	19	19	Front Seat-Unknown
21	21	21	21	21	Second Seat-Left Side
22	22	22	22	22	Second Seat-Middle
23	23	23	23	23	Second Seat-Right Side
28	28	28	28	28	Second Seat-Other
29	29	29	29	29	Second Seat-Unknown
--	31	31	31	31	Third Seat-Left Side
--	32	32	32	32	Third Seat-Middle
--	33	33	33	33	Third Seat-Right Side
--	38	38	38	38	Third Seat-Other
--	39	39	39	39	Third Seat-Unknown
--	--	41	41	41	Fourth Seat-Left Side
--	--	42	42	42	Fourth Seat-Middle
--	--	43	43	43	Fourth Seat-Right Side
--	--	48	48	48	Fourth Seat-Other
--	--	49	49	49	Fourth Seat-Unknown
30	50	50	50	50	Sleeper Section of Cab ( <i>Truck</i> )
40	51	51	--	--	Other Passenger in Passenger or Cargo Area
--	--	--	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
50	52	52	54	54	Trailing Unit
60	53	53	55	55	Riding on Vehicle Exterior
--	--	--	--	97	Not Reported
99	99	99	99	99	Unknown Seating Position



**P04I Imputed Seating Position**

---

**Definition:** This imputed variable has the same definition and element values as Seating Position, excluding values 18, 19, 28, 29, 38, 39, 48, 49 and 99 for unknown or other seating position in 2009 and prior. Starting 2010, this imputed variable has the same definition and element values as Seating Position, excluding values 19, 29, 39, 49, and 99 for unknown seating position and values 97, 98 for not reported seating position.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **SEAT\_H**      *1988-2009*  
                  **SEAT\_IM**     *2010-Later*

---

**P05 Safety Equipment Use (discontinued)**

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**Definition:** Indicates the occupant's use of available vehicle restraints. The presence of an air bag system does not mean that there are no active belts present.

**Additional Information:** This variable was dropped from the Person data set in 1990 and was replaced with Restraint System Use (P15).

**SAS Name:** SAF\_EQMT

**Attribute Codes****1988-1989**

- 0 Non-Motorist
- 1 Child Restraint Used
- 2 Manual Lap Belt Used
- 3 Manual Shoulder Belt Only Used
- 4 Manual Shoulder and Lap Belt Used
- 5 Automatic Belt Used
- 6 Deployed Air Bag
- 7 Motorcycle Helmet Used
- 8 Other Restraint / Safety Equipment Used
- 9 Restraint Used-Type Unknown
- 10 None Used
- 11 None Available
- 99 Unknown Use or Availability

**P06 Ejection**

**Definition:** Refers to occupants being totally or partially thrown from the vehicle as a result of an impact or rollover.

**Additional Information:**

**SAS Name:** **EJECT** 1988-2008  
**EJECTION** 2009-Later

**Attribute Codes**

1988-1989	1990-1994	1995-1998	1999-2000	2001-2003	2004-2008	2009	2010-Later	
0	0	0	0	0	0	0	0	Not Ejected
1	--	1	1	1	1	1	1	Totally Ejected
--	1	--	--	--	--	--	--	Ejected ( <i>Partial or Total</i> )
2	--	2	2	2	2	2	2	Partially Ejected
--	--	--	--	--	5	--	--	Not on PAR
--	--	--	--	--	6	--	--	Not Coded
7	--	7	--	7	7	3	3	Ejected – Unknown Degree
--	--	--	--	--	--	--	4	Not a Motor Vehicle Occupant
--	--	--	--	--	--	--	7	Not Reported
--	--	--	--	8	8	8	8	Not Applicable
9	9	9	9	9	9	9	9	Unknown

**P06I Imputed Ejection**

**Definition:** From 2004 to 2008 this imputed variable had the same definition and element values as Ejection, excluding 9 “Unknown if Ejected,” 5 “Not on PAR,” and 6 “Not Coded.” That is, it had the values (0,1,2,7, and 8). Prior to 2004, and in 2009, the only difference in the imputed variable is that 9, “Unknown if Ejected” was excluded. From 2010 onward, the excluded attributes are 9 for unknown ejection and 7 for not reported ejection.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **EJECT\_I** 1988-2009  
**EJECT\_IM** 2010-Later

**P07 Age**

---

**Definition:** Indicates the person's age at the time of the crash, with respect to the person's last birthday.

**Additional Information:**

**SAS Name:** AGE

**Attribute Codes**

<b>1988- 2000</b>	<b>2001- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
0	0	0	0	Less than One Year
1-96	1-998	1-120	1-110	Years of Age
97	--	--	--	97 Years or Older
--	--	--	997	Not Reported
99	999	999	999	Unknown

**P07I Imputed Age**

---

**Definition:** This imputed variable has the same definition and element values as Age, excluding the values 99 or 999 for unknown age and 997 for not reported age.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** AGE\_H      1988-2009  
AGE\_IM      2010-Later

**P08 Sex**

---

**Definition:** Indicates the police reported sex for this person

**Additional Information:**

**SAS Name:** **SEX**

**Attribute Codes**

<i>1988- 2009</i>	<i>2010- Later</i>	
1	1	Male
2	2	Female
--	7	Not Reported
9	9	Unknown

**P08I Imputed Sex**

---

**Definition:** This imputed variable has the same definition and element values as Sex, excluding value 9 for unknown sex and value 7 for not reported sex.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **SEX\_H**      *1988-2009*  
**SEX\_IM**      *2010-Later*

**P09 Injury Severity**

---

**Definition:** Indicates the police reported injury severity for this person.

**Additional Information:**

**SAS Name:** **INJ\_SEV**

**Attribute Codes**

<i>1988- 2009</i>	<i>2010 Later</i>	
0	0	No Injury ( <i>O</i> )
1	1	Possible Injury ( <i>C</i> )
2	2	Non-incapacitating Evident Injury ( <i>B</i> )
3	3	Incapacitating Injury ( <i>A</i> )
4	4	Fatal Injury ( <i>K</i> )
5	5	Injured, Severity Unknown ( <i>U</i> )
6	6	Died Prior to Crash
--	7	Not Reported
9	9	Unknown if Injured

**P09I Imputed Injury Severity**

---

**Definition:** This imputed variable has the same definition and element values as Injury Severity, excluding value 9 for unknown if injured and value 7 for not reported if injured.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

**SAS Name:** **INJSEV\_H** *1988-2009*  
**INJSEV\_IM** *2010-Later*

---

**P10 Taken to Hospital or Treatment Facility**

---

**Definition:** Indicates whether persons involved in the crash were transported to a hospital or treatment facility.

**Additional Information:**

**SAS Name:** HOSPITAL

**Attribute Codes**

<i>1988- 2009</i>	<i>2010- Later</i>	
0	--	No
1	--	Yes
9	--	Unknown
--	4	Not Transported
--	5	EMS Ground
--	6	EMS Air
--	7	EMS Unknown Mode
--	8	Law Enforcement
--	9	Transported Unknown Source
--	97	Not Reported
--	98	Other
--	99	Unknown

## P11 Police-Reported Alcohol Involvement

---

**Definition:** Indicates that the person had consumed an alcoholic beverage.

**Additional Information:** From 1988 to 2008 alcohol involvement was reported only for drivers of in-transport motor vehicles and non-motorists. Other person types were coded 0 (Not Applicable or, for 1988-1989, Alcohol Not Involved). Starting in 2009 alcohol involvement is reported for all person types.

This variable does not indicate that alcohol was a cause of the crash. If a PAR indicates that opened or unopened alcohol bottles were found in the vehicle, then this information does not by itself constitute involvement.

**SAS Name:** **PER\_ALCH**

### Attribute Codes

1988-1989	1990-1998	1999-2001	2002-2008	2009-Later	
0	--	1	1	0	No ( <i>Alcohol Not Involved</i> )
--	0	--	--	--	Alcohol Not Involved or N/A
--	--	0	0	--	Not Applicable
1	1	2	2	1	Yes ( <i>Alcohol Involved</i> )
--	--	--	6	--	Not on PAR
--	--	--	7	--	Not Coded
--	7	--	--	--	Alcohol and/or Drugs Involved
8	8	8	--	8	Not Reported
9	9	9	9	9	Unknown ( <i>Police-Reported</i> )

## P11I Imputed Police-Reported Alcohol Involvement

---

**Definition:** The definition and element values are the same as Police-Reported Alcohol Involvement with the following exceptions: From 1988 to 1993 the imputed variable excludes the attribute code 9 (Unknown – Police Reported) and any person who was coded 8 (Not Reported) for PER\_ALCH was coded No Alcohol Involved for ALCH\_H. Beginning in 1994 the methodology changed for the attribute 8 – rather than converting it to No Alcohol Involved it was imputed. The SAS name for the imputed variable changed from ALCH\_H to PERALC\_H in 1994 to reflect this change. In 2002 the PER\_ALCH code 8 was replaced by 6 and 7, so from 2002 to 2008 codes 6 and 7, as well as 9, are imputed. Starting in 2009 codes 8 and 9 are imputed for not reported and unknown alcohol involvement, respectively.

**Additional Information:** See *Understanding the NASS GES Imputation Process* section of this manual.

<b>SAS Name:</b>	<b>ALCH_H</b>	<b>1988-1993</b>
	<b>PERALC_H</b>	<b>1994-2009</b>
	<b>PERALCH_IM</b>	<b>2010-Later</b>



---

**P11A Alcohol Test Status**

---

**Definition:** Did the Police Report indicate an alcohol test was given?

**Additional Information:** From 2005 to 2008 this was reported only for drivers of in-transport motor vehicles and non-motorists. Other person types were coded 8 (Not Applicable). Starting in 2009 it is reported for all person types.

**SAS Name:** **ALCHTEST**

**Attribute Codes****2005-  
2008**

0 No  
1 Yes  
6 Not on Par  
7 Not Coded  
8 Not Applicable  
9 Unknown

**2009      2010-  
             Later**

0	0	Test Not Given
1	1	Test Refused
2	2	Test Given
--	7	Not Reported
9	--	Unknown if Tested/Not Reported
--	9	Unknown if Tested

**P11B Alcohol Test Type**

---

**Definition:** Identifies the type of test administered to the person as indicated in the case materials.

**Additional Information:** If a valid blood test is administered along with another type of test then blood test is coded. This information is reported for all person types.

**SAS Name:** ALTSTYPE

**Attribute Codes**

	<b>2010- Later</b>	
<b>2009</b>		
0	0	Test Not Given
1	1	Blood
2	2	Breath ( <i>Breathalyzer "BAC"</i> )
3	3	Urine
8	8	Other Test Type
10	10	Preliminary Breath Test ( <i>PBT</i> )
--	97	Not Reported
98	98	Unknown Test Type
99	--	Unknown if Tested/Not Reported
--	99	Unknown if Tested

**P11C Alcohol Test Result**

---

**Definition:** The actual value reported from a test performed on this person to detect the presence of alcohol.

**Additional Information:** This information is reported for all person types.

**SAS Name:** ALTRSULT

**Attribute Codes**

	<b>2010- Later</b>	
<b>2009</b>		
0-93	0-93	Actual Value
94	94	.94 or Greater
--	95	Not Reported
96	96	Test Not Given
97	97	Test Performed, Results Unknown
98	98	Positive Reading With No Actual Value
99	--	Unknown if Tested/Not Reported
--	99	Unknown if Tested

---

**P12 Non-Motorist's Physical/Mental Condition (discontinued)**

---

**Definition:** Indicates the physical/mental condition for non-motorists.

**Additional Information:** If the person is a driver or occupant of a motor vehicle in transport, they are coded as 0. When two or more circumstances apply, the attribute with the lowest numerical value is coded.

In 1990, this variable (P12) was dropped and replaced with Person's Physical Impairment (P18).

**SAS Name:** PHY\_COND

**Attribute Codes****1988-1989**

- 0 No Physical/Mental Conditions, Non-motorist; or Not Applicable, Driver or Occupant of Motor Vehicle in Transport
- 1 Ill, Blackout
- 2 Emotional (*e.g. Depression, Angry, Disturbed*)
- 3 Drugs-Medication
- 4 Other Drugs (*e.g. Cocaine, Marijuana, etc.*)
- 5 Walking with Cane or Crutches
- 6 Paraplegic or Restricted to Wheelchair
- 7 Impaired Due to Previous Injury
- 8 Deaf
- 9 Blind
- 97 Physical/Mental Impairment-No Details
- 98 Other Physical/Mental Impairment
- 99 Unknown Physical/Mental Condition

**P13 Non-Motorist Location**

**Definition:** Reports the location of non-motorists at the time of impact.

**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:** **LOCATN**

**Attribute Codes**

<b>1988- 2009</b>	<b>2010- Later</b>	
0	--	Not Applicable-Driver or Occupant of M.V. in Transport
--	0	Not a Motor Vehicle Occupant
1	--	Intersection-In Crosswalk
2	--	Intersection-On Roadway
8	--	Intersection-Other
9	--	Intersection-Unknown Location
11	--	Non-Intersection-In Crosswalk
12	--	Non-Intersection-On Roadway
18	--	Non-Intersection-Other
19	--	Non-Intersection-Unknown Location
20	--	In Crosswalk-Unknown if Intersection
--	21	Intersection-In Marked Crosswalk
--	22	Intersection-Unmarked Crosswalk
--	23	Intersection-Not in Crosswalk
--	24	Intersection-Unknown Location
--	25	Non-Intersection-In Marked Crosswalk
--	26	Non-Intersection-On Roadway, Not in Marked Crosswalk
--	27	Non-Intersection-On Roadway, Crosswalk Availability Unknown
--	28	Bicycle Lane
--	29	Shoulder/Roadside
--	30	Sidewalk
--	31	Median/Crossing Island
--	32	Driveway Access
--	33	Shared-Use Path/Trail
--	34	Non-Trafficway Area
--	35	Parking Lane/Zone
--	37	Not Reported
98	38	Other Location
99	39	Unknown Location

---

**P14 Person's Action (discontinued)**

---

**Definition:** Person's actions are indicated for everyone involved in the crash except the driver of a motor vehicle in transport.

**Additional Information:** This variable (P14) was dropped from the Person data set in 1990 and was replaced with the variable *Non-motorist's Action* (P19).

**SAS Name:** ACTION

**Attribute Codes****1988-1989**

0 Not Applicable-Driver or, if non-driver, No Action

**NON-MOTORIST VEHICLE OPERATOR:**

1 Failing to have Lights on When Required

2 Operating without Required Equipment

3 Improper or Erratic Lane Changing

4 Failure to Keep in Proper Lane or Running Off Road

5 Making Improper Entry to or Exit from Trafficway

6 Operating the Vehicle in Erratic, Reckless, Negligent Manner

7 Failure of Yield Right of Way

8 Failure to Obey Traffic Signs/Control Devices/Officers, Failure to Observe Safety Zone

9 Making Other Improper Turns

10 Driving on Wrong Side of Road

**MOTOR VEHICLE OCCUPANT:**

20 Interfering with Driver

**OTHER NON-MOTORISTS:**

21 Darting or Running into Road

22 Improper Crossing of Roadway or Intersection (*Jaywalking*)

23 Walking/Riding with or Against Traffic, Playing, Working, Sitting, Lying, Standing in Roadway

24 Inattentive (*Talking, Eating, etc..*)

25 Jogger

26 Non-motorist Pushing Vehicle

98 Other Action

99 Unknown Action

**P15 Restraint System Use**

**Definition:** Police reported occupant use of available vehicle restraints (i.e., belts child safety seat, helmet, or automatic restraints).

**Additional Information:** No distinction is made between manual or automatic restraint; to do so see Restraint Type (P16).

This variable replaced Safety Equipment Use (P5) in 1990. Starting in 1992 information on air bags is contained in the variable *Air Bag Availability/Function* (P21).

**SAS Name:** REST\_SYS

**Attribute Codes**

1990- 1991	1992- 1994	1995- 2009	2010- Later	
0	0	0	--	None Used or Not Applicable
1	1	1	--	Lap/Shoulder Belt
2	2	2	--	Lap Belt
3	3	3	--	Shoulder Belt
4	--	--	--	Air Bag Deployed
5	--	--	--	Air Bag Deployed and Lap/Shoulder Belt
6	6	6	--	Child Safety Seat
7	7	5	--	Motorcycle Helmet
--	--	7	--	None Available
8	8	8	--	Restraint Used-Specifics Unknown or Other
9	9	9	--	Unknown if Used
--	--	--	21	Lap and Shoulder Belt Used
--	--	--	22	Lap Belt Only Used
--	--	--	23	Shoulder Belt Only Used
--	--	--	28	Restraint Used - Type Unknown
--	--	--	30	Not Applicable
--	--	--	31	None Used – Motor Vehicle Occupant
--	--	--	37	Child Restraint System - Forward Facing
--	--	--	38	Child Restraint System - Rear Facing
--	--	--	39	Booster Seat
--	--	--	40	Child Restraint Type Unknown
--	--	--	41	No Helmet
--	--	--	42	DOT-Compliant Motorcycle Helmet
--	--	--	43	Other Helmet
--	--	--	96	Not a Motor Vehicle Occupant
--	--	--	97	Not Reported
--	--	--	98	Other
--	--	--	99	Unknown

**P16 Restraint Type (discontinued)**

---

**Definition:** Provides additional information about the restraint system coded in the variable Restraint System Use (P15), distinguishing between automatic and manual type devices used.

**Additional Information:** This variable was added to the Person Data set in 1990 and deleted in 1999.

**SAS Name:** REST\_TYP

**Attribute Codes****1990-1998**

- 0 None Available or Not Applicable
- 1 Automatic (*Passive*)
- 2 Manual (*Active*)
- 9 Unknown Type

## P17 Police-Reported Drug Involvement

---

**Definition:** Indicates that the person had taken drugs.

**Additional Information:** From 1990 to 2008 drug involvement was reported only for drivers of in-transport motor vehicles and non- motorists. Other person types were coded Not Applicable. Starting in 2009 drug involvement is reported for all person types.

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

This variable was added to the Person data set in 1990.

**SAS Name:** PER\_DRUG

### Attribute Codes

1990-1998	1999	2000-2001	2002-2008	2009-Later	
0	--	--	--	--	Drugs Not Involved or Not Applicable
--	1	0	0	--	Not Applicable
--	0	1	1	0	Drugs Not Involved
1	2	2	2	1	Drugs Involved
--	--	--	6	--	Not on PAR
--	--	--	7	--	Not Coded
7	--	--	--	--	Drugs and/or Alcohol Involved
8	8	8	--	8	Not Reported
9	9	9	9	9	Unknown ( <i>Police-Reported</i> )

## P17A Drug Test Status

---

**Definition:** Did the Police Report indicate a drug test was given to the person?

**Additional Information:** From 2005 to 2008 this was reported only for drivers of in-transport motor vehicles and non-motorists. Other person types were coded 8 (Not Applicable). Starting in 2009 it is reported for all person types.

**SAS Name:** DRUGTEST

### Attribute Codes

#### 2005-2008

0	No
1	Yes
6	Not on Par
7	Not Coded
8	Not Applicable
9	Unknown



**P17A Drug Test Status (continued)**

---

<b>2009</b>	<b>2010- Later</b>	
0	0	Test Not Given
1	1	Test Refused
2	2	Test Given
--	7	Not Reported
9	--	Unknown if Tested/Not Reported
--	9	Unknown if Tested

**P17B Drug Test Type**

---

**Definition:** Identifies the type of test administered to the person as indicated in the case materials.

**Additional Information:** This information is reported for all person types.

**SAS Name:** **DRTSTYPE**

**Attribute Codes**

<b>2009</b>	<b>2010- Later</b>	
0	0	Test Not Given
1	1	Blood
2	2	Urine
3	3	Both Blood and Urine
8	8	Other Test Type
--	97	Not Reported
98	98	Unknown Test Type
99	--	Unknown if Tested/Not Reported
--	99	Unknown if Tested

---

**P17C Drug Test Result**

---

**Definition:** The actual value reported from a test performed on this person to detect the presence of drugs. This information is reported for all person types.

**SAS Name:** DRTRSULT

**Attribute Codes**

	<i>2010- Later</i>	
<i>2009</i>	0	Test Not Given
	1	Negative
	--	Negative/No Drugs Reported
	2	Positive
	--	Positive/Tested for Drugs, Drugs Found, Type Unknown
	--	5 Not Reported
	7	7 Tested for Drugs, Result Unknown
	9	-- Unknown if Tested/Not Reported
	--	9 Unknown if Tested

**P18 Condition at Time of Crash (discontinued)**

**Definition:** Identifies physical impairments for all drivers and non-motorists which may have contributed to the cause of the crash.

**Additional Information:** In 1990 this variable replaced *Non-Motorist's Physical / Mental Condition* (P12) in the Person data set and *Driver Physical/Mental Impairment* (D3) in the Vehicle data set.

If more than one impairment is noted on the Police Accident Report the lowest numbered code is selected. From 2002 on all impairments for a driver or non-motorist are available in the Impair data set (SAS variable MIMPAIR).

The Person.IMPAIRMT is rolled up from the Impair data set. If there are no records, then the value 00 is assigned. If there is a single record, then the SAS code for that record is assigned. If there are multiple records, then the minimum SAS code of all the records is assigned.

Starting in 2010, this variable will be available only in the Impair data set.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived prior in 2009 and before.

**SAS Name:** **IMPAIRMT**

**Attribute Codes**

<b>1990- 2006</b>	<b>2007- 2009</b>	
0	0	None
1	1	Ill, Blackout
2	2	Drowsy, Sleepy, Fell Asleep, Fatigued
3	3	Walking with a Cane or Crutches
4	4	Paraplegic or Restricted to Wheelchair
5	5	Impaired Due to Previous Injury
6	6	Deaf
7	7	Blind
--	50	Hit & Run ( <i>And No Information</i> )
--	93	Not on PAR
--	94	Not Coded
97	97	Physical Impairment-No Details
98	98	Other Physical Impairment
99	99	Unknown if Physically Impaired

**P19 Non-Motorist Action (discontinued)**

**Definition:** Identifies circumstances (actions) that may have contributed to the cause of the crash. The actions coded pertain to non-motorists only.

**Additional Information:** For 1990-2008 that is Person Type (P03) =4 (Occupant of a Non-Motor Vehicle Transport Device), 5 (Pedestrian), 6 (Pedalcyclist), 7 (Other Cyclist), or 8 (Other or Unknown). From 2009 on it is Person Type (P03)= 4 (Occupant of a Non-Motor Vehicle Transport Device), 5 (Pedestrian), 6 (Bicyclist), 7 (Other Cyclist), 8 (Persons on Personal Conveyances), or 19 (Unknown Type of Non-Motorist).

If more than one action is noted on the Police Accident Report the lowest numbered code shown below is selected.

The Person.ACTION is rolled up from the Nmaction data set. If there are no records, then the value 00 is assigned. If there is a single record, then the SAS code for that record is assigned. If there are multiple records, then the minimum SAS code of all the records, with the exception that if the SAS Code 0 is one of the values, is assigned. The SAS code 0 is excluded from the calculation, all other values take precedence over 0 (zero).

From 2002 to 2009 all actions for a non-motorist are available in the Nmaction data set (SAS variable MACTION).

This variable was discontinued in 2010 and replaced with two variables: P25 Non-Motorist Action/Circumstances Prior to Crash and P26 Non-Motorist Action/Circumstances at Time of Crash. These variables are in the Nmprior and Nmcrash data sets, respectively.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived prior in 2009 and before.

**SAS Name:** ACTION

**Attribute Codes**

**1990- 1992-  
1991 2009**

0 0 No Action

**NON-MOTORIST VEHICLE OPERATOR:**

1	1	Failing to Have Lights on When Required
2	2	Operating without Required Equipment
3	3	Improper or Erratic Lane Changing
4	4	Failure to Keep in Proper Lane or Running Off Road
5	5	Making Improper Entry to or Exit from Trafficway
6	6	Operating the Vehicle in Erratic, Reckless, Negligent Manner
7	7	Failure to Yield Right of Way
8	8	Failure to Obey Traffic Signs/Control Devices/Officers, Failure to Observe Safety Zone
9	9	Making Other Improper Turn
10	10	Driving on Wrong Side of Road

---

**P19 Non-Motorist Action (discontinued) (continued)**

---

**Attribute Codes****1990- 1992-  
1991 2009***OTHER NON-MOTORIST:*

21	21	Darting or Running into Road
22	22	Improper Crossing of Roadway or Intersection ( <i>Jaywalking</i> )
23	--	Walking/Riding with or Against Traffic, Playing, Working, Sitting, Lying, Standing in Roadway
24	24	Inattentive ( <i>Talking, Eating, etc.</i> )
25	25	Jogging
26	26	Non-Motorist Pushing Vehicle
--	27	Walking with Traffic
--	28	Walking Against Traffic
--	29	Playing, Working, Sitting, Lying, Standing, Etc. In Roadway
98	98	Other Action
99	99	Unknown Action

**P20 Non-Motorist Safety Equipment Use (discontinued)**

**Definition:** Identifies safety equipment worn or carried by the non-motorist.

**Additional Information:** For 1990-2008 that is Person Type (P03) =4 (Occupant of a Non-Motor Vehicle Transport Device), 5 (Pedestrian), 6 (Pedalcyclist), 7 (Other Cyclist), or 8 (Other or Unknown). From 2009 on it is Person Type (P03)= 4 (Occupant of a Non-Motor Vehicle Transport Device), 5 (Pedestrian), 6 (Bicyclist), 7 (Other Cyclist), 8 (Persons on Personal Conveyances), or 19 (Unknown Type of Non-Motorist).

If more than one item is noted on the Police Accident Report the lowest numbered code shown below is selected. From 2002 on all items for a non-motorist are available in the Safetyeq data set (SAS variable MSAFEQMT).

The Person.SAF\_EQMT is rolled up from the Safetyeq data set. In 2009 and before, if the person type is not 4,5,6,7,8, or 10 (SAS codes), then the value 0 is assigned. Also, if there are no records, then the value 00 is assigned. If there is a single record, then the SAS Code for that record is assigned. If there are multiple records, and there are both records with SAS codes 2 and 3, then the value is set to 4. If not, the records are prioritized by the following SAS Code order, where the earliest value on the list is used: 2,3,8,9,0, and 1.

Starting in 2010, this variable will be available only in the Safetyeq data set.

See *Appendix F: Rules for Derived Variables* for an expanded explanation of this variable and how it is derived prior in 2009 and before.

**SAS Name:** SAF\_EQMT

**Attribute Codes**

1990-1998	1999-2009	
0	--	None Used or Not Applicable
--	0	Not Applicable
--	1	None Used
1	2	Bicycle Helmet
2	3	Reflective Equipment
3	4	Bicycle Helmet and Reflective Equipment
8	8	Other Safety Equipment
9	9	Unknown if Used

**P21 Air Bag Deployed**

**Definition:** Indicates whether the vehicle was equipped with an air bag in the seat position of this occupant, and if so, the deployment status.

**Additional Information:** This variable was added to the Person File in 1992

**SAS Name:** AIRBAG 1988-2008  
 AIR\_BAG 2009-Later

**Attribute Codes**

1992-1999	2000-2008	2009	2010-Later	
0	0	--	--	No Air Bag Available ( <i>Includes Airbags That Are Switched Off</i> )
--	--	0	--	Not Applicable ( <i>Non-Motorist or Vehicle/Seat Not Equipped</i> )
--	--	--	0	Not Applicable
1	1	--	--	Deployed
--	--	1	1	Deployed – Front
--	--	2	2	Deployed – Side ( <i>Door, Seat Back</i> )
--	--	3	3	Deployed – Curtain ( <i>Roof</i> )
--	--	7	7	Deployed – Other ( <i>Knee, Air Belt, etc.</i> )
--	--	8	8	Deployed – Combination
--	--	9	9	Deployment – Unknown Location
2	2	20	20	Not Deployed
--	--	28	28	Switched Off
--	8	--	--	Not Applicable ( <i>Non-Motorist</i> )
--	--	--	96	Not a Motor Vehicle Occupant
--	--	--	97	Not Reported
9	9	99	--	Unknown if Available or Deployed
--	--	--	99	Deployment Unknown

**P22 Non-Motorist Striking Vehicle Number**

---

**Definition:** This variable identifies the vehicle which made contact with the non-motorist. The value entered must match the vehicle number of the striking vehicle.

**Additional Information:**

**SAS Name:** STR\_VEH

**Attribute Codes*****1994-Later***

0	Not Applicable, Occupant of Vehicle
1-30	Vehicle Number



**P23 Parked/Working Vehicle Number**

---

**Definition:** The vehicle number of the not-in-transport vehicle this person is an occupant of, or the working vehicle this person is in or on.

**Additional Information:**

**SAS Name:** PVEHNO

**Attribute Codes***2005-Later*

- |      |                               |
|------|-------------------------------|
| 0    | Not Applicable                |
| 1-30 | Parked/Working Vehicle Number |

**P24 Indication of Misuse of Restraint System/Helmet**

---

**Definition:** This element indicates any mis-use of the restraint system or helmet used by this person.

**Additional Information:**

**SAS Name:** REST\_MIS

**Attribute Codes*****2010-Later***

- |    |                              |
|----|------------------------------|
| 1  | No                           |
| 2  | Yes                          |
| 96 | Not a Motor Vehicle Occupant |

### The CEVENT Data Set

The Cevent data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, and PJ. CASENUM and EVENTNUM are the case identifiers. CASENUM may be used to merge with crashes in the Accident data set. It also contains:

**E02 Vehicle Number (This Vehicle)**

---

**Definition:** Number assigned to an in transport motor vehicle involved in the event. This variable is the same as VEH\_NO in the Vehicle data set.

**Additional Information:**

**SAS Name:** **VEHNUM**

**Attribute Codes**

*2000-Later*

1-100 Vehicle Number

**E03 Area of Impact (This Vehicle)**

**Definition:** Indicates the impact point that produced property damage or personal injury for this transport motor vehicle involved in the event.

**Additional Information:**

**SAS Name:** **GAD**

**Attribute Codes**

<b>2000- 2006</b>	<b>2007- 2009</b>	
0	0	Non-Collision
1	1	Front
2	2	Right Side
3	3	Left Side
4	4	Back
5	5	Top
6	6	Undercarriage
11	11	Front Right Corner
12	12	Front Left Corner
13	13	Back Right Corner
14	14	Back Left Corner
--	15	Object Set in Motion
99	99	Point of Impact Unknown

**2010-Later**

0	Non-Collision
21-32	Clock Points
33	Top
34	Undercarriage
38	Set-In-Motion ( <i>Not a Clock Point</i> )
55	Non-Harmful Event
61	Left
62	Left-Front Half
63	Left-Back Half
81	Right
82	Right-Front Half
83	Right-Back Half
97	Not Reported
99	Unknown

**E04 Non-Collision Category or Object Contacted**

**Definition:** This element describes the non-harmful event, non-collision category, object contacted or vehicle number of other vehicle.

**Additional Information:**

**SAS Name:** OBJCONT

**Attribute Codes**

<b>2000- 2009</b>	<b>2010- Later</b>	
1-100	1-100	Vehicle Number of Other Vehicle
101	101	Rollover/Overturn
102	102	Fire/Explosion
103	103	Immersion
104	104	Gas Inhalation
105	--	Jackknife
--	105	Jackknife ( <i>Harmful to This Vehicle</i> )
106	--	Noncollision Injury ( <i>Injured in Vehicle, or Fell From Veh.</i> )
107	107	Pavement Surface Irregularity ( <i>Ruts, Potholes, Grates, etc.</i> )
108	108	Other Noncollision
109	--	Noncollision-No Details
110	110	Thrown or Falling Object
--	111	Injured in Vehicle ( <i>Non-Collision</i> )
--	112	Cargo/Equipment Loss or Shift ( <i>Harmful to This Vehicle</i> )
--	113	Fell/Jumped from Vehicle
121	121	Pedestrian
122	--	Cycle or Cyclist ( <i>Pedalcyclist or Pedalcycle</i> )
--	122	Pedalcyclist
123	--	Railway Train
--	123	Railway Vehicle
124	--	Animal
--	124	Live Animal
126	--	Parked Motor Vehicle ( <i>or Other M.V. Not in Transport</i> )
127	--	Other Type Non-Motorist
--	127	Non-Motorist on Personal Conveyance
128	128	Other Object ( <i>Not Fixed</i> )
129	--	Object Not Fixed-No Details
--	129	Parked Motor Vehicle
--	130	Working Motor Vehicle
131	131	Ground
132	132	Building
133	133	Impact Attenuator/Crash Cushion
134	--	Bridge Structure ( <i>Bridge Pier/Abutment/Parapet End/Rail</i> )
135	--	Guardrail

**E04 Non-Collision Category or Object Contacted (continued)****Attribute Codes**

<b>2000- 2009</b>	<b>2010- Later</b>	
136	--	Concrete Traffic Barrier or Other Longitudinal Barrier Type
--	136	Concrete Traffic Barrier
137	--	Post, Pole or Support ( <i>Sign Post, Utility Post</i> )
138	--	Culvert or Ditch
139	139	Curb
140	140	Embankment
141	141	Fence
142	142	Wall
143	143	Fire Hydrant
144	144	Shrubbery
145	--	Tree
--	145	Tree ( <i>Standing Only</i> )
146	146	Boulder
147	--	Vehicle Occupant ( <i>2009 Only</i> )
--	149	Ridden Animal or Animal-Drawn Conveyance
--	151	Jackknife ( <i>Non-Harmful</i> )
158	158	Other Fixed Object
159	--	Fixed Object-No Details
--	160	Cargo/Equipment Loss or Shift ( <i>Non-Harmfu</i> )
--	161	Equipment Failure ( <i>Blown Tire, Brake Failure, etc.</i> )
--	162	Separation of Units
--	163	Ran Off Roadway - Right
--	164	Ran Off Roadway - Left
--	165	Cross Median
--	166	Cross Centerline
--	167	Downhill Runaway
--	168	Vehicle Went Airborne
--	169	Re-Entering Roadway
--	171	Bridge Overhead Structure
--	172	Bridge Pier or Support
--	173	Bridge Rail ( <i>Includes Parapet</i> )
--	174	Guardrail Face
--	175	Guardrail End
--	176	Cable Barrier
--	177	Other Traffic Barrier
--	178	Traffic Sign Support
--	179	Traffic Signal Support
--	180	Utility Pole/Light Support
--	181	Other Post, Other Pole or Other Supports
--	182	Culvert
--	183	Ditch
--	184	Snow Bank
--	185	Mail Box

--	190	Motor Vehicle In-Transport
--	191	Motor Vehicle In-Transport Strikes or is Struck by Cargo, Persons or Objects Set-in-Motion from/by Another Motor Vehicle In-Transport
--	192	Motor Vehicle in Motion Outside the Trafficway
--	197	Not Reported
999	999	Unknown



**E05 Area of Impact (Other Vehicle)**

---

**Definition:** Indicates the impact point for the other in transport motor vehicle involved in the harmful event.

**Additional Information:**

**SAS Name:** **OBJGAD**

**Attribute Codes**

<b>2000</b>	<b>2001- 2009</b>	
1	1	Front
2	2	Right Side
3	3	Left Side
4	4	Back
5	5	Top
6	6	Undercarriage
11	11	Front Right Corner
12	12	Front Left Corner
13	13	Back Right Corner
14	14	Back Left Corner
--	98	Not a Motor Vehicle in Transport
99	99	Point of Impact Unknown

**2010-Later**

21-32	Clock Points
33	Top
34	Undercarriage
55	Non-Harmful Event
61	Left
62	Left-Front Half
63	Left-Back Half
81	Right
82	Right-Front Half
83	Right-Back Half
97	Not Reported
98	Not A Motor Vehicle In-Transport
99	Unknown

---

**E06 Vehicle's Action**

---

**Definition:** Describes the action for the event for the vehicle identified by VEHNUM.

**Additional Information:**

**SAS Name:** **E\_ACTION**

**Attribute Codes**

<i>2002- 2009</i>	<i>2010- Later</i>	
1	1	Non-Collision
2	2	Collision With Object Not Fixed
3	3	Collision With Fixed Object
4	--	Strike Another In-Transport Motor Vehicle
5	--	Struck By An In-Transport Motor Vehicle
--	6	Non-Harmful Event
--	7	Motor Vehicle In-Transport
--	8	Motor Vehicle In-Transport Strikes or is Struck by Cargo, Persons or Objects Set-in-Motion from/by Another Motor Vehicle In-Transport
--	9	Motor Vehicle In Motion Outside the Trafficway
--	97	Not Reported

### The VEVENT Data Set

The Vevent data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, VEH\_NO, and EVENTNUM. CASENUM, VEH\_NO and EVENTNUM are the case identifiers and may be used to merge with the Vehicle data set. It also contains:

**VE2 Vehicle Number (This Vehicle)**

---

**Definition:** Vehicle number of the in-transport motor vehicle involved in the event. If the event is an impact between two in-transport motor vehicles, this is the vehicle number of the vehicle with the lower vehicle number. If the event is an impact between a vehicle and an object set in motion by another vehicle, this is the number of the vehicle which set the object in motion, even if it is the higher number.

