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National Motor Vehicle Crash Causation Survey (NMVCCS)

FIELD CODING MANUAL

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16. Abstract NHTSA's National Center for Statistics and Analysis has completed the National Motor Vehicle Crash Causation Survey. It is a Congressionally required nationwide survey of crashes involving light passenger vehicles, with a focus on the factors related to pre-crash events. A total of 6,949 crashes were investigated between January 1, 2005, and December 31, 2007. Of these, 5,470 cases comprise a nationally representative sample. The remaining 1,479 cases are suitable for clinical study. The data collected through the investigated crashes will better assist NHTSA and other safety advocates in evaluating and developing vehicle-related crash avoidance technologies. Each investigated crash involved at least one light passenger vehicle that was towed due to damage. Data was collected on-scene for at least 600 data elements in the crash to capture information related to the drivers, vehicles, roadways, and environment. In addition, the NMVCCS database includes crash narratives, photographs, schematic diagrams, vehicle information, as well as event data recorder data when available. This document describes the coding protocol used in the field to document the crashes.			
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Crash

Screen Name: PSU

Field Variable: .ORGID

Label: PSU

Remarks

This variable reports the PSU (Primary Sampling Unit) that selected the case. This variable is assigned at login based on researcher name. It is system generated and cannot be changed at the PSU.

Range: 2, 3, 4, 5, 6, 8, 9, 11, 12, 13, 41, 43, 45, 48, 49, 72, 73, 74, 75, 76, 78, 79, 81, 82

Method: System generated value

Crash

Screen Name: Case Number

Field Variable: .CASENUMBER

Label:

Remarks

The case number is entered by the researcher. It must be sequential with no blank numbers in the series. Each calendar year begins with case number 001.

Range:

Method: Enter a value _____

Crash

Screen Name: Date of Crash

Field Variable: CRASH.CRASHDATE

Label: Crash Date

Remarks

This variable is replicated from the NOTIFYDATE field in the RESPONSELOG table entered through the NORL program. The value recorded here should equal the PAR crash date.

Range: 1/1/2005 to _____
Cannot be future date.

Method: Enter Date ____ __/____ __/____ __-____-____

Sources:
PAR

Crash

Screen Name: PAR Time of Crash

Field Variable: CRASH.TIME

Label: Time

Remarks

This variable is replicated from the DISPATCHTIME field in the RESPONSELOG table which is entered through the NORL program. It is not editable in the NMVCCS software.

Range: 0001 - 2400, 9999

Method: Enter time ____:____

Element Attributes:

Field Value

Unknown (99:99)

9999

Sources:

CALCULATION
REVIEWER ASSESSMENT

Crash

Screen Name: Presence at Crash Scene
Field Variable: PRESENCE.PRESENT_ON_SCENE

Label: Presence at crash scene

Remarks

Prompt clearing of a scene presents issues to the NMVCCS. To determine the level of effort required from the researchers, it is important to record what is present at the scene on the arrival of the researcher. Select as many as apply. However, if "Not on-scene, nothing present" is selected then all other choices must be blank.

Range: 2-7, 88, -77

Method: Fill all that apply

Element Attributes:

	<u>Field Value</u>
Not on-scene, nothing present Select if none of the drivers or occupants of the qualifying intransport vehicles or nonmotorists involved in the crash, police, or EMS are at the scene when the researcher arrives. This attribute may be selected if the PSU has been given approval to initiate "follow-on" cases.	-77
Crash vehicles present Select if any of the qualifying intransport vehicles involved in the crash are at the scene when the researcher arrives.	2
Police present Select if a police officer is at the scene when the researcher arrives.	3
EMS present Select if EMS is at the scene when the researcher arrives.	4
Drivers present Select if any of the drivers of the qualifying intransport vehicles involved in the crash are at the scene when the researcher arrives.	5
Occupants present Select if any of the occupants of the qualifying intransport vehicles involved in the crash are at the scene when the researcher arrives.	6
Non-motorists present Select if any of the nonmotorists involved in the crash are at the scene when the researcher arrives.	7
Other present (specify) : Select if another entity is present on scene that is not described in the preceding attributes. Describe completely in specify.	88

Sources:

SCENE INSPECTION

Crash

Screen Name: Crash Level KABCOU

Field Variable: CRASH.KABCOU

Label: Crash level KABCOU

Remarks

The system selects the maximum value from the Vehicle and Nonmotorist level KABCO ratings. The Vehicle level is the maximum value KABCO based on the list of the Occupant PAR KABCO ratings in each vehicle. The ratings are ranked from K to No PAR obtained (5, 4, 3, 2, 1, 6, 7,10, -1111, -9999), highest to lowest.

Max KABCO is assigned based on only the in-transport vehicles and non motorists in the crash.

Range: 1- 7,10,-1111, -9999

Method: System calculated value

Element Attributes:

	<u>Field Value</u>
O - No injury	1
C - Possible injury	2
B - Non-incapacitating injury	3
A - Incapacitating injury	4
K - Killed	5
U - Injury, severity unknown	6
Died prior to crash	7
No PAR obtained	-1111
No police accident report was created.	
Unknown if Injured	-9999

Crash

Screen Name: Event Number

Field Variable: EVENT.EVENT_NUMBER

Label: Event Number

Remarks

The time rank of the event in the crash sequence. This is precoded on the forms, The researcher should attempt to estimate the sequence of events as soon as possible in the investigation. The numbering of the vehicles is directly related to this number.

A CDC entry is created only for inspected CDC/TDC applicable vehicles and impacts

Range: 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,-9999

Method: Fill a single item

Element Attributes:

	Field Value
1	1
The first damage or injury producing event in the crash.	
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
Unknown	-9999

This should never be used. In extreme circumstances, usually in a large, multi-vehicle crash, the possibility exists that the order of specific events cannot be determined.

Sources:

RESEARCHER ASSESSMENT

Crash

Screen Name: Vehicle Number

Field Variable: EVENT.VEHICLE_STRIKER

Label: Vehicle number

Remarks

Number the vehicles as they become involved in the crash events. This should be done at the time of the initial investigation. Assigning the vehicle and non-motorist numbers at the time of investigation will assist the researcher in reconstruction of the Pre-crash elements for each vehicle and may reduce the number of return visits to the scene, vehicle or re-interviews of drivers.

Use the examples below as guidelines for vehicle numbering and classification.

Include all vehicles and nonmotorists contacted by any of the first three in-transport vehicles or vehicles or objects set in motion during the events, which involve those vehicles.

All road vehicles in the crash must be numbered. This includes vehicles that are not in transport or are classified working vehicles. Not in transport and working vehicles are defined in the General Vehicle and Other Vehicle sections of the manual in the In-transport variable.

Examples:

All vehicles are CDS applicable unless noted.

Example #1

Eastbound Vehicle 1 runs off road, front strikes back of Vehicle 2 (not in transport).

Event 1 V-1 Front vs. V-2 Back

Inspection/interview V-1, document V-2 year/make/model/plane of damage/occupants

Example #2

Southbound Vehicle 1 runs off road into Vehicle 2 (not in-transport) front to back.

Vehicle 1 is redirected into northbound lane contacting in-transport NonCDS Vehicle 3 front to front.

Vehicle 3 is deflected into in-transport Vehicle 4 which is southbound behind Vehicle 1, front to front.

Vehicle 4 is redirected into of Vehicle 5 (not in transport) front to back

Vehicle 5 is redirected into roadway and is struck by Vehicle 6, front to front.

Event 1 V-1 Front vs V-2 Back

Event 2 V-1 Front vs V-3 Front

Event 3 V-3 Front vs V-4 Front

Event 4 V-4 Front vs V-5 Back

Event 5 V-5 Front vs V-6 Front

STOP

Inspection/interview V-1,-3 and -4, document V-2 year/make/model/plane of damage/occupants

Example #3

Eastbound and down, Vehicle 1 runs off road into bicyclist 1, striking with front.

Vehicle 1 continues off road into NonCDS, not-in-transport Vehicle 2, occupied by a driver, front to front.

Vehicle 2 is deflected into the roadway and contacts in-transport Vehicle 3, which is eastbound behind Vehicle 1, front to front.

Vehicle 3 continues forward, striking not in-transport Vehicle 4 front to back,

Vehicle 3 is redirected into Vehicle 5 (not in-transport) front to back

Vehicle 5 is redirected into roadway and is struck by westbound, in-transport, NonCDS Vehicle 6, front to front.

Vehicle 6 strikes bicyclist 2 who was originally riding next to bicyclist 1, striking with front.

Event 1 V-1 Front vs NM-1 Back

Event 2 V-1 Front vs V-2 Front

Event 3 V-2 Front vs V-3 Front

Event 4 V-3 Front vs V-4 Back

Event 5 V-3 Front vs V-5 Back

Event 6 V-5 Front vs V-6 Front

Event 7 V-6 Front vs NM-2 Back

Crash

Screen Name: Vehicle Number

Field Variable: EVENT.VEHICLE_STRIKER

STOP

Inspection/interview V-1,V-3 and V-6, interview NM-1, document V-2, V-4 and V-5, year/make/model/plane of damage/occupants.

As can be seen from the previous examples, determining which crash participants to inspect/interview may be difficult. Most crash scenarios will not be as complex as Example #3.

The table below gives an indication of the elements necessary for a complete case. Please note the type of information for each vehicle based on its transport status. Also note the nonmotorist requirements at the bottom.

Form requirements for NMVCCS cases	Crash Form	Driver Interview Form ^{1,2,3}	General Vehicle Form	Non-motorist Form	Non-motorist Interview Form ⁴	Occupant Form	Other Vehicle Forms	Pre-Crash Assessment Form	Witness Interview Form
Crash	X								
1st three in transport vehicles regardless of bodytype (light, heavy, bus, motorcycle)		X ^{1,2,3}	X					X	
Occupants of the 1st three in transport vehicles regardless of bodytype (light, heavy, bus, motorcycle)						X			O
in transport vehicles regardless of bodytype (light, heavy, bus, motorcycle) after the first three							X		
Occupants of in transport vehicles regardless of bodytype (light, heavy, bus, motorcycle) after the first three						X			O
Not in transport vehicles regardless of bodytype							X		
Occupants of not in transport vehicles regardless of bodytype						X			O
Working vehicles							X		
Occupants of working vehicle						X			O
Non-motorists (pedestrian, cyclist, skaters, etc.) NOT occupants of parked not in transport vehicles				X	X				
Persons not in crash									O
MINIMUM FORMS FOR QUALIFYING CRASH	X	X ^{1,2,3}	X			X		X	
¹ = If no driver present, then no Driver Interview Form.									
² = If no driver available for interview, then surrogate may be interviewed about driver using Driver Interview Form									
³ = If no driver interview and no surrogate interview then driver license information will only be indicated on the General Vehicle Form									
⁴ = If no non-motorist interview, then no Non-motorist Interview Form									

Range: 1-40

Method: Enter a value _____

Crash

Screen Name: Vehicle Number

Field Variable: EVENT.VEHICLE_STRIKER

Element Attributes:**Field Value**

Vehicle # 1	1
Vehicle # 2	2
Vehicle # 3	3
Vehicle # 4	4
Vehicle # 5	5
Vehicle # 6	6
Vehicle # 7	7
Vehicle # 8	8
Vehicle # 9	9
Vehicle # 10	10
Vehicle # 11	11
Vehicle # 12	12
Vehicle # 13	13
Vehicle # 14	14
Vehicle # 15	15
Vehicle # 16	16
Vehicle # 17	17
Vehicle # 18	18
Vehicle # 19	19
Vehicle # 20	20
Vehicle # 21	21
Vehicle # 22	22
Vehicle # 23	23
Vehicle # 24	24
Vehicle # 25	25
Vehicle # 26	26
Vehicle # 27	27
Vehicle # 28	28
Vehicle # 29	29
Vehicle # 30	30
Unknown Vehicle number	-9999

Sources:

RESEARCHER ASSESSMENT

Crash

Screen Name: Class of Striking Vehicle

Field Variable: EVENT.STRIKER_CLASS

Label: Class of striking vehicle

Remarks

The Passenger Car Classification Subcommittee, A3B11(1), of the Transportation Research Board, Traffic Records and Accident Analysis Committee, A3B11, assessed size based on the vehicle wheelbase. The guidelines for this classification can be found in the report entitled Recommended Definitions for Passenger Car Size Classification by Wheelbase and Weight, August 1984 by the previously mentioned subcommittee. This variable is the same variable that appears in the Identification section of the General Vehicle Form

Range: 0-5, 9, 14-16, 19-21, 24, 28-31, 38-39, 45, 48-50, 58-60, 67-68, 78, 80, 90, 100, -9999

Method: Fill a single item

Crash

Screen Name: Class of Striking Vehicle

Field Variable: EVENT.STRIKER_CLASS

Element Attributes:

Field Value

Subcompact/mini (wheelbase < 254 cm)

Passenger vehicle-selected based upon wheelbase.

1

Compact (wheelbase >= 254 but < 265 cm)

Passenger vehicle-selected based upon wheelbase.

2

Intermediate (wheelbase >= 265 but < 278 cm)

Passenger vehicle-selected based upon wheelbase.

3

Full Size (wheelbase >= 278 but < 291 cm)

Passenger vehicle-selected based upon wheelbase.

4

Largest (wheelbase >= 291 cm)

Passenger vehicle-selected based upon wheelbase.

5

Unknown passenger car size

Known to be passenger vehicle-selected when wheelbase cannot be determined from any source.

9

Compact utility vehicle

Select when this vehicle meets definition of Compact utility under Body Type. Use this attribute if the size of the utility vehicle is unknown.

14

Large utility vehicle (<= 4,536 kgs GVWR)

Select when this vehicle meets definition of Large utility under Body Type. Refers to full-size multipurpose vehicles primarily designed around a shortened pickup truck chassis. While generally a utility station wagon body style, some models are equipped with a removable or soft top.

15

Utility station wagon (<= 4,536 kgs GVWR)

Select when this vehicle meets definition of Utility station wagon under Body Type. Refers primarily to a pickup truck based chassis configured as a station wagon.

16

Unknown utility type

Use this attribute when it is known that the vehicle is a utility vehicle, but there is insufficient data to determine the specific type/size.

19

Minivan (<= 4,536 kgs GVWR)

Select when this vehicle meets definition of Minivan under Body Type. Refers to a standard size cargo or passenger van.

20

Large van (<= 4,536 kgs GVWR)

Select when this vehicle meets definition of Large van under Body Type. Refers to a standard size cargo or passenger van.

21

Van Based school bus (<= 4,536 kgs GVWR)

Select this attribute when the vehicle is a passenger van designed to carry students (passengers) to and from educational facilities and/or related functions. These vehicles are characteristically painted yellow and clearly identified as school buses. Use this attribute regardless of whether the vehicle is owned by a school system or a private company. Van based school buses converted for other uses (e.g., church bus) also take this attribute refers to vehicles defined as Van based school bus under Body Type.

24

Crash

Screen Name: Class of Striking Vehicle

Field Variable: EVENT.STRIKER_CLASS

Other van type (<= 4,536 kgs GVWR)	28
Select this attribute when the vehicle is a Step van or walk-in van, Van based motorhome, Van based other bus and coded Other van type under Body Type.	
Unknown van type (<= 4,536 kgs GVWR)	29
Select this attribute when the vehicle is known to be a light van, but its specific type cannot be determined. Refers to vehicles described as Unknown van type under Body Type.	
Compact pickup truck (<= 4,536 kgs GVWR)	30
Select this attribute when the vehicle meets the qualifications of a Compact pickup truck in Body Type. This generally means an overall body width of 178 centimeters or less.	
Large pickup truck (<= 4,536 kgs GVWR)	31
Select this attribute when the vehicle meets the qualifications of a Large pickup truck under Body Type. This generally means an overall body width of greater than 178 centimeters.	
Other pickup truck type (<= 4,536 kgs GVWR)	38
Select this attribute when the vehicle meets the qualifications of a Pickup with slide-in camper and Convertible pickup under Body Type.	
Unknown pick up truck (<=4,536 kgs GVWR)	39
Select this attribute when the vehicle meets the qualifications of an Unknown pickup style light conventional truck type under Body Type.	
Other light truck (<= 4,536 kgs GVWR)	45
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Cab-chassis based (includes rescue vehicles, light stake, dump, and tow truck), Truck based panel, Light truck based motorhome (chassis mounted), and Other light conventional truck type under Body Type.	
Unknown light truck type (<= 4,536 kgs GVWR)	48
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Unknown light truck type under Body Type.	
Unknown light vehicle type	49
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Unknown light vehicle type (automobile, utility, van, or light truck) under Body Type.	
School bus (excludes van based)(>4,536 kgs GVWR)	50
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as a School bus (designed to carry students, not cross country or transit) under Body Type.	
Other bus (>4,536 kgs GVWR)	58
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as an Other bus type (e.g., transit, intercity, bus based motorhome) under Body Type.	
Unknown bus type	59
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as an Unknown bus type under Body Type.	
Truck (>4,536 kgs GVWR)	60
Select this attribute when the vehicle meets the qualifications of a vehicle model defined under Body Type, as Step van (>4,536 kgs GVWR), Single unit straight truck (4,536 kgs < GVWR <= 8,845), Single unit straight truck (8,845 kgs < GVWR <= 11,793), Single unit straight truck (>11,793 kgs GVWR), Single unit straight truck, GVWR unknown and Medium/heavy truck based motorhome.	

Crash

Screen Name: Class of Striking Vehicle

Field Variable: EVENT.STRIKER_CLASS

Tractor without trailer	67
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as a Truck-tractor with no cargo trailer under Body Type.	
Tractor-trailer(s)	68
Select this attribute when the vehicle meets the qualifications of a vehicle model defined in attributes: Truck-tractor pulling one trailer, Truck-tractor pulling two or more trailers and Truck-tractor (unknown if pulling trailer) under Body Type.	
Unknown medium/heavy truck type	78
Select this attribute when the only available information indicates a truck of medium/heavy size. Refer to Unknown medium/heavy truck type under Body Type.	
Unknown light/medium/heavy truck type	79
Select this attribute when the vehicle meets the qualifications described by Unknown truck type (light/medium/heavy) under Body Type.	
Motored cycle	80
Select this attribute when the vehicle meets the qualifications of Body Type, Motorcycle, Moped (motorized bicycle), Three-wheel motorcycle or moped, Other motored cycle (minibike, motorscooter) and Unknown motored cycle type.	
Other vehicle	90
Select this attribute when the vehicle meets the qualifications described by ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle), Snowmobile, Farm equipment other than trucks, or Other vehicle type under Body Type.	
Unknown	-9999
Used when there is a lack of information regarding the type of vehicle. This lack of information prohibits the accurate classification of this vehicle using one of the preceding codes. This attribute is equivalent to Body Type, Unknown body type.	

Sources:

PAR
VEHICLE INSPECTION

Crash

Screen Name: General Area of Damage of Striking Vehicle

Field Variable: EVENT.STRIKER_AREA_DAMAGE

Label: General Area of Damage

Remarks

Area of Damage of the striking vehicle.

For vehicles which are CDC applicable (e.g., pickups, light vans, and passenger cars) the guidelines from J224MAR80 must be applied, and the attributes provided under the "CDC Applicable and Other Vehicles" category must be used. This includes rollovers.

For vehicles which are TDC applicable (i.e., medium/heavy trucks) use the guidelines and the attributes provided under the "TDC Applicable Vehicles" category.

CDC applicable and Other Vehicles	TDC Applicable Vehicles
Front	Front
Right side	Right side
Left side	Left side
Back	Back of unit with cargo area (rear of trailer or straight truck)
Top	Back (rear of tractor)
Undercarriage	Rear of cab
Unknown	Front of cargo area
	Top
	Undercarriage
	Unknown

For objects or noncollision events use the following codes:

Not a motor Vehicle

Noncollision

Range: 1-20, -9999

Method: Fill a single item

Crash

Screen Name: General Area of Damage of Striking Vehicle

Field Variable: EVENT.STRIKER_AREA_DAMAGE

Element Attributes:**Field Value**

Not a motor vehicle	1
CDC applicable and other vehicles	
Noncollision	2
CDC applicable and other vehicles	
Front	3
CDC applicable and other vehicles	
Right Side	4
CDC applicable and other vehicles	
Left Side	5
CDC applicable and other vehicles	
Back	6
CDC applicable and other vehicles	
Top	7
CDC applicable and other vehicles	
Undercarriage	8
CDC applicable and other vehicles	
Not a motor vehicle	10
TDC applicable vehicles	
Noncollision	11
TDC applicable vehicles	
Front	12
TDC applicable vehicles	
Right Side	13
TDC applicable vehicles	
Left Side	14
TDC applicable vehicles	
Bk of unit with cargo area-rear of trailer or straight truck	15
TDC applicable vehicles	
Back (rear of tractor)	16
TDC applicable vehicles	
Rear of cab	17
TDC applicable vehicles	
Front of cargo area	18
TDC applicable vehicles	
Top	19
TDC applicable vehicles	

Crash

Screen Name: General Area of Damage of Striking Vehicle

Field Variable: EVENT.STRIKER_AREA_DAMAGE

Undercarriage	20
TDC applicable vehicles	
Unknown	-9999
CDC applicable and other vehicles	

Crash

Screen Name: Object Contacted Category

Field Variable: EVENT.OBJECT_HIT_TYPE

Label: Object contacted category

Remarks

Objects Contacted are grouped into categories. The categories assist the researcher in selecting the correct Object Contacted. The Categories are:

Vehicle

Noncollision

Collision With Fixed Object

Collision with Nonfixed Object

Other Event (specify):

Unknown Event or Object

Please refer to the definitions for each category to assist in selecting the correct one.

Range: 1-6

Method: Fill a single item

Element Attributes:

Field Value

Vehicle

1

Select this category if the object contacted is a road vehicle (as defined in ANSI).

Noncollision

2

Select this category when the event resulted in nonimpact related damage or injury. Examples are vehicle fires, rollovers, etc.

Collision with Fixed Object

3

Select this attribute when the vehicle in question contacts an object which is anchored to the ground or to another fixed object. Examples include utility poles, longitudinal barriers, curbs, etc.

Collision with Nonfixed Object

5

Select this attribute when the vehicle in question contacts an object which is moveable. The object is not anchored to the ground or to another fixed object. Examples include trash cans, tires in roadway, pedestrian, animal, etc.

Other event (specify)

7

Select this category when the object contacted or the event does not fit into any of the other categories. This should be an extremely rare occurrence. Consult with your zone center before using this attribute.

Unknown event or object

6

Select this category when it is known that a harmful event has occurred but the cause of the damage or injury cannot be determined.

-

-

-

Sources:

PAR

VEHICLE INSPECTION

SCENE INSPECTION

Crash

Screen Name: Object Contacted

Field Variable: EVENT.OBJECT_HIT

Label: Object Contacted

Remarks

Vehicle Number

Refer to numbering guidelines in the CrashForm/Events/Vehicle Number instructions.

Noncollision

Crash circumstances, which result in nonimpact related damage or harm

Overturn--rollover (excludes end-over-end)

Rollover--end-over-end

Jackknife

Fire or explosion

Other intraunit damage (specify)

Noncollision Injury

Other noncollision (specify)

Noncollision--details unknown

Collision With Fixed Object

When a vehicle impacts a tree, shrubbery, bush, pole or post and causes the fixed object or any portion thereof to become dislodged or airborne such that the object or portion thereof subsequently falls on the vehicle, the appropriate object contacted attribute for the object in its dislodged or airborne state is the same as when the object was initially.

Tree (<= 10 centimeters in diameter)

Tree (> 10 centimeters in diameter)

Shrubbery or bush

Embankment

Breakaway pole or post (any diameter)

Concrete traffic barrier

Impact attenuator

Other traffic barrier refers to any longitudinal barrier

Fence

Wall

Building

Ditch or culvert

Ground

Fire hydrant

Curb

Bridge

Other fixed object

Unknown fixed object

Nonbreakaway Pole or Post

When a vehicle impacts a tree, shrubbery, bush, pole or post and causes the fixed object or any portion thereof to become dislodged or airborne such that the object or portion thereof subsequently falls on the vehicle, the appropriate object contacted attribute for the object in its dislodged or airborne state is the same as when the object was initially.

Pole or post (< 10 centimeters in diameter)

Pole or post (> 10 but < 30 centimeters in diameter)

Pole or post (> 30 centimeters in diameter)

Pole or post (diameter unknown)

Use the words "pole" and "post" in a general sense and include all types of supports for utility lines, light standards, post mounted mailboxes, warning devices, signs, and traffic control signals. Privately owned, as well as publicly owned, highway devices are included in these attributes. They may be made of wood, metal, or concrete and may have various cross-sectional shapes and dimensions. The pole or post must be nontemporary (i.e., have a permanent base or be anchored in the ground). Fence posts are not

Crash

Screen Name: Object Contacted

Field Variable: EVENT.OBJECT_HIT

included in these attributes.

Collision with Nonfixed Object

- Pedestrian
- Cyclist or cycle
- Other nonmotorist or conveyance
- Vehicle occupant
- Animal
- Train
- Trailer, disconnected in transport
- Object fell from vehicle in-transport
- Other nonfixed object
- Unknown nonfixed object

Other Event (specify)

Unknown Event or Object

Range: 1-39,41,42,43,44,45,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,68,69,72,73,74,75,76,77,78,79,88,89,98,99,100,-8866,-8882

Method: Fill a single item

Crash

Screen Name: Object Contacted

Field Variable: EVENT.OBJECT_HIT

Element Attributes:

Field Value

Vehicle#1

1

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#2

2

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#3

3

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#4

4

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#5

5

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#6

6

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#7

7

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#8

8

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#9

9

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#10

10

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#11

11

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#12

12

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Vehicle#13

13

If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.

Crash

Screen Name: Object Contacted

Field Variable: EVENT.OBJECT_HIT

Vehicle#14	14
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#15	15
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#16	16
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#17	17
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#18	18
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#19	19
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#20	20
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#21	21
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#22	22
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#23	23
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#24	24
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#25	25
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#26	26
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	

Crash

Screen Name: Object Contacted

Field Variable: EVENT.OBJECT_HIT

Vehicle#27	27
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#28	28
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#29	29
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#30	30
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Overturn->rollover(excludes end-over-end)	31
Used whenever a vehicle rolls over or overturns primarily about the longitudinal axis. This event is reported in the crash sequence variables on the Case Form. It is assumed a rollover will generally involve contact with the road surface or ground. In this situation, the object contacted is encoded Overturn - rollover and not Ground . In the event another object in the environment is contacted during the rollover sequence, the rollover event is, but may not be encoded in the CDC unless the rollover is applicable to CDC.	
Rollover->end-over-end	32
Used whenever a vehicle rolls over or overturns primarily about the lateral axis of the vehicle.	
Fire or explosion	33
Use whenever a vehicle fire or explosion occurs during the precrash events to final rest of the vehicle.	
Jackknife	34
Use whenever there is sufficient uncontrolled rotation (articulation) between a towing unit and a trailing unit such that they contact each other resulting in direct damage to the towing unit. Jackknife may occur to any vehicle which is pulling a trailing unit by a fixed linkage so long as the trailing unit and the pulling vehicle are capable of rotating (articulating) with respect to each .	
Other intraunit damage (specify)	35
Use whenever there is sufficient uncontrolled motion (other than Jackknife) between a towing unit and a trailing unit such that they contact each other resulting in direct damage to the towing unit.	
Noncollision injury	36
Use when the event is a noncollision injury (e.g. occupant falls from vehicle and sustains injury)	
Other noncollision (specify)	38
Use this attribute only after consultation with the zone center.	
Noncollision->details unknown	39
Use when it is known that the event was a noncollision but specific details are not known.	
Tree(<= 10 cm in diameter)	41
Measure the diameter of the tree on the horizontal plane at the point of impact.	
Tree(> 10 cm in diameter)	42
Measure the diameter of the tree on the horizontal plane at the point of impact.	

Crash

Screen Name: Object Contacted

Field Variable: EVENT.OBJECT_HIT

Shrubbery or bush 43

Use when object contacted is vegetation, usually of a woody multi-stemmed variety and in most instances is low growing rather than tall. Some common examples are boxwood, hawthorn, and mountain laurel.

Embankment 44

Use only when damage or injury results from a vehicle impacting an embankment. Raised structure constructed of natural soil from excavation or borrow sources.

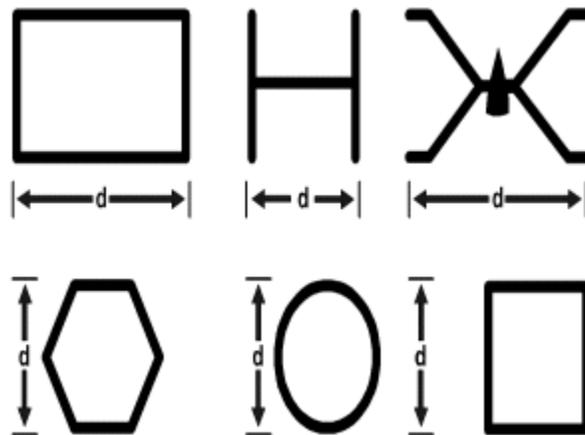
Breakaway pole or post (any diameter) 45

Use this attribute when the vehicle contacts a pole or post which is mounted on a base designed to readily disengage or fracture from an impacting vehicle above a predetermined force level. A pole or post fitted with such a device is a breakaway pole or post; otherwise, it is a nonbreakaway pole.

Nonbreakaway pole or post (≤ 10 cm in diameter) 50

Use when the object contacted is a pole or post whose diameter, when measured using the method shown in the variable definition, is less than or equal to ten centimeters, and the pole or post is not mounted on a breakaway base.

The following diagrams indicate the proper measurement for determining the "diameter" for use in coding pole/post:



Nonbreakaway pole or post (> 10 cm but ≤ 30 cm in diameter) 51

Use when the pole or post which is not mounted on a breakaway base and whose diameter is within the range specified.

Nonbreakaway pole or post (> 30 cm in diameter) 52

Use this attribute when the diameter of the pole or post is greater than 30 cm and is not mounted on a breakaway base

Nonbreakaway pole or post (diameter unknown) 53

Used for any pole or post of unknown diameter., not on a breakaway base.

Crash

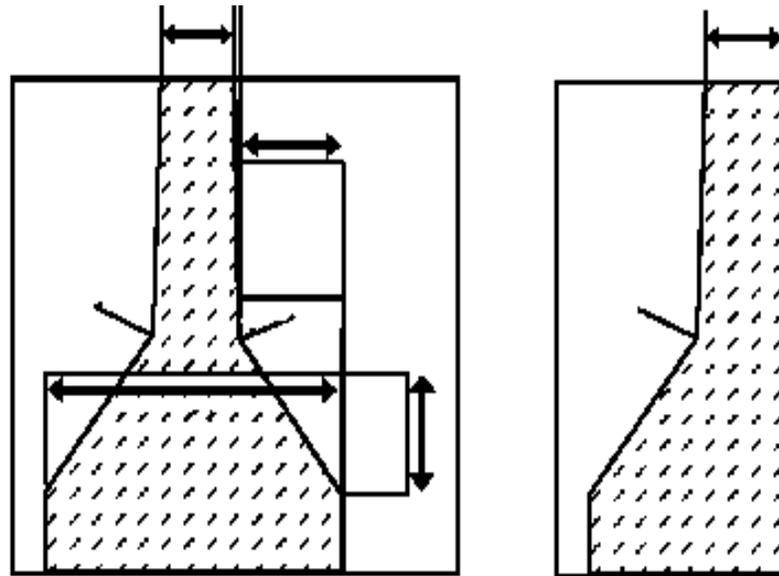
Screen Name: Object Contacted

Field Variable: EVENT.OBJECT_HIT

Concrete traffic barrier

54

This attribute includes all longitudinal traffic barriers constructed of concrete and located: on the outside of the road surface, in a median, or in gore areas. This includes all temporary concrete barriers regardless of location (e.g., temporary Jersey barrier on a bridge being used to control traffic during bridge repair/construction). Concrete walls (vertical side surfaces) do not apply here, see Wall. Below are a few of the common designs of concrete traffic barriers.



**(Footing & Reinforcing Varies)
MB 5
Concrete Median Barrier**

**Concrete
Safety
Shape**

Continuously poured, reinforced, sloped faced, concrete section. Barrier can be anchored by dowels or an asphalt key.

Impact attenuator

55

Use for 'crash cushions' which are energy absorbing barriers placed in front of fixed objects on the highway to mitigate the injury effects of collisions at such sites. A number of common impact attenuating devices may be encountered; therefore, be sure to photograph them when encountered.

Other traffic barrier(includes guardrail) (specify)

56

Any longitudinal barrier not constructed of concrete. This includes all permanent guardrails and median barriers not on a bridge.

Fence

57

This attribute includes both the fence material and the support posts.

Wall

58

This attribute is defined as solid, vertical faced, concrete, brick, stone, or other structurally sound roadside devices which may act as a traffic barrier in some locations. Do not confuse this attribute with **Fence** or **Building**. In most instances a wall will be backfilled with soil and will act as a vertically faced embankment.

Crash

Screen Name: Object Contacted

Field Variable: EVENT.OBJECT_HIT

Building	59
<p>A roofed and walled structure built for permanent use. The type of construction material used is not of interest, nor is the use of the building.</p>	
Ditch or culvert	60
<p>Defined as: (1) a man-made structure for drainage purposes, or (2) a man-made structure that allows passage over a drainage area and is that part of the structure which is intended to channel flow through the structure and maintain the stability/integrity of the road bed. If the culvert structure has a portion above the road surface which is of sufficient height to engage above the wheels of an errant CDS applicable vehicle and redirect it, that part of the structure is considered an Other traffic barrier. When the sides of the ditch are approximately of equal height, it makes no difference which side of the ditch was struck; however, if the struck side is substantially higher than the other side, enter Embankment as the object contacted. Substantial means that an embankment exists with or without a ditch</p>	
Ground	61
<p>Collisions which may be classified using this attribute include (but are not limited to) vehicles which sustain undercarriage damage by (1) straddling the pavement and shoulder and impacting a prominent pavement lip, or (2) free falls or vaults from the road surface to the ground.</p>	
Fire hydrant	62
<p>Roadside device used by fire departments to provide water for fighting fires. Usually made of steel, these devices are also referred to as fire plugs or fire stand pipes in some areas.</p>	
Curb	63
<p>Use when the vehicle contacts a raised element at the edge of a roadway. Curbs are used to: control drainage, act as deterrents to vehicles leaving the pavement at hazardous points, delineate the edge of the pavement, present a more finished appearance, and assist in the orderly development of the roadway edge. Often a curb serves two or more of these purposes.</p>	

Crash

Screen Name: Object Contacted

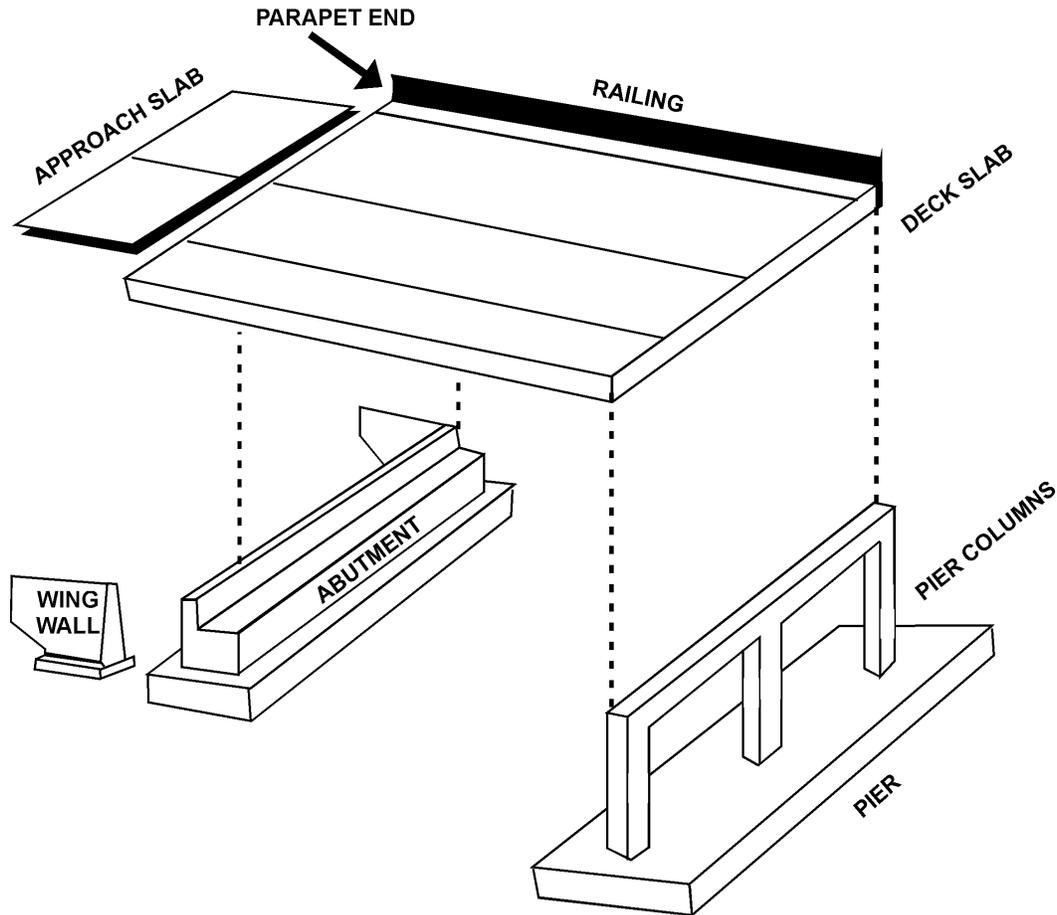
Field Variable: EVENT.OBJECT_HIT

Bridge

64

This attribute encompasses all structural members of an overpass structure used for vehicular or pedestrian traffic. This attribute includes guardrails, permanent concrete barriers, bridge rail/walls, bridge piers, bridge abutments, bridge parapet ends, wing walls associated with bridge abutments, and support columns.

Bridge Components



Other fixed object (specify)

68

Use for any other object of sufficient mass or anchored such that it is not readily movable; compare with **Other nonfixed object**. Examples include large boulders, large logs (fallen trees), etc.

Unknown fixed object

69

Use when it is known that the vehicle struck a fixed object but the specific type of object is not known.

Crash

Screen Name: Object Contacted

Field Variable: EVENT.OBJECT_HIT

Pedestrian	72
<p>Defined as any person who is on a traffic way or on a sidewalk or path contiguous with a traffic way, and who is not in or on a nonmotorist conveyance. This includes persons who are in contact with the ground, roadway, etc., but who are holding onto a vehicle. A nonmotorist conveyance is defined as any human-powered device by which a nonmotorist may move, or by which a pedestrian or nonmotorist may move another nonmotorist, other than by pedaling. A nonmotorist conveyance includes the following: baby carriage, coaster wagon, ice skates, roller skates, push cart, scooter, skate board, skis, sled, wheelchair, rickshaw, etc. This includes those persons in a nonmotorist conveyance who hold onto a motor vehicle in motion. Excluded are pedalcyclists.</p>	
Cyclist or cycle	73
<p>Use this attribute for any occupant of a pedalcycle, the cycle, or both. This includes those cyclists who hold onto a motor vehicle in motion.</p>	
Other nonmotorist or conveyance (specify)	74
<p>Use this attribute for a person who is not an occupant of a motor vehicle in-transport, a pedestrian, or a cyclist. Use this attribute if the impact was with a nonmotorist conveyance or a nonmotorist associated with a nonmotorist conveyance [if an animal is associated with this impact, see Animal]. This attribute also would be used for the occupants of a motor vehicle not in-transport, but only if they become separated from the not in- transport vehicle</p>	
Vehicle occupant	75
<p>Use this attribute for any person who was an occupant of a motor vehicle in-transport at any point in the crash. Two examples follow: (1) occupant who falls from a vehicle and is subsequently run over before stabilization occurred, (2) a motorcyclist who separates from his/her motorcycle during impact and subsequently impacts a motor vehicle before stabilization occurred.</p>	
Animal	76
<p>Use if the object contacted was an animal (stationary or nonstationary). If a nonmotorist was associated with the animal (i.e., on the animal, or on or in an animal powered nonmotor vehicle transport device) use the following rules for coding: (1) Contact to the animal; the animal and the person; the animal and the conveyance; or the animal, conveyance, and the person; use the attribute Animal; (2) the conveyance, or to the person, or to both the conveyance and the person, use the Other nonmotorist or conveyance attribute.</p>	
Train	77
<p>Use this attribute when there is contact with any railway train, moving or not moving.</p>	
Trailer, disconnected in transport	78
<p>Used when the vehicle is contacted by or contacts a trailer which has become detached from its towing unit while the towing unit was in-transport. The type of trailer is not of interest; the only factors to consider are the detachment of the trailer and the transport status of the towing unit.</p>	
Object fell from vehicle in-transport	79
<p>Use this attribute if the vehicle is contacted by or contacts an object that was being carried by or was attached to a vehicle in-transport but fell from or became detached from that vehicle. For example, a detached side mirror, spare tire, cargo, etc. Detached trailers are entered under trailer, disconnected in transport.</p>	

Crash

Screen Name: Object Contacted

Field Variable: EVENT.OBJECT_HIT

Other nonfixed object (specify)	88
Use this if the vehicle contacts a moveable object that is either readily moveable or is moving and is not specifically named above. Examples include trash cans, grocery carts, unoccupied pedalcycles, small boulders, sheared poles, etc.	
Unknown nonfixed object	89
Use this attribute if it can be determined that a nonfixed object was contacted but there is no information about the object. Use of this attribute should be extremely rare. Please contact the zone center prior to using this attribute.	
Other event (specify)	98
Used when an event occurs which cannot be classified using one of the existing attributes or definitions. A complete description of the event should be written in the Case Summary.	
Unknown event or object	99
Use this attribute only in the instances where the object contacted is not known or if an event occurs and the researcher cannot determine the details.	
No Impact	100
No rollover	-8866
Not a case vehicle	-8882
Sources:	
PAR	
VEHICLE INSPECTION	
SCENE INSPECTION	

Crash

Screen Name: Class of Vehicle

Field Variable: EVENT.HIT_CLASS

Label: Class of Vehicle

Remarks

The Passenger Car Classification Subcommittee, A3B11(1), of the Transportation Research Board, Traffic Records and Accident Analysis Committee, A3B11, assessed size based on the vehicle wheelbase. The guidelines for this classification can be found in the report entitled Recommended Definitions for Passenger Car Size Classification by Wheelbase and Weight, August 1984 by the previously mentioned subcommittee. This variable is the same variable that appears in the Identification section of the General Vehicle Form.

Range: 0 - 5, 9, 14 - 16, 19 - 21, 24, 28 - 31, 38, 39, 45, 48 - 50, 58 - 60, 67, 68, 78 - 80, 90, 99, -9999

Method: Select from appendix list _____

Crash

Screen Name: Class of Vehicle

Field Variable: EVENT.HIT_CLASS

Element Attributes:

Field Value

Subcompact/mini (wheelbase < 254 cm)

Passenger vehicle-selected based upon wheelbase.

1

Compact (wheelbase >= 254 but < 265 cm)

Passenger vehicle-selected based upon wheelbase.

2

Intermediate (wheelbase >= 265 but < 278 cm)

Passenger vehicle-selected based upon wheelbase.

3

Full Size (wheelbase >= 278 but < 291 cm)

Passenger vehicle-selected based upon wheelbase.

4

Largest (wheelbase >= 291 cm)

Passenger vehicle-selected based upon wheelbase.

5

Unknown passenger car size

Known to be passenger vehicle-selected when wheelbase cannot be determined from any source.

9

Compact utility vehicle

Select when this vehicle meets definition of Compact utility under Body Type. Use this attribute if the size of the utility vehicle is unknown.

14

Large utility vehicle (<= 4,536 kgs GVWR)

Select when this vehicle meets definition of Large utility under Body Type. Refers to full-size multipurpose vehicles primarily designed around a shortened pickup truck chassis. While generally a utility station wagon body style, some models are equipped with a removable or soft top.

15

Utility station wagon (<= 4,536 kgs GVWR)

Select when this vehicle meets definition of Utility station wagon under Body Type. Refers primarily to a pickup truck based chassis configured as a station wagon.

16

Unknown utility type

Use this attribute when it is known that the vehicle is a utility vehicle, but there is insufficient data to determine the specific type/size.

19

Minivan (<= 4,536 kgs GVWR)

Select when this vehicle meets definition of Minivan under Body Type. Refers to a standard size cargo or passenger van.

20

Large van (<= 4,536 kgs GVWR)

Select when this vehicle meets definition of Large van under Body Type. Refers to a standard size cargo or passenger van.

21

Van Based school bus (<= 4,536 kgs GVWR)

Select this attribute when the vehicle is a passenger van designed to carry students (passengers) to and from educational facilities and/or related functions. These vehicles are characteristically painted yellow and clearly identified as school buses. Use this attribute regardless of whether the vehicle is owned by a school system or a private company. Van based school buses converted for other uses (e.g., church bus) also take this attribute refers to vehicles defined as Van based school bus under Body Type.

24

Crash

Screen Name: Class of Vehicle

Field Variable: EVENT.HIT_CLASS

Other van type (<= 4,536 kgs GVWR)	28
Select this attribute when the vehicle is a Step van or walk-in van, Van based motorhome, Van based other bus and coded Other van type under Body Type.	
Unknown van type (<= 4,536 kgs GVWR)	29
Select this attribute when the vehicle is known to be a light van, but its specific type cannot be determined. Refers to vehicles described as Unknown van type under Body Type.	
Compact pickup truck (<= 4,536 kgs GVWR)	30
Select this attribute when the vehicle meets the qualifications of a Compact pickup truck in Body Type. This generally means an overall body width of 178 centimeters or less.	
Large pickup truck (<= 4,536 kgs GVWR)	31
Select this attribute when the vehicle meets the qualifications of a Large pickup truck under Body Type. This generally means an overall body width of greater than 178 centimeters.	
Other pickup truck type (<= 4,536 kgs GVWR)	38
Select this attribute when the vehicle meets the qualifications of a Pickup with slide-in camper and Convertible pickup under Body Type.	
Unknown pick up truck (<=4,536 kgs GVWR)	39
Select this attribute when the vehicle meets the qualifications of an Unknown pickup style light conventional truck type under Body Type.	
Other light truck (<= 4,536 kgs GVWR)	45
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Cab-chassis based (includes rescue vehicles, light stake, dump, and tow truck), Truck based panel, Light truck based motorhome (chassis mounted), and Other light conventional truck type under Body Type.	
Unknown light truck type (<= 4,536 kgs GVWR)	48
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Unknown light truck type under Body Type.	
Unknown light vehicle type	49
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Unknown light vehicle type (automobile, utility, van, or light truck) under Body Type.	
School bus (excludes van based)(>4,536 kgs GVWR)	50
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as a School bus (designed to carry students, not cross country or transit) under Body Type.	
Other bus (>4,536 kgs GVWR)	58
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as an Other bus type (e.g., transit, intercity, bus based motorhome) under Body Type.	
Unknown bus type	59
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as an Unknown bus type under Body Type.	
Truck (>4,536 kgs GVWR)	60
Select this attribute when the vehicle meets the qualifications of a vehicle model defined under Body Type, as Step van (>4,536 kgs GVWR), Single unit straight truck (4,536 kgs < GVWR <= 8,845), Single unit straight truck (8,845 kgs < GVWR <= 11,793), Single unit straight truck (>11,793 kgs GVWR), Single unit straight truck, GVWR unknown and Medium/heavy truck based motorhome.	

Crash

Screen Name: Class of Vehicle

Field Variable: EVENT.HIT_CLASS

Tractor without trailer	67
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as a Truck-tractor with no cargo trailer under Body Type.	
Tractor-trailer(s)	68
Select this attribute when the vehicle meets the qualifications of a vehicle model defined in attributes: Truck-tractor pulling one trailer, Truck-tractor pulling two or more trailers and Truck-tractor (unknown if pulling trailer) under Body Type.	
Unknown medium/heavy truck type	78
Select this attribute when the only available information indicates a truck of medium/heavy size. Refer to Unknown medium/heavy truck type under Body Type.	
Unknown light/medium/heavy truck type	79
Select this attribute when the vehicle meets the qualifications described by Unknown truck type (light/medium/heavy) under Body Type.	
Motored cycle	80
Select this attribute when the vehicle meets the qualifications of Body Type, Motorcycle, Moped (motorized bicycle), Three-wheel motorcycle or moped, Other motored cycle (minibike, motorscooter) and Unknown motored cycle type.	
Other vehicle	90
Select this attribute when the vehicle meets the qualifications described by ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle), Snowmobile, Farm equipment other than trucks, or Other vehicle type under Body Type.	
Unknown	99
Noncollision	100
Used when the event is a noncollision for striking vehicle.	
Not a motor vehicle	0

Sources:

PAR
VEHICLE INSPECTION

Crash

Screen Name: General Area of Damage

Field Variable: EVENT.HIT_AREA_DAMAGE

Label: General area of damage of struck vehicle

Remarks

Area of Damage of the striking vehicle.

For vehicles which are CDC applicable (e.g., pickups, light vans, and passenger cars) the guidelines from J224MAR80 must be applied, and the attributes provided under the "CDC Applicable and Other Vehicles" category must be used. This includes rollovers.

For vehicles which are TDC applicable (i.e., medium/heavy trucks) use the guidelines and the attributes provided under the "TDC Applicable Vehicles" category.

CDC applicable and Other Vehicles	TDC Applicable Vehicles
Front	Front
Right side	Right side
Left side	Left side
Back	Back of unit with cargo area
Top	(rear of trailer or straight truck)
Undercarriage	Back (rear of tractor)
Unknown	Rear of cab
	Front of cargo area
	Top
	Undercarriage
	Unknown

Unknown must be coded when the General Area of Damage on a vehicle is not known from any reliable source.

Range: 1,2,3,4,5,6,7,8,10,11,12,13,14,15,16,17,18,19,20,-9999

Method: Fill a single item

Crash

Screen Name: General Area of Damage

Field Variable: EVENT.HIT_AREA_DAMAGE

Element Attributes:**Field Value**

Not a motor vehicle	1
CDC applicable and other vehicles	
Noncollision	2
CDC applicable and other vehicles	
Front	3
CDC applicable and other vehicles	
Right Side	4
CDC applicable and other vehicles	
Left Side	5
CDC applicable and other vehicles	
Back	6
CDC applicable and other vehicles	
Top	7
CDC applicable and other vehicles	
Undercarriage	8
CDC applicable and other vehicles	
Not a motor vehicle	10
TDC applicable vehicles	
Noncollision	11
TDC applicable vehicles	
Front	12
TDC applicable vehicles	
Right Side	13
TDC applicable vehicles	
Left Side	14
TDC applicable vehicles	
Bk of unit with cargo area-rear of trailer or straight truck	15
TDC applicable vehicles	
Back (rear of tractor)	16
TDC applicable vehicles	
Rear of cab	17
TDC applicable vehicles	
Front of cargo area	18
TDC applicable vehicles	
Top	19
TDC applicable vehicles	

Crash

Screen Name: General Area of Damage

Field Variable: EVENT.HIT_AREA_DAMAGE

Undercarriage	20
TDC applicable vehicles	
Unknown	-9999
CDC applicable and other vehicles	

Sources:

PAR
VEHICLE INSPECTION
SCENE INSPECTION

General Vehicle

Screen Name: Vehicle Number

Field Variable: VEHICLE.VEHNUMBER

Label: Vehicle Number

Remarks

Number the vehicles as they become involved in the crash events. This should be done at the time of the on-scene investigation. Doing this at the time of scene response investigation will assist the researcher in reconstruction of the Precrash elements for each vehicle and may reduce the number of return visits to the scene, vehicle inspections or reinterviews of drivers.

Use the examples below as guidelines for vehicle numbering and classification. All vehicles are CDS applicable unless noted.

Example #1

Eastbound Vehicle 1 runs off road, front strikes back of Vehicle 2 (not in transport).

Event 1 V-1 Front vs V-2 Back

Inspection/interview V-1, document V-2 year/make/model.

Example #2

Southbound Vehicle 1 runs off road into Vehicle 2 (not in-transport) front to back.

Vehicle 1 is redirected into northbound lane contacting in-transport NonCDS Vehicle 3 front to front.

Vehicle 3 is deflected into in-transport Vehicle 4 which is southbound behind Vehicle 1, front to front.

Vehicle 4 is redirected into of Vehicle 5 (not in transport) front to back

Vehicle 5 is redirected into roadway and is struck by Vehicle 6.

Event 1 V-1 Front vs V-2 Back

Event 2 V-1 Front vs V-3 Front

Event 3 V-3 Front vs V-4 Front

STOP

Inspection/interview V-1,-3 and -4, document V-2 year/make/model

Example #3

Eastbound and down, Vehicle 1 runs off road into bicyclist 1, striking with front.

Vehicle 1 continues off road into NonCDS, not-in-transport Vehicle 2, occupied by a driver, front to front.

Vehicle 2 is deflected into the roadway and contacts in-transport Vehicle 3, which is eastbound behind Vehicle 1, front to front.

Vehicle 3 continues forward, striking not in-transport Vehicle 4 front to back,

Vehicle 3 is redirected into Vehicle 5 (not in-transport) front to back

Vehicle 5 is redirected into roadway and is struck by westbound, in-transport, NonCDS Vehicle 6, front to front.

Vehicle 6 strikes bicyclist 2 who was originally riding next to bicyclist 1

Event 1 V-1 Front vs NM-1 Back

Event 2 V-1 Front vs V-2 Front

Event 3 V-2 Front vs V-3 Front

Event 4 V-3 Front vs V-4 Back

Event 5 V-3 Front vs V-5 Back

Event 6 V-5 Front vs V-6 Front

STOP

Inspection/interview V-1,-3 and -6, interview NM-1, document V-2, -4 and -5, year/make/model.

As can be seen from the previous examples, determining which crash participants to inspect/interview may be difficult. Most crash scenarios will not be as complex as Example #3. However, the vehicle numbering is easily changed both on paper and electronically.

General Vehicle

Screen Name: Vehicle Number

Field Variable: VEHICLE.VEHNUMBER

Range: 1-40

Method: Enter a value _____

General Vehicle

Screen Name: Vehicle Number

Field Variable: VEHICLE.VEHNUMBER

Element Attributes:

	Field Value
1	1
Generally, Vehicle 1 is the "striking" (contact on the leading plane) vehicle. A not-in-transport vehicle will never be Vehicle 1. Vehicle 1 will be the vehicle traveling in the "wrong" direction for head-on crashes or the vehicle turning in front of another. Use crash events only to determine the numbering of the vehicles. Do not use the PAR numbering if it conflicts with the actual events in the crash.	
2	2
This vehicle is the first contacted by Vehicle 1 (or object(s) set in motion by Vehicle 1) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
3	3
This vehicle is the next contacted by Vehicles 1 or 2 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
4	4
This vehicle is the next contacted by Vehicles 1-3 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
5	5
This vehicle is the next contacted by Vehicles 1-4 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
6	6
This vehicle is the next contacted by Vehicles 1-5 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
7	7
This vehicle is the next contacted by Vehicles 1-6 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
8	8
This vehicle is the next contacted by Vehicles 1-7 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
9	9
This vehicle is the next contacted by Vehicles 1-8 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
10	10
This vehicle is the next contacted by Vehicles 1-9 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	

General Vehicle

Screen Name: Vehicle Number

Field Variable: VEHICLE.VEHNUMBER

11		11
	This vehicle is the next contacted by Vehicles 1-10 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
12		12
	This vehicle is the next contacted by Vehicles 1-11 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
13		13
	This vehicle is the next contacted by Vehicles 1-12 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
14		14
	This vehicle is the next contacted by Vehicles 1-13 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
15		15
	This vehicle is the next contacted by Vehicles 1-14 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
16		16
	This vehicle is the next contacted by Vehicles 1-15 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
17		17
	This vehicle is the next contacted by Vehicles 1-16 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
18		18
	This vehicle is the next contacted by Vehicles 1-17 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
19		19
	This vehicle is the next contacted by Vehicles 1-18 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
20		20
	This vehicle is the next contacted by Vehicles 1-19 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
21		21
	This vehicle is the next contacted by Vehicles 1-20 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	

General Vehicle

Screen Name: Vehicle Number

Field Variable: VEHICLE.VEHNUMBER

22		22
	This vehicle is the next contacted by Vehicles 1-21 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
23		23
	This vehicle is the next contacted by Vehicles 1-22 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
24		24
	This vehicle is the next contacted by Vehicles 1-23 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
25		25
	This vehicle is the next contacted by Vehicles 1-24 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
26		26
	This vehicle is the next contacted by Vehicles 1-25 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
27		27
	This vehicle is the next contacted by Vehicles 1-26 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
28		28
	This vehicle is the next contacted by Vehicles 1-27 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
29		29
	This vehicle is the next contacted by Vehicles 1-28 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	
30		30
	This vehicle is the next contacted by Vehicles 1-29 (or object(s) set in motion) in a multi-vehicle crash. Transport status is not relevant for the numbering of vehicles 2-30. All vehicles are numbered sequentially relative to the their involvement in crash events after Vehicle 1.	

General Vehicle

Screen Name: Model Year

Field Variable: VEHICLE.MODELYEAR

Label: Model year

Remarks

Select the model year for which the vehicle was manufactured

Range: 1900-2008, -9999

Method: Enter Model Year ___ ___ ___ ___

Element Attributes:

Field Value

Unknown

-9999

Use only if the vehicle model year cannot be determined. This should occur rarely.

Sources:

PAR

VEHICLE INSPECTION

General Vehicle

Screen Name: Make

Field Variable: VEHICLE.MAKE

Label: Make

Remarks

Select the make of this vehicle from the list.