**Additional Information:** Example:

If Vehicle #1 (V1) impacts Vehicle #2 (V2), then we have at least 2 Vevent records.

<u>Veh_no</u>	<u>eventnum</u>	<u>vehnum</u>	<u>objcont</u>
1	1	1	2
2	1	1	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:** **VEHNUM**

**Attribute Codes****2010-Later**

1-100 Vehicle Number

**VE3 Area of Impact (This Vehicle)**

---

**Definition:** Indicates the impact point that produced property damage or personal injury for this transport motor vehicle involved in the event.

**Additional Information:**

**SAS Name:** GAD

**Attribute Codes*****2010-Later***

20	Non-Collision
21-32	Clock Points
33	Top
34	Undercarriage
38	Set-In-Motion (Not a Clock Point)
61	Left
62	Left-Front Half
63	Left-Back Half
81	Right
82	Right-Front Half
83	Right-Back Half
97	Not Reported
99	Unknown

---

**VE4 Non-Collision Category or Object Contacted**

---

**Definition:** This element describes the non-harmful event, non-collision category, object contacted or vehicle number of other vehicle.

**Additional Information:**

**SAS Name:** OBJCONT

**Attribute Codes**

**2010-Later**

1-100	Vehicle Number of Other Vehicle
101	Rollover/Overturn
102	Fire/Explosion
103	Immersion
104	Gas Inhalation
105	Jackknife ( <i>Harmful to This Vehicle</i> )
107	Pavement Surface Irregularity ( <i>Ruts, Potholes, Grates, etc.</i> )
108	Other Noncollision
110	Cargo/Equipment Loss or Shift ( <i>Harmful to This Vehicle</i> )
111	Injured in Vehicle ( <i>Non-Collision</i> )
112	Thrown or Falling Object
113	Fell/Jumped from Vehicle
121	Pedestrian
122	Pedalcyclist
123	Railway Vehicle
124	Live Animal
127	Non-Motorist on Personal Conveyance
128	Other Object ( <i>Not Fixed</i> )
129	Parked Motor Vehicle
130	Working Motor Vehicle
131	Ground
132	Building
133	Impact Attenuator/Crash Cushion
136	Concrete Traffic Barrier
139	Curb
140	Embankment
141	Fence
142	Wall
143	Fire Hydrant
144	Shrubbery
145	Tree ( <i>Standing Only</i> )
146	Boulder
149	Ridden Animal or Animal-Drawn Conveyance

---

**VE4 Non-Collision Category or Object Contacted (continued)**

---

**Attribute Codes****2010-Later**

158	Other Fixed Object
171	Bridge Overhead Structure
172	Bridge Pier or Support
173	Bridge Rail ( <i>Includes Parapet</i> )
174	Guardrail Face
175	Guardrail End
176	Cable Barrier
177	Other Traffic Barrier
178	Traffic Sign Support
179	Traffic Signal Support
180	Utility Pole/Light Support
181	Other Post, Other Pole or Other Supports
182	Culvert
183	Ditch
184	Snow Bank
185	Mail Box
190	Motor Vehicle In-Transport
191	Motor Vehicle In-Transport Strikes or is Struck by Cargo, Persons or Objects Set-in-Motion from/by Another Motor Vehicle In-Transport
192	Motor Vehicle in Motion Outside the Trafficway
197	Not Reported
999	Unknown

**VE5 Area of Impact (Other Vehicle)**

---

**Definition:** Indicates the impact point for the other in transport motor vehicle involved in the harmful event.

**Additional Information:**

**SAS Name:** OBJGAD

**Attribute Codes*****2010-Later***

21-32	Clock Points
33	Top
34	Undercarriage
55	Non-Harmful Event
61	Left
62	Left-Front Half
63	Left-Back Half
81	Right
82	Right-Front Half
83	Right-Back Half
97	Not Reported
98	Not A Motor Vehicle In-Transport
99	Unknown



**VE6 Vehicle's Action**

---

**Definition:** Describes the action for the event for the vehicle identified by VEHNUM.

**Additional Information:**

**SAS Name:** **E\_ACTION**

**Attribute Codes*****2010-Later***

- 1 Non-Collision
- 2 Collision With Object Not Fixed
- 3 Collision With Fixed Object
- 6 Non-Harmful Event
- 7 Motor Vehicle In-Transport
- 8 Motor Vehicle In-Transport Strikes or is Struck by Cargo, Persons or Objects Set-in-Motion from/by Another Motor Vehicle In-Transport
- 9 Motor Vehicle In Motion Outside the Trafficway
- 97 Not Reported

**VE7 Vehicle Number (Parked/Working Vehicle)**

---

**Definition:****Additional Information:****SAS Name:** PVEHNUM**Attribute Codes*****2010-Later***

1-30	Parked/Working Vehicle Number
96	Not a Parked/Working Vehicle

**VE8 Area of Impact (Parked/Working Vehicle)**

---

**Definition:****Additional Information:****SAS Name:** PGAD**Attribute Codes*****2010-Later***

20	Non-Collision
21-32	Clock Points
33	Top
34	Undercarriage
61	Left
62	Left-Front Half
63	Left-Back Half
81	Right
82	Right-Front Half
83	Right-Back Half
96	Not a Parked/Working Vehicle
97	Not Reported
99	Unknown

### The FACTOR Data Set

The Factor data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, and VEH\_NO. CASENUM, VEH\_NO and MFACTOR are the case identifiers. CASENUM and VEH\_NO should be used to merge the Factor data set with the Vehicle data set. MFACTOR identifies each vehicle factor (as a separate record) and is described below:

**M\_V12 Vehicle Contributing Factors**

**Definition:** This element describes the possible pre-existing motor vehicle defects or maintenance conditions that may have contributed to the crash.

**Additional Information:** This variable has been coded at the Vehicle level, and included in Vehicle/Driver data set (SAS variable FACTOR), since 1995. Starting in 2002 multiple factors for each vehicle are available in the Factor data set. It is important to determine the significance of pre-existing problems, including equipment and operation, in motor vehicles involved in a crash.

**SAS Name:** **MFACTOR**

**Attribute Codes**

<b>2002- 2009</b>	<b>2010- Later</b>	
0	0	None
1	1	Tires
2	2	Brake System
3	3	Steering System-Tie Rod, Kingpin, Ball Joint, etc.
4	4	Suspension-Springs, Shock Absorbers, McPherson Struts, Control Arms, etc.
5	5	Power Train-Universal Joint, Drive Shaft, Transmission, etc.
6	6	Exhaust System
7	7	Headlights
8	8	Signal Lights
9	9	Other Lights
10	10	Wipers
11	11	Wheels
12	12	Mirrors
13	--	Driver Seating and Control
--	13	Windows/Windshield
14	14	Body, Doors
15	--	Trailer Hitch
--	15	Truck Coupling/Trailer Hitch/Safety Chains
--	16	Safety Systems
50	--	Hit-and-Run Vehicle
97	17	Vehicle Contributing Factors-No Details
--	97	Other
98	--	Other Vehicle Contributing Factors
--	98	Not Reported
99	--	Unknown if Vehicle Has Contributing Factors
--	99	Unknown

### The VIOLATN Data Set

The Violatn data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, and VEH\_NO. CASENUM, VEH\_NO and MVIOLATN are the case identifiers. CASENUM and VEH\_NO should be used to merge the Violatn data set with the Vehicle data set. MVIOLATN identifies each violation (as a separate record) and is described below:

**M\_D02 Violations Charged**

---

**Definition:** Indicates which violations are charged to drivers.

**Additional Information:** This variable has been coded at the Driver level and included in Vehicle/Driver data set (SAS variable VIOLATN) since 1988. Starting in 2002 all violations charged to a driver are available in the Violatn data set.

**SAS Name:** **MVIOLATN**

**Attribute Codes****2002-2008**

- 0 None
- 1 Alcohol
- 2 Drugs
- 3 Speeding
- 4 Reckless Driving
- 5 Driving With a Suspended or Revoked License
- 6 Failure to Yield Right-of-Way
- 7 Running a Traffic Signal or Stop Sign
- 50 Hit & Run (*And No Information*)
- 95 No Driver Present
- 96 Not Reported
- 97 Violation Charged-No Details
- 98 Other Violation
- 99 Unknown if Charged

**2009-Later**

- 0 None

**RECKLESS/CARELESS/HIT-AND-RUN TYPE OFFENSES**

- 1 Manslaughter or Homicide
- 2 Willful Reckless Driving; Driving to Endanger; Negligent Driving
- 3 Unsafe Reckless (*Not Willful, Wanton Reckless*) Driving
- 4 Inattentive, Careless, Improper Driving
- 5 Fleeing or Eluding Police
- 6 Fail to Obey Police, Fireman, Authorized Person Directing Traffic
- 7 Hit-And-Run, Fail to Stop After Crash
- 8 Fail to Give Aid, Information, Wait For Police After Crash
- 9 Serious Violation Resulting In Death

**IMPAIRMENT OFFENSES**

- 11 Driving While Intoxicated (*Alcohol Or Drugs*) Or BAC Above Limit (*Any Detectable BAC for CDLs*)
- 12 Driving While Impaired
- 13 Driving Under Influence of Substance Not Intended To Intoxicate
- 14 Drinking While Operating
- 15 Illegal Possession of Alcohol or Drugs
- 16 Driving With Detectable Alcohol
- 18 Refusal to Submit to Chemical Test
- 19 Alcohol, Drug or Impairment Violations Generally

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**M\_D02 Violations Charged (continued)**

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*SPEED-RELATED OFFENSES*

- 21 Racing
- 22 Speeding (*Above The Speed Limit*)
- 23 Speed Greater than Reasonable & Prudent (*Not Necessarily Over The Limit*)
- 24 Exceeding Special Limit
- 25 Energy Speed (*Exceeding 55 Mph, Non-Pointable*)
- 26 Driving Too Slowly
- 29 Speed Related Violations, Generally

*RULES OF THE ROAD – TRAFFIC SIGN & SIGNALS*

- 31 Fail to Stop For Red Signal
- 32 Fail to Stop For Flashing Red
- 33 Violation of Turn On Red (*Fail to Stop & Yield, Yield to Pedestrians Before Turning*)
- 34 Fail to Obey Flashing Signal (*Yellow Or Red*)
- 35 Fail to Obey Signal, Generally
- 36 Violate RR Grade Crossing Device/Regulations
- 37 Fail to Obey Stop Sign
- 38 Fail to Obey Yield Sign
- 39 Fail to Obey Traffic Control Device

*RULES OF THE ROAD – TURNING, YIELDING, SIGNALING*

- 41 Turn in Violation of Traffic Control
- 42 Improper Method & Position of Turn (*Too Wide, Wrong Lane*)
- 43 Fail to Signal For Turn or Stop
- 45 Fail to Yield to Emergency Vehicle
- 46 Fail to Yield, Generally
- 48 Enter Intersection when Space Insufficient
- 49 Turn, Yield, Signaling Violations, Generally

*RULES OF THE ROAD – WRONG SIDE, PASSING & FOLLOWING*

- 51 Driving Wrong Way on One-Way Road
- 52 Driving On Left, Wrong Side of Road, Generally
- 53 Improper, Unsafe Passing
- 54 Pass on Right (*Drive Off Pavement To Pass*)
- 55 Pass Stopped School Bus
- 56 Fail to Give Way when Overtaken
- 58 Following Too Closely
- 59 Wrong Side, Passing, Following Violations, Generally

*RULES OF THE ROAD – LANE USAGE*

- 61 Unsafe or Prohibited Lane Change
- 62 Improper Use of Lane (*Enter of 3-Lane Road, HOV Designated Lane*)
- 63 Certain Traffic to Use Right Lane (*Trucks, Slow-Moving, etc.*)
- 66 Motorcycle Lane Violations (*More than Two per Lane, Riding Between Lanes, etc.*)
- 67 Motorcyclist Attached to Another Vehicle
- 69 Lane Violations, Generally



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**M\_D02**   **Violations Charged**   *(continued)*

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*NON-MOVING – LICENSE AND REGISTRATION VIOLATIONS*

- 71    Driving While License Withdrawn (*Including Violation of Provisions of Work Permit*)
- 72    Other Driver License Violations
- 73    Commercial Driver Violations (*Log Book, Hours, Permits Carried*)
- 74    Vehicle Registration Violations
- 75    Fail to Carry Insurance Card
- 76    Driving Uninsured Vehicle
- 79    Non-Moving Violations, Generally

*EQUIPMENT*

- 81    Lamp Violations
- 82    Brake Violations
- 83    Failure to Require Restraint Use (*By Self or Passengers*)
- 84    Motorcycle Equipment Violations (*Helmet, Special Equipment*)
- 85    Violation of Hazardous Cargo Regulations
- 86    Size, Weight, Load Violations
- 89    Equipment Violations, Generally

*LICENSE, REGISTRATION & OTHER VIOLATIONS*

- 91    Parking
- 92    Theft, Unauthorized Use of Motor Vehicle
- 93    Driving Where Prohibited (*Sidewalk, Limited Access, Off Truck Route*)
- 95    No Driver Present / Unknown if Driver Present
- 97    Not Reported (*Added in 2010*)
- 98    Other Moving Violation (*Coasting, Backing, Opening Door*)
- 99    Unknown Violation

### The VISION Data Set

The Vision data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, and VEH\_NO. CASENUM, VEH\_NO and MVISOBSC are the case identifiers. CASENUM and VEH\_NO should be used to merge the Vision data set with the Vehicle data set. MVISOBSC identifies each visual obstruction (as a separate record) and is described below:

**M\_D04 Driver's Vision Obscured By**

**Definition:** Identifies visual circumstances that may have contributed to the cause of the crash.

**Additional Information:** In 2004 the codes 93-Not on PAR and 94-Not Coded replaced 96-Not Reported. Not on PAR is coded if no block exists on the PAR for reporting obscured driver vision and no other information is available. Not Coded is used if there is a specific location on the police report for obscured driver vision but the investigating officer fails to make an assessment, and there is no other information available.

This variable has been coded at the Driver level and included in Vehicle/Driver data set (SAS variable VIS\_OBSC) since 1988. Starting in 2002 all visual obstructions for a driver are available in the Vision data set.

**SAS Name:** **MVISOBSC**

**Attribute Codes**

<b>2002- 2003</b>	<b>2004- 2008</b>	<b>2009- Later</b>	
0	0	0	No Obstruction
--	--	1	Rain, Snow, Fog, Smoke, Sand, Dust
1	1	--	Rain, Snow, Smoke, Sand, Dust
2	2	2	Reflected Glare, Bright Sunlight, Headlights
3	3	--	Curve or Hill
--	--	3	Curve, Hill, or Other Roadway Design Feature
4	4	--	Building, Billboard, or Other Design Features ( <i>Includes Signs, Embankment</i> )
--	--	4	Building, Billboard, or Other Structure
5	5	5	Trees, Crops, Vegetation
6	6	6	In-Transport Motor Vehicle ( <i>Including Load</i> )
7	7	--	Parked Vehicle
--	--	7	Not-in-Transport Motor Vehicle ( <i>Parked, Working</i> )
8	8	8	Splash or Spray of Passing Vehicle
9	9	9	Inadequate Defrost or Defog System
10	10	10	Inadequate Vehicle Lighting System
11	11	11	Obstruction Interior to Vehicle
12	12	12	External Mirrors
13	13	--	Head Restraints
14	14	13	Broken or Improperly Cleaned Windshield
--	--	14	Obstructing Angles on Vehicle
15	15	--	Fog
50	50	--	Hit & Run Vehicle ( <i>And No Information</i> )
--	93	--	Not on PAR
--	94	--	Not Coded
95	95	--	No Driver Present
--	--	95	No Driver Present / Unknown if Driver Present
96	--	--	Not Reported
97	97	97	Vision Obscured-No Details
98	98	98	Other Visual Obstruction
99	99	99	Unknown Whether Vision was Obstructed

### The MANEUVER Data Set

The Maneuver data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, and VEH\_NO. CASENUM, VEH\_NO and MDRMANAV are the case identifiers. CASENUM and VEH\_NO should be used to merge the Maneuver data set with the Vehicle data set. MDRMANAV identifies each avoidance attempt (as a separate record) and is described below:

**M\_D06 Driver Maneuvered to Avoid**

---

**Definition:** Identifies an action taken by the driver to avoid something or someone in the road. The maneuver may have subsequently contributed to the cause of the crash.

**Additional Information:** This variable has been coded at the Driver level and included in Vehicle/Driver data set (SAS variable DRMAN\_AV) since 1990. Starting in 2002 multiple maneuvers made by each driver are available in the Maneuver data set.

**SAS Name:** **MDRMANAV**

**Attribute Codes**

<b>2002- 2003</b>	<b>2004- 2009</b>	<b>2010- Later</b>	
0	0	0	Driver Did Not Maneuver To Avoid
1	1	1	Object In Road
2	2	2	Poor Road Conditions ( <i>Puddle, Ice, Pot Hole, etc.</i> )
3	3	--	Animal In Road
--	--	3	Live Animal
4	4	--	Vehicle In Road
--	--	4	Motor Vehicle
5	5	5	Pedestrian, Pedalcyclist, or Other Non-Motorist in the Road
50	50	--	Hit & Run ( <i>And No Information</i> )
--	92	92	Phantom /Non-Contact Motor Vehicle
93	93	--	Not on PAR
94	94	--	Not Coded
95	95	95	No Driver Present
97	97	--	Avoidance Maneuver-No details
--	--	98	Not Reported
99	99	99	Unknown If Driver Maneuvered To Avoid

### The DISTRACT Data Set

The Distract data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, and VEH\_NO. CASENUM, VEH\_NO and MDRDSTRD are the case identifiers. CASENUM and VEH\_NO should be used to merge the Distract data set with the Vehicle data set. MDRDSTRD identifies each distraction (as a separate record) and is described below:

**M\_D07 Driver Distracted By**

**Definition:** Identifies all distractions which may have influenced driver performance and contributed to the cause of the crash. The distraction can be either inside the vehicle (internal) or outside the vehicle (external).

**Additional Information:** This variable has been coded at the Driver level and included in Vehicle/Driver data set (SAS variable DR\_DSTRD) since 1990. Starting in 2002 multiple distractions for each driver are available in the Distract data set.

**SAS Name:** **MDRDSTRD**

**Attribute Codes**

<b>2002- 2003</b>	<b>2004- 2006</b>	<b>2007- 2009</b>	<b>2010- Later</b>	
0	0	0	0	Not Distracted
1	1	1	1	Looked But Did Not See
3	3	3	3	By Other Occupants
4	4	4	4	By Moving Object In Vehicle
5	5	5	5	While Talking Or Listening To Cellular Phone
6	6	6	6	While Dialing Cellular Phone
7	7	7	--	While Adjusting Climate Control
--	--	--	7	While Adjusting Audio And/or Climate Controls
8	8	8	--	While Adjusting Radio, Cassette Or CD
9	9	9	9	While Using Other Devices Integral To Vehicle
10	10	10	--	While Using Or Reaching For Other Devices
--	--	--	10	While Using Or Reaching For Device/Object Brought into Vehicle
11	11	11	--	Sleepy Or Fell Asleep
12	12	12	--	Distracted By Outside Person Or Object
--	--	--	12	Distracted By Outside Person, Object Or Event
13	13	13	13	Eating Or Drinking
14	14	14	14	Smoking Related
--	--	15	15	Other Cellular Phone Related
--	--	50	--	Hit & Run ( <i>And No Information</i> )
--	92	92	92	Distraction Or Inattention, Details Unknown
93	93	93	--	Not On PAR
94	94	94	--	Not Coded
95	95	95	95	No Driver Present
--	--	--	96	Not Reported
97	97	97	97	Inattentive Or Lost In Thought
98	--	--	--	Other Distraction Or Inattention
--	98	98	98	Other Distraction
99	99	99	99	Unknown If Distracted

### The IMPAIR Data Set

The Impair data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, VEH\_NO, PER\_NO, and MIMPAIR. CASENUM, VEH\_NO, PER\_NO and MIMPAIR are the case identifiers. CASENUM, VEH\_NO, and PER\_NO should be used to merge the Impair data set with the Person data set. MIMPAIR identifies each impairment (as a separate record) and is described below:



**M\_P18 Condition at Time of Crash**

**Definition:** Identifies all physical impairments for all drivers and non-motorists which may have contributed to the cause of the crash.

**Additional Information:** This variable has been coded at the person level and included in the Person data set (SAS variable IMPAIRMT) since 1990. Starting in 2002 all impairments for a driver or non-motorist are available in the Impair data set.

**SAS Name:** **MIMPAIR**

**Attribute Codes**

<b>2002- 2006</b>	<b>2007- 2009</b>	<b>2010- Later</b>	
0	0	--	None
--	--	0	None/Apparently Normal
1	1	1	Ill, Blackout
2	2	--	Drowsy, Sleepy, Fell Asleep, Fatigued
--	--	2	Asleep or Fatigued
3	3	3	Walking with a Cane or Crutches
4	4	4	Paraplegic or Restricted to Wheelchair
5	5	5	Impaired Due to Previous Injury
6	6	6	Deaf
7	7	7	Blind
--	--	8	Emotional ( <i>Depressed, Angry, Disturbed, etc.</i> )
--	--	9	Under the Influence of Alcohol, Drugs or Medication
--	--	10	Physical Impairment – No Details
--	50	--	Hit & Run ( <i>And No Information</i> )
--	93	--	Not on PAR
--	94	--	Not Coded
97	97	--	Physical Impairment-No Details
98	98	96	Other Physical Impairment
--	--	98	Not Reported
99	99	99	Unknown if Physically Impaired

### The NMACTION Data Set

The Nmaction data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, PER\_NO, and MACTION. CASENUM, PER\_NO and MACTION are the case identifiers. CASENUM and PER\_NO should be used to merge the Impair data set with non-motorists from the Person data set.

This data set was discontinued in 2010 and replaced with two data sets: Nmprior and Nmcrash.

**M\_P19 Non-Motorist Action (discontinued)**

**Definition:** Identifies non-motorist actions that may have contributed to the cause of the crash.

**Additional Information:** For 2002-2008 it is coded for Person Type (P03) =4 (Occupant of a Non-Motor Vehicle Transport Device), 5 (Pedestrian), 6 (Pedalcyclist), 7 (Other Cyclist), or 8 (Other or Unknown). From 2009 on it is coded for Person Type (P03)= 4 (Occupant of a Non-Motor Vehicle Transport Device), 5 (Pedestrian), 6 (Bicyclist), 7 (Other Cyclist), 8 (Persons on Personal Conveyances), or 19 (Unknown Type of Non-Motorist).

This variable has been coded at the person level and included in Person data set (SAS variable ACTION) since 1990. Starting in 2002 all actions for a non-motorist are available in the Nmaction data set.

This variable was replaced in 2010 with *P25 Non-Motorist Action/Circumstances Prior to Crash* and *P26 Non-Motorist Action/Circumstances at Time of Crash*.

**SAS Name:** **MACTION**

**Attribute Codes****2002-2009**

0 No Action

**NON-MOTORIST VEHICLE OPERATOR:**

- 1 Failing to Have Lights on When Required
- 2 Operating without Required Equipment
- 3 Improper or Erratic Lane Changing
- 4 Failure to Keep in Proper Lane or Running Off Road
- 5 Making Improper Entry to or Exit from Trafficway
- 6 Operating the Vehicle in Erratic, Reckless, Negligent Manner
- 7 Failure to Yield Right of Way
- 8 Failure to Obey Traffic Signs/Control Devices/Officers, Failure to Observe Safety Zone
- 9 Making Other Improper Turn
- 10 Driving on Wrong Side of Road

**OTHER NON-MOTORIST:**

- 21 Darting or Running into Road
- 22 Improper Crossing of Roadway or Intersection (*Jaywalking*)
- 24 Inattentive (*Talking, Eating, etc.*)
- 25 Jogging
- 26 Non-Motorist Pushing Vehicle
- 27 Walking with Traffic
- 28 Walking Against Traffic
- 29 Playing, Working, Sitting, Lying, Standing, Etc. In Roadway
- 98 Other Action
- 99 Unknown Action

### The NMCRAASH Data Set

The Nmcraash data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, PER\_NO, and MTM\_CRSH. CASENUM, PER\_NO and MTM\_CRSH are the case identifiers. CASENUM and PER\_NO should be used to merge the Nmcraash data set with non-motorists from the Person data set. MTM\_CRSH identifies each action (as a separate record) and is described below:

---

**P26 Non-Motorist Action/Circumstances at Time of Crash**

---

**Definition:** This element describes the action(s) and/or circumstances of the non-motorist that law enforcement indicated may have contributed to the crash.

**Additional Information:** It selects all that apply. This element is based on the judgment of the law enforcement officer investigating the crash.

**SAS Name:** **MTM\_CRSH**

**Attribute Codes****2010-Later**

- 0 No Improper Action
- 1 Dart/Dash
- 2 Failure to Yield Right-Of-Way
- 3 Failure to Obey Traffic Signs, Signals or Officer
- 4 In Roadway Improperly (*Standing, Lying, Working, Playing*)
- 5 Entering/Exiting Vehicle
- 6 Inattentive (*Talking, Eating, etc.*)
- 7 Improper Turn/Merge
- 8 Improper Passing
- 9 Wrong-Way Riding or Walking
- 10 Driving on Wrong Side of Road
- 12 Improper Crossing of Roadway or Intersection (*Jaywalking*)
- 13 Failing to Have Lights on When Required
- 14 Operating Without Required Equipment
- 15 Improper or Erratic Lane Changing
- 16 Failure to Keep in Proper Lane or Running Off Road
- 17 Making Improper Entry to or Exit from Trafficway
- 18 Operating the Vehicle in Other Erratic, Reckless, Careless or Negligent Manner
- 19 Not Visible (*Dark Clothing, No Lighting, etc.*)
- 20 Passing with Insufficient Distance or Inadequate Visibility or Failing to Yield to Overtaking Vehicle
- 21 Other
- 98 Not Reported
- 99 Unknown

### The NMPRIOR Data Set

The Nmprior data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, PER\_NO, and MPR\_ACT. CASENUM, PER\_NO and MPR\_ACT are the case identifiers. CASENUM and PER\_NO should be used to merge the NMPrior data set with non-motorists from the Person data set. MPR\_ACT identifies each action (as a separate record) and is described below:

---

**P25 Non-Motorist Action/Circumstances Prior to Crash**

---

**Definition:** This element describes the action(s) of the non-motorist immediately prior to their involvement in the crash.

**Additional Information:** It selects all that apply. 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**

**Attribute Codes****2010-Later**

- 1 Going to or from School (*K-12*)
- 2 Waiting to Cross Roadway
- 3 Crossing Roadway
- 4 Jogging/Running
- 5 Movement Along Roadway with Traffic (*In or Adjacent to Travel Lane*)
- 6 Movement Along Roadway Against Traffic (*In or Adjacent to Travel Lane*)
- 7 Movement on Sidewalk
- 8 In Roadway-Other (*Working, Playing, etc.*)
- 9 Adjacent to Roadway (*e.g., Shoulder, Median*)
- 10 Working in Trafficway (*Incident Response*)
- 11 Entering/Exiting a Vehicle
- 12 Disabled Vehicle Related (*Working on, Pushing, Leaving/Approaching*)
- 15 None
- 98 Not Reported
- 99 Unknown

### The SAFETYEQ Data Set

The Safetyeq data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, PER\_NO, and MSAFEQMT. CASENUM, PER\_NO and MSAFEQMT are the case identifiers. CASENUM and PER\_NO should be used to merge the Safetyeq data set with non-motorists from the Person data set. MSAFEQMT identifies each item of safety equipment (as a separate record) and is described below:



**M\_P20 Non-Motorist Safety Equipment Use**

**Definition:** Identifies safety equipment worn or carried by the non-motorist.

**Additional Information:** For 2002-2008 it is coded for Person Type (P03) =4 (Occupant of a Non-Motor Vehicle Transport Device), 5 (Pedestrian), 6 (Pedalcyclist), 7 (Other Cyclist), or 8 (Other or Unknown). From 2009 on it is coded for Person Type (P03)= 4 (Occupant of a Non-Motor Vehicle Transport Device), 5 (Pedestrian), 6 (Bicyclist), 7 (Other Cyclist), 8 (Persons on Personal Conveyances), or 19 (Unknown Type of Non-Motorist).

This variable has been coded at the person level and included in Person data set (SAS variable SAF\_EQMT) since 1990. Starting in 2002 all items for a non-motorist are available in the Safetyeq data set. There can be one or more safety equipment responses for each nonmotorist.

**SAS Name:** **MSAFEQMT**

**Attribute Codes**

<b>2002- 2009</b>	<b>2010- Later</b>	
0	--	Not Applicable
1	1	None Used
2	--	Bicycle Helmet
--	2	Helmet
3	--	Reflective Equipment
--	3	Reflective Equipment/Clothing ( <i>Jacket, Backpack, etc.</i> )
4	--	Bicycle Helmet and Reflective Equipment
--	4	Protective Pads Used ( <i>Elbows, Knees, Shins, etc.</i> )
--	5	Lighting
8	7	Other Safety Equipment
--	8	Not Reported
9	9	Unknown if Used

### The TRAFCON Data Set

The Trafcon data set includes the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, and VEH\_NO. CASENUM, VEH\_NO and MTRAFCON are the case identifiers. CASENUM and VEH\_NO should be used to merge the Trafcon data set with the Vehicle data set. MTRAFCON identifies each traffic control device for motor vehicles (as a separate record).

This data set was discontinued in 2010.

**M\_A16 Traffic Control Device – Vehicles (discontinued)**

**Definition:** Indicates whether or not traffic control devices were present for a motor vehicle and the type of traffic control device.

**Additional Information:** This variable has been coded at the Accident level and included in Accident data set (SAS variable TRAF\_CON) since 1988. Starting in 2002 each traffic control device for a vehicle is in the Trafcon data set and each traffic control device for a cyclist is in the Biketraf data set. Also starting in 2002 a single, selected, traffic control device for a vehicle is available on the Vehicle data set (SAS variable VTRAFCON).

This data set was discontinued in 2010. The variable is still coded on the Vehicle level, and the information is available in the Accident, Vehicle, and Biketraf SAS data sets.

**SAS Name:** **MTRAFCON**

**Attribute Codes****2002-2009**

0 No Controls

**NOT AT RAILROAD GRADE CROSSING***TRAFFICWAY TRAFFIC SIGNALS:*

- 1 Traffic Control Signal (*On Colors*)
- 4 Flashing Traffic Control Signal or Flashing Beacon
- 8 Other Traffic Signal
- 9 Unknown Traffic Signal

*REGULATORY, SCHOOL ZONE SIGNS:*

- 21 Stop Sign
- 22 Yield Sign
- 23 School Zone Related Sign
- 28 Other Sign
- 29 Unknown Sign

*WARNING SIGNS:*

- 40 Advisory Speed Sign
- 41 Warning Sign For Road Conditions (*Hill, Steep Grade, etc.*)
- 42 Warning Sign For Road Construction
- 43 Warning Sign For Environment/Traffic (*Fog Ahead, Wind, Crash Ahead, etc.*)
- 49 Unknown Type Warning

*MISCELLANEOUS, NOT AT RAILROAD CROSSING:*

- 51 Officer, Crossing Guard, Flagman, etc

**AT RAILROAD GRADE CROSSING:**

- 61 Active Devices (*e.g., Gates, Flashing Lights, Traffic Signal*)
- 62 Passive Devices (*e.g., Stop Sign, Cross Bucks*)

**OTHER:**

- 97 Traffic Control Present-No Details
- 98 Other Traffic Control (*Whether Or Not At RR Grade Crossing*)
- 99 Unknown

### The BIKETRAF Data Set

The Biketraf data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, and PER\_NO. CASENUM, PER\_NO and BTRAFCON are the case identifiers. CASENUM and PER\_NO should be used to merge the Biketraf data set with cyclists in the Person data set (PER\_TYPE=6). BTRAFCON identifies each traffic control device for cyclists (as a separate record) and is described below:

**MB\_A16 Traffic Control Device – Cyclist**

**Definition:** Indicates whether or not traffic control devices were present for a cyclist and the types of traffic control device.

**Additional Information:** This variable has been coded at the Accident level and included in the Accident data set (SAS variable TRAF\_CON) since 1988. Starting in 2002 each traffic control device for a vehicle is in the Trafcon data set and each traffic control device for a cyclist is in the Biketraf data set. Also starting in 2002 a single, selected, traffic control device for a vehicle is available on the Vehicle data set (SAS variable VTRAFCON).