Range: 1-10, 12-14, 18-25, 29-63, 69-76, 78-88, 99, 2901-2909, 2999, 6901-6921, 6999, 9801- 9810, 9899, 15691, 20212, 24428, 30189, 67602, 104476, 143055

Method: Enter Make _____

General Vehicle

Screen Name: Make

Field Variable: VEHICLE.MAKE

Element Attributes:

	Field Value
ACURA	54
ALFA ROMEO	31
AM GENERAL	3
AMC/AMERICAN MOTORS	1
ASTON MARTIN	6901
AUDI	32
AUSTIN / AUSTIN HEALEY	33
AUTO-UNION-DKW	9802
AUTOCAR	9801
AVANTI	2902
BERTONE	6918
BMW	34
BRICKLIN	6902
BROCKWAY	80
BSA	70
BUELL	104476
BUICK	18
CADILLAC	19
CHECKER	2903
CHEVROLET	20
CHRYSLER	6
CITROEN	6903
CONSULIER	2909
DAEWOO	20212
DAIHATSU	60
DELOREAN	6904
DESOTO	2904
DESTA	6916
DIAMOND REO/REO	81
DIVCO	9803
DODGE	7
DUCATI	71
EAGLE	10
EXCALIBER	2905
FERRARI	6905

General Vehicle

Screen Name: Make

Field Variable: VEHICLE.MAKE

FIAT	36
FORD	12
FREIGHTLINER/WHITE	82
FWD	83
GMC	23
GRUMMAN	25
HARLEY-DAVIDSON	72
HILLMAN	6906
HINO	9806
HONDA	37
HUDSON	2907
HYOSUNG	232974
HYUNDAI	55
IMPERIAL	8
INDIAN	67602
INFINITI	58
INTERNATIONAL HARVESTER/NAVISTAR	84
ISUZU	38
IVECO/MAGIRUS	88
JAGUAR	39
JEEP / KAISER-JEEP	2
JENSEN	6907
KAWASAKI	73
KENWORTH	85
KIA	63
KTM	232985
LADA	6919
LAMBORGHINI	6908
LANCIA	40
LAND ROVER	62
LEXUS	59
LINCOLN	13
LOTUS	6909
MACK	86
MARMON	9808
MASERATI	6910

General Vehicle

Screen Name: Make

Field Variable: VEHICLE.MAKE

MAZDA	41
MERCEDES BENZ	42
MERCURY	14
MERKUR	56
MG	43
MINI	143055
MITSUBISHI	52
MORGAN	6920
MORRIS	6911
MOTO-GUZZI	74
NEOPLAN	9810
NISSAN / DATSUN	35
NORTON	75
OLDSMOBILE	21
OSHKOSH	9805
OTHER DOMESTIC MANUFACTURER (light vehicles)	29
OTHER FOREIGN MANUFACTURER (light vehicles)	69
OTHER MAKE (med/heavy truck/bus or "other")	15691
OTHER MAKE MOPED	78
OTHER MAKE MOTORED CYCLE	79
PACKARD	2908
PETERBILT	87
PEUGEOT	44
PLYMOUTH	9
PONTIAC	22
PORSCHE	45
RELIANT	6917
RENAULT/AMC	46
ROLLS ROYCE/BENTLEY	6912
SAAB	47
SATURN	24
SCANIA	9807
SIMCA	6913
SINGER	6921
STERLING	61
STERLING TRUCKS	24428

General Vehicle

Screen Name: Make

Field Variable: VEHICLE.MAKE

STUDEBAKER	2901
STUTZ	2906
SUBARU	48
SUNBEAM	6914
SUZUKI	53
TOYOTA	49
TRIUMPH	50
TVR	6915
VOLKSWAGEN	30
VOLVO	51
WARD LAFRANCE	9809
WESTERN STAR	9804
WINNEBAGO	30189
YAMAHA	76
YUGO	57
UNKNOWN DOMESTIC MANUFACTURER	2999
UNKNOWN FOREIGN MANUFACTURER	6999
UNKNOWN MANUFACTURER	99
UNKNOWN MEDIUM/HEAVY TRUCKS AND BUSES MANUFACTURER	9899

Sources:

PAR
VEHICLE INSPECTION

General Vehicle

Screen Name: Model

Field Variable: VEHICLE.MODEL

Label: Model

Remarks

Select the vehicle model for this vehicle.

General Vehicle

Screen Name: Model
Field Variable: VEHICLE.MODEL

Range: -9999, 5, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 34, 36, 37, 40, 41, 42, 44, 46, 47, 53, 57, 58, 59, 60, 61, 62, 63, 65, 66, 67, 68, 70, 72, 73, 74, 75, 76, 77, 79, 80, 87, 88, 92, 94, 98, 100, 105, 110, 115, 118, 124, 126, 127, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 147, 148, 152, 153, 154, 155, 156, 157, 158, 159, 160, 163, 164, 165, 166, 171, 173, 175, 177, 179, 180, 181, 183, 185, 186, 187, 188, 189, 191, 192, 195, 196, 197, 200, 203, 204, 206, 208, 215, 216, 221, 223, 226, 227, 228, 230, 231, 232, 234, 235, 236, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 381, 382, 383, 384, 385, 386, 389, 390, 391, 393, 395, 396, 397, 398, 399, 400, 401, 402, 403, 405, 406, 407, 411, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 435, 437, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 451, 452, 453, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 484, 485, 486, 487, 488, 489, 490, 491, 492, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 518, 519, 520, 521, 522, 523, 525, 526, 527, 528, 529, 530, 531, 533, 534, 535, 539, 540, 541, 543, 545, 546, 550, 551, 552, 553, 554, 555, 556, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 587, 590, 596, 600, 601, 602, 603, 604, 607, 608, 610, 611, 612, 616, 621, 623, 624, 626, 627, 631, 632, 633, 636, 639, 641, 650, 651, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 670, 671, 672, 673, 674, 675, 676, 677, 678, 680, 681, 682, 683, 684, 685, 686, 687, 688, 691, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 708, 709, 710, 711, 712, 714, 715, 716, 717, 718, 719, 720, 725, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 742, 743, 745, 747, 750, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 781, 782, 783, 784, 785, 786, 788, 789, 790, 797, 802, 803, 809, 814, 816, 817, 818, 819, 820, 821, 822, 823, 824, 826, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 846, 849, 853, 854, 855, 858, 873, 875, 881, 885, 886, 893, 894, 895, 896, 897, 901, 905, 906, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 937, 940, 941, 946, 950, 957, 958, 961, 964, 965, 968, 969, 972, 973, 974, 979, 989, 994, 996, 997, 998, 999, 1001, 1004, 1007, 1010, 1012, 1014, 1017, 1019, 1024, 1025, 1030, 1032, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1049, 1050, 1051, 1052, 1054, 1060, 1069, 1071, 1076, 1077, 1078, 1079, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1096, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1108, 1109, 1113, 1119, 1120, 1121, 1124, 1129, 1131, 1132, 1133, 1134, 1135, 1140, 1145, 1152, 1153, 1154, 1161, 1163, 1166, 1168, 1169, 1175, 1176, 1177, 1178, 1180, 1183, 1187, 1195, 1197, 5820, 5821, 6148, 6153, 6156, 6158, 6161, 6169, 6174, 6178, 6180, 6183, 6186, 6189, 6191, 6195, 6197, 6199, 6201, 6258, 6259, 6264, 6268, 6270, 6272, 6274, 6276, 6278, 6280, 6282, 6284, 6287, 6289, 6291, 6293, 6294, 6295, 6296, 6297, 6320, 6323, 6325, 6329, 6331, 6333, 6335, 6337, 6341, 6377, 6379, 6381, 6384, 6386, 6388, 6390, 6392, 6394, 6396, 6400, 6402, 6404, 6406, 6408, 6411, 6413, 6416, 6418, 6420, 6422, 6424, 6426, 6427, 6428, 6438, 6441, 6443, 6444, 6467, 6469, 6473, 6478, 6480, 6482, 6484, 6485, 6487, 6489, 6491, 6493, 6494, 6495, 6504, 6506, 6512, 6514, 6516, 6517, 6518, 6519, 6521, 6523, 6524, 6525, 6526, 6527, 6528, 6531, 6534, 6537, 6538, 6539, 6540, 6542, 6545, 6553, 6555, 6557, 6559, 6563, 6565, 6567, 6569, 6571, 6573, 6574, 6576, 6578, 6580, 6582, 6584, 6587, 6588, 6590, 6592, 6593, 6594, 6597, 6599, 6600, 6601, 6602, 6603, 6604, 6605, 6606, 6607, 6609, 6610, 6611, 6612, 6613, 6615, 6617, 6618, 6619, 6620, 6621, 6623, 6625, 6627, 6629, 6635, 6637, 6639, 6642, 6645, 6646, 6647, 6654, 6656, 6658, 6661, 6663, 6671, 6674, 6676, 6678, 6680, 6681, 6682, 6684, 6685, 6687, 6690, 6692, 6694, 6696, 6698, 6700, 6702, 6704, 6706, 6707, 6709, 6710, 6711, 6713, 6715, 6717, 6718, 6719, 6720, 6721, 6722, 6723, 6724, 6725, 6727, 6729, 6731, 6732, 6733, 6734, 6735, 6736, 6738, 6746, 6748, 6750, 6752, 6754, 6756, 6758, 6759, 6760, 6761, 6762, 6763, 6764, 6765, 6766, 6767, 6769, 6771, 6774, 6776, 6777, 6779, 6780, 6781, 6782, 6784, 6786, 6788, 6790, 6791, 6792, 6793, 6794, 6795, 6796, 6797, 6798, 6799, 6801, 6803, 6805, 6807, 6809, 6811, 6813, 6815, 6817, 6819, 6821, 6822, 6823, 6824, 6825, 6826, 6827, 6828, 6829, 6830, 6831, 6833, 6839, 6849, 6851, 6853, 6854, 6855, 6857, 6859, 6861, 6863, 6865, 6867, 6870, 7878, 7880, 7882, 7884, 7886, 7890, 7896, 7898, 7900, 7901, 7906, 7908, 7909, 7912, 7914, 7916, 7918, 7922, 7931, 9536, 9538, 9540, 9542, 9544, 9545, 9546, 9547, 9548, 9562, 9564, 9566, 9568, 9569, 9570, 9572, 9573, 9574, 9575, 9576, 9577, 9587, 9589, 9591, 9595, 9597, 9599, 9601, 9603, 9605, 9607, 9609, 9611, 9613, 9615, 9625, 9626, 9627, 9628, 9629, 9630, 9631, 9632, 9634, 9636, 9638, 9641, 9643, 9645, 9647, 9648, 9649, 9651, 9653, 9655, 9657, 9666,

General Vehicle

Screen Name: Model

Field Variable: VEHICLE.MODEL

9668, 9670, 9672, 9673, 9676, 9678, 9680, 9682, 9685, 9687, 9689, 9691, 9693, 9695, 9697, 9699, 9701, 9703, 9705, 9706, 9707, 9708, 9709, 9710, 9711, 9712, 9713, 9714, 9718, 9719, 9720, 9721, 9722, 9723, 9724, 9725, 9726, 9727, 9728, 9729, 9730, 9731, 9732, 9733, 9734, 9735, 9736, 9737, 9738, 9739, 9740, 9742, 9743, 9744, 9745, 9746, 9748, 9749, 9750, 9751, 9752, 9753, 9754, 9755, 9756, 9757, 9758, 9759, 9760, 9761, 9762, 9763, 9764, 9765, 9766, 9767, 9768, 9769, 9770, 9771, 9772, 9773, 9774, 9775, 9776, 9777, 9778, 9779, 9780, 9781, 9782, 9783, 9784, 9785, 9786, 9787, 9788, 9789, 9790, 9791, 9792, 9793, 9794, 9795, 9796, 9797, 9798, 9799, 9800, 9801, 9802, 9803, 9804, 9805, 9806, 9807, 9809, 9810, 9811, 9812, 9813, 10351, 12227, 12908, 12910, 12911, 12912, 12913, 12914, 12915, 12916, 12917, 12918, 12919, 12920, 12921, 12922, 12923, 12924, 16407, 16507, 18847, 19571, 19947, 20200, 20207, 20209, 20213, 20215, 20217, 20220, 20801, 20803, 22152, 22154, 22156, 22158, 22160, 22163, 22165, 22167, 22169, 22171, 22173, 22175, 22177, 22179, 22182, 22184, 22187, 24066, 24068, 24429, 24431, 24433, 24435, 24437, 24439, 24515, 25735, 25907, 25908, 26126, 27266, 27267, 27268, 27269, 27270, 27271, 27272, 27273, 27274, 27275, 27276, 27277, 27310, 27455, 27456, 27457, 27458, 28553, 30195, 30198, 30199, 30250, 30251, 30252, 31388, 31389, 31390, 31608, 31610, 31612, 31615, 31617, 31619, 31624, 31626, 31628, 31629, 31630, 32508, 32509, 32510, 32511, 32512, 32513, 32514, 32515, 32516, 32517, 32518, 32520, 32522, 32523, 32524, 32525, 32526, 32527, 32528, 32529, 32530, 32531, 32532, 32533, 36181, 37074, 37076, 37077, 37078, 37080, 37082, 37084, 37454, 37748, 38480, 38482, 38484, 38486, 39465, 39814, 39816, 39977, 39978, 39979, 39980, 39981, 40034, 40755, 40757, 40759, 40760, 40761, 40895, 44198, 44656, 44657, 44658, 44659, 44661, 44662, 44663, 44664, 44666, 44667, 45074, 45076, 45079, 45081, 45083, 45085, 45087, 45089, 45091, 45093, 45154, 45155, 45156, 45158, 45159, 45160, 46434, 46435, 46436, 104455, 104456, 104457, 104458, 104459, 104460, 104466, 104467, 104471, 104478, 104479, 104480, 104481, 104482, 104483, 104484, 104485, 104486, 104594, 133074, 133514, 143056, 146512, 146514, 146516, 146518, 146522, 146524, 146526, 146528, 146530, 146532, 146534, 146536, 146538, 146540, 146542, 146552, 146554, 146556, 146558, 146560, 146562, 147792, 148083, 148360, 149626, 157958, 158101, 158103, 158105, 158107, 158109, 158111, 158113, 158115, 158117, 158120, 158122, 158124, 158126, 158128, 158130, 158132, 158134, 158136, 158138, 158140, 158142, 158144, 158146, 158148, 158150, 158152, 158154, 158156, 158158, 158160, 158162, 158164, 158166, 174881, 174884, 174886, 174888, 174890, 174892, 174894, 174896, 174898, 174900, 174902, 174904, 174906, 174909, 174911, 174913, 174915, 174917, 174919, 174921, 174923, 174924, 174925, 174927, 174929, 174931, 175434, 193699, 210233, 210235, 210237, 210239, 210241, 210243, 210245, 210247, 210249, 210251, 210253, 210258, 210260, 210262, 210264, 210266, 210268, 210270, 210272, 210274, 210276, 210278, 210280, 210282, 210284, 210286, 210288, 210290, 210292, 210294

Method: Enter Model _____

General Vehicle

Screen Name: Model

Field Variable: VEHICLE.MODEL

Element Attributes:

	Field Value
MOTORCYCLE (350-449CC)	836
MOTORCYCLE (450-749CC)	837
MOTORCYCLE (750CC-OVER)	838
MOTORCYCLE (UNKNOWN CC)	839
UNKNOWN MOTORED CYCLE	840
UNKNOWN VEHICLE	841
1200/210/B210	842
310	843
510	844
200/240 SX	846
Z-CAR, ZX	849
UNKNOWN LIGHT TRUCK	853
OTHER VEHICLE	854
UNKNOWN VEHICLE	855
6000	858
FIERO	873
FIREBIRD/TRANS AM	875
GRAND AM	881
GRAND PRIX (RWD)	885
GRAND PRIX (FWD)	886
LEMANS/TEMPEST (THRU 79)	893
OTHER AUTOMOBILE	788
CITATION	997
BERETTA/CORSICA	998
CORVETTE	1001
J2000/SUNBIRD/SUNFIRE	901
T1000/1000	905
TRANS SPORT/MONTANA	906
380/420/450/500/560SEL/500SEC/560SEC/350SDL/300SDL	631
300/350/380/450/500SL/560SL	632
600, 6.9 SEDAB	633
SONNETT	6707
95/96/97	6710
220/280 C	636
OTHER AUTOMOBILE	639

General Vehicle

Screen Name: Model

Field Variable: VEHICLE.MODEL

DEVILLE/FLEETWOOD	1195
SEVILLE	1197
CONTINENTAL/TOWN CAR	1099
VERSAILLES	1100
OTHER AUTOMOBILE	1101
UNKNOWN AUTOMOBILE	1102
UNKNOWN VEHICLE	1103
BOBCAT	1104
CAPRI-DOMESTIC	1105
CAPRI-FOREIGN	1106
MARQUIS/MONTEREY	1108
COUGAR/XR7	1109
LYNX/LN-7 (82-83)	1113
MONARCH	1119
MYSTIQUE	1120
SABLE	1121
TOPAZ	1124
TRACER	1129
ZEPHYR	1131
OTHER AUTOMOBILE	1132
UNKNOWN VEHICLE	931
OTHER MAKE	932
TERCEL	571
VANAGON/CAMPER	935
CORRADO	937
EUROVAN	940
FOX	941
OTHER AUTOMOBILE	572
MOTORCYCLE (450-749CC)	310
MOTORCYCLE (750CC-OVER)	311
MOTORCYCLE (UNKNOWN CC)	312
OTHER MOTORED CYCLE	313
ELECTRA/ELECTRA 225/PARK AVENUE (91-ON)	1145
REATA	1152
UNKNOWN AUTOMOBILE	573
UNKNOWN AUTOMOBILE	973

General Vehicle

Screen Name: Model

Field Variable: VEHICLE.MODEL

UNKNOWN VEHICLE	974
UNKNOWN MEDIUM/HEAVY TRUCK	772
CAMARO	979
CAVALIER	989
CELEBRITY	994
CIVIC/CRX/DEL SOL	775
MEDIUM/HEAVY CBE	6790
LX 450/470	7906
OTHER LIGHT TRUCK	7908
UNKNOWN LIGHT TRUCK	7909
827S	7912
DISCOVERY (LR)	7914
DEFENDER 90 (LR)	7916
MOTORCYCLE (125-349CC)	317
SCIROCCO	965
MOTORCYCLE (450-749CC)	319
MOTORCYCLE (750CC-OVER)	320
LEMANS (88-on)	894
BONNEVILLE/CATALINA/PARISIENNE	895
PHOENIX	896
UNKNOWN MOTORED CYCLE	323
SUNBIRD (THRU 80)	897
MOTORCYCLE (000-050CC)	324
MOTORCYCLE (051-124CC)	325
MOTORCYCLE (125-349CC)	326
MOTORCYCLE (350-449CC)	327
MOTORCYCLE (450-749CC)	328
MOTORCYCLE (750CC-OVER)	329
MOTORCYCLE (UNKNOWN CC)	330
OTHER MOTORED CYCLE	331
UNKNOWN MOTORED CYCLE	332
MOTORCYCLE (000-050CC)	333
AURORA	1049
CALAIS	1050
DELTA 88	1051
CUTLASS (RWD-ONLY)	1052

General Vehicle

Screen Name: Model

Field Variable: VEHICLE.MODEL

CIERA	1054
CUTLASS (FWD)	1060
FIRENZA	1069
NINETY-EIGHT	1071
OMEGA	1076
SILHOUETTE	1077
STARFIRE	1078
TORONADO-TROFEO	1079
OTHER AUTOMOBILE	1081
UNKNOWN AUTOMOBILE	1082
OTHER LIGHT TRUCK	1083
OTHER AUTOMOBILE	1084
UNKNOWN AUTOMOBILE	1085
OTHER LIGHT TRUCK	1086
UNKNOWN LIGHT TRUCK	1087
OTHER MEDIUM/HEAVY TRUCK	1088
UNKNOWN MEDIUM/HEAVY TRUCK	1089
MEDIUM BUS	1090
OTHER BUS	1091
OTHER VEHICLE	1092
CHEVETTE	996
300 SE/380/450 SE	621
OTHER AUTOMOBILE	527
UNKNOWN AUTOMOBILE	528
UNKNOWN VEHICLE	529
99/99E/900	530
9000, CS	531
OTHER AUTOMOBILE	533
UNKNOWN AUTOMOBILE	534
UNKNOWN VEHICLE	535
IMPREZA	539
JUSTY	540
LEGACY	541
810/MAXIMA	738
NX 1600/2000	742
DATSUN/NISSAN PU/Frontier	743

General Vehicle

Screen Name: Model
Field Variable: VEHICLE.MODEL

PULSAR	745
QUEST	747
SENTRA	750
STANZA	756
VAN	757
OTHER AUTOMOBILE	758
UNKNOWN AUTOMOBILE	759
OTHER LIGHT TRUCK	760
UNKNOWN LIGHT TRUCK	761
OTHER MEDIUM/HEAVY TRUCK	762
UNKNOWN MEDIUM/HEAVY TRUCK	763
UNKNOWN VEHICLE	764
BRAVA - 131	765
124 SPIDER/RACER	766
STRADA	767
X-1/9	768
OTHER AUTOMOBILE	769
UNKNOWN AUTOMOBILE	770
UNKNOWN AUTOMOBILE	1133
UNKNOWN VEHICLE	1134
UNKNOWN MAKE	933
GOLF/CABRIOLET/GTI	934
LESABRE/CENTURION/WILDCAT	1140
OTHER LIGHT TRUCK	301
UNKNOWN LIGHT TRUCK	302
UNKNOWN LIGHT TRUCK	304
UNKNOWN VEHICLE	305
SUPER BEETLE	5820
RAMBLER/AMERICAN	5821
MEDIUM/HEAVY CBE	6611
MEDIUM/HEAVY COE LOW ENTRY	6613
MEDIUM/HEAVY COE HIGH ENTRY	6615
RAMPAGE 2.2 (CAR BASED PICKUP)	6274
UNKNOWN VEHICLE	773
SPIRIT/GREMLIN	132
CENTURY	1135

General Vehicle

Screen Name: Model
Field Variable: VEHICLE.MODEL

ACCORD	774
RIVIERA	1161
OTHER AUTOMOBILE	968
UNKNOWN AUTOMOBILE	969
OTHER AUTOMOBILE	972
UNKNOWN VEHICLE	1177
ALLANTE	1178
CIMARRON	1180
100/A6	797
200	802
4000	803
80/90	809
COUPE QUATTRO	814
S4/S6	816
V8 QUATTRO	817
OTHER AUTOMOBILE	818
UNKNOWN AUTOMOBILE	819
UNKNOWN VEHICLE	820
OTHER AUTOMOBILE	821
UNKNOWN AUTOMOBILE	822
UNKNOWN VEHICLE	823
3 SERIES	824
5 SERIES	826
6 SERIES	829
7 SERIES	830
OTHER AUTOMOBILE	831
UNKNOWN AUTOMOBILE	832
MOTORCYCLE (000-050CC)	833
MOTORCYCLE (051-124CC)	834
MOTORCYCLE (125-349CC)	835
TRUCK BASED MOTORHOME	303
ATC/ATV (125-349CC)	294
ATC/ATV (350CC-OVER)	295
ATC/ATV (UNKNOWN CC)	296
OTHER MOTORED CYCLE	297
UNKNOWN MOTORED CYCLE	298

General Vehicle

Screen Name: Model

Field Variable: VEHICLE.MODEL

OTHER MOTORED CYCLE	299
UNKNOWN MOTORED CYCLE	300
TEMPO	115
THUNDERBIRD (ALL SIZES)	118
OMNI/CHARGER	124
OTHER MEDIUM/HEAVY TRUCK	771
CJ-5/CJ-6/CH-7/CH-8	6174
YJ-SERIES	6178
G-SERIES VAN	6599
P-SERIES VAN	6601
VAN DERIVATIVE	6603
S-10/T-10	6605
940	6784
OTHER AUTOMOBILE	477
UNKNOWN AUTOMOBILE	478
UNKNOWN VEHICLE	479
EXCEL	480
GALANT	384
MIRAGE	385
MONTERO	386
PICKUP	389
SIGMA	390
STARION	391
TREDIA	393
MINIVAN	395
EXPO WAGON	396
OTHER AUTOMOBILE	397
REGAL	1153
REGAL (FWD)	1154
LIMOUSINE	1183
ELDORADO	1187
UNKNOWN VEHICLE	1093
MARK	1096
GEO METRO	1004
NOVA/GEO PRIZM	1007
SPRINT/GEO SPRINT	1010

General Vehicle

Screen Name: Model

Field Variable: VEHICLE.MODEL

GEO STORM	1012
GEO TRACKER	1014
IMPALA/CAPRICE	1017
LUMINA	1019
CHEVELLE/MALIBU (83-)	1024
MONTE CARLO ('70-'88) (RWD ONLY)	1025
MONZA	1030
SPECTRUM	1032
OTHER AUTOMOBILE	1036
UNKNOWN AUTOMOBILE	1037
OTHER LIGHT TRUCK	1038
UNKNOWN LIGHT TRUCK	1039
OTHER MEDIUM/HEAVY TRUCK	1040
UNKNOWN MEDIUM/HEAVY TRUCK	1041
BUS	1042
OTHER BUS	1043
OTHER VEHICLE	1044
UNKNOWN VEHICLE	1045
ACHIEVA	1046
OTHER AUTOMOBILE	249
UNKNOWN AUTOMOBILE	250
OTHER MOTORED CYCLE	175434
Unknown	-9999
Unknown Model - Fill all spaces with 9s	
FUSION	210249
LUCERNE	210239
DTS	210241
AVENGER	232965
AZERA	210253
MAZDA 5	210266
B9 TRIBECA	210288
YARIS	210292
ASPEN	232963
Q7	210233
ELISE	193699
UNKNOWN LIGHT TRUCK	210237

General Vehicle

Screen Name: Model
Field Variable: VEHICLE.MODEL

HHR	210243
CALIBER	210245
SUPERAMERICA	210247
FIT	210251
i-280	210258
i-350	210260
COMMANDER	210262
ZEPHYR	210264
CX-7	210268
R-CLASS	210270
CLS CLASS	210272
MILAN	210274
VERSA	210276
SOLTICE	210278
TORRENT	210280
CAYMAN	210282
AURA	210284
SKY	210286
FJ CRUISER	210290
EOS	210294
RDX	232936
A5	232940
R8	232942
Q5	232948
V5	232954
ENCLAVE	232958
NITRO	232967
EDGE	232969
ARCADIA	232971
OTHER MOTORED CYCLE	232996
UNKNOWN MOTORED CYCLE	233002
OTHER MOTORED CYCLE	233003
UNKNOWN MOTORED CYCLE	233004
EQUUS	233005
VERACRUZ	233007
ENTOURAGE	233013

General Vehicle

Screen Name: Model

Field Variable: VEHICLE.MODEL

COMPASS	233015
OTHER AUTOMOBILE	233017
UNKNOWN AUTOMOBILE	233018
PATRIOT	233019
RONDO	233021
LR2	233023
MKX	233036
MKS	233038
CX9	233040
RAIDER/DUROCROSS	233043
G5	233045
SX4	233047
TIGUAN	233049
HUMMER H3	233078

Sources:

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VEHICLE INSPECTION

General Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

Label: Body type

Remarks

The category indicating the general configuration or shape of a motor vehicle distinguished by characteristics of the vehicle.

Range: 1-17, 19-25, 28-33, 39-42, 45, 48-50, 58-70, 78-82, 88-93, 97, 99, 39462

Method: Select a single item

General Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

Element Attributes:

	Field Value
Convertible	1
<p>Passenger car equipped with a removable or retractable roof. To qualify for this attribute, the entire roof must open. Convertible roofs are generally fabric; however, removable hardtops are also included. This attribute takes priority over 2-door or 4-door attributes.</p>	
2-door sedan, hardtop, coupe	2
<p>Passenger car equipped with two doors for ingress/egress and a separate trunk area for cargo (i.e., trunk lid hinged below the backlight). Folding rear seats do not necessarily violate the separate "trunk area" concept.</p>	
3-door/2-door hatchback	3
<p>Passenger car equipped with two doors for ingress/egress and a rear hatch opening for cargo (i.e., hinged above the backlight). The cargo area is not permanently partitioned from the passenger compartment area.</p>	
4-door sedan, hardtop	4
<p>Passenger car equipped with four doors for ingress/egress and a separate trunk area for cargo (i.e., trunk lid hinged below the backlight). Folding rear seats do not necessarily violate the separate "trunk area" concept.</p>	
5-door/4-door hatchback	5
<p>Passenger car equipped with four doors for ingress/egress and a rear hatch opening for cargo (i.e., hinged above the backlight). The cargo area is not permanently partitioned from the passenger compartment area.</p>	
Station Wagon	6
<p>Passenger car with an enlarged cargo area. The entire roof covering the cargo area is generally equal in height from front to rear and full height side glass is installed between the C and D-pillars. The rearmost area is not permanently partitioned from the forward passenger compartment area (e.g., "horizontal window shades" to hide cargo do not constitute partitions).</p>	
Hatchback, number of doors unknown	7
<p>Passenger car with an unknown number of doors for ingress/egress and a rear hatch opening for cargo (i.e., hinged above the backlight). The cargo area is not permanently partitioned from the passenger compartment area.</p>	
Other automobile type	8
<p>Select this for a passenger car that cannot be described by any of the other passenger car attributes.</p>	
Unknown automobile type	9
<p>Select this attribute when it is known that the vehicle is a passenger car, but there is insufficient data to determine the type.</p>	
Auto based pickup	10
<p>Passenger car based, pickup type vehicle (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup). The roof area (and side glass) rearward of the front seats on a station wagon have been removed and converted into a pickup-type cargo box.</p>	
Auto based panel	11
<p>Automobile (not a truck type) station wagon that may have sheet metal rearward of the B-pillar rather than glass (cargo station wagon, auto based ambulance/hearse).</p>	

General Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

Large limousine	12
Automobile that has sections added within its wheelbase (more than four total side doors) or stretched chassis to increase length and passenger/cargo carrying capacity .	
Three-wheel automobile or automobile derivative	13
Three-wheeled vehicle with an enclosed passenger compartment. The single wheel may be in the front or the back of the vehicle.	
Compact utility	14
Short wheelbase and narrow tracked multi-purpose vehicle designed to operate in rugged terrain (examples include: 4-Runner, Amigo, Bravada, Bronco [76 and before], Bronco II, Cherokee [84 and after], Defender, Discovery, Dispatcher, Explorer, Geo Tracker, Golden Eagle, Grand Vitara, Jeep CJ-2 - CJ-7, Laredo, Montero, Mountaineer, Navajo, Passport, Pathfinder, Raider, RAV4, RX-300, Renegade, Rocky, Rodeo, S-10 Blazer, S-15 Jimmy, Samurai, Scrambler, Sidekick, Sportage, Thing, Trooper, Trooper II, Wrangler, Xterra, X-90)	
Large utility	15
Full-size multi-purpose vehicles primarily designed around a shortened standard pickup truck chassis. While generally a station wagon style body, some models are equipped with a removable top (examples include: Bronco-full-size [78 and after], full-size Blazer, full-size Jimmy, Hummer, Jeep Cherokee [83 and before], Durango, Escalade, Landcruiser, LX450, Navigator, Ramcharger, RangeRover, Scout, Tahoe, Trailduster, Yukon),	
Utility station wagon	16
Full sized pickup truck based chassis with a station wagon body (examples include: Chevrolet Suburban, Ford Excursion, GMC Suburban/Yukon XL, Travelall, Grand Wagoneer, includes Suburban limousine)	
3-door coupe	17
Passenger car equipped with three doors (two front seat and one rear seat) for ingress/egress and a separate trunk area for cargo (i.e., trunk lid hinged below the backlight). Folding rear seats do not necessarily violate the separate "trunk area" concept.	
Utility, unknown body type	19
Select this attribute when it is known that the vehicle is a utility vehicle, but there is insufficient data to determine the specific type. Class of Vehicle is entered as (Compact utility vehicle).	
Minivan	20
Small cargo or passenger vans. Examples include: Aerostar, Astro, Caravan, Expo Wagon, Grand Caravan, Grand Voyager, Lumina APV, Mazda MPV, Mini-Ram, Mitsubishi Minivan, Nissan Minivan, Odyssey, Previa, Quest, Safari, Sienna, Silhouette, Town and Country, Toyota Minivan, Toyota Van, Trans Sport, Vanagon/Camper, Venture, Villager, Vista, Voyager, Windstar)	
Large van	21
Full sized cargo or passenger van, generally based on a light truck frame similar to a full sized pickup truck. Examples include: B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura). These vans will generally have a larger capacity in both volume and GVWR.	
Step van or walk-in van	22
Multi-stop delivery vehicle with a GVWR less than or equal to 4,536 kilograms. Examples are the Grumman LLV used by the US Postal Service or the Aeromate manufactured by Utilimaster Motor Corporation. These vehicles will be large and boxy looking, generally with a sliding door and pedestal seat for the driver.	

General Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

Van based motorhome	23
<p>Van conversion where the chassis and cab portions from the B-pillar forward of this vehicle are the same as in attributes minivan, large van, step van, however, a frame mounted living or recreational unit is added behind the driver/cab area. This attribute takes priority over attributes minivan and large van.</p>	
Van based school bus	24
<p>Passenger van designed to carry students (passengers) to and from educational facilities and/or related functions. The vehicles are characteristically painted yellow and clearly identified as school buses. Use this attribute regardless of whether the vehicle is owned by a school system or a private company. Van based school buses converted for other uses (e.g., church bus) also take this attribute.</p>	
Van based other bus	25
<p>Van derivative (e.g., taxi, small local transit) designed to carry passengers for low occupancy functions or purposes. Examples are car rental vans seen at the airports, retirement home shuttles, etc. Do not code this attribute for van based school buses .</p>	
Other van type	28
<p>Cargo or delivery van where the chassis and cab portions from the B-pillar forward of this vehicle are the same as in Minivans and Large Vans with a frame mounted cargo area unit added behind the driver/cab area, or if the van cannot be described as a Minivan, Large Van, Step-van or a Van-based motorhome. Annotate the van type when using this attribute. This attribute takes priority over Minivans and Large Vans.A clue to this type is PCVina or Vinassist will return a Chassis/cab or incomplete when the VIN is input.</p>	
Unknown van type	29
<p>Select this attribute when it is known that this vehicle is a light truck based van, but its specific type cannot be determined.</p>	
Compact pickup	30
<p>Pickup truck having a width of 178 centimeters or less. (examples include: Arrow Pickup [foreign], Colt P/U, Courier, D50, Dakota, Datsun/Nissan Pickup, Frontier, Hombre, LUV, Mazda Pickup, Mitsubishi Pickup, Pup, Ram 50, Ranger, S-10 , S-15, Sonoma, T-10, T-15, Tacoma, Toyota Pickup)</p>	
Large pickup	31
<p>Pickup truck having a width of greater than 178 centimeters (examples include: C10-C35, Comanche, D100-D350, F100-F350, Jeep Pickup, K10-K35, R100-R500, R10-R35, Ram Pickup, Sierra, Silverado, T100, V10-V35, W100-W350)</p>	
Pickup with slide-in camper	32
<p>Pickup truck that is equipped with a slide-in camper. A slide-in camper is a unit that mounts within a pickup bed. Pickup bed caps, tonneau covers, or frame mounted campers are not applicable for this attribute.</p>	
Convertible pickup	33
<p>Pickup truck equipped with a removable or retractable roof. To qualify for this attribute, the entire roof must open. Convertible roofs are generally fabric; however, removable hardtops are also included. This attribute takes priority over compact and large pickups.</p>	
Unknown pickup style light conventional truck type	39
<p>Select this attribute when this vehicle is a Light Conventional Truck and it is known to have a conventional pickup style cab, but there is insufficient data to determine the specific attribute.</p>	
Cab chassis based	40
<p>Light truck with a pickup style cab and a commercial body attached to the frame. Included are pickup cab based ambulances and tow trucks.</p>	

General Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

Truck based panel	41
Truck based station wagon (e.g. Suburban) that has sheet metal rather than glass above the beltline rearward of the B-pillars.	
Light truck based motorhome (chassis mounted)	42
Use this attribute for frame mounted recreational unit attached to a light conventional pickup cab or van chassis.	
Other light conventional truck type	45
Select this attribute when the vehicle under consideration cannot be included in any of the other light conventional truck attributes.	
Unknown light truck type	48
Select this attribute when it is known that the vehicle is a light truck chassis based vehicle but insufficient data exist to specify the type.	
Unknown light vehicle type	49
Select this attribute when the vehicle is a can be identified as a light vehicle, but insufficient information exists to identify the type (automobile, light truck, van, etc.).	
School bus	50
Vehicle designed to carry passengers to and from educational facilities and/or related functions. The vehicles are characteristically painted yellow and clearly identified as school buses. Use this attribute regardless of whether the vehicle is owned by a school system or a private company. School buses converted for other uses (e.g., church bus) also take this attribute. Do not use this attribute for cross country or transit buses, even when used for transporting students.	
Other bus type	58
Transport device designed to carry passengers for longer periods of time. These vehicles may be classified as over-the-road, transit or intercity. Include bus based motorhome (other than school bus based) in this attribute.	
Unknown bus type	59
Select this attribute when it is known the transport device is a bus but there is insufficient data to choose between attributes School bus and Other bus type.	
Step van	60
Single unit enclosed body with a GVWR greater than 4,536 kilograms and an integral driver's compartment and cargo area. Step vans are generally equipped with a folding driver seat mounted on a pedestal and a sliding door for easy ingress/egress.	
Single unit straight truck(4500kg<GVWR<=8850kg)	61
Non-articulated truck designed to carry cargo. The gross vehicle weight rating of the vehicle must exceed 4,536 kilograms and be less than or equal to 8,845 kilograms.	
Single unit straight truck(8850kg<GVWR<=12000kg)	62
Non-articulated truck designed to carry cargo. The gross vehicle weight rating of the vehicle must exceed 8,845 kilograms and be less than or equal to 11,793 kilograms.	
Single unit straight truck (GVWR > 12,000 kgs)	63
Non-articulated truck designed to transport cargo with a gross vehicle weight rating in excess of 12,000 kilograms. Use this attribute if it is known that the GVWR of a single unit straight truck is greater than 4,536 kilograms but there is insufficient data to specify the type of single unit truck.	

General Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

Single unit straight truck (GVWR unknown)	64
Single unit straight truck, GVWR unknown.	
Medium/heavy truck based motorhome	65
Recreational vehicle installed on a single unit medium/heavy truck chassis.	
Truck-tractor (Cab Only, or any trailing units)	66
Truck tractor power unit, fifth wheel equipped, no trailer attached.	
Truck-tractor with no cargo trailer	67
Truck tractor power unit, fifth wheel equipped, with no trailer attached.	
Truck-tractor pulling one trailer	68
Truck tractor power unit, fifth wheel equipped, with one trailer attached.	
Truck-tractor pulling two or more trailers	69
Truck tractor power unit, fifth wheel equipped, with two or more trailers attached.	
Truck-tractor (unknown if pulling trailer)	70
Truck tractor power unit, fifth wheel equipped, unknown if any trailer(s) attached.	
Medium/heavy Pickup (>=4,536 kgs)	39462
Pickup style cab and box, designed as a medium weight truck, that is, manufactured to have a GVWR of more than 4,536 kgs (10, 000 lb), without additional options. This type truck has a larger, stronger frame than a light truck.	
Unknown medium/heavy truck type	78
Select this attribute when the only available information indicates a truck that meets the medium/heavy size criterion.	
Unknown truck type (light/medium/heavy)	79
Use this attribute when it is known that this vehicle is a truck, but there is insufficient data to classify the vehicle further.	
Motorcycle	80
Vehicle under consideration is a two-wheeled, open (i.e., no enclosed body) vehicle propelled by an internal combustion engine. Select this attribute for motorcycles equipped with a side car.	
Moped	81
Vehicle under consideration is a motorized bicycle capable of being propelled either by pedaling or an internal combustion engine.	
Three-wheel motorcycle or moped	82
Vehicle is a three-wheeled open vehicle which can be propelled by an internal combustion engine or by being pedalled.	
Other motored cycle (minibike, motorscooter)	88
Select this attribute when the vehicle in question does not qualify for attributes Motorcycles, Moped, Three wheeled motorcycle or moped. Examples of this type of vehicle are minibikes or motorscooters (e.g. Vespa)	
Unknown motored cycle type	89
Select this attribute for vehicles known to be motored cycles, but no further information is available.	

General Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

ATV(All-Terrain Vehicle) & ATC(All-Terrain Cycle)	90
Off-road recreational vehicle which cannot be licensed for use on public roadways. ATVs have 4 or more wheels and ATCs have 2 or 3 wheels. Generally, the tires are flotation/balloon type and are designed to operate with low air pressure. The tires generally have a very wide profile and aggressive tread patterns.	
Snowmobile	91
Vehicle designed to be operated over snow propelled by an internal combustion engine.	
Farm equipment other than trucks	92
Agricultural machinery other than trucks propelled by an internal combustion engine (e.g., farm tractors, combines, etc.).	
Construction equipment other than trucks	93
Construction equipment, generally designed for non-roadway use, propelled by an internal combustion engine (e.g., bulldozer, road grader, etc.). This attribute excludes trucks.	
Other vehicle type	97
Motorized vehicle in question does not qualify for a road vehicle (ie passenger car, light truck, etc.), Construction equipment other than trucks, Farm equipment other than trucks, Snowmobile, ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle) (e.g., go-cart, dune buggy, "kit" car, etc.). In other words, any motorized vehicle which does not fit in any other category.	
Unknown body type	99
No information available about the vehicle. This lack of information prohibits the accurate classification of this vehicle within one of the preceding attributes	

Sources:

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VEHICLE INSPECTION

General Vehicle

Screen Name: Class of Vehicle

Field Variable: VEHICLE.HIT_CLASS

Label: Class of Vehicle

Remarks

The Passenger Car Classification Subcommittee, A3B11(1), of the Transportation Research Board, Traffic Records and Accident Analysis Committee, A3B11, assessed size based on the vehicle wheelbase. The guidelines for this classification can be found in the report entitled Recommended Definitions for Passenger Car Size Classification by Wheelbase and Weight, August 1984 by the previously mentioned subcommittee. This variable is the same variable that appears in the Identification section of the General Vehicle Form.

Range: 0 - 5, 9, 14 - 16, 19 - 21, 24, 28 - 31, 38, 39, 45, 48 - 50, 58 - 60, 67, 68, 78 - 80, 90, 99, -9999

Method: Select from appendix list _____

General Vehicle

Screen Name: Class of Vehicle

Field Variable: VEHICLE.HIT_CLASS

Element Attributes:

	Field Value
Subcompact/mini (wheelbase < 254 cm) Passenger vehicle-selected based upon wheelbase.	1
Compact (wheelbase >= 254 but < 265 cm) Passenger vehicle-selected based upon wheelbase.	2
Intermediate (wheelbase >= 265 but < 278 cm) Passenger vehicle-selected based upon wheelbase.	3
Full Size (wheelbase >= 278 but < 291 cm) Passenger vehicle-selected based upon wheelbase.	4
Largest (wheelbase >= 291 cm) Passenger vehicle-selected based upon wheelbase.	5
Unknown passenger car size Known to be passenger vehicle-selected when wheelbase cannot be determined from any source.	9
Compact utility vehicle Select when this vehicle meets definition of Compact utility under Body Type. Use this attribute if the size of the utility vehicle is unknown.	14
Large utility vehicle (<= 4,536 kgs GVWR) Select when this vehicle meets definition of Large utility under Body Type. Refers to full-size multipurpose vehicles primarily designed around a shortened pickup truck chassis. While generally a utility station wagon body style, some models are equipped with a removable or soft top.	15
Utility station wagon (<= 4,536 kgs GVWR) Select when this vehicle meets definition of Utility station wagon under Body Type. Refers primarily to a pickup truck based chassis configured as a station wagon.	16
Unknown utility type Use this attribute when it is known that the vehicle is a utility vehicle, but there is insufficient data to determine the specific type/size.	19
Minivan (<= 4,536 kgs GVWR) Select when this vehicle meets definition of Minivan under Body Type. Refers to a standard size cargo or passenger van.	20
Large van (<= 4,536 kgs GVWR) Select when this vehicle meets definition of Large van under Body Type. Refers to a standard size cargo or passenger van.	21
Van Based school bus (<= 4,536 kgs GVWR) Select this attribute when the vehicle is a passenger van designed to carry students (passengers) to and from educational facilities and/or related functions. These vehicles are characteristically painted yellow and clearly identified as school buses. Use this attribute regardless of whether the vehicle is owned by a school system or a private company. Van based school buses converted for other uses (e.g., church bus) also take this attribute refers to vehicles defined as Van based school bus under Body Type.	24

General Vehicle

Screen Name: Class of Vehicle

Field Variable: VEHICLE.HIT_CLASS

Other van type (<= 4,536 kgs GVWR)	28
Select this attribute when the vehicle is a Step van or walk-in van, Van based motorhome, Van based other bus and coded Other van type under Body Type.	
Unknown van type (<= 4,536 kgs GVWR)	29
Select this attribute when the vehicle is known to be a light van, but its specific type cannot be determined. Refers to vehicles described as Unknown van type under Body Type.	
Compact pickup truck (<= 4,536 kgs GVWR)	30
Select this attribute when the vehicle meets the qualifications of a Compact pickup truck in Body Type. This generally means an overall body width of 178 centimeters or less.	
Large pickup truck (<= 4,536 kgs GVWR)	31
Select this attribute when the vehicle meets the qualifications of a Large pickup truck under Body Type. This generally means an overall body width of greater than 178 centimeters.	
Other pickup truck type (<= 4,536 kgs GVWR)	38
Select this attribute when the vehicle meets the qualifications of a Pickup with slide-in camper and Convertible pickup under Body Type.	
Unknown pick up truck (<=4,536 kgs GVWR)	39
Select this attribute when the vehicle meets the qualifications of an Unknown pickup style light conventional truck type under Body Type.	
Other light truck (<= 4,536 kgs GVWR)	45
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Cab-chassis based (includes rescue vehicles, light stake, dump, and tow truck), Truck based panel, Light truck based motorhome (chassis mounted), and Other light conventional truck type under Body Type.	
Unknown light truck type (<= 4,536 kgs GVWR)	48
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Unknown light truck type under Body Type.	
Unknown light vehicle type	49
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Unknown light vehicle type (automobile, utility, van, or light truck) under Body Type.	
School bus (excludes van based)(>4,536 kgs GVWR)	50
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as a School bus (designed to carry students, not cross country or transit) under Body Type.	
Other bus (>4,536 kgs GVWR)	58
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as an Other bus type (e.g., transit, intercity, bus based motorhome) under Body Type.	
Unknown bus type	59
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as an Unknown bus type under Body Type.	
Truck (>4,536 kgs GVWR)	60
Select this attribute when the vehicle meets the qualifications of a vehicle model defined under Body Type, as Step van (>4,536 kgs GVWR), Single unit straight truck (4,536 kgs < GVWR <= 8,845), Single unit straight truck (8,845 kgs < GVWR <= 11,793), Single unit straight truck (>11,793 kgs GVWR), Single unit straight truck, GVWR unknown and Medium/heavy truck based motorhome.	

General Vehicle

Screen Name: Class of Vehicle

Field Variable: VEHICLE.HIT_CLASS

Tractor without trailer	67
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as a Truck-tractor with no cargo trailer under Body Type.	
Tractor-trailer(s)	68
Select this attribute when the vehicle meets the qualifications of a vehicle model defined in attributes: Truck-tractor pulling one trailer, Truck-tractor pulling two or more trailers and Truck-tractor (unknown if pulling trailer) under Body Type.	
Unknown medium/heavy truck type	78
Select this attribute when the only available information indicates a truck of medium/heavy size. Refer to Unknown medium/heavy truck type under Body Type.	
Unknown light/medium/heavy truck type	79
Select this attribute when the vehicle meets the qualifications described by Unknown truck type (light/medium/heavy) under Body Type.	
Motored cycle	80
Select this attribute when the vehicle meets the qualifications of Body Type, Motorcycle, Moped (motorized bicycle), Three-wheel motorcycle or moped, Other motored cycle (minibike, motorscooter) and Unknown motored cycle type.	
Other vehicle	90
Select this attribute when the vehicle meets the qualifications described by ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle), Snowmobile, Farm equipment other than trucks, or Other vehicle type under Body Type.	
Unknown	99
Noncollision	100
Used when the event is a noncollision for striking vehicle.	
Not a motor vehicle	0
Unknown	-9999
Used when there is a lack of information regarding the type of vehicle. This lack of information prohibits the accurate classification of this vehicle using one of the preceding codes. This attribute is equivalent to Body Type, Unknown body type.	

Sources:

PAR

VEHICLE INSPECTION

General Vehicle

Screen Name: Vehicle Identification Number

Field Variable: VEHICLE.VIN

Label: Vehicle Identification Number

Remarks

If a vehicle is inspected, if at all possible, the VIN must be obtained from the vehicle. If the VIN cannot be read from the cowl, door panel, glove box or trunk lid, then other sources may be used.

The PAR may be used to obtain a VIN when a vehicle inspection is not required (i.e., non-tow CDS applicable and WinSMASH is not applicable; or Body Category, equals Buses, Medium/Heavy Trucks, Motorcycles, or Other Vehicles.

Enter the entire VIN; leave "blank" any column which does not have a VIN character.

If character of the VIN is missing or indecipherable, leave the column any such character would ordinarily occupy "blank".

Use VIN Assist, to check the VIN. Additionally, in NASSMAIN the VIN can be checked on the GV Form by going to Process / VIN Check Routine.

9999999999999999

if the entire VIN is unknown, or missing enter a "9" in each position.

If the vehicle is a motor home or school bus, the vehicle chassis VIN is coded and the secondary manufacturer's number should be annotated if indicated on the PAR.

If the vehicle is manufactured by the Ford Motor Company (prior to 1980) and the VIN begins or ends with a script, "F", the "F" is not entered. Proceed to the next character, as in the example below.

VIN: F 3 U 6 2 S 1 0 0 9 3 2 F

CODE: 3 U 6 2 S 1 0 0 9 3 2

In addition, if any hyphens, periods, or blank spaces are contained in the string of alphanumeric characters, ignore them as in the example below.

VIN: S M - E 3 0 7 6 4 2 1

CODE: S M E 3 0 7 6 4 2 1

Range: -7777, -9999

Method: Enter VIN _____

General Vehicle

Screen Name: Vehicle Identification Number

Field Variable: VEHICLE.VIN

Vehicle not required to have vin

-7777

Unknown VIN - Fill all spaces with 9s

-9999

If the entire VIN is unknown, or missing enter 9999999999999999

Sources:

PAR

VEHICLE INSPECTION

General Vehicle

Screen Name: Dominant Color

Field Variable: VEHICLE.COLOR

Label: Dominant color

Remarks

Enter the dominant color of the vehicle.

Range: 1-16, -9999

Method: Fill a single item

General Vehicle

Screen Name: Dominant Color

Field Variable: VEHICLE.COLOR

Element Attributes:

Field Value

Black	1
Charcoal gray Used for vehicles that are a dark gray.	2
Light gray/silver Used for vehicles that are gray or silver. Includes platinum. Does not include darks grays.	3
Brown	4
Gold/tan/copper Used for vehicles that are in the light brown family. Includes gold and bronze.	5
Purple Used for vehicles that are dark or light purple.	6
Dark blue Used for vehicles that are dark blue. Includes navy blue.	7
Light blue Used for vehicles that are light blue. Includes electric blue.	8
Dark green Used for vehicles that are darkgreen. Includes hunter/forest green.	9
Light green Used for vehicles that are light green. Includes lime green.	10
Maroon Used for vehicles that are much darker than red and have either a purple or a brown tint.	11
Red	12
Orange	13
Yellow	14
White	15
Other (specify) : Select this attribute when the vehicle does not have one color over the majority of the exterior surface or none of the colors in the list for this variable describe the dominant color . Describe the color(s) present, in the specify space.	16
Unknown The color could not be determined due to the vehicle burning, hit and run or some other reason the color could not be seen.	-9999

Sources:

PAR
VEHICLE INSPECTION

General Vehicle

Screen Name: In-Transport Status

Field Variable: VEHICLE.TRANSPORT

Label: Vehicle in-transport status

Remarks

This variable identifies the transport status of the vehicle. In-transport generally means in motion on a trafficway (except working vehicles) or stopped or in motion within the boundaries of a roadway. Not in transport generally means off the roadway and not in motion or off the trafficway. Working vehicles are exceptions to the previous categories.

Range: 1-3, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
In transport	1
Used when the vehicle has been determined to be a vehicle that is in-transport. This means the vehicle is in motion on a trafficway or any part of the vehicle is within the boundaries of the roadway. This is researcher determined and may not necessarily agree with the police report.	
Not in transport	2
Used for vehicles not in-transport. Not in-transport vehicles are defined as 1. Stationary vehicles outside the boundaries of the roadway2. Stationary emergency vehicles in the roadway with emergency lights in operation.3. Vehicles in motion outside the trafficway.This attribute is researcher determined and may not necessarily agree with the police report.	
Working motor vehicle	3
Used to indicate that this is a motor vehicle that was in the act of performing highway construction, maintenance or utility work when it became an involved unit. This work may be located within or outside the roadway boundaries, including portions of the highway closed for construction. This code does not include private construction/maintenance vehicles, or vehicles such as garbage trucks, delivery trucks, taxis, emergency vehicles, tow trucks, etc. Examples: <ul style="list-style-type: none">• Steam roller working in a highway construction zone.• State highway maintenance crew mowing grass on roadside.• Utility truck performing maintenance on the power lines/lights along the roadway.	
This is researcher determined and may not necessarily agree with the police report.	
Unknown	-9999
Sources: RESEARCHER ASSESSMENT	

General Vehicle

Screen Name: Vehicle Location

Field Variable: VEHICLE.OTHER_VEH_LOC

Label: Vehicle location relative to trafficway

Remarks

A parked vehicle is either a not-in-transport motor vehicle or a working motor vehicle. A not in-transport motor vehicle is a motor vehicle which is stopped off the roadway, e.g., parked off the roadway. A working motor vehicle is a motor vehicle which is being used as equipment (e.g., a tow truck while using its winch or a pickup truck while being used to power a saw). This element is coded as to the location of the Not in-transport or Working vehicle.

Range: 1-10, -9999, -9997

Method: Fill a single item

General Vehicle

Screen Name: Vehicle Location

Field Variable: VEHICLE.OTHER_VEH_LOC

Element Attributes:

Field Value

On roadway

1

The roadway is that part of a trafficway designed, improved and ordinarily used for motor vehicle travel or, where various classes of motor vehicles are segregated, that part of a trafficway used by a particular class. Separate roadways may be provided for northbound and southbound traffic or for trucks and automobiles. The roadway and any shoulder alongside the roadway together make up the road.

On shoulder

2

That part of a trafficway contiguous with the roadway for emergency use, for accommodation of stopped vehicles and for lateral support of the roadway structure.

On median

3

That area of a divided trafficway between parallel roads separating the travelways for traffic in opposite directions. The principal functions of a median are to provide the desired freedom from interference of opposing traffic, to provide a recovery area for out-of-control vehicles, to provide a stopping area in case of emergencies, and to minimize headlight glare. Medians may be depressed, raised or flush. Flush medians can be as little as 4-feet wide between roadway edgelines. Painted roadway edgelines four (4) or more feet wide denote medians. Medians of lesser width must have a barrier to be considered a median.

On roadside

4

Off the roadway, but inside the right-of-way. It is the outermost part of the trafficway which lay between the outer property line or other barrier and the edge of the first road encountered in the trafficway. Use this element if the parked vehicle is in a raised or painted island (directional or channeling).

Outside trafficway

5

Used when the parked vehicle is outside the right-of-way.

In parking lane

6

Refers to a strip of road located on the roadway or next to the roadway, on which parking is permitted. This includes curb-side and edge-of-roadway parking (for example, legal residential parking, city street parking, etc.). Sometimes a strip of roadway can be designated for parking at certain hours of the day (parking lane) and for regular travel at other hours (travel lane). This code should not be used during hours when parking is NOT permitted.

Gore

7

An area of land where two roadways diverge or converge. The area is bounded on two sides by the edges of the roadway, which join at the point of divergence or convergence. The direction of traffic must be the same on both of these roadways. The area includes SHOULDERS or marked pavement if any, between the roadways. The third side is 60 meters (approximately 200 feet) from the point of divergence or convergence or, if any other road is within 70 meters (230 feet) of that point, a line 10 meters (33 feet) from the nearest edge of such road.

Gore Inclusions:

Areas at rest area or exit ramps

Areas at truck weight station entry or exit ramps

Areas where two main roadways diverge or converge

Areas where a ramp and another roadway or two ramps, diverge or converge

Areas where a frontage road and another roadway or two frontage roads diverge or converge- And others.

Gore Exclusions:

Islands for channelizing of vehicle movements- Islands for pedestrian refuge- And others.

General Vehicle

Screen Name: Vehicle Location

Field Variable: VEHICLE.OTHER_VEH_LOC

Separator	8
The area of a trafficway between parallel roads separating travel in the same direction or separating a frontage road from other roads. A Separator may be a physical barrier or a depressed, raised, flush or vegetated area between roads.	
Continuous left turn lane	9
A two-way left turn lane positioned between opposing straight through travel lanes.	
Off roadway - location unknown	10
Refers to a location off the roadway, but its relationship to the right-of-way is not known.	
Not a parked vehicle	-9997
Not a case vehicle	-8882
Unknown	-9999
Coded only if the location of the parked vehicle cannot be established by any means.	

General Vehicle

Screen Name: Inspection Type

Field Variable: VEHICLE.INSPECTIONTYPE

Label: Inspection Type

Remarks

This variable is intended to identify the level of documentation for each vehicle. It further identifies the delay from the crash date and completeness of the data elements.

Range: 1-7, -8882

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Completed at scene All field elements in the GV form completed at scene. No followup visit(s) to gather any information.	1
Complete - started at scene/completed later All field information was gathered from this vehicle. Unknowns were not coded for any variables. Some information, for example, make, model, color, body type, etc. were collected at the crash scene. Follow-up visit(s) were necessary to gather other information.	2
Complete - not at scene The vehicle was not at the scene at the time the researcher arrived, left before the researcher could gather any information or there was an initial refusal by the driver or party responsible for the vehicle. All field information was gathered from this vehicle. Unknowns were not coded for any variables.	3
Partial inspection - started at scene Some field information was not collected and Unknown was coded for at least one variable. Limited information, for example, make, model, color, body type, etc. were collected at the crash scene. Follow-up visit(s) were necessary to gather other information.	4
Partial inspection - started later Some field information was not collected and Unknown was coded for at least one variable. The vehicle was not at the scene at the time the researcher arrived, left before the researcher could gather any information or there was an initial refusal by the driver or party responsible for the vehicle.	5
Refusal The owner or party responsible for the vehicle refused any type of vehicle inspection, including pictures from any distance. Multiple attempts produced no results.	6
Not inspected (specify): The vehicle was not inspected for reasons other than direct refusal of the owner or parties responsible for the vehicle. These include: Hit and run vehicles not located by police or other agencies Vehicles removed from the scene and false information about driver/owner given to police.	7
Not a case vehicle Added for noncase vehicles to prevent nulls in vehicle table	-8882

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

General Vehicle

Screen Name: Date of Vehicle Inspection
Field Variable: VEHICLE.INSPECTION_DATE

Label: Date of vehicle inspection

Remarks

Inspection date - the date the inspection was begun. This does not count unsuccessful attempts to locate the vehicle. Some data must be collected from the vehicle.

Range: 8/8/8882

Method: Enter Date ____ ____ / ____ ____ / ____ ____ ____ ____

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Cargo Weight

Field Variable: VEHICLE.CARGO_WEIGHT

Label: Cargo weight

Remarks

Weight of cargo in or on vehicle - excluding occupants. Cargo is defined as loading that affects handling and stability. The effect on handling and stability will increase proportionally with the weight of the cargo and distance of objects from the center of gravity (CG). An example is a bicycle roof rack with four bikes on top of an SUV. This object has great distance vertically from the CG but may not have great weight.

If a towed trailing unit is attached to a vehicle, then the weight of the trailer and its cargo is coded here. Cargo may also be located in or on the passenger compartment area, cargo area, trunk bed of truck, etc. Code the total weight of all the cargo.

Do not include the weight of the occupants as part of the cargo weight. The occupant weight is listed in the occupant form.

If there is no cargo then enter zero.

Range: 0-600000,-8888, -9999

Method: Enter pounds _____ lbs

Element Attributes:

	Field Value
--	--------------------

No driver present

-8888

Use this for instances when there is no driver present in the vehicle at the time of the crash.

Unknown

-9999

Selected if the cargo weight is unknown or if it is unknown if there is cargo in the vehicle.

Sources:

DRIVER INTERVIEW

VEHICLE INSPECTION

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

General Vehicle

Screen Name: Towed Trailing Unit

Field Variable: VEHICLE.TOWTRAIL

Label: Towed trailing unit

Remarks

A trailing unit attached by a fixed linkage includes horse trailers, fifth wheel trailers, travel trailers, camper trailers, boat trailers, truck trailers, towed motor vehicles, or any other trailer.

If this variable is coded yes then enter the weight of the trailer as well as any cargo it may be carrying in Cargo Weight variable.

This variable was only collected for 2007 cases.

Range: 1-2, -7774, -9999

Method: Select a single item

Element Attributes:

	<u>Field Value</u>
No	1
Select this attribute when there is no trailing unit attached to the vehicle under consideration.	
Yes	2
Select this attribute when a trailing unit is attached to the vehicle under consideration.	
Not collected during this study year	-7774
This variable was only collected for 2007 cases.	
Unknown	-9999
Select this attribute when it cannot be determined if a towed trailing unit was attached to the vehicle under consideration.	