**SAS Name:** **BTRAFCON**

**Attribute Codes**

**2002- 2010-  
2009 Later**

0 0 No Controls

**NOT AT RAILROAD GRADE CROSSING***TRAFFICWAY TRAFFIC SIGNALS:*

1	--	Traffic Control Signal ( <i>On Colors</i> )
--	1	Traffic Control Signal ( <i>On Colors</i> ) Without Pedestrian Signal
--	2	Traffic Control ( <i>On Colors</i> ) With Pedestrian Signal
--	3	Traffic Control Signal ( <i>On Colors</i> ) Not Known if Pedestrian Signal
4	--	Flashing Traffic Control Signal or Flashing Beacon
--	4	Flashing Traffic Control Signal
8	8	Other Highway Traffic Signal
9	9	Unknown Highway Traffic Signal

*REGULATORY, SCHOOL ZONE SIGNS:*

21	21	Stop Sign
22	22	Yield Sign
23	23	School Zone Sign/Device
28	28	Other Regulatory Sign
29	29	Unknown Regulatory Sign
--	5	Land Use Control Signal

*WARNING SIGNS:*

40	--	Advisory Speed Sign
41	--	Warning Sign For Road Conditions ( <i>Hill, Steep Grade, etc.</i> )
42	--	Warning Sign For Road Construction
43	--	Warning Sign For Environment/Traffic ( <i>Fog Ahead, Wind, Crash Ahead, etc.</i> )
--	44	Warning Sign
49	--	Unknown Type Warning

*MISCELLANEOUS, NOT AT RAILROAD CROSSING:*

51	--	Officer, Crossing Guard, Flagman, etc
--	51	Person

---

**MB\_A16 Traffic Control Device - Cyclist (continued)**

---

**AT RAILROAD GRADE CROSSING:**

61	--	Active Devices (e.g., Gates, Flashing Lights, Traffic Signal)
62	--	Passive Devices (e.g., Stop Sign, Cross Bucks)
--	63	Railway Crossing Device

**OTHER:**

97	--	Traffic Control Present-No Details
--	97	Not Reported
98	--	Other Traffic Control (Whether or Not At RR Grade Crossing)
--	98	Other
99	99	Unknown

### The PARKED Data Set

The Parked data set includes Vehicle variables applicable to parked vehicles. The data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, and PJ. CASENUM and VEH\_NO are the case identifiers. It also contains:

**PV01 Parked/Working Vehicle Number**

---

**Definition:** An identification number assigned to the parked/working vehicle. A parked vehicle is a motor vehicle which is stopped off the roadway, i.e., parked off the roadway.

**Additional Information:** From 2005 to 2008 working vehicles were defined as transport devices being used as equipment which would be classified under ANSI D16.1-1996 as motor vehicles, if not being used as equipment. In 2009 the definition changed to include only vehicles involved in trafficway maintenance, construction, or utility activities. Also, vehicles performing private maintenance, construction, or utility activities were excluded. Data users are strongly advised to consult the annual NASS GES Coding and Editing Manuals for a detailed discussion. There is one record per parked/working vehicle.

**SAS Name:** **PVEHNO**

**Attribute Codes*****2005-Later***

1-30 Parked/Working Vehicle Number



---

**PV02 Parked/Working Vehicle Type**

---

**Definition:** Indicates the type of parked/working vehicle. A parked vehicle is a motor vehicle which is stopped off the roadway, i.e., parked off the roadway.

**Additional Information:** From 2005 to 2008 working vehicles were defined as transport devices being used as equipment which would be classified under ANSI D16.1-1996 as motor vehicles, if not being used as equipment. In 2009 the definition changed to include only vehicles involved in trafficway maintenance, construction, or utility activities. Also, vehicles performing private maintenance, construction, or utility activities were excluded. For example, a tow truck using its winch for a stalled vehicle would be considered a working vehicle prior to 2009, but not after. Data users are strongly advised to consult the annual NASS GES Coding and Editing Manuals for a detailed discussion.

**SAS Name:** PTYPE

**Attribute Codes*****2005-Later***

- 1 Parked Vehicle
- 2 Working Vehicle

**PV03 Parked/Working Vehicle Make**

---

**Definition:** A numerical code indicating the make of the parked/working vehicle.

**Additional Information:**

**SAS Name:** PMAKE

**Attribute Codes**

*2005-Later*

See *Appendix A: Make/Model Designation* for make and model codes.

**PV04 Parked/Working Vehicle Model**

---

**Definition:** A numerical code indicating the model of the parked/working vehicle.

**Additional Information:**

**SAS Name:** PMODEL

**Attribute Codes**

*2005-Later*

See *Appendix A: Make/Model Designation* for make and model codes.

**PV05 Parked/Working Vehicle Body Type**

**Definition:** The body type of the make of the parked/working vehicle.

**Additional Information:**

**SAS Name:** **PBODYTYP**

**Attribute Codes**

**2005- 2010-  
2009 Later**

**AUTOMOBILES**

1	1	Convertible ( <i>Excludes Sun-Roof, T-Bar</i> )
2	2	2-Door Sedan, Hardtop, Coupe
3	3	3-Door/2-Door Hatchback
4	4	4-Door Sedan, Hardtop
5	5	5-Door/4-Door Hatchback
6	6	Station Wagon ( <i>Excluding Van And Truck Based</i> )
7	7	Hatchback, Number Of Doors Unknown
17	17	3-Door Coupe
8	--	Other Automobile Type
--	8	Sedan/Hardtop, Number of Doors Unknown
9	--	Unknown Automobile Type
--	9	Other or Unknown Automobile Type

**AUTOMOBILE DERIVATIVES**

10	10	Auto Based Pickup ( <i>Includes El Camino, Caballero, Ranchero, SSR, G8-ST, Baha, Brat, And Rabbit Pickup</i> )
11	11	Auto Based Panel ( <i>Cargo Station Wagon, Auto-Based Ambulance/Hearse</i> )
12	12	Large Limousine ( <i>More Than Four Side Doors Or Stretched Chassis</i> )
13	13	Three Wheel Automobile Or Automobile Derivative

**UTILITY VEHICLES**

14	14	Compact Utility ( <i>ANSI D-16 Utility Vehicle Categories "Small" and "Midsize"</i> )
15	15	Large Utility ( <i>ANSI D-16 Utility Vehicle Categories "Full Size" and "Large"</i> )
16	16	Utility Station Wagon
19	19	Utility Vehicle, Unknown Body Type

**VAN-BASED LIGHT TRUCKS (< 4,536 KG GVWR)**

20	20	Minivan
21	21	Large Van – Includes Van-Based Buses
22	22	Step Van Or Walk-In Van ( $\leq 4,536$ Kg GVWR)
23	--	Van-Based Motor-Home
24	--	Van-Based School Bus
25	--	Van-Based Other Bus
28	28	Other Van Type
29	29	Unknown Van Type

**PV05 Parked/Working Vehicle Body Type (continued)****Attribute Codes**

**2005- 2010-  
2009 Later**

*LIGHT CONVENTIONAL TRUCKS (PICKUP STYLE CAB, ≤4,536 KG GVWR)*

30	30	Compact Pickup ( <i>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</i> )
31	31	Standard Pickup ( <i>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</i> )
32	32	Pickup With Slide-In Camper
33	33	Convertible Pickup
39	39	Unknown ( <i>Pickup Style</i> ) Light Conventional Truck

*OTHER LIGHT TRUCKS (≤4,536 KG GVWR)*

40	40	Cab Chassis Based ( <i>Included Rescue Vehicle, Light Stake, Dump, And Tow Truck</i> )
41	41	Truck Based Panel
45	45	Other Light Conventional Truck Type
48	--	Unknown Other Light Truck Type ( <i>Utility, Van, Pickup, Or Other Light Truck</i> )
--	48	Unknown Light Truck Type ( <i>Not A Pickup</i> )
49	49	Unknown Light Vehicle Type ( <i>Automobile, Utility, Van, Or Light Truck</i> )

*BUSES (EXCLUDES VAN BASED)*

50	50	School Bus ( <i>Designed To Carry Students, Not Cross Country Or Transit</i> )
--	51	Cross Country/Intercity Bus ( <i>Motor Coach</i> )
--	52	Transit Bus ( <i>City Bus</i> )
58	58	Other Bus Type ( <i>e.g., Transit, Intercity, Bus Based Motor Home</i> )
59	59	Unknown Bus Type

*MEDIUM/HEAVY TRUCKS (>4,536 KG GVWR)*

60	60	Step Van
--	61	Single-Unit Straight Truck ( <i>10,000 lbs&lt;GVWR&lt; or =19,500 lbs</i> )
--	62	Single-Unit Straight Truck ( <i>19,500 lbs&lt;GVWR&lt; or =26,000 lbs</i> )
--	63	Single-Unit Straight Truck ( <i>GVWR&gt;26,000 lbs</i> )
64	--	Single Unit Straight Truck
66	66	Truck-Tractor ( <i>Cab Only, Or With Any Number Of Trailing Units; Any Weight</i> )
--	67	Medium/Heavy Pickup ( <i>GVWR &gt; 10,000 lbs, Since 2001</i> )
--	68	Single-Unit Straight Truck ( <i>GVWR unknown</i> )
--	71	Unknown if Single-Unit or Combination-Unit Medium Truck ( <i>10,000 lbs &lt; GVWR &lt; 26,000 lbs</i> )
--	72	Unknown if Single-Unit or Combination-Unit Heavy Truck ( <i>GVWR&gt;26,000 lbs</i> )
78	78	Unknown Medium/Heavy Truck Type
79	79	Unknown Truck Type ( <i>Light/Medium/Heavy</i> )

**PV05 Parked/Working Vehicle Body Type (continued)****Attribute Codes**

**2005- 2010-  
2009 Later**

*MOTOR HOMES*

42	42	Light Truck Based Motor Home ( <i>Chassis Mounted</i> )
65	65	Medium/Heavy Truck-Based Motor Home
--	73	Camper or Motor Home, Unknown Truck Type

*MOTORED CYCLES, MOPEDS, ALL-TERRAIN VEHICLES*

80	80	Motorcycle
81	81	Moped ( <i>Motorized Bicycle</i> )
82	82	Three Wheeled Motorcycle Or Moped
--	83	Off-Road Motorcycle ( <i>2-Wheel</i> )
88	88	Other Motored Cycle Type ( <i>Minibike, Motor Scooter, Pocket Motorcycles, Pocket Bikes</i> )
89	89	Unknown Motored Cycle Type
90	90	ATV ( <i>All-Terrain Vehicle; Includes 3 or 4 Wheels</i> )

*OTHER VEHICLES*

91	91	Snowmobile
92	92	Farm Equipment Other Than Trucks
93	93	Construction Equipment Other Than Trucks ( <i>Includes Graders</i> )
97	97	Other Vehicle Type ( <i>Includes Go-Cart, Fork-Lift, City Street Sweeper, Dune/Swamp Buggy, Golf Cart</i> )
--	98	Not Reported
99	99	Unknown Body Type

**PV06 Parked/Working Vehicle Model Year**

---

**Definition:** The model year of the parked/working vehicle.

**Additional Information:**

**SAS Name:** PMODEL`YR`

**Attribute Codes**

<b>2005- 2009</b>	<b>2010- Later</b>	
xxxx	xxxx	4-Digit Model Year
--	7777	Not Reported
9999	9999	Unknown

**PV07 Parked/Working Vehicle Identification Number**

**Definition:** The vehicle identification number 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:** If a character of the VIN is missing or undecipherable, that character is blank. From 1988-2008 the first 11 characters of the VIN are coded; from 2009 onward the first 12 are coded.

**SAS Name:** **PVIN**

**Attribute Codes**

*2005-2008 (character data type, length 11)*

*2009-Later (character data type, length 12)*

<b>2005- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
00000000000	000000000000	000000000000	No VIN
xxxxxxxxxxx	xxxxxxxxxxxxx	xxxxxxxxxxxxx	Actual VIN
--	--	888888888888	Not Reported
99999999999	999999999999	999999999999	Unknown VIN



**PV08 Parked/Working Vehicle Special Use**

**Definition:** Indicates whether the parked/working vehicle has a special use. Special use means "in use" and not necessarily emergency use.

**Additional Information:** All military vehicles are classified as "4" even if they are police, ambulance, or fire trucks. The Remarks and Attribute descriptions changed considerably in the 2009 Coding and Editing Manual. The analyst should compare the 2008 and 2009 NASS GES Coding and Editing Manuals for more detailed information.

**SAS Name:** **PSP\_USE**

**Attribute Codes**

<b>2005- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
0	0	0	No Special Use
1	1	1	Taxi
2	2	2	Vehicle Used as School Bus
3	3	3	Vehicle Used as Other Bus
4	4	4	Military
5	5	5	Police
6	6	6	Ambulance
7	--	7	Fire truck
--	7	--	Fire Truck and Car
8	--	--	Other ( <i>Farm or Construction Equip., etc.</i> )
--	--	8	Emergency Services Vehicle
--	10	--	Hearse
--	11	--	Farm Equipment
--	12	--	Construction Equipment
--	--	77	Not Reported
9	99	99	Unknown

---

**PV09 Parked/Working Vehicle Emergency Use**

---

**Definition:** Indicates whether a Special Use (PV08) parked/working vehicle is on an emergency run.

**Additional Information:** From 1988-2008 this includes military, police, ambulance, and fire vehicles. In 2009 it also includes emergency services vehicles. Value "0" is coded if the vehicle was not on an emergency run or it was not one of the applicable vehicles.

**SAS Name:** **PEM\_USE**

**Attribute Codes**

<b>2005- 2009</b>	<b>2010- Later</b>	
0	--	No Emergency Use or Not an Applicable Vehicle
--	0	No
1	1	Yes
--	7	Not Reported
9	9	Unknown

**PV10 Parked/Working Vehicle Number of Occupants Coded**

---

**Definition:** The number of occupants coded for this parked/working vehicle.

**Additional Information:** The number of persons coded and the number persons involved are not always the same because, for example, some PARs have information only for injured occupants.

**SAS Name:** **POCCINVL**

**Attribute Codes****2005-Later**

x Number of Occupants Coded

**PV10B Number of Occupants**

---

**Definition:** The number of occupants of this parked/working vehicle.

**Additional Information:**

**SAS Name:** **PNUMOCCS**

**Attribute Codes**

<b>2005- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
0-998	0-95	0-95	Number of Occupants Involved
--	96	96	Ninety-six or More
--	--	97	Not Reported
999	99	99	Unknown

---

**PV13 Parked/Working Vehicle Trailing**

---

**Definition:** Indicates if the parked/working vehicle was pulling a trailing unit. A trailer unit can be a horse trailer, fifth wheel trailer, camper, boat, truck trailer, towed vehicle or any other trailer.

**Additional Information:** Prior to 2009 if linkage was non-fixed each unit was considered a separate vehicle, i.e. PTRAILER=no.

**SAS Name:** **PTRAILER**

**Attribute Codes**

<b>2005- 2008</b>	<b>2009- Later</b>	
1	0	No Trailing Units
2	1	Yes, One Trailing Unit
3	2	Yes, Two Trailing Units
4	3	Yes, Three or More Trailing Units
5	4	Yes, Number of Trailing Units Unknown
--	5	Vehicle Towing Another Motor Vehicle – Fixed Linkage
--	6	Vehicle Towing Another Motor Vehicle – Non-fixed Linkage
6	9	Unknown

**PV16 Parked/Working Vehicle Fire Occurrence**

---

**Definition:** Indicates whether or not a parked/working vehicle sustained fire damage.

**SAS Name:** **PFIRE**

**Attribute Codes****2005-2008**

- 0 No Fire Noted on PAR
- 1 Fire Occurred in Parked/Working Vehicle

**2009-Later**

- 0 No or Not Reported
- 1 Yes

---

**PV18 Parked/Working Vehicle Damage Severity**

---

**Definition:** Reports the severity of the parked/working vehicle damage.

**Additional Information:**

**SAS Name:** PVEH\_SEV

**Attribute Codes**

**2005-  
2008**

0	None
1	Minor ( <i>And Not Towed Due To Damage</i> )
2	Moderate
3	Severe
9	Unknown

**2009**      **2010-  
Later**

0	0	No Damage
2	2	Minor Damage
4	4	Functional Damage
6	6	Disabling Damage
--	7	Not Reported
9	9	Unknown

---

**PV19 Parked/Working Vehicle Removal**

---

**Definition:** Indicates the disposition of the vehicle at the crash scene.

**Additional Information:** Prior to 2009 only the power unit of an articulated combination was considered, i.e. if only the trailing unit was towed then PTOWED=Driven. Starting in 2009 the disposal status of the trailing unit is also considered.

**SAS Name:** **PTOWED**

**Attribute Codes**

<b>2005- 2009</b>	<b>2010- Later</b>	
1	1	Driven Away
2	2	Towed Due to Disabling Damage
3	3	Towed Not Due to Disabling Damage
4	4	Abandoned/Left at Scene
--	7	Not Reported
9	9	Unknown

---

**PV24 Parked/Working Vehicle Initial Point of Impact**

---

**Definition:** The first impact point for the parked/working vehicle that produced property damage or personal injury.

**Additional Information:**

**SAS Name:** **PIMPACT** 2005-2009  
**PIMPACT1** 2010-Later

**Attribute Codes****2005-2009**

- 1 Front
- 2 Right Side
- 3 Left Side
- 4 Back
- 5 Top
- 6 Undercarriage
- 11 Front Right Corner
- 12 Front Left Corner
- 13 Back Right Corner
- 14 Back Left Corner
- 99 Initial Point of Impact Unknown

**2010-Later**

- 21-32 Clock Points
- 33 Top
- 34 Undercarriage
- 61 Left
- 62 Left-Front Half
- 63 Left-Back Half
- 81 Right
- 82 Right-Front Half
- 83 Right-Back Half
- 96 Not a Parked/Working Motor Vehicle
- 97 Not Reported
- 99 Unknown



**PV30 Parked/Working Vehicle Rollover**

---

**Definition:** Indicates if a rollover occurred (tripped or untripped) for the parked/working vehicle. 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:**

**SAS Name:** **PROLLOVR**

**Attribute Codes**

<b>2005- 2008</b>	<b>2009- Later</b>	
0	0	No Rollover
--	1	Rollover, Tripped By Object/Vehicle
20	--	Tripped Rollover-By Curb
21	--	Tripped Rollover-By Guardrail
22	--	Tripped Rollover-By Ditch
23	--	Tripped Rollover-By Soft Soil
28	--	Tripped Rollover-Other
29	--	Tripped Rollover-Unknown Mechanism
10	2	Rollover, Untripped
99	9	Rollover, Unknown Type

**PV30A Parked/Working Vehicle Location of Rollover**

---

**Definition:** Identifies the location of the start, or trip point, of the vehicle's roll.

**Additional Information:**

**SAS Name:** **PROLINLOC**

**Attribute Codes**

<b>2009-Later</b>	
0	No Rollover
1	On Roadway
2	On Shoulder
3	On Median/Separator
4	In Gore
5	On Roadside
6	Outside of Trafficway
9	Unknown

**PV31 Carrier's Identification Number**

**Definition:** The parked/working vehicle's Carrier's ID is the unique number assigned to the Carrier by the United States Department of Commerce Commission, or the State. This number will be found only on vehicles of interstate for-hire or private carriers in the transportation business. The number can be either a US DOT number (on interstate private carriers) or an ICC MC number (interstate for-hire carriers). Collected for PBODYTYP (PV5) 50-64, 66-79 only.

**Additional Information:**

**SAS Name:** PCARIDNO

**Attribute Codes**

<b>2005- 2009</b>	<b>2010- Later</b>	
000000000	000000000	Not Applicable
xxxxxxxxx	1-999999996	U.S. DOT Number
--	999999997	Not Reported
999999999	999999999	Unknown

**PV32 Parked/Working Number of Axles, Including Trailers (discontinued)**

---

**Definition:** Coded for parked/working buses and trucks over 4,500 kg GVWR Collected for PBODYTYP (V5) 50-64, 66-79 only.)

**Additional Information:** This variable was deleted in 2009.

**SAS Name:** PAXLES

**Attribute Codes****2005-2008**

0	Not Applicable
2-20	Number of Axles
99	Unknown

**PV33 Parked/Working Vehicle Cargo Body Type**

**Definition:** This element identifies the primary cargo carrying capability of this parked/working vehicle when applicable.

**Additional Information:** From 1992 to 2008 specific cargo body type was coded only for buses and trucks over 4,500 kg GVWR (PBODYTYP (PV5)= 60, 64, 66-79). All other vehicles were coded "Not applicable." Starting in 2009 passenger vehicles and light trucks that display a hazardous cargo placard are coded "No Cargo Body Type," 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. Before 2009 "Unknown" was coded for both unknown cargo body type and unknown vehicle type. Starting in 2009 "Unknown" is coded only for unknown vehicle type. See the annual Coding and Editing Manuals for more information.

**SAS Name:** PCARGTYP

**Attribute Codes**

<b>2005- 2008</b>	<b>2009</b>	<b>2010- Later</b>	
0	0	0	Not Applicable
1	22	1	Bus
2	1	2	Van/Enclosed Box
3	2	3	Cargo Tank
4	3	4	Flatbed
5	4	5	Dump
6	5	6	Concrete Mixer
7	6	7	Auto Transporter
8	7	8	Garbage/Refuse
--	8	9	Grain/Chips/Gravel
--	9	10	Pole-Trailer
--	10	11	Log
--	11	12	Intermodal Container Chassis
--	12	22	Vehicle Towing Another Vehicle
--	--	28	Not Reported
--	96	96	No Cargo Body
98	97	97	Other
--	98	98	Unknown Cargo Body Type
99	99	99	Unknown

**PV33A Parked/Working Vehicle Hazardous Materials Involvement**

---

**Definition:** Indicates whether the vehicle was carrying hazardous materials.

**Additional Information:**

**SAS Name:** PHAZ\_INV

**Attribute Codes**

*2009-Later*

- 1 No
- 2 Yes

---

**PV34 Parked/Working Vehicle Hazardous Materials Placard**

---

**Definition:** Indicates the presence of hazardous materials and whether the vehicle displayed a hazardous materials placard.

**Additional Information:** Prior to 2009 Yes and No were coded only for buses and trucks over 4,500 kg GVWR (PBODYTYP (PV5)= 60, 64, 66-79). Starting in 2009 body type was not a factor in coding this variable. See the annual Coding and Editing Manuals for more information. From 2005-2008 the variable name was "Parked/Working Vehicle Hazardous Materials Placarded."

**SAS Name:** **PHAZ\_MAT** 2005-2008  
**PHAZPLAC** 2009-Later

**Attribute Codes**

<b>2005- 2008</b>	<b>2009- Later</b>	
0	0	Not Applicable
2	1	No
1	2	Yes
--	8	Not Reported
9	--	Unknown

**PV35 Parked/Working Vehicle 4-Digit Hazardous Material Identification Number**

---

**Definition:**

**Additional Information:** Prior to 2009 placard numbers were coded only for buses and trucks over 4,500 kg GVWR (PBODYTYP (PV5)= 60, 64, 66-79). Other vehicles were coded "Not Applicable," or "Unknown" if body type was unknown. Starting in 2009 body type was not a factor in coding this variable. From 2005-2008 the variable name was "Parked/Working Vehicle Hazardous Materials Placard Number." See the annual Coding and Editing Manuals for more information.

**SAS Name:** **PHAZM\_NO** *2005-2008*  
**PHAZ\_ID** *2009-Later*

**Attribute Codes**

<i>2005- 2008</i>	<i>2009- Later</i>	
0	0	Not Applicable
xxxx	xxxx	Actual 4-Digit Number
--	8888	Not Reported
9999	--	Unknown

---

**PV35A Parked/Working Vehicle 1-Digit Hazardous Material Class Number**

---

**Definition:** Indicates the single digit hazardous material class number for the vehicle.

**Additional Information:** This variable was added in 2009 and is coded for all vehicles.

**SAS Name:** PHAZ\_CNO

**Attribute Codes*****2009-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



### PV36 Parked/Working Vehicle Release of Hazardous Material from the Cargo Compartment

---

**Definition:** Indicates whether or not any hazardous cargo was released from the parked/working vehicle cargo tank or compartment.

**Additional Information:** Prior to 2009 Yes and No were coded only for buses and trucks over 4,500 kg GVWR (PBODYTYP (PV5)= 60, 64, 66-79 only). Other vehicles were coded Not Applicable, or Unknown if body type was unknown. Starting in 2009 body type is not a factor in coding this variable. Prior to 2009 the variable name was "*Parked/Working Vehicle Hazardous Materials Release.*"

**SAS Name:** PHAZMA\_R 2005-2008  
 PHAZ\_REL 2009-Later

#### Attribute Codes

2005- 2008	2009- Later	
0	0	Not Applicable
2	1	No
1	2	Yes
--	8	Not Reported
9	--	Unknown

---

**PV37 Parked/Working Vehicle Location**

---

**Definition:** This element identifies the attribute which best describes the location of the parked/working vehicle.

**Additional Information:**

**SAS Name:** PREL\_RWY

**Attribute Codes**

<i>2005- 2009</i>	<i>2010- Later</i>	
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
8	8	Gore
9	9	Continuous Left Turn Lane
10	10	Separator
--	97	Not Reported
99	99	Unknown

---

**PV38 Parked/Working Vehicle Area of Impact- Most Damaged**

---

**Definition:** This element identifies the area on the parked/working vehicle that was most damaged during an event it underwent in the crash.

**Additional Information:** The striking vehicle, not the vehicle struck, determines the underride/override condition. After the crash, in the case of an override or underride one vehicle is over the other. If the striking vehicle is over the other, then the crash is an override. If the striking vehicle is under the other, the crash is an underride.

**SAS Name:** **PIMPACT2**

**Attribute Codes****2010-Later**

21-32	Clock Points
33	Top
34	Undercarriage
61	Left
62	Left-Front Half
63	Left-Back Half
81	Right
82	Right-Front Half
83	Right-Back Half
97	Not Reported
99	Unknown

---

**PV40 Parked/Working Vehicle Configuration**

---

**Definition:** This element identifies the general configuration of this parked/working vehicle when applicable.

**Additional Information:**

**SAS Name:** PV\_CONFIG

**Attribute Codes**

**2010-  
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, i.e., Tractor Only, No Trailer)
- 6 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)
- 97 Not Reported
- 99 Unknown

### The PARKEVNT Data Set

The Parkevnt data set contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, and PJ. It also contains the variables listed below. CASENUM is used to merge with crashes in the Accident data set. To merge with the Event data set, use CASENUM and EVENTNUM. To merge with the Person data set, use CASENUM and PVEHNO.

**PE01 Parked/Working Vehicle Number**

---

**Definition:** The identification number assigned to the parked/working vehicle.

**Additional Information:**

**SAS Name:** PVEHNO

**Attribute Codes**

*2005-Later*

1-30 Parked/Working Vehicle Number

**PE02 Parked/Working Vehicle Event Number**

---

**Definition:** The number of the event that the parked/working vehicle was involved in.

**Additional Information:** The Event and Parkevnt data sets can be merged by CASENUM and EVENTNUM to get a listing of all events in which parked/working vehicles were involved. This listing can identify the specific vehicles involved (in-transport and parked/working) along with the general area of damage for both types of vehicle.

**SAS Name:** **EVENTNUM**

**Attribute Codes*****2005-Later***

- x Event Number that the parked/working vehicle was involved in

---

**PE03 Parked/Working Vehicle Point of Impact**

---

**Definition:** Indicates the impact point that produced property damage or personal injury for the parked/working vehicle involved in the event.

**Additional Information:**

**SAS Name:** PGAD

**Attribute Codes**

**2005-2009**

- 1 Front
- 2 Right Side
- 3 Left Side
- 4 Back
- 5 Top
- 6 Undercarriage
- 11 Front Right Corner
- 12 Front Left Corner
- 13 Back Right Corner
- 14 Back Left Corner
- 99 Point of Impact Unknown

**2010-Later**

- 21-32 Clock Points
- 33 Top
- 34 Undercarriage
- 61 Left
- 62 Left-Front Half
- 63 Left-Back Half
- 81 Right
- 82 Right-Front Half
- 83 Right-Back Half
- 97 Not Reported
- 99 Unknown



### The PBTYP E Data Set

The Pdtype data set describes, through a series of on-screen prompts, the sequence of events and precipitating actions leading to crashes between motor vehicles and pedestrians or bicyclists. It contains the variables CASENUM, PSU, STRATUM, REGION, WEIGHT, PJ, VEH\_NO and PER\_NO. CASENUM, VEH\_NO and PER\_NO are the case identifiers. The data set also contains:

**PB27/PB27B**      **Marked Crosswalk Present – Pedestrian/Bicyclist**

---

**Definition:** This element indicates if a marked crosswalk was present at the crash site.

**Additional Information:**

**SAS Name:** PBCWALK

**Attribute Codes***2010-Later*

- 0 No
- 1 Yes
- 9 Unknown

**PB28/PB28B**      **Side Walk Present – Pedestrian/Bicyclist**

---

**Definition:** This element indicates if a sidewalk was present at the crash site.

**Additional Information:**

**SAS Name:** **PBSWALK**

**Attribute Codes**

*2010-Later*

- 0 No
- 1 Yes
- 9 Unknown

**PB29/PB29B**      **School Zone – Pedestrian/Bicyclist**

---

**Definition:** This element indicates if the crash occurred in a school zone.

**Additional Information:**

**SAS Name:** **PBSZONE**

**Attribute Codes**

*2010-Later*

- 0 No
- 1 Yes
- 9 Unknown

---

**PB30 Crash Type – Pedestrian**

---

**Definition:** This element summarizes the circumstances of the crash for this pedestrian.

**Additional Information:**

**SAS Name:** **PEDCTYPE**

**Attribute Codes**

***2010-Later***

0	Not a Pedestrian
110	Assault with Vehicle
120	Dispute-Related
130	Pedestrian on Vehicle
140	Vehicle-Vehicle/Object
150	Motor Vehicle Loss of Control
160	Pedestrian Loss of Control
190	Other Unusual Circumstances
211	Backing Vehicle - Driveway
212	Backing Vehicle - Driveway/Sidewalk Intersection
213	Backing Vehicle - Roadway
214	Backing Vehicle - Parking Lot
219	Backing Vehicle - Other/Unknown
220	Driverless Vehicle
230	Disabled Vehicle-Related
240	Emergency Vehicle-Related
250	Play Vehicle-Related
311	Working in Roadway
312	Playing in Roadway
313	Lying in Roadway
320	Entering/Exiting Parked Vehicle
330	Mailbox-Related
341	Commercial Bus-Related
342	School Bus-Related
360	Ice Cream/Vendor Truck-Related
410	Walking Along Roadway With Traffic - From Behind
420	Walking Along Roadway With Traffic - From Front
430	Walking Along Roadway Against Traffic - From Behind
440	Walking Along Roadway Against Traffic - From Front
459	Walking Along Roadway - Direction/Position Unknown
460	Motorist Entering Driveway or Alley
465	Motorist Exiting Driveway or Alley
469	Driveway Crossing - Other/Unknown
510	Waiting to Cross - Vehicle Turning
520	Waiting to Cross - Vehicle Not Turning
590	Waiting to Cross - Vehicle Action Unknown

---

**PB30 Crash Type – Pedestrian (continued)**

---

**Attribute Codes****2010-Later**

610	Standing in Roadway
620	Walking in Roadway
680	Non-Intersection - Other/Unknown
690	Intersection - Other/Unknown
710	Multiple Threat
730	Trapped
741	Dash
742	Dart-Out
760	Pedestrian Failed to Yield
770	Motorist Failed to Yield
781	Motorist Left Turn - Parallel Paths
782	Motorist Left Turn - Perpendicular Paths
791	Motorist Right Turn - Parallel Paths
792	Motorist Right Turn on Red - Parallel Paths
794	Motorist Right Turn on Red - Perpendicular Paths
795	Motorist Right Turn - Perpendicular Paths
799	Motorist Turn/Merge - Other/Unknown
830	Off Roadway - Parking Lot
890	Off Roadway - Other/Unknown
900	Other - Unknown Location
910	Crossing an Expressway

**PB30B Crash Type – Bicyclist**

---

**Definition:** This element summarizes the circumstances of the crash for this bicyclist.

**Additional Information:**

**SAS Name:** BIKECTYPE

**Attribute Codes****2010-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

---

**PB30B Crash Type – Bicyclist (continued)**

---

**Attribute Codes****2010-Later**

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 Right Turn on Red - 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	Head-on - Bicyclist
255	Head-on - Motorist
259	Head-on - Unknown
280	Parallel Paths - Other/Unknown
311	Bicyclist Ride-out - Residential Driveway
312	Bicyclist Ride-out - Commercial Driveway/Alley
318	Bicyclist Ride-out - Other Midblock
319	Bicyclist Ride-out - Unknown
321	Motorist Drive-out - Residential Driveway
322	Motorist Drive-out - Commercial Driveway/Alley
328	Motorist Drive-out - Other Midblock
329	Motorist Drive-out - Midblock - Unknown
357	Multiple Threat - Midblock
380	Crossing Paths - Midblock - Other/Unknown
400	Bicycle Only
510	Motorist Intentionally Caused
520	Bicyclist Intentionally Caused
600	Backing Vehicle
700	Play Vehicle-Related
800	Unusual Circumstances
910	Non-Roadway
970	Unknown Approach Paths
980	Unknown Location



**PB31 Crash Type Location – Pedestrian**

---

**Definition:** This element identifies the crash location of the pedestrian with respect to an intersection.

**Additional Information:** This element indicates where the pedestrian crash occurred.

**SAS Name:** **PEDLOC**

**Attribute Codes*****2010-Later***

- 1 Intersection
- 2 Intersection-Related
- 3 Non-Intersection
- 4 Non-Roadway
- 7 Not a Pedestrian
- 9 Unknown/Insufficient Information

**PB31B** Crash Type Location – Bicyclist

---

**Definition:** This element identifies the crash location of the bicyclist with respect to an intersection.

**Additional Information:** This element indicates where the bicyclist crash occurred.

**SAS Name:** BIKELOC

**Attribute Codes***2010-Later*

- 1 Intersection
- 2 Intersection-Related
- 3 Non-Intersection
- 4 Non-Roadway
- 7 Not a Cyclist
- 9 Unknown/Insufficient Information

---

**PB32 Pedestrian Position**

---

**Definition:** This element identifies the position/location of the pedestrian with respect to the trafficway when contacted.

**Additional Information:**

**SAS Name:** PEDPOS

**Attribute Codes**

*2010-Later*

*INTERSECTION OR INTERSECTION RELATED*

- 1 Intersection Proper
- 2 Crosswalk Area
- 3 Travel Lane
- 4 Paved Shoulder/Bike Lane/Parking Lane
- 5 Sidewalk/Shared Use Path/Driveway Crossing
- 6 Unpaved Right-of-Way
- 7 Driveway/alley
- 8 Non-Roadway-Parking Lot/Other
- 9 Other/Unknown
- 77 Not a Pedestrian

**PB32B    Bicyclist Position**

---

**Definition:** This element identifies the position/location of the bicyclist with respect to the trafficway when contacted.

**Additional Information:**

**SAS Name:** **BIKEPOS**

**Attribute Codes*****2010-Later***

- 1    Travel Lane
- 2    Bike Lane/Paved Shoulder
- 3    Sidewalk/Crosswalk/Driveway Crossing
- 4    Multi-Use Path
- 5    Driveway/Alley
- 6    Non-Roadway
- 7    Not a Cyclist
- 8    Other
- 9    Unknown

**PB33 Pedestrian Initial Direction**

---

**Definition:** This element identifies the compass direction of travel of the pedestrian prior to being contacted in the crash.

**Additional Information:** This element indicates the initial travel direction of the pedestrian.

**SAS Name:** **PEDDIR**

**Attribute Codes*****2010-Later***

- 1 North
- 2 East
- 3 South
- 4 West
- 7 Not a Pedestrian
- 8 Not Applicable/Unknown

**PB33B    Bicyclist Direction**

---

**Definition:** This element identifies the travel direction of the bicyclist with respect to the flow of traffic prior to being contacted in the crash.

**Additional Information:** This element indicates the initial travel direction of the bicyclist.

**SAS Name:** **BIKEDIR**

**Attribute Codes*****2010-Later***

- 1    With Traffic
- 2    Facing Traffic
- 3    Not Applicable
- 7    Not a Cyclist
- 9    Unknown

**PB34 Motorist Initial Direction**

---

**Definition:** This element identifies the compass direction of travel of the motorist prior to being involved in the crash.

**Additional Information:** This element indicates the initial travel direction of the motorist involved in a pedestrian crash.

**SAS Name:** **MOTDIR**

**Attribute Codes*****2010-Later***

- 1 North
- 2 East
- 3 South
- 4 West
- 7 Not a Pedestrian
- 8 Not Applicable
- 9 Unknown

**PB35 Motorist Maneuver**

---

**Definition:** This element identifies if the motorist was engaged in a turning maneuver at an intersection prior to being involved in a pedestrian/bicyclist crash.

**Additional Information:** The element indicates the maneuver being made by the motorist at the time of a pedestrian collision.

**SAS Name:** **MOTMAN**

**Attribute Codes*****2010-Later***

- 1 Left Turn
- 2 Right Turn
- 3 Straight Through
- 7 Not a Pedestrian
- 8 Not Applicable
- 9 Unknown



**PB36 Intersection Leg**

---

**Definition:** This element identifies on which leg of an intersection the crash occurred.

**Additional Information:** The element identifies the leg of the intersection where the pedestrian crash occurred.

**SAS Name:** **PEDLEG**

**Attribute Codes*****2010-Later***

- 1 Near
- 2 Far
- 7 Not a Pedestrian
- 8 Not Applicable
- 9 Unknown

---

**PB37 Pedestrian Scenario**

---

**Definition:** This element summarizes the movements of the pedestrian and motorist in an intersection area.

**Additional Information:** This element identifies the location and travel directions of the motorist and pedestrian for those crashes that occur at intersections.

**SAS Name:** **PEDSNR**

**Attribute Codes***2010-Later***MOTORIST TRAVELING STRAIGHT THROUGH – CRASH OCCURRED ON NEAR (APPROACH) SIDE OF INTERSECTION**

- 1a Pedestrian Within Crosswalk Area, Traveled From Motorist's Left.
- 1b Pedestrian Within Crosswalk Area, Traveled From Motorist's Right.
- 1c Pedestrian Within Crosswalk Area, Approach Direction Unknown.
- 2a Pedestrian Outside Crosswalk Area, Traveled From Motorist's Left.
- 2b Pedestrian Outside Crosswalk Area, Traveled From Motorist's Right.
- 2c Pedestrian Outside Crosswalk Area, Approach Direction Unknown.

**MOTORIST TRAVELING STRAIGHT THROUGH – CRASH OCCURRED ON FAR SIDE OF INTERSECTION**

- 3a Pedestrian Within Crosswalk Area, Traveled From Motorist's Left.
- 3b Pedestrian Within Crosswalk Area, Traveled From Motorist's Right.
- 3c Pedestrian Within Crosswalk Area, Approach Direction Unknown.
- 4a Pedestrian Outside Crosswalk Area, Traveled From Motorist's Left.
- 4b Pedestrian Outside Crosswalk Area, Traveled From Motorist's Right.
- 4c Pedestrian Outside Crosswalk Area, Approach Direction Unknown.

**MOTORIST TURNING RIGHT - CRASH OCCURRED ON NEAR (APPROACH) SIDE OF INTERSECTION**

- 5a Pedestrian Within Crosswalk Area, Traveled From Motorist's Left.
- 5b Pedestrian Within Crosswalk Area, Traveled From Motorist's Right.
- 5c Pedestrian Within Crosswalk Area, Approach Direction Unknown.
- 6a Pedestrian Outside Crosswalk Area, Traveled From Motorist's Left.
- 6b Pedestrian Outside Crosswalk Area, Traveled From Motorist's Right.
- 6c Pedestrian Outside Crosswalk Area, Approach Direction Unknown.

**MOTORIST TURNING RIGHT - CRASH OCCURRED ON FAR SIDE OF INTERSECTION**

- 7a Pedestrian Within Crosswalk Area, Approach Direction Same as Motorist's.
- 7b Pedestrian Within Crosswalk Area, Approach Direction Opposite Motorist's.
- 7c Pedestrian Within Crosswalk Area, Approach Direction Unknown.
- 8a Pedestrian Outside Crosswalk Area, Approach Direction Same as Motorist's.
- 8b Pedestrian Outside Crosswalk Area, Approach Direction Opposite Motorist's.
- 8c Pedestrian Outside Crosswalk Area, Approach Direction Unknown.

---

**PB37 Pedestrian Scenario (continued)**

---

**Attribute Codes****2010-Later****MOTORIST TURNING LEFT - CRASH OCCURRED ON NEAR (APPROACH) SIDE OF INTERSECTION**

- 9a Pedestrian Within Crosswalk Area, Traveled From Motorist's Left.
- 9b Pedestrian Within Crosswalk Area, Traveled From Motorist's Right.
- 9c Pedestrian Within Crosswalk Area, Approach Direction Unknown.
- 10a Pedestrian Outside Crosswalk Area, Traveled From Motorist's Left.
- 10b Pedestrian Outside Crosswalk Area, Traveled From Motorist's Right.
- 10c Pedestrian Outside Crosswalk Area, Approach Direction Unknown.

**MOTORIST TURNING LEFT - CRASH OCCURRED ON FAR SIDE OF INTERSECTION**

- 11a Pedestrian Within Crosswalk Area, Approach Direction Same as Motorist's.
- 11b Pedestrian Within Crosswalk Area, Approach Direction Opposite Motorist's.
- 11c Pedestrian Within Crosswalk Area, Approach Direction Unknown.
- 12a Pedestrian Outside Crosswalk Area, Approach Direction Same as Motorist's.
- 12b Pedestrian Outside Crosswalk Area, Approach Direction Opposite Motorist's.
- 12c Pedestrian Outside Crosswalk Area, Approach Direction Unknown.
- 7 Not a Pedestrian
- 8 Not Applicable

---

**PB38 Pedestrian – Crash Group**

---

**Definition:** This element provides general groupings of the more specific individual Pedestrian Crash Types.

**Additional Information:** The Pedestrian Crash Types (PB30) are divided into 16 homogeneous crash groups [pages 96-98 of the PBCAT manual]. Suggested countermeasures are available for 12 of these groups [[www.walkinginfo.org/pedsafe](http://www.walkinginfo.org/pedsafe), pages 75-76 of the PBCAT manual].

**SAS Name:** **PEDCGP**

**Attribute Codes****2010-Later**

0	Not a Pedestrian
100	Unusual Circumstances
200	Backing Vehicle
310	Working or Playing in Roadway
340	Bus-Related
350	Unique Midblock
400	Walking Along Roadway
460	Crossing Driveway or Alley
500	Waiting to Cross
600	Pedestrian in Roadway - Circumstances Unknown
720	Multiple Threat/Trapped
740	Dash/Dart-Out
750	Crossing Roadway - Vehicle Not Turning
790	Crossing Roadway - Vehicle Turning
800	Off Roadway
910	Crossing Expressway
990	Other/Unknown - Insufficient Details

---

**PB38B Bicycle – Crash Group**

---

**Definition:** This element provides general groupings of the more specific individual Bicyclist Crash Types.

**Additional Information:** The Bicycle Crash Types (PB30B) are divided into 21 homogeneous crash groups [pages 96-98 of the PBCAT manual]. Suggested countermeasures are available for 13 of these groups [[www.bicyclinginfo.org/bikesafe](http://www.bicyclinginfo.org/bikesafe), pages 75-76 of the PBCAT manual].

**SAS Name:** **BIKECGP**

**Attribute Codes****2010-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	Head-On
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-Roadway
990	Other/Unknown - Insufficient Details

**Appendices**

*Appendix A: Vehicle Make/Model Designation*

*Appendix B: V23 Accident Type Diagram*

*Appendix C: Summary Statistics*

*Appendix D: Statistical Methods*

*Appendix E: Analytical Data Classification of Select NASS GES Variable*

*Appendix F: Rules for Derived Variables*

**Appendix A:  
Vehicle Make/Model Designation**

**01 AMERICAN MOTORS**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
001	Rambler/American	Rogue, Scrambler, 220, 440,	all
002	Rebel/Matador	Barcelona Classic Brougham, 550, 660, 770, Matador (-78), Marlin	all
003	Ambassador	Brougham, DPL, SST, DL, Limited, 880, 990	all
004	Pacer	Limited, DL	75-80
005	AMX	(2 seater only)	68-70
006	Javelin	SST, AMX (71-74)	all
007	Hornet/Concord	Sportabout, Limited, DL, SC-360, SST, AMX (75-78)	all
008	Spirit/Gremlin	Limited, DL, Custom, X, GT (83-on), AMX (79-on)	all
009	Eagle	Concord based	80-87
010	Eagle SX-4	Spirit Gremlin based	81-84
398	Other automobile		-
399	Unknown automobile		-
998	Other vehicle		-
999	Unknown vehicle		-

Note: Alliance, Encore, Premier- See Renault - Code "46"

02 JEEP (Includes KAISER-JEEP)

CODE	MODEL	INCLUDES	YEAR
001	Compass		-
398	Other automobile		-
399	Unknown automobile		-
401	CJ-2/CJ-3/CJ-4	Military	-66
402	CJ-5/CJ-6/CH-7/ CH-8	Scrambler, Golden Eagle, Renegade, Laredo, Wrangler	67-on
403	YJ-series	Wrangler	86-on
404	Cherokee (84-on)	Limited, Laredo, Pioneer, Briarwood, Grand	84-on
405	Liberty		2002
406	Commander		-
407	Patriot		-
421	Cherokee (-83)	Wide Track, Chief, Commando, Jeepster	all
431	Grand Wagoneer	Custom, Brougham Limited, Wagoneer	71-91
481	Pickup	J-10, J-20, Honcho	all
482	Comanche	Chief	86-92
498	Other light truck		-
499	Unknown light truck		-
998	Other vehicle		-
999	Unknown vehicle		-



**03 AM GENERAL**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
401	Dispatcher	Post Office (Jeep)	all
402	Hummer H3		-
421	Hummer		93-on
466	Dispatcher	DJ-series-Post Office Van	all
498	Other light truck		-
499	Unknown light truck		-
884	Medium/Heavy truck	Military off-road	-
898	Other medium-heavy truck		-
899	Unknown medium/heavy truck		-
950	Bus based Motorhome		-
983	Bus flat front (rear engine) Transit		-
988	Other bus		-
989	Unknown bus		-
998	Other vehicle		-
999	Unknown vehicle		-

**06 CHRYSLER**

CODE	MODEL	INCLUDES	YEAR
009	Cordoba	Crown, 300, LS	75-83
010	New Yorker/Newport/ Fifth Avenue/Imperial	Custom, Royal, Brougham, Town and Country, 300 (-71) (excludes all FWD)	all
013	Rampage 2.2 (Car Based Pickup)	GT, Sport	-
014	New Yorker/E Class/ Imperial (90-93)/Fifth Avenue	FWD vehicles, Turbo	83-on
015	Laser	Turbo, XE, XT	84-86
016	LeBaron	Medallion, Salon(RWD), Landau, LX, FWD except GTS or GTC Sport Coupe	77-on
017	LeBaron GTS/GTC	GTS-Turbo GTC-Sport Coupe	85-on 87-on
018	Intrepid (Canadian made)		-
019	Neon (export)		-
031	TC (Maserati Sport)	Turbo Convertible	88-91
035	Conquest	TSi, Turbo	87-89
041	Concorde		93-on
042	LHS	New Yorker (94-on)	94-on
043	Sebring		95-on
044	Cirrus		95-on
051	300M		-
052	PT Cruiser		2001-on
053	Prowler		-
054	Pacifica		-
055	Crossfire		-
398	Other automobile		-
399	Unknown automobile		-
421	Aspen		-
441	Town and Country	Minivan	90-on
442	Voyager		2002
498	Other light truck		-
499	Unknown light truck		-
998	Other vehicle		-
999	Unknown vehicle		-

07 DODGE

CODE	MODEL	INCLUDES	YEAR
001	Dart	Custom, Swinger, Sport, GT, Demon, Special, Special Edition, 170,270,340,360	62-76
002	Coronet/Charger(-78)/ Magnum	Brougham, Custom, Superbee, Crestwood, Deluxe, XE, R/T, SE, 440, 500, Police	-79
003	Polara/Monaco Royal Monaco	Custom, Special, Crestwood, Brougham, Police, Taxi	-78
004	Viper	RT/10, GTS	92-on
005	Challenger	R/T, T/A, Rallye	70-74
006	Aspen	Custom, Special Edition, Police, R/T, Sport	76-80
007	Diplomat	Medallion, Salon, S	77-89
008	Omni/Charger (83 on)	024, DeTomaso Miser, GLH, GLHS, Shelby, Charger 2.2, America, Expo	78-90
009	Mirada		80-83
010	St. Regis	Police, Taxi	79-81
011	Aries (K)	Custom, SE, LE	81-89
012	400	LS	82-83
013	Rampage (car based pickup)	2.2, GT, Sport	82-84
014	600	ES, Turbo	83-88
015	Daytona	Turbo Z, Shelby Z Pacifica, C/S Competition, IROC R/T	84-94
016	Lancer	Pacifica, Turbo, ES, Shelby	85-89
017	Shadow	ES, Turbo	87-on
018	Dynasty		88-on
019	Spirit	ES, Shelby, RT	89-94
020	Neon	Expresso	94-on
021	Magnum		-
024	Charger (2006+)		-
025	Caliber		-
026	Avenger		-
027	Journey	SE, SXT, R/T	2009-on
028	Challenger (2008+)		2008-on
033	Challenger	all imported	78-83
034	Colt (excludes Vista)	RS, Turbo, Custom, GTS, DL, E, Premier, Deluxe, Carousel, GT	74-94
035	Conquest	Turbo	84-86

07 DODGE (continued)

039	Stealth		91-on
040	Monaco		90-92
041	Intrepid		93-on
042	Avenger		95-on
043	Stratus		95-on
398	Other automobile		-
399	Unknown automobile		-
401	Raider	Sport	86-on
403	Nitro		-
421	Ramcharger		all
422	Durango		98-00
441	Vista	4x4	84-91
442	Caravan	Mini-Ram, SE, ES	84-on
461	B-series vans	Sportsman, Royal, Maxiwagon, Ram B150-B350, Tradesman	all
462	Sprinter		-
470	Van derivative	Kary Van	all
471	D50, Colt P/U, RAM50/RAM 100		all
472	Dakota		87-on
481	D, W-series pickup	Ram, Custom, Royal, Miser, D100-D350, W100-W350	all -
482	Ram	1500/2500/3500 P/U	94-on
498	Other light truck		-
499	Unknown light truck		-
850	Truck based motorhome		-
881	Medium/Heavy	CBE	all
882	Medium/Heavy low entry	COE	all
883	Medium/Heavy high entry	COE	all
884	Medium/Heavy engine location	-	unknown
890	Medium/Heavy entry position unknown	COE -	
898	Other medium/heavy truck		-
899	Unknown Medium/heavy truck		-
950	Bus based motorhome		-
981	Medium bus based)	-	(not van

07 DODGE (continued)

988	Other bus	-
989	Unknown bus	-
998	Other vehicle	-
999	Unknown vehicle	-

**08 IMPERIAL**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
010	Imperial	Lebaron Mark Cross, Frank Sinatra editions	-76 81-83
398	Other automobile		-
399	Unknown automobile		-
998	Other vehicle		-
999	Unknown vehicle		-

09 PLYMOUTH

CODE	MODEL	INCLUDES	YEAR
001	Valiant/Duster (-76)/ Scamp	100, 200, Brougham, Signet, Custom, Special 340/360, 340, 360, Twister	-76
002	Satellite/Belvedere	Belvedere I/II, GTX, Roadrunner (-74), Sebring, Sebring Plus, Superbird, Brougham	-74
003	Fury	I, II, III, Roadrunner (75), Salon, VIP, Sport, Suburban	-74 75-78
004	Gran Fury	Sedan, Brougham, Custom Sport, Suburban	75-89
005	Barracuda	Formula, S, 340, AAR, Cuda, Gran Coupe	65-74
006	Volaré	Custom, Premier, Roadrunner (76-on), Police	76-80
007	Caravelle	Turbo, SE	85-89
008	Horizon	TC-3, Miser, Turismo 2.2, Custom, SE, Duster (85-on), America, Expo	78-90
011	Reliant (K)	SE, LE	81-89
013	Scamp (car based pickup)	GT, 2.2	82-84
017	Sundance	Turbo	87-on
019	Acclaim	LX, LE	89-on
020	Neon	Expresso	94-on
031	Cricket		71-72
032		Arrow	Fire Arrow,
GS, GT	76-80		
033		Sapporo	all
imported	78-83		
034	Champ/Colt (excludes Vista)	Turbo, Custom-Station Wagon (84-on)	79-94
035	Conquest	TSi	84-89
038	Breeze		96-on
039	Prowler		96-on
037	Laser	RS, Turbo	89-on
398	Other automobile		-
399	Unknown automobile		-
421	Trailduster		all
441	Vista	4x4	87-on
442	Voyager (minivan)	SE, LX	84-on
461	Van-fullsize (B-series)	Voyager, Sport, Premier	all
471	Arrow pickup (foreign)		all

09 PLYMOUTH (continued)

498	Other light truck	-
499	Unknown light truck	-
998	Other vehicle	-
999	Unknown vehicle	-



**10 EAGLE**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
034	Summit	DL, LX, ES	89-on
037	Talon	TSI	90-on
040	Premier	LX, ES	88-92
041	Vision		93-on
044	Medallion	DL, LX	88-90
398	Other automobile		-
399	Unknown automobile		-
441	Summit Wagon		92-on
498	Other light truck		-
499	Unknown light truck		-
998	Other vehicle		-
999	Unknown vehicle		-

12 FORD

CODE	MODEL	INCLUDES	YEAR
001	Falcon	Sprint, GT, Futura	-70
002	Fairlane	Torino thru 1970	-70
003	Mustang/Mustang II	Mach, Boss, Granada, Cobra, Ghia, SVO, GT, LX, Shelby	65-on
004	Thunderbird (all sizes)	Landau, Heritage, Turbo coupe, Elan, Fila, Sport, LX, SC	55-on
005	LTD II	S, Squire, Brougham	77-79
006	LTD/Custom/Galaxie (all sizes)	XL, Landau, Ranch Wagon, Country Squire, S, 500, Brougham, XL GT	65-on
007	Ranchero	Falcon/Fairlane based Torino/LTD II based	-71 72-79
008	Maverick	Grabber	70-78
009	Pinto	Pony, MPG, ESS	71-80
010	Torino/Gran Torino/Elite	GT, Cobra, Sport, Squire, Brougham	71-76
011	Granada	ESS, Ghia	75-82
012	Fairmont	Futura, Sport Coupe	78-83
013	Escort/EXP	L, GL, GLX, SS, GT, LX, ZX2	81-on
015	Tempo	L, GL, GLX, Sport, 4x4	84-94
016	Crown Victoria		81-on
017	Taurus/Taurus X	MT-5, L, GL, LX, SHO	86-on
018	Probe	GL, LX, GT	88-on
021	Five Hundred		-
022	Freestyle		-
023	Fusion		-
024	Edge		-
025	Flex	Includes SE, SEL, Limited	2009-on
031	English Ford	Cortina	60-on
032	Fiesta	Sport, Ghia	78-80
033	Festiva		88-93
034	Laser		93-on
035	Contour		94-on
036	Aspire		94-on
037	Focus		-
038	GT		-
398	Other automobile		all
399	Unknown automobile		-

12 FORD (continued)

401	Bronco II/Bronco (-77) Explorer	Eddie Bauer, XL, XLT Explorer (90-on)	83-on
402	Escape		2001
421	Bronco-fullsize	Eddie Bauer, Custom, XL, XLT	78-on
422	Expedition		97-on
431	Excursion		2000
441	Aerostar		XLT,
	Cargo Van 86-on		
442	Windstar		94-on
443	Freestar		-
444	Transit Connect		2010-on
461	E-series vans	Econoline, Clubwagon, Chateau, E150-E350	all
470	Van derivative	i.e: parcel van	all
471	Ranger	Supercab, 4x4, STX, Splash	82-on
472	Courier	Imported pickup	all
473	Sport Trac		2001
481	F-series pickup	F-100 - F-350	all
498	Other light truck		-
499	Unknown light truck		-
850	Truck based motorhome		-
880	F450/550 Pickup > 4,536 GVW		-
881	Medium/Heavy 8 L-series, FT-series	CBE all	F-5 thru F-
882	Medium/Heavy series, low entry	COE all	C/CT
883	Medium/Heavy series, high entry	COE all	C/CLT
884	Medium/Heavy	unknown engine location	-
890	Medium/Heavy position unknown	COE -	entry
898	Other medium/heavy		truck -
899	Unknown medium/heavy	truck	-
950	Bus based motorhome		-
981	Medium bus	B-series (not van based)	all
988	Other bus		all
989	Unknown bus		-
998	Other vehicle		-
999	Unknown vehicle		-

**13 LINCOLN**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
001	Continental/Town Car	Continental (-81), Town Car (82 on)	all 82-on
002	Mark	I, II, III, IV, V, VI, VII, LSC, VIII All Signature/ Designer Series	all
005	Continental (82-on)	All Signature/Designer Series	-
011	Versailles		77-80
012	LS		2000
013	Zephyr/MKZ		-
014	MKX		-
015	MKS		-
016	MKT		2009-on
398	Other automobile		-
399	Unknown automobile		-
401	Aviator		-
421	Navigator		97-on
481	Blackwood		2002
482	Mark LT		-
498	Other Light Truck		97-on
499	Unknown Light Truck		97-on
998	Other vehicle		-
999	Unknown vehicle		-

**14 MERCURY (MERKUR: See 56)**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
002	Cyclone	GT, CJ, Spoiler	-71
003	Capri-domestic	RS, Turbo, GS, Black Magic	79-86
004	Cougar/XR7	XR-7, RS, LS, GS, Eliminator, Brougham, Villager, (includes all body styles)	67-on
006	Marquis/Monterey	Marauder, X-100, Parklane, S-55, Custom, Brougham, Montclair, Grand Marquis	55-on
008	Comet	Caliente, GT, Voyager, 202, Capri (66-67)	62-77
009	Bobcat	Runabout, Villager	75-80
010	Montego	Comet (68-70), GT, MX, Villager, Brougham	67-76
011	Monarch	Ghia	75-80
012	Zephyr	GS, Z-7	78-83
013	Lynx/LN-7 (82-83)	L, LS, GS, RS, XR-3	81-87
015	Topaz	L, LS, GS, 4x4	84-on
017	Sable	LS, GS	86-on
020	Montego (2005+)		-
021	Milan		-
031	Capri-foreign	Capri II, 2+2	70-77
033	Pantera	de Tamaso	72-74
036	Tracer	L, GL	88-on
037	Mystique		94-on
038	Cougar		-
039	Marauder		-
398	Other automobile		-
399	Unknown automobile		-
401	Mountaineer		96-on
402	Mariner		-
443	Villager	LS, GS	93-on
444	Monterey		2004-on
498	Other light truck		-
499	Unknown light truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**18 BUICK**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
001	Special/Skylark	GS, GS-350, GS-400, GS-455, GS, California, Sport wagon, Custom	-72
002	LeSabre/Centurion/Wildcat	Estate Wagon, Luxus, Invicta, Custom, Limited T-Type	55-on
003	Electra, Electra 225, Park Avenue (91-on)	Limited, Park Avenue, Ultra	60-on
004	Roadmaster	Estate Wagon, Limited	91-on
005	Riviera	S-Type, T-Type	63-on
007	Century	Luxus, T-Type Luxus, T-Type, FWD (82-on), Custom, Regal (72-77)	72-on
008	Apollo/Skylark	Skylark (75), S/R	73-76
010	Regal	Turbo, Luxus, Grand National, GNX, T-Type	78-88
012	Skyhawk	S-Type, Roadhawk, T-Type, GT	75-89
015	Skylark (76-85)	(except 75), S/R, S, Limited, Sport, T-Type	-85
018	Somerset/Skylark	Skylark (86-on), Somerset GS, Regal, Custom, Limited, T-Type	85-on
020	Regal (FWD)	Limited	88-on
021	Reatta		88-91
022	Lacrosse		-
023	Lucerne		-
024	Enclave		-
031	Opel Kadett		-75
032	Opel Manta	1900, Luxus, Rallye, Sports Coupe	-75
033	Opel GT		-75
034	Opel Isuzu	Deluxe, Sport	76-79
398	Other automobile		-
399	Unknown automobile		-
401	Rendezvous		2002
402	Rainier		-
441	Terraza		-
498	Other Light Truck		-
499	Unknown Light Truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**19 CADILLAC**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
003	Deville/Fleetwood (except Limousine)	Coupe de Ville, Sedan de Ville, Fleetwood, Brougham, Fleetwood, 60 Special, etc. d'Elegance, Concourse	all
004	Limousine	Fleetwood 75, Formal de Ville based	all
005	Eldorado	Biarritz, El-doro, Touring Coupe	67-on
006	Commercial Series	Ambulance/Hearse	all
009	Allanté		87-on
014	Seville	Elegante, STS	76-on
016	Cimarron	D'oro	82-88
017	Catera	RWD	97-on
018	CTS		2003
019	XLR		-
020	SRX		-
021	STS		-
022	DTS		-
398	Other automobile		-
399	Unknown automobile		-
421	Escalade		-
431	Ecalade ESV		-
480	Escalade EXT (Data years 2005 and earlier)		-
481	Escalade EXT (Data years 2006 and beyond)		-
498	Other Light Truck		-
499	Unknown Light Truck		-
998	Other vehicle		-
999	Unknown vehicle		-

20 CHEVROLET

CODE	MODEL	INCLUDES	YEAR
001	Chevelle/Malibu	Classic, Concours, S-3, Laguna, Nomad, 300, Greenbriar, Estate, Deluxe, SS 396/454	64-83
002	Impala/Caprice	Biscayne, Belair, Super Sport, Classic, Classic Brougham, Townsman, Brookwood, Kingswood	55-on
004	Corvette	Stingray	53-on
006	Corvair	Corvair Monza, 500, Corvair Spyder, Corsa, Yenko	60-69
007	El Camino	Royal Knight, SS	59-on
008	Nova (-79)	Chevy II, LN, LE, Concours SS-350/396, Rally	62-79
009	Camaro	SS, RS, LT, Berlinafta, IROC-Z, Z28	67-on
010	Monte Carlo (RWD)	LS, SS, Aerocoupe, Landau	70-88
011	Vega	GT, Cosworth	71-77
012	Monza	Spyder, 2+2, Towne Coupe	75-80
013	Chevette	S, Scooter, CS	76-87
015	Citation	X-11, Citation II	80-85
016	Cavalier	CS, RS, Z24, LS	82-on
017	Celebrity	CS, Eurosport, VR	82-on
019	Beretta/Corsica	GT	87-on
020	Lumina	(GM-10 based), Z-34, Euro	90-on
022	Cobalt		-
023	HHR		-
024	Traverse	LS, LT, LTZ	2009-on
025	Cruze	Applicable Body Types: 02,04	2011-on
026	Volt	Body Type 5	2011-on
031	Spectrum		85-on
032	Nova/GEO Prizm	CL, NUMMI-built vehicles	85-on
033	Sprint/GEO Sprint		85-on
034	GEO Metro	LSi, XFi	89-on
035	GEO Storm	GSi	85-on
036	Monte Carlo (FWD only)	Z34	95-on
037	Malibu		97-on
038	SSR		-
039	Aveo		-
398	Other automobile		-
399	Unknown automobile		-



20 CHEVROLET (continued)

401	S-10 Blazer, Blazer	S-10 p/u based	83-on
402	GEO Tracker	LSi	89-on
403	Trailblazer		2002-on
404	Equinox		
421	Fullsize Blazer, Tahoe	K-series, fullsized p/u based	69-on
431	Suburban	All models	all
441	Astro Van	Minivan	85-on
442	Lumina APV/Venture		90-on
443	Ventura		97-on
444	Uplander		-
461	G-series van	Beauville, Chevy Van, Sport Van, G10-G30, Express	all
466	P-series van		all
470	Van derivative	Hi-cube, Parcel Van	all
471	S-10/T-10	4x4	82-on
472	LUV	Imported pickup	all
473	Colorado		-
481	C, K, R, V-series pickup	C10-C30, K10-K30, R10-R30, V10-V30, Silverado, C-K1500, 2500, 3500	all
482	Avalanche		2002
498	Other light truck		-
499	Unknown light truck		-
850	Truck based motorhome		-
881	Medium/Heavy CBE	C50/60/65, M60/65, H70/80/90, J70/80/90, Bison 90, all other CBE	all
882	Medium/Heavy COE low entry	T60/65, all other COE low entry	all
883	Medium/Heavy COE high entry	Titan 90, all other COE high entry	all
884	Medium/Heavy	Unknown engine location	-
890	Medium/Heavy	Unknown engine location, MKIII, 1500	-
898	Other medium/heavy truck		-
899	Unknown medium/heavy truck		-
950	Bus based motorhome		-
981	Bus	S-60 series	all
988	Other bus		-
989	Unknown bus		-
998	Other vehicle		-
999	Unknown vehicle		-

**21 OLDSMOBILE**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
001	Cutlass (RWD-only)	Supreme, S, LS, Salon Brougham, Vista Cruiser, F85 (thru 72), Rallye 350, Hurst Olds, 442, Calais, Classic (88)	62-88
002	Delta 88	Royale, Custom, Delta, Jetstar 88, Delmont 88, Starfire (thru 66), Custom Cruiser	all
003	Ninety-Eight	Regency, Luxury	all
005	Toronado	XSR, Trofeo, Brougham Custom	66-92
006	Commercial Series	Ambulance/Hearse	all
012	Starfire	SX,GT	75-80
015	Omega	X body type FWD, RWD	75-85
016	Firenza	S, LS, SX, Cruiser, GT	82-88
017	Ciera	Cutlass Ciera, Brougham, ES	82-on
018	Calais	GT, ES, 500	85-91
020	Cutlass (FWD)	Supreme	88-on
021	Achieva	SC	92-on
022	Aurora		94-on
023	Intrigue		-
024	Alero		-
398	Other automobile		-
399	Unknown automobile		-
401	Bravada		91-on
441	Silhouette		90-on
498	Other light truck		-
499	Unknown light truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**22 PONTIAC**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
001	Lemans Tempest (-79)	Safari, T-37, Luxury, Grand Sport, GTO (-73), GT-37, Sprint, Judge, Grand AM (73-75), Grand Lemans	62-79
002	Bonneville/Catalina/ Parisienne	Brougham, Grand Safari, Safari, Grandville, 2+2 Executive, Starchief SE, SSE, SSEi, Parisienne	all
005	Fiero	2M4, 2M6, GT, SE	84-88
008	Ventura	II, SJ, Sprint, GTO (74-on), Custom	71-77
009	Firebird/Trans AM	Esprit, Formula, GTA, Redbird, Yellowbird, Skybird, SE	67-on
010	Grand Prix (RWD)	J, LJ, SJ, Brougham, 2+2	63-87
011	Astre	Safari, SJ, Custom	75-77
012	Sunbird (thru 80)	Safari, Sport, Formula	76-80
013	T-1000/1000		81-87
015	Phoenix	LJ, SJ	77-84
016	J2000/2000/Sunbird Sunfire	Sunbird (84-on), LE, SE, GT, Convertible, GT/SE	82-on
017	6000	STE, SE, LE	82-on
018	Grand AM	SE,LE	all
019	G5		-
020	Grand Prix (FWD)	SE, McLaren Turbo, GTP	88-on
022	G6		-
023	Solstice		-
024	G8	Includes GT	2008-on
025	G3		2009-on
031	Lemans (88-on)	SE, Tempest (Canadian)	88-on
032	Vibe	Includes GT, AWD	2003-on
398	Other automobile		-
399	Unknown automobile		-
401	Aztek		2001
403	Torrent		-
441	Trans Sport/Montana		90-on
498	Other light truck		-
499	Unknown light truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**23 GMC**

CODE	MODEL	INCLUDES	YEAR
007	Caballero/Sprint	Sierra Madre del Sur, SP	65-on
008	Acadia		-
398	Other automobile		-
399	Unknown automobile		-
401	Jimmy/Typhoon/Envoy	S15 based	83-on
402	Terrain	SLE, SLT	2009-on
421	Fullsize Jimmy Yukon	fullsize pickup based	all
431	Suburban	all models	all
441	Safari (minivan)		86-on
461	G-series van	Rally Van, Vandura, G15-G35, Savana	all
466	P-series van		all
470	Van derivative	Hicube, parcel van, Value Van, Magna Van	all
471	S15/TI5/Sonoma	Includes 4x4, Cyclone	82-on
472	Canyon		-
481	C, K, R, V-series pickup	C15-35, K15-35, R15-35, V15-35, Sierra	all
498	Other light truck		-
499	Unknown light truck		-
850	Truck based motorhome		-
881	Medium/Heavy CBE	W5000/6000/7000 series, Brigadier/General models	all
882	Medium/Heavy COE low entry	W6000/W7000, all other COE, low entry	all
883	Medium/Heavy COE high entry	Astro 95, all other COE, high entry	all
884	Medium/Heavy	Unknown engine location	-
890	Medium/Heavy COE	entry position unknown	-
898	Other medium/heavy truck		-
899	Unknown medium/heavy truck		-
950	Bus based motorhome		-
981	Bus	B6000	all
988	Other Bus		-
989	Unknown bus		-
998	Other vehicle		-
999	Unknown vehicle		-

**24 SATURN**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
001	SL	SL1, SL2, SL3	91-on
002	SC	SC1,SC2	91-on
003	SW	SW1, SW2	93-on
004	EV1	(electric vehicle)	97-on
005	LS/LS1/LS2/L100/L200/L300		2000
006	LW/LW1/LW2/LW200/LW300		2000
007	Ion		-
008	Sky		-
009	Aura		-
010	Outlook	XE, XR (Body Type = S/W)	
011	Astra	XE, XR, Sport (Body Types: 03 & 05)	
398	Other automobile		-
399	Unknown automobile		-
401	Vue		2002
441	Relay		-
498	Other light truck		-
499	Unknown light truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**25 GRUMMAN**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
441	LLV	Postal vehicle	all
442	Step-in van	Multi-stop, step van	all
498	Other light truck		-
499	Unknown light truck		-
850	Truck based motorhome		-
881	Medium/Heavy CBE		all
882	Medium/Heavy COE low entry		all
883	Medium/Heavy COE high entry		all
884	Medium/Heavy Unknown engine location		-
890	Medium/Heavy COE entry position unknown		-
898	Other medium/heavy truck		-
899	Unknown medium/heavy truck		-
983	Bus-flat front, rear engine	Transit	all
988	Other bus		-
989	Unknown bus		-
998	Other vehicle		-
999	Unknown vehicle		-