General Vehicle

Screen Name: Special Use

Field Variable: VEHICLE.SPECIALUSE

Label: Special use

Remarks

Vehicle special use for this trip- use the same as CDS.Taxi, Vehicle used as school bus, and Vehicle used as other bus are "this trip" specific. The vehicle must be "on duty" as either a taxi or as a bus. External identification on the vehicle as a bus or taxi is not sufficient to determine its special use. Military, Police, Ambulance, and Fire truck or car are considered to be in use at all times. Special use means "in use" and not necessarily emergency use. External identification to the normal driving public is the sole criterion.

Range: 1-8, -9999

Method: Fill a single item

General Vehicle

Screen Name: Special Use
Field Variable: VEHICLE.SPECIALUSE

Element Attributes:	Field Value
No Special Use Used when no source indicates or implies that this vehicle was applicable to any of the special uses listed below.	1
Taxi Used when this vehicle was being used during this trip (at the time of the crash) on a "fee-for-hire" basis to transport persons. Most of these vehicles will be marked and formally registered as taxis; however, vehicles which are used as taxis, even though they are not registered (e.g., "Gypsy Cabs"), are included here. Taxis and drivers which are off-duty at the time of the crash are not included.	2
Vehicle used as a school bus Used if this motor vehicle (Body Type, need not equal School Bus) satisfies all of the following criteria: <ul style="list-style-type: none">externally identifiable to other traffic units as a school/pupil transport vehicle. The vehicle may be equipped with flashing lights and/or a sway stop arm, and traffic may be required to stop for the vehicle when occupants enter or exitoperated, leased, owned, or contracted by a public or private school-type institutionwhose occupants, if any, are associated with the institution; and,the vehicle is in operation at the time of the crash to and from the school or on a school-sponsored activity or trip.	3
Vehicle used as other bus Used when this motor vehicle is designed for transporting more than ten persons and does not satisfy all of the above criteria of a school bus.	4
Military Used for any vehicle which is owned by any of the Armed Forces regardless of body type. This attribute includes:-military police vehicles;-military ambulances;-military hearses; and-military fire vehicles	5
Police Used for any readily identifiable (lights or markings) vehicle which is owned by any local, county, state, or federal police agency. Vehicles not owned by the agency or not readily identifiable which are used by officers or agents (e.g., undercover) are excluded.	6
Ambulance Used for any readily identifiable (lights or markings) vehicles: (1) whose sole purpose is to provide ambulance service, or (2) who serve the dual purposes of a hearse--used for funeral services, and an ambulance--used for emergency services. For these dual purpose vehicles (ambulance/hearse), use this attribute only when the vehicle is used as an ambulance.	7
Fire truck or car Used for any readily identifiable (lights or markings) vehicle which is owned by any government (typically local) or cooperative agency for the purpose of fire protection. For volunteer fire companies, fire fighting apparatus and other vehicles owned by the company or government qualify for this attribute. Privately owned vehicles, which are not in authorized use, even if equipped with lights, do not qualify (the volunteer firefighter's vehicle).	8
Unknown Used when no information is available to determine special use for this trip (e.g., a hit-and-run vehicle).	-9999

General Vehicle

Screen Name: Special Use

Field Variable: VEHICLE.SPECIALUSE

Sources:

DRIVER INTERVIEW
SURROGATE INTERVIEW
PAR
VEHICLE INSPECTION

General Vehicle

Screen Name: Odometer Reading

Field Variable: VEHICLE.ODOMETER

Label: Odometer reading

Remarks

Total mileage on odometer

Range: 1-1,000,000 , -8868, -9999

Method: Enter miles _____

Element Attributes:

**Field
Value**

Unknown-Electronic Odometer

Used when unable to read odometer-electronic display and no power to vehicle

-8868

Unknown

Used when unable to determine mileage. Odometer not visible, destroyed. Interior of vehicle not accessible.

-9999

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: State Inspection Sticker

Field Variable: VEHICLE.STATE_INSP

Label: State periodic inspection sticker

Remarks

Examine the vehicle for presence of an inspection sticker. Do not confuse the inspection sticker with the registration sticker. If present, check the expiration date on the sticker.

Range: 1-3, -9997, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Current The inspection sticker on the vehicle is not expired. Check the dates for valid period on the sticker.	1
Not current Inspection sticker present on the vehicle but is not valid due to expiration date passed or other reason.	2
Not present No inspection sticker present on the vehicle. The vehicle may not require a sticker, ie US government or state registration or some other reason.	3
Not a case vehicle Use when not a case vehicle	-8882
Not applicable This vehicle is not required to have a periodic inspection.	-9997
Unknown Unable to determine if this vehicle had or has an inspection sticker.	-9999

Sources:

PAR

VEHICLE INSPECTION

General Vehicle

Screen Name: Registration State

Field Variable: VEHICLE.STATE_REG

Label: State vehicle registered in

Remarks

Examine the license plate and the sticker on the windshield (if present) to determine the registration state/territory/country.

Range: 1-52, 66, 77, -9998, -9999

Method: Enter state abbr. _____

General Vehicle

Screen Name: Registration State

Field Variable: VEHICLE.STATE_REG

Element Attributes:

	<u>Field Value</u>
AK Alaska	1
AL Alabama	2
AR Arkansas	3
AZ Arizona	4
CA California	5
CO Colorado	6
CT Connecticut	7
DC Washington, DC	8
DE Delaware	9
HI Hawaii	12
IA Iowa	13
GA Georgia	11
FL Florida	10
ID Idaho	14
IL Illinois	15
IN Indiana	16
KS Kansas	17
KY Kentucky	18

General Vehicle

Screen Name: Registration State

Field Variable: VEHICLE.STATE_REG

LA	19
Louisiana	
MA	20
Massachusetts	
MD	21
Maryland	
ME	22
Maine	
MI	23
Michigan	
MN	24
Minnesota	
MO	25
Missouri	
MS	26
Mississippi	
MT	27
Montana	
NC	28
North Carolina	
ND	29
North Dakota	
NE	30
Nebraska	
NH	31
New Hampshire	
NJ	32
New Jersey	
NM	33
New Mexico	
NV	34
Nevada	
NY	35
New York	
OH	36
Ohio	
OK	37
Oklahoma	

General Vehicle

Screen Name: Registration State

Field Variable: VEHICLE.STATE_REG

OR	38
Oregon	
PA	39
Pennsylvania	
PR	40
Puerto Rico	
RI	41
Rhode Island	
SC	42
South Carolina	
SD	43
South Dakota	
TN	44
Tennessee	
TX	45
Texas	
UT	46
Utah	
VA	47
Virginia	
VT	48
Vermont	
WA	49
Washington	
WI	50
Wisconsin	
WV	51
West Virginia	
WY	52
Wyoming	
Foreign Country (Specify)	66
Not licensed	77
Vehicle is not required to be registered. This will be extremely rare.	
Other (Specify)	-9998
A vehicle registered by an entity other than a state or foreign country. Please describe fully. One example is US government vehicles.	

General Vehicle

Screen Name: Registration State

Field Variable: VEHICLE.STATE_REG

Unknown

-9999

Select this attribute if the researcher cannot determine if the vehicle is registered or if the vehicle is not required to be registered.

Sources:

PAR

VEHICLE INSPECTION

General Vehicle

Screen Name:

Field Variable: VEHICLE.CASEVEHICLE

Label: CASE VEHICLE

Remarks

Case vehicle status is noted with a checkmark on the electronic or paper forms.

To be a case vehicle, the vehicle must be:

1. In transport as defined by ANSI D.16
2. A motor vehicle as defined by ANSI D.16.
3. One of the first three in-transport vehicles in the collision, based on the chronological sequence of events beginning with the first harmful event.

A vehicle is NOT a case vehicle if it meets any one of the following conditions:

1. Not in transport as defined by ANSI D.16.
2. Is not a motor vehicle as defined by ANSI D.16.
3. Is the fourth or greater in-transport vehicle based on event sequence in the collision.

Range: 1-2

Method: Check or Enter Value in Box

Element Attributes:

Yes

This vehicle is an in-transport vehicle and is one of the first three, relative to crash events, involved in the crash.

No

This vehicle is not one of the first three in-transport vehicles, relative to crash events, involved in the crash. Please refer to the EVENTNUMBER variable for the structuring of the case.

Field Value

1

2

Sources:

VEHICLE INSPECTION
SCENE INSPECTION

General Vehicle

Screen Name: Quarter Turns

Field Variable: VEHICLE.QUARTER_TURNS

Label: Quarter Turns

Remarks

Determine the number of quarter turns the vehicle experienced in the rollover. For the General Vehicle Form, this number should be determined from all possible sources; scene evidence, vehicle damage, driver interview, witness interviews and PAR.

-

Range: 1-20,-9999, -8865, -8866

Method: Enter Number of Quarter Turns _____

Element Attributes:

No rollover

This vehicle did not roll over.

End over end

No lateral axis rollover. This attribute is used for end over end rollovers.

Unknown

Unknown number of lateral quarter turns. Unable to determine from scene or vehicle inspection, interview or PAR. This attribute is also used when it cannot be determined if the vehicle rolled over.

**Field
Value**

-8866

-8865

-9999

Sources:

DRIVER INTERVIEW
VEHICLE INSPECTION
SCENE INSPECTION

General Vehicle

Screen Name: Direction of Initial Roll

Field Variable: VEHICLE.ROLL_INIT_ROLL

Label: Direction of initial roll

Remarks

During a side-over-side rollover, generally the corner or roof rail with the maximum crush is the trailing side. This will be a good indication of a roll to the right or a roll to the left. Striations or directional gouge marks on the vehicle are a good indication of a vehicle's roll along the longitudinal or lateral axis. Physical evidence at the crash scene, including yaw marks, scuffing, or gouging will also provide insight into the direction of the initial roll. It will not be uncommon to combine both vehicle and scene evidence when determining the direction of the initial roll.

Range: 2-4, -8866, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No rollover	-8866
Roll right - primarily about the longitudinal axis Used when the vehicle rolls over with the right side leading, a clockwise rollover from the driver's view.	2
Roll left - primarily about the longitudinal axis Used when the vehicle rolls over with the left side leading, a counterclockwise rollover from the driver's view.	3
End-over-end Used when the vehicle rolled end-over-end	4
Unknown Used when the researcher is unable to determine which side the vehicle rolled on to initially.	-9999

Sources:

VEHICLE INSPECTION
SCENE INSPECTION

General Vehicle

Screen Name: Type of Rollover Initiation

Field Variable: VEHICLE.ROLL_INIT_TYPE

Label: Type of rollover initiation

Remarks

Rollovers have been categorized into types, relating to the type and cause of the overturn. The categorization relates to vehicle movement and object interaction at the point of rollover initiation. A vehicle action that cannot be categorized under any of the specific types should be coded Other rollover initiation type and specified in the space provided. The attributes below are used for rollovers initiated about the longitudinal axis. Rollovers in which the vehicle is rotating primarily about the lateral axis should be coded as Rollover - end-over-end (i.e., primarily about the lateral axis)

Range: 2-11, -8866, -9999

Method: Fill a single item

General Vehicle

Screen Name: Type of Rollover Initiation

Field Variable: VEHICLE.ROLL_INIT_TYPE

Element Attributes:

Field Value

No rollover

-8866

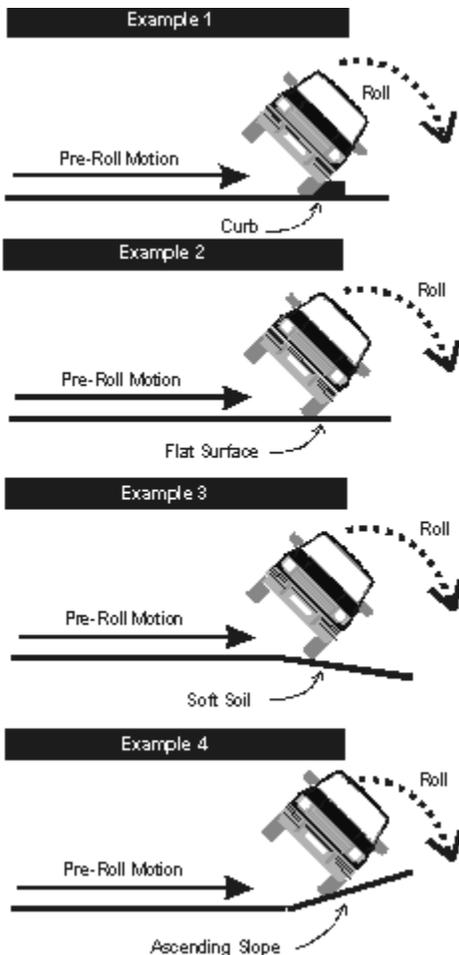
Used if uncertainty exists concerning whether or not this vehicle rolled over. In addition, use this attribute if a trailer attached to the vehicle rolled over but the vehicle itself did not.

Trip-over

2

Selected when the vehicle's lateral motion is suddenly slowed or stopped, inducing a rollover. The opposing force may be produced by a curb, pot-holes, or pavement/soil dug into by a vehicle's wheels.

Trip-Over:
The vehicle's lateral motion is resisted by opposing force, inducing roll moment.



General Vehicle

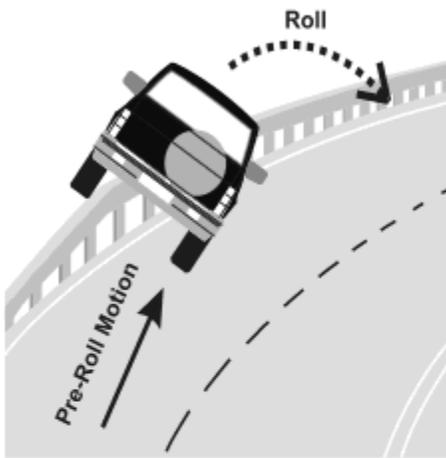
Screen Name: Type of Rollover Initiation

Field Variable: VEHICLE.ROLL_INIT_TYPE

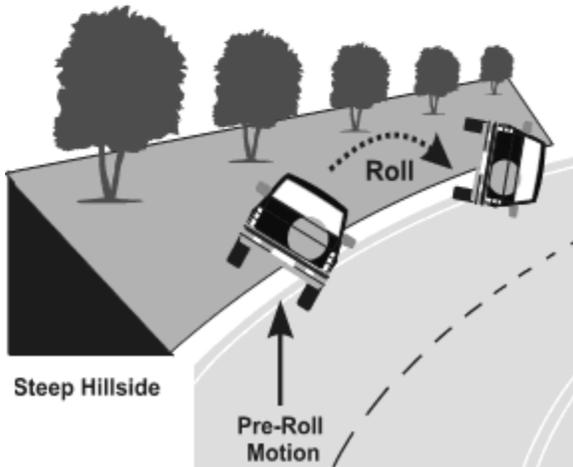
Flip-Over

Forward moving vehicle is vigorously rotated about its longitudinal axis by a ramp-like object such as a guardrail taper or ditch back slope.

Example 1



Example 2



General Vehicle

Screen Name: Type of Rollover Initiation

Field Variable: VEHICLE.ROLL_INIT_TYPE

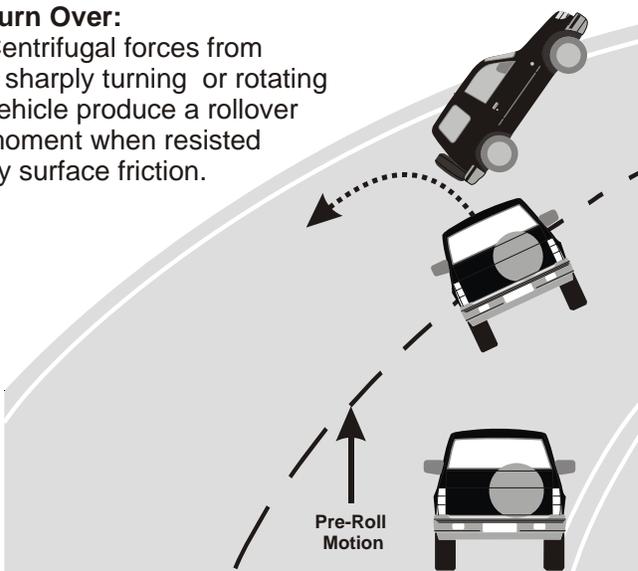
Turn-over (specify) :

4

Selected when centrifugal forces from a sharply turning or rotating vehicle produce a rollover when resisted by normal surface friction. This type of rollover is more likely to occur in vehicles with a higher center of gravity than most passenger vehicles. The surface type includes pavement surfaces plus gravel, grass, dirt, etc. The distinction between Turn-over and Trip-over is that no furrowing, gouging, etc. occurs to the surface at the point of trip. In addition, see remarks for Fall-over below. When turnover is selected, the justification must be entered. This attribute does not include cargo shift; code cargo shift under cargo shift.

Turn Over:

Centrifugal forces from a sharply turning or rotating vehicle produce a rollover moment when resisted by surface friction.



General Vehicle

Screen Name: Type of Rollover Initiation

Field Variable: VEHICLE.ROLL_INIT_TYPE

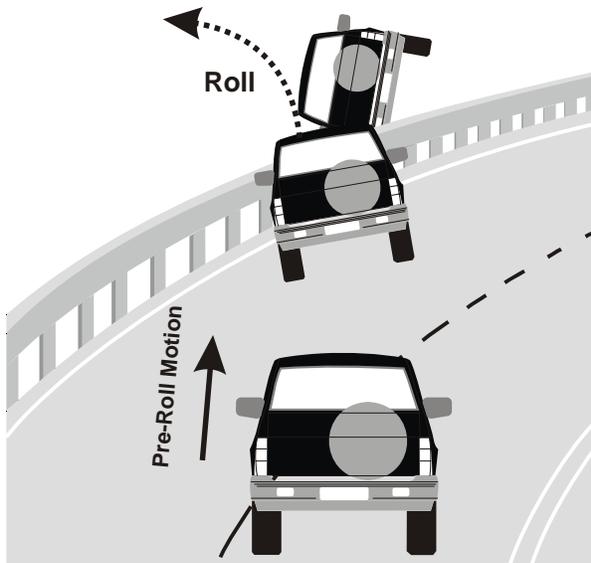
Climb-over

5

Selected when a vehicle climbs up and over a fixed object such as a barrier or guardrail. The object should be high enough to lift the vehicle completely off the ground (i.e., the height should exceed the radius of the vehicle's largest diameter wheel). The vehicle must roll to the opposite side from which it approached the object.

Climb-Over

Vehicle climbs up and over fixed object such as a guardrail



General Vehicle

Screen Name: Type of Rollover Initiation

Field Variable: VEHICLE.ROLL_INIT_TYPE

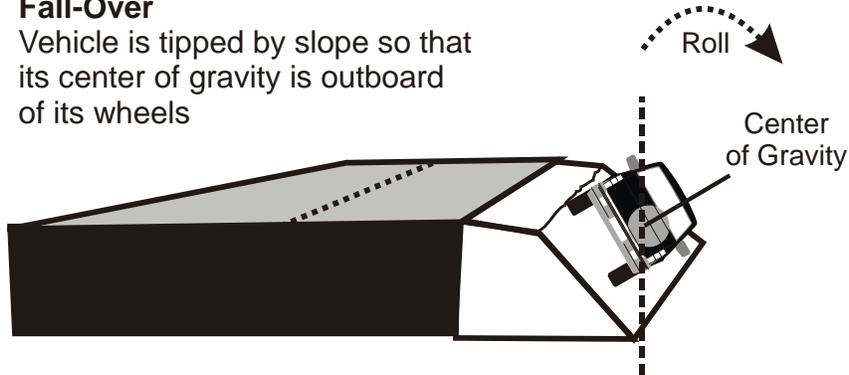
Fall-over

6

Selected when the surface the vehicle is traversing slopes downward in the direction of movement of the vehicle's center-of-gravity such that the vehicle's center of gravity becomes outboard of its wheels. The distinction between this and Turn-over above involves the negative slope of the traversed surface. If the rotation and/or the surface friction causes the trip, then use Turn-over, however, if the slope is so negative that a line straight downward through the vehicle's center-of-gravity (as shown in the illustration) would fall outside the vehicle's track, then use this attribute. For example, if a vehicle goes off the road and encounters a substantial surface drop off because of the elevated nature of the road in relation to its environment (e.g., cliff, ditch, etc.), then use this attribute.

Fall-Over

Vehicle is tipped by slope so that its center of gravity is outboard of its wheels



General Vehicle

Screen Name: Type of Rollover Initiation

Field Variable: VEHICLE.ROLL_INIT_TYPE

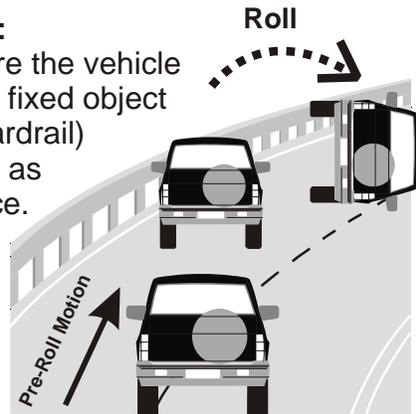
Bounce-over

7

Selected when a vehicle deflects off of a fixed object (such as a guardrail, barrier, tree, or pole) or a not-in-transport vehicle such that the vehicle's rotation causes it to overturn. The deflection momentum contributes to a rollover. To use this attribute, the rollover must occur in close proximity to the object from which it deflected. For example, if a vehicle strikes a center median barrier and rotates across two traffic lanes prior to the vehicle rolling over, then Trip-over or Turn-over would apply.

Bounce-Over:

Any case where the vehicle rebounds off a fixed object (such as a guardrail) and overturns as a consequence.



Collision with another vehicle

8

Selected when an impact with another vehicle causes the rollover. The rollover must be the immediate result of the impact between the vehicles (e.g., intersection crashes where a vehicle is struck in the side and the momentum of the struck vehicle results in the rollover, or offset end-to-end type crashes when one vehicle will vault over the tapered end of another vehicle resulting in a rollover). Otherwise use attributes above. For example, if a vehicle is struck in the side and the vehicle rotates and does not produce any wheel/rim gouges or furrows in the surface nor encounters any prominent raised objects (e.g., a high curb) and overturns in close proximity to the point of impact, then use this attribute.

Other rollover initiation type (specify) :

9

Selected when this vehicle's rollover initiation type cannot be described above. Whenever this is used, the researcher is required to specify the type of rollover which occurred.

Cargo shift

10

This attribute is used only when there is definitive evidences that cargo shift is the predominant cause of the rollover. The cargo shift must occur prior to the rollover event. Coding of this attribute requires very careful questioning of the driver or occupants of the rollover vehicle.

End-over-end

11

Selected when the rollover is mainly end-over-end. This attribute is used when a rollover is a combination of a side-to-side and end-over-end roll and it cannot be determined which type of rollover is most prevalent. This attribute will be automatically entered in the electronic system when the "Direction of initial roll" is end-over-end.

Unknown rollover initiation type

-9999

Selected when the type of rollover initiation is unknown.

General Vehicle

Screen Name: Type of Rollover Initiation

Field Variable: VEHICLE.ROLL_INIT_TYPE

Sources:

VEHICLE INSPECTION

SCENE INSPECTION

General Vehicle

Screen Name: Location of Rollover Initiation

Field Variable: VEHICLE.ROLL_INIT_LOC

Label: Location of rollover initiation

Remarks

Select the attribute which best describes the location at the initiation of the rollover. This selection should reflect the the trip point of the overturn. If there is some ambiguity regarding the location, ie front wheels on shoulder, rear wheels on travel lane, please consult your Zone Center.

Range: 2-6, -8866, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No rollover	-8866
On roadway	2
<p>Selected when the rollover initiates in the travel lanes of the roadway (i.e., between painted edgelines or between roadway edges when painted edge lines are absent). The median between roadways (divided highways such as thruways or expressways) is identified as codes On shoulder - paved, On shoulder - unpaved, or On roadside or divided trafficway median as described below. ANSI defines a roadway as that part of a trafficway designed, improved and ordinarily used for motor vehicle travel, and excludes any shoulder alongside the roadway.</p>	
On shoulder -paved	3
<p>Selected when the rollover initiation occurs on a paved surface outside the painted edgeline or the outer edge or pavement seam of the roadway. A shoulder may exist within the median of a divided highway or on the outermost edge of the roadway. A shoulder is defined as that part of a trafficway contiguous with the roadway for emergency use, for accommodation of stopped road vehicles, and for lateral support of the roadway structure.</p>	
On shoulder - unpaved	4
<p>Selected when the rollover initiation begins within the confines of the improved area (i.e., gravel or stone) contiguous with the roadway. Unpaved shoulders, for NASS purposes, are composed of loose gravel or stone. Combination gravel/stone and asphalt surfaces, such as macadam or "chip and seal", are considered as paved. Roadways without an improved, contiguous surface will be considered as not having shoulders.</p>	
On roadside or divided trafficway median	5
<p>Selected when the rollover initiation occurs outside the roadway and the shoulder. There are roads where sod or dirt will support the roadway edge. When the rollover initiation occurs within this area, use this attribute because this roadway does not have shoulders. In addition, shoulders end wherever most curbs or fixed objects begin. If the trip begins on a curb that is adjacent on one side to a sidewalk, turf, or dirt, then use this attribute. If the rollover is initiated by a fixed object, then use this attribute. Care must be exercised with some mountable curbs. If the mountable curb has paving on both sides and its primary function is to control water runoff, then use On shoulder-paved.</p>	
End-over-end	6
Not a case vehicle	-8882
<p>Precoded value when CASEVEHICLE is coded 2.</p>	
Unknown	-9999

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Initial Object Contacted

Field Variable: VEHICLE.ROLL_INIT_OBJ_TYPE

Label: Initial object contacted

Remarks

The Object Contacted codes in the next variable are grouped into specific classes. The class is first selected, then the object lists are filtered for items in that specific class.

Range: 1-3, 5-7, -8866

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No rollover	-8866
Vehicle	1
Select this category if the object contacted is a road vehicle (as defined in ANSI).	
Noncollision	2
Select this category when the event resulted in nonimpact related damage or injury. Examples are vehicle fires, rollovers, etc.	
Collision with Fixed Object	3
Select this attribute when the vehicle in question contacts an object which is anchored to the ground or to another fixed object. Examples include utility poles, longitudinal barriers, curbs, etc.	
Collision with Nonfixed Object	5
Select this attribute when the vehicle in question contacts an object which is moveable. The object is not anchored to the ground or to another fixed object. Examples include trash cans, tires in roadway, pedestrian, animal, etc.	
Unknown event or object	6
Select this category when it is known that a harmful event has occurred but the cause of the damage or injury cannot be determined.	
Other event (specify)	7
Select this category when the object contacted or the event does not fit into any of the other categories. This should be an extremely rare occurrence. Consult with your zone center before using this attribute.	

General Vehicle

Screen Name: Rollover Initiation Object Contacted

Field Variable: VEHICLE.ROLL_INIT_OBJ

Label: Rollover initiation object contacted

Remarks

This variable is related to Rollover Initiation Type, and identifies the source of the force that acted upon the vehicle that resulted in the rollover. These attributes are obtained from the Events section of the Crash form. If the rollover was initiated by an impact that was assigned a CDC, then the object contacted for that CDC will be selected for this variable. If the rollover is not initiated by an impact with another vehicle or the object impact produced no damage, the researcher must determine the cause (i.e., initiation force) of the rollover and consequently the object(s) contacted during the rollover. For example, if a vehicle strikes a curb that trips the vehicle, then select Curb even though the CDC Object Contacted for the rollover would probably equal Overturn- rollover.

Similarly, if a vehicle vaults a longitudinal barrier (Climb-over), then select Concrete traffic barrier or Other traffic barrier, depending upon the longitudinal barrier design. If a yawing vehicle rolls as a result of centrifugal forces caused by normal surface friction or as a result of burrowing into soft soil, then select Ground because the ground applied the force that acted as the tripping mechanism for the rollover.

Range: 1-35, 38-39, 41-45, 50-64, 68-69, 72-74, 76-79, 88-89, 98-99, -8866, -8882

Method: Fill a single item

General Vehicle

Screen Name: Rollover Initiation Object Contacted

Field Variable: VEHICLE.ROLL_INIT_OBJ

Element Attributes:

Field Value

No rollover	-8866
Vehicle#1	1
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#2	2
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#3	3
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#4	4
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#5	5
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#6	6
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#7	7
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#8	8
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#9	9
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#10	10
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#11	11
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#12	12
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	

General Vehicle

Screen Name: Rollover Initiation Object Contacted

Field Variable: VEHICLE.ROLL_INIT_OBJ

Vehicle#13	13
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#14	14
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#15	15
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#16	16
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#17	17
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#18	18
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#19	19
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#20	20
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#21	21
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#22	22
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#23	23
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#24	24
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#25	25
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	

General Vehicle

Screen Name: Rollover Initiation Object Contacted

Field Variable: VEHICLE.ROLL_INIT_OBJ

Vehicle#26	26
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#27	27
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#28	28
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#29	29
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Vehicle#30	30
If the object contacted by the vehicle under consideration was a motor vehicle in-transport, select the Vehicle Number assigned to that vehicle.	
Overturn->rollover(excludes end-over-end)	31
Used whenever a vehicle rolls over or overturns primarily about the longitudinal axis. This event is reported in the crash sequence variables on the Case Form. It is assumed a rollover will generally involve contact with the road surface or ground. In this situation, the object contacted is encoded Overturn - rollover and not Ground . In the event another object in the environment is contacted during the rollover sequence, the rollover event is, but may not be encoded in the CDC unless the rollover is applicable to CDC.	
Rollover->end-over-end	32
Used whenever a vehicle rolls over or overturns primarily about the lateral axis of the vehicle.	
Fire or explosion	33
Use whenever a vehicle fire or explosion occurs during the precrash events to final rest of the vehicle.	
Jackknife	34
Use whenever there is sufficient uncontrolled rotation (articulation) between a towing unit and a trailing unit such that they contact each other resulting in direct damage to the towing unit. Jackknife may occur to any vehicle which is pulling a trailing unit by a fixed linkage so long as the trailing unit and the pulling vehicle are capable of rotating (articulating) with respect to each .	
Other intraunit damage (specify)	35
Use whenever there is sufficient uncontrolled motion (other than Jackknife) between a towing unit and a trailing unit such that they contact each other resulting in direct damage to the towing unit.	
Noncollision injury	36
Use when the event is a noncollision injury (e.g. occupant falls from vehicle and sustains injury)	
Other noncollision (specify)	38
Use this attribute only after consultation with the zone center.	
Noncollision->details unknown	39
Use when it is known that the event was a noncollision but specific details are not known.	
Tree(<= 10 cm in diameter)	41
Measure the diameter of the tree on the horizontal plane at the point of impact.	

General Vehicle

Screen Name: Rollover Initiation Object Contacted

Field Variable: VEHICLE.ROLL_INIT_OBJ

Tree(> 10 cm in diameter) 42

Measure the diameter of the tree on the horizontal plane at the point of impact.

Shrubbery or bush 43

Use when object contacted is vegetation, usually of a woody multi-stemmed variety and in most instances is low growing rather than tall. Some common examples are boxwood, hawthorn, and mountain laurel.

Embankment 44

Use only when damage or injury results from a vehicle impacting an embankment. Raised structure constructed of natural soil from excavation or borrow sources.

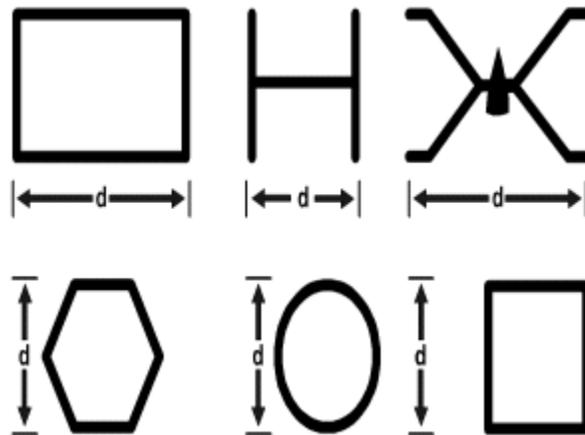
Breakaway pole or post (any diameter) 45

Use this attribute when the vehicle contacts a pole or post which is mounted on a base designed to readily disengage or fracture from an impacting vehicle above a predetermined force level. A pole or post fitted with such a device is a breakaway pole or post; otherwise, it is a nonbreakaway pole.

Nonbreakaway pole or post (≤ 10 cm in diameter) 50

Use when the object contacted is a pole or post whose diameter, when measured using the method shown in the variable definition, is less than or equal to ten centimeters, and the pole or post is not mounted on a breakaway base.

The following diagrams indicate the proper measurement for determining the "diameter" for use in coding pole/post:



Nonbreakaway pole or post(>10 cm but ≤ 30 cm in diameter) 51

Use when the pole or post which is not mounted on a breakaway base and whose diameter is within the range specified.

Nonbreakaway pole or post(>30 cm in diameter) 52

Use this attribute when the diameter of the pole or post is greater than 30 cm and is not mounted on a breakaway base

Nonbreakaway pole or post(diameter unknown) 53

Used for any pole or post of unknown diameter., not on a breakaway base.

General Vehicle

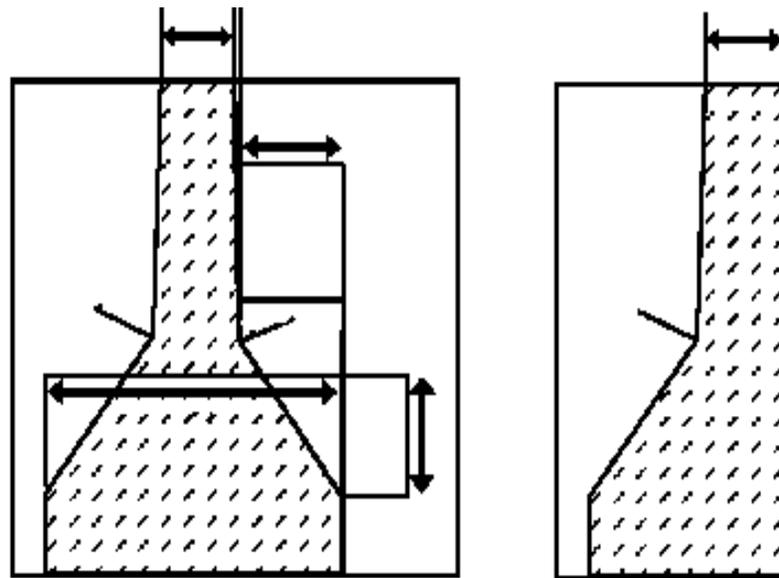
Screen Name: Rollover Initiation Object Contacted

Field Variable: VEHICLE.ROLL_INIT_OBJ

Concrete traffic barrier

54

This attribute includes all longitudinal traffic barriers constructed of concrete and located: on the outside of the road surface, in a median, or in gore areas. This includes all temporary concrete barriers regardless of location (e.g., temporary Jersey barrier on a bridge being used to control traffic during bridge repair/construction). Concrete walls (vertical side surfaces) do not apply here, see Wall. Below are a few of the common designs of concrete traffic barriers.



**(Footing & Reinforcing Varies)
MB 5
Concrete Median Barrier**

**Concrete
Safety
Shape**

Continuously poured, reinforced, sloped faced, concrete section. Barrier can be anchored by dowels or an asphalt key.

Impact attenuator

55

Use for 'crash cushions' which are energy absorbing barriers placed in front of fixed objects on the highway to mitigate the injury effects of collisions at such sites. A number of common impact attenuating devices may be encountered; therefore, be sure to photograph them when encountered.

Other traffic barrier(includes guardrail) (specify)

56

Any longitudinal barrier not constructed of concrete. This includes all permanent guardrails and median barriers not on a bridge.

Fence

57

This attribute includes both the fence material and the support posts.

Wall

58

This attribute is defined as solid, vertical faced, concrete, brick, stone, or other structurally sound roadside devices which may act as a traffic barrier in some locations. Do not confuse this attribute with **Fence** or **Building**. In most instances a wall will be backfilled with soil and will act as a vertically faced embankment.

General Vehicle

Screen Name: Rollover Initiation Object Contacted

Field Variable: VEHICLE.ROLL_INIT_OBJ

Building	59
<p>A roofed and walled structure built for permanent use. The type of construction material used is not of interest, nor is the use of the building.</p>	
Ditch or culvert	60
<p>Defined as: (1) a man-made structure for drainage purposes, or (2) a man-made structure that allows passage over a drainage area and is that part of the structure which is intended to channel flow through the structure and maintain the stability/integrity of the road bed. If the culvert structure has a portion above the road surface which is of sufficient height to engage above the wheels of an errant CDS applicable vehicle and redirect it, that part of the structure is considered an Other traffic barrier. When the sides of the ditch are approximately of equal height, it makes no difference which side of the ditch was struck; however, if the struck side is substantially higher than the other side, enter Embankment as the object contacted. Substantial means that an embankment exists with or without a ditch</p>	
Ground	61
<p>Collisions which may be classified using this attribute include (but are not limited to) vehicles which sustain undercarriage damage by (1) straddling the pavement and shoulder and impacting a prominent pavement lip, or (2) free falls or vaults from the road surface to the ground.</p>	
Fire hydrant	62
<p>Roadside device used by fire departments to provide water for fighting fires. Usually made of steel, these devices are also referred to as fire plugs or fire stand pipes in some areas.</p>	
Curb	63
<p>Use when the vehicle contacts a raised element at the edge of a roadway. Curbs are used to: control drainage, act as deterrents to vehicles leaving the pavement at hazardous points, delineate the edge of the pavement, present a more finished appearance, and assist in the orderly development of the roadway edge. Often a curb serves two or more of these purposes.</p>	

General Vehicle

Screen Name: Rollover Initiation Object Contacted

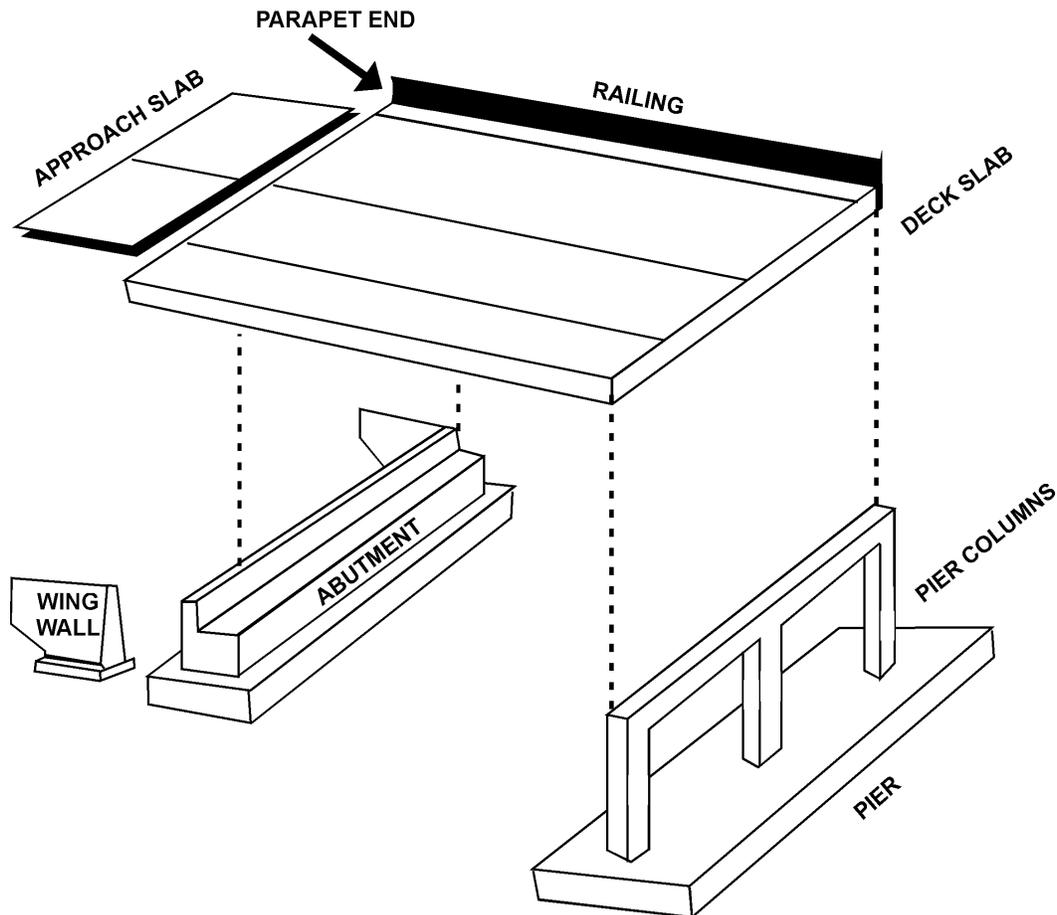
Field Variable: VEHICLE.ROLL_INIT_OBJ

Bridge

64

This attribute encompasses all structural members of an overpass structure used for vehicular or pedestrian traffic. This attribute includes guardrails, permanent concrete barriers, bridge rail/walls, bridge piers, bridge abutments, bridge parapet ends, wing walls associated with bridge abutments, and support columns.

Bridge Components



Other fixed object (specify)

68

Use for any other object of sufficient mass or anchored such that it is not readily movable; compare with **Other nonfixed object**. Examples include large boulders, large logs (fallen trees), etc.

Unknown fixed object

69

Use when it is known that the vehicle struck a fixed object but the specific type of object is not known.

General Vehicle

Screen Name: Rollover Initiation Object Contacted

Field Variable: VEHICLE.ROLL_INIT_OBJ

Pedestrian	72
<p>Defined as any person who is on a traffic way or on a sidewalk or path contiguous with a traffic way, and who is not in or on a nonmotorist conveyance. This includes persons who are in contact with the ground, roadway, etc., but who are holding onto a vehicle. A nonmotorist conveyance is defined as any human-powered device by which a nonmotorist may move, or by which a pedestrian or nonmotorist may move another nonmotorist, other than by pedaling. A nonmotorist conveyance includes the following: baby carriage, coaster wagon, ice skates, roller skates, push cart, scooter, skate board, skis, sled, wheelchair, rickshaw, etc. This includes those persons in a nonmotorist conveyance who hold onto a motor vehicle in motion. Excluded are pedalcyclists.</p>	
Cyclist or cycle	73
<p>Use this attribute for any occupant of a pedalcycle, the cycle, or both. This includes those cyclists who hold onto a motor vehicle in motion.</p>	
Other nonmotorist or conveyance (specify)	74
<p>Use this attribute for a person who is not an occupant of a motor vehicle in-transport, a pedestrian, or a cyclist. Use this attribute if the impact was with a nonmotorist conveyance or a nonmotorist associated with a nonmotorist conveyance [if an animal is associated with this impact, see Animal]. This attribute also would be used for the occupants of a motor vehicle not in-transport, but only if they become separated from the not in- transport vehicle</p>	
Vehicle occupant	75
<p>Use this attribute for any person who was an occupant of a motor vehicle in-transport at any point in the crash. Two examples follow: (1) occupant who falls from a vehicle and is subsequently run over before stabilization occurred, (2) a motorcyclist who separates from his/her motorcycle during impact and subsequently impacts a motor vehicle before stabilization occurred.</p>	
Animal	76
<p>Use if the object contacted was an animal (stationary or nonstationary). If a nonmotorist was associated with the animal (i.e., on the animal, or on or in an animal powered nonmotor vehicle transport device) use the following rules for coding: (1) Contact to the animal; the animal and the person; the animal and the conveyance; or the animal, conveyance, and the person; use the attribute Animal; (2) the conveyance, or to the person, or to both the conveyance and the person, use the Other nonmotorist or conveyance attribute.</p>	
Train	77
<p>Use this attribute when there is contact with any railway train, moving or not moving.</p>	
Trailer, disconnected in transport	78
<p>Used when the vehicle is contacted by or contacts a trailer which has become detached from its towing unit while the towing unit was in-transport. The type of trailer is not of interest; the only factors to consider are the detachment of the trailer and the transport status of the towing unit.</p>	
Object fell from vehicle in-transport	79
<p>Use this attribute if the vehicle is contacted by or contacts an object that was being carried by or was attached to a vehicle in-transport but fell from or became detached from that vehicle. For example, a detached side mirror, spare tire, cargo, etc. Detached trailers are entered under trailer, disconnected in transport.</p>	

General Vehicle

Screen Name: Rollover Initiation Object Contacted

Field Variable: VEHICLE.ROLL_INIT_OBJ

Other nonfixed object (specify) 88

Use this if the vehicle contacts a moveable object that is either readily moveable or is moving and is not specifically named above. Examples include trash cans, grocery carts, unoccupied pedalcycles, small boulders, sheared poles, etc.

Unknown nonfixed object 89

Use this attribute if it can be determined that a nonfixed object was contacted but there is no information about the object. Use of this attribute should be extremely rare. Please contact the zone center prior to using this attribute.

Other event (specify) 98

Used when an event occurs which cannot be classified using one of the existing attributes or definitions. A complete description of the event should be written in the Case Summary.

Unknown event or object 99

Use this attribute only in the instances where the object contacted is not known or if an event occurs and the researcher cannot determine the details.

Sources:

OBSERVATION

General Vehicle

Screen Name: Location On Vehicle Where Initial Tripping Force Is Applied

Field Variable: VEHICLE.INIT_PRINC_LOC

Label: Location on vehicle where initial tripping force is applied

Remarks

Generally the tripping forces that initiate a rollover are applied at the wheels/tires. Occasionally the tripping force is applied at the undercarriage (e.g., when a vehicle mounts a guardrail) or at the side or end plane (e.g., when a barrier or another vehicle impacts the front or side plane of the vehicle and flips or initiates the rollover sequence). The purpose of this variable is to identify the specific point on the vehicle where the tripping force was applied.

Range: 2-9, -8866, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No rollover Used when the vehicle did not rollover	-8866
Wheels Used when the tripping force is applied to the wheels. The most common occurrences involve wheel impacts to potholes and curbs, and wheels that gouge the pavement or dig into the earth.	2
Tires Used when the tripping force is applied to the tires. The most common occurrences involve tire impacts to potholes and curbs	3
Side plane Used when the side plane other than the wheels and tires is contacted and that contact initiates the rollover.	4
End plane Used when the end plane of the vehicle is contacted and sustained the rollover initiating force. For example, a vehicle was traveling at a high rate of speed when it impacted a concrete median barrier [i.e., Rollover Initiation Object Contacted, equals Concrete traffic barrier] with its front left corner. The barrier redirects the vehicle upward and back towards the roadway. As a result, the vehicle rolls over; therefore use this attribute.	5
Undercarriage Used when the rollover was caused by a force acting primarily through the undercarriage plane. For example, a vehicle strikes a guardrail i.e., Rollover Initiation Object Contacted equals Other traffic barrier (includes guardrail) with its front right. The vehicle climbs up and over the guardrail and rolls over; therefore use this attribute.	6
Other location on vehicle (specify) : Used when the tripping force is applied at a location that cannot be captured above. This attribute should be rarely used and only after consultation with the zone center.	7
Non-contact rollover forces (specify) : Used when the vehicle roll is precipitated by centrifugal or gravitational forces [i.e., Rollover Initiation Type equals Turn-over or Fall-over]. Specify the non-contact rollover force on the line provided.	8
Rollover - end-over-end Used when the rollover was a end-over-end configuration.	9
Unknown Used when it is unable to be determined where the initial principal tripping force was applied.	-9999

General Vehicle

Screen Name: Location On Vehicle Where Initial Tripping Force Is Applied

Field Variable: VEHICLE.INIT_PRINC_LOC

Sources:

VEHICLE INSPECTION

SCENE INSPECTION

General Vehicle

Screen Name: Interrupted Roll

Field Variable: VEHICLE.ROLLINTERRUPTED

Label: Interrupted roll

Remarks

The purpose of this variable is to determine if the vehicle's rollover sequence was acted upon by another vehicle or object between the trip point and the final rest position. Examples may include the vehicle striking a tree with its top during the rollover sequence, or contacting an object in the environment. This impact should have an effect on the distance the vehicle would have traveled from trip point to final rest.

NOTE: If the researcher determines that the rollover sequence was interrupted, an event and CDC should be assigned to the vehicle damage from the object which interrupted the roll.

Range: 1-2, -9997, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Yes	1
Select this attribute when the rollover sequence was interrupted by contact with an object other than ground.	
No	2
Select this attribute when the rollover sequence was not interrupted by an object other than ground.	
No rollover	-8866
Not a case vehicle	-8882
End-over-end	-9997
This attribute includes instances where the vehicle rolled end over end, ie predominantly around the vehicle's lateral axis.	
Unknown	-9999
Use this attribute when it cannot be determined if the vehicle's motion during the rollover was altered by an object other than the ground.	

Sources:

DRIVER INTERVIEW
VEHICLE INSPECTION
SCENE INSPECTION

General Vehicle

Screen Name: Estimated Distance of Rollover
Field Variable: VEHICLE.ROLLESTIMATDISTANCE

Label: Estimated distance of rollover

Remarks

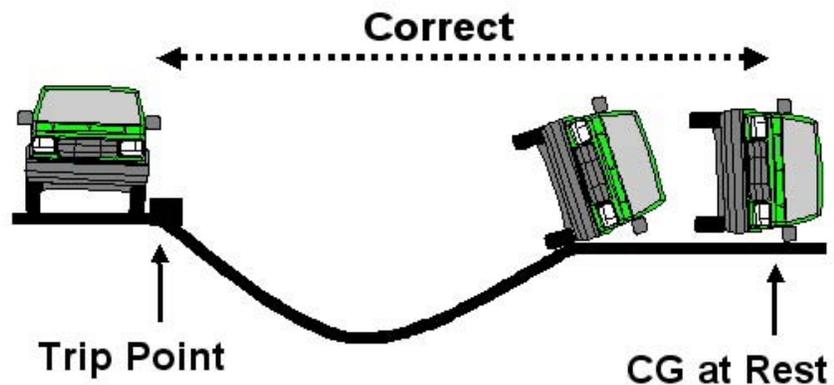
The purpose of this variable is to determine the estimated distance from tripping point to the final rest position of the vehicle that rolled over. The measurement should be obtained along a linear path. Total distance in meters rounded to the nearest whole number, examples 41.4 m = 41 m or 41.5 m = 42 m

This measurement should be measured in the field along the path of the vehicle and the final rest measurement should be taken to the center of gravity (CG) of the vehicle at final rest .

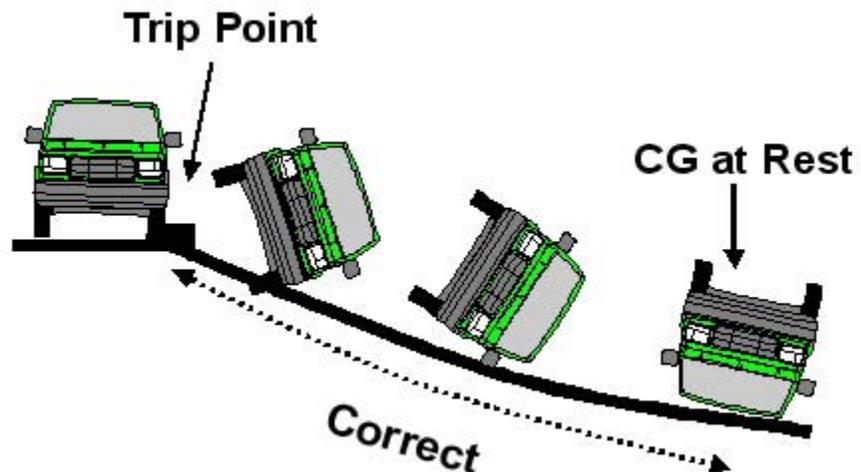
In cases where an accurate estimate of the distance cannot be obtained, (i.e., vehicle rolled down a ravine or off a cliff) "Unknown" should be coded.

If a vehicle rolls and then slides to final rest, the entire distance from the point of trip to final rest will be measured.

In the situation where the vehicle overturns and climbs a positive embankment and stops, then gravity causes the vehicle to slide or roll down the embankment, code only the distance traveled during the initial roll, (i.e., distance up the embankment.).



Example 1



Example 2

General Vehicle

Screen Name: Estimated Distance of Rollover

Field Variable: VEHICLE.ROLLESTIMATDISTANCE

Range: 1-99,-8886, -9997, -9999

Method: Enter a value _____

Element Attributes:

**Field
Value**

No rollover

-8866

Use this attribute for no rollover occurrence.

Not a case vehicle

-8882

End-over-end

-9997

Use whenever the vehicle rotates predominantly around the lateral axis.

Unknown

-9999

Vehicle rolled over for an unknown distance or unknown if the vehicle rolled over.

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Presence of Fire

Field Variable: VEHICLE.FIRE

Label: Presence of fire

Remarks

Record the presence of fire if it occurs any time prior to the vehicle coming to final rest. The fire can occur at any point in the crash sequence including the precrash segment. This is different from the coding rules in CDS or GES. CDS only records fires that occur after an impact to the vehicle.

As it pertains to the occurrence of fire, the crash circumstances are not considered stabilized until the threat of damage to this vehicle, or injury consequences to this vehicle's occupants, has ceased. Therefore, the crash sequence is not considered stabilized until all occupants have exited the vehicle and the scene has been declared safe by police or other authority. Fires that occur at a later time to vehicles abandoned at the scene (e.g., in open fields, on hillsides, etc) or to vehicles removed from the scene to another location (towyard, curbside, etc.) are not considered part of the crash sequence.

Range: 1 - 2, -8882, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No Use this when this vehicle had no fire involvement.	1
Yes Select Yes if a fire occurred in the vehicle.	2
Not a case vehicle	-8882
Unknown Used when it cannot be determined if this vehicle. had any fire involvement e.g., a fire was reported, but this vehicle was repaired prior to inspection and it cannot be determined if this vehicle was involved in the fire.	-9999

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Fire Ignition Time

Field Variable: VEHICLE.FIRE_IGNITION_TIME

Label: Fire ignition time

Remarks

Determine if the fire started pre- or post-impact. If the fire began prior to any impact, note the circumstances of ignition in the specify box.

Range: 1 - 3, 9, -8882,-9999

Method: Fill a single item

Element Attributes:

**Field
Value**

No Fire

1

Used when there is no fire.

Pre-impact ignition (specify):

2

The fire began prior to any impact for this vehicle. This includes noncollision events such as jackknife and rollover.

Specify time before crash in minutes.

Post impact

3

Fire began after first impact to this vehicle including jackknife and rollover.

Fire presence, unknown time of ignition

9

This vehicle had a fire but it cannot be determined when the fire began.

Unknown

-9999

Use this attribute when it cannot be determined if there was a fire.

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Fire Origin

Field Variable: VEHICLE.FIRE_ORIGIN

Label: Fire origin

Remarks

The location of the fire origin is coded in this variable. Examine the vehicle carefully and query the driver, occupants and/or witnesses about the location and cause of the fire ignition.

Range: 1-5, 8, -8882, -9999

Method: Fill a single item

Element Attributes:

**Field
Value**

No fire

1

Used when this vehicle was not involved in any fire event.

Vehicle interior

2

Exhaust system

3

Fuel tank (and other fuel retention system parts)

4

Engine compartment

5

Other (specify) :

8

Unknown

-9999

Sources:

DRIVER INTERVIEW

SURROGATE INTERVIEW

VEHICLE INSPECTION

WITNESS

General Vehicle

Screen Name: Event Number

Field Variable: EVENT.EVENT_NUMBER

Label: Event Number

Remarks

The time rank of the event in the crash sequence. This is precoded on the forms, The researcher should attempt to estimate the sequence of events as soon as possible in the investigation. The numbering of the vehicles is directly related to this number.

A CDC entry is created only for inspected CDC/TDC applicable vehicles and impacts

Range: 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,-9999

Method: Fill a single item

Element Attributes:

	Field Value
1	1
The first damage or injury producing event in the crash.	
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
Unknown	-9999

This should never be used. In extreme circumstances, usually in a large, multi-vehicle crash, the possibility exists that the order of specific events cannot be determined.

General Vehicle

Screen Name: Clock Force Direction

Field Variable: CDC.CLOCK_FORCE

Label: Clock Force Direction

Remarks

Clock direction of the principal direction of force determined by examining all available information on the vehicle, the scene and the occupant kinematics.

Refer to the documents entitled: SAE J224MAR80 and "Collision Deformation Classification Training Program: Intermediate Level :Training/Reference Module", for detailed definitions of the CDC Element Attributes as well as instruction on proper usage for light vehicles.

Refer to the documents entitled: SAE J1301 for detailed definitions of the TDC Element Attributes as well as instruction on proper usage for medium/heavy trucks.

A CDC entry is created only for inspected CDC/TDC applicable vehicles and impacts

Range: 0,1,2,3,4,5,6,7,8,9,10,11,12,13,-9999

Method: Enter a value _____

Element Attributes:

	Field Value
00	0
01	1
02	2
03	3
04	4
05	5
06	6
07	7
08	8
09	9
10	10
11	11
12	12
13	13
Unknown	-9999

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Deformation Location

Field Variable: CDC.DEFORMATIONLOCATION

Label: Deformation location

Remarks

Refer to the documents entitled: SAE J224MAR80 and "Collision Deformation Classification Training Program: Intermediate Level :Training/Reference Module", for detailed definitions of the CDC Element Attributes as well as instruction on proper usage for light vehicles.

Refer to the documents entitled: SAE J1301 for detailed definitions of the TDC Element Attributes as well as instruction on proper usage for medium/heavy trucks.

A CDC entry is created only for inspected CDC/TDC applicable vehicles and impacts

Range: 2,3,4,5,6,7,8,60,61,62,63,64,65,66,67,68,69,

Method: Enter a value _____

General Vehicle

Screen Name: Deformation Location

Field Variable: CDC.DEFORMATIONLOCATION

Element Attributes:

	<u>Field Value</u>
F Front CDC applicable vehicles	2
R Right Side CDC applicable vehicles	3
L Left Side CDC applicable vehicles	4
B Back (Rear) CDC applicable vehicles	5
T Top CDC applicable vehicles	6
U Undercarriage CDC applicable vehicles	7
9 Unknown CDC applicable vehicles	8
F Front TDC applicable vehicles	60
R Right Side TDC applicable vehicles	61
L Left Side TDC applicable vehicles	62
B Back of unit w/ cargo area TDC applicable vehicles	63
D Back - rear of tractor TDC applicable vehicles	64
C Rear of cab TDC applicable vehicles	65
V Front of cargo area TDC applicable vehicles	66
T Top TDC applicable vehicles	67
U Undercarriage TDC applicable vehicles	68
9 Unknown TDC applicable vehicles	69

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Longitudinal/Lateral Damage Location

Field Variable: CDC.LONGLATLOCATION

Label: Longitudinal/lateral damage location

Remarks

Refer to the documents entitled: SAE J224MAR80 and "Collision Deformation Classification Training Program: Intermediate Level :Training/Reference Module", for detailed definitions of the CDC Element Attributes as well as instruction on proper usage for light vehicles.

Refer to the documents entitled: SAE J1301 for detailed definitions of the TDC Element Attributes as well as instruction on proper usage for medium/heavy trucks.