**29 OTHER DOMESTIC MANUFACTURER**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
001	Studebaker/Avanti	Lark, Gran Turismo, Hawk, Cruiser, all associated subseries	-66
002	Checker	Marathon, Superba, Taxi, Aerobus	-82
398	Other make	Desoto, Excaliber, Stutz, Hudson, Packard, Consulier	all
399	Unknown make		-
498	Other Light Truck		-
898	Other Medium/Heavy Truck		-
988	Other Bus		-
998	Other vehicle		-

**30 VOLKSWAGEN**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	Karmann Ghia		-74
032	Beetle 1300/1500	flat windshield	-77
033	Super Beetle	distinguished by curved windshield	71-80
034	411/412	Squareback/Fastback	71-74
035	Squareback/Fastback	Type 3, 1600	-74
036	Rabbit	L, GTI, Sport, LS, Custom, DL, Deluxe	75-84
037	Dasher		74-81
038	Scirocco	16V	75-88
040	Jetta	GL, GLI	80-92
041	Quantum	Synco	82-88
042	Golf	Synco, GTI, Cabriolet, GT, GL	85-92
043	Rabbit pickup	car based pickup	80-83
044	Fox	GL	87-on
045	Corrado		89-on
046	Passat	GL, GLS (1.8T, Synchro, V6), TDI, GLX (1.8T, 2.0T, W8, Synchro, V6), 4 Motion, 3.6 GL	90-on
047	Jetta III		93-on
048	Golf III		93-on
049	New Beetle		1988
050	Phaeton		-
051	EOS		-
398	Other automobile		-
399	Unknown automobile		-
401	The Thing (181)		73-75
402	Tiguan		2008-on
421	Touareg		-
441	Vanagon/Camper	Bus, Kombi, Van	all
442	Eurovan		92-on
443	Routan	S, SE, SEL Premium/RSE	2009-on
498	Other light truck		-
499	Unknown light truck		-
998	Other Vehicle		-
999	Unknown vehicle		-



**31 ALFA ROMEO**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	Spider	All roadsters, Veloce, 1750/2000 roadsters	all
032	Sports Sedan	All 4 door sedans Milano (86), Giulia, Super, Berlina, Alfetta, 1750/2000 sedans	all
033	Sprint Veloce	All 2-door coupes Alfetta GT, 1750/2000 GTV, Sprint GT	all
034	GTV-6		81-on
035	164		89-on
398	Other automobile		-
399	Unknown automobile		-
998	Other vehicle		-
999	Unknown vehicle		-

**32 AUDI**

CODE	MODEL	INCLUDES	YEAR
031	Super 90		70-72
032	100/A6	S, LS, GL, Quattro (89 on)	70-77 89 on
033	Fox		74-79
034	4000	Quattro, Coupe GT, CS, S	80-88
035	5000	Quattro, CS, S, Turbo	78-88
036	80/90	Quattro	88-95
037	200	Quattro	88-92
038	V-8 Quattro		90-94
039	Coupe Quattro		90-93
040	S4/S6		93-on
041	Cabriolet		94-on
042	A4		96-on
043	A3		96-on
044	A8		96-on
045	TT		2000
046	S8		2001
047	Allroad		2001
049	A5		-
050	R8		2008-on
398	Other automobile		-
399	Unknown automobile		-
401	Q7		-
402	Q5		
498	Other Light Truck		
998	Other vehicle		-
999	Unknown vehicle		-

**33 AUSTIN/AUSTIN HEALEY**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	Marina	GT	all
032	America		all
033	Healey Sprite		all
034	Healy 3000	Healy 100	all
035	Mini		all
398	Other automobile		-
399	Unknown automobile		-
998	Other vehicle		-
999	Unknown vehicle		-

**34 BMW**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	1600, 2000	Tii, 1800, 2000S	-76
032	Coupe	2800CS, 3.0CS	69-76
033	Bavaria Sedan	2500, 2800	69-74
034	3-series	318i, 318ti, 320i, 325e, 325es, 325i, 328, M3	77-on
035	5-series	524i, 528i, 530i, 533i, 535i, TD 525i (wagon), M5, 540iA, 540i	75-on 77-on
036	6-series	630, 633, 635, csi, M6	-
037	7-series	733i, 735i, L7, 740i, 750iL	78-on
038	8-series	850, 840ic	90-on
039	Z3	M Coupe (Brickland)	96-on
040	Z8		-
041	V5		-
042	Z4		-
043	1 Series	128i, 135i	2008-on
044	X6		2008-on
398	Other automobile		-
399	Unknown automobile		-
401	X5	4WD	2000
402	X3		-
498	Other Light Truck		-
499	Unknown Light Truck		-

***Motorcycles***

<b>CODE</b>	<b>MODEL</b>	
701	0-50cc	-
702	51-124cc	-
703	125-349cc	-
704	350-449cc	-
705	450-749cc	-
706	750cc-over	-
709	Unknown cc	-
799	Unknown motored cycle	-
998	Other Vehicle	-
999	Unknown vehicle	-

**35 NISSAN/DATSUN**

CODE	MODEL	INCLUDES	YEAR
031	F10		77-78
032	200/240 SX		78-on
033	1200/210/B210	Honeybee	71-82
034	Z-car, ZX	240/260/280Z, 300 ZX,Turbo, 2+2	70-on
035	310		79-82
036	510	PL	68-73 78-81
037	610	PL	73-76
038	710	PL	74-77
039	810/Maxima		77-on
040	Roadster	SPL 311, SRL 311, 1600, 2000, convertible	-70
041	PL 411, RL 411		-67
042	Stanza	XE	82-92
043	Sentra		83-on
044	Pulsar	NX, EXA (86-on)	83-90
045	Micra		87-on
046	NX1600/2000		92-on
047	Altima		93-on
048	350Z/370Z		-
049	Murano		-
050	Versa		
051	Rogue	Includes S, SL	2008-on
052	Cube		2010-on
053	GT-R		2009-on
055	Leaf		2011-on
398	Other automobile		-
399	Unknown automobile		-
401	Pathfinder	MPV, 4 x 4	86-on
402	Xterra		2000
403	Juke		2011-on
421	Armada		-
441	Van	XE, GXE	87-on
442	Axxess		89-90
443	Quest		93-on
444	Altra EV	Electric vehicle	1998-2005
445	NV	Body Types 21 & 22	2011-on

**35 NISSAN/DATSUN (continued)**

471	Datsun/Nissan Pickup/Frontier	PL620, King Cab, Hardbody	73-on
473	Titan (Data years 2005 and earlier)		-
481	Titan (Data years 2006 and beyond)		-
498	Other light truck	Patrol	(1960)
499	Unknown light truck		-
883	Medium/Heavy COE	high entry	all
898	Other medium/heavy truck		all
899	Unknown medium/heavy truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**36 FIAT**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	124 (Coupe/Sedan)	Sport	67-75
032	124 Spider/Racer	Spider 2000/1500	68-83
033	Brava - 131		75-82
034	850 (Coupe/Spyder)		67-73
035	128		72-79
036	X-1/9		75-83
037	Strada		79-83
398	Other automobile	600, 1100	all
399	Unknown automobile		-
882	Medium/Heavy COE	low entry	all
883	Medium/Heavy COE	high entry	all
890	Medium/Heavy COE	entry position unknown	-
898	Other medium/heavy truck		all
899	Unknown medium/heavy truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**37 HONDA (ACURA: See 54)**

CODE	MODEL	INCLUDES	YEAR
031	Civic/CRX	1300, 1500, CVCC, DX, EX, VX, S, Si, HF, 4WD Wagon, del Sol	73-on
032	Accord	LX, CVCC, SE-i, LX-i, EX, EX Wagon	76-on
033	Prelude	Si	80-on
034	600	Coupe, Sedan	all
035	S2000		-
037	Insight		-
038	FCX		2004-on
039	Fit		-
398	Other automobile	all Hondas not listed above	-
399	Unknown automobile		-
401	Passport		94-on
402	CR-V		-
403	Element		-
421	Pilot		-
441	Odyssey		95-on
471	Ridgeline		-
498	Other Light Truck		94-on
499	Unknown Light Truck		94-on

***Motorcycles***

CODE	MODEL	
701	0-50cc	-
702	51-124cc	-
703	125-349cc	-
704	350-449cc	-
705	450-749cc	-
706	750cc-over	-
709	Unknown cc	-



37 HONDA (continued)

**All Terrain Cycles/Vehicles**

*(Model codes 731–739 are designed solely for off-road use)*

CODE	MODEL	
731	0-50cc	-
732	51-124 cc	-
733	125-349 cc	-
734	350cc or greater	-
739	Unknown cc	-
798	Other Motorcycle	-
799	Unknown motored cycle	-
998	Other vehicle	-
999	Unknown vehicle	-

**38 ISUZU**

CODE	MODEL	INCLUDES	YEAR
031	I-Mark	S, RS, Turbo	85-89
032	Impulse	Turbo, RS	84-on
033	Stylus		90-an
398	Other automobile		-
399	Unknown automobile		-
401	Trooper/Trooper II	Deluxe, LS	84-on
402	Rodeo		91-on
403	Amigo		89-94
404	Vehicross		1999
405	Axiom		2000
421	Ascender		-
441	Oasis		96-on
471	P'up (pickup) Hombre	4 x 4	all
473	i-280/i-290	S, LS, Luxury	2006-on
474	i-350/i-370	LS, Limited, S	2006-on
498	Other light truck		-
499	Unknown light truck		all
881	Medium/Heavy CBE		all
882	Medium/Heavy COE	low entry	all
883	Medium/Heavy COE	high entry	all
884	Medium/Heavy	unknown engine location	-
890	Medium/Heavy COE	entry position unknown	-
898	Other medium/heavy truck		-
899	Unknown medium/heavy truck		-
950	Bus based motorhome		-
981	Bus Conventional front engine		-
982	Bus Front engine/flat front		-
983	Bus Rear engine/flat front		-
988	Other bus		-
989	Unknown bus		-
998	Other vehicle		-
999	Unknown vehicle		-

**39 JAGUAR**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	XJ-S Coupe		76-on
032	Vander Plas/XJ6/12 Sedan/Coupe/XJ8	L, XJ, C, 340/420 Sedan	all
033	XKE V12, Roadster, 120, 2 + 2		all
034	X100/S-Type		97-on
035	X-Type		-
398	Other automobile		-
399	Unknown automobile		-
998	Other vehicle		-
999	Unknown vehicle		-

**40 LANCIA**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	Beta Sedan - HPE		80
032	Beta Coupe - Zagato		82
033	Scorpion		78
398	Other automobile		-
399	Unknown automobile		-
998	Other vehicle		-
999	Unknown vehicle		-

41 MAZDA

CODE	MODEL	INCLUDES	YEAR
031	RX2		72-74
032	RX3		72-78
033	RX4		74-78
034	RX7	S, GS, GSL, SE	79-on
035	323/GLC/Protege	DX, Protege (90-on)	77-on
036	Cosmo		76-78
037	626	GT, GS, GSL, SE	79-on
038	808		72-77
039	Mizer		76
040	R-100		-72
041	616/618		-72
042	1800		-72
043	929		88-on
044	MX-6	Turbo	88-on
045	Miata		90-on
046	MX-3	GS	92-on
047	Millenia		95-on
048	MP3		-
049	RX-8		-
050	Mazda 6		-
051	Mazda 3		-
052	Mazda 5		-
053	CX-7		-
054	CX-9		-
398	Other automobile		-
399	Unknown automobile		-
401	Navajo		91-on
402	Tribute		-
441	MPV		89-on
471	Mazda pickup	B-2000, B-2200, B-2600, B-4000, Cab Plus, SE-5, LX	all
498	Other light truck		-
499	Unknown light truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**42 MERCEDES BENZ**

CODE	MODEL	INCLUDES	YEAR
031	200/220/230/240/250/ 260/280/300/320/420	Sedan and 5 passenger C only, SE, CD, D, SD, TD, CE, E. DOES NOT include 280 SE (75 on), 300 SD - see code 037	all
032	230/280 SL	2 seater only	all
033	300/350/380/450/500 SL, 560 SL	2 seater only, 300/500 SL (90-on)	all
034	350/380/420/450/560	SLC	all
035	280/300 SEL	TD, TD-T, CDT	all
036	380/420/450/500/560 SEL and 500/560 SEC/ 350 SDL/300 SDL		all
037	300 SE/380/450 SE	280 S, 280 SE (75 on), 300 SD Sedan, 350 SD	all
038	600, 6.9 Sedan	Pullman	all
039	190	D, E, 2.3, 2.5	all
040	300	CE Cabriolet	93-on
041	400/500E		92-on
042	C Class	220/280C (Kompressor)/C240/ C280/C320/C300/C350/C36/C43/ C32/55/63 AMG	94-on
043	S Class		-
044	SL Class		-
045	SLK		-
046	CL		-
047	CLK		-
048	E		-
049	SLR McLaren		-
050	R-Class		-
051	CLS-Class		-
398	Other automobile		-
399	Unknown automobile		-
401	M		-
402	G Class		-
470	Van derivative	Kurbstar	82-on
498	Other light truck		-
499	Unknown light truck		-

**42 MERCEDES BENZ (continued)**

881	Medium/Heavy CBE		all
882	Medium/Heavy COE	low entry	all
883	Medium/Heavy COE	high entry	all
884	Medium/Heavy	Unknown engine location	-
890	Medium/Heavy COE	entry position unknown	-
898	Other medium/heavy truck		-
899	Unknown medium/heavy truck		-
950	Bus based motorhome		-
981	Medium bus		all
988	Other bus		-
989	Unknown bus		-
998	Other vehicle		-
999	Unknown vehicle		-

**43 MG**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	Midget	MKIII, 1500	-79
032	MGB		76-79
033	MGB	GT	67-75
034	MGA		all
035	TA/TC/TD/TF		all
036	MGC	GT	-69
398	Other automobile	Sport Sedan	-
399	Unknown automobile		-
998	Other vehicle		-
999	Unknown vehicle		-



**44 PEUGEOT**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	304		71-73
032	403		-67
033	404		-70
034	504/505	STI, STX, Turbo, S, GL, GLS, Liberte, Station Wagon	70-91
035	604	SL, D	77-84
036	405	Mi-16	89-91
398	Other automobile		-
399	Unknown automobile		-

***Motorcycles***

<b>CODE</b>	<b>MODEL</b>	
701	0-50cc	-
702	51-124cc	-
709	Unknown cc	-
799	Unknown motored cycle	-
998	Other vehicle	-
999	Unknown vehicle	-

**45 PORSCHE**

CODE	MODEL	INCLUDES	YEAR
031	911	L, S, E, T, SC, Carrera, Slophenose, Speedster, Panorama	all
032	912	E, T	-69
033	914	S, 1.8, 2.0, 914/6	70-76
034	924	Turbo, S	77-88
035	928	S	78-on
036	930	Turbo	79
037	944	Turbo, S	83-91
038	959		89-94
039	968		92-95
040	986 Boxter		-
041	Cayman		-
398	Other automobile	Spyder, Speedster, 356	-
399	Unknown automobile		-
421	Cayenne		-
998	Other vehicle		-
999	Unknown vehicle		-

**46 RENAULT/AMC**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	LeCar	5	76-83
032	Dauphine/10/R-8/ Caravelle	all models	-71
033	12	R12L, R12TL	72-77
034	15	R15, R15TL	73-76
035	16	R16	69-72
036	17	R17, Gordini Coupe, R17TL	73-80
037	RI 8i	Sportwagon	81-on
038	Fuego	TL, TS, GTL, GTS, Turbo	82-85
039	Alliance/Encore, GTA,Convertible	L, DL, Limited, X-37	83-on
041	Alpine	GT	87-on
044	Medallion	DL, LX	87 only
045	Premier		87 only
398	Other automobile		-
399	Unknown automobile		-
998	Other vehicle		-
999	Unknown vehicle		-

47 SAAB

CODE	MODEL	INCLUDES	YEAR
031	99/99E/900	S, Turbo, Cabriolet	all
032	Sonnet	II, III, V-4	68-74
033	95/96/97		-73
034	9000	S, Turbo, CS (93-on)	85-on
035	9-3		-
036	9-5		-
037	9-2X		-
398	Other automobile	Monte Carlo 850	all
399	Unknown automobile		-
401	9-7X		-
498	Other Light Truck		-
499	Unknown light truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**48 SUBARU**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	DL/FE/G/GF/GL/GLF/ STD/Loyale	4 wheel drive, Turbo	72-94
032	Star		70-71
033	360		69-70
034	Legacy	Brighton, Outback, Outback II	89-on
035	XT, XT6	4WD Turbo, convertible, DL	86-on
036	Justy	DL, GL	87-94
037	SVX		92-on
038	Impreza		93-on
043	Brat	DL, GL	78-on
044	Baja		-
045	Outback		-
398	Other automobile		-
399	Unknown automobile		-
401	Forester		-
402	B9 Tribeca		-
498	Other Light Truck		-
499	Unknown Light Truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**49 TOYOTA**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	Corona	Mark 11, Custom, 1900, 2000, Deluxe	-82
032	Corolla	1100, 1200, 1600, SR-5, LE, Deluxe, Custom, FX16	69-85 86-on
033	Celica	1900, 2000, GT, ST, GTS	71-on
034	Supra	Celica Supra, Soarer	79-92
035	Cressida		78-92
036	Crown	2300, 2600	-71
037	Carina	2000	72-73
038	Tercel	Corolla Tercel, 4WD Wagon	80-on
039	Starlet		81-84
040	Camry	LE, Deluxe, XLE, Coupe	83-on
041	MR-2		85-95
042	Paseo		92-on
043	Avalon		95-on
044	Solara		-
045	Echo		-
046	Prius		-
048	Scion XA		-
049	Scion XB		-
050	Scion TC		-
051	Yaris		-
052	Scion XD	4-door hatchback	2008-on
053	Venza		2009-on
398	Other automobile	2000 GT Coupe (1960s)	all
399	Unknown automobile		-
401	4-Runner		85-on
402	RAV-4		96-on
403	Highlander		-
404	Matrix		-
405	FJ Cruiser		-
421	Landcruiser		76-on
422	Sequoia		-
441 on	Minivan/Previa	LE, Cargo	84-
442	Sienna		-

**49 TOYOTA (continued)**

471	Pickup	SR-5, Extra Cab, Sport, LN44, Chinook, Wonder Wagon	74-on
472	Tacoma		95-on
481	T-100		93-on
482	Tundra		
498	Other light truck		-
499	Unknown light truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**50 TRIUMPH**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	Spitfire	I, II, III, IV, 1500	-81
032	GT-6	MK3	67-73
033	TR4	TR2, TR3, TR4A	-68
034	TR6		69-76
035	TR7/8		75-81
036	Herald	Vitesse	60-74
037	Stag		60-74
398	Other automobile	2000, 1200 series	-
399	Unknown automobile		-

***Motorcycles***

<b>CODE</b>	<b>MODEL</b>	
701	0-50cc	-
702	51-124cc	-
703	125-349cc	-
704	350-449cc	-
705	450-749cc	-
706	750cc-over	-
709	Unknown cc	-
799	Unknown motored cycle	-
998	Other vehicle	-
999	Unknown vehicle	-



**51 VOLVO (includes Volvo/White and Volvo/GM Heavy Trucks)**

CODE	MODEL	INCLUDES	YEAR
031	122	S	58-68
032	142/144/145	S, E, GL, GLS, Deluxe	67-74
033	164	S, E	69-75
034	240/242/244/245	DL, GL, GLE, GLT, Deluxe	75-on
035	262/264/265	GL	76-82
036	1800	E, S, ES	60-73
037	P-544		47-65
038	760 780	Turbo, GLE	83-90 87-92
039	740	GLE, GT, Turbo, GL	85-92
040	940	GLE, Turbo, SE	91-on
041	960		92-on
042	850	GLT, Wagon	93-on
043	70 Series	C70 (LT, HT, T5), S70 (GLT, T5, AWD), V70 (R, SC Cross Country, GLT, T-5, XC-70, M, 2.4T, 2.4, 2.5T, T-6, R, 3.2) LPT, HPT	-
044	90 Series		-
045	80 Series	S80	-
046	40 Series	S40,V40	-
047	60 Series	S60 (2.4T, 2.4, 2.5 AWD, T5) 2.4M, 2.5T, R, T5, 2.4i, R-Design	-
048	V50		-
049	C30	1.0, 2.0, TS, R-Design	2008-on
050	XC60		2008-on
398	Other automobile		-
399	Unknown automobile		-
401	XC90		-
881	Medium/Heavy CBE		all
882	Medium/Heavy COE	low entry	all
883	Medium/Heavy COE	high entry	all
884	Medium/Heavy	unknown engine location	-
890	Medium/Heavy COE	entry position unknown	-
898	Other medium/heavy truck		all
899	Unknown medium/heavy truck		-
950	Bus based motorhome		-

**51 VOLVO (continued)**

981	Medium bus	all
988	Other bus	all
989	Unknown bus	-
998	Other vehicle	-
999	Unknown vehicle	-

**52 MITSUBISHI**

CODE	MODEL	INCLUDES	YEAR
031	Starion	2+2, LE, Turbo	83-90
032	Tredia	L, LS, Turbo	83-88
033	Cordia	L, Turbo	83-88
034	Galant	ECS, Sigma (thru-88)	85-on
035	Mirage	L, Turbo	85-on
036	Precis		90-on
037	Eclipse		90-on
038	Sigma		89-90
039	3000 GT	Spyder, VR-4	91-on
040	Diamante		92-on
046	Lancer		-
398	Other automobile		-
399	Unknown automobile		-
401	Montero	Sport	85-on
402	Outlander		-
403	Endeavor		-
441	Minivan	LS	87-on
442	Expo	LRV, Sport	92-95
471	Pickup	Mighty Max, SPX, 4x4	all
472	Raider/Durocross		-
498	Other light truck		-
499	Unknown light truck		-
882	Medium/Heavy COE	low entry, FUSO FE	all
898	Other medium/heavy truck		-
899	Unknown medium/heavy truck		-
950	Bus based motorhome		-
981	Bus Conventional front engine		all
982	Bus Front engine/flat front		all
983	Bus Rear engine/flat front		all
988	Other bus		-
989	Unknown bus		-
998	Other vehicle		-
999	Unknown vehicle		-

**53 SUZUKI**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	SA310	GLX	86-on
034	Swift	GTi,GTX	89-on
035	Esteem		-
036	Aerio		-
037	Forenza		-
038	Verona		-
039	Reno		-
040	SX4		-
398	Other automobile		-
399	Unknown automobile		-
401	Samurai	Standard, Deluxe	85-95
402	Sidekick/Grand Vitara		89-on
403	X-90/Vitara		96-on
404	Grand Vitara		-
405	XL7		-
481	Equator		2009-on
498	Other light truck		-
499	Unknown light truck		-

***Motorcycles***

<b>CODE</b>	<b>MODEL</b>		
701	0-50cc		-
702	51-124cc		-
703	125-349cc		-
704	350-449cc		-
705	450-749cc		-
706	750cc-over		-
709	Unknown cc		-

**53 SUZUKI (continued)**

***All Terrain Cycles/Vehicles***

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
731	0-50cc	includes all ATCs/ATVs	-
732	51-124	designed solely for off-road use.	-
733	125-349cc		-
734	350cc or greater		-
739	Unknown cc		-
798	Other Motored Cycle		-
799	Unknown motored cycle		-
998	Other vehicle		-
999	Unknown vehicle		-

**54 ACURA**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	Integra	RS, LS, GS	86-on
032	Legend/RL		86-on
033	NSX	NSX -T	91-on
034	Vigor	TL2.5/TL3.2	92-on
035	CL/TL	Coupe	96-on
038	RSX		-
039	TSX		-
040	ZDX	Body Type = 05/5-door/4-door hatchback	2010-on
398	Other automobile		-
399	Unknown automobile		-
401	SLX		96-on
402	RDX		-
421	MDX		-
498	Other Light Truck		-
499	Unknown Light Truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**55 HYUNDAI**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	Pony		84-88
032	Excel	GL, GLS	84-94
033	Sonata		89-on
034	Scoupe		91-95
035	Elantra		92-on
036	Accent		95-on
037	Tiburon		-
038	XG300/350		-
039	Azera		-
040	Equus		2008-on
041	Genesis	3.8, 4.6	2009-on
398	Other automobile		-
399	Unknown automobile		-
401	Santa Fe		-
402	Tuscon		-
403	Veracruz		-
441	Entourage		-
498	Other Light Truck		-
499	Unknown Light Truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**56 MERKUR**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	XR4Ti	Turbo	85-89
032	Scorpio	Tu rbo	87-90
398	Other automobile		-
399	Unknown automobile		-
998	Other vehicle		-
999	Unknown vehicle		-



**57 YUGO**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	GV	GVX, Cabriolet	86-92
398	Other automobile		-
399	Unknown automobile		-
998	Other vehicle		-
999	Unknown vehicle		-

**58 INFINITI**

CODE	MODEL	INCLUDES	YEAR
031	M30		90-92
032	Q45		90-on
033	G20		91-96
034	J30		93-on
035	I30		96-on
036	I35		-
037	G35/G37		-
038	M35/M37/M45/M56		-
039	FX35/45/50		-
040	EX35	Includes Journey	2008-on
398	Other automobile		-
399	Unknown automobile		-
401	T30/QX4 (2010 and later)		97-on
421	QX56		-
498	Other Light Truck		97-on
499	Unknown Light Truck		97-on
998	Other vehicle		-
999	Unknown vehicle		-

**59 LEXUS**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	ES-250/300/330/350		90-on
032	LS	400/430/460/L/600h/L	90-on
033	SC-300/SC-400	2 door Coupe	92-on
034	GS-300/350/400/430/450h		94-on
035	IS-250/300/350/500		-
036	SC 430		2002
398	Other automobile		-
399	Unknown automobile		-
401	RX300		-
402	GX470		-
403	RX330/350/400h	Hybrid, Thundercloud, Mark Levinson Package	2004-on
421	LX-450/470		96-on
498	Other light Truck		96-on
499	Unknown Light Truck		96-on
998	Other vehicle		-
999	Unknown vehicle		-

60 DAIHATSU

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	Charade		90-92
398	Other automobile		-
399	Unknown automobile		-
401	Rocky		90-92
498	Other light truck		-
499	Unknown light truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**61 STERLING**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	827S	Li	86-91
398	Other automobile		-
399	Unknown automobile		-
998	Other vehicle		-
999	Unknown vehicle		-

**62 LAND ROVER**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
401	Discovery (LR)		94-on
402	Defender 90 (LR)		94-98
421	County LWB (RR)/County Classis (RR)		all
422	Defender 90 (LR), 4.0 SE (RR), and Freelander		1999-2010
423	LR3		-
424	LR2		-
498	Other Light Truck		all
499	Unknown Light Truck		all
998	Other vehicle		-
999	Unknown vehicle		-

63 KIA

CODE	MODEL	INCLUDES	YEAR
031	Sephia		all
032	Spectra		-
033	Rio/Rio5		-
034	Optima		-
035	Amanti		-
036	Rondo		-
037	Soul		2009-on
038	Forte		2010-on
398	Other automobile		-
399	Unknown automobile		-
401	Sportage		96-on
402	Sorrento		-
421	Borrego	EX, LX (Body Type = 15/Large Utility)	2009-on
441	Sedona		-
498	Other Light Truck		-
499	Unknown Light Truck		-
998	Other vehicle		-
999	Unknown vehicle		-

**64 DAEWOO**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	Lanos		-
032	Nubira		-
033	Leganza		-
398	Other Automobile		-
399	Unknown Automobile		-
999	Unknown Vehicle		-



**65 SMART**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
031	ForTwo	Pure & Passion	-
398	Other automobile		-
399	Unknown automobile		-

**69 OTHER FOREIGN**

CODE	MODEL	INCLUDES	YEAR
031	Aston Martin	Lagonda, Vantage, Volante, Saloon	all
032	Bricklin		all
033	Citreon		all
034	Delorean		all
035	Ferrari		all
036	Hillman		all
037	Jensen	Healy	all
038	Lamborghini	Countach 5000S, Jalpa	all
039	Lotus	Europe, Esprit	all
040	Maserati	Biturbo	all
041	Morris	Minor	all
042	Rolls Royce/Bentley	Cloud/shadow series	all
044	Simca		all
045	Sunbeam		all
046	TVR		all
048	Desta		all
049	Reliant		all
052	Bertone	X/19	all
053	Lada		all
054	Mini Cooper		
398	Other make	Morgan, Singer	all
399	Unknown make		-
498	Other light truck		-

MAKES 70 to 79: See ["Classification of Motored Cycles and All Terrain Vehicles / Cycles"](#).

**81 DIAMOND REO / REO**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
850	Medium/Heavy Truck Based Motorhome		-
881	Medium Heavy - CBE		all
882	Medium/Heavy – COE/Low entry		-
883	Medium/Heavy – COE/High entry		-
884	Medium/Heavy – Unknown Engine Location		-
890	Medium/Heavy – COE/Entry Position Unknown		-
898	Medium/Heavy – Other		-
899	Unknown Medium/Heavy Truck		-

**82 FREIGHTLINER/WHITE**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
461	Sprinter/Advantage		-
470	M-Line Walk-in Van		-
498	Other Light Truck		-
499	Unknown Light Truck		-
850	Truck based motorhome		-
881	Medium Heavy - CBE		all
882	Medium/Heavy COE low entry		all
883	Medium/Heavy COE high entry		all
884	Medium/Heavy unknown engine location		-
890	Medium/Heavy COE entry position unknown		-
898	Other medium/heavy truck		all
899	Unknown medium/heavy truck		-
981	Conventional bus		all
982	Bus-flat front, front engine		all
983	Bus-flat front, rear engine		all
988	Other bus		-
989	Unknown bus		-
999	Unknown vehicle		-

**84 INTERNATIONAL HARVESTER**

CODE	MODEL	INCLUDES	YEAR
421	Scout	Scout II, Utility pickup, SS-2, Roadstar, 800 series, Traveler, Terra Traveltop	all
431	Travelall	1010-1210, 100-200	all
466	Multistop Van	Metro RM, 120-160, MS 1210, MS 1510	all
481	Pickup	R-100-500, 900A-1 500C/D, 1010-1510	all
498	Other light truck		-
499	Unknown light truck		-
850	Truck based motorhome		-
881	Medium Heavy - CBE	Loadstar/Fleetstar, Paystar, CBE Transtar, 4200, S-series Mixer	all
882	Medium/Heavy COE low entry	CO, VCO, DCO, 190-1950, Cargostar, LFM, 5370	all
883	Medium/Heavy COE high entry	DCO, DCOT, UCO, VCOT, 405-series, COE Transtar, Unistar, Conco 707B, 9600	all
884	Medium/Heavy	unknown engine location	-
890	Medium/Heavy COE	entry position unknown	-
898	Other medium/heavy truck	firetruck-RI4O-R301, C08190	all
899	Unknown medium/heavy truck		-
950	Bus based Motorhome		all
981	Conventional bus	RI53-1853 - Loadstar, 1603-1853	all
982	Bus-flat front, front engine	173FC,183FC	all
983	Bus-flat front, rear engine	183RE, 193RE-transit	all
988	Other bus		-
989	Unknown bus		-
998	Other vehicle		-
999	Unknown vehicle		-

MAKES 85 to 98: See ["Classification for Medium/Heavy Trucks and Buses"](#).

**99 UNKNOWN MAKE**

<b>CODE</b>	<b>MODEL</b>	<b>INCLUDES</b>	<b>YEAR</b>
399	Unknown automobile		-
499	Unknown light truck		-
799	Unknown motored cycle		-
899	Unknown medium/heavy truck		-
988	Other bus		-
989	Unknown bus		-
998	Other vehicle		-
999	Unknown vehicle		-

Classification for Motored Cycles and All Terrain Vehicles / Cycles

Vehicle Make	MC	ATC	ATV	Make Code
BMW	x			34
Honda	x	x	x	37
Peugeot	x			44
Triumph	x			50
Suzuki	x	x	x	53
BSA	x			70
Ducati	x			71
Harley-Davidson	x			72
Kawasaki	x	x	x	73
Moto-Guzzi	x		x	74
Norton	x			75
Yamaha	x	x	x	76
Other make moped	x			78
Other make motorized cycle	x	x	x	79
Unknown make				99

The following model codes are used for all manufacturers of motored cycles and all terrain vehicles/cycles:

<b>Motored Cycles:</b>		<b>All Terrain Vehicles/Cycles:</b>	
0-50cc	701	0-50cc	731
51-124cc	702	51-124cc	732
125-349cc	703	125-349cc	733
350-449cc	704	350cc or greater	734
450-749cc	705	Unknown cc	739
750cc-or greater	706		
Unknown cc	709		
<b>All Cycles:</b>			
Other motored cycle	798		
Unknown motored cycle	799		
Other vehicle	998		

Classification for Medium/Heavy Trucks and Buses

Vehicle Make	Truck	Bus	Make Code
AM General	x	x	03
Dodge	x	x	07
Ford	x	x	12
Chevrolet	x	x	20
GMC	x	x	23
Grumman	x	x	25
Nissan/Datsun	x		35
Fiat	x		36
Isuzu	x	x	38
Mercedes Benz	x	x	42
Volvo	x	x	51
Mitsubishi	x		52
Brockway	x		80
Diamond Reo/Reo	x		81
Freightliner/White	x		82
FWD	x		83
International Harvester/ Navistar Kenworth	x	x	84
Mack	x		86
Peterbilt	x		87
Iveco/Magirus	x		88
Other Make			98



**Classification for Medium/Heavy Trucks and Buses (continued)**

For Make=98 (Other Medium/Heavy Trucks/ Buses, and Other Vehicle Makes), the following Model codes represent other truck and bus makes or types:

**Other Truck and Bus Makes:**


---

Autocar	801
Auto-Union-DKW	802
Divco	803
Western Star	804
Oshkosh	805
Hino	806
Scania	807
Sterling Trucks	808
Neoplan (bus)	902

Codes for medium and heavy truck models and bus models are shown below. These codes are used for all manufacturers of medium/heavy trucks and buses:

**Truck and Bus Models:**


---

Light truck based motorhome	498
Unknown type light motorhome	499
Truck based motorhome	850
Medium/Heavy CBE	881
Medium/Heavy COE-low entry	882
Medium/Heavy COE-high entry	883
Medium/Heavy Unknown engine location	884
Medium/Heavy COE-entry position unknown	890
Medium/Heavy - Other	898
Unknown light/medium/heavy truck	899
Bus based motorhome	950
Bus-conventional front engine	981
Bus - front engine/flat front	982
Bus - rear engine/flat front	983
Other Bus (e.g. Blue Bird, Chance Coach)	988
Unknown Bus	989
Other vehicle (e.g. farm vehicle, go-cart)	998
Unknown Vehicle	999

Appendix B:  
V23 Accident Type Diagram

Category	Configuration	CRASH TYPES (includes intent)					
I Single Driver	A Right Roadside Departure	01 DRIVE OFF ROAD	02 CONTROL/ TRACTION LOSS	03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN	
	B Left Roadside Departure	06 DRIVE OFF ROAD	07 CONTROL/ TRACTION LOSS	08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN	
	C Forward Impact	11 PARKED VEH	12 STA OBJECT	13 PEDESTRIAN/ ANIMAL	14 END DEPARTURE	15 SPECIFICS OTHER	16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear End	20, 21, 22, 23 STOPPED	24, 25, 26, 27 SLOWER	28, 29, 30, 31 DECEL.	(EACH - 32) SPECIFICS OTHER	(EACH - 33) SPECIFICS UNKNOWN	
	E Forward Impact	34, 35 CONTROL/ TRACTION LOSS	36, 37 CONTROL/ TRACTION LOSS	38, 39 AVOID COLLISION WITH VEH.	40, 41 AVOID COLLISION WITH OBJECT	(EACH - 42) SPECIFICS OTHER	(EACH - 43) SPECIFICS UNKNOWN
	F Angle, Sideswipe	44, 45	46, 47	(EACH - 48) SPECIFICS OTHER	(EACH - 49) SPECIFICS UNKNOWN		
III Same Trafficway Opposite Direction	G Head-On	50, 51	(EACH - 52) SPECIFICS OTHER	(EACH - 53) SPECIFICS UNKNOWN			
	H Forward Impact	54, 55 CONTROL/ TRACTION LOSS	56, 57 CONTROL/ TRACTION LOSS	58, 59 AVOID COLLISION WITH VEH.	60, 61 AVOID COLLISION WITH OBJECT	(EACH - 62) SPECIFICS OTHER	(EACH - 63) SPECIFICS UNKNOWN
	I Angle, Sideswipe	64, 65 Lateral Moves	(EACH - 66) SPECIFICS OTHER	(EACH - 67) SPECIFICS UNKNOWN			
IV Change Trafficway Vehicle Turning	J Turn Across Path	68, 69 Initial Opposite Directions	70, 71, 72 Initial Same Directions	(EACH - 74) SPECIFICS OTHER	(EACH - 75) SPECIFICS UNKNOWN		
	K Turn Into Path	76, 77, 78, 79 Turn Into Same Direction	80, 81, 82, 83 Turn Into Opposite Direction	(EACH - 84) SPECIFICS OTHER	(EACH - 85) SPECIFICS UNKNOWN		
V Intersect Paths	L Straight Paths	86, 87 Striking from the Right	88, 89 Striking from the Left	(EACH - 90) SPECIFICS OTHER	(EACH - 91) SPECIFICS UNKNOWN		
VI Misc.	M Backing, Etc.	92 Backing Veh.	93 Other Veh. or Object	98 Other Accident Type	99 Unknown Accident Type	00 No Impact	

**Appendix C:  
Summary Statistics**

The following two tables provide a summary of descriptive statistics from the NASS GES data sets. Table 1 represents the actual number of records or unweighted sample and Table 2 represents the national estimates or weighted sample for years 1988 - 2010. These statistics provide the analyst a benchmark to compare against numbers obtained from the analytical data sets.