A CDC entry is created only for inspected CDC/TDC applicable vehicles and impacts

Range: 9-24,70-89,132,133

Method: Enter a value _____

General Vehicle

Screen Name: Longitudinal/Lateral Damage Location

Field Variable: CDC.LONGLATLOCATION

Element Attributes:

	<u>Field Value</u>
D Distributed - side or end CDC applicable vehicles	9
L Left - front or rear CDC applicable vehicles	10
C Center - front or rear CDC applicable vehicles	11
R Right - front or rear CDC applicable vehicles	12
F Side Front - left or right CDC applicable vehicles	13
P Side center section L or R CDC applicable vehicles	14
B Side Rear - left or right CDC applicable vehicles	15
Y Side (F + P) OR End (L + C) CDC applicable vehicles	16
Z Side (P + B) OR End (C + R) CDC applicable vehicles	17
D Distributed - (F+P+B) CDC applicable vehicles	18
F Front Section CDC applicable vehicles	19
P Center Section CDC applicable vehicles	20
B Rear Section CDC applicable vehicles	21
Y Side Front/Center Section (F+P) CDC applicable vehicles	22
Z Side Center/Rear Section(P+B) CDC applicable vehicles	23
9 Unknown CDC applicable vehicles	24
D Distributed - side or end TDC applicable vehicles	70
L Left - front or rear TDC applicable vehicles	71

General Vehicle

Screen Name: Longitudinal/Lateral Damage Location

Field Variable: CDC.LONGLATLOCATION

C Center - front or rear	72
TDC applicable vehicles	
R Right - front or rear	73
TDC applicable vehicles	
F Side Front - front of windshield	74
TDC applicable vehicles	
P Side cab	75
TDC applicable vehicles	
W Side rear of cab to rear of tractor	76
TDC applicable vehicles	
K Side(P + W)	77
TDC applicable vehicles	
S Side(F + P + W)	78
TDC applicable vehicles	
B Side rear of cab to rear of trailer/cargo area	79
TDC applicable vehicles	
Y Side (F + P) OR End (L + C)	80
TDC applicable vehicles	
Z Side (P + B) OR End (C + R)	81
TDC applicable vehicles	
D Distributed - (F+P+B)	82
TDC applicable vehicles	
F Front Section	83
TDC applicable vehicles	
P Center Section	84
TDC applicable vehicles	
B Rear Section	85
TDC applicable vehicles	
Y Side Front/Center Section (F+P)	86
TDC applicable vehicles	
Z Side Center/Rear Section(P+B)	87
TDC applicable vehicles	
9 Unknown	88
TDC applicable vehicles	
9 Unknown	89
TDC applicable vehicles	
T Trailer	132
TDC applicable vehicles	

General Vehicle

Screen Name: Longitudinal/Lateral Damage Location

Field Variable: CDC.LONGLATLOCATION

T Trailer

133

TDC applicable vehicles

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Vertical/Lateral Damage Location

Field Variable: CDC.VERTLATLOCATION

Label: Vertical/lateral damage location

Remarks

Refer to the documents entitled: SAE J224MAR80 and "Collision Deformation Classification Training Program: Intermediate Level :Training/Reference Module", for detailed definitions of the CDC Element Attributes as well as instruction on proper usage for light vehicles.

Refer to the documents entitled: SAE J1301 for detailed definitions of the TDC Element Attributes as well as instruction on proper usage for medium/heavy trucks.

A CDC entry is created only for inspected CDC/TDC applicable vehicles and impacts

Range: 25-39,91-106,134-136

Method: Enter a value _____

General Vehicle

Screen Name: Vertical/Lateral Damage Location

Field Variable: CDC.VERTLATLOCATION

Element Attributes:

	<u>Field Value</u>
A All CDC applicable vehicles	25
H Top of frame to top CDC applicable vehicles	26
E Everything below belt line CDC applicable vehicles	27
G Belt line and above CDC applicable vehicles	28
M Middle -- top of frame to belt line or hood CDC applicable vehicles	29
L Frame -- top of frame,frame, bottom of frame CDC applicable vehicles	30
W Below undercarriage level (wheels and tires only) CDC applicable vehicles	31
9 Unknown CDC applicable vehicles	32
D Distributed CDC applicable vehicles	33
L Left CDC applicable vehicles	34
C Center CDC applicable vehicles	35
R Right CDC applicable vehicles	36
Y Left and Center (L+C) CDC applicable vehicles	37
Z Right and Center(R+C) CDC applicable vehicles	38
9 Unknown CDC applicable vehicles	39
A Top to Bottom of vehicle / no wheels TDC applicable vehicles	91
H Top of frame to top of vehicle TDC applicable vehicles	92
T Everything above cab TDC applicable vehicles	93

General Vehicle

Screen Name: Vertical/Lateral Damage Location

Field Variable: CDC.VERTLATLOCATION

G Belt line and above	94
TDC applicable vehicles	
E belt line and below	95
TDC applicable vehicles	
M Middle -- top of frame to belt line or hood	96
TDC applicable vehicles	
L Low - top of frame, frame, and bottom of frame	97
TDC applicable vehicles	
W Below undercarriage level (wheels and tires only)	98
TDC applicable vehicles	
9 Unknown	99
TDC applicable vehicles	
D Distributed	100
TDC applicable vehicles	
L Left	101
TDC applicable vehicles	
C Center	102
TDC applicable vehicles	
R Right	103
TDC applicable vehicles	
Y Left and Center (L+C)	104
TDC applicable vehicles	
Z Right and Center(R+C)	105
TDC applicable vehicles	
9 Unknown	106
TDC applicable vehicles	
T Trailer	134
TDC applicable vehicles	
F Belt line/below on trailer	135
TDC applicable vehicles	
B Belt Line and above	136
TDC applicable vehicles	

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Distribution

Field Variable: CDC.DAMAGEDISTRIBUTION

Label: Distribution

Remarks

Refer to the documents entitled: SAE J224MAR80 and "Collision Deformation Classification Training Program: Intermediate Level :Training/Reference Module", for detailed definitions of the CDC Element Attributes as well as instruction on proper usage for light vehicles.

Refer to the documents entitled: SAE J1301 for detailed definitions of the TDC Element Attributes as well as instruction on proper usage for medium/heavy trucks.

A CDC entry is created only for inspected CDC/TDC applicable vehicles and impacts

Range: 40-48,107-115

Method: Enter a value _____

General Vehicle

Screen Name: Distribution

Field Variable: CDC.DAMAGEDISTRIBUTION

Element Attributes:

	<u>Field Value</u>
W Wide Impact Area CDC applicable vehicles	40
N Narrow Impact Area CDC applicable vehicles	41
S Sideswipe CDC applicable vehicles	42
O Rollover (include side) CDC applicable vehicles	43
A Overhanging Structure CDC applicable vehicles	44
E Corner CDC applicable vehicles	45
K Conversion in impact type CDC applicable vehicles	46
U No residual deformation CDC applicable vehicles	47
9 Unknown CDC applicable vehicles	48
W Wide Impact Area TDC applicable vehicles	107
N Narrow Impact Area TDC applicable vehicles	108
S Sideswipe TDC applicable vehicles	109
O Rollover (include side) TDC applicable vehicles	110
A Overhanging Structure TDC applicable vehicles	111
E Corner TDC applicable vehicles	112
R Override TDC applicable vehicles	113
U No residual deformation TDC applicable vehicles	114
9 Unknown TDC applicable vehicles	115

General Vehicle

Screen Name: Distribution

Field Variable: CDC.DAMAGEDISTRIBUTION

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Extent

Field Variable: CDC.DAMAGEEXTENT

Label: Extent

Remarks

Refer to the documents entitled: SAE J224MAR80 and "Collision Deformation Classification Training Program: Intermediate Level :Training/Reference Module", for detailed definitions of the CDC Element Attributes as well as instruction on proper usage for light vehicles.

Refer to the documents entitled: SAE J1301 for detailed definitions of the TDC Element Attributes as well as instruction on proper usage for medium/heavy trucks.

A CDC entry is created only for inspected CDC/TDC applicable vehicles and impacts

Range: 49-58,116-131

Method: Enter a value _____

General Vehicle

Screen Name: Extent

Field Variable: CDC.DAMAGEEXTENT

Element Attributes:

	<u>Field Value</u>
One CDC applicable vehicles	49
Two CDC applicable vehicles	50
Three CDC applicable vehicles	51
Four CDC applicable vehicles	52
Five CDC applicable vehicles	53
Six CDC applicable vehicles	54
Seven CDC applicable vehicles	55
Eight CDC applicable vehicles	56
Nine CDC applicable vehicles	57
Unknown CDC applicable vehicles	58
One TDC applicable vehicles	116
Two TDC applicable vehicles	117
Three TDC applicable vehicles	118
Four TDC applicable vehicles	119
Five TDC applicable vehicles	120
Six TDC applicable vehicles	121
Seven TDC applicable vehicles	122
Eight TDC applicable vehicles	123

General Vehicle

Screen Name: Extent

Field Variable: CDC.DAMAGEEXTENT

Nine	124
TDC applicable vehicles	
0A	125
TDC applicable vehicles	
0B	126
TDC applicable vehicles	
0C	127
TDC applicable vehicles	
0D	128
TDC applicable vehicles	
0X	129
TDC applicable vehicles	
Unknown	131
TDC applicable vehicles	
Sources:	
VEHICLE INSPECTION	

General Vehicle

Screen Name: Exterior Side Mirror Precrash Presence

Field Variable: MIRROR.SIDE_MIRROR

Label: Exterior side mirror precrash presence

Remarks

Determine if this vehicle had side mirrors present precrash. If no mirrors are present post crash, examine the vehicle carefully for mounting hardware, etc. Inspect the scene for mirrors or mounting hardware that may have belonged to this vehicle.

Range: 1 - 2, -9999

Method: Fill a single item

Element Attributes:

	Field Value
Yes, side mirror(s) present Used when a side mirror(s) are present, whether OEM or aftermarket.	1
No, side mirror(s) not present Used when no side mirrors are present	2
Unknown if side mirrors present Used when the presence of side mirrors can not be determined.	-9999

Sources:

DRIVER INTERVIEW

VEHICLE INSPECTION

RESEARCHER ASSESSMENT

General Vehicle

Screen Name: Location of Exterior Side View Mirrors?

Field Variable: MIRROR.SIDE_MIRROR_LOCATION

Label: Location of exterior side view mirrors?

Remarks

Determine the location of the mirror(s) on the vehicle.

Range: 1 - 2, 8 - 10, -9997, -9999

Method: Fill a single item

Element Attributes:

**Field
Value**

Mounted on door

1

The exterior mirror is mounted on the door surface or pillars.

Mounted on fender

2

The exterior mirror is mounted on the fender surface.

Other location (specify) :

8

The mirror is attached to a location other than the exterior of the front door or fender surface of the vehicle. Specify in a short statement. If the specify statement is longer than the box allows, annotate in the margin of the form and use the right click function in the data entry program.

Multiple mirror locations (specify)

9

Select this attribute when there is more than one mirror installed on the side of a vehicle. An example of this is a vehicle with an OEM door mirror and temporary trailer mirrors installed on the fenders. This attribute also includes two mirrors mounts on the door or fender.

Unknown location of mirror

10

Not applicable (No mirrors)

-9997

Unknown if side mirror present

-9999

Sources:

DRIVER INTERVIEW

VEHICLE INSPECTION

RESEARCHER ASSESSMENT

General Vehicle

Screen Name: Exterior Side Mirror Type

Field Variable: MIRROR.SIDE_MIRROR_TYPE

Label: Exterior side mirror type

Remarks

Determine the type of side mirror lens. Convex mirrors may or may not have an obvious outward curve to the glass surface. However, the image in the mirror will be a reduction in size from one seen in a mirror with a flat surface.

Range: 1 - 4, 9 -10, -9997, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Flat Mirror Mirror which returns the exact image of the environment.	1
Convex Mirror Mirror which has a curved surface and returns an enlarged view of the environment (appears farther away).	2
Convex/Plain combination Generally this is a flat large mirror with a small convex mirror to provide a larger view.	3
Other (specify) : Specify the mirror type if it does not fit the description of convex or flat. If the specify statement is longer than the box allows, annotate in the margin of the form and use the right click function in the data entry program.	4
Mirror present, type unknown Use this code if the mirror mount or some indication that a mirror was present, precrash, but the type cannot be determined.	9
Multiple mirror types (specify) Select this attribute when more than one mirror installation is present. This means two or more separate mirror mountings, not a combination mirror. Specify, using short phrases. If specify is too short, put ANNOTATION in the specify box and use the annotation feature.	10
Not applicable (No mirrors) The vehicle has no exterior mirrors. This will be extremely rare.	-9997
Unknown if mirror present Use this code if the researcher cannot determine if the vehicle has exterior mirrors.	-9999

Sources:

DRIVER INTERVIEW
VEHICLE INSPECTION
RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

General Vehicle

Screen Name: Exterior Side Mirror Origin

Field Variable: MIRROR.SIDE_MIRROR_ORIGIN

Label: Exterior side mirror origin

Remarks

Indicates the origin of the side mirror, whether it is an Original Equipment Manufacturer (OEM) or an aftermarket piece of equipment.

Range: 1 - 3, 9, -9997, -9999

Method: Fill a single item

Element Attributes:

**Field
Value**

OEM side mirror

1

Used when the was manufactured with this type of mirror.

After market side mirror

2

Used when the mirror(s) were installed on the vehicle after it left the factory. One example is the installation of large mirrors with extendable brackets to assist in the view when hauling a trailer.

OEM and after market mirrors

3

Select this attribute when more than one mirror is present and there is at least one of each origin. It is rare for light vehicles to have two different mirrors on one side that are OEM. Non-light vehicles generally have OEM multiple mirror types. Call your Zone Center when in doubt. Document thoroughly with images. This attribute should be selected when two different mirror types are on the same or separate mountings and are known to be OEM and aftermarket.

Unknown OEM/after market

9

Used when the researcher is unable to identify the origin of side mirror(s)

Not applicable (No mirrors)

-9997

Use this attribute when there is no indication on the vehicle that there were ever any exterior mirrors. This should be an extremely rare occurrence.

Unknown if mirror present

-9999

Sources:

DRIVER INTERVIEW

VEHICLE INSPECTION

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

General Vehicle

Screen Name: Recommended Tire Size-Front

Field Variable: TIRE_RECOMMENDATION.TIRE_REC_SIZE_FRONT

Label: Recommended tire size-front

Remarks

Record recommended tire size . This information will be on the tire placard or in the owner's manual. Look for the placard on the B pillar, the rear of the front door, glove compartment door, underside of the trunk lid or the inside of the fuel filler door. If the tire placard or owner's manual doesn't specify whether the recommended tire pressure is a hot or cold pressure, assume that it is a cold pressure.

If more than one recommended tire size is present, list the first.

Take a photo of the placard and categorize it in the vehicle identification category.

	MFD BY GENERAL MOTORS CORP	07/96
GVWR 6800/3085	GAWR FRT 3600/1633	GAWR RR 3750/1701 LB/KG
THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.		
Vehicle Identification Number		TYPE: M.P.V.
MODEL: K10706		
KPBA	TIRE SIZE	SPEED RTG RIM COLD TIRE PRESSURE
FRT	P245/75R16	S 16X7/6.5J 35/240 PSI/KPA
RR	P245/75R16	S 16X7/6.5J 35/240 PSI/KPA
SEE OWNER'S MANUAL FOR MORE INFORMATION.		

If a character cannot be read then leave a blank space where the character belongs.

a=alpha value to enter

n=numeric value to enter

P=P-Metric tire precoded

LT=Light Truck designation precoded

Blanks permitted at any location

P-Metric P n n n / n n a n n

P215/65R15

P= Passenger Car Tire

215= Section Width in Millimeters

65= Aspect Ratio R= Radial Construction

15= Rim Diameter in Inches

Light Truck Metric L T n n n / n n a n n

LT235/75R15

LT= Light Truck Tire

235= Section Width in Millimeters

75= Aspect Ratio R= Radial Construction

15= Rim Diameter in Inches

Light Truck High Flotation n n X n n . n n a n n

31X10.50R15LT

31= Tire Diameter in Inches

10.50= Section Width in Millimeters

R= Radial Construction

15= Rim Diameter in Inches

LT= Light Truck Tire

Light Truck Numeric n . n n a n n . n L T

8.75R16.5LT

General Vehicle

Screen Name: Recommended Tire Size-Front

Field Variable: TIRE_RECOMMENDATION.TIRE_REC_SIZE_FRONT

8.75=Section Width in Inches

R=Radial Construction

16.5=Rim Diameter in Inches

LT=Light Truck Designation

Range:

Method: Enter Size ____ / ____

Element Attributes:

Field Value

P metric (specify)

1

Select this attribute if the first character in the tire size is 'P'.

Light Truck Metric (specify)

2

Light Truck High Floatation (specify)

3

Light Truck Numeric (specify)

4

Other (specify)

8

Unknown

-9999

Unable to determine. No information on vehicle or in owner's manual

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Recommended Tire Pressure-Front

Field Variable: TIRE_RECOMMENDATION.TIRE_REC_PRESS_FRONT

Label: Recommended tire pressure-front

Remarks

Record recommended pressure in psi. This information will be on the tire placard or in the owner's manual. Look for the placard on the B pillar, the rear of the front door, glove compartment door, underside of the trunk lid or the inside of the fuel filler door. If the tire placard or owner's manual doesn't specify whether the recommended tire pressure is a hot or cold pressure, assume that it is a cold pressure.

Take a photo of the placard and categorize it in the vehicle identification category.

Range: 69-1034, -9999

Method: Enter pressure in PSI ____ ____ ____

Element Attributes:

**Field
Value**

Unknown

-9999

Unable to determine. No information on vehicle or in owner's manual

General Vehicle

Screen Name: Recommended Tire Size-Rear

Field Variable: TIRE_RECOMMENDATION.TIRE_REC_SIZE_REAR

Label: Recommended tire size-rear

Remarks

Record recommended tire size . This information will be on the tire placard or in the owner's manual. Look for the placard on the B pillar, the rear of the front door, glove compartment door, underside of the trunk lid or the inside of the fuel filler door. If the tire placard or owner's manual doesn't specify whether the recommended tire pressure is a hot or cold pressure, assume that it is a cold pressure.

If more than one recommended tire size is present, list the first.

Take a photo of the placard and categorize it in the vehicle identification category.

	MFD BY GENERAL MOTORS CORP	07/96
GVWR 6800/3085	GAWR FRT 3600/1633	GAWR RR 3750/1701 LB/KG
THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.		
Vehicle Identification Number	TYPE: M.P.V.	
MODEL: K10706		
KPBA	TIRE SIZE	SPEED RTG RIM COLD TIRE PRESSURE
FRT	P245/75R16	S 16X7/6.5J 35/240 PSI/KPA
RR	P245/75R16	S 16X7/6.5J 35/240 PSI/KPA
SEE OWNER'S MANUAL FOR MORE INFORMATION.		

If a character cannot be read then leave a blank space where the character belongs.

a=alpha value to enter

n=numeric value to enter

P=P-Metric tire precoded

LT=Light Truck designation precoded

Blanks permitted at any location

P-Metric P n n n / n n a n n

P215/65R15

P= Passenger Car Tire

215= Section Width in Millimeters

65= Aspect Ratio R= Radial Construction

15= Rim Diameter in Inches

Light Truck Metric L T n n n / n n a n n

LT235/75R15

LT= Light Truck Tire

235= Section Width in Millimeters

75= Aspect Ratio R= Radial Construction

15= Rim Diameter in Inches

Light Truck High Flotation n n X n n . n n a n n

31X10.50R15LT

31= Tire Diameter in Inches

10.50= Section Width in Millimeters

R= Radial Construction

15= Rim Diameter in Inches

LT= Light Truck Tire

Light Truck Numeric n . n n a n n . n L T

8.75R16.5LT

General Vehicle

Screen Name: Recommended Tire Size-Rear

Field Variable: TIRE_RECOMMENDATION.TIRE_REC_SIZE_REAR

8.75=Section Width in Inches
R=Radial Construction
16.5=Rim Diameter in Inches
LT=Light Truck Designation

Range:

Method: Enter Size ____ / ____

Element Attributes:

**Field
Value**

P metric (specify)

1

Select this attribute if the first character in the tire size is 'P'.

Light Truck Metric (specify)

2

Light Truck High Floatation (specify)

3

Light Truck Numeric (specify)

4

Other (specify)

8

Unknown

-9999

Unable to determine. No information on vehicle or in owner's manual

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Recommended Tire Pressure-Rear

Field Variable: TIRE_RECOMMENDATION.TIRE_REC_PRESS_REAR

Label: Recommended tire pressure-rear

Remarks

Record recommended pressure in psi. This information will be on the tire placard or in the owner's manual. Look for the placard on the B pillar, the rear surface of the front door, glove compartment door, underside of the trunk lid or the inside of the fuel filler door. If the tire placard or owner's manual doesn't specify whether the recommended tire pressure is a hot or cold pressure, assume that it is a cold pressure.

Take a photo of the placard and categorize it in the vehicle identification category.

Range: 69-830, -9999

Method: Enter pressure in PSI ____ ____ ____

Element Attributes:

**Field
Value**

Unknown

-9999

Unable to determine. No information on vehicle or in owner's manual

General Vehicle

Screen Name: Tires

Field Variable: TIRE.TIRE_LOCATION

Label: Tires

Remarks

Choose the location of the tire in question as it is/was on the vehicle.

For motorcycles, use only the two left side locations on the diagrams.

For three wheeled vehicles, use the left wheel as appropriate for the end of the vehicle with the single wheel.

For trucks with tandem axles, measure only the first two axles on the power unit. When the vehicle has dual wheels on axle 2, measure the outside tires only.

Drop axles are not included if not in use.

Range: 1-4

Method: Fill a single item

Element Attributes:

**Field
Value**

Left Front

1

Left Rear

2

Right Rear

3

Right Front

4

Sources:

DRIVER INTERVIEW

SURROGATE INTERVIEW

VEHICLE INSPECTION

General Vehicle

Screen Name: Tire Make

Field Variable: TIRE.TIRE_MAKE

Label: Tire make

Remarks

Make of tire as visible on tire. The name of the manufacturer will be many found on the sidewall of the tire. If it cannot be read then indicate 'Unknown'.

If the tire is missing and cannot be examined then indicate 'Tire missing'. If the wheel hub is resting on the tire or the tire can be found elsewhere (i.e., in the bed of a pickup) and it can be ascertained that this is the missing tire for the vehicle, then indicate the appropriate information about the tire.

Range: 1-181, -8888, -7777, -9999, -8887

Method: Fill a single item

General Vehicle

Screen Name: Tire Make

Field Variable: TIRE.TIRE_MAKE

Element Attributes:

	Field Value
AKURET	1
AMERICAN	2
AMERICAN RADIAL	3
APACHE	4
ARIZONIAN	5
ARMSTRONG	6
ASTRO	7
ATLAS	8
AURORA	9
AVON	10
BARUM	11
BFGOODRICH	12
BIG O	13
BILT-MOR	14
BRADLEY	15
BRIDGESTONE	16
BRIGADIER	17
BRUNSWICK	18
CARQUEST	19
CASCADE	20
CAVALIER	21
CEAT	22
CENTENNIAL	23
CHENG SHIN	24
CONCORDE	25
CONTENTAL/TAG	26
CONTINENTAL	27
CO-OP	28
COOPER	29
COOPER-EXPORT	30
CORDOVAN	31
CORNELL	32
COSMO	33
CRESTWOOD	34
CROWN	35

General Vehicle

Screen Name: Tire Make

Field Variable: TIRE.TIRE_MAKE

DANZIG	36
DAYTON	37
DEAN	38
DELTA	39
DENMAN	40
DIAMOND	41
DOMINATOR	42
DORAL	43
DOUBLE COIN	44
DOUGLAS	45
DUNLOP	46
DURALON	47
DYNASTAR	48
ELDORADO	49
ELECTRA	50
EMBASSY	51
ESCORT	52
EUROTECH	53
EXXON	54
FALKEN	55
FEDERAL	56
FIRESTONE	57
FISK	58
FORMULA	59
FRONTIER	60
FULDA	61
FUTURA	62
GENERAL	63
GILLETE	64
GISLAVED	65
GOODRICH	66
GOODYEAR	67
GT TIRE	68
GT TIRE US	69
GUARDIAN	70
GUARDSMAN	71

General Vehicle

Screen Name: Tire Make

Field Variable: TIRE.TIRE_MAKE

HALLMARK	72
HANKOOK	73
HERCULES	74
HIGH COUNTRY	75
HOOD	76
HOOSIER	77
JETZON	78
JUPITER	79
KELLY	80
KELLY-SPRINGFIELD	81
KINGSTAR	82
KIRKLAND	83
KIRKWOOD	84
K-MART	85
KUMHO	86
LARAMIE	87
LASSA	88
LEE	89
M&H	90
MABOR	91
MARSHAL	92
MASTERCRAFT	93
MAXXIS	94
MEDALIST	95
MENTOR	96
MERIT	97
MICHELIN	98
MICKY THOMPSON	99
MILLER	100
MITAS	101
MODI	102
MOHAWK	103
MONARCH	104
MONTGOMERY WARD	105
MRF	106
MULTI-MILE	107

General Vehicle

Screen Name: Tire Make

Field Variable: TIRE.TIRE_MAKE

NANKANG/BRADLEY	108
NATIONAL	109
NITTO	110
NOKIAN	111
NTB	112
OHTSU	113
PACEMARK	114
PANTHER	115
PARKWAY	116
PARNELLI	117
PATRIOT	118
PEERLESS	119
PENSKE	120
PHILLIPS	121
PIRELLI	122
POLARIS	123
POS-A-TRAC	124
POS-A-TRACTION	125
REGUL	126
RELIANT	127
REMINGTON	128
REPUBLIC	129
REYNOLDS	130
RIKEN	131
ROAD KING	132
ROADMASTER	133
ROADPRO	134
RUNWAY	135
SEARS	136
SEMPERIT	137
SHELL	138
SIDEWINDER	139
SIEBERLING	140
SIGMA	141
SOLO-TECH	142
SONIC	143

General Vehicle

Screen Name: Tire Make

Field Variable: TIRE.TIRE_MAKE

SPARTAN	144
SPORT IV	145
STAR	146
STARFIRE	147
SUMITOMO	148
SUMMIT	149
SUPER SPORT	150
TACOMA	151
TBC	152
TELSTAR	153
TEMCO	154
TIGAR	155
TNT	156
TOSCO 76	157
TOURING SUPREME	158
TOYO	159
TREDTECH	160
TRIBUNE	161
TURNPIKE USA	162
ULTRA-TECH	163
UNION 76	164
UNIROYAL	165
UNIVERSAL	166
VANDERBILT	167
VIKING	168
VISA	169
VOGUE	170
VREDESTEIN	171
WESTERN AUTO	172
WINSTON	173
WOOSUNG	174
YKS	175
YOKOHAMA	176
AllegianceIV	177
Lemans	178
Liberator	179

General Vehicle

Screen Name: Tire Make

Field Variable: TIRE.TIRE_MAKE

Wynstar	180
Pathfinder	181
No OEM tire at this location	-7777
Select this attribute for vehicles designed with no wheel at this location.	
TIRE MISSING	-8887
Other (specify)	-8888
Unknown	-9999
The tire make cannot be determined for reasons other than the tire is missing and cannot be located. Use this code for situations such as vehicle fire and the tires burned, tire became shredded during precrash or crash sequence, etc.	

Sources:

DRIVER INTERVIEW
SURROGATE INTERVIEW
VEHICLE INSPECTION

General Vehicle

Screen Name: Model Name of Tire

Field Variable: TIRE.TIRE_MODEL

Label: Model name of tire

Remarks

Enter the model name of the tire. The name of the model will be many found on the sidewall of the tire. If it cannot be read then indicate 'Unknown'.

Range: -7777, -8888, -9997, -9998, -9999

Method: Fill a single item

Element Attributes:

**Field
Value**

No OEM tire at this location

-7777

Select this attribute for vehicles designed with no wheel at this location.

Other (specify)

-8888

Known make/Unknown model

-9997

Unable to determine/tire destroyed

-9998

Unknown

-9999

Sources:

DRIVER INTERVIEW

SURROGATE INTERVIEW

VEHICLE INSPECTION

General Vehicle

Screen Name: Tire Size On Vehicle at Crash

Field Variable: TIRE.TIRE_SIZE_USED

Label: Tire size on vehicle at crash

Remarks

Record tire size. This information will be on the tire sidewall. Check all tires to verify size. Do not assume that the same size is on all wheels. Use the format below to record the tire size.

If a character cannot be read then leave a blank space where the character belongs.

a=alpha value to enter

n=numeric value to enter

P=P-Metric tire precoded

LT=Light Truck designation precoded

Blanks permitted at any location

P-Metric P n n n / n n a n n

P215/65R15

P= Passenger Car Tire

215= Section Width in Millimeters

65= Aspect Ratio R= Radial Construction

15= Rim Diameter in Inches

Light Truck Metric L T n n n / n n a n n

LT235/75R15

LT= Light Truck Tire

235= Section Width in Millimeters

75= Aspect Ratio R= Radial Construction

15= Rim Diameter in Inches

Light Truck High Flotation n n X n n . n n a n n

31X10.50R15LT

31= Tire Diameter in Inches

10.50= Section Width in Millimeters

R= Radial Construction

15= Rim Diameter in Inches

LT= Light Truck Tire

Light Truck Numeric n . n n a n n . n L T

8.75R16.5LT

8.75=Section Width in Inches

R=Radial Construction

16.5=Rim Diameter in Inches

LT=Light Truck Designation

Range:

Method: Enter Size _____ / _____

General Vehicle

Screen Name: Tire Size On Vehicle at Crash

Field Variable: TIRE.TIRE_SIZE_USED

Element Attributes:

Field Value

P-Metric (specify)

1

Light Truck Metric (specify)

2

Light Truck High Flotation (specify)

3

Light Truck Numeric (specify)

4

Other (specify)

8

No OEM tire at this location

-7777

Use this attribute for vehicles with less than four OEM wheel positions

Unknown

-9999

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Tire Identification Number

Field Variable: TIRE.TIRE_ID_NUMBER

Label: Tire identification number

Remarks

The attribute values for this variable MUST be TYPED into the variable space. For "Unknown" type in -9999, for "No number visible" type in -9998.

Tire identification number. Specifically requires each new tire manufacturer and each tire retreader to mold a TIN into or onto the sidewall of each tire produced, in the manner and location specified in the reference at the end of this section.

The sections below contain a small segment of the document setting out specifications for the TIN. Please refer to the reference listed at the end of this section for more elaboration.

The TIN will be preceded by DOT or DOT-R

The TIN is composed of four groups:

1. The first group (two characters) represents the manufacturer's identification mark assigned to such manufacturer by this agency in accordance with 574.6;
2. The second group (two characters) represents the tire size for new tires; for retreaded tires, the second group represents the retread matrix in which the tire was processed or, if no matrix was used, a tire size code;
3. The third group (three characters) may, at the option of the manufacturer, be used as a descriptive code for identifying significant characteristics of the tire. If the tire is produced for a brand name owner, the third grouping must identify such brand name owner; and
4. The fourth group (four characters) identifies the week and year of manufacture. The first two figures identify the week, starting with "01" to represent the first full week of the calendar year; the second two figures represent the year. For example, "2198" represents the 21st week of 1998.(6)

For example: DOT "UYZEDBC1301"

- * UY: Plant code
- * ZE: Tire size
- * DBC: Compound structure code (Optional)
- * 13: The week manufactured
- * 01: The year manufactured

NHTSA originally proposed these requirements in response to the May 22, 1970 amendments to the National Traffic and Motor Vehicle Safety Act of 1966, Pub. L. 89-563, originally 15 U.S.C. 1581 et seq. (Codified in 1995 and now found at 49 U.S.C. 30101 et seq.). Those amendments, among other things, required manufacturers and brand name owners of new and retreaded motor vehicle tires to maintain records of the names and addresses of the first purchasers of tires (other than dealers or distributors) in order to facilitate notification of such purchasers in the event tires were found to be defective or not to comply with applicable Federal motor vehicle safety standards. 6 In response to petitions for a rulemaking, the agency amended NHTSA's tire identification and recordkeeping regulation in 1999 to require the date of manufacture to be expressed in four digits, instead of the previously required three, so that consumers would be able to determine the decade of manufacture of their tires. (64 FR 36807; July 8, 1999) This rule also reduced the minimum size of the digits from the then currently required minimum of 6 millimeters (mm) (1/4 inch) to 4 mm (5/32 inch) to relieve the manufacturers and retreaders of the burden they might otherwise have incurred by having to redesign their tire molds to accommodate the additional digit.

Reference document can be found at: <http://www.nhtsa.dot.gov/cars/rules/rulings/TREAD/NPRM/Index.html>

Title:
DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
49 CFR Parts 567, 571, 574 and 575
Docket No. NHTSA-01-11157
RIN 2127-AI32
Tire Safety Information

General Vehicle

Screen Name: Tire Identification Number

Field Variable: TIRE.TIRE_ID_NUMBER

Range: -7777, -9998, -9999

Method: Enter a value _____

Element Attributes:

**Field
Value**

No OEM tire at this location

-7777

Select this attribute for vehicles designed with no wheel at this location.

No number visible

-9998

Inspect the tire carefully and if possible look at both inner and outer sidewalls. This attribute also is coded when the tire was manufactured before the effective date of the TIN rule. The attribute value MUST be TYPED into the variable space. There is no pick list for this variable.

Unknown

-9999

This attribute to be used whenever the tire is not available or the researcher cannot determine if the tire has a TIN. Damage, inability to view both sides of the tire, or other reasons are justifications for use of this attribute. The attribute value MUST be TYPED into the variable space. There is no pick list for this variable.

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Tire Tread Depth

Field Variable: TIRE.TIRE_TREAD_DEPTH

Label: Tire tread depth

Remarks

Indicate the tread depth in 1/32 inch (program automatically converts 1/32 inch to mm). The Minimum Tire Tread Depth is to be measured using the supplied tire tread depth indicator. The measurement should be taken on the shallowest groove of the tread. Be careful not to measure on a wear bar indicator. The measurement is to be documented to the nearest 32nd inch.

Range: 0-50,-7777, -9997, -9998, -9999

Method: Enter a value _____

Element Attributes:

**Field
Value**

No OEM tire at this location

-7777

Select this attribute for vehicles designed with no wheel at this location.

Unable to measure (specify) :

-9997

Select this attribute when the tire is present but not accessible due to damage, has been removed, etc. Do not use this when the tire has been destroyed due to fire or disintegration in the crash.

Tire destroyed

-9998

This attribute is selected when there is no measurable area of the tire and the tire is shredded, burned, etc.

Unknown

-9999

Use this attribute when the tire is missing.

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Tire Pressure

Field Variable: TIRE.TIRE_PRESSURE

Label: Tire pressure

Remarks

The Measured Pressure is to be documented using the supplied air pressure gauge. Adhere to the following instructions when taking and reading the pressure:

The pressure gauge should be cleared before taking the reading. It should be placed over the tire's valve stem and press firmly so that no escaping air is heard. If the vehicle is equipped with dual rear wheels, document only the outboard tires.

NOTE: Testing has revealed that a tire will normally lose 0.1 psi for each reading. Record the pressure of the tire at the time of inspection, regardless of whether the tire has been replaced or reinflated since the crash.

Tire pressures less than 5 psi must be coded "Tire Flat"

Range: 34-1054,-7777, -8882,-9999

Method: Enter pressure in PSI ____ ____ ____

Element Attributes:

**Field
Value**

No OEM tire at this location

-7777

Select this attribute for vehicles designed with no wheel at this location.

Tire flat

-8882

This attribute must be used for all tire pressures less than 5 psi (34 kPcal)

Unknown

-9999

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Tire Damage Prior to First Harmful Event

Field Variable: TIREDAMAGE.TIRE_DAMAGE

Label: Tire damage prior to first harmful event

Remarks

Examine each tire for precrash flaws or damage. The precrash flaws or damaged areas should appear weathered or filled with grime. Crash damage should appear cleaner than the other areas of the tire or have small particles of rubber adhering to the damaged area. Look for flat spots or missing areas in the tread, bubbles in the sidewall or tread, cuts or abrasions to the sidewalls or tread.

Range: 2-16, 88,-7777, -8887, -9999

Method: Select as many as apply

General Vehicle

Screen Name: Tire Damage Prior to First Harmful Event

Field Variable: TIREDAMAGE.TIRE_DAMAGE

Element Attributes:

Field Value

No damage

-8887

Use this attribute when there is no identifiable precrash damage visible on tire. This attribute is not to be used when there is some question as to when the damage occurred. If damage cannot be determined to have occurred prior to the First Harmful Event, then Unknown is the more appropriate selection.

Complete tread separation

2

This attribute should be used only when the entire tread separates from the tire body. Do not use this when any pieces of tread remain attached to the tire body.

Partial tread separation

3

Use this attribute when any piece of tread separates from the tire body. This attribute includes occurrences where the tread splits from the body of the tire but does not form a flap. Do not use this when there is a tread blowout in the same area as the tread separation. Code 'Tread blowout' for those occurrences.

Sidewall separation

4

Use this attribute when the sidewall of the tire has lost a piece(s) of the outer layer(s) but is not deflated. There may be a bubble formed due to the weakness of the sidewall. Code only Sidewall separation in this instance. Bubble or bulge code is for intact tire structures.

Cuts/tears in sidewall

5

Use this attribute when PRE-EXISTING cuts and tears are visible in the tire sidewall. These may be difficult to determine. Some clues to look for are worn edges of the cuts, old dirt within the cut, etc.

Sidewall blowout

6

Use this attribute for instances when there is a blowout above the tread level or a combination of tread and sidewall blowout. Do not use this code if there is a question as to the location of the blowout, ie tire is shredded or damaged in the subsequent crash events.

Tread cut/torn

7

This attribute is used for instances of pre-crash cuts or tears in the tread of the tire. Carefully examine the tire for evidence of cuts/tears with worn edges, dirt in the cuts, etc. to determine the time of damage. Any cuts/tears with clean, sharp edges and little or fresh dirt in the cut are most likely crash and post crash. These should not be coded.

Bubble or bulge

8

This attribute includes occurrences where the a separation occurs in the layers of the tire but does not form a flap. It will be observed as a distortion of the normal outline of the tire, either in the sidewall or tread. A bubble on the sidewall of a tire generally indicates damaged cords caused by severe impact. It is confirmed by a visible corresponding break in the inner liner. Air has infiltrated between the plies and caused the bulge.

Sidewall scuff

9

This attribute applies when precrash abrasions, brush marks, etc are visible on the sidewall of the tire. Look for differences in the color of the sidewall which do not appear to be fresh, ie from the collision events. The fresh sidewall marks can be indicators of underinflation, impacts with curbs or roadway irregularities and could be helpful in determining precrash events.

Tire rotted

11

Use this attribute when tire appears to be aged with cracks in the tread and sidewalls. Generally the rubber will be grayish and may be powdery also.

General Vehicle

Screen Name: Tire Damage Prior to First Harmful Event

Field Variable: TIRE DAMAGE.TIRE_DAMAGE

Bead/rim separation	12
Occasionally the bead will separate from the wheel rim in the precrash phase due to cornering at high speeds, underinflation, etc. Use this attribute when it is definitely known that the separation occurred before the First Harmful Event. This separation can occur subsequent to a blowout.	
Tread blowout	13
Use this attribute for instances when there is a blowout in the tread or a combination of tread and sidewall blowout. Do not use this code if there is a question as to the location of the blowout, ie tire is shredded or damaged in the subsequent crash events.	
Puncture in tread	14
This attribute is specifically used for holes in the tread, usually caused by sharp objects. These are different than tears as the airing out generally occurs at a slower rate than a tear.	
Deflated, unknown reason	15
Use this code when the tire became deflated before or during the critical crash envelope and the reason for the deflation is not known.	
Puncture in sidewall	16
This attribute is specifically used for holes in the tread, usually caused by sharp objects. These are different than tears as the airing out generally occurs at a slower rate than a tear.	
Other (specify) :	88
Use this attribute whenever the precrash damage to the tire does not appear to fit in any of the other attributes.	
No OEM tire at this location	-7777
Select this attribute for vehicles designed with no wheel at this location.	
Unknown	-9999
Unable to determine if there was any damage to the tires prior to this vehicle's first harmful event	

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Type of Equipment In/On Vehicle

Field Variable: EQUIPMENT.EQUIP_TYPE

Label: Type Of Equipment In/On Vehicle

Remarks

This variable is designed to assemble a list of the equipment in the the vehicle under consideration. Examine the vehicle carefully, including the owner's manual to detemine equipment presence. Driver input is also valuable in determining presence or absence of items.

Range: 1,2,3,4,5,6,7,8,9,10,12,14,16,17,18,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,52,54,55,57,90,91,92,93,100,101,102,103,1088,2088,3088,4088

Method: Check or Enter Value in Box

General Vehicle

Screen Name: Type of Equipment In/On Vehicle

Field Variable: EQUIPMENT.EQUIP_TYPE

Element Attributes:

Field Value

Rear crash avoidance (other than camera)

1

This feature provides warning and possibly vehicle action when the device determines a crash is possible. This device uses sonar, radar or laser technology to measure the distance to the object and closing speed. This attribute is coded for devices warning of objects to the REAR of this vehicle.

Mirror mounted turn signals

4

Arrows or other symbols integrated into the exterior mirrors, which illuminate when, the turn signal or hazard flasher are activated.

Run-flat tires

8

Tires termed run-flat or similar employ two different designs presently. One is a reinforced sidewall to maintain the tire shape and temporarily carry the weight of the vehicle in the event of a sudden loss of air pressure. The self-supporting system of run-flat tires is the one currently in greatest use by other tire makers as well as Goodyear. The Dunlop SP Sport, Goodrich Comp T/A and Michelin ZP (for "zero pressure") are examples.

Another system called PAX, under development by Michelin in conjunction with other tire makers, has some advantages over the self-supporting tire. The support system for the PAX is built into the wheel itself. It is thus considerably more costly at this stage but it permits the modern ultra-low profile tire with larger wheel diameter popular with modern designers. It also has less rolling resistance and is thus "greener" requiring less fuel to keep it going.

Tire pressure monitoring system

14

This system monitors the tire pressure. The process may be direct or indirect. Direct systems employ pressure sensors in each wheel that report pressure via radio link to vehicle command center. Indirect uses the antilock wheel RPM readers to determine differences in the rotation rates of the wheels. Significant differences between front and rear axles (or left and right side, depending upon the algorithm) trigger a warning of low tire pressure. . Look for a warning lamp to illuminate during the bulb check, or for actual tire pressure readings in the driver information center or even in the rearview mirror.

Wide angle mirror

18

This type of mirror is generally mounted in place of the standard interior rear view mirror. It provided a wider view of the area to the rear of the vehicle including the "blind spots" along the sides of the vehicle.

Pet/cargo barrier

24

Mesh or solid barrier used to isolate pets or cargo from the driver's area. These can be permanent or temporary attachments to the vehicle.

Auto dimming rearview mirror(s)

25

Sensors in the rearview mirrors compare the intensity of light reflected in the mirror with that of the surrounding light. A large difference indicates glare, which is then reduced automatically by changing the mirror's reflectivity. This is accomplished by changing the electrical current being sent to an electrochromic element in the mirror (which is similar to a liquid-crystal display in a digital watch).

Collision warning system

31

Devices that warn of high closing speeds and proximity of other vehicles or objects . Provides audible warnings and may provide engine rpm reduction and/or braking.

This warns of other vehicles within a certain proximity to the vehicle with the sensor. Visteon has been developing the smart radar "cocoon" which surrounds the vehicle with programmable sense zones that are used for adaptive cruise control, side-object warning and a lane change aid.

General Vehicle

Screen Name: Type of Equipment In/On Vehicle

Field Variable: EQUIPMENT.EQUIP_TYPE

Lane or roadway-departure warning system

34

Warns the driver of lane or roadway departure. There are several systems under development.

Infiniti is definitely equipped with one as an option. Infiniti's system uses a small camera, a speed sensor, an indicator and an audible warning buzzer to let drivers know the vehicle has drifted out of its lane. The markings and vehicle speed are sent to the system's microprocessing unit, which combines the information to calculate the distance between the vehicle and the lane marking and the vehicle's lateral velocity to the marking. The system uses the information to make a judgement as to whether the vehicle is moving out of the lane.

If it appears that the vehicle is leaving the lane, the warning signals come on to alert the driver to take corrective action. The system will not operate if the camera can't detect the lane markers or if the vehicle's speed is below 45 miles per hour.

A commercial product that grew out of the 1999 Run-Off-Road Study, the SafeTRAC which is a forward-looking video camera which tracks a vehicle's position in its lane. SafeTRAC generates a warning if a vehicle begins to drift out of its lane. SafeTRAC is currently available as an aftermarket device for all vehicles. During vehicle inspection, look for a display that may be mounted on the dash or embedded in the instrument panel. It may also interface with an existing driver information center. The system is comprised of a windshield mounted camera and a driver interface which attaches to the vehicle and is powered by the cigarette lighter. It has been commercially available since early 2000, but has not been widely adopted. SafeTRAC is currently used in GM/NHTSA collision avoidance program for lane tracking. It is available as a factory option in Kenworth Trucks and Volvo is also using it in the US Army's 21st century truck.

Cruise control-adaptive/intelligent

36

Adaptive (or intelligent) cruise control is similar to conventional cruise control in that it maintains the vehicle's pre-set speed. However, unlike conventional cruise control, this new system can automatically adjust speed in order to maintain a proper distance between vehicles in the same lane. This is achieved through a radar headway sensor, digital signal processor and longitudinal controller. If the lead vehicle slows down, or if another object is detected, the system sends a signal to the engine or braking system to decelerate. Then, when the road is clear, the system will re-accelerate the vehicle back to the set speed.

General Vehicle

Screen Name: Type of Equipment In/On Vehicle

Field Variable: EQUIPMENT.EQUIP_TYPE

Drowsy driver sensing system	38
<p>There are several of these devices on the market and in vehicles at this time. Some examples are given in the following paragraphs.</p> <p>Examine the vehicle for cameras and other devices pointed at the driver. If in doubt document and call the Zone Center.</p> <p>The first example is SafeTRAC which is a forward-looking video camera that tracks a vehicle's position in its lane. SafeTRAC generates a warning if a vehicle begins to drift out of its lane. SafeTRAC is currently available as an aftermarket device for all vehicles. During vehicle inspection, look for a display that may be mounted on the dash or embedded in the instrument panel. It may also interface with an existing driver information center.</p> <p>The second example is Hypovigilance Diagnosis Module which detects and diagnoses driver hypovigilance in real-time. Based on an artificial intelligence algorithm this module will fuse data from on-board driver monitoring sensors (eyelid behaviour and steering grip forces) and data regarding the driver's behaviour (lane keeping performance). The goal is to achieve a (correct) diagnosis level of 90% and a false alarm rate below 1 % in all highway scenarios. Therefore, parts of the HDM are personalised by using a smart card application. If the driver is unknown to the system it will monitor awake driving at the beginning of the trip and use the information for delivering its diagnoses later on.</p> <p>The third example is the Copilot. It is a device to accurately detect and track human drowsiness and provide a warning to the driver. The Copilot provides a continuous real time measurement of eye position and eyelid closure. A direct measurement of drowsiness is calculated from the analysis of slow eyelid closures. In particular the Copilot calculates PERCLOS or percent eye closure, simply defined as the proportion of time the eyes are closed over a specified time interval. The Copilot provides a visual gauge representing the driver's drowsiness level and an audible warning when a preset drowsiness threshold is reached.</p>	
Bi-Xenon headlamps	102
<p>High and low beam more closely approximates the natural day light for enhanced clarity</p>	
Other safety equip. (specify) :	1088
<p>This attribute should be used only if the researcher finds equipment in the vehicle not listed in any of the categories. The equipment must be related to some safety aspect such as improving the quality of the driving, warning the driver of impending danger, etc.</p>	
DVD player - 1st row	5
<p>DVD player present in the first seat row of the vehicle.</p>	
Radar or laser detector	7
<p>Use when the vehicle has a device for detecting laser or radar speed monitoring devices used by police.</p>	
DVD player - 2nd row	10
<p>DVD player present in the second seat row of the vehicle.</p>	
Headlight wiper/washer	17
<p>These will be obvious. Wipers are mounted close to the headlights. Makes with known installations (optional) are Mercedes, Saab, Volvo and Ford. If the front end is damaged, examine the headlight area for the wiper mount.</p>	
Adjustable pedals	21
<p>All control pedals (accelerator, brake) move longitudinally between firewall and driver There is generally a range of approximately three inches from the point closest to the firewall to the point closest to the seat. This change in distance from the firewall allows the driver to sit at a greater distance from the steering wheel.</p>	

General Vehicle

Screen Name: Type of Equipment In/On Vehicle

Field Variable: EQUIPMENT.EQUIP_TYPE

Clothes rod	22
An aftermarket device normally placed in the rear seat of a vehicle to hang clothes.	
Cellular/mobile phone	23
Sport shift transmission	28
Also known as Manual Automatic Transmission, Sport Shift is a method by which the driver of a vehicle can control what gear is used with the touch of a button. Generally, a car with Sport Shift can be set to full automatic transmission for stop and go traffic and then switched over to "manual" mode when the driver wants more control of the system.	
Steering wheel mounted radio/climate controls	29
Steering wheel mounted controls that permit the driver to operate on-board devices without removing hands from the steering wheel.	
Window wind deflector	30
Device that attaches to the top and/or front of the side windows and deflects the airflow away from the vehicle. This deflection reduces the wind noise and airflow into the vehicle.	
Rear spoiler	32
Rear mounted spoiler, theoretically provides more vehicle stability at higher speeds	
Bug shield /hood protector	33
This device is a piece of plastic or vinyl, which is fitted to the front of a vehicle. It is designed to protect the paint and grillwork from impacts with bugs, gravel and other small airborne objects. It is also known as car bra, car mask, front-end cover, hood bra or car bug shield.	
Satellite radio	35
Radio programming from satellite link such as Sirius. Driver query will probably be necessary for this attribute.	
Sunroof	37
"Sunroof" is the generic term used to describe an operable panel in a vehicle roof that can let in light and/or air. "Moonroof" is a term created by Ford in the 70s, yet is now used generically to describe the glass panel vehicle roofs or in the center of electric sunroofs.	
Child mirror	39
A second "rear view mirror" that is angled to look specifically at the full width of rear seat.	
Hands free cell phone kit	41
After market device that helps the user operate the cell phone without holding the phone in either hand. This can be an earpiece with microphone, headset or a cradle type holder for the phone.	
Non-standard steering wheel	43
Steering wheel which appears to be other than OEM. Do not code this attribute for leather covering, etc. This attribute is intended to capture welded chain, small diameter, wood, etc.	
Voice activated controls	44
Vehicle system which interprets audible commands from occupants, generally the driver, to operate various vehicle controls, such as the climate, radio or cell phone.	
Large speakers	50
Speakers larger than the OEM type. Generally, these speakers will be in the backlight deck or may be external.	

General Vehicle

Screen Name: Type of Equipment In/On Vehicle

Field Variable: EQUIPMENT.EQUIP_TYPE

Cruise control-conventional	90
<p>Cruise control actuates the throttle valve by a cable connected to an actuator, instead of by pressing a pedal. The throttle valve controls the power and speed of the engine by limiting how much air the engine takes in. When the cruise control is engaged, the actuator moves the cable connected to the pivot, which adjusts the throttle; but it also pulls on the cable that is connected to the gas pedal -- this is why your pedal moves up and down when the cruise control is engaged. The brain of a cruise control system is a small computer that is normally found under the hood or behind the dashboard. It connects to the throttle control seen in the previous section, as well as several sensors. A good cruise control system accelerates aggressively to the desired speed without overshooting, and then maintains that speed with little deviation no matter how much weight is in the car, or how steep the hill you drive up.</p>	
Integrated hands free communication system	101
<p>Once the phone is docked in the armrest cradle, it is connected to the vehicles integrated antenna system. Phone directory can be displayed on the dashboard and calls can be made using buttons on steering wheel. Calls are delivered through car's audio system.</p>	
Other convenience (specify) :	4088
<p>Use this attribute for convenience items used to ease the driving task or use of the vehicle for the driver or passengers. Use this for items which cannot be classified in any of the other attributes in this category. Specify the name and function of the equipment.</p>	
Power hand controls	91
<p>Power operated controls used by the driver as a substitute for any aspect of vehicle operation. These controls will be small levers, buttons or similar devices. These controls have power assist mechanism associated with the operation. In other words, there is no direct mechanical link between the control and the functional lever (brake, accelerator, etc) which controls the vehicle.</p>	
Manual hand controls	92
<p>Hand operated controls used by the driver as a substitute for foot controls. These controls will be levers, handles or similar devices attached to the steering column or other location within easy reach of the drivers hands. These controls have no power assist associated with the operation.</p>	
Other adaptive equipment	93
<p>Use this attribute for items not related to the operation of the vehicle but which help drivers with disabilities enter, exit or otherwise use the vehicle.</p>	
ABS	2
<p>The anti-lock braking system (ABS) prevents the wheels from locking up during braking. Even under strong braking, the driver can better control and steer the car, potentially avoiding obstacles without having to release the brakes first. When ABS is activated, the driver will notice a slight pulsation of the brake pedal.</p>	
Variable suspension	6
<p>Suspension which electronically monitors and adapts the suspension damping and steering to ensure optimal handling and ride depending on the driving conditions. There may be several modes such as a sports mode which gives a more active and engaging driving feel.</p>	

General Vehicle

Screen Name: Type of Equipment In/On Vehicle

Field Variable: EQUIPMENT.EQUIP_TYPE

Electronic stability control

12

Electronic Stability Control or ESC uses the speed sensors on each wheel and the ability to brake individual wheels that are the basis of antilock brakes. ESC or electronic stability control is an extension of antilock brake technology, which has speed sensors and independent braking for each wheel. A control unit monitors when the steering and rotation sensors detect that the vehicle is about to travel in a direction different from the one indicated by the steering wheel position. Then ESC automatically brakes the appropriate wheel to help the driver maintain the control. In many cases engine throttle also is reduced.

It is known by many names:

VSA (Vehicle Stability Assist) (Acura, Honda)

ESP (Electronic Stability Program) (Audi, Chrysler, Mercedes-Benz, Saab, Volkswagen)

DSC (Dynamic Stability Control) (BMW, Jaguar, Land Rover)

Stabilitrak (Buick, Cadillac, Pontiac); Active Handling System (Chevrolet)

AdvanceTrac (Ford, Lincoln, Mercury)

VDC (Vehicle Dynamic control) (Infiniti, Nissan, Subaru)

VSC (Vehicle Stability Control) (Lexus, Toyota)

Precision Control System (Oldsmobile)

PSM (Porsche Stability Management) (Porsche)

DSTC (Dynamic Stability Traction Control) (Volvo)

Traction control

16

A Traction Control System uses the wheel's anti lock brake system to monitor the rotational speed of each wheel. When wheel-slippage is detected at any wheel (higher rotational speed), it pulses the brakes until traction is regained and all four wheels are again traveling at the same speed.

Electronic brake assist

20

Brake Assist recognizes a driver's intent to perform a sudden stop by monitoring the rate of the brake application and initiates full braking within a fraction of a second, reducing the car's braking distance by as much as 20 percent

Continental Brake Assist System is on the Ford Expedition and the Ford Taurus.

Bosch--'Predictive Brake Assist', helps drivers in the event of an imminent accident by preparing the brake system for emergency braking. While unnoticed by the driver, Predictive Brake Assist builds up preventive brake pressure by placing the braking pads on the brake disks as a matter of precaution and setting the hydraulic brake assistant into a state of 'alert'. If the driver actually brakes, he gets the fastest possible brake response with optimal deceleration values and the shortest possible stopping distance. When there is no braking action, the alert status is simply cancelled. The Predictive Brake Assist will be installed for the first time worldwide as additional function of the Adaptive Cruise Control (ACC) system in the new Audi A6.

A description of the system operation:Conventional braking systems usually use engine vacuum to increase braking capability. Instead of relying solely on vacuum power to provide effective brakes, an electric pump pressurizes brake fluid to provide power assist for emergency brakingMost drivers, under normal braking conditions as well as under emergency conditions, start out with little brake pressure and whenever necessary they will increase their pedal effort. In an emergency this behavior leads many times to a crash since the car could not be stopped in time. Those situations require maximum pedal pressure from the beginning - if necessary the effort can be reduced later in the process.

Most drivers do not use the ability of the brakes to their advantage - BAS automatically corrects that. The system recognizes emergency situations within milli seconds and releases pressurized brake fluid into the system as soon as the driver touches the brake pedal. As soon as the driver releases the brake pedal, BAS kicks back into a standby mode.

BAS creates a much higher stopping force for emergencies than most drivers are ever able to generate.

4WD/AWD

26

Both front and rear axles capable of power. This does not mean that the four wheel drive was in use at the time of the crash. Code for presence.

General Vehicle

Screen Name: Type of Equipment In/On Vehicle

Field Variable: EQUIPMENT.EQUIP_TYPE

Altered suspension (raised, lowered, etc.)	40
Vehicle suspension altered from factory or OEM dimensions. The effect is generally to raise or lower the chassis relative to the ground clearance, which is immediately visible. The suspension can be changed to improve handling also. This type of change is not usually evident in a visual inspection.	
Tires (oversized, low profile, etc.)	42
Select this attribute if the vehicle is equipped with tires which are not the recommended size on the vehicle tire placard.	
Custom (non-OEM) wheels	45
Non OEM rims, purchased after-market, frequently ornamental.	
Cargo holder - roof mounted	46
Device for holding cargo which is fastened to the roof of a vehicle. This is not a luggage rack but a container for the luggage which is attached temporarily to the roof.	
Cargo holder - rear mounted	47
Use when a container for holding cargo is attached to the rear of the vehicle. This container can be enclosed or open. A common type is one attached to the trailer hitch assembly.	
Bike rack - hitch mounted	48
Bicycle rack designed for holding one or more bicycles which is attached to the trailer hitch.	
Bike rack - roof mounted	49
Bicycle rack designed for holding one or more bicycles which is attached to the roof or trunkdeck of the vehicle.	
Other braking and handling (specify) :	2088
Use this attribute for equipment that assists the driver in the braking and handling of the vehicle. Use this attribute only when the equipment does not fall under the definition of any of the other attributes in the Braking and Handling classification. Specify the name and function of the equipment.	
Navigation system-installed in vehicle	3
Select this attribute for navigation systems permanently installed in the vehicle. An example of this type is one with a screen in the instrument panel. A navigation system is a computerized system using GPS technology, which contains a database of maps and destinations. This system locates places based on operator input. The device provides voice command and/or visual routing to a selected destination.	
Navigation system - portable	9
Select this attribute for navigation systems not permanently installed in the vehicle. An example of this type is one attached by suction cups to the windshield. A navigation system is a computerized system using GPS technology, which contains a database of maps and destinations. This system locates places based on operator input. The device provides voice command and/or visual routing to a selected destination.	
ITS (intelligent communication system) (specify):	27
Vehicle systems that either operate individually or integrate with the roadway environment to improve the movement of the vehicle to its destination	
Rear view camera	52
A video feed is provided from the back of the vehicle onto a monitor in front of the driver. The camera makes backing up safer and more accurate.	