**Table 1: Unweighted Sample**

Year	Crashes	Vehicles	People	Drivers	Occupants	Pedestrians	Pedalcyclists
1988	48,831	83,633	122,738	82,708	119,914	1,554	1,021
1989	44,105	74,778	110,896	74,354	107,447	1,880	1,315
1990	46,290	80,154	117,141	79,716	113,439	1,995	1,468
1991	42,600	73,833	108,955	73,481	105,580	1,723	1,348
1992	46,197	80,566	118,933	80,152	115,346	1,891	1,415
1993	55,644	96,544	143,525	96,209	138,759	2,589	1,845
1994	55,759	97,441	143,743	97,109	139,221	2,442	1,715
1995	53,749	95,803	140,512	95,477	136,890	1,909	1,336
1996	56,030	100,861	147,903	100,500	144,332	1,820	1,305
1997	55,562	100,032	145,890	99,688	142,366	1,838	1,266
1998	54,006	97,362	141,372	97,074	138,545	1,593	1,165
1999	52,913	94,846	137,048	94,549	134,095	1,736	1,108
2000	57,382	102,551	146,596	102,268	143,530	1,703	1,128
2001	55,964	100,161	143,281	99,893	140,147	1,732	1,005
2002	54,291	96,424	139,614	96,070	136,362	1,734	1,154
2003	59,156	105,295	151,167	104,951	147,730	1,895	1,122
2004	60,974	108,413	156,143	108,119	152,428	2,014	1,280
2005	54,597	96,340	137,884	96,059	134,523	1,778	1,207
2006	56,055	98,929	141,412	98,689	137,731	2,007	1,220
2007	61,282	107,202	152,727	106,935	148,370	2,356	1,446
2008	55,946	96,546	137,303	96,268	133,042	2,160	1,599
2009	44,645	77,594	110,990	77,389	107,469	1,778	1,305
2010	46,391	81,406	116,020	81,200	112,329	1,874	1,301

Drivers: PERSON TYPE = 1  
 Occupants: PERSON TYPE IN (1,2,9)  
 Pedestrians: PERSON TYPE = 5  
 Pedalcyclists: PERSON TYPE = 6 (6 or 7 in 2009 and Later)

**Table 2: Weighted Sample**

Year	Crashes	Vehicles	People	Drivers	Occupants	Pedestrians	Pedalcyclists
1988	6,876,780	12,007,970	17,247,886	11,851,683	17,005,088	121,474	82,535
1989	6,644,549	11,556,267	16,612,033	11,485,928	16,361,647	121,403	85,193
1990	6,462,126	11,315,087	16,298,795	11,252,874	16,061,886	116,405	86,059
1991	6,109,931	10,711,298	15,593,416	10,658,830	15,368,100	98,849	77,045
1992	5,992,938	10,535,596	15,339,372	10,485,244	15,136,291	94,646	71,084
1993	6,094,772	10,725,032	15,767,005	10,688,211	15,546,338	102,261	78,438
1994	6,489,122	11,487,378	16,836,682	11,451,723	16,617,814	101,781	70,862
1995	6,690,061	11,979,882	17,517,709	11,937,794	17,309,929	92,350	74,751
1996	6,761,051	12,082,760	17,704,717	12,043,981	17,490,909	89,992	67,892
1997	6,611,906	11,834,167	17,280,356	11,798,756	17,083,876	83,174	64,599
1998	6,325,242	11,386,502	16,521,887	11,354,181	16,338,158	73,829	59,581
1999	6,271,524	11,220,598	16,068,665	11,182,321	15,910,909	90,768	56,668
2000	6,389,310	11,346,184	16,113,394	11,317,668	15,952,464	83,156	56,350
2001	6,314,117	11,187,914	15,914,491	11,159,551	15,732,540	83,129	50,730
2002	6,304,493	11,168,656	15,737,226	11,129,037	15,569,434	74,491	51,684
2003	6,317,752	11,175,816	15,756,262	11,142,663	15,588,774	74,335	51,028
2004	6,169,998	10,945,334	15,341,895	10,916,913	15,183,714	73,478	44,436
2005	6,146,907	10,838,878	15,160,503	10,813,148	15,003,907	68,193	50,232
2006	5,964,194	10,571,511	14,695,390	10,545,598	14,532,697	65,404	48,524
2007	6,015,938	10,539,204	14,595,063	10,511,751	14,407,390	77,149	51,008
2008	5,801,228	10,096,536	13,914,399	10,066,779	13,729,518	73,417	57,439
2009	5,497,506	9,630,224	13,384,796	9,604,259	13,215,739	62,094	54,448
2010	5,408,612	9,551,084	13,216,589	9,526,827	13,029,817	74,649	55,513

Drivers: PERSON TYPE = 1  
 Occupants: PERSON TYPE IN (1,2,9)  
 Pedestrians: PERSON TYPE = 5  
 Pedalcyclists: PERSON TYPE = 6 (6 or 7 in 2009 and Later)

## Appendix D: Statistical Methods

### National Estimates:

The national estimates produced from the NASS GES data may differ from the true population values because they are based on a probability sample of police-reported crashes that involve injury or major property damage, rather than a census of these types of crashes. The size of these differences may vary depending on the makeup of the sample which is selected. The standard error of an estimate is a measure of the precision or reliability with which an estimate from this particular NASS GES sample approximates the result of a census.

### Generalized Estimated Sampling Errors

It is impractical to compute and provide a standard error for each national estimate. Instead, generalized standard errors for estimates of totals are presented in the following tables for 1988 to the current NASS GES year. The following steps produced the generalized standard errors:

1. The standard errors for selected estimates were calculated using Taylor series approximations. Generalized standard errors were calculated separately for crash, vehicle, and person characteristics.
2. Using regression techniques, three equations were found that best fit the separate standard errors for crash, vehicle, and person estimates.
3. The equations were used to generate approximate standard errors for the three types of estimates.

The NASS GES estimates and an estimate of one standard error are given in the following tables. By adding and subtracting the standard error to the associated estimate, a 95 percent confidence interval for an estimate can be created.

For example, if the estimated number of injured or killed pedestrians in 1995 was 90,000 (rounded to the nearest 1,000). To calculate one standard error for this person estimate, use the table on page 238. Look under the Person Estimate column for the value of 90,000. Look under the Person Standard Error column to the right for the corresponding person error value. For the person estimate of 90,000 the person standard error value is 7,100. The 95 percent confidence interval for this estimate would be approximately  $90,000 + \text{or} - 1.96 * (7,100)$  or 76,000 to 104,000.

If the person estimate falls between the values shown on the table linear interpolation will be required. For example, had the person estimate been 92,000 instead of 90,000 the person standard error would need to be calculated. Use linear interpolation from the standard error values for 90,000 and 100,000. One approximate standard error would be  $7,100 + 120 = 7,220$ . The 95 percent confidence interval for this estimate would be approximately  $92,000 + \text{or} - 1.96 * (7,220)$  or 78,000 to 106,000.

More information on standard error estimates can be obtained from the National Center for Statistics and Analysis.

1988 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	600	1,000	500	1,000	500
5,000	1,400	5,000	1,200	5,000	1,200
10,000	2,100	10,000	1,800	10,000	1,800
20,000	3,200	20,000	2,900	20,000	2,900
30,000	4,200	30,000	3,800	30,000	3,800
40,000	5,200	40,000	4,700	40,000	4,700
50,000	6,100	50,000	5,500	50,000	5,600
60,000	6,900	60,000	6,300	60,000	6,400
70,000	7,800	70,000	7,100	70,000	7,200
80,000	8,600	80,000	7,900	80,000	8,000
90,000	9,400	90,000	8,600	90,000	8,800
100,000	10,200	100,000	9,400	100,000	9,500
200,000	17,600	200,000	16,500	200,000	17,000
300,000	24,600	300,000	23,400	300,000	24,200
400,000	31,400	400,000	30,100	400,000	31,300
500,000	38,100	500,000	36,700	500,000	38,300
600,000	44,800	600,000	43,400	600,000	45,400
700,000	51,300	700,000	50,000	700,000	52,500
800,000	57,900	800,000	56,600	800,000	59,500
900,000	64,400	900,000	63,200	900,000	66,600
1,000,000	71,000	1,000,000	69,900	1,000,000	73,800
1,500,000	103,700	2,000,000	137,400	2,000,000	146,800
2,000,000	136,500	3,000,000	207,300	3,000,000	223,000
2,500,000	169,600	4,000,000	279,300	4,000,000	302,200
3,000,000	203,100	5,000,000	353,400	5,000,000	384,000
3,500,000	236,900	6,000,000	429,500	6,000,000	468,200
4,000,000	271,000	7,000,000	507,300	7,000,000	554,700
4,500,000	305,400	8,000,000	586,800	8,000,000	643,300
5,000,000	340,200	9,000,000	667,900	9,000,000	733,900
5,500,000	375,400	10,000,000	750,500	10,000,000	826,300
6,000,000	410,800	11,000,000	834,500	11,000,000	920,600
7,000,000	482,600	12,000,000	919,900	12,000,000	1,016,600
* $SE = e^{a/2+b/2(\ln X)**2}$ , where $a = 9.63$ $b = .067$		** $SE = e^{a/2+b/2(\ln X)**2}$ , where $a = 9.16$ $b = .069$		*** $SE = e^{a/2+b/2(\ln X)**2}$ , where $a = 9.04$ $b = .070$	

1989 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	600	1,000	500	1,000	500
5,000	1,400	5,000	1,200	5,000	1,200
10,000	2,100	10,000	1,800	10,000	1,800
20,000	3,200	20,000	2,900	20,000	2,900
30,000	4,200	30,000	3,800	30,000	3,800
40,000	5,200	40,000	4,700	40,000	4,700
50,000	6,100	50,000	5,500	50,000	5,600
60,000	6,900	60,000	6,300	60,000	6,400
70,000	7,800	70,000	7,100	70,000	7,200
80,000	8,600	80,000	7,900	80,000	8,000
90,000	9,400	90,000	8,600	90,000	8,800
100,000	10,200	100,000	9,400	100,000	9,500
200,000	17,600	200,000	16,500	200,000	17,000
300,000	24,600	300,000	23,400	300,000	24,200
400,000	31,400	400,000	30,100	400,000	31,300
500,000	38,100	500,000	36,700	500,000	38,300
600,000	44,800	600,000	43,400	600,000	45,400
700,000	51,300	700,000	50,000	700,000	52,500
800,000	57,900	800,000	56,600	800,000	59,500
900,000	64,400	900,000	63,200	900,000	66,600
1,000,000	71,000	1,000,000	69,900	1,000,000	73,800
1,500,000	103,700	2,000,000	137,400	2,000,000	146,800
2,000,000	136,500	3,000,000	207,300	3,000,000	223,000
2,500,000	169,600	4,000,000	279,300	4,000,000	302,200
3,000,000	203,100	5,000,000	353,400	5,000,000	384,000
3,500,000	236,900	6,000,000	429,500	6,000,000	468,200
4,000,000	271,000	7,000,000	507,300	7,000,000	554,700
4,500,000	305,400	8,000,000	586,800	8,000,000	643,300
5,000,000	340,200	9,000,000	667,900	9,000,000	733,900
5,500,000	375,400	10,000,000	750,500	10,000,000	826,300
6,000,000	410,800	11,000,000	834,500	11,000,000	920,600
7,000,000	482,600	12,000,000	919,900	12,000,000	1,016,600
* $SE = e^{a/2+b/2(\ln X)^{**2}}$ , where $a = 9.63$ $b = .067$		** $SE = e^{a/2+b/2(\ln X)^{**2}}$ , where $a = 9.16$ $b = .069$		*** $SE = e^{a/2+b/2(\ln X)^{**2}}$ , where $a = 9.04$ $b = .070$	

1990 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	700	1,000	400	1,000	400
5,000	1,400	5,000	1,000	5,000	1,000
10,000	2,100	10,000	1,600	10,000	1,500
20,000	3,300	20,000	2,500	20,000	2,400
30,000	4,200	30,000	3,400	30,000	3,100
40,000	5,100	40,000	4,200	40,000	3,900
50,000	5,900	50,000	4,900	50,000	4,500
60,000	6,800	60,000	5,700	60,000	5,200
70,000	7,500	70,000	6,400	70,000	5,800
80,000	8,300	80,000	7,100	80,000	6,500
90,000	9,000	90,000	7,800	90,000	7,100
100,000	9,700	100,000	8,500	100,000	7,700
200,000	16,400	200,000	15,000	200,000	13,400
300,000	22,600	300,000	21,300	300,000	18,900
400,000	28,600	400,000	27,500	400,000	24,300
500,000	34,400	500,000	33,700	500,000	29,600
600,000	40,000	600,000	39,900	600,000	34,800
700,000	45,700	700,000	46,100	700,000	40,100
800,000	51,200	800,000	52,200	800,000	45,300
900,000	56,700	900,000	58,400	900,000	50,600
1,000,000	62,200	1,000,000	64,700	1,000,000	55,800
1,500,000	116,200	2,000,000	128,300	2,000,000	108,800
2,000,000	169,800	3,000,000	194,500	3,000,000	163,200
2,500,000	223,700	4,000,000	263,100	4,000,000	219,100
3,000,000	278,000	5,000,000	334,000	5,000,000	276,400
3,500,000	332,800	6,000,000	406,900	6,000,000	335,200
4,000,000	388,100	7,000,000	481,600	7,000,000	394,900
4,500,000	444,000	8,000,000	558,200	8,000,000	455,900
5,000,000	500,400	9,000,000	636,400	9,000,000	518,100
5,500,000	557,300	10,000,000	716,100	10,000,000	581,300
6,000,000	614,700	11,000,000	797,400	11,000,000	645,500
7,000,000	672,500	12,000,000	808,100	12,000,000	710,600

  

<p>* <math>SE = e^{(a/2)+(b/2)(\ln(x))^2}</math>, where  <math>a = 9.93401</math>  <math>b = 0.06362</math></p>	<p>** <math>SE = e^{(a/2)+(b/2)(\ln(x))^2}</math>, where  <math>a = 8.83524</math>  <math>b = 0.06977</math></p>	<p>*** <math>SE = e^{(a/2)+(b/2)(\ln(x))^2}</math>, where  <math>a = 8.88000</math>  <math>b = 0.06800</math></p>
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1991 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	600	1,000	500	1,000	400
5,000	1,400	5,000	1,100	5,000	1,000
10,000	2,100	10,000	1,600	10,000	1,500
20,000	3,200	20,000	2,600	20,000	2,400
30,000	4,200	30,000	3,500	30,000	3,200
40,000	5,000	40,000	4,300	40,000	4,000
50,000	5,900	50,000	5,000	50,000	4,700
60,000	6,700	60,000	5,800	60,000	5,400
70,000	7,500	70,000	6,500	70,000	6,100
80,000	8,200	80,000	7,200	80,000	6,800
90,000	9,000	90,000	7,900	90,000	7,500
100,000	9,700	100,000	8,600	100,000	8,200
200,000	16,500	200,000	15,200	200,000	14,600
300,000	22,800	300,000	21,600	300,000	20,900
400,000	29,000	400,000	27,800	400,000	27,200
500,000	34,900	500,000	34,000	500,000	33,400
600,000	40,800	600,000	40,200	600,000	39,700
700,000	46,600	700,000	46,400	700,000	46,000
800,000	52,400	800,000	52,600	800,000	52,300
900,000	58,100	900,000	58,900	900,000	58,600
1,000,000	63,800	1,000,000	65,100	1,000,000	65,000
2,000,000	120,300	2,000,000	128,600	2,000,000	130,600
3,000,000	176,900	3,000,000	194,600	3,000,000	199,700
4,000,000	234,000	4,000,000	262,900	4,000,000	271,800
5,000,000	291,700	5,000,000	333,200	5,000,000	346,600
6,000,000	350,200	6,000,000	405,500	6,000,000	423,900
7,000,000	409,400	7,000,000	479,600	7,000,000	503,500
8,000,000	469,300	8,000,000	555,400	8,000,000	585,200
9,000,000	529,900	9,000,000	632,700	9,000,000	668,900
10,000,000	591,100	10,000,000	711,600	10,000,000	754,500
11,000,000	652,900	11,000,000	791,900	11,000,000	842,000
12,000,000	715,400	12,000,000	873,600	12,000,000	931,100
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.900441$ $b = 0.032292$		** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.460186$ $b = 0.034701$		*** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.291460$ $b = 0.035576$	

1992 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,100	5,000	1,000	5,000	900
6,000	1,200	10,000	1,500	10,000	1,400
7,000	1,300	20,000	2,500	20,000	2,200
8,000	1,400	30,000	3,300	30,000	3,000
9,000	1,600	40,000	4,100	40,000	3,700
10,000	1,700	50,000	4,800	50,000	4,400
20,000	2,700	60,000	5,600	60,000	5,100
30,000	3,600	70,000	6,300	70,000	5,800
40,000	4,400	80,000	7,000	80,000	6,500
50,000	5,200	90,000	7,700	90,000	7,200
60,000	6,000	100,000	8,400	100,000	7,800
70,000	6,800	200,000	15,200	200,000	14,200
80,000	7,600	300,000	21,800	300,000	20,600
90,000	8,300	400,000	28,300	400,000	26,900
100,000	9,100	500,000	34,900	500,000	33,200
200,000	16,200	600,000	41,500	600,000	39,600
300,000	23,200	700,000	48,100	700,000	46,000
400,000	30,100	800,000	54,700	800,000	52,400
500,000	36,900	900,000	61,400	900,000	59,000
600,000	43,800	1,000,000	68,100	1,000,000	65,500
700,000	50,700	2,000,000	137,500	2,000,000	134,100
800,000	57,600	3,000,000	210,800	3,000,000	207,100
900,000	64,600	4,000,000	287,500	4,000,000	284,000
1,000,000	71,600	5,000,000	367,200	5,000,000	364,400
2,000,000	143,600	6,000,000	449,700	6,000,000	447,900
3,000,000	219,200	7,000,000	534,700	7,000,000	534,200
4,000,000	298,000	8,000,000	622,100	8,000,000	623,200
5,000,000	379,700	9,000,000	711,700	9,000,000	714,700
6,000,000	464,000	10,000,000	803,400	10,000,000	808,500
6,500,000	507,100	11,000,000	897,100	11,000,000	904,600
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.413218$ $b = 0.035447$		** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.294210$ $b = 0.035807$		*** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.132995$ $b = 0.036452$	

1993 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,000	5,000	1,000	5,000	900
6,000	1,200	10,000	1,500	10,000	1,400
7,000	1,300	20,000	2,400	20,000	2,200
8,000	1,400	30,000	3,200	30,000	3,000
9,000	1,500	40,000	4,000	40,000	3,700
10,000	1,600	50,000	4,700	50,000	4,400
20,000	2,600	60,000	5,400	60,000	5,100
30,000	3,500	70,000	6,100	70,000	5,700
40,000	4,300	80,000	6,800	80,000	6,400
50,000	5,100	90,000	7,500	90,000	7,000
60,000	5,800	100,000	8,100	100,000	7,600
70,000	6,600	200,000	14,600	200,000	13,700
80,000	7,300	300,000	20,900	300,000	19,600
90,000	8,000	400,000	27,100	400,000	25,400
100,000	8,700	500,000	33,300	500,000	31,300
200,000	15,600	600,000	39,500	600,000	37,100
300,000	22,300	700,000	45,800	700,000	43,000
400,000	29,000	800,000	52,100	800,000	48,900
500,000	35,600	900,000	58,400	900,000	54,800
600,000	42,200	1,000,000	64,700	1,000,000	60,800
700,000	48,800	2,000,000	130,200	2,000,000	122,200
800,000	55,400	3,000,000	199,100	3,000,000	186,900
900,000	62,100	4,000,000	271,000	4,000,000	254,400
1,000,000	68,800	5,000,000	345,600	5,000,000	324,400
2,000,000	137,800	6,000,000	422,700	6,000,000	396,800
3,000,000	210,100	7,000,000	502,000	7,000,000	471,300
4,000,000	285,500	8,000,000	583,500	8,000,000	547,800
5,000,000	363,600	9,000,000	667,000	9,000,000	626,200
6,000,000	444,100	10,000,000	752,400	10,000,000	706,300
6,500,000	485,200	11,000,000	839,600	11,000,000	788,200
7,000,000	526,900	12,000,000	928,600	12,000,000	871,700
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.388598$ $b = 0.035368$		** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.285811$ $b = 0.035587$		*** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.222608$ $b = 0.035587$	

1994 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,000	5,000	1,000	5,000	900
6,000	1,200	10,000	1,500	10,000	1,400
7,000	1,300	20,000	2,500	20,000	2,300
8,000	1,400	30,000	3,300	30,000	3,100
9,000	1,500	40,000	4,200	40,000	3,800
10,000	1,600	50,000	4,900	50,000	4,500
20,000	2,600	60,000	5,700	60,000	5,200
30,000	3,500	70,000	6,500	70,000	5,900
40,000	4,400	80,000	7,200	80,000	6,500
50,000	5,200	90,000	7,900	90,000	7,200
60,000	6,000	100,000	8,600	100,000	7,800
70,000	6,700	200,000	15,600	200,000	14,100
80,000	7,500	300,000	22,500	300,000	20,300
90,000	8,300	400,000	29,300	400,000	26,400
100,000	9,000	500,000	36,100	500,000	32,600
200,000	16,300	600,000	42,900	600,000	38,700
300,000	23,300	700,000	49,800	700,000	44,900
400,000	30,400	800,000	56,800	800,000	51,100
500,000	37,400	900,000	63,700	900,000	57,400
600,000	44,500	1,000,000	70,800	1,000,000	63,700
700,000	51,500	2,000,000	143,700	2,000,000	128,900
800,000	58,700	3,000,000	220,900	3,000,000	197,800
900,000	65,900	4,000,000	301,900	4,000,000	270,000
1,000,000	73,100	5,000,000	386,300	5,000,000	345,200
2,000,000	147,900	6,000,000	473,700	6,000,000	422,900
3,000,000	227,000	7,000,000	564,000	7,000,000	503,100
4,000,000	309,800	8,000,000	656,800	8,000,000	585,600
5,000,000	395,900	9,000,000	752,200	9,000,000	670,300
6,000,000	485,000	10,000,000	849,800	10,000,000	756,900
6,500,000	530,700	11,000,000	949,700	11,000,000	845,500
7,000,000	577,000	12,000,000	1,051,700	12,000,000	935,900
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.347699$ $b = 0.035898$		** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.283883$ $b = 0.036063$		*** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.206542$ $b = 0.035915$	

1995 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,000	5,000	1,000	5,000	900
6,000	1,200	10,000	1,600	10,000	1,400
7,000	1,300	20,000	2,500	20,000	2,300
8,000	1,400	30,000	3,300	30,000	3,100
9,000	1,500	40,000	4,200	40,000	3,800
10,000	1,600	50,000	4,900	50,000	4,500
20,000	2,600	60,000	5,700	60,000	5,100
30,000	3,500	70,000	6,400	70,000	5,800
40,000	4,300	80,000	7,100	80,000	6,400
50,000	5,100	90,000	7,800	90,000	7,100
60,000	5,900	100,000	8,500	100,000	7,700
70,000	6,600	200,000	15,300	200,000	13,700
80,000	7,400	300,000	22,000	300,000	19,600
90,000	8,100	400,000	28,500	400,000	25,300
100,000	8,800	500,000	35,100	500,000	31,000
200,000	15,800	600,000	41,700	600,000	36,800
300,000	22,700	700,000	48,200	700,000	42,500
400,000	29,400	800,000	54,900	800,000	48,300
500,000	36,200	900,000	61,500	900,000	54,000
600,000	43,000	1,000,000	68,200	1,000,000	59,800
700,000	49,800	2,000,000	137,300	2,000,000	119,300
800,000	56,600	3,000,000	210,100	3,000,000	181,500
900,000	63,500	4,000,000	286,100	4,000,000	246,100
1,000,000	70,400	5,000,000	365,000	5,000,000	313,000
2,000,000	141,700	6,000,000	446,500	6,000,000	381,900
3,000,000	216,800	7,000,000	530,400	7,000,000	452,600
4,000,000	295,200	8,000,000	616,700	8,000,000	525,100
5,000,000	376,500	9,000,000	705,000	9,000,000	599,300
6,000,000	460,600	10,000,000	795,400	10,000,000	675,100
6,500,000	503,600	11,000,000	887,700	11,000,000	752,300
7,000,000	547,200	12,000,000	981,900	12,000,000	831,000
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.362086$ $b = 0.035627$		** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.329914$ $b = 0.035631$		*** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.289002$ $b = 0.035157$	

1996 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	500	1,000	400	1,000	400
5,000	1,100	5,000	1,000	5,000	1,000
6,000	1,200	10,000	1,600	10,000	1,500
7,000	1,300	20,000	2,500	20,000	2,300
8,000	1,500	30,000	3,300	30,000	3,100
9,000	1,600	40,000	4,100	40,000	3,800
10,000	1,700	50,000	4,900	50,000	4,400
20,000	2,600	60,000	5,600	60,000	5,100
30,000	3,500	70,000	6,300	70,000	5,700
40,000	4,300	80,000	7,000	80,000	6,300
50,000	5,000	90,000	7,700	90,000	6,900
60,000	5,800	100,000	8,400	100,000	7,500
70,000	6,500	200,000	14,900	200,000	13,100
80,000	7,200	300,000	21,300	300,000	18,500
90,000	7,900	400,000	27,500	400,000	23,700
100,000	8,500	500,000	33,800	500,000	28,900
200,000	15,000	600,000	40,000	600,000	34,100
300,000	21,100	700,000	46,200	700,000	39,200
400,000	27,100	800,000	52,500	800,000	44,300
500,000	33,100	900,000	58,800	900,000	49,400
600,000	39,000	1,000,000	65,100	1,000,000	54,600
700,000	44,900	2,000,000	129,800	2,000,000	106,400
800,000	50,800	3,000,000	197,400	3,000,000	159,600
900,000	56,700	4,000,000	267,600	4,000,000	214,300
1,000,000	62,700	5,000,000	340,300	5,000,000	270,300
2,000,000	122,600	6,000,000	415,200	6,000,000	327,700
3,000,000	184,300	7,000,000	492,100	7,000,000	386,200
4,000,000	247,800	8,000,000	570,900	8,000,000	445,900
5,000,000	313,000	9,000,000	651,500	9,000,000	506,700
6,000,000	379,800	10,000,000	733,900	10,000,000	568,500
6,500,000	413,700	11,000,000	817,800	11,000,000	631,300
7,000,000	448,000	12,000,000	903,300	12,000,000	695,100
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.521508$ $b = 0.034180$		** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.374631$ $b = 0.035149$		*** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.417590$ $b = 0.034001$	

1997 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,100	5,000	1,000	5,000	1,000
6,000	1,200	10,000	1,600	10,000	1,600
7,000	1,300	20,000	2,500	20,000	2,500
8,000	1,400	30,000	3,300	30,000	3,300
9,000	1,500	40,000	4,100	40,000	4,100
10,000	1,600	50,000	4,900	50,000	4,800
20,000	2,600	60,000	5,600	60,000	5,600
30,000	3,500	70,000	6,400	70,000	6,300
40,000	4,300	80,000	7,100	80,000	7,000
50,000	5,100	90,000	7,800	90,000	7,700
60,000	5,900	100,000	8,500	100,000	8,300
70,000	6,600	200,000	15,200	200,000	14,800
80,000	7,400	300,000	21,800	300,000	21,000
90,000	8,100	400,000	28,300	400,000	27,200
100,000	8,800	500,000	34,800	500,000	33,300
200,000	15,700	600,000	41,300	600,000	39,400
300,000	22,400	700,000	47,800	700,000	45,600
400,000	29,000	800,000	54,400	800,000	51,700
500,000	35,500	900,000	60,900	900,000	57,800
600,000	42,100	1,000,000	67,600	1,000,000	64,000
700,000	48,600	2,000,000	135,900	2,000,000	127,200
800,000	55,200	3,000,000	207,700	3,000,000	193,100
900,000	61,800	4,000,000	282,600	4,000,000	261,400
1,000,000	68,500	5,000,000	360,400	5,000,000	332,000
2,000,000	136,500	6,000,000	440,800	6,000,000	404,700
3,000,000	207,600	7,000,000	523,500	7,000,000	479,300
4,000,000	281,500	8,000,000	608,400	8,000,000	555,700
5,000,000	358,000	9,000,000	695,500	9,000,000	633,700
6,000,000	436,800	10,000,000	784,500	10,000,000	713,400
6,500,000	477,000	11,000,000	875,300	11,000,000	794,600
7,000,000	517,000	12,000,000	968,000	12,000,000	877,200
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.424135$ $b = 0.035154$		** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.331394$ $b = 0.035572$		*** $SE = e^{a+b(\ln X)^2}$ , where $a = 4.390740$ $b = 0.034978$	

1998 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	500
5,000	1,000	5,000	1,000	5,000	1,000
6,000	1,100	10,000	1,500	10,000	1,600
7,000	1,300	20,000	2,500	20,000	2,400
8,000	1,400	30,000	3,300	30,000	3,200
9,000	1,500	40,000	4,000	40,000	3,900
10,000	1,600	50,000	4,800	50,000	4,600
20,000	2,500	60,000	5,500	60,000	5,200
30,000	3,300	70,000	6,200	70,000	5,900
40,000	4,100	80,000	6,900	80,000	6,500
50,000	4,900	90,000	7,500	90,000	7,100
60,000	5,600	100,000	8,200	100,000	7,700
70,000	6,300	200,000	14,600	200,000	13,200
80,000	7,000	300,000	20,800	300,000	18,400
90,000	7,600	400,000	26,800	400,000	23,500
100,000	8,300	500,000	32,900	500,000	28,500
200,000	14,700	600,000	38,900	600,000	33,400
300,000	20,900	700,000	45,000	700,000	38,300
400,000	27,000	800,000	51,100	800,000	43,100
500,000	33,000	900,000	57,100	900,000	48,000
600,000	39,000	1,000,000	63,200	1,000,000	52,800
700,000	45,000	2,000,000	125,800	2,000,000	101,200
800,000	51,100	3,000,000	191,000	3,000,000	150,200
900,000	57,100	4,000,000	258,600	4,000,000	200,200
1,000,000	63,200	5,000,000	328,600	5,000,000	251,000
2,000,000	125,000	6,000,000	400,500	6,000,000	302,800
3,000,000	189,300	7,000,000	474,400	7,000,000	355,400
4,000,000	255,900	8,000,000	550,100	8,000,000	408,800
5,000,000	324,500	9,000,000	627,500	9,000,000	463,000
6,000,000	395,100	10,000,000	706,400	10,000,000	517,900
6,500,000	431,000	11,000,000	786,900	11,000,000	573,600
7,000,000	467,400	12,000,000	868,900	12,000,000	629,900

  

<p>* <math>SE = e^{a+b(\ln X)^2}</math>, where  <math>a = 4.415376</math>  <math>b = 0.034778</math></p>	<p>* <math>SE = e^{a+b(\ln X)^2}</math>, where  <math>a = 4.371851</math>  <math>b = 0.035013</math></p>	<p>* <math>SE = e^{a+b(\ln X)^2}</math>, where  <math>a = 4.551937</math>  <math>b = 0.033125</math></p>
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1999 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,000	5,000	1,000	5,000	1,000
6,000	1,100	10,000	1,500	10,000	1,500
7,000	1,300	20,000	2,400	20,000	2,300
8,000	1,400	30,000	3,200	30,000	3,100
9,000	1,500	40,000	3,900	40,000	3,800
10,000	1,600	50,000	4,600	50,000	4,400
20,000	2,500	60,000	5,300	60,000	5,100
30,000	3,300	70,000	6,000	70,000	5,700
40,000	4,100	80,000	6,700	80,000	6,300
50,000	4,800	90,000	7,300	90,000	6,900
60,000	5,500	100,000	8,000	100,000	7,500
70,000	6,200	200,000	14,200	200,000	13,000
80,000	6,900	300,000	20,200	300,000	18,200
90,000	7,600	400,000	26,100	400,000	23,300
100,000	8,300	500,000	32,000	500,000	28,400
200,000	14,600	600,000	37,800	600,000	33,400
300,000	20,800	700,000	43,700	700,000	38,300
400,000	26,800	800,000	49,600	800,000	43,300
500,000	32,800	900,000	55,500	900,000	48,200
600,000	38,800	1,000,000	61,400	1,000,000	53,200
700,000	47,700	2,000,000	122,100	2,000,000	103,000
800,000	50,700	3,000,000	185,400	3,000,000	154,000
900,000	56,700	4,000,000	251,000	4,000,000	206,200
1,000,000	62,700	5,000,000	318,800	5,000,000	259,600
2,000,000	124,100	6,000,000	388,600	6,000,000	314,100
3,000,000	187,800	7,000,000	460,300	7,000,000	369,600
4,000,000	253,800	8,000,000	533,600	8,000,000	426,200
5,000,000	321,800	9,000,000	608,600	9,000,000	483,700
6,000,000	391,700	10,000,000	685,200	10,000,000	542,100
6,500,000	427,300	11,000,000	763,100	11,000,000	601,400
7,000,000	463,300	12,000,000	842,600	12,000,000	661,500
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.414534$ $b = 0.034746$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.348017$ $b = 0.034987$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.452860$ $b = 0.033682$	