General Vehicle

Screen Name: Type of Equipment In/On Vehicle

Field Variable: EQUIPMENT.EQUIP_TYPE

Front object sensor	54
<p>Front Object Detection : detects proximity of objects, other vehicles, critical closing speeds and distances. Warns the driver of impending possible collisions. These systems can be set to automatic to control the speed of the vehicle by reducing the engine speed and applying brakes. Several automotive suppliers have systems in development and on the market. These will be difficult to detect. Driver queries may be necessary to determine presence for coding this attribute.</p>	
Heads-up display	55
<p>Capable of projecting different functions onto the windshield such as: radio station, speed, compass, outside temperature, gear-PRNDL</p>	
Night vision display	57
<p>Night vision uses thermal imaging to help extend vision well beyond the range of low-beam headlamps. Infrared sensor detects heat from objects directly ahead, processes the data in real time and converts it into a video image reflected on the windshield. It allows for more time to react to potentially dangerous situations.</p>	
Adaptive Front-Light System (AFS)	100
<p>Vehicle headlights move in direction of steering. When the car is turning or on a tight bend, this headlight can illuminate areas that were previously in the dark. Correct coding of this attribute may require driver input.</p>	
Other advanced equip (specify) :	3088
<p>Use this attribute for equipment that assists the driver in the operation of the vehicle during the driving task. Use this attribute only when the equipment does not fall under the definition of any of the other attributes in the Advanced classification. Specify the name and function of the equipment.</p>	
Daytime running lights	103
<p>Use this attribute for vehicles equipped with low beam headlights which come on automatically when the vehicle is on. This attribute should also be selected for lamps other than headlights that light when the ignition is turned on or the parking brake is released. This attribute was only collected for 2007 cases.</p>	

Sources:

DRIVER INTERVIEW
SURROGATE INTERVIEW
VEHICLE INSPECTION

General Vehicle

Screen Name: Equipment Availability in this Vehicle

Field Variable: EQUIPMENT.EQUIP_AVAILID

Label: Equipment availability in this vehicle

Remarks

The researcher must determine presence of equipment through vehicle inspection, VIN breakdown or research into vehicle model standard/optional features. The driver may be a source of information but all equipment must be verified through the sources above.

Range: 1,2,-7774,-9999

Method: Fill a single item

Element Attributes:

	Field Value
Yes This equipment or feature was present and available in this vehicle at the time of the crash.	2
No This equipment or feature was not available in this vehicle at the time of the crash.	1
Unknown The researcher is unable to determine if this equipment or feature was available in this vehicle at the time of the crash.	-9999

General Vehicle

Screen Name: Equipment in Use

Field Variable: EQUIPMENT.EQUIP_USE

Label: Equipment in use

Remarks

Determine through examination of the vehicle, questioning of the driver and occupants if the equipment was in use in the precrash segment of this crash. Some reasearch may be required to assess features that are not evident or known to the driver. Careful questioning may be necessary to elicit the truth about some equipment use such as CD/DVD players, cell phones, etc.

Range: 1,2,-7774,-9998,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Yes Equipment in use during precrash segment.	2
No Equipment not in use during precrash segment.	1
Not equipped	-9998
Unknown if available/used Unknown if equipment was in use during the precrash segment.	-9999

Sources:

DRIVER INTERVIEW
SURROGATE INTERVIEW
VEHICLE INSPECTION

General Vehicle

Screen Name: Location of Equipment

Field Variable: EQUIPMENT.EQUIP_LOCATION

Label: Location of equipment

Remarks

Location of the equipment, display or feature in or on the vehicle.

Range: 1,2,3,4,5,6,7,8,9,10,11,-7774,-9998,-9999

Method: Fill a single item

Element Attributes:

	Field Value
Exterior - Front	1
Exterior - Rear	2
Exterior - Right	3
Exterior - Left	4
Exterior - Top	5
Exterior - undercarriage	6
Exterior - Bilateral	11
Used when equipment is present on the exterior of the vehicle on both sides	
Position 11	7
Position 12	8
Position 13	9
Rear Seat	10
Any seat or row rear of the front seat row.	
Not equipped	-9998
Unknown	-9999

Sources:

DRIVER INTERVIEW
VEHICLE INSPECTION

General Vehicle

Screen Name: After Market

Field Variable: EQUIPMENT.AFTER_MKT_EQUIP

Label: After market

Remarks

Determine if the vehicle had this equipment/feature at the time of the crash and if present, determine if this was an aftermarket installation or presence.

Range: 1,2,-7774,-9998,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Yes This equipment was not part of the original equipment on or in the vehicle at manufacture but was present at the time of the crash.	2
No Use this attribute for all instances where the equipment is present and was installed at the time of vehicle manufacture.	1
Not equipped Never installed in the vehicle OEM nor was an aftermarket version present in the vehicle at the time of the crash.	-9998
Unknown if available/used Unknown if the equipment or feature was present at the time of the crash or unknown if the equipment was installed in the vehicle after manufacture.	-9999

Sources:

DRIVER INTERVIEW
SURROGATE INTERVIEW
VEHICLE INSPECTION
RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

General Vehicle

Screen Name: Glazing

Field Variable: GLAZING.GLAZING_LOC

Label: Glazing

Remarks

Glazing is defined for these variables as a covering for openings in the vehicle's structure which has the ability to allow light to pass. The areas of interest include: the windshield, sidelight windows, backlight (hatchback, tailgate, liftback, rear window), and roof. Composition of glazing materials in use include: glass, plastic, and glass-plastic. For the purposes of this study, gathering information on the precrash condition of the glazing is vital. This may present some difficulty at times due to breakage during the crash sequence. Collect data on all glazing present.

Locations:

WS = windshield

LF = left front window (driver's window)

RF = right front window

LR = left rear window (adjacent to LF window)

LR2 = 2nd left rear window (adjacent to LR window)

RR = right rear window (adjacent to RF window)

RR2 = 2nd right rear window (adjacent to RR window)

BL = backlight, tailgate / hatchback / liftgate window

LBL = left backlight (left side of a divided backlight, i.e., rear doors on some vans)

RBL = right backlight (right side of a divided backlight, i.e., rear doors on some vans)

Roof = sun roof, moon roof, "T" roof, etc.

Other= other sidelights, door wing windows, and any other light not identified above. The "other" category (as noted) encompasses areas where glazing This would include wing windows located in door areas. In the event more than one "other" area was involved, select the area with the highest priority number as ranked above.

When more than one glazing has priority, the researcher should select the glazing which is closest to the front of the vehicle with the left side taking precedence over the right side. The researcher must specify the selected glazing in the space provided.

Range: 1 - 7, 10, 15, 20

Method: Check or Enter Value in Box

General Vehicle

Screen Name: Glazing

Field Variable: GLAZING.GLAZING_LOC

Element Attributes:

	Field Value
Windshield	1
Left front Select this attribute for glazing in the left side, adjacent to and from the A-pillar toward the back of the vehicle.	2
Right front Select this attribute for glazing in the right side, adjacent to and from the A-pillar toward the back of the vehicle.	3
Left rear Select this attribute for glazing in the left side, adjacent to and from the B-pillar toward the back of the vehicle.	4
Second window left rear Select this attribute for glazing in the left side, adjacent to and from the C-pillar toward the back of the vehicle.	5
Right rear Select this attribute for glazing in the right side, adjacent to and from the B-pillar toward the back of the vehicle.	6
Second window right rear Select this attribute for glazing in the right side, adjacent to and from the C-pillar toward the back of the vehicle.	7
Backlight Select this attribute for glazing in the rear surface of the vehicle.	10
Roof Used for sun roof, moon roof, "T" roof, etc.	15
Other (specify) : Used when there are other sidelights, door wing windows, and any other locations not in previous attributes. The researcher must specify the selected glazing in the space provided.	20

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Presence

Field Variable: GLAZING.PRESENCE

Label: Presence

Remarks

This variable captures the presence of glazing in or on the vehicle. It must be present at the time of the crash for this variable to be coded Yes.

Range: 1 - 2

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No Equipment is not present. Leave check box blank.	1
Yes Equipment is present. Noted by checking the circle on the paper form or selecting the box in the electronic application.	2

General Vehicle

Screen Name: Clarity of Glazing

Field Variable: GLAZING.GLAZING_CLARITY

Label: Clarity of glazing

Remarks

Record the clarity of glazing in the vehicle in its precrash condition. This may be difficult, depending on the type of crash. If necessary, query the driver about the clarity.

Range: 1 - 4, -8887, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Clear Used for clean clear windows.	1
Hazy Used for glazing with a slight haze.	2
Slightly dirty Used when glazing has more than a haze, having a slight layer of dust or dirt that impedes view out the glazing.	3
Very dirty Used when the specific glazing has a limited view due to dirt/dust	4
Unknown Used when the researcher is unable to determine the clarity of the glazing, ie disintegrated glazing.	-9999

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Condition of Glazing
Field Variable: GLAZING.GLAZING_COND

Label: Condition of glazing

Remarks

Record the condition of the glazing in the vehicle. It is essential to ascertain whether any damage was precrash or damaged due to the impact. If the glazing is missing, query the driver about its precrash condition.

Range: 1 - 5, -8887, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Intact Select when no precrash damage to the glazing. Glazing which is scratched is considered not damaged. Record scratching in the Glazing Clarity variable.	1
Cracked not related to impact Used when the glazing remained within the confines of its specific area and was cracked before the crash.	2
Broken not related to impact Used when glazing was totally destroyed but not by impact forces.	3
Cracked due to impact Used when the glazing remained within the confines of its specific area and was cracked. Displaced glazing that was not totally separated from the vehicle should be treated as "in place". This would include windshields with partial bond separation and dislodged side glazing(s).	4
Broken due to impact Used when glazing was totally destroyed by impact forces or vehicle damage. This usually occurs with shattered tempered glass (i.e., sidelights, etc.). Windshields that are separated from the vehicle should not be considered disintegrated. Uncertainty may exist when determining the cause of shattered sidelight glazing when the collision occurred adjacent to an occupied seat. As a rule of thumb, impact forces and/or vehicle damage generally cause disintegration of the sidelight prior to occupant contact.	5
No glazing at this location	-8887
Unknown Used in the following situations. The degree of damage could not be determined as the result of post impact damage (i.e., extrication, towing operations, etc.). Due to factors beyond the researcher's control, an adequate determination of glazing damage could not be made (i.e., catastrophic type vehicle damage, etc.). This should be a rare occurrence. The cause of glazing damage (i.e., impact forces versus occupant contact) could not be determined by the researcher. Caution, it is anticipated this reason will be rarely used. When confronted with this dilemma, every effort must be made to select a known value for damaged glazing.	-9999

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Tinting Present

Field Variable: GLAZING.GLAZING_TINT

Label: Tinting present

Remarks

This variable captures the presence of tinted glazing on the vehicle. It is important to distinguish between the "normal" color of glazing and glazing with tint. Almost all glazing has some added color. Examine the windshield directly in front of the driver to determine the "normal" level of glazing color. Compare the window being examined with the windshield. If the glazing location is darker than the windshield, code Tint for the location as Yes.

Range: 1 - 2, -8887, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Yes	2
Use this attribute for any glazing that appears to have coloring in addition to the greenish hue found in AS-2 windows, or AS-1 windshields.	
No	1
Use this attribute if the glazing appears clear or with a slight green or blue hue.	
No glazing at this location	-8887
Unknown	-9999
Use this attribute if the window is missing or the researcher was unable to document the glazing tint level.	

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Police Reported Alcohol Presence

Field Variable: OFFICIALRECORDS.PAR_ALCOHOL_PRES

Label: Police reported alcohol presence

Remarks

Record the PAR information about alcohol presence. Examine the PAR carefully as this information may be in a check box, written code or in the narrative notes.

Range: 1 - 3, 11, -8882, -8888, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No alcohol present Police report gives indication that no alcohol was present for this driver. This must be a positive indicator, ie PAR must indicate no alcohol if variable is present.	1
Yes - alcohol present Police indicate on PAR that this driver had alcohol presence, either by test, odor or presence of open containers in vehicle.	2
Not reported Police do not report presence or absence on PAR.	3
No PAR obtained (created) No police accident report was created.	-1111
No driver present	-8888
Unknown Police are not specific about alcohol presence. Alcohol variable on PAR is blank and no mention is made of presence or absence.	-9999

Sources:

PAR

General Vehicle

Screen Name: Police Reported Drug Presence

Field Variable: OFFICIALRECORDS.PAR_DRUG_PRES

Label: Police reported drug presence

Remarks

This variable documents police reported drug presence, if there is no indication on the PAR code 'No'.

Range: 1 - 4, 11, -8888, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No	1
Used when the PAR indicates no illegal drugs are used by this driver.	
Yes (specify) :	2
Used when drugs are indicated for this driver. Record drug under DRUGTYPE variable.	
Yes - none specified	3
Used when drugs are noted for this driver but type(s) are unknown.	
Not reported	4
No PAR obtained (created)	-1111
No police accident report was created.	
No driver present	-8888
Unknown	-9999

Sources:

PAR

General Vehicle

Screen Name: Police Reported Belt Use

Field Variable: OFFICIALRECORDS.POL_BELTUSE

Label: Police reported belt use

Remarks

This variable captures what was documented on the PAR regarding drivers use of available vehicle restraints (*i.e.*, manual belts, or automatic restraints). Select the first attribute which applies. The entire PAR (especially narrative) must be reviewed to make a determination to code this variable.

Range: 1 - 6, 8 - 11, -8888, -9999

Method: Fill a single item

Element Attributes:

**Field
Value**

None Used

1

Police did not indicate belt use

2

is used in two instances. The first is when the PAR has a space, box, line, etc. to indicate restraint use but there is no response present. The second is when there is no area of the PAR for the officer to report restraint use.

Shoulder Belt

3

Lap Belt

4

Lap and shoulder belt

5

Belt used, type not specified

6

is used when the PAR indicates that available **belts** were used, but it is unclear what type of belts were actually in use.

Automatic belt

8

Other type belt (specify) :

9

Police indicated 'unknown'

10

No PAR obtained (created)

-1111

No police accident report was created.

No driver present

-8888

Unknown

-9999

Sources:

PAR

General Vehicle

Screen Name: Posted Speed Limit

Field Variable: OFFICIALRECORDS.SPEED_LIMIT

Label: Posted speed limit

Remarks

This variable should be determined through the scene inspection. Secondary source is the PAR but the value should be verified through at least one other source in addition to the PAR.

Range: 5-80, -8841, -8888, -9999

Method: Enter value in mph ____ ____

Element Attributes:

**Field
Value**

No statutory limit

-8841

is selected for roadways which are neither posted nor have a statutory limit (e.g., parking lot roadways or entrance/exits, service station entrance/exits, or driveways, etc.).

Unknown

-9999

Sources:

PAR

SCENE INSPECTION

General Vehicle

Screen Name: Advisory Speed Limit

Field Variable: OFFICIALRECORDS.ADVISORY_LIMIT

Label: Advisory speed limit

Remarks

When inspecting the scene, look for advisory speed limit signs. The signs will usually be present in areas presenting hazards such as slopes, curves, school zones, blind intersections, etc. Search the scene for signs which may have been knocked down in the crash.

Range: 8-129, -8841, -8888, -9999

Method: Enter value in mph ____ ____

Element Attributes:

	Field Value
No advisory limit	-7776
No PAR obtained (created) No police accident report was created.	-1111
Unknown	-9999

Sources:

PAR
SCENE INSPECTION

General Vehicle

Screen Name: Police Reported Travel Speed

Field Variable: OFFICIALRECORDS.PAR_TRAVEL_SPEED

Label: Police reported travel speed

Remarks

Enter the PAR reported travel speed when present. This value may be a field on the PAR or the value may be entered in the narrative. If the PAR indicates a range, enter the average (eg 45-50 mph, enter 48).
000 is entered if this vehicle is stopped or indicated by the police as traveling less than 0.5 mph.

Range: 0-240, -1111, -8872, -8879, -8888, -9999

Method: Enter value in mph ____ ____

Element Attributes:

Field Value

No PAR obtained (created)

-1111

No police accident report was created.

Not reported

-8879

Unknown

-9999

Sources:

PAR

General Vehicle

Screen Name: Vehicle Max KABCOU Rating

Field Variable: OFFICIALRECORDS.KABCOU

Label: Vehicle Max KABCOU Rating

Remarks

This variable is a system calculated value based on the maximum police injury severity for all occupants of a vehicle involved in the crash.

Range: 1- 7,10,-1111, -9999

Method: System generated value

Element Attributes:

	Field Value
O - No injury	1
C - Possible injury	2
B - Non-incapacitating injury	3
A - Incapacitating injury	4
K - Killed	5
U - Injury, severity unknown	6
Died prior to crash	7
Unknown if Injured	-9999
No PAR obtained	-1111
No police accident report was created.	

Sources:

PAR

General Vehicle

Screen Name: Police Reported tow Status
Field Variable: OFFICIALRECORDS.PARTOWED

Label: Police reported tow status

Remarks

The tow status as indicated in this variable is the same tow status that was used in determining the case stratification. A "towed" vehicle is defined as a vehicle which is removed from the crash scene other than by means of its own power. For example, a vehicle which is reported by the police as towed out of a ditch and subsequently driven away, is not considered a towed vehicle.

A vehicle which is driven from the scene and subsequently becomes disabled due to crash-related damage, such that towing is then required, is not a towed vehicle (even though that towing may be reported on the police report). Carefully scrutinize the PAR to determine the disposition of the vehicle directly from the scene and, if towing is indicated, the reason for the towing. If after the crash, a vehicle is pushed (by hand or by another vehicle) then consider the vehicle as a towed vehicle.

When a police report indicates that more than one event has occurred (i.e., stabilization is apparent), the disposition of this vehicle is based upon the event sequence selected for stratification. In other words, if the PAR indicates this vehicle was towed from the scene, and a researcher determines from the PAR that towing was not due to the damage sustained during this sequence, the correct response for this variable is Not towed due to vehicle damage.

When the PAR indicates that this vehicle was towed from the scene and it cannot be determined whether or not the towing was due to damage, the default response for this variable is Towed due to vehicle damage.

Range: 1 - 2, 11, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Not towed due to vehicle damage	1
Selected when:--the PAR indicates this vehicle was not towed from the scene, or--the PAR indicates this vehicle was towed from the scene but not due to crash-related disabling damage.	
Towed due to vehicle damage	2
Selected when:--the PAR indicates this vehicle was towed from the scene due to crash-related disabling damage or--the PAR indicates this vehicle was towed from the scene and a researcher cannot determine (from the PAR) if the towing was due to crash-related disabling damage.	
No PAR obtained (created)	-1111
No police accident report was created.	
Unknown	-9999
Select this attribute when the investigating officer reported that the disposition of the vehicle was unknown at the time the PAR was completed. Also, use this attribute if the PAR indicates the vehicle was abandoned. However, if the police report specifies that the vehicle was disabled due to crash-related damage, as well as indicating "unknown" , "abandoned" or blank for the disposition, it can be assumed that the vehicle will eventually be towed from the scene. In these instances, enter Towed due to vehicle damage	

Sources:

PAR

General Vehicle

Screen Name: BAC Test Source Official Records

Field Variable: DRIVER_HEALTH.ALCOHOL_TEST_SOURCE

Label: BAC Test Source Official Records

Remarks

This element value documents the source of BAC test results. These results must come from official medical records or PAR (or PAR related documents). Do not record results from other than official documents without Zone Center approval. If the delay between the crash time and the time of the BAC test is greater than 12 hours enter "No BAC test" (but note special rules for fatal victims under ALCOHOL_TEST_TIME).

Range: 1 - 4, -1111, -8888, -9995, -9996, -9997, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No BAC test Used when no BAC test has been administered.	1
Medical Record Used when the source of the BAC test is a medical record (including autopsy report)	2
Police Reported Used when the BAC test result is reported on the police report or in the investigating officer's supplementary notes.	3
Other (specify) : Used when test results are obtained from sources other than the police report and medical records. An example is a verbal BAC from an official source.	4
No driver present	-8888
Test refused Select this attribute when credible sources indicate the driver refused a breath or blood test for alcohol presence.	-9995
Unknown if tested Use this choice when it cannot be determined if a BAC test was administered.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

General Vehicle

Screen Name: BAC Test Result

Field Variable: DRIVER_HEALTH.ALCOHOL_TEST_RESULT

Label: BAC Test Result

Remarks

Record the Blood Alcohol Content (BAC) test results. These results must come from official medical records or PAR (or PAR related documents). Do not record results from other than official documents without Zone Center approval. Alcohol is metabolized/excreted at the average rate of 0.015% per hour. Before recording results, check the time of the breath test or blood draw. If the breath test is performed or the blood is drawn more than eight hours after the crash, the results will have little value but are to be recorded.

If a breath test is performed or blood is drawn more than twelve hours after the crash, the results are invalid and must not be entered (but note special rules for fatal victims under ALCOHOL_TEST_TIME).

Range: Range 0- 0.49; Warning >0.39, -8888,-9995, -9996, -9997, -9999

Method: Enter a value _____

Element Attributes:

	Field Value
No driver present	-8888
Unknown if tested	-9999
Use this attribute in instances when it cannot be determined if a BAC test was administered.	
Test refused	-9995
Select this attribute when credible sources indicate the driver refused a breath or blood test for alcohol presence.	
BAC test performed, results unknown	-9997
Use this attribute in instances when the researcher can determine a BAC test was performed but is unable to obtain the results.	

Sources:

PAR
MEDICAL RECORDS

General Vehicle

Screen Name: BAC Test Time (HH:MM)

Field Variable: DRIVER_HEALTH.ALCOHOL_TEST_TIME

Label: BAC Test Time (HH:MM)

Remarks

Record the time of BAC test administration. This information may be difficult to obtain. Examine all records for the time of the blood draw or breath test. This time may be found on medical records, PARs or other official records. If the time of test or blood draw is unknown, enter "BAC test performed, time unknown"

If a test is administered more than 12 hours after the time of the crash while the driver is alive, enter "No BAC test".

If the driver has died, use the following protocol:

Test administered prior to death - Enter test time

Died prior to test administered - Enter time of death as test time

Range: 0001-2400, 5555, 8888, 9995, 9996, 9997, 9999

Method: Enter time ____:____

Element Attributes:

	Field Value
No PAR obtained (created) No police accident report was created.	5555
No driver present	8888
Test refused Select this attribute when credible sources indicate the driver refused a breath or blood test for alcohol presence.	9995
No BAC test Use this attribute when it is determined that no BAC test was performed at any time after the crash.	9996
BAC test performed, time unknown Use this attribute in instances when the researcher can determine a BAC test was performed but is unable to obtain the results.	9997
Unknown if tested Use this attribute for instances when it cannot be determined if there was a BAC test administered.	9999

Sources:

PAR

MEDICAL RECORDS

General Vehicle

Screen Name: Test Delay

Field Variable: DRIVER_HEALTH.ALCOHOL_TEST_DELAY

Label: Time delay between crash and alcohol test

Remarks

Time between the time of the crash and the time blood was drawn or breath test administered.

This variable is autocalculated by subtracting CRASH.TIME from DRIVER_HEALTH.ALCOHOL_TEST_TIME.

Range: 0.08 - 12 hrs

Method: System generated value

Element Attributes:

**Field
Value**

No driver present

-8888

Used when there is no driver in the driver's seated position of the vehicle at the time of the crash.

Test refused

-9995

Select this attribute when credible sources indicate the driver refused a breath or blood test for alcohol presence.

No BAC test

-9996

Use this attribute when it can be determined that no BAC test was administered.

BAC test performed, delay unknown

-9997

Use this attribute in instances when the researcher can determine a BAC test was performed but is unable to obtain the results. This attribute is also used when the test results are known, but the time the test was administered is unknown.

Unknown if tested

-9999

Used when there is insufficient information to make a determination.

General Vehicle

Screen Name: Stability of Vehicle

Field Variable: PRECRASHVEHICLE.STABILITY

Label: Pre-impact stability of vehicle

Remarks

The purpose of this variable is to assess the stability of the vehicle after the critical event but before the impact.

The stability of the vehicle prior to an avoidance action is not considered except in the following situation: A vehicle that is out of control (e.g., yawing clockwise) prior to an avoidance maneuver is coded Other control loss (specify) only if an avoidance action was taken in response to an impending danger. Thus, this variable focuses upon this vehicle's dynamics after the critical event.

It is important to correctly analyze the tire marks at the scene to determine skidding vs full ABS application. ABS application causes tire marks that are the full width of the tire but with short intermittent light and dark areas.

Range: 1-5, -8888, -9999

Method: Fill a single item

Element Attributes:

	Field Value
Tracking/stationary	1
Used whenever there is no brake lockup and the vehicle continues along its intended path without rotation. Stopped, slowing, turning, or accelerating to avoid a rear-end collision are examples.	
Skidding longitudinally->rotation less than 30 degrees	2
Used whenever there is brake lockup or whenever skid or yaw marks are apparent without brake lockup (braking or non-braking) and rotation is less than 30 degrees clockwise or counterclockwise. If there is no information to support rotation greater than or equal to 30 degrees, then use this element.	
Skidding laterally->clockwise rotation	3
Used whenever the vehicle rotates clockwise, relative to the driver's seating position. The vehicle must rotate 30 degrees or more. This element also applies when the driver attempts a steering input (i.e. swerves right), but the vehicle rotates clockwise.	
Skidding laterally->counterclockwise rotation	4
Used whenever the vehicle rotates counterclockwise, relative to the driver's seating position. The vehicle's center of gravity path of travel must be at least 30 degrees or more from the vehicle heading angle. This element also applies when the driver attempts a steering input (i.e. swerves left), but the vehicle rotates counterclockwise.	
Other control loss (specify) :	5
is selected when a driver loses control of a vehicle prior to the critical event.	
No driver present	-8888
Used when no driver is present in the vehicle at the time it was involved in the crash.	
Pre-crash stability unknown	-9999
Used whenever the stability of the vehicle (after the critical event) cannot be determined.	

Sources:

SCENE INSPECTION
REVIEWER ASSESSMENT

General Vehicle

Screen Name: Location On Trafficway

Field Variable: PRECRASHVEHICLE.LOCATION

Label: Preimpact location on trafficway

Remarks

This variable reports the location of the subject vehicle after the critical event but prior to impact. The responses for this variable must relate directly to the response coded for pre-impact stability.

Range: 1,2,3,4,5,6,7,-8888,-9999

Method: Fill a single item

Element Attributes:

**Field
Value**

Stayed in original travel lane

1

Used whenever the vehicle remains within the boundaries of its initial travel lane. The perimeter of the vehicle is to be considered when determining the vehicle's status within its travel lane.

Stayed on roadway but left original travel lane

2

Coded whenever the "majority" of the vehicle departs its initial travel lane; however, the "majority" of the vehicle remains within the boundaries of the roadway (travel lanes). The perimeter of the vehicle is to be considered when determining the vehicles status within the roadway.

Stayed on roadway, not known if left original travel lane

3

Used whenever it cannot be ascertained whether the "majority" of the vehicle remains within its initial travel lane. To use this code, the "majority" of the vehicle must remain within the boundaries of the roadway.

Departed roadway

4

Used whenever the "majority" of the vehicle departs the roadway as a result of a precrash motion. The roadway departure must not be related to the post impact trajectory of a crash within the roadway.

Remained off roadway

5

Used whenever the precrash motion occurs outside the boundaries of the roadway. This includes traveling on the shoulders, within the median, on the roadside, or off the trafficway.

Returned to roadway

6

Used whenever the "majority" of the vehicle is on the roadway, departs the roadway and then returns to the roadway during precrash motion.

Entered roadway

7

Used whenever the vehicle is not previously on the roadway and then the majority of the vehicle enters the roadway during precrash motion.

No driver present

-8888

Used when no driver is present in the vehicle at the time it is involved in the crash.

Unknown

-9999

Used whenever the precrash motion of the vehicle cannot be determined.

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Right of Way

Field Variable: PRECRASHVEHICLE.RIGHT_OF_WAY

Label: Did this vehicle have right of way

Remarks

This variable establishes vehicle right-of-way characteristics, from a legal perspective, for the subject vehicles first impact. Specifically, did this vehicle have the right-of-way? Appropriate responses may require interpretation of both State Vehicle and Traffic laws as well as local ordinances.

Range: 1-2, -8888, -9997, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No Used when the subject vehicle does not have the right-of-way as defined from a legal perspective.	1
Yes Used when the subject vehicle has the right-of-way as defined from a legal perspective.	2
No driver present	-8888
Not Applicable Used when right-of-way considerations are not applicable to the circumstances of this crash. Two examples would be rear-end impacts and single vehicle run-off-road scenarios.	-9997
Unknown Used when there is insufficient information to determine right-of-way considerations.	-9999

Sources:

SCENE INSPECTION
REVIEWER ASSESSMENT

General Vehicle

Screen Name: Cargo Spillage

Field Variable: PRECRASHVEHICLE.PRE_CRASH_SPILL

Label: Pre-crash cargo spillage

Remarks

This element value establishes the occurrence of cargo spillage during the pre-crash phase.

Range: 1-3, -8888, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No cargo Reserved for circumstances where the vehicle configurations are not regarded as legitimate "over-the-road" configurations, and for vehicles that are carrying no cargo.	1
No precrash cargo spillage Used when this vehicle is carrying cargo, but does not experience a precrash loss of any cargo.	2
Yes (specify): Used when pre-crash cargo spillage occurs. Specify the type of cargo that spilled and the total proportion of the cargo that spilled. Also estimate the percentage of the cargo that spilled.	3
No driver present	-8888
Unknown Used when there is insufficient information to determine if precrash cargo spillage occurred.	-9999

Sources:

VEHICLE INSPECTION

General Vehicle

Screen Name: Travel Lane

Field Variable: PRECRASHVEHICLE.TRAVEL_LANE

Label: Travel Lane

Remarks

This variable assesses the location of the vehicle prior to the critical envelope. Select the attribute which best describes the predominant lane of the vehicle during that time period.

Range: 1-5, -8888,-9997, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Lane one (right curb lane) Right curb or road edge lane in direction of traffic flow.	1
Lane two Second lane counting from right curb or road edge lane in direction of traffic flow.	2
Lane three Third lane counting from right curb or road edge lane in direction of traffic flow.	3
Lane four Fourth lane counting from right curb or road edge lane in direction of traffic flow.	4
Other (specify) : Specify the lane (counting from right curb or road edge lane in direction of traffic flow) if above categories do not apply.	5
No driver present No driver present at time of crash.	-8888
Not applicable	-9997
Unknown Used when the vehicle's travel lane prior to entering the critical envelope is unknown.	-9999

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Relation to Junction

Field Variable: PRECRASHVEHICLE.RELATION_TO_JUNCTION

Label: Relation to Junction

Remarks

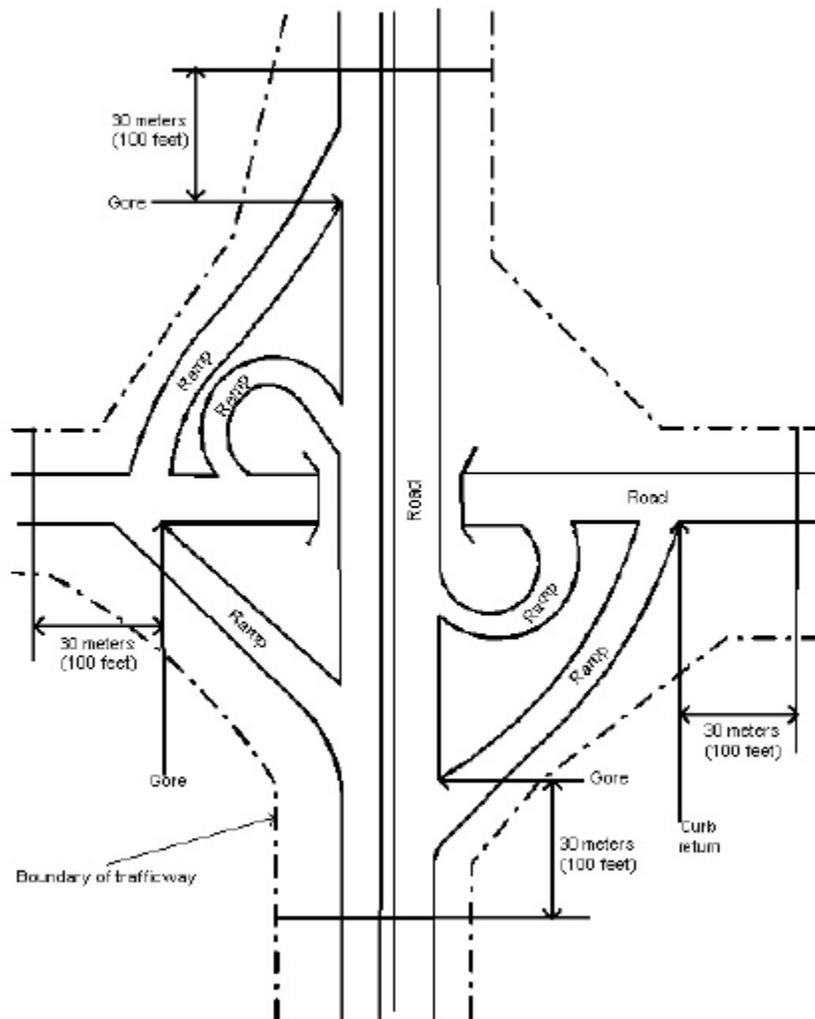
A junction is, in general, the area formed by the connection of two roadways. It includes:

- (1) all at-grade intersections [ANSI D16.1 - 1989 section 2.5.11, page 22],
- (2) connections between a driveway access or alley access and a roadway which is not a driveway access or an alley access,
- (3) connections between two alley accesses or driveway access, or
- (4) a connection between a driveway access and an alley access.

An interchange is the area around a grade separation (ANSI D16.1 - 1989, section 2.5.14) which involves at least two trafficways. Included within its boundaries are:

- (1) all ramps which connect the roadways; and
- (2) each roadway entering or leaving the interchange to a point 30 meters (100 feet) beyond the gore or curb return at the outermost ramp connection for the roadway.

Included within an interchange area are intersections, driveway accesses, and roadway sections which are non-junction.



General Vehicle

Screen Name: Relation to Junction

Field Variable: PRECRASHVEHICLE.RELATION_TO_JUNCTION

Element Attributes:

	<u>Field Value</u>
Non-junction Used when this vehicle's environment just prior to the critical precrash event is a noninterchange area and is not within an intersection or related to an intersection.	1
Intersection Used when this vehicle's environment just prior to the critical precrash event is in a noninterchange area, is in an intersection, and results from an activity, behavior, or control related to the movement of traffic units through the intersection.	2
Intersection related Used when this vehicle's environment just prior to the critical precrash event is in a noninterchange area, is in an approach to or exit from an intersection, and results from an activity, behavior, or control related to the movement of traffic units through the intersection.	3
Driveway, alley access, etc. Used when this vehicle's environment just prior to the critical precrash event is in a noninterchange area, is in a driveway or alley access, and results from an activity or behavior related to the movement of traffic units through the driveway/alley access.	4
Entrance/exit ramp related Used when this vehicle's environment just prior to the critical precrash event is in a noninterchange area; is in an approach to exist from, or on an entrance/exit ramp; and results from an activity or behavior related to movement of traffic units through the ramp.	5
Rail grade crossing Used when this vehicle's environment just prior to the critical precrash event is in a noninterchange area and is either in, approaching, or exiting from a rail grade crossing.	6
In crossover Used when this vehicle's environment just prior to the critical precrash event is in a noninterchange area and is in a crossover. A crossover is a designated opening within a median used primarily for "U" turns. To be considered, the nearest lateral boundary line of the crossover must be greater than 10 meters (33 feet) from the nearest lateral boundary line of any roadway which intersects with either of the roadways which the median divides.	7
Unknown, non interchange Used when this vehicle's environment just prior to the critical precrash event is in a noninterchange area, however, there is insufficient information to establish other relevant characteristics of the location.	8
Interchange-Intersection Used when this vehicle's environment just prior to the critical precrash event is in an interchange area, is in an intersection, and results from an activity, behavior, or control related to the movement of traffic units through the intersection.	9
Interchange-Intersection related Used when this vehicles' environment just prior to the critical precrash event is in an interchange area, is in an approach to or exit from an intersection, and results from an activity, behavior or control related to the movement of traffic units through the intersection.	10

General Vehicle

Screen Name: Relation to Junction

Field Variable: PRECRASHVEHICLE.RELATION_TO_JUNCTION

Interchange-Driveway, alley access, etc.	11
Used when this vehicle's environment just prior to the critical precrash event is in an interchange area, is in a driveway, and results from an activity or behavior related to the movement of traffic units through the driveway or similar type of access.	
Interchange-Entrance/exit ramp related	12
Used when this vehicle's environment just prior to the critical precrash event is in an interchange, is in an approach to, exit from, or on an exit/entrance ramp; and results from an activity or behavior related to movement of traffic units through the ramp.	
Interchange-In crossover	13
Used when this vehicle's environment just prior to the critical precrash event is in an interchange and is in a crossover. A crossover is a designated opening within a median used primarily for "U" turns. To be considered, the nearest lateral boundary line of the crossover must be greater than 10 meters (33 feet) from the nearest lateral boundary line of any roadway which intersects with either of the roadways which the median divides.	
Interchange-Other location in interchange(specify) :	14
Used when this vehicle's environment just prior to the critical precrash event is in an interchange and is in a location other than is specified by codes 10 - 14 above.	
Unknown, interchange area	15
Used when this vehicle's environment just prior to the critical precrash event is in an interchange area, however, there is insufficient information to establish other relevant characteristics of the location.	
Unknown	-9999
Used when there is insufficient information to determine this vehicle's environment just prior to the critical precrash event. This code should be never be used in NMVCCS.	

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Relation to Roadway

Field Variable: PRECRASHVEHICLE.RELATION_ROADWAY

Label: Relation to Roadway

Remarks

The element value selected is based on the characteristics of this vehicle's roadway environment just prior to the critical precrash event.

Range: 1-8, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
On roadway Used when this vehicle's location just prior to the critical precrash event is within a designated travel lane.	1
Shoulder Used when this vehicle's location just prior to the critical precrash event is on the shoulder of the roadway. The shoulder area does not have to be paved to be considered a shoulder. This area, however, must be stabilized and graded. Non-stabilized areas adjacent to the roadway are considered to be the part of the roadside area.	2
Median Used when this vehicle's location just prior to the critical precrash event is in the median strip that physically divides the trafficway. The division may be unprotected (e.g., vegetation, gravel, paved medians, painted medians, trees, water, embankments, ravines, etc.) or may be protected (e.g., concrete, metal, or other types of longitudinal barriers). Painted flush areas must be 1.2 m in width to constitute a median strip.	3
Roadside Used when this vehicle's location just prior to the critical precrash event is in the area between the outside edge of the shoulder and the right-of-way boundary. If there is no shoulder, the roadside area is defined as that area between the outside edge of the roadway and the right-of-way boundary.	4
Outside right-of-way Used when this vehicle's location just prior to the critical precrash event is outside/beyond the right-of-way boundary.	5
Off roadway - location unknown Used when there is insufficient information to accurately locate this vehicle's position off the roadway just prior to the critical precrash event. There is sufficient information, however, to determine that this vehicle was off the roadway at the time of interest.	6
In parking lane Used when this vehicle's location just prior to the critical precrash event is in a parking lane located outboard of the travel lanes. The parking lane may be an officially designated lane delineated by appropriate markings or may be established by customary usage without specific delineation.	7
Gore Used when this vehicle's location just prior to the critical precrash event is in the area separating the travel lanes from an exit/entrance ramp/roadway. The gore area must be tapered and begins/end where the ramp/roadway separates from/joins the travel lanes.	8
Unknown Used when there is insufficient information to determine this vehicle's location just prior to the critical precrash event.	-9999

General Vehicle

Screen Name: Relation to Roadway

Field Variable: PRECRASHVEHICLE.RELATION_ROADWAY

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Lighting

Field Variable: PRECRASHVEHICLE.NATURAL_LIGHTING

Label: Natural Lighting

Remarks

The light condition best representing the precrash conditions at the time of the crash is selected based on ambient and artificial sources.

Range: 1-5, 9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Daylight	1
Dark	2
Used when the crash occurred after dusk and before dawn, and no artificial light source is present at the scene. This includes crashes occurring in tunnels or in underpasses.	
Dark, but lighted	3
Used when the crash occurred after dusk and before dawn, and artificial light source(s) are present at the scene. This includes crashes occurring in tunnels or in underpasses.	
Dawn	4
Dusk	5
Unknown	-9999
Used when it cannot be reasonably determined what the light conditions were at the time of the crash.	

General Vehicle

Screen Name: Atmospheric Condition

Field Variable: ATMOSPHERIC_CONDITION.ATMOSPHERICCONDITION

Label: Atmospheric Condition

Remarks

Code all atmospheric conditions present at the scene. Each driver may experience different conditions in the crash.

Range: 2, 3, 4, 5, 6, 7, 8, 9, -8841, -8888, -9999

Method: Fill all that apply

General Vehicle

Screen Name: Atmospheric Condition

Field Variable: ATMOSPHERIC_CONDITION.ATMOSPHERICCONDITION

Element Attributes:

Field Value

Clear--No adverse conditions

-8841

Used when no meteorological conditions present at time of the crash which affected visibility or road surface.

Cloudy

2

Used when the sky is cloud covered, reducing the ambient light without precipitation conditions.

Snow

3

Used when the precipitation falling at the time of the crash is predominately in the form of translucent ice crystals originating in the upper atmosphere as frozen particles of water vapor. Accumulation is not necessary to select this attribute.

Fog, smog, smoke

4

Used when condensed water vapor, in cloud-like masses, is close to the ground limiting visibility at the time of the crash scene. This attribute is also used for heavy smog presence. Heavy is defined as enough to limit visibility.

Rain

5

Used when the precipitation falling at the time of the crash is predominately in the form of water droplets

Sleet, hail (freezing rain or drizzle)

6

Used when the precipitation meets the definition of sleet or hail. Sleet forms in the winter as raindrops freeze on their descent toward the ground. Since the drops are not bounced up and down inside the cloud, sleet cannot grow in size like hail, and typically reaches the ground as small pellets of ice.

Hail typically forms in violent thunderstorms when raindrops can accumulate many layers of ice while bouncing up and down within the storm. This can result in large hailstones.

Hail forms from thunderstorms, while sleet forms from winter storms.

Blowing snow

7

Used when the precipitation falling at the time of the crash is predominately in the form of translucent ice crystals originating in the upper atmosphere as frozen particles of water vapor. There must be significant wind at the time to select this attribute. Accumulation is not necessary to select this attribute.

Severe crosswinds

8

Used when a wind gust blowing at an angle to the path of the vehicle occurs prior to the crash. Straight on headwinds and tailwinds should not be used to select this attribute. If applicable, wind velocity may be obtained from the National Weather Service internet site.

Other (specify) :

9

Used when there is a relevant weather related factor that is not described in preceding elements. Specify the nature of this factor.

Unknown

-9999

Used when there is insufficient information to determine what weather conditions were present at the time of the crash.

Sources:

REVIEWER ASSESSMENT

General Vehicle

Screen Name: Restrictions to Trafficway Flow

Field Variable: TRAFFICWAYRESTRICT.TRAFFICWAY_RESTRICT

Label: Traffic restrictions

Remarks

This variable identifies pre-existing trafficway flow restrictions. These restrictions should be identified whenever present. Selection of specific elements does not imply that the restriction contributed to crash causation.

Range: 2-9, -8841, 9998, -9999, -8888

Method: Fill all that apply

General Vehicle

Screen Name: Restrictions to Trafficway Flow

Field Variable: TRAFFICWAYRESTRICT.TRAFFICWAY_RESTRICT

Element Attributes:

Field Value

No restrictions

-8841

Used when trafficway flow in this vehicle's travel direction is not restricted/slowed due to a pre-existing condition.

Work zone

2

Used when trafficway flow in this vehicle's travel direction is either slowed and/or diverted as a result of proceeding through a work zone. This element may also be used where a work zone established in opposing travel lanes either physically restricts trafficway flow in this vehicle's travel lanes or influences travel speed in this vehicle's travel lanes.

Roadway immersed

3

Used when trafficway flow in this vehicle's travel directions either slowed and/or diverted as a result of water accumulation in the travel lane. This element may also be used where water accumulation in adjoining/opposing lanes restricts trafficway flow in this vehicle's travel lane.

Prior crash

4

Used when trafficway flow in this vehicle's travel direction is either slowed and/or diverted as a result of a preceding crash. The preceding crash site may be located in this vehicle's travel lanes, in opposing travel lanes, in a median, or off the roadway.

Congested traffic

5

Used when trafficway flow in this vehicle's travel direction is slowed due to high volume traffic conditions (e.g., rush hour conditions).

Fog

6

Used when condensed water vapor, in cloud-like masses, is close to the ground limiting visibility at the time of the crash scene. This limiting of visibility must be sufficient to slow the traffic flow significantly. If the traffic has not slowed, this attribute should not be used.

Heavy snow

7

Used when the precipitation falling at the time of the crash is predominately in the form of translucent ice crystals originating in the upper atmosphere as frozen particles of water vapor. The snow must be heavy enough to limit visibility or restrict travel on the roadway, ie significant accumulation. This limiting of visibility or degrading of roadway quality must be sufficient to slow the traffic flow significantly. If the traffic has not slowed, this attribute should not be used.

Heavy rain

8

Used when the precipitation falling at the time of the crash is predominately in the form of water droplets and is heavy enough to restrict visibility or cause roadway immersion. If the traffic has not slowed, this attribute should not be used.

Dust storm

9

Used when trafficway flow in this vehicle's travel direction is slowed due to reduced visibility associated with a dust storm.

No driver present

-8888

Other (Specify) :

9998

Used when trafficway flow in this vehicle's travel direction is restricted for reasons other than noted in the other attributes.

General Vehicle

Screen Name: Restrictions to Trafficway Flow

Field Variable: TRAFFICWAYRESTRICT.TRAFFICWAY_RESTRICT

Unknown

-9999

Used when there is insufficient information to determine if trafficway flow restrictions existed at the time of the crash.

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Roadway Design Deficiencies

Field Variable: ROADWAY.ROADWAY_DEF

Label: Roadway design deficiencies

Remarks

CODE THE ATTRIBUTES FOR THIS VARIABLE BASED ON CALCULATIONS USING FIELD DATA.

Information related to crown rates, superelevation rates, and curve radius provided in the material that follows has been derived from the AASHTO manual. It should be noted that the material provided is considered to be part of a general guideline and a number of exceptions are permitted.

CROWN

Recommended cross slope rates (crown) vary by surface types. AASHTO considers surfaces which retain their shape (e.g., Portland cement, concrete, bituminous asphalt) to be high surface types. Low surface types (e.g., earth, gravel, crushed stone) are considered to be deformable. Table 4-4 shows the range of values applicable to each type of surface.

Table 4-4
Normal Traveled-Way Cross Slope (Crown Rate)

Surface Type	Range In Cross Slope Rates (%)
High	1.5 - 2
Low	2 - 6

In general, higher cross slope rates are recommended for low surface types to prevent the absorption of water into the surface. These higher slope rates, in effect, are allowed to satisfy drainage issues.

In areas receiving intense rainfall, somewhat steeper cross slope rates may be needed to facilitate drainage from high surface types traveled-ways. In such cases, the slope on high type pavements may be increased to 2.5 percent..... Where three or more lanes are provided in each direction, the maximum cross slope should be limited to 4 percent (assuming that the traveled-way is in an area receiving intense rainfall).

SUPERELEVATION RATES AND CURVE RADIUS

The most appropriate sequence to utilize information is to first establish the relevant speed limit of the curve at the crash site. Next, determine the superelevation of the curve (e.g., 4, 6, 8, 10, or 12 percent) and then determine if the curve radius (as measured at the curve apex) meets or exceeds the minimum radius for that design speed as recommended by AASHTO. The formula used to determine curve radius is as follows:

$$R = C^2/8M + M/2$$

where R = Radius
C = Chord (typically 100 ft.)
M = Middle ordinate

Range: 1-8, -9998, -9999

Method: Fill a single item

General Vehicle

Screen Name: Roadway Design Deficiencies

Field Variable: ROADWAY.ROADWAY_DEF

Element Attributes:

Field Value

No deficiencies noted	1
Inappropriate signage speeds Warning or regulatory signs are inappropriate for roadway condition or design.	2
Insufficient crown Roadway has insufficient crown for proper drainage. Water pools in travel lanes or wheel tracks.	3
Excessive crown	4
Insufficient super-elevation	5
Excessive super-elevation	6
Excessive curvature	7
No shoulder/ Breakdown lane	8
Other (specify) :	-9998
Unknown	-9999

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Trafficway Flow

Field Variable: ROADWAY.TRAFFICWAY_FLOW

Label: Trafficway Flow

Remarks

If the collision occurred other than in a junction, select the attribute on the basis of the most representative description of the characteristics of the vehicle's roadway environment just prior to the critical precrash event. If this is off the roadway, select the attribute on the basis of the most representative description of the roadway leading to the point of departure.

If the characteristic of the vehicle's roadway environment just prior to the critical precrash event is represented by the junction of two or more roadways, choose the trafficway flow on the basis of the most representative description of the approach leg to the junction for this vehicle.

A roadway is that part of a trafficway where vehicles travel. A divided trafficway is composed of two or more roadways. A trafficway which has a median that is designed as a two-way left turn lane is considered to be one roadway for lane identification purposes.

The Researcher selects the descriptor that best represents the vehicle's environment just prior to the critical precrash event. If the flow is designed to separate traffic, then choose accordingly.

Range: 1 - 5, -9999

Method: Fill a single item

General Vehicle

Screen Name: Trafficway Flow

Field Variable: ROADWAY.TRAFFICWAY_FLOW

Element Attributes:

Field Value

Not physically divided (two way traffic)

1

Use whenever there is no median or significant division of the opposing travel lanes. Generally, medians are not designed to legally carry traffic. NOTE: Although gores separate roadways, and traffic islands associated with channels, separate travel lanes, neither is considered a trafficway division.

Divided trafficway-median strip without positive barrier

2

Use whenever the trafficway is physically divided but not by a manufactured positive barrier. The division is unprotected. Vegetation, gravel, paved medians, trees, water, embankments and ravines that separate a trafficway are examples of this code.

NOTE: Raised curbed medians DO NOT constitute a positive barrier by themselves. The unprotected medians can be of any width, with the exception of painted paved flush areas which must be at least 1.2 meters in width to be coded as a median.

Divided trafficway-median strip with positive barrier

3

Used whenever the trafficway is physically divided. The division is protected by a concrete, metal, or other type of longitudinal barrier (i.e., all manufactured barriers). Also bridges or underpass support structures and bridge rails should be coded with this attribute.

One way traffic

4

Used whenever the trafficway is undivided and traffic flows in one direction (e.g., oneway streets). However, this attribute can also be selected where a median is present so long as all the traffic on the trafficway goes in the same direction. An example occurs where the opposing roadway of the same named trafficway had to be split by such a distance that the right-of-way divides to accommodate other property. If (rare) one of the trafficways is further divided into multiple roadways by a median, then in this instance One way trafficway should be selected. Included in this attribute are entrance and exit ramps.

Not physically divided with two-way left turn lane

5

Used whenever the trafficway is physically divided by a two-way left turn lane which is designed to allow left turns to driveways, shopping centers, businesses, etc., while at the same time providing a separation of opposing straight-through travel lanes.

Unknown

-9999

Used when the trafficway flow cannot determined (e.g., ongoing construction and movable traffic barriers have been moved or removed since the crash date).

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Number of Travel Lanes

Field Variable: ROADWAY.NUM_OF_TRAVEL_LANES

Label: Number of Travel Lanes

Remarks

The attribute is determined from the same roadway that was used to determine the Trafficway Flow. If traffic flows in both directions and is undivided, select the number of lanes in both directions. If the trafficway is divided into two or more roadways, select only the number of lanes for the roadway on which the vehicle under consideration was traveling. If turn bays, acceleration, deceleration, or center 2-way left turn lanes exist and are physically located within the cross section of the roadway, and these lanes are the most representative of the driver's environment just prior to the critical precrash event, then they are to be included in the number of lanes.

Channelized lanes are separated from other through or turn related lanes. (NOTE: The separation normally will not involve a physical barrier.) Because a channelized lane is separated, it should not be included unless it is preceded by a turn bay or turn lane and this bay or lane is felt to be most representative of the driver's environment just prior to impact.

The number of lanes counted does not include any of which are rendered unusable by restriction of the right-of-way (e.g., closed due to construction). Show lanes on the scaled diagrams and annotate why a lane is closed.

Only those lanes ordinarily used for motor vehicle travel should be considered when completing this variable (i.e., pedestrian/bicycle lanes are excluded). In a number of instances, there will be uncertainty as to the number of lanes due to:

- (1) nonstandard roadway widths;
- (2) variability of width in the same roadway due to disrepair and other reasons; or
- (3) absence of lane, center, and edge lines, etc. The number selected in these cases should represent the number of operational lanes based on customary or observed usage.

On a road that has legal parking such that the legal parking area ends short of the junction of the roadway with another roadway or drive; and the space left between the end of the legal parking area and the beginning of the junction can be utilized for turning by a vehicle on the roadway, do not consider this additional area as another travel lane (regardless of customary or observed usage in this instance).

This area should be construed as additional width to the existing travel lane(s). The only time that another lane will be counted at a junction is when that space is expressly designated for turning, e.g., by lane (line or turn arrow) marking, signs or signals.

The number of lanes for driveways, wide-mouth parking lots, etc. should be selected as follows:

If it is possible to determine the number of lanes through either lane markings or observed or customary use, select the actual number of lanes present.

If the number of lanes cannot be accurately established, select Unknown.

If the vehicle was on or in a driveway [see Relation to Junction, definitions for Driveway, alley access related, or in a crossover (primarily designed as an opening in a median used for "U" turns)] which is in essence a private way, select the number of lanes for that vehicle.

Range: 1 - 7, -9999

Method: Fill a single item

General Vehicle

Screen Name: Number of Travel Lanes

Field Variable: ROADWAY.NUM_OF_TRAVEL_LANES

Element Attributes:

Field Value

One

Use when there is one travel lane.

1

Two

Use when there are two travel lanes.

2

Three

Use when there are three travel lanes.

3

Four

Use when there are four travel lanes.

4

Five

Use when there are five travel lanes.

5

Six

Use when there are six travel lanes.

6

Seven or more

Use when there are seven or more travel lanes.

7

Unknown

Used when it is unable to be determined how many travel lanes were present when the crash occurred.

-9999

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Rumble Strip Present
Field Variable: ROADWAY.RUMBLE_STRIP

Label: Rumble strip present

Remarks

Rumble strips are pavement irregularities installed to warn drivers of lane or roadway departures. Other uses are to warn drivers on approach to toll plazas, T-type intersections or construction zones. They are generally installed on high-speed trafficways such as limited access highways. Please be careful not to confuse Bott Dots (the raised white travel lane dots) with rumble strips. These are generally used as lane or roadway edge markers. Occasionally this type of marker will be used in gore areas.

Predominantly, rumble strips are used on the shoulders of roadways. The most common use is on the shoulders of the Interstate Highway system and high speed divided trafficways. Less common is use on shoulders of rural roads that have had a high frequency of run off road crashes.

Occasionally they have uses within the roadway:

- 1) Used under the center double yellow lane line to warn drivers of lane drift. Usually this situation occurs in a curve or approach to a curve
- 2) To warn driver when approaching toll booths.
- 3) To warn driver of dangerous intersections (usually approach to T intersections or on high speed trafficways).
- 4) On approaches to construction zones.
- 5) Within the travel lanes on a multi lane road to warn of lane drift.

Use in the traffic way usually involves a traffic study because of the noise factor they create. They would not likely be used in a residential area because of this. States have individual policies on when rumble strips are used, so the researchers might want to research their individual state policies regarding rumble strips.

Some States actually paint the rumble strips as an added visual safety feature in addition to the noise they create. Painted stripes on rumble strips are known as Rumble Stripes.

Range: 1,2,3,4,8,-9999

Method: Fill a single item

General Vehicle

Screen Name: Rumble Strip Present
Field Variable: ROADWAY.RUMBLE_STRIP

Element Attributes:	Field Value
No rumble strip present used when there is no rumble strip present in this vehicle's travel direction. Rumble strips for the opposite direction of travel are not considered for this variable.	1
Right roadside rumble strip present Used when there is a rumble strip on the shoulder adjacent to the right side of the road.	2
Left roadside rumble strip present Used when there is a rumble strip (depressed or raised) present on the shoulder adjacent to the left side of the travel lane. Only relevant for travel in that direction, not for opposing traffic.	3
Both roadsides rumble strip present Used when a rumble strip (depressed or raised) is present on the should adjacent to both travel lanes.	4
Other (specify) : Used primarily where there is a rumble strip for the opposite direction of travel lane(s). This vehicle crosses the roadway and partially or completely exits the opposite travel direction lanes. Specify the type of rumble strip (e.g., raised/depressed), the degree of roadway departure (e.g., partial or full), and if this vehicle engaged/crossed the rumble strip. Rumble strips that are within the roadway are included here. Some examples include: 1) Used under the center double yellow lane line to warn drivers of lane drift. Usually this situation occurs in a curve or approach to a curve 2) To warn driver when approaching toll booths. 3) To warn driver of dangerous intersections (usually approach to T intersections or on high speed trafficways). 4) On approaches to construction zones. 5) Within the travel lanes on a multi lane road to warn of lane drift.	8
Unknown	-9999
Sources: SCENE INSPECTION	

General Vehicle

Screen Name: Type of Road Surface
Field Variable: ROADWAY.SURFACE_TYPE

Label: Type of road surface

Remarks

This element attribute is determined from the same roadway which was used to determine the Trafficway Flow. If the lateral cross section contains lanes of more than one surface type, select the surface type of the lane the driver's vehicle was traveling on just prior to this vehicle's critical precrash event.

Range: 1-5, -9998, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Concrete Used when the road surface is made of a material consisting of a conglomerate of gravel, pebbles, broken stone or slag, in a mortar or cement matrix.	1
Bituminous (asphalt) Used when the road surface is made of a product obtained by the distillation of coal and petroleum. Also referred to in non-technical terms as "blacktop".	2
Brick or block Used when the road surface is constructed of paving stone (e.g. cobblestone, paving bricks, etc.).	3
Slag, gravel, or stone Used when the road surface is constructed of a loose material primarily consisting of the elements of slag, gravel or stone.	4
Dirt Used when the improved road surface is made of a natural earthen surface.	5
Other (Specify) : Selected when a material such as wood or metal is used for the road surface.	-9998
Unknown Used when the surface type is unknown.	-9999

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Condition of Road Surface
Field Variable: ROADWAY.SURFACE_CONDITION

Label: Condition of road surface

Remarks

This variable captures the surface condition in the Pre-Crash area. It is possible for different surface conditions to exist on the same roadway (e.g., intermittent wet and dry sections). The researcher should select the condition most representative of the roadway immediately prior to this vehicle's critical precrash event.

Range: 1 - 8, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Dry Used when road surface is dry and clear of surface contaminants	1
Wet Used when roadway is wet, no water standing	2
Standing water (1/4 inch or deeper) Use this attribute when there is standing water (puddles or the roadway is completely covered) at least 1/4 inch deep on the roadway.	3
Snow covered Used when roadway is partial or wholly covered in snow--packed or loose	4
Slush Used when roadway is partially or wholly covered with melting snow/ice/slushy conditions	5
Ice Used when roadway is partially or wholly covered with sheet ice (packed)	6
Sand, dirt Selected when this attribute is present on another road surface. (i.e. a dirt road would not receive this attribute solely due to presence). If the sand, or dirt occurs in combination with moisture conditions Wet, Snow or Slush, or Ice, then select the moisture condition.	7
Other (specify) : Used when roadway is covered with liquid surface contaminant such as oil, diesel fuel,etc.	8
Unknown	-9999

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Roadway Horizontal Alignment

Field Variable: ROADWAY.ROADWAY_ALIGN

Label: Roadway horizontal alignment

Remarks

This element is determined from the same roadway which was used to determine Trafficway Flow. Select the descriptor that best represents the vehicle's environment just prior to this vehicle's critical pre-crash event. Any perceptually determined curvature of a roadway constitutes a curve.

Range: 1-3, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Straight	1
Refers to a roadway which has no perceptually determined curvature.	
Curve right	2
Refer to a perceptually determined curvature of a roadway. The vehicle's direction of travel determines whether the curvature is right or left.	
Curve left	3
Refer to a perceptually determined curvature of a roadway. The vehicle's direction of travel determines whether the curvature is right or left.	
Unknown	-9999
Used when it is unable to be determined what the alignment of the roadway is.	