2000 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,000	5,000	1,000	5,000	1,000
6,000	1,100	10,000	1,500	10,000	1,500
7,000	1,200	20,000	2,400	20,000	2,400
8,000	1,300	30,000	3,100	30,000	3,100
9,000	1,400	40,000	3,900	40,000	3,800
10,000	1,500	50,000	4,600	50,000	4,500
20,000	2,400	60,000	5,300	60,000	5,100
30,000	3,200	70,000	5,900	70,000	5,700
40,000	4,000	80,000	6,600	80,000	6,300
50,000	4,700	90,000	7,200	90,000	6,900
60,000	5,400	100,000	7,900	100,000	7,500
70,000	6,100	200,000	14,000	200,000	13,000
80,000	6,800	300,000	19,900	300,000	18,200
90,000	7,500	400,000	25,700	400,000	23,200
100,000	8,200	500,000	31,500	500,000	28,200
200,000	14,600	600,000	37,300	600,000	33,200
300,000	20,800	700,000	43,100	700,000	38,100
400,000	26,900	800,000	48,900	800,000	43,000
500,000	33,300	900,000	54,700	900,000	47,900
600,000	39,100	1,000,000	60,600	1,000,000	52,800
700,000	45,300	2,000,000	120,400	2,000,000	101,800
800,000	51,400	3,000,000	182,800	3,000,000	151,900
900,000	57,600	4,000,000	247,400	4,000,000	203,000
1,000,000	63,800	5,000,000	314,300	5,000,000	255,200
2,000,000	127,300	6,000,000	383,100	6,000,000	308,400
3,000,000	193,900	7,000,000	453,600	7,000,000	362,700
4,000,000	263,100	8,000,000	525,900	8,000,000	417,800
5,000,000	334,800	9,000,000	599,800	9,000,000	473,800
6,000,000	408,700	10,000,000	675,200	10,000,000	530,700
6,500,000	446,400	11,000,000	752,100	11,000,000	588,400
7,000,000	484,600	12,000,000	830,300	12,000,000	646,900
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.336620$ $b = 0.035240$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.335260$ $b = 0.034980$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.481530$ $b = 0.033490$	

2001 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,000	5,000	1,000	5,000	1,000
6,000	1,100	10,000	1,500	10,000	1,400
7,000	1,200	20,000	2,300	20,000	2,200
8,000	1,300	30,000	3,100	30,000	2,900
9,000	1,400	40,000	3,800	40,000	3,600
10,000	1,500	50,000	4,500	50,000	4,200
20,000	2,400	60,000	5,200	60,000	4,800
30,000	3,200	70,000	5,900	70,000	5,400
40,000	4,000	80,000	6,500	80,000	6,000
50,000	4,700	90,000	7,100	90,000	6,500
60,000	5,400	100,000	7,800	100,000	7,100
70,000	6,100	200,000	13,800	200,000	12,200
80,000	6,800	300,000	19,600	300,000	17,100
90,000	7,400	400,000	25,300	400,000	21,900
100,000	8,100	500,000	30,900	500,000	26,500
200,000	14,400	600,000	36,600	600,000	31,100
300,000	20,500	700,000	42,200	700,000	35,700
400,000	26,500	800,000	47,900	800,000	40,300
500,000	32,500	900,000	56,600	900,000	44,900
600,000	38,500	1,000,000	59,300	1,000,000	49,400
700,000	44,500	2,000,000	117,500	2,000,000	95,200
800,000	50,500	3,000,000	178,000	3,000,000	141,700
900,000	56,500	4,000,000	240,800	4,000,000	189,100
1,000,000	62,600	5,000,000	305,500	5,000,000	237,500
2,000,000	124,600	6,000,000	372,100	6,000,000	286,800
3,000,000	189,400	7,000,000	440,400	7,000,000	337,000
4,000,000	256,600	8,000,000	410,300	8,000,000	388,100
5,000,000	326,100	9,000,000	581,700	9,000,000	439,900
6,000,000	397,700	10,000,000	654,600	10,000,000	492,400
6,500,000	432,200	11,000,000	728,800	11,000,000	545,700
7,000,000	471,200	12,000,000	804,300	12,000,000	599,700
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.350780$ $b = 0.035070$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.337980$ $b = 0.034850$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.443040$ $b = 0.033350$	

2002 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,000	5,000	1,000	5,000	1,000
6,000	1,100	10,000	1,600	10,000	1,500
7,000	1,200	20,000	2,500	20,000	2,300
8,000	1,300	30,000	3,300	30,000	3,100
9,000	1,400	40,000	4,100	40,000	3,700
10,000	1,500	50,000	4,800	50,000	4,400
20,000	2,500	60,000	5,500	60,000	5,000
30,000	3,300	70,000	6,200	70,000	5,600
40,000	4,100	80,000	6,900	80,000	6,200
50,000	4,800	90,000	7,500	90,000	6,800
60,000	5,500	100,000	8,200	100,000	7,300
70,000	6,300	200,000	14,500	200,000	12,600
80,000	6,900	300,000	20,600	300,000	17,600
90,000	7,600	400,000	26,500	400,000	22,500
100,000	8,300	500,000	32,500	500,000	27,300
200,000	14,800	600,000	38,400	600,000	32,200
300,000	21,100	700,000	44,300	700,000	36,700
400,000	27,400	800,000	50,200	800,000	41,400
500,000	33,600	900,000	56,100	900,000	46,000
600,000	39,800	1,000,000	62,000	1,000,000	50,700
700,000	46,100	2,000,000	122,600	2,000,000	95,200
800,000	52,300	3,000,000	185,400	3,000,000	144,500
900,000	58,600	4,000,000	250,500	4,000,000	192,600
1,000,000	64,900	5,000,000	317,500	5,000,000	241,600
2,000,000	129,600	6,000,000	386,300	6,000,000	291,600
3,000,000	197,200	7,000,000	456,900	7,000,000	342,300
4,000,000	267,700	8,000,000	529,000	8,000,000	393,900
5,000,000	340,500	9,000,000	602,700	9,000,000	446,200
6,000,000	415,600	10,000,000	677,800	10,000,000	499,300
6,500,000	454,000	11,000,000	754,300	11,000,000	553,000
7,000,000	492,800	12,000,000	832,000	12,000,000	607,500
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.355970$ $b = 0.035230$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.414370$ $b = 0.034690$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.498340$ $b = 0.033190$	

2003 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	900	5,000	900	5,000	900
6,000	1,000	10,000	1,500	10,000	1,400
7,000	1,100	20,000	2,300	20,000	2,200
8,000	1,200	30,000	3,100	30,000	2,900
9,000	1,300	40,000	3,900	40,000	3,500
10,000	1,400	50,000	4,600	50,000	4,200
20,000	2,300	60,000	5,300	60,000	4,800
30,000	3,100	70,000	6,000	70,000	5,400
40,000	3,900	80,000	6,600	80,000	5,900
50,000	4,600	90,000	7,300	90,000	6,500
60,000	5,300	100,000	8,000	100,000	7,100
70,000	6,000	200,000	14,300	200,000	12,300
80,000	6,700	300,000	20,400	300,000	17,400
90,000	7,400	400,000	26,500	400,000	22,300
100,000	8,000	500,000	32,600	500,000	27,200
200,000	14,500	600,000	38,600	600,000	32,000
300,000	20,900	700,000	44,700	700,000	36,800
400,000	27,200	800,000	50,900	800,000	41,600
500,000	33,500	900,000	57,000	900,000	46,500
600,000	39,900	1,000,000	63,200	1,000,000	51,300
700,000	46,300	2,000,000	126,900	2,000,000	99,900
800,000	52,700	3,000,000	194,000	3,000,000	149,900
900,000	59,200	4,000,000	263,900	4,000,000	201,200
1,000,000	65,700	5,000,000	336,400	5,000,000	253,800
2,000,000	133,500	6,000,000	411,300	6,000,000	307,600
3,000,000	205,200	7,000,000	488,400	7,000,000	362,600
4,000,000	280,500	8,000,000	567,500	8,000,000	418,600
5,000,000	359,000	9,000,000	648,600	9,000,000	475,700
6,000,000	440,200	10,000,000	731,500	10,000,000	533,700
6,500,000	481,900	11,000,000	816,100	11,000,000	592,600
7,000,000	524,100	12,000,000	902,400	12,000,000	652,400
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.208860$ $b = 0.036070$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.272400$ $b = 0.035530$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.357200$ $b = 0.033990$	

2004 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	900	5,000	900	5,000	900
6,000	1,000	10,000	1,400	10,000	1,400
7,000	1,100	20,000	2,300	20,000	2,100
8,000	1,200	30,000	3,100	30,000	2,800
9,000	1,300	40,000	3,800	40,000	3,500
10,000	1,400	50,000	4,500	50,000	4,100
20,000	2,300	60,000	5,200	60,000	4,700
30,000	3,100	70,000	5,900	70,000	5,300
40,000	3,800	80,000	6,600	80,000	5,800
50,000	4,600	90,000	7,200	90,000	6,400
60,000	5,300	100,000	7,900	100,000	6,900
70,000	6,000	200,000	14,200	200,000	12,200
80,000	6,700	300,000	20,300	300,000	17,200
90,000	7,300	400,000	26,300	400,000	22,200
100,000	8,000	500,000	32,400	500,000	27,100
200,000	14,600	600,000	38,500	600,000	31,900
300,000	21,000	700,000	44,600	700,000	36,800
400,000	27,400	800,000	50,700	800,000	41,600
500,000	33,800	900,000	56,900	900,000	46,500
600,000	40,300	1,000,000	63,100	1,000,000	51,400
700,000	46,900	2,000,000	127,200	2,000,000	100,700
800,000	53,400	3,000,000	194,700	3,000,000	151,700
900,000	60,100	4,000,000	265,200	4,000,000	204,200
1,000,000	66,700	5,000,000	338,500	5,000,000	258,100
2,000,000	136,300	6,000,000	414,200	6,000,000	313,400
3,000,000	210,300	7,000,000	492,200	7,000,000	370,000
4,000,000	288,100	8,000,000	572,400	8,000,000	427,800
5,000,000	369,400	9,000,000	654,500	9,000,000	486,600
6,000,000	453,800	10,000,000	738,600	10,000,000	546,600
6,500,000	497,100	11,000,000	824,400	11,000,000	607,500
7,000,000	541,000	12,000,000	912,000	12,000,000	669,400
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.168580$ $b = 0.036360$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.240450$ $b = 0.035690$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.297920$ $b = 0.034310$	

2005 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,000	5,000	1,000	5,000	900
6,000	1,100	10,000	1,500	10,000	1,400
7,000	1,200	20,000	2,400	20,000	2,300
8,000	1,300	30,000	3,200	30,000	3,000
9,000	1,400	40,000	4,000	40,000	3,700
10,000	1,500	50,000	4,700	50,000	4,300
20,000	2,400	60,000	5,400	60,000	5,000
30,000	3,200	70,000	6,100	70,000	5,600
40,000	4,000	80,000	6,800	80,000	6,200
50,000	4,700	90,000	7,500	90,000	6,800
60,000	5,400	100,000	8,200	100,000	7,400
70,000	6,200	200,000	14,700	200,000	12,900
80,000	6,900	300,000	21,000	300,000	18,200
90,000	7,500	400,000	27,300	400,000	23,400
100,000	8,200	500,000	33,600	500,000	28,500
200,000	14,900	600,000	39,800	600,000	33,600
300,000	21,300	700,000	46,200	700,000	38,700
400,000	27,800	800,000	52,500	800,000	43,800
500,000	34,200	900,000	58,900	900,000	48,900
600,000	40,700	1,000,000	65,300	1,000,000	54,000
700,000	47,200	2,000,000	131,600	2,000,000	105,700
800,000	53,700	3,000,000	201,300	3,000,000	158,800
900,000	60,300	4,000,000	274,200	4,000,000	213,600
1,000,000	66,900	5,000,000	350,000	5,000,000	269,800
2,000,000	135,400	6,000,000	428,200	6,000,000	327,300
3,000,000	207,800	7,000,000	508,800	7,000,000	386,200
4,000,000	283,700	8,000,000	591,600	8,000,000	446,200
5,000,000	362,600	9,000,000	676,500	9,000,000	507,400
6,000,000	444,400	10,000,000	763,300	10,000,000	596,600
6,500,000	486,200	11,000,000	852,000	11,000,000	662,900
7,000,000	528,700	12,000,000	942,500	12,000,000	697,100
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.254750$ $b = 0.035920$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.278620$ $b = 0.035670$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.372960$ $b = 0.034180$	

2006 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,000	5,000	900	5,000	900
6,000	1,100	10,000	1,500	10,000	1,400
7,000	1,200	20,000	2,400	20,000	2,200
8,000	1,300	30,000	3,200	30,000	3,000
9,000	1,400	40,000	4,000	40,000	3,600
10,000	1,500	50,000	4,800	50,000	4,300
20,000	2,400	60,000	5,500	60,000	4,900
30,000	3,200	70,000	6,200	70,000	5,500
40,000	4,000	80,000	6,900	80,000	6,200
50,000	4,800	90,000	7,600	90,000	6,700
60,000	5,500	100,000	8,300	100,000	7,300
70,000	6,300	200,000	15,200	200,000	13,000
80,000	7,000	300,000	21,800	300,000	18,300
90,000	7,700	400,000	28,500	400,000	23,700
100,000	8,400	500,000	35,200	500,000	28,900
200,000	15,300	600,000	41,900	600,000	34,200
300,000	22,000	700,000	48,700	700,000	39,400
400,000	28,700	800,000	55,500	800,000	44,600
500,000	35,400	900,000	62,400	900,000	49,900
600,000	42,200	1,000,000	69,300	1,000,000	55,200
700,000	49,100	2,000,000	141,400	2,000,000	108,800
800,000	55,900	3,000,000	218,000	3,000,000	164,300
900,000	62,900	4,000,000	298,500	4,000,000	221,800
1,000,000	69,800	5,000,000	382,600	5,000,000	280,900
2,000,000	142,400	6,000,000	469,800	6,000,000	341,600
3,000,000	219,700	7,000,000	559,900	7,000,000	403,800
4,000,000	300,900	8,000,000	652,800	8,000,000	467,400
5,000,000	385,600	9,000,000	748,200	9,000,000	532,300
6,000,000	473,600	10,000,000	846,100	10,000,000	598,400
6,500,000	518,700	11,000,000	946,200	11,000,000	665,700
7,000,000	564,500	12,000,000	1,048,500	12,000,000	734,100
* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.223400$ $b = 0.036310$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.217860$ $b = 0.036300$		* $SE = e^{a+b(\ln X)^2}$ , where $a = 4.315770$ $b = 0.034590$	



2007 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	900	5,000	900	5,000	900
6,000	1000	10,000	1,400	10,000	1,400
7,000	1,100	20,000	2,300	20,000	2,200
8,000	1,200	30,000	3,200	30,000	3,000
9,000	1,400	40,000	3,900	40,000	3,700
10,000	1,500	50,000	4,700	50,000	4,400
20,000	2,400	60,000	5,500	60,000	5,000
30,000	3,200	70,000	6,200	70,000	5,700
40,000	4,000	80,000	6,900	80,000	6,300
50,000	4,800	90,000	7,600	90,000	7,000
60,000	5,600	100,000	8,300	100,000	7,600
70,000	6,300	200,000	15,300	200,000	13,600
80,000	7,100	300,000	22,200	300,000	19,500
90,000	7,800	400,000	29,100	400,000	25,300
100,000	8,500	500,000	36,100	500,000	31,100
200,000	15,700	600,000	43,200	600,000	36,900
300,000	22,800	700,000	50,300	700,000	42,700
400,000	29,900	800,000	57,500	800,000	48,600
500,000	37,100	900,000	64,700	900,000	54,500
600,000	44,400	1,000,000	72,000	1,000,000	60,400
700,000	51,700	2,000,000	148,800	2,000,000	121,400
800,000	59,200	3,000,000	231,300	3,000,000	185,600
900,000	66,700	4,000,000	318,700	4,000,000	252,700
1,000,000	74,200	5,000,000	410,300	5,000,000	322,200
2,000,000	153,800	6,000,000	505,800	6,000,000	394,000
3,000,000	239,400	7,000,000	604,800	7,000,000	468,000
4,000,000	330,200	8,000,000	707,000	8,000,000	544,000
5,000,000	425,500	9,000,000	812,400	9,000,000	621,800
6,000,000	524,800	10,000,000	920,800	10,000,000	701,400
6,500,000	575,900	11,000,000	1,031,900	11,000,000	782,700
7,000,000	628,000	12,000,000	1,145,600	12,000,000	865,600
* $SE = e^{a+b(\ln X)^2}$ , where a = 4.133760 b = 0.037100		* $SE = e^{a+b(\ln X)^2}$ , where a = 4.128400 b = 0.036970		* $SE = e^{a+b(\ln X)^2}$ , where a = 4.217410 b = 0.035580	

2008 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	900	5,000	1,000	5,000	900
6,000	1,000	10,000	1,500	10,000	1,400
7,000	1,100	20,000	2,400	20,000	2,300
8,000	1,300	30,000	3,300	30,000	3,000
9,000	1,400	40,000	4,100	40,000	3,800
10,000	1,500	50,000	4,800	50,000	4,400
20,000	2,400	60,000	5,600	60,000	5,100
30,000	3,200	70,000	6,300	70,000	5,800
40,000	4,000	80,000	7,100	80,000	6,400
50,000	4,800	90,000	7,800	90,000	7,000
60,000	5,500	100,000	8,500	100,000	7,700
70,000	6,300	200,000	15,400	200,000	13,700
80,000	7,000	300,000	22,200	300,000	19,400
90,000	7,700	400,000	29,000	400,000	25,200
100,000	8,400	500,000	35,800	500,000	30,900
200,000	15,500	600,000	42,600	600,000	36,600
300,000	22,400	700,000	49,500	700,000	42,300
400,000	29,400	800,000	56,500	800,000	48,000
500,000	36,400	900,000	63,500	900,000	53,700
600,000	43,500	1,000,000	70,500	1,000,000	59,500
700,000	50,600	2,000,000	143,700	2,000,000	118,700
800,000	57,800	3,000,000	221,600	3,000,000	180,500
900,000	65,100	4,000,000	303,400	4,000,000	244,800
1,000,000	72,400	5,000,000	388,800	5,000,000	311,300
2,000,000	149,300	6,000,000	477,300	6,000,000	379,900
3,000,000	231,700	7,000,000	568,900	7,000,000	450,300
4,000,000	318,800	8,000,000	663,200	8,000,000	522,400
5,000,000	410,000	9,000,000	760,000	9,000,000	596,200
6,000,000	505,100	10,000,000	859,400	10,000,000	671,600
6,500,000	553,900	11,000,000	961,000	11,000,000	748,400
7,000,000	603,600	12,000,000	1,064,900	12,000,000	826,700
* $SE = e^{a + b(\ln x)^2}$ , where $a = 4.158710$ $b = 0.036840$		** $SE = e^{a + b(\ln x)^2}$ , where $a = 4.238660$ $b = 0.036280$		*** $SE = e^{a + b(\ln x)^2}$ , where $a = 4.283070$ $b = 0.035160$	

2009 NASS GES ESTIMATES AND STANDARD ERRORS					
Crash Estimate (x)	Crash Standard Error (SE)*	Vehicle Estimate (x)	Vehicle Standard Error (SE)**	Person Estimate (x)	Person Standard Error (SE)***
1,000	400	1,000	400	1,000	400
5,000	1,000	5,000	1,000	5,000	1,000
6,000	1,100	10,000	1,500	6,000	1,100
7,000	1,200	20,000	2,400	7,000	1,200
8,000	1,300	30,000	3,200	8,000	1,300
9,000	1,400	40,000	4,000	9,000	1,400
10,000	1,500	50,000	4,800	10,000	1,500
20,000	2,500	60,000	5,500	20,000	2,500
30,000	3,300	70,000	6,200	30,000	3,300
40,000	4,100	80,000	6,900	40,000	4,100
50,000	4,900	90,000	7,600	50,000	4,900
60,000	5,600	100,000	8,300	60,000	5,600
70,000	6,300	200,000	15,000	70,000	6,300
80,000	7,000	300,000	21,500	80,000	7,000
90,000	7,700	400,000	28,000	90,000	7,700
100,000	8,400	500,000	34,500	100,000	8,400
200,000	15,200	600,000	41,000	200,000	15,200
300,000	21,800	700,000	47,500	300,000	21,800
400,000	28,300	800,000	54,100	400,000	28,300
500,000	34,800	900,000	60,700	500,000	34,800
600,000	41,300	1,000,000	67,300	600,000	41,300
700,000	47,800	2,000,000	136,200	700,000	47,800
800,000	54,400	3,000,000	208,900	800,000	54,400
900,000	61,000	4,000,000	285,100	900,000	61,000
1,000,000	67,700	5,000,000	364,400	1,000,000	67,700
2,000,000	136,400	6,000,000	446,400	2,000,000	136,400
3,000,000	208,900	7,000,000	530,900	3,000,000	208,900
4,000,000	284,500	8,000,000	617,900	4,000,000	284,500
5,000,000	363,100	9,000,000	707,100	5,000,000	363,100
6,000,000	444,400	10,000,000	798,400	6,000,000	444,400
6,500,000	486,000	11,000,000	891,700	6,500,000	486,000
7,000,000	528,100	12,000,000	987,000	7,000,000	528,100
*SE = $e^{a + b(\ln x)^2}$ , where a = 4.310860 b = 0.035690		**SE = $e^{a + b(\ln x)^2}$ , where a = 4.310860 b = 0.035690		***SE = $e^{a + b(\ln x)^2}$ , where a = 4.310860 b = 0.035690	

### Appendix E: Analytical Data Classification of Select NASS GES Variables

Several variables in the NASS GES are classified or collapsed according to analytical needs. In various NCSA's published reports and analysis, select NASS GES variables have been given a standard classification. This section will attempt to show how NASS GES variables are classified, assisting users in understanding and duplicating statistics presented in NCSA's published reports.

Earlier publications using only NASS GES data included the fatal crash data from the NASS GES, but this method is no longer in practice. For analytical purposes, fatal crashes and fatalities are extracted from the Fatality Analysis Reporting System (FARS), not NASS GES. 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 nonmotorist) within 30 days of the crash. Since FARS contains records on all fatal crashes, it's a more accurate representation of fatal crashes and fatalities than the sample contained in NASS GES.

It is important to note that these are NCSA's classifications and are subject to modification.

The following tables show the specific coding scheme of select NASS GES variables that are used in NCSA's publications and analysis:

## Univariate Maximum Injury Severity in Crash

NASS GES Description	Data Year and Code	Crash Severity Class
	1988 - Later	
No Injury	0	Property-Damage-Only Crash
Possible Injury	1	Injury Crash
Nonincapacitating	2	Injury Crash
Incapacitating	3	Injury Crash
Fatal*	4	Fatal Crash
Unknown Injury Severity	5	Injury Crash
Died Prior	6	Property-Damage-Only Crash
No Person Coded in the Crash	8	Property-Damage-Only Crash

\* Fatal counts from the FARS are used in NCSA's publications and analysis.

## Injury Severity

NASS GES Description	Data Year and Code	Injury Severity Class
	1988 - Later	
No Injury (O)	0	Not Injured
Possible Injury (C)	1	Injured
Nonincapacitating (B)	2	Injured
Incapacitating (A)	3	Injured
Fatal (K)*	4	Killed
Unknown Injury Severity (U)	5	Injured
Died Prior	6	Not Injured

\* Fatality counts from the FARS are used in NCSA's publications and analysis.

Vehicle Body Type

NASS GES Description	Data Year and Code				
	1988-1991	1992-1998	1999-2008	2009	2010
	(BDYTYP_H, BDYTYP_IM, BODY_TYP)				
Passenger Cars	01-11, 17 <sup>(1)</sup>				
Light Trucks & Vans <sup>(6)</sup>	14, 20-41, 47 <sup>(8)</sup> , 48	14, 15, 16, 19, 20, 21, 22 <sup>(2)</sup> , 24 <sup>(3)</sup> , 25 <sup>(4)</sup> , 28, 29, 30, 31, 32, 33, 39, 40, 41, 45, 48			
Large Trucks	60, 65, 68	60, 64, 66, 78			60-63, 66, 67, 68, 71, 72, 78
Motorcycles	70-79	80-89			
Buses	50-59				
Other/Unknown Vehicles	12, 13, 42, 63, 80-89	12, 13, 23, 42, 65, 90-97, <b>98 (since 2010)</b>			
Passenger Vehicles	01-11, 14, 15, 16, 17 <sup>(1)</sup> , 19, 20, 21, 22 <sup>(2)</sup> , 24 <sup>(3)</sup> , 25 <sup>(4)</sup> , 28, 29, 30, 31, 32, 33, 39, 40, 41, 45, 47 <sup>(8)</sup> , 48				
Utility Vehicles (a.k.a. On/Off Road)	14	14-16, 19			
Pickups	30-39				
Vans	20, 21, 22 <sup>(2)</sup> , 28, 29	20, 21, 22, 24 <sup>(3)</sup> , 25 <sup>(4)</sup> , 28, 29			
Medium Trucks	(60, 68) and (Trailer=0 or 9)	(60, 64, 78) and (Trailer=0 or 9)	(60, 64, 78) and (Trailer <sup>(5)</sup> =1 or 6)	(60, 64, 78) and (Tow_veh <sup>(5)</sup> in 0,5,6,9)	(60-62, 68, 67,71) and (Tow_veh <sup>(5)</sup> in 0,5,6,9)
Heavy Trucks	((60, 68) and (Trailer in 1-4)) or 65	((60, 64, 78) and (Trailer in 1-4)) or 66	((60, 64, 78) and (Trailer <sup>(5)</sup> in 2-5)) or 66	((60, 64, 78) and (Tow_veh <sup>(5)</sup> in 1-4)) or 66	63, 66, 72, 78
Combination Trucks	((60, 68) and (Trailer in 1-4)) or 65	((60, 64, 78) and (Trailer in 1-4)) or 66	((60, 64, 78) and (Trailer <sup>(5)</sup> in 2-5)) or 66	((60, 64, 78) and (Tow_veh <sup>(5)</sup> in 1-4)) or 66	((60-63, 68, 71, 72, 78) and (Tow_veh <sup>(5)</sup> in 1-4)) or 66
Single Unit Trucks	(60, 68) and (Trailer=0 or 9)	(60, 64, 78) and (Trailer=0 or 9)	(60,64,78) and (Trailer <sup>(5)</sup> =1 or 6)	(60,64,78) and (Tow_veh <sup>(5)</sup> in 0,5,6,9)	(60-62, 63, 67,68,71,72,78) and (Tow_veh <sup>(5)</sup> in 0,5,6,9)
Unknown (not in imputed Body Type)	99				98, 99

**Vehicle Body Type (continued)**

- <sup>(1)</sup> Body type code 17 (*3-door coupe*) was added in 1999. There appears to be no occurrences of this vehicle on the 1999 file.
- <sup>(2)</sup> Body type code 22 (*step van or walk-in van*) was added in 1990.
- <sup>(3)</sup> Body type code 24 (*van-based school bus*) was added in 1993. When defining School Buses be sure to include body type code 24.
- <sup>(4)</sup> Body type code 25 (*van-based transit bus*) was added in 1993. When defining Transit Buses be sure to include body type code 25.
- <sup>(5)</sup> The attributes for the Vehicle Trailing (TRAILER) element were modified in 1999. **In 2009, the variable name changed to TOW\_VEH and attributes were revised for compatibility purposes with FARS.**
- <sup>(6)</sup> "Light Trucks & Vans" is frequently referred to as just "Light Trucks."
- <sup>(7)</sup> There is no distinction between heavy trucks and combination trucks in GES.
- <sup>(8)</sup> Body type code 47 (other light conventional truck type (not a pickup)) only exists in 1988 and 1989. It was dropped in 1990.

Body type codes 49, 69, and 99 are imputed in the 1988 through 1992 files. Body type codes 49, 79, and 99 are imputed in the 1993 through 1999 files. Therefore, these values do not exist within the BDYTYP\_H (2009 and prior) or BDYTYP\_IM (2010 and later).



Person Type

NASS GES Description	Data Year and Code		Classification
	1988-2008	2009-2010	
	(PER_TYPE)	(PER_TYP)	
<b>Occupants</b>			
Driver of a motor vehicle in transport	1	01	Driver
Passenger of a motor vehicle in transport	2	02	Passenger
Unknown occupant type of a motor vehicle in transport <sup>(1)</sup>	9	09	Passenger
<b>Nonoccupants</b>			
Occupant of a motor vehicle not in transport <sup>(2)</sup>	3	03	Other nonoccupant
Occupant of a non-motor vehicle transport device <sup>(3)</sup>	4	04	Other nonoccupant
Pedestrian	5	05	Pedestrian
Cyclist	6	-	Pedalcyclist
Bicyclist	-	06	Pedalcyclist
Other Cyclist	-	07	Pedalcyclist
Person in or on working motor vehicle	7 (new in 2005) <sup>(8)</sup>	-	Other nonoccupant
Persons on personal conveyances	-	08	Other nonoccupant
Persons in/on buildings	-	10	Other nonoccupant
Other or unknown nonoccupant	8	-	Other or unknown nonoccupant type
Unknown type of nonoccupant	-	19	Unknown nonoccupant type

**Person Type (continued)**

- <sup>(1)</sup> Customarily, "Unknown Occupant" is placed in the "Passenger" category, unless they need to be distinguished from "Passengers".
- <sup>(2)</sup> "Occupant of motor vehicle not in transport" refers to occupants of parked motor vehicles (any motor vehicle stopped off the roadway). In 2005, this definition was expanded to include parked/stopped off roadway/working motor vehicles and occupants of motor vehicles in motion outside the trafficway boundaries. Prior to 2005, occupants of working motor vehicles (working highway maintenance vehicles, cherry pickers, etc.) were coded "08." At that time, code "08" was labeled "Other Pedestrians."
- <sup>(3)</sup> "Occupant of non-motor vehicle transport device" refers to persons riding in an animal-drawn conveyance, on an animal, or injured occupants of railway trains, etc.
- <sup>(4)</sup> The code for "other pedestrians (08)" was created in FARS in 1994. This code was the result of further detailing the previous coding of "other or unknown nonoccupant (8)" as 1) other pedestrians and 2) unknown nonoccupant. Since it is not possible to differentiate "other pedestrians" from "unknown nonoccupants" prior to 1994, we have kept them in the "other nonoccupant" category for consistency across data years. "Other pedestrians" is used for occupant of a transport device used as equipment (working highway maintenance trucks, cherry pickers, etc.), pedestrians using conveyances, and people in buildings. Examples of pedestrian conveyances are skateboard riders, people in wheelchairs, people on roller skates, and sled riders.
- <sup>(5)</sup> Prior to 2005, code "08" was labeled "Other Pedestrians" and also included occupants of motor vehicles used as equipment (working highway maintenance vehicles, cherry pickers, etc.). For occupants of working motor vehicles, see code "03."
- <sup>(6)</sup> Prior to 2007, code "08" included persons in buildings. For persons in buildings, see code "10 – Persons In/On Buildings."
- <sup>(7)</sup> "Unknown person type" existed in data years 1995 and 1996 only. It was found that this attribute did not add any value to the element.
- <sup>(8)</sup> A person in or on a working motor vehicle. Working motor vehicles are transport devices being used as equipment which would be classified under ANSI as motor vehicles, if not being used as equipment (e.g., a tow truck while using its winch, a pickup truck while being used to power a saw, a truck with cherry picker being used to repair or maintain a traffic signal or a concrete truck while discharging its load).

### FARS and NASS GES "Person Type" and Entry System/Manual Differences

In FARS before 2005 only vehicle records for motor vehicles in-transport were collected. Any person involved in the crash that was not in a motor vehicle in-transport had records, but only needed to be classified using the general grouping of "NON-MOTORIST". A non-motorist by definition is any person who is not an occupant of a motor vehicle in-transport.

In 2005, FARS began to include records for motor vehicles not in-transport. At that point people had to be classified as OCCUPANTS or NON-OCCUPANTS. This was done so that persons in motor vehicles not in-transport could be coded with the vehicle they occupied even though they are "non-motorists" by definition.

When Ped-Bike Typing and additional elements meant for non-occupants (e.g. Non-motorist Action at Time of Crash, Non-motorist Safety Equipment) were added to FARS for in 2010, separate Person Levels for people in motor vehicles and people not in motor vehicles were created. This is tied to the case organization and file structuring in MDE. FARS' split Person Type element (P7 and NM7) reflects this separation of Person Types. The Person Type, 03-Occupant of a Motor Vehicle Not In-Transport, has a special quality of being both a NON-MOTORIST by definition and a person in a motor vehicle.

The 2010 GES entry system follows a scheme of breaking out persons as motorists or non-motorists. The "Long Names" of their elements reflect this and the input system is structured around this. While the manual and entry systems reflect a difference in the organization of people in a case, FARS and GES both have the same Person Type attributes in total. It is because of the differences in the two entry systems and handling of persons in structuring of the case that the elements are presented differently.

This principally affects the Person Type of "03 – Occupant of a Motor Vehicle Not In-transport". So while the Person Type attribute list is the same in total, P03 (Occupant) in GES does not match exactly with FARS P7 because FARS includes "03 – Occupant of a Motor Vehicle Not In-transport". It is the same situation but in reverse for GES P03 (Non-motorist) and FARS NM7. This difference will go away because of the entry systems being the same in 2011.

This difference affects how persons are counted in a case by Person Number but not the selection of Person Type for the individuals. For example, if a motor vehicle in-transport with just one occupant departed the roadway and struck a pedestrian and then a parked motor vehicle with one occupant both FARS and GES would have Person Level information for all three people and would utilize the same Person Type attribute to identify them. However, FARS would count two MOTOR VEHICLE OCCUPANTS, one NON-OCCUPANT and GES would count two NON-MOTORISTS and one NON-MOTORIST.