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Roadway Vertical Profile

Field Variable: ROADWAY.ROADWAY_VERT_PROFILE

Label: Roadway vertical profile

Remarks

The element attribute is determined from the same roadway which was used to determine TrafficwayFlow. Measure the area most representative of the pre-crash environment. To determine the grade, the vertical measurement is divided by the horizontal value; the result is a percentage value of the grade.

Range: 1-5, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Level Selected when the roadway surface tangent gradient is less than or equal to 2%. [i.e. vertical divided by horizontal (vertical / horizontal)]	1
Uphill grade (>2%) Selected when the roadway profile is uphill or positive, relative to the direction of travel of this vehicle.	2
Hill crest Select when the roadway surface is in vertical transition between two points of tangency at the top of a hill.	3
Downhill grade (>2%) used when the roadway profile is downhill or negative, relative to the direction of travel for this vehicle.	4
Sag Select when the roadway surface is in vertical transition between two points of tangency at the bottom of a slope.	5
Unknown Used when the researcher cannot determine the vertical profile of a road. This should never occur in NMVCCS.	-9999

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Access Control

Field Variable: ROADWAY.ACCESS_CONTROL

Label: Access control

Remarks

This attribute is determined for the same roadway described in the Number of Travel Lanes variable (GV24). The intent here is to describe the level of control maintained for vehicles attempting to enter/exit the roadway.

Range: 1-3, -9999

-

-

Method: Fill a single item

Element Attributes:

**Field
Value**

Full control

1

Used to describe the circumstance where vehicles are only permitted to enter/exit this roadway at designated interchange areas (i.e., no at grade intersections or commercial/private driveway access).

No control

2

Used to describe the circumstance where vehicle's are permitted to enter/exit the roadway from at grade intersections, driveways, alley accesses, and other similar entrances/exists.

Other (Specify) :

3

Used to describe circumstances where partial control of entering/existing vehicles is maintained (e.g., at grade intersections, but no commercial/private driveway access).

Unknown

-9999

Used when there is insufficient information to establish the level of vehicle control maintained on this roadway.

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Radius of Curvature

Field Variable: ROADWAY.RADIUS_CURVATURE

Label: Radius of curvature

Remarks

Value is automatically generated from length of chord and middle ordinate values.

Radius of Curvature is measured at the apex of the curve.

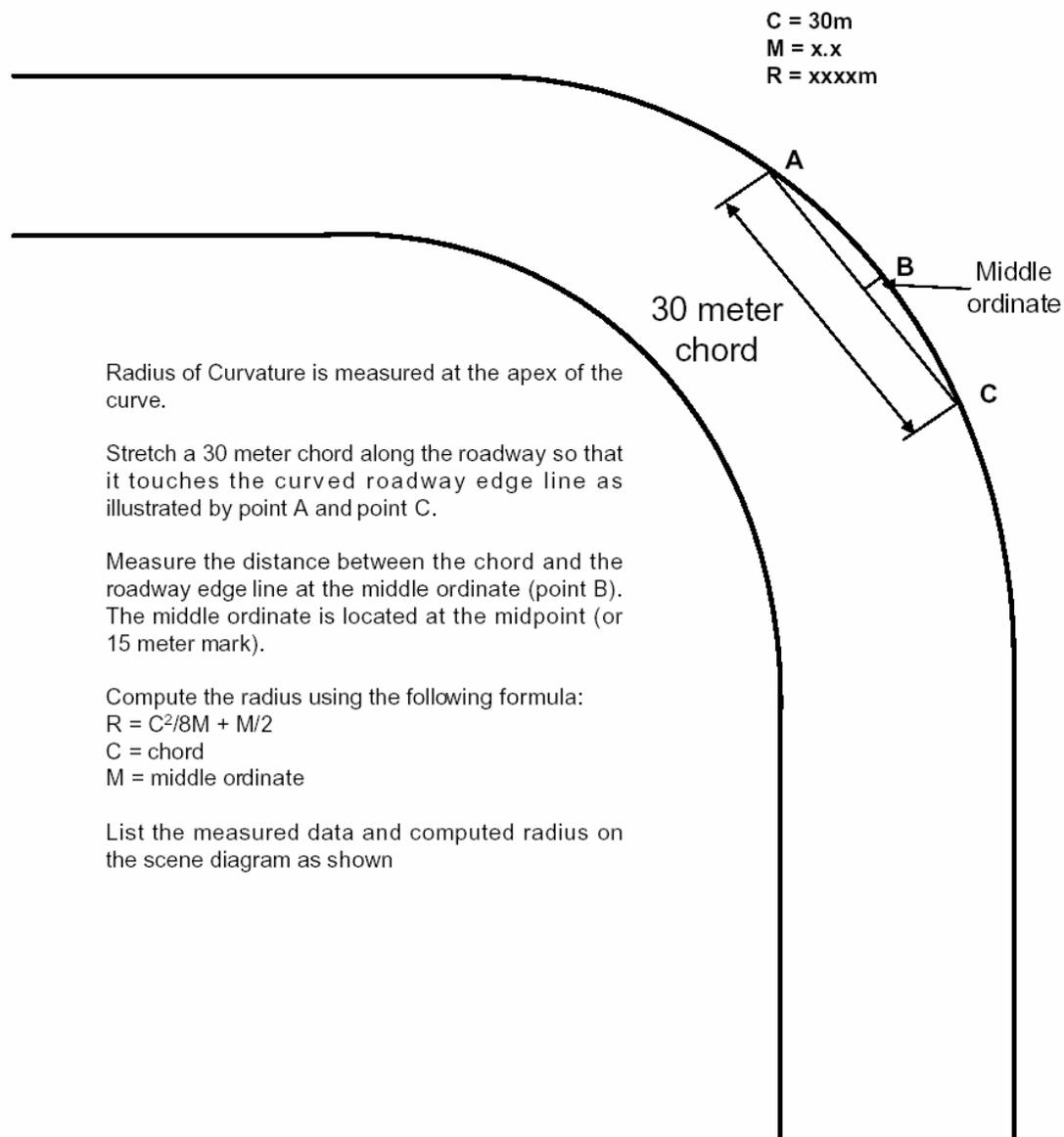
The radius will be computed by the system using the following formula:

$$R = C^2/8M + M/2$$

C = chord

M = middle ordinate

Procedure for Measuring Radius of Curvature



General Vehicle

Screen Name: Radius of Curvature

Field Variable: ROADWAY.RADIUS_CURVATURE

Range: -9997, -9999

Method: System calculated value

Element Attributes:

**Field
Value**

Unknown

-9999

Not applicable

-9997

General Vehicle

Screen Name: Superelevation

Field Variable: ROADWAY.SUPERELEVATION

Label: Superelevation

Remarks

System calculated value in % using the following formula and variables:

Change in height (cm)/Level length (cm)*100.

This measurement is recorded as (+/-) relative to the vehicle direction of travel. If the roadway slopes down from the inside to the outside of the curve, record this as a negative value.

Range: 0 to +/-17, -9997, -9999

Method: System calculated value

Element Attributes:

Unknown

Unknown

Not applicable

**Field
Value**

-9999

-9997

General Vehicle

Screen Name: Traffic Devices/Controls

Field Variable: TRAFFICCONTROLDEVICE.TRAFFIC_CONTROL_DEVICE

Label: Traffic Devices/Controls

Remarks

This variable is determined from the same roadway used to define the Trafficway flow and Travel lane. The Researcher should code all traffic signs or signals. This variable measures the above-ground traffic control(s) which regulate vehicular traffic. Excluded are any controls which solely regulate pedestrians (e.g. wait/walk signals).

Focus on the road segment just prior to the location of the critical pre-crash event and select the traffic control device which is present. In-junction crashes should be based on the presence of a traffic control device for the roadway that the vehicle is traveling.

Please note the following information for assistance in coding the correct attributes:

Regulatory signs Give notice of traffic laws or regulations.

Warning signs Call attention to conditions on, or adjacent to, a highway or street that are potentially hazardous to traffic operations.

Guide signs Show route designations, destinations, directions, distances, services, points of interest, and other geographical recreational or cultural information.

Signs come in standard shapes.

The octagon is exclusively used for the STOP sign.

The equilateral triangle, with one point downward, is used exclusively for the YIELD sign.

The round shape is used for the advance warning of a railroad crossing and for the civil defense evacuation route marker.

The pennant shape, an isosceles triangle, with its longest axis horizontal, is used to warn of no passing zones.

The diamond shape is used only to warn of existing or possible hazards either on or adjacent to the roadway or adjacent thereto.

The (vertical) rectangle, ordinarily with the longer dimension vertical, is used for regulatory signs, with the exception of STOP signs and YIELD signs.

The (horizontal) rectangle, ordinarily with the longer dimension horizontal is used for route markers and recreational area guide signs.

The pentagon, point up, is used for School Advance and School Crossing signs.

Other shapes are reserved for special purposes; for example, the shield or other characteristic design for route markers and crossbuck for railroad crossings.

Signs can be distinguished by their color. The following general rules apply:

Red is used as a background color on prohibitory type regulatory signs (e.g., STOP, Do Not Enter, Wrong Way). It is also used as the circular outline and diagonal bar prohibitory symbol.

BLACK may be used as a background (e.g., ONE WAY); it is used as a message on white, yellow and orange signs.

WHITE is used as the background for route markers, guide signs, and regulatory signs (except STOP). It is used as the legend for brown, green, blue, black and red signs.

Orange is used only as a background color for construction and maintenance signs.

Yellow is used as a background color for warning signs and for school signs.

Brown, green, and blue are used as a background color for guide signs.

Range: 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,,24,,25,26,,27,28,29,30,31,32,33,, -8841-9997, -9999,

Method: Select as many as apply

General Vehicle

Screen Name: Traffic Devices/Controls

Field Variable: TRAFFICCONTROLDEVICE.TRAFFIC_CONTROL_DEVICE

Element Attributes:

Field Value

No control devices	-8841
Used when there is no above ground sign or signal to regulate traffic flow. If a traffic control device has been deactivated (e.g. traffic signal that emits no signal) during certain times of the day, and was deactivated at the time of the crash select No used for regulatory signs,	
Control signal (on colors) w/ pedestrian signal	2
Used when the traffic control device is a colored control signal with pedestrian signal.	
Control signal (on colors) w/o pedestrian signal	3
Used when the traffic control device is a colored control signal without a pedestrian signal	
Control signal (on colors) unknown pedestrian signal	4
Used when the traffic control device is a colored control signal and it is unknown if there was a pedestrian signal	
Flashing control signal	5
Flashing beacon	6
Flashing highway signal, unknown or other	7
Lane use control signal	8
Other highway signal (specify) :	9
Used when the traffic control device is not one listed above	
Highway signal, type unknown	10
Used when a regulatory sign was present at the time of collision but was removed or not available during the scene inspection to determine its type and the PAR is not specific about a traffic control presence.	
Stop sign	11
Used when a roadway is controlled by an octagon-shaped sign, with white letters and border on a red background.	
Yield sign	12
Used when a roadway is controlled by an equilateral-shaped triangle, with one point downward, having a red border band and white interior and the word "YIELD" in red inside the border band.	
Other regulatory sign (specify) :	13
Used when a regulatory sign other than a "stop" or "yield" sign is present. "Other" signs include speed limit signs, movement signs (e.g., NO TURN, LEFT TURN ONLY, DO NOT ENTER, WRONG WAY, ONE WAY,), parking signs (e.g., NO PARKING, EMERGENCY PARKING ONLY), and other miscellaneous signs (e.g., ROAD CLOSED TO THROUGH TRAFFIC, WEIGHT LIMIT, etc.)	
Unknown type of regulatory sign	14
Used when a regulatory sign was present at the time of collision but was removed or not available during the scene inspection. If the researcher is unable to determine its type and the PAR is not specific about a traffic control presence, use this attribute.	
School zone speed limit	15
Used when the TCD is a school zone speed limit, and the school zone is active at the time of the crash.	

General Vehicle

Screen Name: Traffic Devices/Controls

Field Variable: TRAFFICCONTROLDEVICE.TRAFFIC_CONTROL_DEVICE

School advance or crossing sign	16
Used when a school zone warning sign is present and in effect (if time limited). Most school zones are in effect during the times of student movement to/from the school on school days. As a general rule, these signs are not in effect on holidays, vacation days, weekends, etc. Select this attribute only if the crash occurred during the times/days the sign was in effect. Presence of children is not relevant to sign control. These signs may include a 5-sided sign with the point at the top, a rectangular, school speed zone sign, or some other black printing on a yellow background sign.	
Other school related sign (specify) :	17
Used when the school related sign is not a school zone sign, or a school zone speed limit sign.	
Warning sign	18
Used when a sign is present, warning of an existing or potentially hazardous condition on or adjacent to a highway or street. Generally warning signs are diamond-shaped with black legend and a border on a yellow background. Examples include TURN SIGNS, CURVE SIGNS, WINDING ROAD SIGN, STOP AHEAD SIGN, "T" SYMBOL SIGNS, etc. Some warning signs are horizontal rectangles, for example, a large arrow sign intended to give notice of a sharp change in alignment in the direction of travel.	
Officer, crossing guard, flagman, etc	19
An officially designated person controlling traffic takes precedence over any other attribute.	
Gates (active)	20
Used when railroad crossing controls are active gates.	
Flashing lights (active)	21
Used when railroad crossing controls are flashing lights	
Traffic control signal (active)	22
Railroad crossing controls are present and the TCD is an on-colors traffic signal for the railroad crossing.	

General Vehicle

Screen Name: Traffic Devices/Controls

Field Variable: TRAFFICCONTROLDEVICE.TRAFFIC_CONTROL_DEVICE

Wigwags (active)

23

The wigwag is a circular white sign with a black cross and black edges. It has a red light in the center. The sign is mounted on a pendulum structure, either hanging from a post or set in a pedestal close to the crossing. When the train is approaching or crossing the trafficway, the pendulum swings back and forth and the red light flashes.

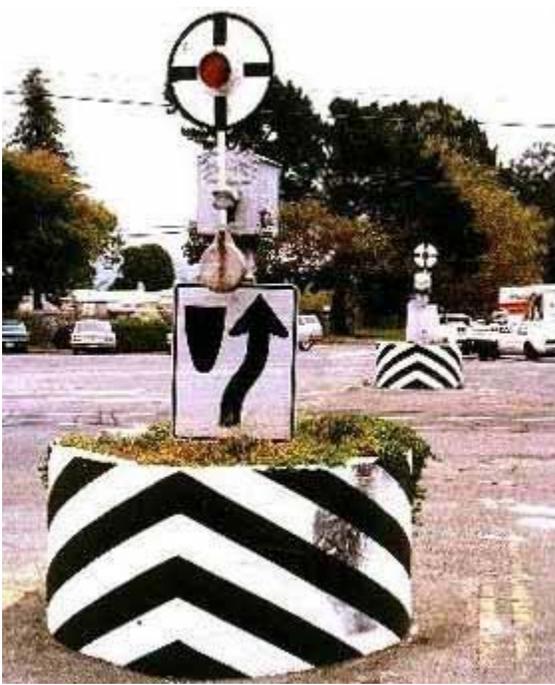


Figure 1 Pedestal mount wig wag

General Vehicle

Screen Name: Traffic Devices/Controls

Field Variable: TRAFFICCONTROLDEVICE.TRAFFIC_CONTROL_DEVICE



Figure 2 Hanging wig wag

Bells (active)	24
Used when railroad crossing controls are present and are active ringing bells.	
Other train activated device (specify) :	25
Used when the active railroad crossing device is not listed above.	
Active device, type unknown	26
Select this attribute when it is known an active device was present at the time of the crash but has been removed.	
Cross-bucks (passive)	27
A cross-buck sign (circle with a black "X" on a yellow background) or a wooden cross set diagonally with RAILROAD CROSSING painted on the crossarms.	
Stop sign (passive)	28

General Vehicle

Screen Name: Traffic Devices/Controls

Field Variable: TRAFFICCONTROLDEVICE.TRAFFIC_CONTROL_DEVICE

Special warning device (passive)	29
Other passive railroad crossing device (specify):	30
Passive device, type unknown	31
Passive device known to be present at time of the crash but has been removed.	
Grade crossing controlled, type unknown	32
Other (specify) :	33
Use this code with a complete description of the device when it cannot be categorized using any of the other attributes.	
No driver present	-8888
Select this attribute when the vehicle is in transport but no driver is present.	
Unknown	-9999
Used when it is unknown if there was a traffic control device present.	

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: Traffic Device Functioning Properly

Field Variable: ROADWAY.TRAFFIC_DEVICE_FCTN

Label: Traffic device functioning properly

Remarks

This variable documents the function level of one of the selected traffic device(s).

Range: 1,2,3,-9997,-9999

Method: Fill a single item

Element Attributes:

**Field
Value**

No traffic signs or signals

1

Used when 'Traffic control device' has No control devices selected

One or more traffic sign(s)/signal(s) not functioning (specify) :

2

Used in the following situations:

-The traffic control device was not operating.

-The traffic control device selected has some function, but the function was improper, inadequate, or operating erratically. (e.g., signal works but was stuck on red).

-The traffic control device was not visible due to:

Being defaced

Faded

Rotated so it could not be seen

Covered with snow,

Lying on ground, etc.

All traffic sign(s)/signal(s) functioning properly

3

Used when the traffic control device was functioning as designed at the time of the crash.

No driver present

-8888

Unknown

-9999

Used when the status of the traffic control device, at the time of the crash, cannot be determined.

Sources:

SCENE INSPECTION

General Vehicle

Screen Name: License State

Field Variable: DI_DRIVER.LICENSE_STATE

Label: License State

Remarks

This variable records the state issuing the driver's license. Enter the state that issued the driver's license. If there is no driver's license number available, please enter the appropriate attribute.

Range: 1-52, 66,77,-8888,-9999

Method: Enter state abbr. _____

General Vehicle

Screen Name: License State

Field Variable: DI_DRIVER.LICENSE_STATE

Element Attributes:

Field Value

AK	1
Alaska	
AL	2
Alabama	
AR	3
Arkansas	
AZ	4
Arizona	
CA	5
California	
CO	6
Colorado	
CT	7
Connecticut	
DC	8
Washington, DC	
DE	9
Delaware	
FL	10
Florida	
GA	11
Georgia	
HI	12
Hawaii	
IA	13
Iowa	
ID	14
Idaho	
IL	15
Illinois	
IN	16
Indiana	
KS	17
Kansas	
KY	18
Kentucky	

General Vehicle

Screen Name: License State

Field Variable: DI_DRIVER.LICENSE_STATE

LA	19
Louisiana	
MA	20
Massachusetts	
MD	21
Maryland	
ME	22
Maine	
MI	23
Michigan	
MN	24
Minnesota	
MO	25
Missouri	
MS	26
Mississippi	
MT	27
Montana	
NC	28
North Carolina	
ND	29
North Dakota	
NE	30
Nebraska	
NH	31
New Hampshire	
NJ	32
New Jersey	
NM	33
New Mexico	
NV	34
Nevada	
NY	35
New York	
OH	36
Ohio	
OK	37
Oklahoma	

General Vehicle

Screen Name: License State

Field Variable: DI_DRIVER.LICENSE_STATE

OR	38
Oregon	
PA	39
Pennsylvania	
PR	40
Puerto Rico	
RI	41
Rhode Island	
SC	42
South Carolina	
SD	43
South Dakota	
TN	44
Tennessee	
TX	45
Texas	
UT	46
Utah	
VA	47
Virginia	
VT	48
Vermont	
WA	49
Washington	
WI	50
Wisconsin	
WV	51
West Virginia	
WY	52
Wyoming	
Foreign Country (Specify)	66
Not licensed	77
Use this attribute when the driver does not have a current license.	
No driver present	-8888
Used when there is no driver in the driver's seat position at the time of the crash.	
Unknown	-9999
Select this attribute if the researcher cannot determine if the driver is licensed.	

General Vehicle

Screen Name: License State

Field Variable: DI_DRIVER.LICENSE_STATE

Sources:

DRIVER INTERVIEW

SURROGATE INTERVIEW

PAR

General Vehicle

Screen Name: Drivers License Number

Field Variable: DI_DRIVER.LICENSE_NUMBER

Label: Drivers license number

Remarks

This variable records the driver's license 'number'. Many states have a combination of letters and numbers as identifiers. Enter the driver's license 'number' in the space provided. If there is no driver's license number available, please enter the appropriate attribute.
DO NOT TYPE IN WORDS SUCH AS 'NOT LICENSED', 'UNKNOWN', ETC.

Range: any combination of up to 25 numbers and letters, 7777, -1111, -8888, -9999

Method: Enter License Number _____

Element Attributes:

Not licensed

This driver was not licensed to operate this vehicle at the time of the crash.

No driver present

No person in the driver's position at the time of the crash.

Unknown

Unknown if the driver was licensed at the time of the crash.

**Field
Value**

7777

-8888

-9999

Sources:

DRIVER INTERVIEW

SURROGATE INTERVIEW

PAR

General Vehicle

Screen Name: License Status

Field Variable: DI_DRIVER.LICENSE_STATUS

Label: License status

Remarks

This variable records the status of driver's license. This information may be collected from the driver of the vehicle, the investigating officer or official records.

Range: 1,2,3,4,5,7777,-8888,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Current and valid Used when the driver has a valid license in his/her possession.	1
Suspended Used when the driver's current license has been suspended.	2
Revoked Used when the driver's current license has been revoked.	3
License permit Used when the driver is operating under the authority of a prelicense permit.	4
Other - not valid (specify) : Used when the driver has some form of license in his/her possession, but the license is not valid.	5
Not licensed Used when the driver does not possess a driver's license. This does not include revoked/suspended.	7777
No driver present	-8888
Unknown Used when there is insufficient information to establish the status of the driver's license.	-9999

Sources:

DRIVER INTERVIEW
SURROGATE INTERVIEW
PAR

General Vehicle

Screen Name: License Endorsements

Field Variable: DI_DRIVER.LIC_ENDORSEMENT

Label: License endorsements

Remarks

Code the driver's compliance with license endorsements at the time of the crash.

Range: 1,2,3,4,7777,-8888,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No endorsements Used when there are no endorsements to the driver's license.	1
Endorsements complied with Used when there are endorsement(s) and the driver is operating the class of vehicle which the endorsement(s) allow him/her to operate.	2
Endorsements, not complied with Used when the driver's license has endorsement(s), but those endorsement(s) do not cover the class of vehicle driven at the time of the crash.	3
Endorsements, compliance unknown Used when there is sufficient information to establish that there are endorsement(s) to the driver's license, however, there is insufficient information to establish if the driver was in compliance with the endorsements.	4
Not licensed This driver was not licensed to operate this vehicle at the time of the crash.	7777
No driver present Used when there is no driver in the driver's seat position at the time of the crash.	-8888
Unknown Used when there is insufficient information to establish license endorsements and driver compliance with these endorsements.	-9999

Sources:

DRIVER INTERVIEW
SURROGATE INTERVIEW
PAR

General Vehicle

Screen Name: Driver License Restrictions

Field Variable: DI_DRIVER.LIC_RESTRICTION

Label: Driver license restrictions

Remarks

This variable captures the driver's compliance with license restrictions.

Range: 1,2,3,4,7777,-8888,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No restrictions Used when there are no restrictions on the license.	1
Restrictions complied with Used when the driver is in compliance with all relevant restrictions listed on his/her license.	2
Restrictions not complied with Used when the driver is not in compliance with all relevant restrictions indicated on his/her license.	3
Restrictions, compliance unknown Used when there is sufficient information to determine restrictions indicated on the license, but there is insufficient information to establish if the driver was in compliance with these restrictions.	4
Not licensed This driver was not licensed to operate this vehicle at the time of the crash.	7777
No driver present No person in the driver's position in the vehicle at the time of the crash.	-8888
Unknown Used when there is insufficient information to establish license restrictions and driver compliance with these restrictions.	-9999

Sources:

DRIVER INTERVIEW
SURROGATE INTERVIEW
PAR

General Vehicle

Form Screen Name: Race/ethnic origin

Oracle Variable: DI_DRIVER.ETHNICITY

Item #-Label: Race/ethnic origin

SAS Data Set:

SAS Variable:

Remarks

This variable is a "self identification" by the occupant and was collected in 2005 and 2006.

Race and ethnicity should not be interpreted as being primarily biological or genetic in reference. Race and ethnicity may be thought of in terms of social and cultural characteristics as well as ancestry.

Ask the interviewee what the driver considers their race and ethnic origin to be. Do not tell an individual who he or she is, or specify how an individual should classify himself or herself. If the response does not clearly fit into one of the race and ethnic origin categories, then use the information provided by the interviewee concerning the driver's nationality/ethnic origin to select the correct element value.

The concept of race as used by the U.S. Census Bureau reflects self-identification. Self-identification represents self-classification by people according to the race with which they identify themselves. For drivers with parents of different races who cannot provide a single response, use the race of the driver's mother; however, if a single response cannot be provided for the driver's mother, the first race reported by the driver is encoded.

Hispanic is not a race but rather an ethnic origin. Persons of Spanish origin may be of any race.

For the purpose of this variable, race and Hispanic origin have been combined using the elements listed.

When Hispanic origin is known but race is not and when race is known but Hispanic origin is not, enter Unknown.

Range:

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>	<u>SAS Valu</u>
White (non-Hispanic) Selected for drivers who consider themselves as having origins in any of the original peoples of Europe, North Africa, or the Middle East. The person may consider his/her race to be white and not of Hispanic origin.	1	1
Black (non-Hispanic) Selected for drivers who consider themselves as having origins in any of the black racial groups of Africa. The person may consider his/her race to be Black, Negro, Haitian or Afro-American and not of Hispanic origin.	2	2
White (Hispanic) Selected for drivers who consider themselves as having origins in any of the original peoples of Europe, North Africa, or the Middle East. The person may consider his/her race to be white and of Hispanic origin.	3	3
Black (Hispanic) Selected for drivers who consider themselves as having origins in any of the black racial groups of Africa. The person may consider his/her race to be Black, Negro, Haitian, or Afro-American and of Hispanic origin.	4	4
American Indian, Eskimo or Aleut Selected for drivers who consider themselves as having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition. For example, if a specific (or named) Indian tribe is given, then use this attribute.	5	5
Asian or Pacific Islander Selected for drivers who consider themselves as having origins in any of the original peoples of	6	6

General Vehicle

Form Screen Name: Race/ethnic origin

Oracle Variable: DI_DRIVER.ETHNICITY

the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, Cambodia, Vietnam, Hawaii, Guam, and Samoa.

Other (specify) :

7

7

Selected for drivers who consider themselves to be of a race or ethnic origin not described above. Use this attribute for descriptions such as: Eurasian, Cosmopolitan, inter-racial, etc. In addition, if the driver considers him/herself to be of Hispanic origin but not white or black, then use this attribute.

No driver present

-8888

8888

Unknown

-9999

9999

Sources:

PAR

General Vehicle

Screen Name: Driver Race

Field Variable: DI_DRIVER.DRIVER_RACE

Label: What is your race?

Remarks

This variable is a “self identification” by the driver. The interviewee is the only source for coding on the Interview Form, however, other sources may be used when coding the General Vehicle Form (see below).

The concept of race as used by the U.S. Census Bureau reflects self-identification; it does not denote any clear-cut scientific definition of biological stock. Self-identification represents self-classification by people according to the race with which they identify themselves. For drivers with parents of different races who cannot provide a single response, use the race of the driver's mother; however, if a single response cannot be provided for the driver's mother, the first race reported by the driver is encoded.

Prioritization of data sources:

First, use interviewee data. Ask the interviewee what the driver considers their race to be. If the response does not clearly fit into one of the race categories, then use the information provided by the interviewee concerning the driver's nationality to select the correct element value.

Second, use the PAR. If race is given on the PAR and the PAR scheme is compatible with this variable, then use the PAR information.

In addition, the driver's **name** is not a reliable indicator of race and **cannot be used** when selecting the applicable element value for this variable.

Third, use official records (e.g., medical). If the data needed cannot be obtained from the interviewee and is not available or usable from the PAR, then use official records, if available, to determine the correct element attribute.

This variable was only collected for 2007 cases. It replaced ETHNICITY, which was used in 2005 and 2006.

Range: 1,2,3,4,5,7,-7774,-8888,-9999

Method: Select a single item

General Vehicle

Screen Name: Driver Race

Field Variable: DI_DRIVER.DRIVER_RACE

Element Attributes:

	<u>Field Value</u>
White is selected for drivers who consider themselves a person having origins in any of the original peoples of Europe, the Middle East or North Africa.	1
Black or African American is for drivers who consider themselves a person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black or African American."	2
Asian is selected for drivers who consider themselves a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand and Vietnam.	3
Native Hawaiian or Other Pacific Islander is selected for drivers who consider themselves a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.	4
American Indian or Alaska Native is selected for drivers who consider themselves a person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.	5
Other (specify) Select when driver considers him/herself to belong to a race not described above. Use this attribute for descriptions such as: Eurasian, Cosmopolitan, inter-racial, etc	7
Not collected during this study year This variable was only collected for 2007 cases. It replaced ETHNICITY, which was used in 2005 and 2006.	-7774
No Driver Present	-8888
Unknown Select when the source(s) available do not provide sufficient information to classify the driver's race.	-9999

Sources:

DRIVER INTERVIEW
PAR
MEDICAL RECORDS

General Vehicle

Screen Name: Driver Ethnicity

Field Variable: DI_DRIVER.DRIVER_ETHNICITY

Label: What is your ethnic background?

Remarks

This variable is a "self identification" by the driver. The interviewee is the only source for coding on the Interview Form, however, other sources may be used when coding the General Vehicle Form (see below).

The concept of race as used by the U.S. Census Bureau reflects self-identification; it does not denote any clear-cut scientific definition of biological stock. Self-identification represents self-classification by people according to the race with which they identify themselves. For drivers with parents of different races who cannot provide a single response, use the race of the driver's mother; however, if a single response cannot be provided for the driver's mother, the first race reported by the driver is encoded.

Prioritization of data sources:

First, use interviewee data. Ask the interviewee what the driver considers their race to be. If the response does not clearly fit into one of the race categories, then use the information provided by the interviewee concerning the driver's nationality to select the correct element value.

Second, use the PAR. If race is given on the PAR and the PAR scheme is compatible with this variable, then use the PAR information.

In addition, the driver's **name** is not a reliable indicator of race and **cannot be used** when selecting the applicable element value for this variable.

Third, use official records (e.g., medical). If the data needed cannot be obtained from the interviewee and is not available or usable from the PAR, then use official records, if available, to determine the correct element attribute.

This variable was only collected for 2007 cases. It replaced ETHNICITY, which was used in 2005 and 2006.

Range: 1,2,-7774,-8888,-9999

Method: Select a single item

Element Attributes:

	<u>Field Value</u>
Hispanic or Latino	1
is selected for drivers who consider themselves a person of Cuban, Mexican, Puerto Rico, South or Central American or other Spanish culture or origin, regardless of race. The term, "Spanish origin," can be used in addition to "Hispanic or Latino."	
Not Hispanic or Latino	2
is selected for drivers who consider themselves as not being of Cuban, Mexican, Puerto Rico, South or Central American or other Spanish culture or origin, regardless of race.	
Not collected during this study year	-7774
The variable was only collected for 2007 cases. It replaced Ethnicity, which was used in 2005 and 2006.	
No Driver Present	-8888
Unknown	-9999
is selected when the source(s) available do not provide sufficient information to classify the driver's ethnic origin	

Sources:

DRIVER INTERVIEW

PAR

MEDICAL RECORDS

General Vehicle

Screen Name: EDR Information Obtained?

Field Variable: VEHICLE.EDRINFO

Label: EDR information obtained?

Remarks

This variable records the level of success in retrieving the data from the Event Data Recorder (EDR).

Range: -8882

Method: Select a single item

General Vehicle

Screen Name: EDR Information Obtained?

Field Variable: VEHICLE.EDRINFO

Element Attributes:

	<u>Field Value</u>
Yes-Data entered	1
<p>The EDR was read and data uploaded to the computer. Quality and completeness of uploaded information varies with versions of the EDR and the harvesting software.</p>	
EDR information not obtained-Vehicle make/model not supported by software or hardware	10
<p>is used when the researcher determines that this vehicle is not supported by the commercially available software/hardware</p>	
EDR information not obtained--Vehicle damage prevents downloading EDR data (specify)	6
<p>The vehicle has been damaged so that the electrical system is compromised and the researcher cannot read information from the on-board diagnostic plug AND vehicle damage makes access to necessary connections to retrieve information from the EDR impossible.</p> <p>Provide photo documentation of the damage which prevents the harvesting of the information.</p>	
EDR information not obtained--Permission not received to access/read EDR (specify)	7
<p>The researcher was refused permission to access and/or read the information from the EDR</p>	
EDR information not obtained--EDR submitted to manufacturer	4
EDR information not obtained-Software issue (specify)	12
<p>This is to be used only if the vehicle is equipped with an EDR supported by the commercially available software AND all necessary connections to the vehicle were made and the software indicates an error.</p> <p>Examples:</p> <ul style="list-style-type: none">• translation error• no communication with air bag module	
EDR information not obtained-Hardware issue (specify)	13
<p>used only if the vehicle is equipped with an EDR supported by the commercially available software AND a problem arises in making the necessary connections to the vehicle</p> <p>Examples:</p> <ul style="list-style-type: none">• cable to the on-board diagnostics plug (OBD) will not fit• no power to the EDR• cable to the module does not fit	
EDR information not obtained-Other Reasons (specify)	11
<p>This is to be used only if the vehicle is equipped with an EDR supported by the commercially available software/hardware AND the other attributes do not apply. Please specify the reason.</p>	
Not a case vehicle	-8882
<p>Used for non case vehicles to prevent nulls in the table.</p>	
Unknown	-9999
<p>This is to be used only if the vehicle is equipped with an EDR supported by the commercially available software/hardware and the EDR couldn't be downloaded. Unknown is defined as the researcher couldn't obtain the EDR data due to the status of the control module being unknown.</p> <p>Examples:</p> <ul style="list-style-type: none">• module not in vehicle• module replaced, i.e., current module in vehicle is not the same one as involved in the crash	

General Vehicle

Screen Name: Version of Cdr Used to Read Module

Field Variable: EDR.EDRVERSION

Label: Version of CDR used to read module

Remarks

Specify version of software being used. Various versions of software for various makes/models of vehicles may be in use. Enter the version that was used to read the EDR in this car.

Range: -9997, -9999

Method: Enter a value _____

Element Attributes:

	Field Value
Not a case vehicle Precoded for non case vehicles	-8882
Not applicable	-9997
Unknown Unknown version of software used to read the EDR.	-9999

General Vehicle

Screen Name: Data Type From EDR

Field Variable: EDR.EDRTYPEID

Label: Data type from EDR

Remarks

This variable stores the type of Delta V reading reported by EDR during the crash. Depending on the EDR, it may be capable of storing longitudinal or longitudinal and lateral Delta V recordings.

Range: 1,2,-9999

Method: Select a single item

Element Attributes:

	Field Value
Longitudinal	1
Longitudinal delta v results only	
Longitudinal and lateral delta v	2
Longitudinal and lateral delta v results	
Unknown	-9999

General Vehicle

Screen Name: CDCid

Field Variable: CDC.CDCID

Label: CDCID

Remarks

The system identifier of CDC that describes the vehicle deformation caused by specific event. i.e Event #3 12FDEW2, that links the event to the damage.

Range: -9997, -9999

Method: Select corresponding CDC

Element Attributes:

**Field
Value**

Event not related to this crash

EDR results obtained but do not relate to any event in this crash.

-8887

Non-harmful event in this crash

Select this attribute when the event recorded occurred in the crash being investigated but does not qualify as a NASS defined harmful event

-7777

Not applicable

Used as a precoded value when there is no EDR reading.

-9997

Unknown

-9999

General Vehicle

Screen Name: Ignition Cycles at Event

Field Variable: EDR.EVENTIGNITIONCYCLES

Label: Number of ignition cycle at event

Remarks

The variable records the number of ignition cycles at event occurrence. It identifies how many times the ignition cycle has been cycled on and off.

Range: -8886

Method: Enter a value _____

Element Attributes:

**Field
Value**

Not reported

-8886

General Vehicle

Screen Name: Ignition Cycles at EDR Download

Field Variable: EDR.INVESTIGNITIONCYCLE

Label: Number of ignition cycles at EDR download

Remarks

Enter the number of ignition cycles at the investigation.

Range: -8886

Method: Enter a value _____

Element Attributes:

**Field
Value**

Not reported

-8886

Used if the EDR did not report the number of ignition cycles at upload.

General Vehicle

Screen Name: Driver Belt Status

Field Variable: EDR.DRIVERBELTID

Label: Driver belt status

Remarks

The field records the driver's belt status -- whether a driver's restraint buckle was engaged in the latch.

Range: 1 - 2, -8886

Method: Select a single item

Element Attributes:

	Field Value
Buckled Belt restraint indicated as buckled in EDR report.	1
Not buckled Belt restraint indicated as not buckled in EDR report.	2
Not reported	-8886

General Vehicle

Screen Name: Driver Pretensioner Deployment Time

Field Variable: EDR.PRETENSEDEPLOYTIME

Label: Driver pretensioner deployment time

Remarks

The time for driver pretensioner actuation.

EDR records the time in milliseconds after algorithm enabled that the Pretensioner actuated.

Pretensioners are designed to take up the slack in a seat belt during a crash of sufficient deceleration.

Range: 1-170, -8885,-8879

Method: Enter time in milliseconds _____ms

Element Attributes:

**Field
Value**

Not Reported

-8879

Not Deployed

-8885

General Vehicle

Screen Name: Passenger - Belt Status

Field Variable: EDR.PASSBELTID

Label: Passenger - belt status

Remarks

This attribute records if the passenger's restraint buckle was engaged in the latch.

Range: 1 - 2, -8886

Method: Select a single item

Element Attributes:

	Field Value
Buckled EDR file indicates passenger belt restraint was buckled at the time of system wakeup.	1
Unbuckled EDR file shows passenger belt not buckled at the time of system wakeup.	2
Not reported EDR did not report this data	-8886

General Vehicle

Screen Name: Passenger Pretensioner Deployment Time

Field Variable: EDR.PASPRETENSEDEPLOYTIME

Label: Passenger pretensioner deployment time

Remarks

The time for pasenger pretensioner actuation.

EDR records the time in milliseconds after algorithm enabled that the Pretensioner actuated.

Pretensioners are designed to take up the slack in a seat belt during a crash of sufficient deceleration.

Range: 1-170, -8885, -8879,

Method: Enter time in milliseconds _____ms

Element Attributes:

**Field
Value**

Not Reported

-8879

Not Deployed

-8885

General Vehicle

Screen Name: Passenger Seat Location

Field Variable: EDR.PASSEATID

Label: Passenger seat location

Remarks

Select the seat location of the passenger.

Range: 12, 13, -8886

Method: Fill a single item

Element Attributes:

	Field Value
Front seat center	12
Front seat right	13
Not reported	-8886

General Vehicle

Screen Name: Passenger Suppression Switch

Field Variable: EDR.PSWITCHSTATUSID

Label: Passenger suppression switch

Remarks

This field documents the presence of the passenger's air bag cut off switch and its position. Not reported or unknown are valid values but does not mean that the suppression switch was on or off if used.

Range: 1, 2, -8886

Method: Select a single item

Element Attributes:

	<u>Field Value</u>
On Used if the passenger's air bag cutoff switch was in the "ON" position.	1
Off Used if the passenger's air bag cutoff switch was in the "Off: position.	2
Not reported Used if the EDR records do not list the status of the passenger air bag cutoff switch	-8886

General Vehicle

Screen Name: Pre-Event Events

Field Variable: EDR_PRECRASH.PRESECONDS

Label: Pre-event Events

Remarks

The time in seconds before the deployment/nondeployment event.

Range: -1,-2,-3,-4,-5

Method: Check or Enter Value in Box

Element Attributes:

	Field Value
One second prior to system wakeup/enable	-1
Two seconds prior to system wakeup/enable	-2
Three seconds prior to system wakeup/enable	-3
Four seconds prior to system wakeup/enable	-4
Five seconds prior to system wakeup/enable	-5

General Vehicle

Screen Name: Brake Switch Activation at System Wakeup

Field Variable: EDR_PRECRASH.BRAKESWITCHID

Label: Brake switch activation at system wakeup

Remarks

There are five pre-crash speed readings at one second intervals. This variable notes if the brake light switch is on or off during the five second precrash interval to the event. Some EDRs will not record this data or some of the EDR readers cannot decode the data. Use not reported if the output from the EDR clearly states Not recorded.

Range: 1,2,-8879

Method: Select a single item

Element Attributes:

	<u>Field Value</u>
On Used when the EDR records the brake light switch as engaged.	1
Off Used when the EDR records indicates the brake switch was not engaged.	2
Not reported	-8879

General Vehicle

Screen Name: Throttle %

Field Variable: EDR_PRECRASH.THROTTLE

Label: Throttle %

Remarks

The measured percentage of the throttle opening at one second intervals from five seconds prior to system wakeup to deploy/nondeploy event.

Range: 0-100, -8879

Method: Enter a value _____

Element Attributes:

**Field
Value**

Not reported

-8879

This attribute only used when BRAKESWITCHID information is available on the EDR readout, and information on SPEED, THROTTLE, and RPM is not reported.

General Vehicle

Screen Name: Speed (MPH)

Field Variable: EDR_PRECRASH.SPEED

Label: Speed (MPH)

Remarks

The speed, measured in MPH, recorded pre-event by the EDR.

Range: 0-120, -8879

Method: Enter a value _____

Element Attributes:

**Field
Value**

Not reported

-8879

This attribute only used when BRAKESWITCHID information is available on the EDR readout, and information on SPEED, THROTTLE, and RPM is not reported.

General Vehicle

Screen Name: Engine Speed (Rpm)

Field Variable: EDR_PRECRASH.RPM

Label: Engine speed (RPM)

Remarks

The revolutions per minute of the engine at one second intervals from five seconds prior to system wakeup to deploy/nondeploy event.

Range: 1-10000, -8879

Method: Enter a value _____

Element Attributes:

**Field
Value**

Not reported

-8879

This attribute only used when BRAKESWITCHID information is available on the EDR readout, and information on SPEED, THROTTLE, and RPM is not reported.

General Vehicle

Screen Name: Time From Deployment

Field Variable: EDR_DELTAV.SECONDS

Label: Time from deployment

Remarks

Edit/Insert a new reading at 10ms intervals, ignoring negative time values.

Range: 10-300ms Divisible by 10

Method: Enter a value _____

Element Attributes:

**Field
Value**

Not applicable

-9997

Unknown

-9999

General Vehicle

Screen Name: Delta V

Field Variable: EDR_DELTAV.DELTAV

Label: Delta V

Remarks

The recorded velocity change in MPH from the vehicle EDR.

Range: -100 -100

Method: Enter a value _____

General Vehicle

Screen Name: Airbag Deploy Type

Field Variable: EDR_AIRBAG.AIRBAGTYPEID

Label: Airbag Deploy Type

Remarks

Enter the location of the air bag.

If air bags are available for the occupant, indicate the information on all air bags. Do so by inserting another air bag. To insert another air bag go to the menu bar and select **Edit / Insert**, then indicate its location, and complete the information about the air bag.

Range: 1,2,3,4,5,8,9,10,11

Method: Select a single item

Element Attributes:

Field Value

Steering Wheel Hub

used for an air bag that is designed to deploy from a module integrated with the steering wheel. It is designed to protect the vehicle's driver primarily from frontal impacts.

1

Top Instrument Panel

is used for those air bags that deploy rearward from a location on the top of the instrument panel. They are designed to protect front seat passengers primarily from frontal impacts.

2

Mid Instrument Panel

is used for those air bags that deploy rearward from a location in the middle of the instrument panel. They are designed to protect front seat passengers primarily from frontal impacts.

3

Bottom Instrument Panel

is used for those air bags that deploy rearward from a location in the bottom of the instrument panel. They are designed to protect front seat passengers primarily from frontal impacts. This includes "knee bags".

4

Seat Back

is located on the outside portion of the seat back and is designed to protect the torso of occupants primarily from side impacts.

5

Door

is located in the door/panel and is designed to protect the torso of occupants primarily from side impacts.

8

Roof Side Rail

is primarily a curtain type bag that is stored in the roof side rail and is designed to protect the head of occupants primarily from side impacts

9

Other

is used when the location of the air bag cannot be captured in the above attributes. This should be a rare occurrence. The location of the air bag must be specified.

10

Unknown

Unknown

11

General Vehicle

Screen Name: Airbag Deploy Position

Field Variable: EDR_AIRBAG.POSITIONID

Label: Airbag Deploy Position

Remarks

Postion of airbag

Range: 1-2

Method: Select a single item

Element Attrbutes:

Driver

Driver side

Passenger

Passenger side

**Field
Value**

1

2

General Vehicle

Screen Name: Deploy Status

Field Variable: EDR.DEPLOYSTATUSID

Label: Deploy Status

Remarks

This field indicates if the data was related to a deployment or near deployment event.

Range: 1 - 3

Method: Select a single item

Element Attributes:

	Field Value
Nondeployment is used when data was related to a near deployment event	1
Deployment is used when the data was related to a deployment event	2
Not Reported is used when the data does does not indicate if it was associated with a near deployment or deployment event	3

General Vehicle

Screen Name: Stage 1

Field Variable: EDR_AIRBAG.STAGE1

Label: Airbag Deploy Stage 1

Remarks

This is the time in milliseconds after algorithm enable documenting when the air bag deployed. Vehicles that are equipped with multi-stage inflators will record the time after algorithm enabled when each stage fires or is disposed.

Range: 0-150, -8885, -8883, -8886

Method: Enter a value _____

Element Attributes:

	Field Value
Not Reported	-8886
Disposal	-8883
Not Deployed	-8885

General Vehicle

Screen Name: Stage 2

Field Variable: EDR_AIRBAG.STAGE2

Label: Airbag Deploy Stage 2

Remarks

This is the time in milliseconds after algorithm enable documenting when the air bag deployed. Vehicles that are equipped with multi-stage inflators will record the time after algorithm enabled when each stage fires or is disposed.

Range: 0-150, -8883, -8885, -8886

Method: Enter a value _____

Element Attributes:

	Field Value
Disposal	-8883
Not Deployed	-8885
Not reported	-8886

Precrash Assessment

Screen Name: Movement Prior to Critical Crash Envelope
Field Variable: PRECRASH.PRE_EVENT_MOVEMENT

Label: Movement prior to critical crash envelope

Remarks

This variable establishes the subject vehicle's movement prior to the critical crash envelope. Accurate assessment of this movement pattern requires the researcher to understand and recognize the specific point in time when this movement pattern is to be described/documentated. Key elements of the decision process are described in the material that follows:

Critical Precrash Envelope

The critical precrash envelope is that period of time which immediately precedes the crash event and which contains both the Critical pre-crash event and the Critical reason for the critical event. This envelope begins at the point where:

- The driver recognizes an impending danger (e.g. deer runs into the roadway), or
- The vehicle is on an imminent collision path with another vehicle, pedestrian, pedalcyclist, other non-motorist, object, or animal.

The critical precrash envelope ends at the point where:

- The driver has completed a successful avoidance maneuver, has regained full steering control, and the vehicle is tracking; or
- The driver's vehicle impacts another vehicle, pedestrian, pedalcyclist, other nonmotorist, object, or animal.

The critical precrash envelope is shown in schematic form in Figure 1 below. It is important to note that Figure 1 depicts the coding order of a typical single critical crash envelope and that the movement prior to the critical crash envelope is not considered to be part of this critical crash envelope.

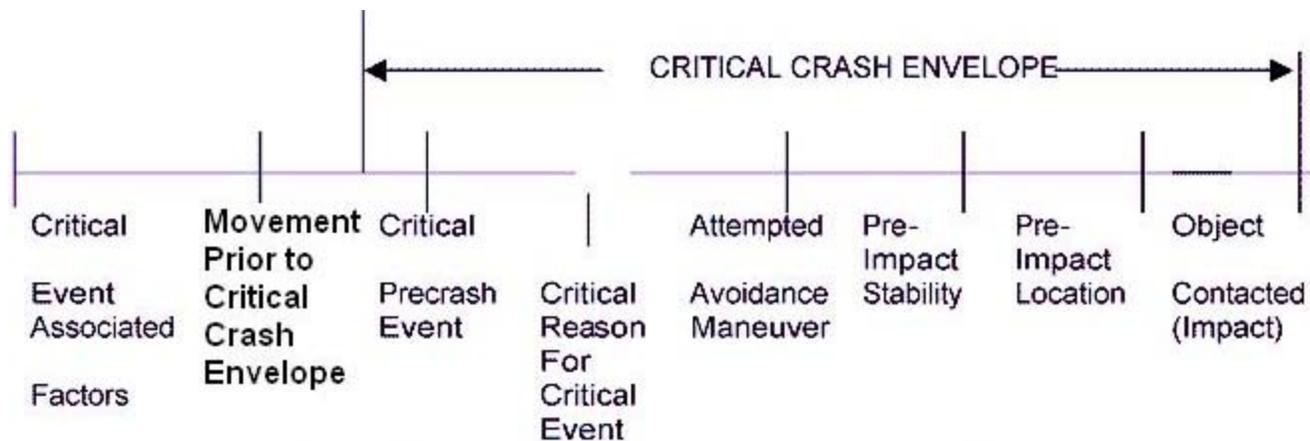


Figure 1: Coding Order of a Typical Single Critical Crash Envelope

Single and multiple critical crash envelopes are further discussed in Critical pre-crash event and the Critical reason for the critical event. The discussion at this point will focus on the movement prior to the critical crash envelope, which immediately precedes the critical crash envelope.

Selection of Movement Prior to Critical Crash Envelope

A relatively straightforward crash sequence provides definition of the specific time interval when the movement prior to the critical crash envelope is to be described. This example is shown in schematic form in Figure 2 and is described as follows:

Vehicle 1 and Vehicle 2 are traveling in opposite directions on the same roadway. The driver of Vehicle 1

Pre-crash Assessment

Screen Name: Movement Prior to Critical Crash Envelope

Field Variable: PRECRASH.PRE_EVENT_MOVEMENT

falls asleep and crosses over the center line into the travel lane of Vehicle 2. The driver of Vehicle 2 attempts to avoid Vehicle 1 by steering to the right and braking. The front of Vehicle 1 strikes the left front fender and door of Vehicle 2 with the point of impact located near the north edge of the roadway.

In this example, Vehicle 1 has a single critical crash envelope (V1CCE) which begins at the point where Vehicle 1 crosses the center line and ends at the point of impact with Vehicle 2. Vehicle 1's movement prior to the critical crash envelope is described immediately prior to the drift to the left and is, therefore, coded as Going straight. Vehicle 2 also has a single critical crash envelope (V2CCE) which begins at the point where Driver 2 recognized Vehicle 1 is encroaching into vehicle 2's travel lane and ends at the point of impact. Vehicle 2's movement prior to the critical crash envelope is described immediately prior to the avoidance maneuver and is, therefore, coded as Going straight.

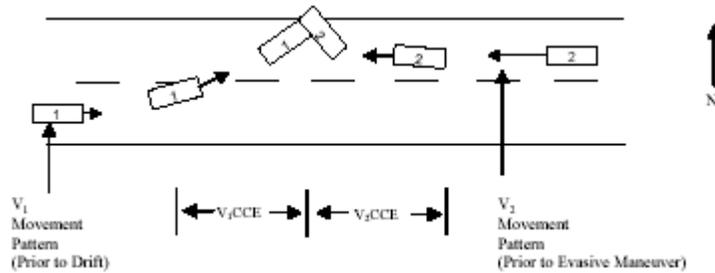


Figure 2: Critical Crash Envelopes and Movement Prior to the Critical Crash Envelope For Opposite Direction Crash

As indicated in the preceding discussion and in Figure 2, the movement prior to the critical crash envelope is described at a point which both precedes the critical crash envelope and which precedes vehicle motions that place the involved vehicles on an imminent collision path. In the current example, both the evasive maneuver by Driver 2 and the pre-impact drift to the left by Driver 1 are not described. While the intent of this variable is fairly evident here, there are other examples which demonstrate that timing issues can create some difficulty with respect to accurately describing movement prior to the critical crash envelope. An example of this type of event is shown in schematic form in Figure 3 and is described as follows:

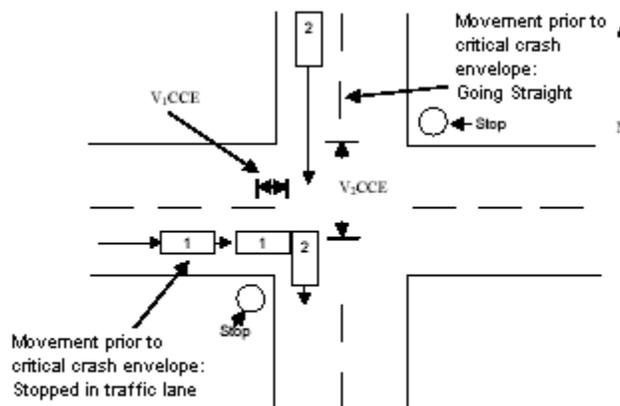


Figure 3: Critical Crash Envelopes and Movement prior to critical crash envelope For Intersection Crash

Vehicle 1 is eastbound on a two-lane roadway, approaching an intersection. Driver 1 stops for the stop sign, checks for cross-traffic, does not see Vehicle 2 approaching from his left, and accelerates into the intersection. Vehicle 2 is southbound on the intersecting roadway and does not have a stop sign (i.e. Driver 2 has the right of way). Driver 2 notes Vehicle 1 beginning to enter the intersection and accelerates in an attempt to get by Vehicle 1. The front of Vehicle 1 strikes the right rear door and quarter panel of Vehicle 2.

In this example, Vehicle 1 has a single critical crash envelope (V1CCE), which begins at the point where Vehicle 1 crosses the intersection boundary and ends at the point of impact with Vehicle 2. Vehicle 1's movement prior to the critical crash envelope is described immediately prior to the point where Vehicle 1 begins moving forward and is, therefore, coded as Stopped in traffic lane. Vehicle 2 also has a single critical crash envelope (V2CCE) which begins at the point where driver recognizes Vehicle is encroaching into the intersection and ends at the point of

Pre-crash Assessment

Screen Name: Movement Prior to Critical Crash Envelope

Field Variable: PRECRASH.PRE_EVENT_MOVEMENT

impact. Vehicle 2's movement prior to the critical crash envelope is described immediately prior to the acceleration avoidance maneuver and is, therefore, coded as Going straight.

Difficulty is encountered with the configuration shown in Figure 3 simply as a result of the large number of variations which are similar in nature. For example, assume the circumstance where Vehicle 1 in Figure 3 does not decelerate prior to impact (i.e. Driver 1 is inattentive to the driving task and violates the stop sign). In this case, the movement prior to the critical crash envelope of Vehicle 1 is coded as Going straight as opposed to Stopped in traffic lane. Similarly, if Driver 1 braked late for the stop sign (as a result of being inattentive), came to a stop with the front of Vehicle 1 protruding into the intersection, and then Vehicle 2 rakes across Vehicle 1's front as Vehicle 2 passes Vehicle 1's location, then the movement prior to the critical crash envelope of Vehicle 1 is coded as Decelerating in traffic lane as opposed to Going straight or Stopped in traffic.

These different coding results are tied to timing nuances in the crash configurations. It is, therefore, important to remember that movement prior to the critical crash envelope are typically described two stages prior to crash occurrence. In the last example, Vehicle 1 is stopped at impact and the stage which precedes the stop is the deceleration stage. In the first example in this paragraph, Driver 1 is going straight while within the critical crash envelope and is also going straight prior to the critical crash envelope (i.e., second stage back).

Range: 1 - 18, -8888, -9999

Method: Fill a single item

Pre-crash Assessment

Screen Name: Movement Prior to Critical Crash Envelope

Field Variable: PRECRASH.PRE_EVENT_MOVEMENT

Element Attributes:

Field Value

Going straight	1
Used when this vehicle's path of travel is straight ahead without any attempted or intended changes.	
Decelerating in traffic lane	2
Used when this vehicle is traveling straight ahead within the traffic lane and is decelerating.	
Accelerating in traffic lane	3
Used when this vehicle is traveling straight ahead within the traffic lane and is accelerating.	
Starting in traffic lane	4
Used when this vehicle is in the process of starting forward from a stopped position within the traffic lane (e.g. start up from traffic signal).	
Stopped in traffic lane	5
Used when this vehicle is stopped momentarily, with the motor running within the traffic lane (e.g. stopped for traffic signal).	
Passing or overtaking another vehicle	6
Used when this vehicle is traveling straight ahead and is in the process of passing or overtaking another vehicle on the left or right.	
Disabled or parked in travel lane	7
Used when this vehicle is parked in a travel lane (e.g. double parked, disabled) with a driver present in the vehicle.	
Leaving a parking position	8
Used when this vehicle is entering the travel lane from a parking area adjacent to the traffic lanes.	
Entering a parking position	9
Used when this vehicle is leaving the travel lane to a parking area adjacent to the traffic lanes (i.e. in the process of parking).	
Turning right	10
Used when this vehicle is moving forward and turns right, changing lanes from one roadway to a different roadway (e.g. from or to a driveway, parking lot, or intersection).	
Turning left	11
Used when this vehicle is moving forward and turns left, changing lanes from one roadway to a different roadway (e.g. from or to a driveway, parking lot, or intersection).	
Making a U-turn	12
Used when this vehicle is making a U-turn (i.e. 180 degree directional change) on the roadway.	
Backing up (other than for parking position)	13
Used when this vehicle is traveling backwards within the trafficway. Do not use this code if the vehicle is backing into a parking space. Use Entering a parking position.	
Negotiating a curve	14
Used when this vehicle is continuing along a roadway that curves to the right or left.	

Pre-crash Assessment

Screen Name: Movement Prior to Critical Crash Envelope

Field Variable: PRECRASH.PRE_EVENT_MOVEMENT

Changing lanes	15
Used when this vehicle is traveling straight ahead and changes travel lanes to the right or left while on the same roadway.	
Merging	16
Used when this vehicle is moving forward and merging from the left or right into a traffic lane (e.g. roadway narrows, exit/entrance ramps).	
Avoidance maneuver to a previous critical event	17
Used when this vehicle responded to a previous critical event and successfully avoided an impact. However, this precipitates a subsequent critical crash envelope which results in this vehicle's first impact.	
Other (specify) :	18
Used when this vehicle's pre-event movement is known but none of the specified codes are applicable. Specify the movement pattern.	
No driver present	-8888
Used when no driver is present in the vehicle when the crash occurs.	
Unknown	-9999
Unknown is used when the vehicle's movement prior to the driver's realization of an impending critical event is unknown.	

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Critical Pre-Crash Event
Field Variable: PRECRASH.CRITICAL_EVENT

Label: Critical pre-crash event

Remarks

This variable identifies the event which made the crash imminent (i.e. something occurred which made the collision inevitable). A Critical precrash event is coded for each vehicle in the crash and documents the circumstances leading to this vehicle's first impact in the crash sequence.

Responses are grouped into seven major categories which are prioritized as follows:

- This Vehicle Loss Of Control Due To
- This Vehicle Traveling
- Other Motor Vehicle In Lane
- Other Motor Vehicle Encroaching Into Lane
- Pedestrian, Pedalcyclist, Or Other Nonmotorist
- Object Or Animal
- Other

The critical precrash event is typically coded in relation to the pedestrian, nonmotorist, object, or animal that the subject vehicle is attempting to avoid. There are other circumstances/events which can be considered critical events. In general, however, the researcher should:

1. Focus on the first event in the crash, and
2. Use all available information to determine the specific event which made the crash inevitable.

It is important to note that culpability/fault is not considered when making the critical event determination. Many crash scenarios will suggest fault, but this should be viewed as coincidental rather than by design. As an example, consider the circumstance where Vehicle 1 is 'Traveling too fast for conditions' when Vehicle 2 crosses Vehicle 1's path from a driveway (see From driveway, across path). In this circumstance, the Critical precrash event for Vehicle 1 is Vehicle 2's movement across Vehicle 1's path and not Vehicle 1's travel speed. Additional examples of specific critical events are provided in the material following Critical reason for the critical event.

The content and coding order of single critical crash envelopes was discussed in the preceding variable, Pre-event movement. There are a number of crash situations which involve multiple critical crash envelopes for the involved vehicle(s). In this circumstance, there are two directives which should be observed as follows:

1. For vehicles experiencing multiple critical crash envelopes, the final critical crash envelope is used to define the critical precrash event.
2. Pre-event movement prior to the final critical crash envelope is typically coded as a Avoidance maneuver to a previous critical event.

An example of a crash sequence involving multiple critical crash envelopes is shown in Figure 4 and may be described as follows:

Vehicle 1 is eastbound and is passing through an intersection without a traffic control. A noncontact vehicle (NCV) is northbound and is stopped at the intersection on a crossing roadway that has a stop sign. The driver of the noncontact vehicle did not see Vehicle 1 approaching from his left and turns right into the travel path of Vehicle 1. The driver of Vehicle 1 brakes (without lockup) and steers left to avoid the noncontact vehicle. Driver 1 avoids the noncontact vehicle, maintaining full steering control, but consequently places Vehicle 1 in the travel path of Vehicle 2 which is approaching the intersection proceeding in a westerly direction. Driver 2 attempts to avoid Vehicle 1 by steering right and braking (with lockup). Driver 1 attempts to avoid Vehicle 2 by also steering right and braking (with lockup). A subsequent left front to left front impact between Vehicles 1 and 2 occurs in Vehicle 2's travel lane.

In this example, Vehicle 1 has two critical crash envelopes (V1CCE1 and V1CCE2). Vehicle 1's first critical crash envelope (V1CCE1) ends at the point where Driver 1 completes the avoidance maneuver (while maintaining full steering control of Vehicle 1). This vehicle's second critical crash envelope (V1CCE2) begins immediately following the avoidance maneuver and ends at the point of impact with Vehicle 2.

The relevant envelope with respect to causal coding is the envelope which results in Vehicle 1's critical pre-crash event (V1CCE2). Vehicle 1's Pre-event movement is coded as Avoidance maneuver to a previous critical event and Vehicle 1's critical precrash event is coded as This vehicle traveling over the lane line on left side of travel

Pre-crash Assessment

Screen Name: Critical Pre-Crash Event
Field Variable: PRECRASH.CRITICAL_EVENT

lane. Vehicle 2 has one critical crash envelope (V2CCE), which begins at the point where Driver 2 recognizes Vehicle 1 intruding into his/her travel lane and ends at the point of impact with Vehicle 1. This vehicle's pre-event movement is coded as Going straight and its critical precrash event is coded as Other motor vehicle in lane traveling in opposite direction.

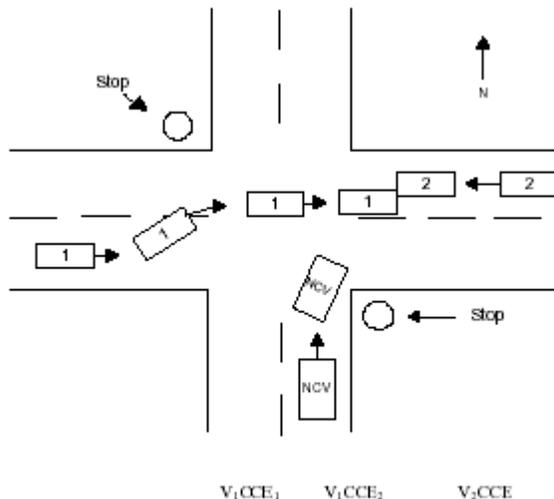


Figure 4: Intersection Crash Involving Multiple Critical Crash Envelopes

The noncontact vehicle in this example was not involved in an impact in the sequence of crash event and is, therefore, not assigned a Precrash Assessment From or coded into the causal data system.

A simplified schematic representation of Vehicle 1's critical crash envelopes is provided in Figure 5. It is important to note that the transition period between crash envelopes as shown in Figure 5 may be very short in terms of time duration.

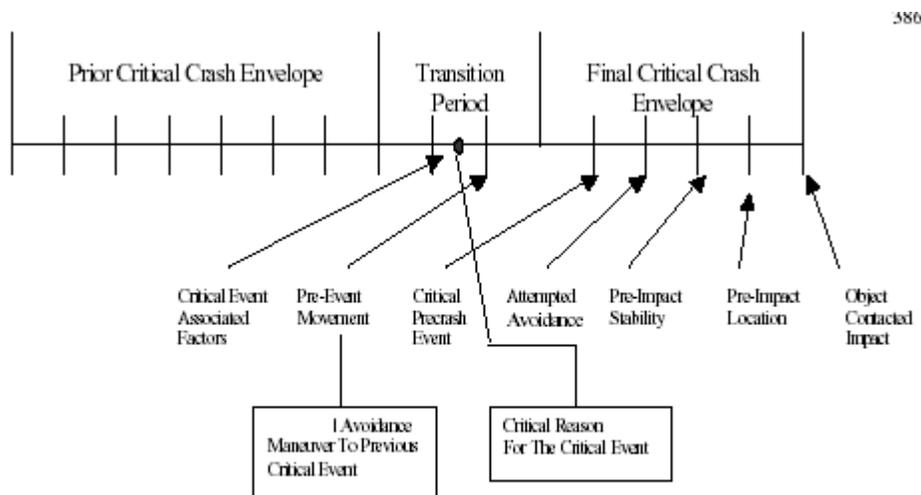


Figure 5 Vehicle's Critical Crash Envelope

Pre-crash Assessment

Screen Name: Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_EVENT

Range: 1 - 9, 19 - 29, 50 - 56, 59 - 73, 79 - 85, 87 - 94, -8888, -9999

Method: Fill a single item

PreCrash Assessment

Screen Name: Critical Pre-Crash Event
Field Variable: PRECRASH.CRITICAL_EVENT

Element Attributes:

Field Value

Blow out/flat tire, (specify) :

1

Used when a vehicle in motion loses control as the result of a tire "air out." When this is coded, annotate the tire variable on the General Vehicle form.

Stalled engine

2

Used when a vehicle in motion loses engine power. A stalled engine situation must precipitate a collision to be coded in this variable. A vehicle which is stopped as the result of an engine malfunction does not take this code.

Disabling vehicle failure (e.g, wheel fell off) (specify) :

3

Used when a mechanical malfunction, such as a component of the vehicle suspension or steering system, leads to the critical reason for the collision. Specify which component failure was involved in the space provided under this element.

Non-disabling vehicle problem (e.g., hood flew up) (specify) :

4

Used when some mechanical abnormality occurred to this vehicle which leads to the critical reason for the collision. The abnormality must not be disabling damage. A space is provided under this element to specify the non-disabling vehicle problem.

Poor road conditions (puddle,pot hole,ice,etc.) (specify) :

5

Used when there is control loss due to environmental conditions of the roadway. These conditions must have initiated the precrash event which resulted in the collision. A space is provided under this element to specify the road condition attributed to initiating the precrash event.

Traveling too fast for conditions

6

Identifies this vehicle's movement relative to its surroundings in which the subsequent loss of control led to the collision. An example is a roadway departure on a curve where the driver fails to negotiate the curve and departs the roadway resulting in an impact. If the driver merely steers straight while in a curve and departs the roadway, then attributes Over the lane line on left side of travel lane, Over the lane line on right side of travel lane, Off the edge of the road on the left side, Off the edge of the road on the right side may apply.

Jackknife Event

7

Used when the control loss is associated with a jackknife event. For this variable, tractor jackknife events and trailer swing events are both considered to be jackknife events. A steering loss of control which precipitates the jackknife event is coded under this element (i.e., control recovery is prohibited by the jackknife).

Cargo Shift

8

Used when the control loss is associated with/results from a cargo shift event. In this circumstance, the cargo shift must occur prior to or simultaneously with the control loss.

Other cause of control loss (specify) :

9

Used when it is determined that this vehicle's loss of control is the primary reason which makes the event critical and the previous loss of control attributes do not adequately identify the control loss condition.

Unknown cause of control loss

19

Used when it is known that a control loss made the situation critical, but it is not known whether the vehicle or the environment causes the control loss.

Precrash Assessment

Screen Name: Critical Pre-Crash Event
Field Variable: PRECRASH.CRITICAL_EVENT

Over the lane line on left side of travel lane	20
<p>Used when this vehicle departs its lane to the left and is entering or had entered the adjoining lane or shoulder. To use this code, change of travel path by this vehicle must precipitate the critical event for the collision. As an example, this vehicle attempts to pass another vehicle on the other vehicle's left and is struck by a vehicle traveling within its travel lane in the opposite direction. The correct code for this vehicle would be Over the lane line on left side of travel lane. However, by modifying the scenario slightly the lane change may not always be the factor leading to the precrash event. Consider the same situation where this vehicle is passing to the left of the lead vehicle. If an animal runs into the roadway and is struck by this vehicle, then the correct choice would be Animal in roadway.</p>	
Over the lane line on right side of travel lane	21
<p>Used when this vehicle departs its lane to the right and is entering or had entered the adjoining lane or shoulder. To use this code, change of travel path by this vehicle must precipitate the critical event for the collision. As an example, this vehicle attempts to pass another vehicle on the other vehicle's right and is struck in the rear by a vehicle traveling within its travel lane in the same direction. The correct code for this vehicle would be Over the lane line on right side of travel lane. However, by modifying the scenario slightly, the lane change may not always be the factor leading to the precrash event. Consider the same situation where this vehicle is passing to the right of the lead vehicle. If an animal runs into the roadway and is struck by this vehicle, then the correct choice would be Animal in roadway.</p>	
Off the edge of the road on the left side	22
<p>Used when the initial precrash event occurs beyond the left side shoulder area. This also includes departure into a median.</p>	
Off the edge of the road on the right side	23
<p>Used when the initial precrash event occurs beyond the right side shoulder area.</p>	
End departure	24
<p>Used when the vehicle departs the end of the roadway (e.g. T-intersection).</p>	
Turning left at intersection	25
<p>Used when this vehicle attempts a left turn from its roadway to another roadway or driveway.</p>	
Turning right at intersection	26
<p>Used when this vehicle attempts a right turn from its roadway to another roadway or driveway.</p>	
Crossing over (passing through) intersection	27
<p>Used when this vehicle's travel as proceeding through the intersection without any planned turning.</p>	
This vehicle decelerating	28
<p>Used when the vehicle is decelerating, or has just stopped and is immediately struck.</p>	
Unknown travel direction	29
<p>Used for those occasions where this vehicle's travel made the situation critical, but it is unknown which travel direction this vehicle is moving.</p>	
Other vehicle stopped	50
<p>Identifies a situation where the other vehicle is not in motion (i.e., stopped, parked, disabled) and in this vehicle's travel lane. This code should not be used if the other vehicle just stopped and is immediately struck.</p>	
Traveling in same direction with lower steady speed	51
<p>Used when the other vehicle is the lead vehicle in the same travel lane, traveling in the same direction, and is traveling slower than this vehicle.</p>	

Pre-crash Assessment

Screen Name: Critical Pre-Crash Event
Field Variable: PRECRASH.CRITICAL_EVENT

Traveling in same direction while decelerating	52
Used when the other vehicle is the lead vehicle in the same travel lane, traveling in the same direction, and is decelerating.	
Traveling in same direction with higher speed	53
Used when the speed of the other vehicle is higher than this vehicle or the other vehicle is accelerating. The other vehicle must be overtaking this vehicle.	
Traveling in opposite direction	54
Used when the other vehicle is in this vehicle's travel lane and traveling head-on in the opposite direction of this vehicle.	
In crossover	55
Used when the other vehicle enters a crossover already occupied by this vehicle. A crossover is defined as a designated opening within a median used primarily for U-turns.	
Backing	56
Used when the other vehicle is in the process of backing up while in this vehicle's travel lane.	
Unknown travel direction of other motor vehicle in lane	59
Used for situations where the other vehicle's activity (while in the same lane as this vehicle) precipitated the pre-crash event, but the travel direction and/or speed cannot be determined.	
From adjacent lane (same direction) - over left lane line	60
Used when the other vehicle is traveling in the same direction as this vehicle and crosses the left lane line with respect to this vehicle's travel lane (i.e. other vehicle crosses its right lane line).	
From adjacent lane (same direction) - over right lane line	61
Used when the other vehicle is traveling in the same direction as this vehicle and crosses the right lane line with respect to this vehicle's travel lane (i.e. other vehicle crosses its left lane line).	
From opposite direction - over left lane line	62
Used when the other vehicle crosses the left lane line while traveling in the opposite direction from this vehicle (i.e. includes drifts and left turns by other vehicle).	
From opposite direction - over right lane line	63
Identifies a situation where the other vehicle crosses the right lane line while traveling in the opposite direction from this vehicle.	
From parking lane	64
Used when the other vehicle is departing a parking lane and entering the travel lane of this vehicle.	
From crossing street, turning into same direction	65
Used when the other vehicle is turning from another roadway onto this vehicle's roadway and attempts to travel in the same direction as this vehicle.	
From crossing street, across path	66
Used when the other vehicle is continuing straight through the intersection and attempts to cross over this vehicle's roadway.	
From crossing street, turning into opposite direction	67
Used when the other vehicle is entering an intersection from another roadway and is turning or attempting to turn onto this vehicle's roadway in the opposite travel direction of this vehicle.	

Pre-crash Assessment

Screen Name: Critical Pre-Crash Event
Field Variable: PRECRASH.CRITICAL_EVENT

From crossing street, intended path not known	68
Used when the other vehicle's entrance into the intersection is the critical factor which leads to the collision, however, the other vehicle's travel direction can not be determined.	
From driveway, turning into same direction	69
Used when the other vehicle is turning from a driveway onto this vehicle's roadway and attempts to travel in the same direction as this vehicle.	
From driveway, across path	70
Used when the other vehicle is entering this vehicle's roadway from a driveway and is continuing straight across to another driveway or roadway.	
From driveway, turning into opposite direction	71
Used when the other vehicle is entering this vehicle's roadway from a driveway and is attempting to turn into the opposite travel direction of this vehicle.	
From driveway, intended path not known	72
Used to identify driveway related precrash events where details surrounding the other vehicle's intended path are not known.	
From entrance to limited access highway	73
Used for entrance ramp situations where the other vehicle is attempting to enter (merge) onto the limited access highway which is being traveled by this vehicle.	
Encroachment by other vehicle - details unknown	79
Used for situations where the other vehicle initiates the critical precrash event, but circumstances surrounding the other vehicle's encroachment are not known.	
Pedestrian in roadway	80
Used when a pedestrian is present (e.g. sitting, standing, walking, or running, etc.) in the roadway.	
Pedestrian approaching roadway	81
Identifies situations where a pedestrian is within the trafficway and moving toward the roadway or is attempting to enter the roadway, but is not on the roadway.	
Pedestrian - unknown location	82
Used when it is determined the presence or action of a pedestrian is the critical factor which leads to this vehicle's collision, but the location or action of the pedestrian is not known.	
Pedalcyclist or other nonmotorist in roadway (specify) :	83
Used when a pedalcyclist or other nonmotorist is present in the roadway (irrespective of relative motion).	
Pedalcyclist or other nonmotorist approaching roadway (specify) :	84
Identifies situations where the pedalcyclist or other nonmotorist is within the trafficway and moving toward the roadway or attempting to enter the roadway, but is not on the roadway.	
Pedalcyclist or other nonmotorist - unknown location (specify) :	85
Used when it is determined the presence or action of a pedalcyclist or other nonmotorist is the critical factor which leads to this vehicle's collision, but the action of the pedalcyclist or other nonmotorist is not known.	
Animal in roadway	87
Used when an animal is present (i.e. stationary or moving) in the roadway.	

Pre-crash Assessment

Screen Name: Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_EVENT

Animal approaching roadway	88
Used in situations where an animal is within the trafficway and moving toward the roadway or attempting to enter the roadway, but is not on the roadway.	
Animal - unknown location	89
Used when it is determined the presence or action of an animal is the critical factor which leads to this vehicle's collision, but the action of the animal is not known.	
Object in roadway	90
Used when an object is present in the roadway. An object is defined as being either fixed or nonfixed.	
Object approaching roadway	91
Identifies situations where an object is within the trafficway and moving toward the roadway, but is not on the roadway.	
Object - unknown location	92
Used when it is determined the presence or movement of an object is the critical factor which leads to this vehicle's collision, but details surrounding the location of the object are not known.	
Other (specify) :	93
Used when a critical factor not previously listed resulted in the collision for this vehicle. Previous impacts in the crash are not considered as the other critical pre-crash events. For example, use this code if the critical event developed from this vehicle's departure from a driveway.	
Not involved first harmful event	94
Used when this vehicle is not involved in the first harmful event in the crash sequence.	
No driver present	-8888
Unknown	-9999
Used when the critical pre-crash event which resulted in the collision is not known. Missing interviews do not automatically result in the use of the "Unknown" code.	

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

Label: Critical reason for critical pre-crash event

Remarks

This variable establishes the critical reason for the occurrence of the critical event. The critical reason is the immediate reason for this event and is often the last failure in the causal chain (i.e., closest in time to the critical precrash event).

Although the critical reason is an important part of the description of crash events, it is not the cause of the crash nor does it imply the assignment of fault. The concept of right-of-way and a number of other causal-related variables are coded in other locations on the Precrash Assessment Form. The primary purpose of the critical reason variable is to enhance the description of crash events and to thus allow analysts to better categorize similar events.

The following general guidelines apply to coding the critical reason for the critical event:

- Generally, one critical reason is assigned per crash (NOTE: exception occurs in simultaneous events such as two vehicles entering an uncontrolled intersection at the same time).
- Coded to vehicle/nonmotorist action/event that makes the collision inevitable.
- Critical reason can be subjective in nature.
- Final selection is based on the preponderance of evidence.

The listing of critical reasons, as provided in this variable covers driver decisions and conditions; vehicle failures; and environmental conditions including weather, roadway condition, and highway design factors. In essence, this listing has been constructed to permit the choice of any of the three primary categories of contributors - vehicle, driver, and environment. Three example scenarios are presented in the material below to demonstrate appropriate coding conventions in the critical reason variable.

Example 1: A car drifts into the opposing lane and collides head-on with a truck.

The car driver was fatigued and had fallen asleep. The critical event is This vehicle traveling over the lane line on the left side of travel lane and the critical reason for the critical event is Sleep, that is, actually asleep.

Example 2: A truck turns left, across the path of an oncoming car at an intersection.

The truck driver had a left turn arrow, observed the on-coming vehicle, and assumed that this vehicle would stop. The two vehicles subsequently collided left front to left front in the intersection. The critical event in this example is the truck's Turn across the path of the on-coming vehicle. For the truck driver, the critical reason is coded as False assumption of other road user's actions.

[NOTE: Timing issues can be very relevant to the scenario described in this example.

Specifically, if the truck driver proceeded further through his intended left turn such that the truck was struck in the side (e.g., rear drive wheels of tractor), then the critical event and critical reason would be coded to the car driver.]

Example 3: A truck fails to slow for traffic ahead. The traffic is stopped for a displayed red signal phase at an intersection. Most of the truck's brakes are out of adjustment and when the driver attempts to stop, the brakes are unable to stop the vehicle in time to avoid a front to rear impact sequence with the vehicle forward of the truck's position.

The Critical event in this example is Other motor vehicle in lane other vehicle stopped. For the truck driver, the Critical reason is coded as Degraded braking capability. It should be noted that Brakes failed is not used in this example because the Brakes failed code is reserved for sudden catastrophic failure. [NOTE: It is recognized that timing issues and driver awareness issues can play a role in this scenario. For example, if the driver was attentive, was unaware of the vehicle's degraded braking capability, and had intended to complete a "normal" stop, then the Non-disabling vehicle problem or This vehicle decelerating elements may be more appropriate selections for the truck's critical precrash event designation.]

The primary intent of the critical reason variable is to provide more detail about what happened in the crash sequence. For example, in the case (example 2) where the truck driver exercised his right-of-way and turned left in front of approaching traffic, the critical reason False assumption indicates that the driver saw the on-coming traffic, but did not verify that the approaching vehicle was going to stop. The critical event is determined independent of the legal system and in this case is the left turn initiated by the truck driver. The Critical reason provides the

Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

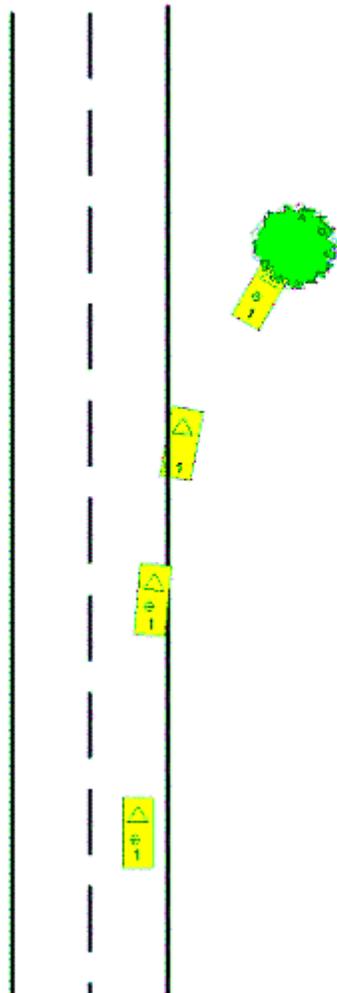
Field Variable: PRECRASH.CRITICAL_REASON

explanation for the turn. In this case, the Critical reason is that the turning driver thought that the approaching vehicle was going to stop (a false assumption).

Example Scenarios Demonstrating Coding Sequences For PAF Variables 1-3

A total of 10 example scenarios are presented in the following materials. The scenarios demonstrate proper code sequences for variables 1-3 in a range of crash circumstances. These examples will provide researchers a correct set of basic sequences that can be modified to code real world crash sequences.

1-Single Vehicle Run-off-road



- Driver on the road 9 hrs.
- Driver fell asleep
- 11:30 PM
- Dry road
- 45 mph speed limit

PM -Going Straight (1)

CPE - This vehicle traveling - Off the edge of the road on the right side (23)

CRFTCE -Critical Non-performance error- Sleep, actually asleep (100)

PM - Pre-event movement

CPE- Critical Precrash Event

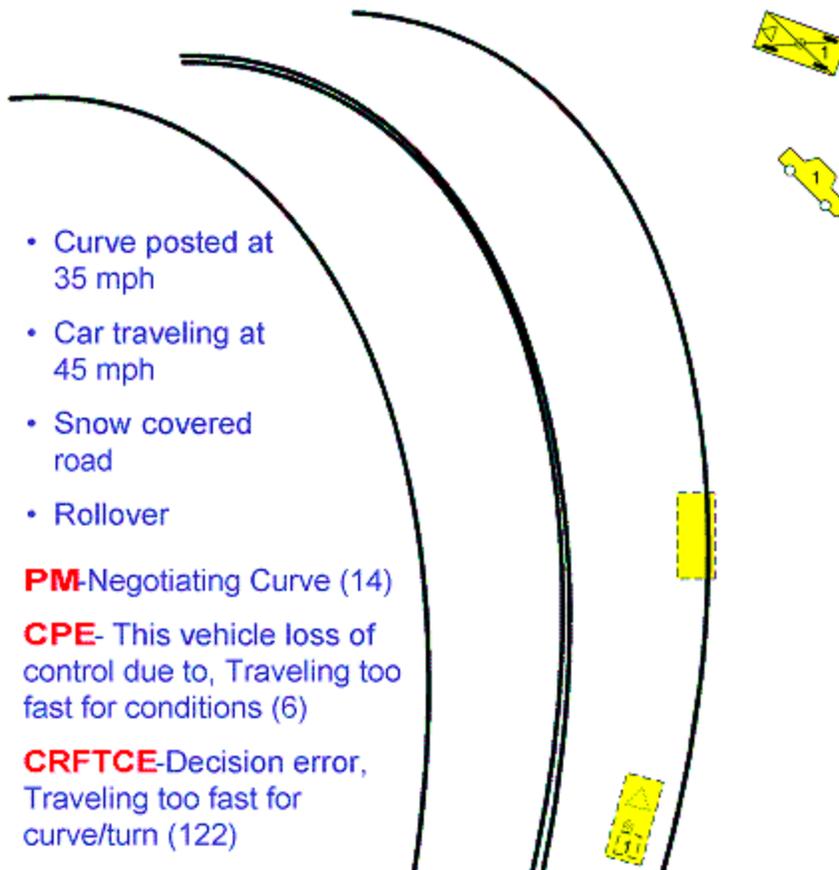
CRFTCE-Critical Reason for the Critical Event

Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

2-Single Vehicle Run-off-road Rollover

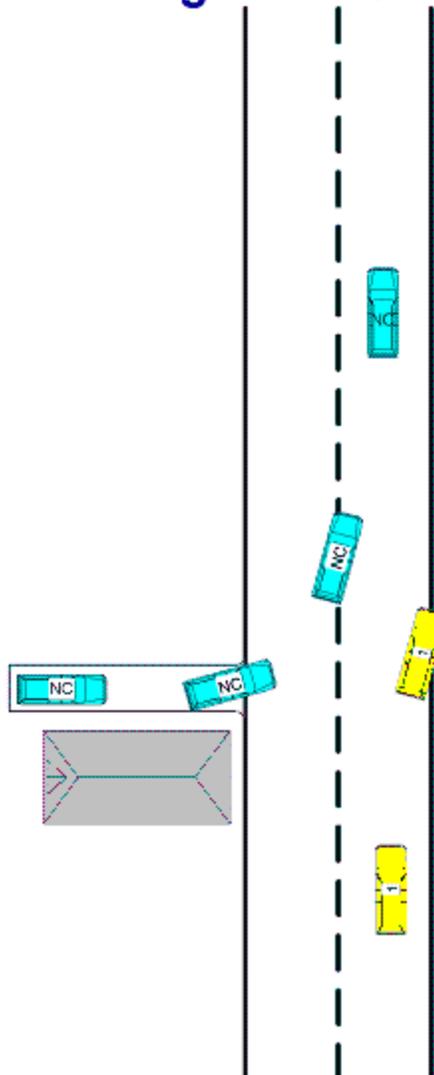


Pre-crash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

3-Single Vehicle Run-off-road Avoiding Vehicle



PM-
avoidance
maneuver to a
previous critical
event (17)

CPE-Off the edge
of the road on the
right side (23)

CRFTCE-View
obstructed by
roadway
design/furniture
(503)

- 45 mph speed limit
- 40 mph V1 (truck) travel speed
- Vision of non contact (NC) vehicle blocked by building

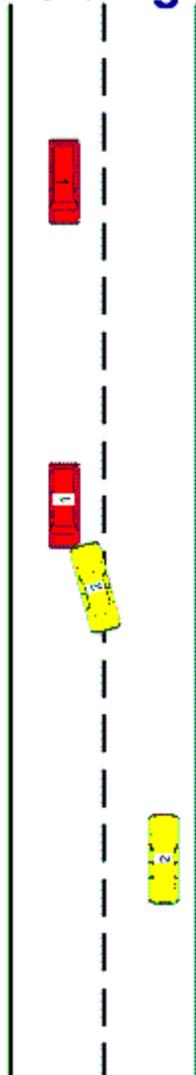
Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

4-Lane Change Avoiding Animal

- Animal approaches roadway
- V2 driver drowsy
- V2 driver steers to left
- V2 strikes V1 in opposite travel lane



V1

PM-Going Straight (1)

CPE-Other MV encroaching into lane, From opposite direction-over left lane line (62)

CRFTCE-No critical reason assigned to this vehicle (1)

V2

PM-Going Straight (1)

CPE-Animal approaching roadway (88)

CRFTCE-Inattention (110)

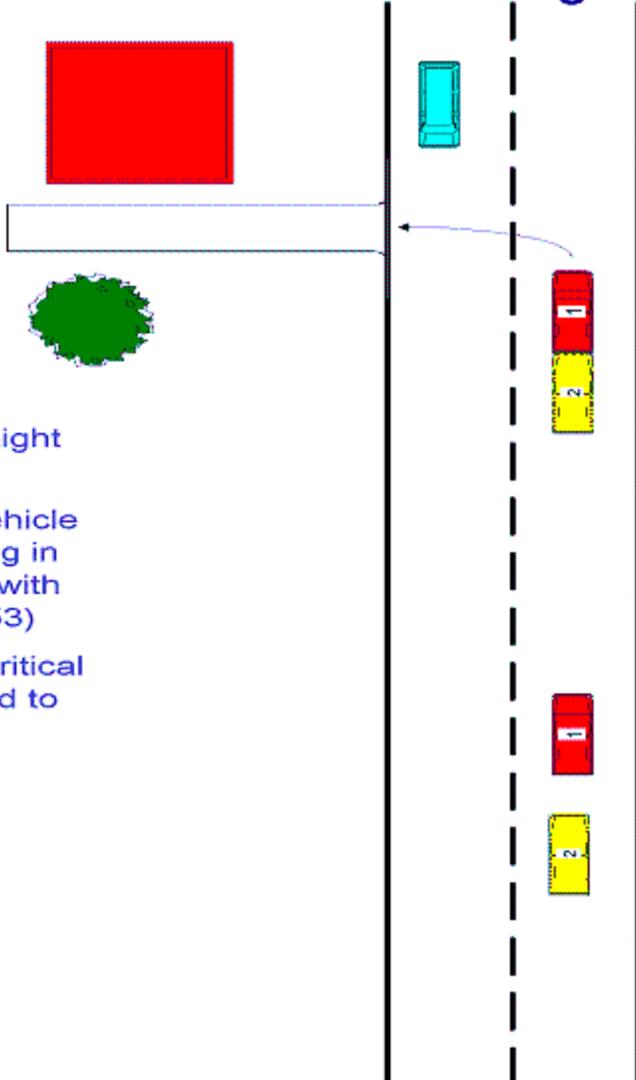
Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

5-Front to Rear Lead Vehicle Turning

- Lead vehicle (V1) stops for on-coming traffic to pass
- V1 Intends to turn left into driveway
- Truck driver (V2) looking out window to right
- Travel speed 35 mph



V1

PM—Going straight (1)

CPE— Other vehicle in lane, Traveling in same direction with higher speed (53)

CRFTCE—No critical reason assigned to this vehicle (1)

V2

PM—Going straight (1)

CPE—Other vehicle in lane, Other vehicle stopped (50)

CRFTCE— Recognition error, External distraction (112)

Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

6-Front to Rear Lead Vehicle Stops



- Traffic comes to a sudden stop
- V1 applies brakes and avoids impact with non contact (NC) vehicle
- V2 tailgating
- V1 struck by V2



V1

PM-
avoidance
maneuver (17)
CPE-This vehicle
decelerating (28)
CRFTCE-No critical
reason assigned to
this vehicle (1)

V2

PM-Going
Straight (1)
CPE-Other
vehicle in lane ,
traveling in same
direction while
decelerating (52)
CRFTCE-
Following too
close to respond
to unexpected
actions of other
road users (125)

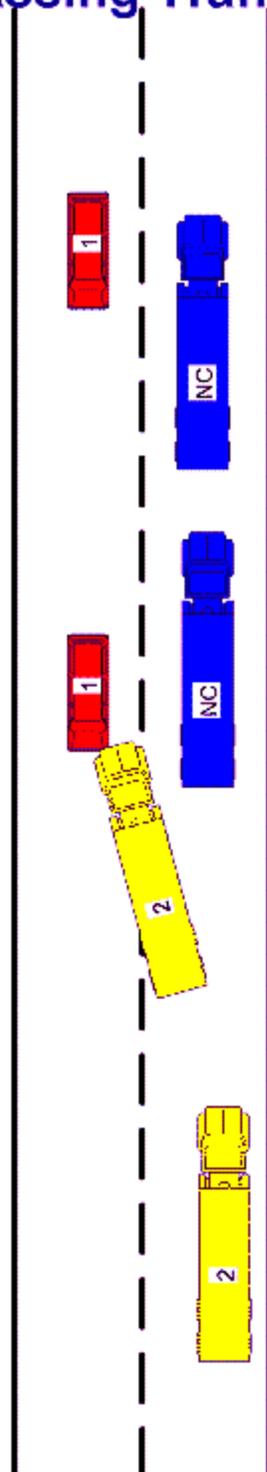
Pre-crash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

7-Lane Change Passing Traffic

- Slow moving traffic
- V2 begins to pass
- Does not immediately notice V1
- Uphill slope of 2%



V2

PM—Going straight (1)

CPE—This vehicle traveling- Over the lane line on left side of the travel lane (20)

CRFTCE—Recognition error, Inadequate surveillance (113)

V1

PM—Going straight (1)

CPE—Other MV encroaching into lane, From opposite direction -over left lane line (62)

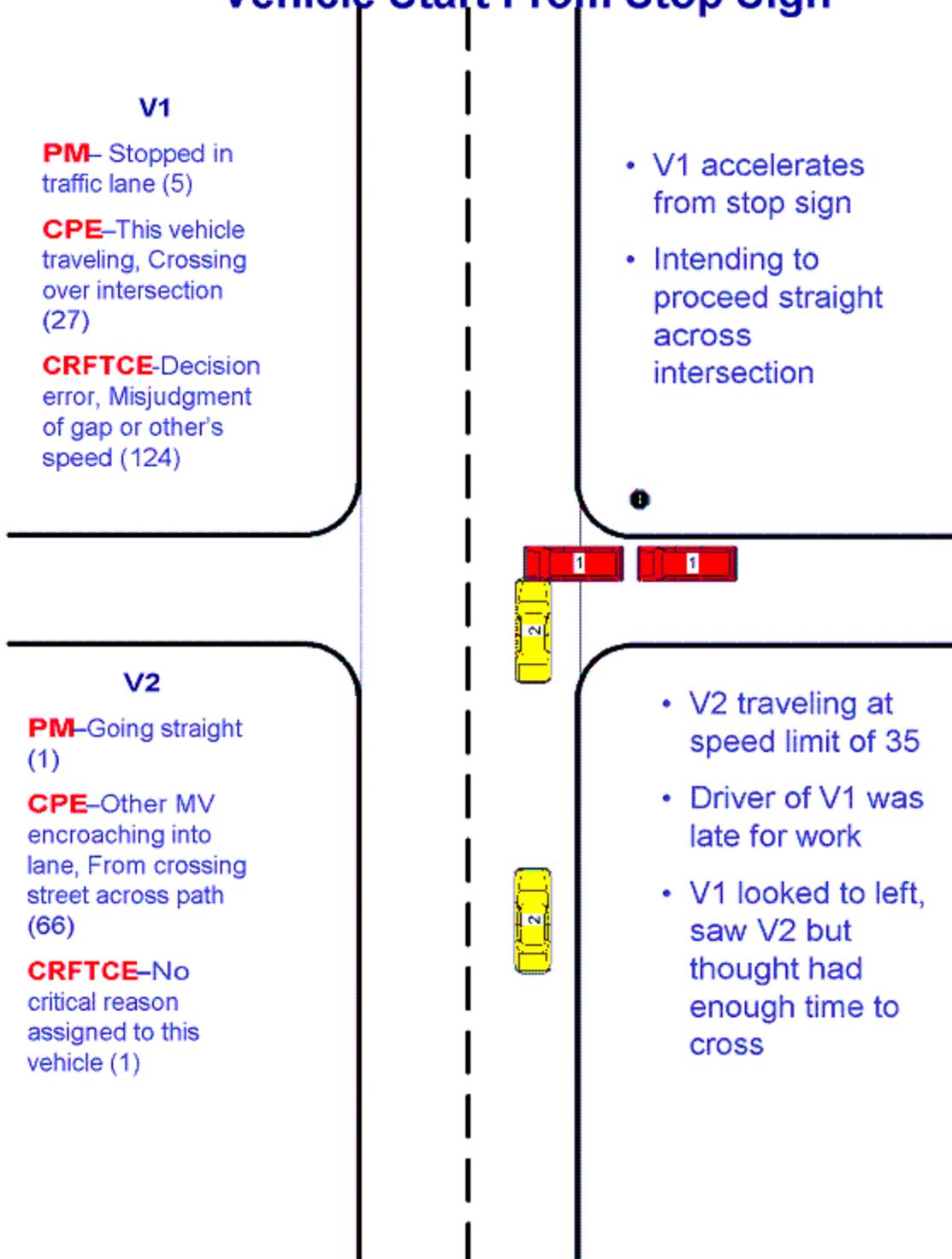
CRFTCE—No critical reason assigned to this vehicle (1)

Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

8-Intersection Vehicle Start From Stop Sign

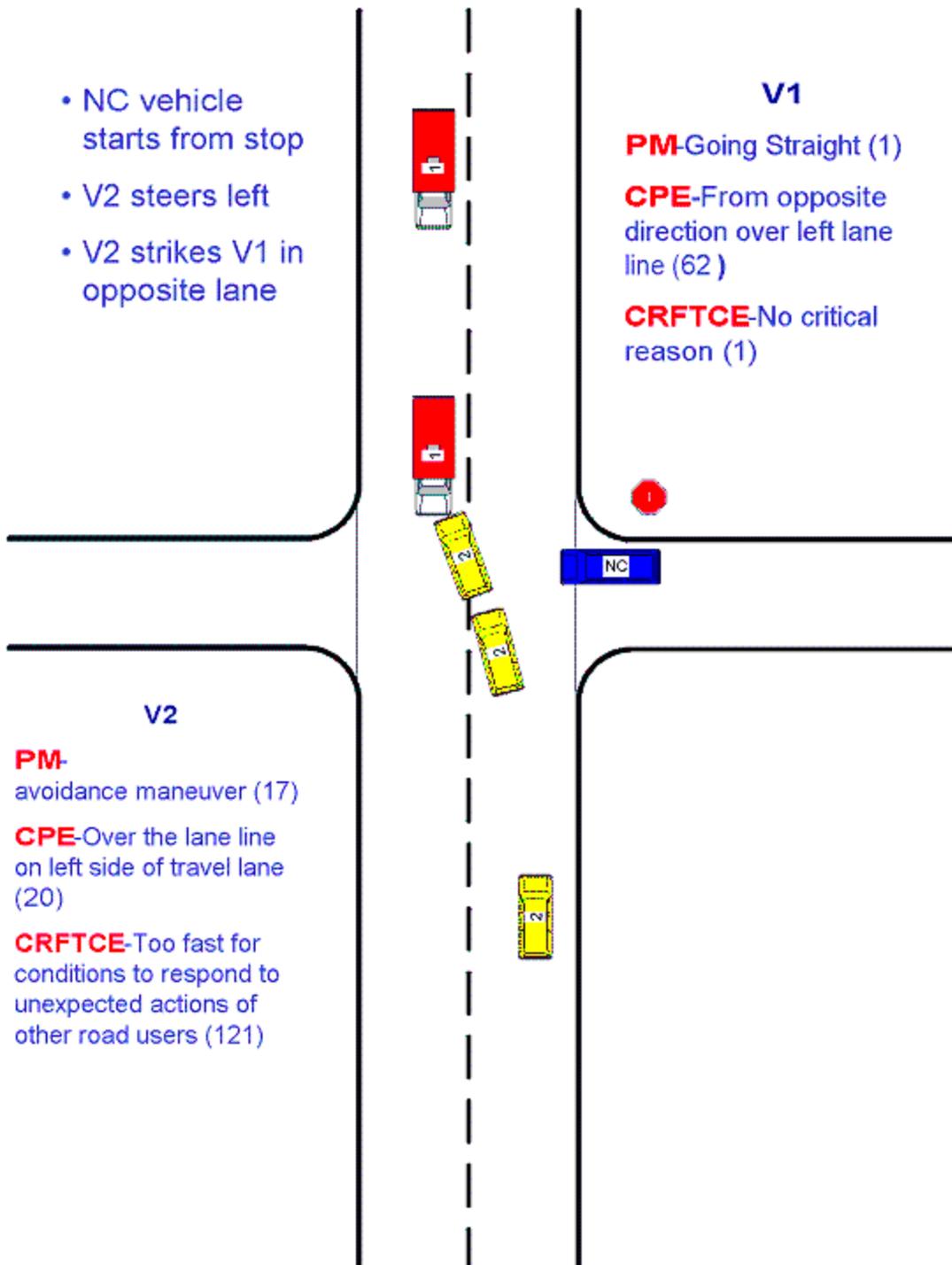


Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

9-Lane Change Avoids Vehicle

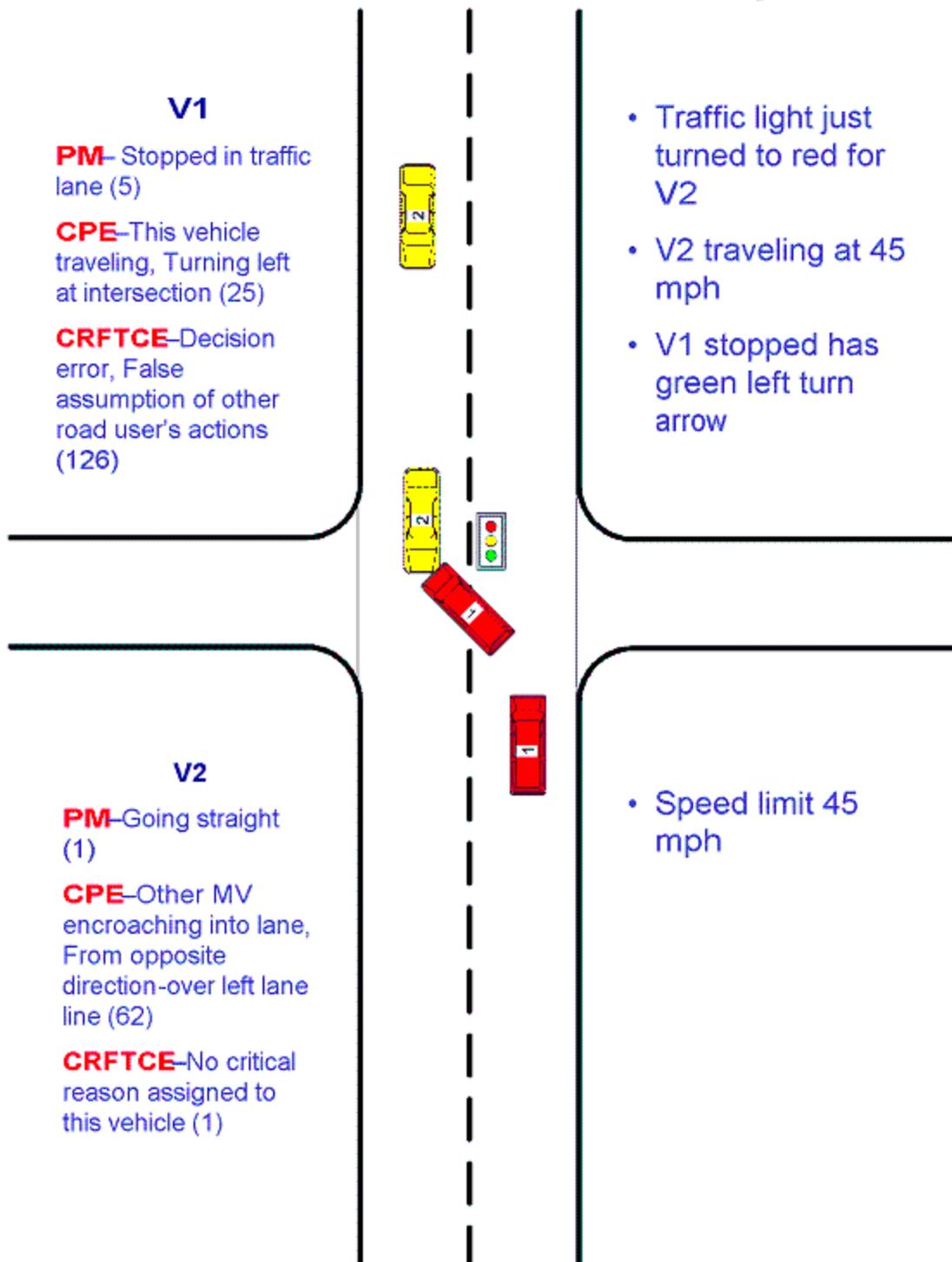


Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

10-Intersection Turn Across Path, Traffic Light



Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

Range: 1 - 2, 100 - 102, 109 - 114, 119 - 133, 139, 141 - 144, 149, 199 - 213, 299, 500 - 510, 520 - 523, 525 - 527, 9999, -8888

Method: Fill a single item

Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

Element Attributes:

Field Value

Critical reason not coded to this vehicle	1
Used when the critical reason is coded to the other vehicle or nonmotorist involved in the crash sequence.	
Critical reason assigned to non-motorist	2
Sleeping, that is, actually asleep	100
Used in situations where the driver is asleep and no longer consciously in control of the vehicle. The element is not used when the driver's judgment, reactions, or perception are impaired as a result of fatigue.	
Heart attack or other physical impairment of the ability to act	101
Used when the driver is incapacitated due to some form of physical impairment such as a heart attack, seizure, fainting, blackout, etc. Use of this element implies that the driver relinquished steering control.	
Other critical non-performance (specify) :	102
Used to indicate other major forms of non-performance. A driver who passes out as a result of alcohol or drug ingestion is classified using this element along with an annotation specifying the specific source of the non-performance.	
Unknown critical non-performance	109
Used when scene evidence, other driver statements, or witness statements indicate that this driver was not functioning, but the specific reason for the non-performance cannot be determined.	
Inattention (i.e., daydreaming)	110
Used when the driver fails to recognize a situation that demands a response because his/her attention has wandered from the driving task for some non-compelling reason. In this circumstance, the driver is typically focusing on internal thoughts (i.e., daydreaming, problem solving, worrying about family problem, etc.) and not focusing attention on the driving task.	
Internal distraction	111
Reserved for crashes in which the driver fails to recognize a situation requiring a response because his/her attention is directed to some event, object, person, or activity inside the vehicle. Relevant examples include tuning the radio, adjusting the heat/cooling system, engaging in a conversation with a passenger, using a cell phone, retrieving fallen objects, reading books/magazines/maps/invoices, etc.	
External distraction	112
Reserved for crashes in which the driver fails to recognize a situation requiring a response because his/her attention is directed to some event, object, person, or activity outside the vehicle. Relevant examples include searching for a street address, construction activity, looking at a building or scenery, looking at a sign, looking at a previous crash site, etc. Distractions are distinguished from inattention in that distractions induce the driver to focus attention on the distraction. This category takes precedence over the next category (Inadequate surveillance). If, for example, a driver fails to look because he/she is distracted, code external or internal distraction as appropriate.	
Inadequate surveillance (e.g., failed to look, looked but did not see)	113
Used when the driver is in a situation where he/she is required to look to safely complete a maneuver and either fails to look in the appropriate place or looks, but does not see. Examples include lane changes and turns at intersection where the driver looks in the required directions, but fails to recognize approaching traffic. Inattention, internal distraction, and external distraction all take precedence over this category. Use the inattention/distraction categories if the driver is not attentive to the driving task for any of these reasons. If, however, the driver is paying attention to the driving task and is in a situation which requires surveillance of surrounding traffic and the driver fails to do so, the "inadequate surveillance" category should be used. Additionally, if the vehicle is equipped with ABS and the driver brakes but fails to attempt a steering maneuver to avoid impact, this code is inappropriate.	

Pre-crash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

- Other recognition error (specify) : 114
Used when there is a delay in recognition or a failure to recognize that is not described in preceding categories.
- Unknown recognition error 119
Used when it can be established that the driver failed to perceive or comprehend the surrounding situation/circumstances, but the precise reason cannot be established.
- Too fast for conditions (specify) : 120
Used when the subject vehicle is proceeding at a speed that is greater than a reasonable standard of safe driving. Whether a vehicle's speed is excessive is a subjective evaluation, though there are scenarios where most analysts would agree. For example, a driver who is driving much faster than the rest of the traffic stream would probably be coded here, as would a driver who fails to slow down when encountering snowy or slippery conditions. On the other hand, if the driver clearly slows for a slick road condition and is making an attempt to negotiate the road safely, but still loses control due to the slippery condition, choose the "Slick Roads" attribute. (NOTE: There is a tendency to overuse this element which can be traced to the inherent subjectivity associated with this element. To determine if the speed is excessive, compare the estimated value to a reasonable standard of safe driving. If there is evidence that the driver was attempting to proceed at a safe speed but failed, consider whether other element values might be more appropriate. For example, if a truck driver is negotiating an exit ramp at a speed well under the posted limit, but the truck rolls over, the Signs/signals inadequate attribute or the Road design - road geometry attribute might be more appropriate.)
- Too fast to be able to respond to unexpected actions of others (specify) : 121
Used when the subject vehicle is proceeding at a speed that is greater than a reasonable standard of safe driving. In addition to the speed factor, a second vehicle (either a contact or non-contact vehicle) initiates an action to which the driver cannot successfully respond due to excessive speed. An example would be a situation in which a driver is following another vehicle on a wet roadway and the lead vehicle suddenly brakes in order to make a turn and the following vehicle cannot come to a controlled stop behind it (e.g. the following vehicle skids off the road).
- Too fast for curve/turn 122
Used when the driver is negotiating a curve in the road or executing a turn at a speed that is greater than prudent - consequences might include a rollover event or some other loss of control. In this situation, the driver is usually attempting to negotiate the curve at a speed greater than the posted speed limit for the curve.
- Misjudgment of gap or other's speed 124
Used in situations where a driver misjudges the length of a gap or the speed of an on-coming vehicle and pulls out or turns inappropriately. An example is a driver making a left turn who misjudges the gap in approaching (head-on) traffic and executes the turn at the wrong time. Another example is a driver turning right from a driveway onto a road. This driver misjudges the speed of traffic approaching from his left and pulls out into the path of this traffic.
- Following too closely to respond to unexpected actions 125
Used for situations in which one vehicle is following another vehicle so closely that even if the following driver is attentive to the actions of the vehicle ahead, he/she could not avoid a collision in the circumstance when the lead driver brakes suddenly.
- False assumption of other's actions 126
Used when a driver takes an action or fails to act based on an assumption of another driver's behavior which proves to be false. A typical example would be a left turn with the right-of-way where the turning driver assumes the on-coming vehicle will yield the right-of-way. Another example is a driver waiting to pull out into traffic who sees an approaching vehicle that is signaling to turn. The driver assumes the approaching vehicle will turn before reaching the vehicle's position and pulls out. The signaling vehicle, however, does not turn and collides with the vehicle pulling out.
-

Pre-crash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

Illegal maneuver	127
Used for maneuvers that are illegal and clearly unsafe. Examples include turning from the wrong lane, going straight in a turn lane, going the wrong way on a one-way street, and passing at an unsafe or improper location.	
Inadequate evasive action, e.g. braking only, not braking and steering	129
Used in situations when the collision could have been avoided if the driver executes a reasonable evasive maneuver but fails to do so. For example, if a collision can be avoided by braking and steering, but the driver only brakes, this element is the appropriate code. Use this element if the driver fails to initiate sufficient action(s) to avoid the crash.	
Incorrect evasive action	130
Used when the driver initiates an evasive action, but it is the incorrect choice. For example, a driver who reacts to a situation in front of him by steering off the roadway rather than braking when braking alone would have been a successful avoidance maneuver.	
Aggressive driving behavior	131
Applies to specific patterns of behavior that include speeding, tailgating, weaving, red-light running, and abrupt speed changes. Patterns of behavior directed at other motorists such as gestures (including obscene), flashing lights, horn honking, and deliberately obstructing the path of others are particularly relevant. If the driver engages in these activities and the immediate action that results in the critical event does not fit into any of the other listed categories, use of this element is appropriate.	
Other decision error (specify) :	132
Used for decision errors that are not described in preceding categories. An annotation which specifies the decision error type is required.	
Turned with obstructed view	133
Used when this driver initiates a turn (typically left turn) at an intersection or into/out of a driveway, when his/her sightline to approaching traffic is not clear. Typically, the view obstruction involves an intervening in-transport vehicle. This decision makes the situation critical. If the view obstruction involves a legally parked vehicle, then code highway related factor, view obstructed by other vehicles.	
Unknown decision error	139
Used when it is evident that a decision error has been committed, however, there is insufficient information to determine the precise nature of the error. Use of this code often reflects the lack of detailed interview data.	
Panic/freezing	141
Used in situations in which a collision might be avoided if the driver does not either panic or freeze. Panic refers to irrational and impulsive actions that obviously do not assist the effort of crash avoidance (e.g., driver taking hands off steering wheel and screaming). Freezing refers to drivers who cannot move or cannot think of an evasive maneuver and, therefore, do nothing.	
Overcompensation	142
Used in situations in which a driver overreacts to a situation requiring some adjustment in the velocity or path of the subject vehicle. A typical example is a driver running partly off the road to the right and overcorrecting to the left into on-coming traffic.	

Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

Poor directional control (e.g., failing to control vehicle with skill ordinarily expected) 143

Applies to situations in which the driver fails to maintain the degree of vehicle control ordinarily expected of a good driver. It is not intended for situations when a high degree of skill is required. This element is probably most applicable to unskilled, novice drivers or older drivers with degraded skills. In situations where there is evidence that the driver is not maintaining control as a result of inattention or distraction, those codes should be used.

Other performance error (specify): 144

Used for errors in vehicle control that are not described in preceding elements of this category. An annotation is required to specify the performance error type.

Unknown performance error 149

Used when it is evident that a performance error has been committed, but the precise nature of the error cannot be determined.

Type of driver error unknown 199

Used when there is evidence that a driver-related factor is the critical reason, but the nature of the driver factor cannot be more precisely determined. For example, if it cannot be determined if the driver looked but failed to see (recognition error) or misjudged a gap (decision error), then Type of driver error unknown is the appropriate element selection. (NOTE: This circumstance occurs most frequently when there is a lack of detailed interview data.)

Brakes failed 200

Used if the vehicle's brakes suddenly fail. If the brakes are still functional, but out of adjustment and failed to stop the vehicle in time to avoid the collision, use Degraded braking capability code.

Degraded braking capability 201

Used when the vehicle's brakes are degraded to such an extent that the driver could not stop the vehicle in time; however, there was NOT a catastrophic brake failure. This should be used ONLY when there is sufficient evidence to support this claim, ie excessive stopping distance, no skidmarks in non-ABS vehicle, etc.

Tires/wheels failed 202

Used when there are catastrophic failures such as blowouts, tread separations, and wheel separations. If the reason for the tire/wheel failure was due to a pothole then Maintenance problems (potholes, deteriorated road edges, etc.) is more appropriate. Bald and/or under-inflated tires are not considered catastrophic failures. These conditions would be coded as Other tire degradation and specify the condition on the GV form.

Other tire degradation 203

Used when some condition of the tires is present and compromises the driver's ability to control the vehicle with the skill normally expected. This code should be used to document tire conditions that may degrade the vehicle's handling characteristics (e.g. low tire pressure, or insufficient tread depth). This should be used ONLY when there is sufficient evidence to support this claim. This variable should not be used for catastrophic tire failures such as blowout, tread separations, or rapid losses of air. In those cases, use Tires/wheels failed.

Steering failed 204

Used when there is a sudden loss of steering associated with component failure in the steering system.

Suspension failed 205

Used when a failure occurs in the suspension system. This failure must be traced to a subsequent loss of control or other collision related event (i.e., jackknife, rollover, etc.).

Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

Transmission/engine failure	206
Used when the vehicle's engine or transmission failed such that the vehicle lost power and the driver could not control the vehicle.	
Lights failed	207
Used when there is a sudden failure of the lighting system which subsequently leads to crash involvement.	
Vehicle related vision obstructions	208
Used when the driver's field of view is obstructed by improperly loaded cargo or unusual vehicle modifications. This element is not intended to capture the drivers inability to see traffic in the "blind spots" around the vehicle.	
Body, doors, hood failed	209
Used when vehicle components fail and lead to subsequent crash involvement. An example is a hood flying up, obstructing the driver's vision, and resulting in a subsequent loss of control.	
Cargo shifted	210
Used when it can be established that cargo shift was the precursor to the critical event rather than one of the effects of the event. It should be noted that drivers are typically unaware whether cargo shift caused a rollover or was the consequence of a rollover. Therefore, the specific roll of cargo shift will have to be determined from other sources such as vehicle inspection results or witness reports. It is expected that cargo shift as a critical reason will often be associated with tie down failure or improper loading. For example, a pickup truck heavily loaded with hay bales, loosely tied, enters a curve to the right at a reasonable speed. Witnesses reported that the cargo was swaying before the truck entered the curve. The pickup truck rolls over. Tie down for the load was inadequate. In this case, Cargo may be appropriate. However, if the truck had a trailer loaded with hay and the pickup was observed entering the curve at a high rate of speed, the driver may report cargo shift, but the cargo shift in this case is more likely the result of the rollover than the cause of the rollover.	
Trailer attachment failed	211
Used when trailer attachments (e.g., hitches) fail and there is either a separation of units or a loss of control.	
Jackknifed	212
Used when there is a sudden unexplained jackknife which precipitates crash involvement. Generally, jackknife will be the result of some previous vehicle control action. For example, a driver brakes heavily on wet pavement and as a result, the vehicle combination jackknifes. In these cases, the critical reason would be whatever leads to the braking and the critical event would be loss-of-control due to jackknife. An example where this element is appropriate as the critical reason is as follows. A tractor-semi trailer is proceeding along a snow covered Interstate roadway in the right lane. A passenger car begins to pass the combination in the left lane. As the car moves alongside the tractor-semi trailer, the combination begins to jackknife, precipitating the crash. The truck driver does not appear to have initiated any action which could have caused the jackknife (i.e., no braking/steering inputs). In this circumstance, element Jackknifed is an appropriate selection.	
Other vehicle failure (specify) :	213
Used in cases of vehicle failure where the specific failure is not described in preceding elements. It is also used in circumstances where the vehicle does not meet legal requirements for repair, but if the repairs had been completed, the driver would have been able to avoid the collision. An annotation is required to indicate the nature of the vehicle problem.	
Unknown vehicle failures	299
Used when it is clear that a vehicle failure of some type produced the critical event, but the nature of the failure cannot be determined.	