**Restraint System Use**

NASS GES Description	Data Year and Code					Classification
	1988-1989	1990-1991	1992-1994	1995-2009	2010	
	(SAF_EQMT)	(REST_SYS)				
Nonoccupant	00	-	-	-	-	Not Applicable
None used	10	-	-	-	-	Not Used
None available	11	-	-	7		
None used or Not applicable	-	0	0	0	-	
Not applicable	-	-	-	-	30	
None used – motor vehicle occupant	-	-	-	-	31	
No helmet	-	-	-	-	41	
Manual shoulder and lap belt	04	-	-	-	-	Used
Lap/shoulder belt	-	1	1	1	-	
Manual lap belt	02	-	-	-	-	
Lap belt	-	2	2	2	-	
Manual shoulder belt only	03	-	-	-	-	
Shoulder belt	-	3	3	3	-	
Shoulder and lap belt used	-	-	-	-	21	
Shoulder belt only	-	-	-	-	23	
Lap belt only	-	-	-	-	22	
Automatic belt used	05	-	-	-	-	

Restraint System Use (continued)

NASS GES Description	Data Year and Code					Classification
	1988-1989	1990-1991	1992-1994	1995-2009	2010	
	(SAF_EQMT)	(REST_SYS)				
Air bag deployed	06	4	-	-	-	
Air bag deployed and lap/shoulder belt	-	5	-	-	-	
Child safety seat	01	6	6	6	-	
Child restraint system – forward facing	-	-	-	-	37	
Child restraint system – rear facing	-	-	-	-	38	
Booster seat	-	-	-	-	39	
Child restraint – type unknown	-	-	-	-	40	
Motorcycle helmet	07	7	7	5	-	
DOT-compliant motorcycle helmet	-	-	-	-	42	
Other helmet	-	-	-	-	43	
Other restraint/safety equipment used	08	-	-	-	98	
Restraint used – type unknown	09	-	-	-	28	
Restraint used – specifics unknown or other	-	8	8	8	-	
Not reported	-	-	-	-	97	
Unknown if used	99	9	9	9	99	

**Univariate Traffic Control Device**

Control Device Class	Data Year and Code	
	1988 - 1989	1990 - Later
None	00	
Traffic Signal	01, 02, 03, 04, 08, 09	01, 04, 08, 09
Stop Sign	11	21
Other	12-14, 18,19,21,31,32,97,98	22,23,28,29, 40-43,49,51,61,62,97,98

## Appendix F: Rules for Derived Variables

### Trafficway Description

Accident.TRAF\_WAY

Attribute Labels	2009 GES	2010 GES
Non-Trafficway Area		0
Not Physically Divided (Center 2-way Left Turn Lane)	0	
Not Physically Divided (Two Way Trafficway)	1	
Divided Highway (Median Strip, Barrier)	2	
Two-Way, Not Divided		1
Two-Way, Not Divided with a continuous left turn lane		5
Two-Way, Divided, Unprotected (painted >4feet) Median		2
Two-Way, Divided, Positive Median Barrier		3
One Way Trafficway	3	4
Entrance/Exit ramp		6
Not Reported		8
Unknown	9	9

This information is coded on the vehicle level. The ACCIDENT level variable is derived by selecting one vehicle and using the coded values for that vehicle. The vehicle is chosen by the following process:

If there is only one vehicle, use that vehicle. If there is only one vehicle involved in the first event, then that vehicle is selected. If there are two vehicles in the first event, and the second vehicle has a larger number of travel lanes, and if that value is not 8, then the second vehicle is selected.

Starting in 2010, with the change to allow non-harmful events as the first event, the above derivation rule will change to use the first coded \*harmful\* event.

#### Logic of Derivation:

Follow the priority ranking of each attribute as follows:

- Two-Way, Divided, Positive Median Barrier
- Two-Way, Divided, Unprotected (Painted > 4 Feet) Median
- Two-Way, Not Divided With a Continuous Left-Turn Lane
- Two-Way, Not Divided
- One-Way Trafficway
- Entrance/Exit Ramp
- Non-Trafficway Area
- Not Reported
- Unknown

**Total Lanes in Roadway**

Accident.NO\_LANES

Attribute Labels	2009 GES	2010 GES
Non-Trafficway Area		0
One Lane	1	1
Two Lanes	2	2
Three Lanes	3	3
Four Lanes	4	4
Five Lanes	5	5
Six Lanes	6	6
Seven or More Lanes	7	7
Not Reported		8
Unknown	9	9

This information is coded on the vehicle level. The ACCIDENT level variable is derived by selecting one vehicle and using the coded values for that vehicle. The vehicle is chosen by the following process:

If there is only one vehicle, use that vehicle. If there is only one vehicle involved in the first event, then that vehicle is selected. If there are two vehicles in the first event, and the second vehicle has a larger number of travel lanes, and if that value is not 8, then the second vehicle is selected.

Starting in 2010, with the change to allow non-harmful events as the first event, the above derivation rule will change to use the first coded \*harmful\* event.

**Logic of Derivation:**

Follow the priority ranking of each attribute as follows:

- Seven or More Lanes
- Six Lanes
- Five Lanes
- Four Lanes
- Three Lanes
- Two Lanes
- One Lane
- Non-Trafficway Area
- Not Reported
- Unknown



**Roadway Alignment**

Accident.ALIGNMNT

Attribute Labels	2009 GES	2010 GES	2010 GES Accident
Non-Trafficway Area		0	
Straight	1	1	1
Curve	2		2
Curve Right		2	
Curve Left		3	
Curve -Unknown Direction		4	
Not Reported		8	8
Unknown	9	9	9

This information is coded on the vehicle level. The ACCIDENT level variable is derived by selecting one vehicle and using the coded values for that vehicle. The vehicle is chosen by the following process:

If there is only one vehicle, use that vehicle. If there is only one vehicle involved in the first event, then that vehicle is selected. If there are two vehicles in the first event, and the second vehicle has a larger number of travel lanes, and if that value is not 8, then the second vehicle is selected.

Starting in 2010, with the change to allow non-harmful events as the first event, the above derivation rule will change to use the first coded \*harmful\* event.

**Logic of Derivation:**

At crash level, combine the codes curve right, curve left and curve-unknown direction into one code, 'curve'. Then follow the priority ranking of 1, 'straight', 2 'curve', 8 'not reported', 9 'unknown'.

Follow the priority ranking of each attribute as follows:

- Curve
- Straight
- Non-Trafficway Area
- Not Reported
- Unknown

**Roadway Grade**

Accident.PROFILE

Attribute Labels	2009 GES	2010 GES	2010 GES Accident
Non-Trafficway Area		0	0
Level	1	1	1
Grade	2		2
Grade, Unknown slope		2	
Hillcrest	3	3	3
Uphill		5	
Downhill		6	
Sag	8		
Sag (Bottom)		4	4
Not reported		8	8
Unknown	9	9	9

This information is coded on the vehicle level. The ACCIDENT level variable is derived by selecting one vehicle and using the coded values for that vehicle. The vehicle is chosen by the following process:

If there is only one vehicle, use that vehicle. If there is only one vehicle involved in the first event, then that vehicle is selected. If there are two vehicles in the first event, and the second vehicle has a larger number of travel lanes, and if that value is not 8, then the second vehicle is selected.

Starting in 2010, with the change to allow non-harmful events as the first event, the above derivation rule will change to use the first coded \*harmful\* event.

**Logic of Derivation:**

At the crash level the codes uphill, downhill, grade, unknown slope are combined into one code, 'grade'. Follow the priority ranking of Grade, Hillcrest, Sag (bottom), level, non-trafficway area, not reported, unknown.

Follow the priority ranking of each attribute as follows:

- Grade
- Hillcrest
- Sag (Bottom)
- Level
- Non-Trafficway Area
- Not Reported
- Unknown

**Roadway Surface Condition**

Accident.SUR\_COND

Attribute Labels	2009 GES	2010 GES
Non-Trafficway Area		0
Dry	1	1
Wet	2	2
Snow or Slush	3	
Snow		3
Slush		10
Ice	4	
Ice/Frost		4
Water (Standing, Moving)		6
Sand, Dirt, Oil	5	
Sand		5
Mud, dirt, gravel		11
Oil		7
Other	8	8
Not Reported		98
Unknown	9	99

This information is coded on the vehicle level. The ACCIDENT level variable is derived by selecting one vehicle and using the coded values for that vehicle. The vehicle is chosen by the following process:

If there is only one vehicle, use that vehicle. If there is only one vehicle involved in the first event, then that vehicle is selected. If there are two vehicles in the first event, and the second vehicle has a larger number of travel lanes, and if that value is not 8, then the second vehicle is selected.

Starting in 2010, with the change to allow non-harmful events as the first event, the above derivation rule will change to use the first coded **\*harmful\*** event.

**Logic of Derivation:**

Follow the priority ranking of each attribute as follows:

- Snow
- Slush
- Ice/Frost
- Water (Standing, Moving)
- Wet
- Sand

- Mud, Dirt, Gravel
- Oil
- Other
- Dry
- Non-Trafficway Area
- Not Reported
- Unknown

**Traffic Control Device**

Accident.TRAF\_CON

Attribute Labels	2009 GES	2010 GES
Officer, Crossing Guard, Flagman, Etc.	51	
Person		51
Traffic Control Signal (On Colors)	1	
Traffic control signal (on colors) without pedestrian signal		1
Traffic control signal (on colors) with pedestrian signal		2
Traffic control signal (on colors) not known if ped signal		3
Flashing Traffic Control Signal Or Flashing Beacon	4	
Flashing Traffic Control Signal		4
Lane Use Control Signal		5
Other highway traffic signal	8	8
Unknown Highway Traffic Signal	9	9
Stop Sign	21	21
Yield Sign	22	22
School Zone sign/ Device	23	23
Other Regulatory Sign	28	28
Unknown Regulatory Sign	29	29
Advisory Speed Sign	40	
Warning Sign For Road Conditions (Hill, Steep Grade, etc.)	41	
Warning Sign For Road Construction	42	
Warning Sign For Environment/Traffic (Fog Ahead, Wind)	43	
Unknown Type Warning Sign	49	
Warning Sign		44
Active Device At RR Crossing (e.g., Gates, Flashing Lights)	61	
Passive Device At RR Crossing (e.g., Stop Sign, Cross Bucks)	62	
Railway Crossing Device		63
Other Traffic Control (Whether Or Not At RR Grade Crossing)	98	
Other Traffic Control		98
Traffic Control Present - No Details	97	
Not Reported		97
Unknown	99	99
No Controls	0	0

**Logic of Derivation:**

In 2009 and before, all GES.Vehicle.VTRAFCON SAS Code values for vehicles linked to the case, as well as all GES.Biketraf.BTRAFCON values are used. If there are no values, then 00 is assigned. If there is a single record, then that SAS Code is assigned. If there are multiple records, then the minimum SAS Code is assigned, with the following exceptions. If there is a record with a 0 SAS Code, and any other record with a value other than 0, then the record with the 0 SAS Code record is ignored (all other values take precedence over 0). If there is a record with SAS Code value of 51, then 51 is assigned (51 takes precedence over all other values). SAS Code 98 takes precedence over SAS Code 97.

If the crash involves vehicles and cyclists subject to different traffic control devices, the device coded is based on the following priority:

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

Starting 2010, pick a single traffic control which best described in the vehicle's environment just prior to this vehicle's critical precrash event. The roadway used for coding this element is the one this vehicle departed if it is off the roadway just prior to its critical precrash event. If this vehicle is in a junction just prior to its critical precrash event, this element is coded based on the roadway this vehicle was on before entering the junction. Code the value indicated in the case materials if it directly matches.

If more than one device is present, code the highest device (lowest number on list) most related to the crash. There are two exceptions:

1. One exception is Person which includes a law enforcement officer, crossing guard, flagman, etc. Person takes precedence over the entire list.
2. The other exception is an Other Regulatory Sign which includes a Regulatory Speed Limit Sign.

**Speed Limit**

Accident.SP\_LIMIT

Attribute Labels	2009 GES	2010 GES
No Statutory Limit	0	
No Statutory Limit/Non-Trafficway Area		0
Actual speed Limit		05-75
Actual speed Limit (MPH increments of 5)	05-75	
Not Reported		97
Unknown	99	99

**Logic of Derivation:**

Speed Limit is coded on the vehicle level. The derivation takes the largest non-unknown value for all the coded vehicles. If all the values are unknown, then the value is assigned 999.

Follow the priority ranking of each attribute as follows:

- Largest non-unknown values
- Not Reported
- Unknown
- No Limit

**Atmospheric Conditions**

Accident.WEATHER

Attribute Labels	2009 GES	2010 GES
No Additional Atmospheric Conditions	1	0
Clear		1
Cloudy		10
Rain	2	2
Sleet, Hail (Freezing Rain or Drizzle)	3	3
Snow	4	4
Blowing Snow	5	11
Rain and Fog	6	
Sleet and Fog	7	
Fog, Smog, Smoke		5
Severe Crosswinds		6
Blowing Sand, Soil, Dirt		7
Other	8	8
Not Reported		98
Unknown	9	99

**Logic of Derivation:**

Follow the priority ranking of each attribute as follows:

- Snow
- Blowing Snow
- Sleet, 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



**Injury Severity, Number Injured and Alcohol Involvement****Maximum Injury Severity in Crash**

Accident.MAX\_SEV

Attribute Labels	GES
No Injury	0
Possible Injury	1
Non-incapacitating	2
Incapacitating	3
Fatal	4
Injury, unknown injury severity	5
Died Prior	6
No person involved in the crash	8
Unknown if Injured/ Not Reported	9

**Logic of Derivation:**

Note that this translation will need to be modified for 2010 to account for "Not Reported". All GES.Person records linked to the person are used. If there are no records, then the value is assigned 8. If there is a single record, then the SAS Code for Person.INJ\_SEV is used. If multiple records, all SAS Codes are obtained and prioritized. The value earliest in the following list will be used: 4, 3, 2, 1, 5, 0, 6 and 9.

**Number Known Injured in Crash**

Accident.NUM\_INJ

Attribute Labels	GES
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:**

Note that this translation will need to be modified for 2010 to account for "Not Reported". All GES.Person records linked to the person are used. If there are no records, then the value is assigned 98. If the SAS Code for Person.INJ\_SEV is 9 for all persons in the crash, then the value is 99. If not, the value assigned is the number of GES.Person records where the SAS Code for Person.INJ\_SEV is between 1 and 5.

**Alcohol Involved in Crash**

Accident.ALCOHOL

Attribute Labels	GES
Alcohol Involved	1
No Alcohol involved	2
No applicable person	8
Unknown	9

Alcohol Involvement is a derived variable based on police-reported alcohol involvement from the Person data set. This variable indicates alcohol use for drivers, pedestrians, cyclists and other type of non-motorists (except occupants of motor vehicles not in transport) involved in the crash.

The police reported alcohol involvement (Person.PER\_ALCH) is as follows:

**Attribute Codes**

1988-1989	1990-1998	1999-2001	2002-2008	2009-Later	Label
1		1	1	0	No (Alcohol Not Involved)
	0				Alcohol Not Involved or N/A
		0	0		Not Applicable
1	1	2	2	1	Yes (Alcohol Involved)
			6		Not on PAR
			7		Not Coded
	7				Alcohol and/or Drugs Involved
8	8	8		8	Not Reported
9	9	9	9	9	Unknown (Police-Reported)

**The following order of alcohol involvement has been used since 1999.**

We have Oracle data for NASS GES cases starting with 1999. From 1999 through 2001, the datasets were built from the Oracle cases using the 4 dataset format of previous years (ACCIDENT VEHICLE PERSON and VINVEH, with EVENT added for 2002). Alcohol Involvement was a calculated field based on all persons coded in the crash. Note that persons that had a role other than driver would have an Oracle POLICE\_ALCOHOLID value of 26720 ('Not Applicable', SAS value '0').

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 (drivers or nonmotorists [except occupants of motor vehicles not in-transport]) in the crash then alcohol involvement in the crash should be "Yes".
2. No Alcohol Involved  
If NOT #1 (YES) and "Police Reported Alcohol Involvement" is 'No' for any of the involved active participants in the crash, then alcohol involvement in the crash should be "No".
9. Unknown  
If NOT #1 (YES) and NOT #2 (NO) and "Police Reported Alcohol Involvement" is 'Unknown' or 'Not Reported' for ANY of the involved active participants then alcohol involvement in the crash should be "Unknown".
8. No Person Coded  
Default value if no active participants coded for this case.

**From 2002 through 2008, the datasets were expanded to a 14 file format, but the translation remained the same, with 'Not Reported' being replaced by 'Not On PAR' and 'Not Coded' in 2002:**

1. Alcohol Involved  
If "Police Reported Alcohol Involvement" is 'Yes' for any of the involved active participants (drivers or nonmotorists [except occupants of motor vehicles not in-transport]) in the crash then alcohol involvement in the crash should be "Yes".
2. No Alcohol Involved  
If NOT #1 (Alcohol Involved) and "Police Reported Alcohol Involvement" is 'No' for any of the involved active participants in the crash, then alcohol involvement in the crash should be "No".
9. Unknown  
If NOT #1 (YES) and NOT #2 (NO) and "Police Reported Alcohol Involvement" is 'Unknown' or 'Not Reported' for ANY of the involved active participants then alcohol involvement in the crash should be "Unknown".
8. No Person Coded  
Default value if no active participants coded for this case.

**From 2009 and on, the priority is different; it will follow the logic below:**

1. YES  
If "Police Reported Alcohol Involvement" is 'Yes' for any of the involved active participants (drivers or nonmotorists [except occupants of motor vehicles not in-transport]) in the crash then alcohol involvement in the crash should be "Yes".
2. NO  
If "Police Reported Alcohol Involvement" is 'No' for ALL of the involved active participants in the crash then alcohol involvement in the crash should be "No".
3. UNKNOWN  
If NOT #1 (YES) and "Police Reported Alcohol Involvement" is 'Unknown' or 'Not Reported' for ANY of the involved active participants then alcohol involvement in the crash should be "Unknown".

**Examples:**

Case 1: *V1 Driver, alcohol is no, V2 Driver, alcohol is unknown, one nonmotorist, 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, occ3 for alcohol is unknown.*

Alcohol involvement for the crash is 'Unknown'.

Case 2: *V1 driver, alcohol is unknown, one nonmotorist, alcohol is no,*

Alcohol involvement for the crash is 'Unknown'.

Case 3: *V1 driver, alcohol is no, one nonmotorist, alcohol is unknown,*

Alcohol involvement for the crash is 'Unknown'.

Note that for a single vehicle crash, if an in-transport vehicle is listed as having a driver present, but no occupant is coded with the role of driver, then A92, alcohol involved in crash, equals unknown code '9' unless all the 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 A92, alcohol involved in crash, is 'no (alcohol not involved)'. In the case where all occupants are coded 'yes (alcohol involved)' then A92, alcohol involved in crash, is 'yes (alcohol involved)'. In the case where not all occupants are coded 'Yes' or 'No', then A92, alcohol involved in crash, equals 'Unknown', code '9'.

For the multi-vehicle crash or having nonmotorists involved in the crash, we will take the alcohol value for each vehicle in the case and each applicable nonmotorist and then takes the highest priority value among these values, as listed above.

**Maximum Injury Severity in Vehicle**

Vehicle.MAX\_VSEV

Attribute Labels	GES
No Injury	0
Possible Injury	1
Non-incapacitating	2
Incapacitating	3
Fatal	4
Injury, unknown injury severity	5
Died Prior	6
No person involved in the Vehicle	8
Unknown if Injured/ Not Reported	9

**Logic of Derivation:**

Note that this translation will need to be modified for 2010 to account for "Not Reported". All GES.Person records linked to the vehicle are used. If there are no records, then the value is assigned 8. If there is a single record, then the SAS Code for Person.INJ\_SEV is used. If multiple records, all SAS Codes are obtained and prioritized. The value earliest in the following list will be used: 4, 3, 2, 1, 5, 0, 6 and 9.

**Number Injured in Vehicle**

Vehicle.NUM\_INJV

Attribute Labels	GES
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:**

Note that this translation will need to be modified for 2010 to account for "Not Reported". All GES.Person records linked to the vehicle are used. If there are no records, then the value is assigned 98. If the SAS Code for Person.INJ\_SEV is 9 for all persons in the crash, then the value is 99. If not, the value assigned is the number of GES.Person records where the SAS Code for Person.INJ\_SEV is between 1 and 5.

**Driver Drinking in Vehicle**

Vehicle.VEH\_ALCH

Attribute Labels	GES
Alcohol Involved	1
No Alcohol involved	2
No Driver Present/Unknown if Driver Present	8
Unknown	9

**Logic of Derivation:**

- *If* [D04] Driver Presence equals 0 (No Driver Present/Not Applicable) or 9 (Unknown), *Then* [V92] Driver Drinking in Vehicle is set to 8 (No Driver Present/Unknown if Driver Present).
- *If* [D04] Driver Presence equals 1 (Yes) and there is a person in the vehicle where [P03] Person Type equals 1 (Driver of a Motor Vehicle In Transport), *Then* [P11] Police-Reported Alcohol Involvement for the driver is used for the derivation of [V92] Driver Drinking in Vehicle as follows:

<u>P11</u>		<u>V92</u>
▪ 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* [D04] Driver Presence equals 1 (Yes) and there is **not** a person in the vehicle where [P03] Person Type equals 1 (Driver of a Motor Vehicle In-Transport), *Then*
  - *If* [P11] Police Reported Alcohol Involvement is the same for the occupants of the vehicle where [P03] Person Type equals 9 (Unknown Occupant Type in a Motor Vehicle In Transport), *Then* [V92] Driver Drinking in Vehicle is derived from [P11] Police Reported Alcohol Involvement as shown above,
  - *Else* [V92] Driver Drinking in Vehicle is set to 9 (Unknown).

The derivation is also provided in table format on the next page.



IF	THEN
Vehicle.DR_PRES ≠ 1 →	Vehicle.VEH_ALCH = 8
Vehicle.DR_PRES = 1 and Person.PER_TYP = 1	
Person.PER_ALCH = 1 →	Vehicle.VEH_ALCH = 1
Person.PER_ALCH = 0 →	Vehicle.VEH_ALCH = 2
Person.PER_ALCH = 8 or 9 →	Vehicle.VEH_ALCH = 9
Vehicle.DR_PRES = 1 and Person.PER_TYP = 9 and Person.PER_ALCH = [Same value for all]	
Person.PER_ALCH = 1 →	Vehicle.VEH_ALCH = 1
Person.PER_ALCH = 0 →	Vehicle.VEH_ALCH = 2
Person.PER_ALCH = 8 or 9 →	Vehicle.VEH_ALCH = 9
Vehicle.DR_PRES = 1 and Person.PER_TYP = 9 and Person.PER_ALCH = [NOT same value for all] →	Vehicle.VEH_ALCH = 9
<i>Other combinations are not valid</i>	

**Example:**

*V1 Driver, alcohol is no, V2 Driver, alcohol is unknown, one nonmotorist, 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.*

Alcohol involvement for V1 is 'No'; for V2 is 'Unknown' for V3 is 'Unknown'.

If an in-transport vehicle is listed as having a driver present, but no occupant is coded with the role of driver, then V92, driver drinking in vehicle, equals unknown code '9' unless all the unknown occupant types 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 'no (alcohol not involved)' then V92, driver drinking in vehicle, is 'no (alcohol not involved)'. In the case where all the unknown occupant types are coded 'yes (alcohol involved)' then V92, driver drinking in vehicle, is 'yes (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 V92, driver drinking in vehicle, equals 'yes (alcohol involved)', code '1'). 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 V92, driver drinking in vehicle, equals 'unknown', code '9').

**Contributing Circumstances**

Vehicle.FACTOR (deleted in 2010 Vehicle data set)

Attribute Labels	2009 GES	2010 SAS
None	0	0
Tires	1	1
Brake System	2	2
Steering	3	3
Suspension	4	4
Power Train	5	5
Exhaust System	6	6
Head lights	7	7
Signal lights	8	8
Other lights	9	9
Wipers	10	10
Wheels	11	11
Mirrors	12	12
Driver seating and control	13	
Windows/Windshield		13
Body, doors	14	14
Trailer Hitch	15	
Truck Coupling/Trailer hitch/Safety chains		15
Safety Systems		16
Hit and Run Vehicle	50	
Vehicle Contributing Factors - No Details	97	17
Other	98	97
Not Reported		98
Unknown	99	99

**Logic of Derivation:**

All records from GES.Factor are used. If there are no records, then the value 00 is assigned. If there is a single record, then the SAS Code for that record is assigned. If there are multiple records, then the minimum SAS Code of all the records is assigned.

**Violations Charged**

Vehicle.VIOLATN (deleted in 2010 Vehicle data set)

Attribute Labels	2009-Later GES
None	0
<b><u>Reckless/Careless/Hit-and-Run Type Offenses</u></b>	
Manslaughter or homicide	1
Willful reckless driving; driving to endanger; negligent driving	2
Unsafe reckless (not willful, wanton reckless) driving	3
Inattentive, careless, improper driving	4
Fleeing or eluding police	5
Fail to obey police, fireman, authorized person directing traffic	6
Hit-and-run, fail to stop after crash	7
Fail to give aid, information, wait for police after crash	8
Serious violation resulting in death	9
<b><u>Impairment Offenses</u></b>	
Driving while intoxicated (alcohol or drugs) or BAC above limit (any detectable BAC for CDLs)	11
Driving while impaired	12
Driving under influence of substance not intended to intoxicate	13
Drinking while operating	14
Illegal possession of alcohol or drugs	15
Driving with detectable alcohol	16
Refusal to submit to chemical test	18
Alcohol, drug or impairment violations generally	19
<b><u>Speed-Related Offenses</u></b>	
Racing	21
Speeding (above the speed limit)	22
Speed greater than reasonable & prudent (not necessarily over the limit)	23
Exceeding special limit (e.g.: for trucks, buses, cycles, or on bridge, in school zone, etc.)	24
Energy speed (exceeding 55 mph, non-pointable)	25
Driving too slowly	26
Speed related violations, generally	29

Attribute Labels	2009- Later GES
<b><u>Rules of the Road – Traffic Sign &amp; Signals</u></b>	
Fail to stop for red signal	31
Fail to stop for flashing red	32
Violation of turn on red (fail to stop & yield, yield to pedestrians before turning)	33
Fail to obey flashing signal (yellow or red)	34
Fail to obey signal, generally	35
Violate RR grade crossing device/regulations	36
Fail to obey stop sign	37
Fail to obey yield sign	38
Fail to obey traffic control device	39
<b><u>Rules of the Road – Turning, Yielding, Signaling</u></b>	
Turn in violation of traffic control (disobey signs, turn arrow or pavement marking; not a right-on-red violation)	41
Improper method & position of turn (too wide, wrong lane)	42
Fail to signal for turn or stop	43
Fail to yield to emergency vehicle	45
Fail to yield, generally	46
Enter intersection when space insufficient	48
Turn, yield, signaling violations, generally	49
<b><u>Rules of the Road – Wrong Side, Passing &amp; Following</u></b>	
Driving wrong way on one-way road	51
Driving on left, wrong side of road, generally	52
Improper, unsafe passing	53
Pass on right (drive off pavement to pass)	54
Pass stopped school bus	55
Fail to give way when overtaken	56
Following too closely	58
Wrong side, passing, following violations, generally	59
<b><u>Rules of the Road – Lane Usage</u></b>	
Unsafe or prohibited lane change	61
Improper use of lane (enter of 3-lane road, HOV designated lane)	62
Certain traffic to use right lane (trucks, slow-moving, etc.)	63
Motorcycle lane violations (more than two per lane, riding between lanes, etc.)	66
Motorcyclist attached to another vehicle	67
Lane violations, generally	69

Attribute Labels	2009-Later GES
<b><u>Non-Moving – License and Registration Violations</u></b>	
Driving while license withdrawn (including violation of provisions of work permit)	71
Other driver license violations	72
Commercial driver violations (log book, hours, permits carried)	73
Vehicle registration violations	74
Fail to carry insurance card	75
Driving uninsured vehicle	76
Non-moving violations, generally	79
<b><u>Equipment</u></b>	
Lamp violations	81
Brake violations	82
Failure to require restraint use (by self or passengers)	83
Motorcycle equipment violations (helmet, special equipment)	84
Violation of hazardous cargo regulations	85
Size, weight, load violations	86
Equipment violations, generally	89
<b><u>License, Registration &amp; Violations</u></b>	
Parking	91
Theft, unauthorized use of motor vehicle	92
Driving where prohibited (sidewalk, limited access, off truck route)	93
Not Reported	97
Other moving violation (coasting, backing, opening door)	98
Unknown Violation	99

**Logic of Derivation (2009 and prior):**

All GES.Violatn records linked to the vehicle are used. If there are no records, then 00 is assigned. If there is a single record, then the SAS Code for that record is used. If there are multiple records, then for 2009 and later, the minimum SAS Code is used. Prior to 2009, the value that appeared earliest in the following list was used :  
( '01','02','03','04','05','06','07','97','98','50','96','99','00')

**Driver's Vision Obscured By**

Vehicle.VIS\_OBSC (deleted in 2010 Vehicle data set)

Attribute Labels	2009 - Later GES
No Obstruction Noted	0
Rain, Snow, Fog, Smoke, Sand, Dust	1
Reflected Glare, Bright Sunlight, Headlights	2
Curve, Hill or Other Roadway Design Feature	3
Building, Billboard, Other Structure	4
Trees, Crops, Vegetation	5
In-Transport Motor Vehicle (including load)	6
Not In-Transport Motor Vehicle (parked, working)	7
Splash or Spray of Passing Vehicle	8
Inadequate Defrost or Defog System	9
Inadequate Vehicle Lighting System	10
Obstruction Interior to the Vehicle	11
External Mirrors	12
Broken or Improperly Cleaned Windshield	13
Obstructing Angles on Vehicle	14
No Driver Present	95
Vision Obscured – No Details	97
Other Visual Obstruction	98
Unknown	99

**Logic of Derivation:**

All records from GES.Vision are used. If there are no records, then the value 00 is assigned. If there is a single record, then the SAS Code for that record is assigned. If there are multiple records, then the minimum SAS Code of all the records is assigned.

**Driver Maneuvered To Avoid**

Vehicle.DRMAN\_AV (deleted in 2010 Vehicle data set)

Attribute Labels	2009 GES	2010 SAS
Driver Did Not Maneuver To Avoid	0	0
Object	1	1
Poor Road Conditions (Puddle, Ice, Pothole, etc.)	2	2
Live Animal	3	3
Motor Vehicle	4	4
Pedestrian, Pedalcyclist or Other Non-Motorist	5	5
Phantom/Non-Contact Motor Vehicle	92	92
No Driver Present	95	95
Hit and Run and no information	50	
Avoidance maneuver--no details	97	
Not on PAR	93	
Not Coded	94	
Not Reported		98
Unknown	99	99

**Logic of Derivation:**

All records from GES.Maneuver are used. If there are no records, then the value 00 is assigned. If there is a single record, then the SAS Code for that record is assigned. If there are multiple records, then the minimum SAS Code of all the records is assigned.

**Driver Distracted By**

Vehicle.DR\_DSTRD (deleted in 2010 Vehicle data set)

Attribute Labels	2009 GES	2010 SAS
Not Distracted	0	0
Looked But Did Not See	1	1
By Other Occupant(s)	3	3
By Moving Object in Vehicle	4	4
While Talking or Listening to Cellular Phone	5	5
While Dialing Cellular Phone	6	6
Adjusting Audio And/or Climate Controls		7
While adjusting climate controls	7	
While adjusting radio, cassette, CD	8	
While Using Other Device/Controls Integral to vehicle	9	9
While Using or Reaching For Device/Object Brought into Vehicle	10	10
Sleepy or fell asleep	11	
Distracted by Outside Person, Object or Event	12	12
Eating or Drinking	13	13
Smoking Related	14	14
Other Cellular Phone Related	15	15
Not on PAR	93	
Not coded	94	
Hit and Run and no information	50	
Inattentive or Lost in Thought	97	97
Other Distraction	98	98
Distraction/Inattention, Details Unknown	92	92
No Driver Present	95	95
Not Reported		96
Unknown if Distracted	99	99

**Logic of Derivation:**

All records from GES.Distract are used. If there are no records, then the value 00 is assigned. If there is a single record, then the SAS Code for that record is assigned. If there are multiple records, then the minimum SAS Code of all the records is assigned, with the exceptions that SAS Code 98--other distraction has priority over SAS Code 92--distraction/inattention, details unknown, 92 has priority over 95, 95 has priority over 96, 96 has priority over 99, and all other values have priority over SAS Code 0.



**Condition (Impairment) At Time Of Crash**

Person.MIMPAIR (deleted in 2010 Person data set)

Attribute Labels	2009 GES	2010 SAS
None	0	
None/Apparently Normal		0
Ill, Blackout	1	1
Drowsy, Sleepy, Fell Asleep, Fatigued	2	
Asleep or Fatigued		2
Requires Cane Or Crutches	3	
Walking with a Cane or Crutches		3
Paraplegic Or Restricted To Wheelchair	4	4
Impaired Due To Previous Injury	5	5
Deaf	6	6
Blind	7	7
Emotional (Depressed, Angry, Disturbed, etc)		8
Under the Influence of Alcohol, Drugs or Medication		9
Physical Impairment – No Details	97	10
Other Physical Impairment	98	
Other		96
Not Reported		98
Not on PAR	93	
Not Coded	94	
Hit and Run (and no information)	50	
Unknown If Physically Impaired	99	
Unknown		99

**Logic of Derivation:**

All records linked to person in GES.IMPAIR table are used. If there are no records, then value 00 is assigned. If there is a single record, then the SAS Codes are used. If there are multiple records, then the minimum SAS Code for all records is used.

**Non-Motorist Safety Equipment**

Person.SAF\_EQMT (deleted in 2010 Person data set)

Attribute Labels	2009 GES	2010 SAS
Not Applicable*	0	0
None Used	1	1
Bicycle Helmet	2	
Helmet		2
Protective Pads Used (elbows, knees, shins, etc.)		4
Bicycle Helmet and Reflective Equipment	4	
Reflective Equipment/Clothing (jacket, backpack, etc.)	3	3
Lighting		5
Other Safety Equipment	8	7
Not Reported		8
Unknown if Used	9	9

**Logic of Derivation:**

\*Note that the 2009 and prior translation will not work with the changes to attributes for 2010\*. In 2010, if the person type (SAS Code) is not 3, 4, 5, 6, 7, 8, 10, 78, and 19 then this value is 0. The translation uses the records in GES.Safetyeq. If no records, then the value is 0. If a single record, then the SAS Code for that record is used. If there are multiple records, and there are prioritized by the following SAS Code order: 2, 3, 4, 5, 7, 8, 9, 0, and 1.

\*Not Applicable is used when Person Type = 1, 2, 3, 9 or 77.

**Non-Motorist Action**

Person.ACTION (deleted in 2010 Person data set)

**Logic of Derivation:**

It is retired and replaced by P25.Nmprior.MPR\_ACT and P26.Nmcrash.MTM\_CRSH in 2010.

In 2009 and before, all records linked to person in GES.NMACTION table used. If no records, then value is 0. If there is single record, then that SAS Code used. If multiple records, then the minimum SAS Code for all the records, with the exception that if SAS Code 0 is one of the values, it is excluded from the calculation (all other values take precedence over 0).

The GES.Nmaction is replaced by GES.Nmprior and GES.Nmcrash. There are not derived to person table in 2010.