Precrash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

Signs/signals missing	500
Used when signs/signals are called for, but either have been removed or not yet installed. Signs/signals removed as a result of theft/vandalism are included in this element.	
Signs/signals erroneous/defective	501
Used when signs or signals are erroneous/defective and a functioning driver is misled by the signs, precipitating the critical event. Specifically, if the signs/signals had been correct or functioning properly, the driver would have the information needed to avoid the collision.	
Signs/signals inadequate	502
Used in situations where sign/signals do not provide sufficient information to a conscious and conscientious driver. For example, signs in or preceding a construction zone where traffic flow is modified may not provide enough information about traffic flow changes such that even an attempt to operate safely may not be enough to avoid a collision. Signs on ramps tend to be a second example. Posted speeds on entrance/exit ramps generally indicate safe speeds for automobiles.	
View obstructed by roadway design/furniture	503
Used for permanent roadside features such as billboards, signal supports, guardrails, or other similar objects block the vision of a driver to the extent that he/she is unable to see sufficiently to operate safely.	
View obstructed by other vehicles	504
Used if the driver's view is blocked by legally parked vehicles, the driver proceeds cautiously, but is still unable to avoid the collision as a direct result of his/her obstructed view. If the view obstruction is related to an in-transport vehicle then decision error, turned with obstructed view is the appropriate coding.	
Road design - roadway geometry (e.g., ramp curvature)	505
Used for roadway designs that deviate from AASHTO standards, where the design deficiency results in a collision, even though the driver is adhering to a reasonable standard of safe driving. If the road design conforms to AASHTO standards, but the signage is inadequate, use element Signs/signals inadequate.	
Road design - sight distance	506
Used when the road design does not meet AASHTO standards with respect to sight distance requirements. An example of this circumstance is a roadway which does not meet the AASHTO standard for sight distance within a marked passing zone. A second example might be the placement of an intersection with respect to a bridge structure such that a driver at an intersection cannot see far enough down the cross street to determine if it is safe to proceed (i.e., driver's view is obstructed by the bridge structure).	
Road design - other (specify)	507
Used for all other roadway design problems that produce the critical event and that are not described in either of the two preceding elements.	
Maintenance problems (potholes, etc.)	508
Used when road defects are the immediate cause of a loss of control event. For example, a blowout due to striking a pothole that results in a subsequent loss of control is coded using this element. Similarly, a loss of control that is directly attributable to a deteriorated road is also coded using this element.	
Slick roads (low friction road surface due to ice, loose debris, any other cause)	509
Used when a driver, operating in accordance with a reasonable standard of safe driving hits a patch of "black ice" and loses control. Similarly, if a driver knows that the road is slick and is attempting to proceed with due caution, but loses control or is unable to stop or slow safely, this element is also an appropriate selection.	

Pre-crash Assessment

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: PRECRASH.CRITICAL_REASON

Other highway-related condition (specify):	510
Used for all other highway-related conditions that are not described in preceding elements. An annotation is required to specify the relevant condition.	
Rain, snow	520
Used in cases involving sudden/heavy rainfalls or "white-outs" during snow storms when the precipitation obstructs the driver's view. If, however, it has been raining or snowing for a period of time and the driver does not conform to the changed conditions (i.e., operates at an unreasonable speed for the given conditions), then element attribute Too fast for conditions might be a more appropriate selection as the critical reason.	
Fog	521
Used when a driver suddenly encounters fog and cannot slow down in time to operate safely. If, however, the driver is out-driving his line of sight for a period of time, then element Too fast for conditions is a more appropriate selection as the critical reason.	
Wind gust	522
Used when a wind gust causes a driver to lose control or causes the driver to swerve from his/her intended path.	
Other weather-related condition (specify) :	523
Used for all other weather-related conditions that produce a critical event. An annotation is required to specify the weather condition.	
Glare	525
Used for both sunlight and headlight glare which obstructs the driver's vision. Use of this code implies that the glare is sudden and the driver does not have time to adjust. An example is a driver executing a left turn who is prevented by sun glare from detecting approaching traffic.	
Blowing debris	526
Used when blowing debris either obstructs the driver's view or causes the driver to swerve the vehicle to avoid the debris.	
Other sudden ambience change (specify):	527
Used for all other sudden changes in the driving environment that produce or lead to a critical event.	
No driver present	-8888
Unknown reason for critical event	9999
Used when there is insufficient information to determine a reason for the critical event.	

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Attempted Avoidance Maneuvers
Field Variable: AVOIDANCE.AVOID_MANEUVER

Label: Attempted avoidance maneuvers

Remarks

Attempted avoidance maneuvers are movements/actions initiated by the subject driver within the critical crash envelope in response to a Critical pre-crash event. Attempted avoidance maneuvers occur after the driver realizes an impending danger. This variable documents the driver's actions initiated in response to the realization of impending danger.

This variable may be used independently: (1) of any maneuvers associated with this driver's Crash Type, and (2) this vehicle's first associated crash event.

Select the element value which best describes the actions taken by the driver in response to the Critical pre-crash event.

Code all attributes that apply.

Range: 2 - 10, -77, -8888, -9999

Method: Fill all that apply

Pre-crash Assessment

Screen Name: Attempted Avoidance Maneuvers
Field Variable: AVOIDANCE.AVOID_MANEUVER

Element Attributes:	Field Value
None Used when the driver does not attempt to initiate any pre-impact evasive maneuver.	-77
Full ABS application Used when driver applies the brake pedal fully and feels the pulsing of the ABS system. If the scene evidence does not show intermittent skidmarks and/or driver cannot verify the pulsing sensation from the brake pedal, this code should not be used.	2
Braking without lock-up is selected when there is no indication that the brakes locked up.	3
Braking with lock-up is selected when there is indication that the brakes locked up. This code is generally not a valid choice for vehicles with anti- lock braking systems (ABS), unless definite evidence of lockup exists.	4
Braking (lock-up unknown) Used when it can be determined that the driver braked, but there is insufficient information to determine if lockup occurred.	5
Releasing brakes Used when the driver is braking prior to the critical event, but reduces brake pedal pressure in response to the critical event.	6
Steering left Used when the driver steers left in response to the critical event (i.e. avoidance maneuver in response to perceived danger).	7
Steering right Used when the driver steers right in response to the critical event (i.e. avoidance maneuver in response to perceived danger).	8
Accelerating Used when the driver accelerates in response to the critical event.	9
Other (specify) : Used when the driver initiates an avoidance maneuver that is not described in preceding categories. Multiple maneuvers and unusual combinations of actions are coded here. An annotation is required to describe the attempted avoidance maneuver/action.	10
No driver present Used if no driver is in the vehicle when the crash occurs.	-8888
Unknown Used when there is insufficient information to determine if the driver initiates an avoidance maneuver/action in response to the critical event.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Stability of Vehicle

Field Variable: PRECRASH.STABILITY

Label: Pre-impact stability of vehicle

Remarks

The purpose of this variable is to assess the stability of the vehicle after the critical event but before the impact.

The stability of the vehicle prior to an avoidance action is not considered except in the following situation: A vehicle that is out of control (e.g., yawing clockwise) prior to an avoidance maneuver is coded Other control loss (specify) only if an avoidance action was taken in response to an impending danger. Thus, this variable focuses upon this vehicle's dynamics after the critical event.

It is important to correctly analyze the tire marks at the scene to determine skidding vs full ABS application. ABS application causes tire marks that are the full width of the tire but with short intermittent light and dark areas.

Range: 1-5, -8888, -9999

Method: Fill a single item

Element Attributes:

	Field Value
Tracking/stationary	1
Used whenever there is no brake lockup and the vehicle continues along its intended path without rotation. Stopped, slowing, turning, or accelerating to avoid a rear-end collision are examples.	
Skidding longitudinally->rotation less than 30 degrees	2
Used whenever there is brake lockup or whenever skid or yaw marks are apparent without brake lockup (braking or non-braking) and rotation is less than 30 degrees clockwise or counterclockwise. If there is no information to support rotation greater than or equal to 30 degrees, then use this element.	
Skidding laterally->clockwise rotation	3
Used whenever the vehicle rotates clockwise, relative to the driver's seating position. The vehicle must rotate 30 degrees or more. This element also applies when the driver attempts a steering input (i.e. swerves right), but the vehicle rotates clockwise.	
Skidding laterally->counterclockwise rotation	4
Used whenever the vehicle rotates counterclockwise, relative to the driver's seating position. The vehicle's center of gravity path of travel must be at least 30 degrees or more from the vehicle heading angle. This element also applies when the driver attempts a steering input (i.e. swerves left), but the vehicle rotates counterclockwise.	
Other control loss (specify) :	5
is selected when a driver loses control of a vehicle prior to the critical event.	
No driver present	-8888
Used when no driver is present in the vehicle at the time it was involved in the crash.	
Pre-crash stability unknown	-9999
Used whenever the stability of the vehicle (after the critical event) cannot be determined.	

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Location On Trafficway
Field Variable: PRECRASH.LOCATION

Label: Preimpact location on trafficway

Remarks

This variable reports the location of the subject vehicle after the critical event but prior to impact. The responses for this variable must relate directly to the response coded for pre-impact stability.

Range: 1,2,3,4,5,6,7,-8888,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Stayed in original travel lane Used whenever the vehicle remains within the boundaries of its initial travel lane. The perimeter of the vehicle is to be considered when determining the vehicle's status within its travel lane.	1
Stayed on roadway but left original travel lane Coded whenever the "majority" of the vehicle departs its initial travel lane; however, the "majority" of the vehicle remains within the boundaries of the roadway (travel lanes). The perimeter of the vehicle is to be considered when determining the vehicles status within the roadway.	2
Stayed on roadway, not known if left original travel lane Used whenever it cannot be ascertained whether the "majority" of the vehicle remains within its initial travel lane. To use this code, the "majority" of the vehicle must remain within the boundaries of the roadway.	3
Departed roadway Used whenever the "majority" of the vehicle departs the roadway as a result of a precrash motion. The roadway departure must not be related to the post impact trajectory of a crash within the roadway.	4
Remained off roadway Used whenever the precrash motion occurs outside the boundaries of the roadway. This includes traveling on the shoulders, within the median, on the roadside, or off the trafficway.	5
Returned to roadway Used whenever the "majority" of the vehicle is on the roadway, departs the roadway and then returns to the roadway during precrash motion.	6
Entered roadway Used whenever the vehicle is not previously on the roadway and then the majority of the vehicle enters the roadway during precrash motion.	7
No driver present Used when no driver is present in the vehicle at the time it is involved in the crash.	-8888
Unknown Used whenever the precrash motion of the vehicle cannot be determined.	-9999

Sources:

RESEARCHER ASSESSMENT

Pre-crash Assessment

Screen Name: Pre-First Harmful Event Maneuver Sequence

Field Variable: HARMFULEVENTSEQ.PRE_FIRST_HARMFUL_EVENT_SEQ

Label: Pre-first harmful event maneuver sequence

Remarks

This variable describes lateral vehicle movements along the vehicle's trajectory between the end of the pre-event movement phase and the first harmful event. For the purposes of this variable, lateral movement components are defined as lane departures/returns, roadway departures/returns, and a limited number of non-contact vehicle motions (i.e. power unit jackknife and trailer swing). If the vehicle changed lanes before the critical envelope, this should not be included. Power unit jackknife and trailer swing events that result in contact between the vehicle's units are excluded because these types of events are considered harmful events.

Roadway or lane departure includes any tire/wheel departing roadway or travel lane.

In cases where a lane departure/return also represents a roadway departure/return, the maneuver should be classified in the roadway category. Specifically, road designated element values take precedence over lane designated element values. Code every lane/roadway departure and return.

Since the Researcher will sequence all lateral movements, certain attributes may be used multiple times.

If there are no lateral movement components between the end of the pre-event movement phase and the initiation point of the first harmful event, this variable should be coded No pre-first harmful event maneuver sequence. For example, if an inattentive driver suddenly realizes that traffic forward of his position is stopped, applies heavy braking inputs causing the vehicle to skid forward to impact without departing its travel lane, then code No pre-first harmful event maneuver sequence.

Range: As many as apply

Method: Select and Sequence all that apply _____

Pre-crash Assessment

Screen Name: Pre-First Harmful Event Maneuver Sequence

Field Variable: HARMFULEVENTSEQ.PRE_FIRST_HARMFUL_EVENT_SEQ

Element Attributes:

Field Value

No pre-first harmful event maneuver sequence

1

Used when there are no lateral movement components in this vehicle's trajectory prior to the first harmful event.

Lane departure- left side

2

Used when this vehicle departs the left side of the travel lane prior to the first harmful event. If the lane departure also represents a roadway departure, code this event in the roadway departure category.

Lane return- left side

3

Used when the subject vehicle returns to the left side of the travel lane, after a previous departure, prior to the first harmful event. If the lane return also represents a roadway return, code this event in the roadway return category

Lane departure- right side

4

Used when this vehicle departs the right side of the travel lane prior to the first harmful event. If the lane departure also represents a roadway departure, code this event in the roadway departure category.

Lane return- right side

5

Used when the subject vehicle returns to the right side of the travel lane, after a previous departure, prior to the first harmful event. If the lane return also represents a roadway return, code this event in the roadway return category.

Roadway departure- left side

6

Used when this vehicle departs the left side of the roadway prior to the first harmful event.

Roadway return- left side

7

Used when the subject vehicle returns to the left side of the roadway, after a previous roadway departure, prior to the first harmful event.

Roadway departure- right side

8

Used when this vehicle departs the right side of the roadway prior to the first harmful event.

Roadway return- right side

9

Used when the subject vehicle returns to the right side of the roadway, after a previous roadway departure, prior to the first harmful event.

Non-contact power unit jackknife

10

Used when the power unit of a vehicle combination jackknifes without contacting the towed unit prior to the first harmful event.

Non-contact trailer swing

11

Used when the towed unit of a vehicle combination swings without contacting the power unit prior to the first harmful event.

Other (specify) :

12

Used when the subject vehicle experiences a lateral movement component that is not described in preceding elements.

No driver present

-8888

Used when there is no driver present in the vehicle at the time of the crash.

Pre-crash Assessment

Screen Name: Pre-First Harmful Event Maneuver Sequence

Field Variable: HARMFULEVENTSEQ.PRE_FIRST_HARMFUL_EVENT_SEQ

Unknown

-9999

Used when there is insufficient information to determine the subject vehicle's trajectory between the end of the pre-event movement phase and the initiation point of the first harmful event or when there is insufficient information to determine specific lateral movement components.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Crash Type

Field Variable: PRECRASH.TYPEDESC

Label:

Remarks

Outlined below are the Crash Categories/subcategories with associated types.

Crash Category: Single Driver

Right Roadside Departure

- 01 Drive Off Road
- 02 Control/Traction Loss
- 03 Avoid Collision with Vehicle, Pedestrian, Animal
- 04 Specifics Other
- 05 Specifics Unknown

Left Roadside Departure

- 06 Drive Off Road
- 07 Control/Traction Loss
- 08 Avoid Collision With Vehicle, Pedestrian, Animal
- 09 Specifics Other
- 10 Specifics Unknown

Forward Impact

- 11 Parked Vehicle
- 12 Stationary Object
- 13 Pedestrian/Animal
- 14 End Departure
- 15 Specifics Other
- 16 Specifics Unknown

Crash Category: Same Trafficway, Same Direction

Rear-End

- 20 Stopped
- 21 Stopped, Straight
- 22 Stopped, Left
- 23 Stopped, Right
- 24 Slower
- 25 Slower, Going Straight
- 26 Slower, Going Left
- 27 Slower, Going Right
- 28 Decelerating (Slowing)
- 29 Decelerating (Slowing), Going Straight
- 30 Decelerating (Slowing), Going Left
- 31 Decelerating (Slowing), Going Right
- 32 Specifics Other
- 33 Specifics Unknown

Forward Impact

- 34 This Vehicle's Frontal Area Impacts Another Vehicle
- 35 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 36 This Vehicle's Frontal Area Impacts Another Vehicle
- 37 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 38 This Vehicle's Frontal Area Impacts Another Vehicle
- 39 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 40 This Vehicle's Frontal Area Impacts Another Vehicle
- 41 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 42 Specifics Other
- 43 Specifics Unknown

Sideswipe/Angle

- 44 Straight Ahead on Left

Precrash Assessment

Screen Name: Crash Type

Field Variable: PRECRASH.TYPEDESC

- 45 Straight Ahead on Left/Right
- 46 Changing Lanes to the Right
- 47 Changing Lanes to the Left
- 48 Specifics Other
- 49 Specifics Unknown

Crash Category: Same Trafficway Opposite Direction

Head-On

- 50 Lateral Move (Left/Right)
- 51 Lateral Move (Going Straight)
- 52 Specifics Other
- 53 Specifics Unknown

Forward Impact

- 54 This Vehicle's Frontal Area Impacts Another Vehicle
- 55 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 56 This Vehicle's Frontal Area Impacts Another Vehicle
- 57 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 58 This Vehicle's Frontal Area Impacts Another Vehicle
- 59 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 60 This Vehicle's Frontal Area Impacts Another Vehicle
- 61 This Vehicle Is Impacted by Frontal Area of Another Vehicle
- 62 Specifics Other
- 63 Specifics Unknown

Sideswipe/Angle

- 64 Lateral Move (left/Right)
- 65 Lateral Move (Going Straight)
- 66 Specifics Other
- 67 Specifics Unknown

Crash Category: Change Trafficway Vehicle Turning

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

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

Crash Category: Intersecting Paths (Vehicle Damage)

Straight Paths

- 86 Striking from the Right
- 87 Struck on the Right
- 88 Striking from the Left

Pre-crash Assessment

Screen Name: Crash Type

Field Variable: PRECRASH.TYPEDESC

89	Struck on the Left
90	Specifics Other
91	Specifics Unknown

Crash Category: Miscellaneous

Backing, Etc.

92	Backing Vehicle
93	Other Vehicle or Object
98	Other Crash Type
99	Unknown Crash Type
00	No Impact

Range: 00-99

Method: Select a single item

Precrash Assessment

Screen Name: Crash Type
Field Variable: PRECRASH.TYPEDESC

Element Attributes:

Field Value

Right Roadside Departure:

1

The vehicle departed the right side of the road with the first harmful event occurring off the road.

Left Roadside Departure

2

The vehicle departed the left side of the road with the first harmful event occurring off the road.

Forward Impact

3

The vehicle struck an object on the road or off the end of a trafficway while moving forward.

Rear-End

4

The front of the overtaking vehicle impacted the rear of the other vehicle. Note, even if the rear-impacted vehicle had started to make a turn, code here (**not** in Crash Category: Change in Trafficway, Vehicle Turning).

Forward Impact

5

The front of the overtaking vehicle impacted the rear of the other vehicle, following a steering maneuver around a noninvolved vehicle or object.

Sideswipe/Angle

6

The two vehicles are involved in an impact involving the side of one or both vehicles.

The following four codes, "44" (Sideswipe/Angle, straight ahead on left), "45" (Sideswipe/Angle, straight ahead on left/right), "46" (Sideswipe/Angle, changing lanes to the right), "47" (Sideswipe/Angle, changing lanes to the left), identify relative vehicle positions (left versus right) and lane of travel intentions (straight ahead versus changing lanes). From these four codes, four combinations are permitted. They are:

1. "44" and "45"
2. "46" and "45"
3. "45" and "47"
4. "46" and "47".

When used in combination, these codes refer to a sideswipe or angle collision which involved a vehicle to the left of a vehicle to the right where:

- 1) neither vehicle (codes "44" and "45") intended to change its lane;
- 2) the vehicle on the left (code "46") was changing lanes to the right, and the vehicle on the right (code "45") was not intending to change its lane;
- 3) the vehicle on the left (code "45") was not intending to change its lane, and the vehicle on the right (code "47") was changing lanes to the left; and
- 4) the vehicle on the left (code "46") was changing lanes to the right, and the vehicle on the right (code "47") was changing lanes to the left.

In addition, when:

- 1) the right sides of the two vehicles impact following a 180 degree rotation of the vehicle on the right, or
- 2) the left sides of the two vehicles impact following a 180 degree rotation of the vehicle on the left.

Select the appropriate combination depending upon:

- their positions (i.e., left versus right) and
- the intended lane of travel (straight ahead versus changing lanes) of their drivers.

Head-On

7

The frontal area of one vehicle impacted the frontal area of another.

Forward Impact

8

The frontal area of one vehicle impacted the frontal area of another following a steering maneuver around a noninvolved vehicle or an object.

Pre-crash Assessment

Screen Name: Crash Type

Field Variable: PRECRASH.TYPEDESC

Sideswipe/Angle	9
The two vehicles are involved in an impact involving the side of one or both vehicles.	
Turn Across Path	10
The two vehicles were initially on the same trafficway when one vehicle tried to turn onto another trafficway and pulled in front of the other vehicle. Vehicles making a "U" turn are identified in Category VI. Miscellaneous.	
Turn Into Path	11
The two vehicles were initially on different trafficways when one attempted to turn into the same trafficway as the other vehicle. Note, the focus of this configuration is on the turning maneuver from one trafficway to another and not on the vehicles' plane of contact.	
Straight Paths	12
The two vehicles were proceeding (or attempting to proceed) straight ahead.	
Backing, Etc.	13
One of the two vehicles involved was a backing vehicle, regardless of its location on the trafficway or the damage location on the vehicles. Any crash configuration which cannot be described in the above Crash Categories is included here.	

Sources:

RESEARCHER ASSESSMENT

Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Label: First harmful event crash type

Remarks

The Crash Type is a numeric value assigned by selecting the Crash Category and the Crash Configuration. The number can be directly entered or edited here, however, the two-step process of selecting the Crash Category And Crash Conguration is preferred to visualize the crash scenario. The first harmful event may include a collision between a vehicle and some object, accompanied by property damage or human injury. The object may be another vehicle, a person, an animal, a fixed object, the road surface, or the ground. If the first collision is a rollover, the impact is with the ground or road surface. The collision may also involve plowing into soft ground, if severe vehicle deceleration results in damage or injury. A road departure without damage or injury is not defined as a harmful event.

To access the category choices double click on the white box next to Crash Type and the following window opens: Variables CrashType (Category) and Crash Type (Configuration); are used for categorizing the collisions of drivers involved in crashes.

To determine the proper crash type, refer to the three step decision process outlined below:

- Step 1 - Determine the appropriate Crash Category.
- Step 2 - Determine the appropriate Crash Configuration.
- Step 3 - Determine the specific Crash Type from the graphic icons.

As an example, the combination Rear-end, stopped and Rear-end, specifics other or Rear-end, stopped and Slower, straight ahead are not valid since Rear-end, stopped only has meaning when linked to Stopped. A crash involving a vehicle impacting a "driverless in-transport vehicle" is coded ...,specifics other in the appropriate configuration-category. For example, a vehicle which impacts the rear of a driverless in-transport vehicle is encoded Rear-end, specifics other.

In crashes involving more than two vehicles or in collision sequences involving a combination of vehicle-to-object-to-vehicle impacts, **code the Crash Type for the vehicle(s) involved in the first harmful event**. All other vehicles are coded Other crash type. Keep in mind that intended actions play an important role in the coding scheme. For example, crash type Slower, turning left is selected over type Slower, straight ahead if the subject vehicle was traveling slower with intention of turning left. NOTE: The turning action need not have occurred prior to the collision. The driver's intent to turn is the key.

Range: 0 - 16, 20 - 93, 98 - 99

Method: Select a single item

Precrash Assessment

Screen Name: First Harmful Event Crash Type

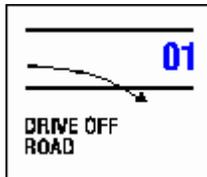
Field Variable: PRECRASH.CRASH_TYPE

Element Attributes:

Field Value

Right roadside departure, drive off road

1



Used when the vehicle departs the road under a controlled situation (i.e., the driver was distracted, fell asleep, intentionally departed, etc.)

Right roadside departure, control/traction loss

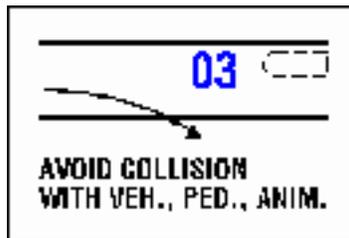
2



Used if there is some evidence that the vehicle loses traction or in some other manner "gets away" from the driver (i.e., the vehicle spins off the road as a result of surface conditions, oversteer phenomena, locked brakes or mechanical malfunctions). If doubt exists, code Right roadside departure, drive off road.

Right roadside departure; avoid collision with vehicle, pedestrian, animal

3



Used when the vehicle departs the road as a result of avoiding something in the road. "Phantom" situations are included here.

Right roadside departure, specific other

4



Used for any other stationary or non-stationary objects if the avoidance characteristics are present.

Specifics Unknown

5



The vehicle departed the right side of the road for unknown reasons.

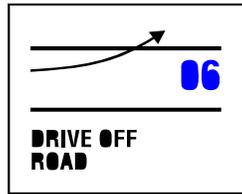
Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Left roadside departure, drive off road

6



Used when the vehicle departs the road under a controlled situation (i.e., the driver was distracted, fell asleep, intentionally departed, etc.)

Left roadside departure, control/traction loss

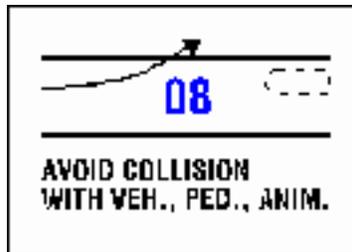
7



Used if there is some evidence that the vehicle loses traction or in some other manner "gets away" from the driver (i.e., the vehicle spins off the road as a result of surface conditions, oversteer phenomena, locked brakes or mechanical malfunctions). If doubt exists, code Left roadside departure, drive off road respectively.

Left roadside departure; avoid collision with vehicle, pedestrian, animal

8



Used when the vehicle departs the road as a result of avoiding something in the road. "Phantom" situations are included here.

Left roadside departure, specifics other

9



Used for any other stationary or non-stationary objects if the avoidance characteristics are present.

Specifics Unknown

10



The vehicle departed the left side of the road for unknown reasons.

Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Forward Impact, parked vehicle

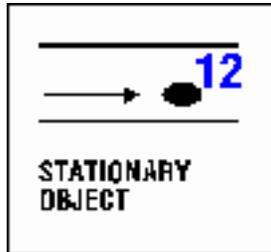
11



Involves an impact with a parked vehicle which can be located on either side of the road.

Forward impact, stationary object

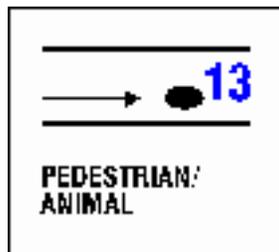
12



Involves an impact with an object that can be located on either side of the road. Includes a hole in the road, an overhead object (e.g., overpass) or an object projecting over the road edge (e.g., support column of elevated railway).

Forward Impact, pedestrian/animal

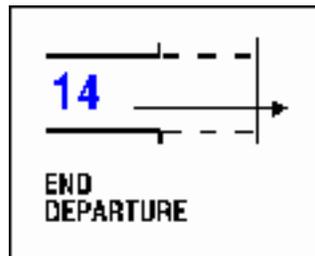
13



Used when a pedestrian, non-motorist, or animal is involved with the first harmful event. Vehicle plane of contact is not a consideration.

End Departure

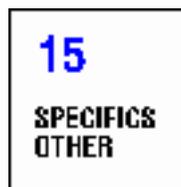
14



The vehicle ran off the end of the road and crashed into something.

Forward Impact, Specifics Other

15



Used for impacted (striking or struck) trains and non-stationary objects on the road.

Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Specifics Unknown

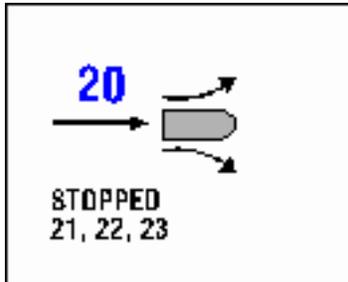
16



The PAR indicates a single driver was involved in a forward impact collision, but no further classification is possible.

Rear-end: Stopped

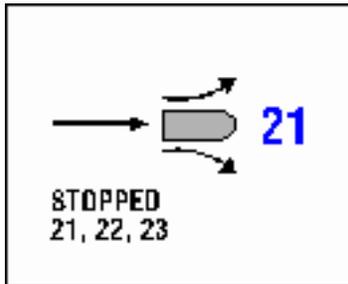
20



A vehicle that impacts another vehicle from the rear when the impacted vehicle was stopped in the trafficway.

Rear-end: Stopped, Straight

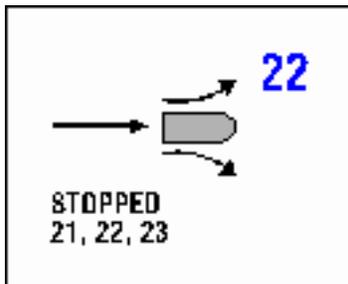
21



A rear-impacted vehicle that was stopped in the trafficway, and was intending to proceed straight ahead.

Rear-end: Stopped, Left

22



A rear-impacted vehicle that was stopped in the trafficway, intending to make a left turn.

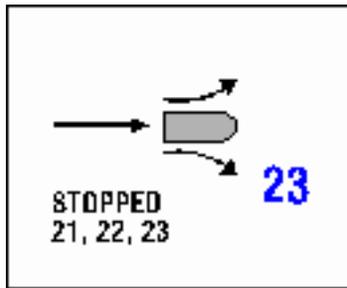
Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Rear-end: Stopped, Right

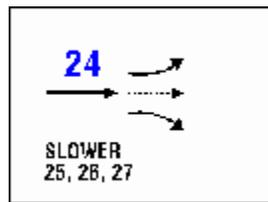
23



A rear-impacted vehicle that was stopped in the trafficway, intending to make a right turn.

Rear-end: Slower

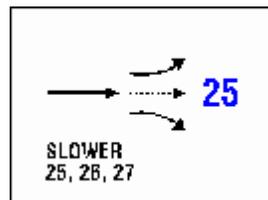
24



A vehicle that impacts another vehicle from the rear when the impacted vehicle was going slower than the striking vehicle.

Rear-end: Slower, Going Straight

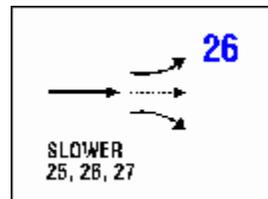
25



A rear-impacted vehicle that was going slower than the other vehicle while proceeding straight ahead.

Rear-end: Slower, Going Left

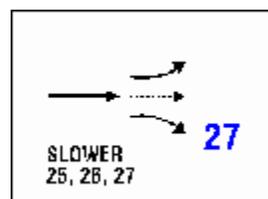
26



A rear-impacted vehicle that was going slower than the other vehicle while intending to turn left.

Rear-end: Slower, Going Right

27



A rear-impacted vehicle that was going slower than the other vehicle while intending to turn right.

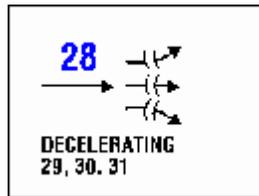
Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Rear-end: Decelerating (Slowing)

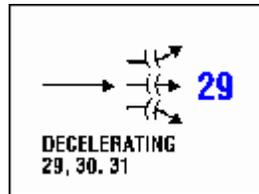
28



A vehicle impacts another vehicle from the rear when the impacted vehicle was slowing down.

Rear-end: Decelerating (Slowing), Going Straight

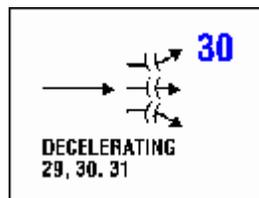
29



A rear-impacted vehicle that was slowing down while proceeding straight ahead.

Rear-end: Decelerating (Slowing), Going Left

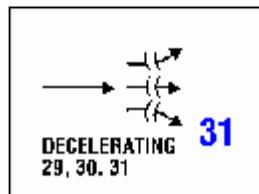
30



A rear-impacted vehicle that was slowing down while intending to turn left.

Rear-end: Decelerating (Slowing), Going Right

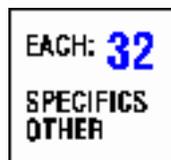
31



A rear-impacted vehicle that was slowing down while intending to turn right.

Rear-end: Specifics Other

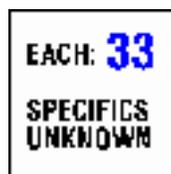
32



For rear-end collisions which cannot be described in previous codes, enter Specifics Other for crashes involving a driverless in-transport vehicle.

Rear-end: Specifics Unknown

33



The PAR indicates a rear-end collision occurred, but no further classification is possible.

Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Forward Impact: Control/Traction Loss

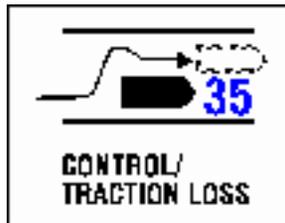
34



A vehicle that's frontal area impacts another vehicle due to loss of control or traction (during a maneuver to avoid a collision with a non-involved vehicle) while both are traveling on the same trafficway in the same direction.

Forward Impact: Control/Traction Loss

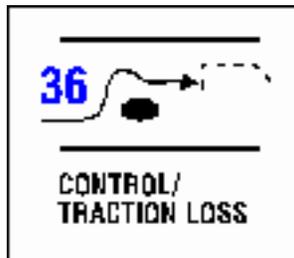
35



A vehicle which is impacted by the frontal area of another vehicle due to loss of control or traction (during a maneuver to avoid a collision with a non-involved vehicle) while both are traveling on the same trafficway in the same direction.

Forward Impact: Control/Traction Loss

36



A vehicle that's frontal area impacts another vehicle due to loss of control or traction (during a maneuver to avoid a collision with an object) while both are traveling on the same trafficway in the same direction.

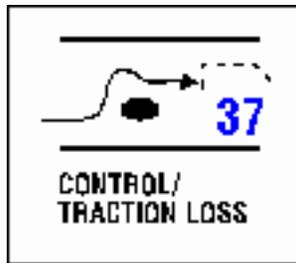
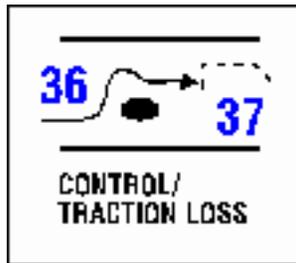
Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Forward Impact: Control/Traction Loss

37



A vehicle which is impacted by the frontal area of another vehicle due to loss of control or traction (during a maneuver to avoid a collision with an object) while both are traveling on the same trafficway in the same direction.

Forward Impact: Avoid Collision with Vehicle.

38



A vehicle that struck the rear of another vehicle with its front plane while maneuvering to avoid collision with a non-involved vehicle, when loss of control or traction was not a factor, and both were traveling on the same trafficway, in the same direction.

Forward Impact: Avoid Collision with Vehicle

39



A vehicle that was impacted by the frontal area of another vehicle which was maneuvering to avoid a collision with a non-involved vehicle, when loss of control or traction was not a factor, and both were traveling on the same trafficway, in the same direction.

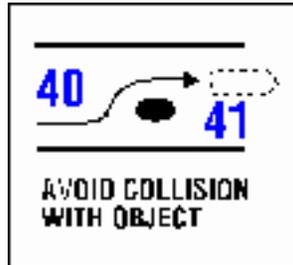
Pre-crash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Forward Impact: Avoid Collision with Object

40



A vehicle that struck the rear of another vehicle with its front plane while maneuvering to avoid collision with an object, when loss of control or traction was not a factor, and both were traveling on the same trafficway, in the same direction.

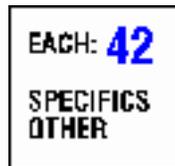
Forward Impact: Avoid Collision with Object

41

A vehicle which was impacted by the frontal area of another vehicle which was maneuvering to avoid a collision with an object, when loss of control or traction was not a factor, and both were traveling on the same trafficway, in the same direction.

Forward Impact: Specifics Other

42



A forward impact collision which occurred while both vehicles were traveling on the same trafficway, in the same direction, and the striking vehicle was attempting to avoid a vehicle or an object which cannot be described by previous codes. Also, use this code for crashes involving a driverless in-transport vehicle which would otherwise qualify for this configuration.

Forward Impact: Specifics Unknown

43



Used when the PAR indicates that a forward impact collision occurred while both vehicles were traveling on the same trafficway and in the same direction, but no further classification was possible.

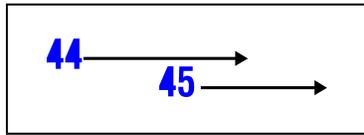
Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Sideswipe/Angle: Straight Ahead on Left

44



Crash Configuration: Sideswipe/Angle

The two vehicles are involved in an impact involving the side of one or both vehicles.

The following four codes, "44" (Sideswipe/Angle, straight ahead on left), "45" (Sideswipe/Angle, straight ahead on left/right), "46" (Sideswipe/Angle, changing lanes to the right), "47" (Sideswipe/Angle, changing lanes to the left), identify relative vehicle positions (left versus right) and lane of travel intentions (straight ahead versus changing lanes). From these four codes, four combinations are permitted. They are:

1. "44" and "45"
2. "46" and "45"
3. "45" and "47"
4. "46" and "47".

When used in combination, these codes refer to a sideswipe or angle collision which involved a vehicle to the left of a vehicle to the right where:

- 1) 1. neither vehicle (codes "44" and "45") intended to change its lane;
- 2) 2. the vehicle on the left (code "46") was changing lanes to the right, and the vehicle on the right (code "45") was not intending to change its lane;
- 3) 3. the vehicle on the left (code "45") was not intending to change its lane, and the vehicle on the right (code "47") was changing lanes to the left; and
- 4) 4. the vehicle on the left (code "46") was changing lanes to the right, and the vehicle on the right (code "47") was changing lanes to the left.

In addition, when:

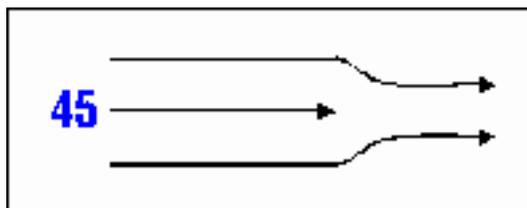
- 1) 1. the right sides of the two vehicles impact following a 180 degree rotation of the vehicle on the right, or
- 2) 2. the left sides of the two vehicles impact following a 180 degree rotation of the vehicle on the left.

Select the appropriate combination depending upon:

- their positions (i.e., left versus right) and
- the intended lane of travel (straight ahead versus changing lanes) of their drivers.

Sideswipe/Angle: Straight Ahead on Left/Right

45



See previous sideswipe/angle discussion (attribute 44) for an explanation of when this attribute applies.

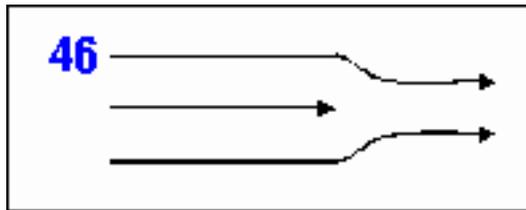
Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Sideswipe/Angle: Changing Lanes to the Right

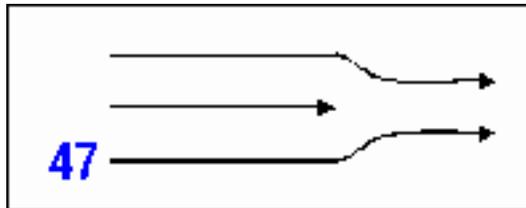
46



See previous sideswipe/angle discussion (attribute 44) for an explanation of when this attribute applies

Sideswipe/Angle: Changing Lanes to the Left

47



See previous sideswipe/angle discussion (attribute 44) for an explanation of when this attribute applies

Sideswipe/Angle: Specifics Other

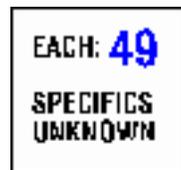
48



Enter Sideswipe/angle: specifics other if one vehicle was behind the other prior to a sideswipe/angle collision occurring while both vehicles were traveling on the same trafficway and in the same direction. For example, use this code when two vehicles are on the same trafficway and going the same direction, and one loses control and is struck in the side by the front of the other vehicle. However, if one vehicle rotates such that the impact is front to front, then use code Other crash type. Use this code for crashes involving a driverless in-transport vehicle.

Sideswipe/Angle: Specifics Unknown

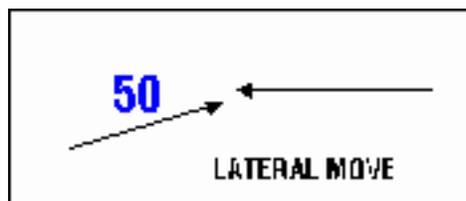
49



For sideswipe/angle collisions that occur while both vehicles are traveling on the same trafficway and in the same direction, when no further classification is possible.

Head-On: Lateral Move (Left/Right)

50



A vehicle that LEAVES ITS LANE [moves laterally (sideways)] immediately before colliding head-on with another vehicle, when the vehicles are traveling on the same trafficway in opposite directions.

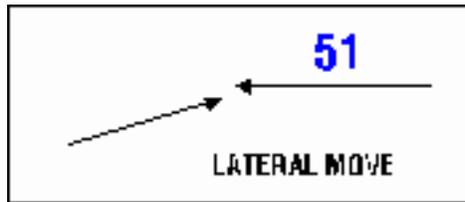
Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Head-On: Lateral Move (Going Straight)

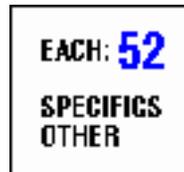
51



A vehicle that collides head-on with another vehicle which has IMMEDIATELY LEFT ITS LANE (moved laterally), when the vehicles are traveling on the same trafficway in opposite directions.

Head-On: Specifics Other

52



A head-on collision that cannot be described by previous codes, when the vehicles are traveling on the same trafficway in opposite directions.

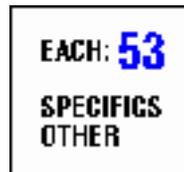
Clarification:

Enter Head-on: Specifics other for both vehicles involved in a head-on collision when one is traveling the wrong way on a one way roadway.

Enter Specifics Other for crashes involving a driverless in-transport vehicle.

Head-On: Specifics Unknown

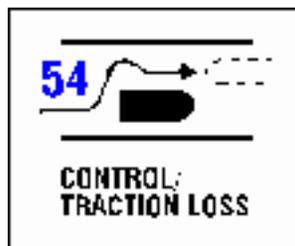
53



The PAR indicates a head-on collision occurred between two vehicles traveling on the same trafficway in opposite directions, when no further classification is possible.

Forward Impact: Control/Traction Loss

54



A vehicle whose frontal area impacts another vehicle due to loss of control or traction (during a maneuver to avoid a collision with a third vehicle) while the vehicles are traveling on the same trafficway in opposite directions.

Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Forward Impact: Control/Traction Loss

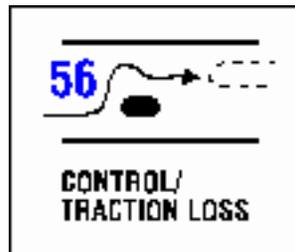
55



A vehicle which is impacted by the frontal area of another vehicle due to loss of control or traction (during a maneuver to avoid a collision with a third vehicle) while the vehicles are traveling on the same trafficway in opposite directions.

Forward Impact: Control/Traction Loss

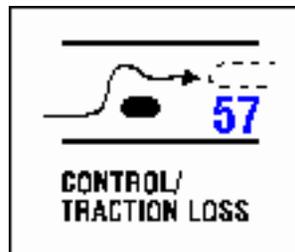
56



A vehicle whose frontal area impacts another vehicle due to loss of control or traction (during a maneuver to avoid a collision with an object) while the vehicles are traveling on the same trafficway in opposite directions.

Forward Impact: Control/Traction Loss

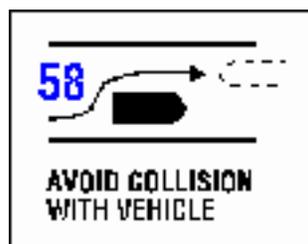
57



A vehicle which is impacted by the frontal area of another vehicle due to loss of control or traction (during a maneuver to avoid a collision with an object) while the vehicles are traveling on the same trafficway in opposite directions.

Forward Impact: Avoid Collision with Vehicle

58



A vehicle whose frontal area impacts another vehicle while maneuvering to avoid a collision with a non-involved vehicle, when loss of control or traction was not a factor, and the vehicles were traveling on the same trafficway, in opposite directions.

Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Forward Impact: Avoid Collision with Vehicle

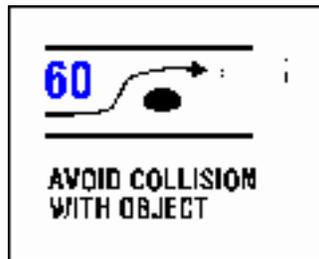
59



A vehicle which was impacted by the frontal area of another vehicle which was maneuvering to avoid collision with a non-involved vehicle, when loss of control or traction was not a factor, and the vehicles were traveling on the same trafficway, in opposite directions.

Forward Impact: Avoid Collision with Object

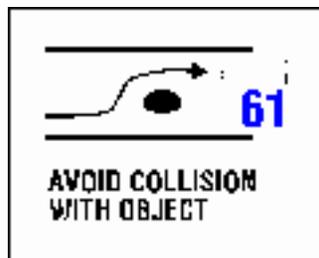
60



A vehicle that struck the front of another vehicle with the frontal plane while maneuvering to avoid collision with an object, when loss of control or traction was not a factor, and the vehicles were traveling on the same trafficway, in opposite directions.

Forward Impact: Avoid Collision with Object

61



A vehicle which was impacted by the frontal area of another vehicle which was maneuvering to avoid collision with an object, when loss of control or traction was not a factor, and the vehicles were traveling on the same trafficway, in opposite directions.

Forward Impact: Specifics Other

62



For forward impact collisions occurring while the vehicles were traveling on the same trafficway in opposite directions which cannot be described by previous codes. Enter Specifics Other for crashes involving a "driverless in-transport vehicle."

Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Forward Impact: Specifics Unknown

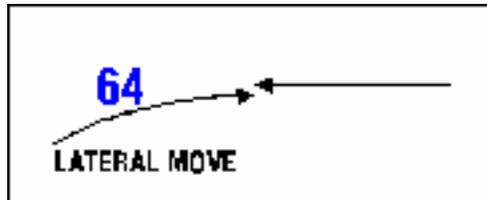
63

EACH: **63**
SPECIFICS
UNKNOWN

The PAR indicates a forward impact collision occurred while the vehicles were traveling on the same trafficway in opposite directions, but no further classification is possible.

Sideswipe/Angle: Lateral Move (Left/Right)

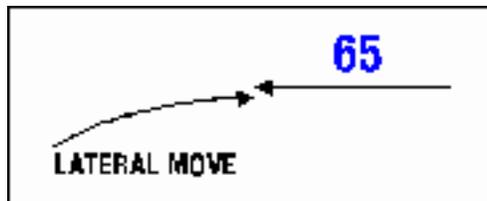
64



Identifies the vehicle which infringed upon the other vehicle in a Crash Category: Change Trafficway Opposite Direction, Crash Configuration: Sideswipe/Angle collision. Use this code for the vehicle which left its lane (moved laterally) leading to the collision.

Sideswipe/Angle: Lateral Move (Going Straight)

65



The vehicle which was infringed upon by the other vehicle in a Crash Category: Change Trafficway Opposite Direction, Crash Configuration: Sideswipe/Angle collision.

Sideswipe/Angle: Specifics Other

66

EACH: **66**
SPECIFICS
OTHER

For sideswipe/angle collisions occurring while both vehicles were traveling on the same trafficway in opposite directions which cannot be described by "64"- "65". Enter Specifics Other for crashes involving a "driverless in-transport vehicle."

Sideswipe/Angle: Specifics Unknown

67

EACH: **67**
SPECIFICS
UNKNOWN

The PAR indicates a sideswipe/angle collision occurred while both vehicles were traveling on the same trafficway in opposite directions, but no further classification is possible.

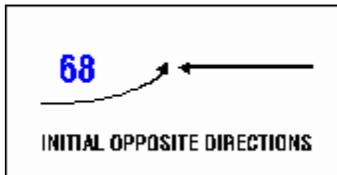
Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Turn Across Path: Initial Opposite Directions (Left/Right)

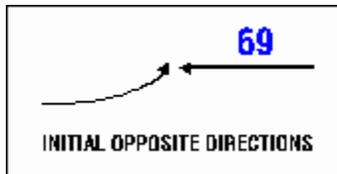
68



Identifies the vehicle which turned across the path of another vehicle (code "68") in a Category IV, Configuration J collision, in which the vehicles were initially traveling in opposite directions.

Turn Across Path: Initial Opposite Directions (Going Straight)

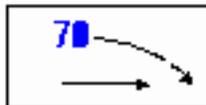
69



For a vehicle involved in a collision in which another vehicle (code "68") across its Path, and in which the vehicles were initially traveling in opposite directions

Turn Across Path: Initial Same Directions (Turning Right)

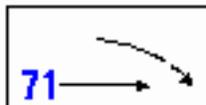
70



For a vehicle which turned right, across the path of another vehicle (code "71"), when both vehicles were initially traveling in the same direction.

Turn Across Path: Initial Same Directions (Going Straight)

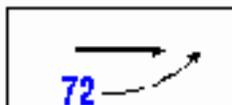
71



For a vehicle whose path was crossed by a vehicle turning right (code "70"), when both vehicles were initially traveling in the same direction.

Turn Across Path: Initial Same Directions (Turning Left)

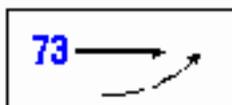
72



For a vehicle which turned left, across the path of another vehicle , when both vehicles were initially traveling in the same direction

Turn Across Path: Initial Same Directions (Going Straight)

73



A vehicle whose path was crossed by a vehicle turning left, when both vehicles were initially traveling in the same direction.

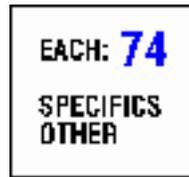
Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Turn Across Path: Specifics Other

74



For collisions in which one vehicle turned across another's path, which cannot be described by previous codes. Enter Specifics Other for crashes involving a driverless in-transport vehicle.

Turn Across Path: Specifics Unknown

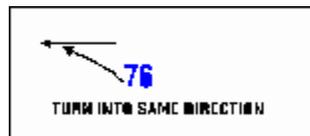
75



The PAR indicates one vehicle turned across another's path, causing a collision, but no further classification is possible.

Turn Into Same Direction (Turning Left)

76



For a vehicle which turned left, into the path of another vehicle, so that both vehicles were traveling in the same direction at the time of the collision.

Turn Into Same Direction (Going Straight)

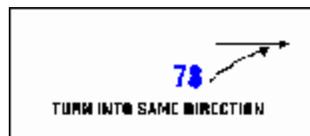
77



For a vehicle involved in a collision in which another vehicle turned left, into its path, so that both vehicles were traveling in the same direction at the time of the collision.

Turn Into Same Direction (Turning Right)

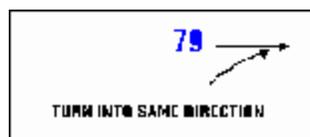
78



For a vehicle which turned right, into the path of another vehicle, so that both vehicles were traveling in the same direction at the time of the collision.

Turn Into Same Direction (Going Straight)

79



For a vehicle involved in a collision in which another vehicle turned right, into its path, so that both vehicles were traveling in the same direction at the time of the collision.

Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Turn Into Opposite Directions (Turning Right)

80



For a vehicle which turned right, into the path of another vehicle, so that the vehicles were traveling in opposite directions at the time of the collision.

Turn Into Opposite Directions (Going Straight)

81



For a vehicle involved in a collision in which another vehicle (code "80") turned right, into its path, so that the vehicles were traveling in opposite directions at the time of the collision.

Turn Into Opposite Directions (Turning Left)

82



Enter for a vehicle which turned left, into the path of another vehicle, so that the vehicles were traveling in opposite directions at the time of the collision. This code is used when the driver's vehicle was in the act of making a left turn (e.g., from a driveway, parking lot or intersection). Do not confuse this situation with Crash Configuration: Straight Paths. The driver's intended path is the prime concern.

Turn Into Opposite Directions (Going Straight)

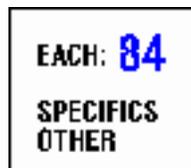
83



For a vehicle involved in a collision in which another vehicle turned left, into its path, so that the vehicles were traveling in opposite directions at the time of the collision.

Turn Into Path: Specifics Other

84



For collisions in which one vehicle turned across another's path, which cannot be described by previous codes. Enter Specifics Other for crashes involving a driverless in-transport vehicle.

Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Turn Into Path: Specifics Unknown

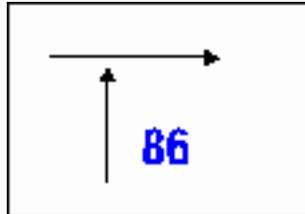
85



When the PAR indicates one vehicle turned into another's path, causing a collision, but no further classification is possible.

Straight Paths: Striking from the Right

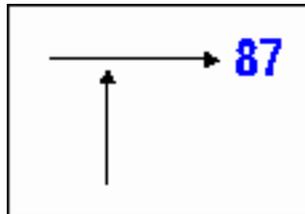
86



For a vehicle which strikes the right side of another vehicle from the right when both vehicles were going straight at the time of the collision.

Straight Paths: Struck on the Right

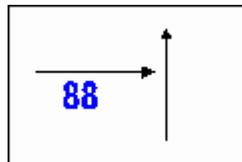
87



For a vehicle which is struck on the right side by another vehicle from the right when both vehicles were going straight at the time of the collision.

Straight Paths: Striking from the Left

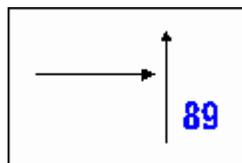
88



For a vehicle which strikes another vehicle from the left when both vehicles were going straight at the time of the collision.

Straight Paths: Struck on the Left

89



For a vehicle which is struck on the left side by another vehicle from the left when both vehicles were going straight at the time of the collision.

Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Straight Paths: Specifics Other

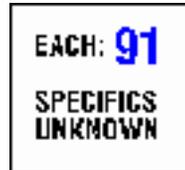
90



For collisions in which two vehicles, both going straight, collide when their paths intersect, which cannot be described by previous codes. Enter Specifics Other for crashes involving a driverless in-transport vehicle.

Straight Paths: Specifics Unknown

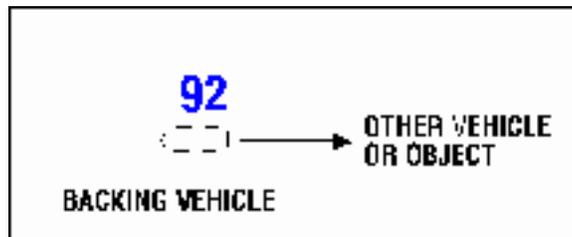
91



When the PAR indicates two vehicles, both going straight, collided when their paths intersected, but no further classification is possible.

Miscellaneous: Backing Vehicle

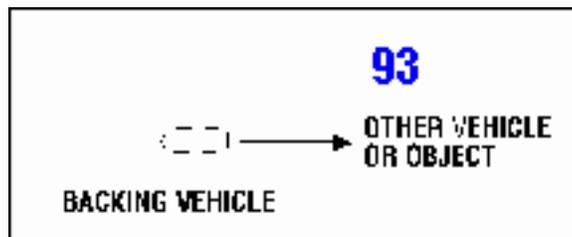
92



For a backing vehicle which was involved with another vehicle or object.

Miscellaneous: Other Vehicle or Object

93



Enter "93" for the vehicle which was involved with the backing vehicle (code 92).

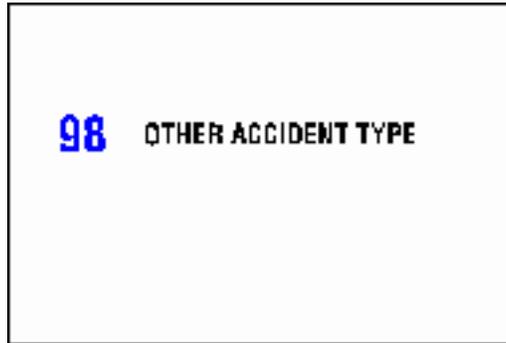
Precrash Assessment

Screen Name: First Harmful Event Crash Type

Field Variable: PRECRASH.CRASH_TYPE

Miscellaneous: Other Accident Type

98

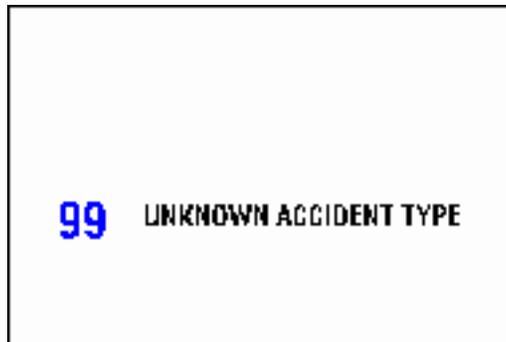


Code "98" is used for those events and collisions which do not reasonably fit any of the specified types. This code includes (but is not limited to):

- Rollovers on the road
- U-turns
- Third or subsequent vehicles involved in a crash or
- The second involved vehicle, when the first harmful event involved a vehicle-to-object collision or a noncollision.

Miscellaneous: Unknown Crash Type

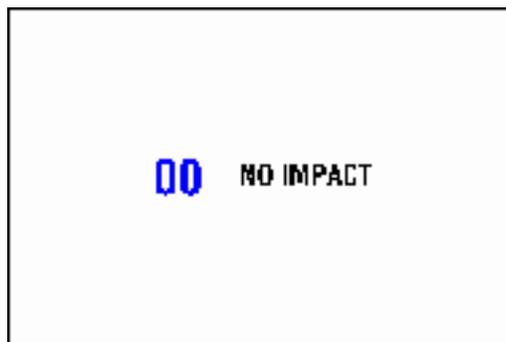
99



When the crash category or configuration is unknown.

No Impact

100



Identifies non-collision events (fire, immersion, etc.). Rollovers on the road should be coded '98' 'Other crash type'.

Sources:

VEHICLE INSPECTION
SCENE INSPECTION
RESEARCHER ASSESSMENT

Pre-crash Assessment

Screen Name: Right of Way

Field Variable: PRECRASH.RIGHT_OF_WAY

Label: Did this vehicle have right of way

Remarks

This variable establishes vehicle right-of-way characteristics, from a legal perspective, for the subject vehicles first impact. Specifically, did this vehicle have the right-of-way? Appropriate responses may require interpretation of both State Vehicle and Traffic laws as well as local ordinances.

Range: 1-2, -8888, -9997, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Yes Used when the subject vehicle has the right-of-way as defined from a legal perspective.	2
No Used when the subject vehicle does not have the right-of-way as defined from a legal perspective.	1
No driver present	-8888
Not Applicable Used when right-of-way considerations are not applicable to the circumstances of this crash. Two examples would be rear-end impacts and single vehicle run-off-road scenarios.	-9997
Unknown Used when there is insufficient information to determine right-of-way considerations.	-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Vehicle Maneuver During Pre-Crash Cargo Shift

Field Variable: CARGOSHIFT.CARGO_SHIFT_MANEUVER

Label: Vehicle maneuver during pre-crash cargo shift

Remarks

This variable captures driver/vehicle actions at the time the pre-crash cargo shift begins. Select all elements that most appropriately describe these actions and vehicle velocity characteristics. Cargo is defined as any object in the vehicle that can shift that vehicle's center of gravity and affect handling characteristics. This variable is applicable to all classes of vehicles.

Range: 3-13, -8841, -8842, -8888, -9999

Method: Fill all that apply

Pre-crash Assessment

Screen Name: Vehicle Maneuver During Pre-Crash Cargo Shift

Field Variable: CARGOSHIFT.CARGO_SHIFT_MANEUVER

Element Attributes:	Field Value
No cargo Used when the vehicle has no cargo.	-8841
No cargo shift Used when the vehicle contains cargo, but there was no cargo shift pre-crash.	-8842
Traversing curve Used when the driver is traversing a curve at the time the cargo begins to shift.	3
Completing turn Used when the driver is attempting to turn at the time the cargo begins to shift.	4
Traversing straight section Used when the driver is traversing a straight roadway segment at the time the cargo begins to shift.	5
Completing avoidance maneuver Used when the driver initiates a precrash avoidance maneuver at or prior to the time the cargo begins to shift.	6
Driving at constant velocity Used when the driver is attempting to maintain a constant velocity.	7
Accelerating Used when the driver is accelerating at the time the cargo begins to shift.	8
Decelerating using throttle input only Used when the driver is decelerating and decelerates solely by reducing throttle input at the time the cargo begins to shift.	9
Decelerating using light braking Used when the driver is decelerating using light braking effort at the time the cargo begins to shift. While the term "light braking" is a subjective evaluation, it generally implies that the level of braking effort is less than the level typically associated with a normal traffic stop.	10
Decelerating using moderate braking Used when the driver is decelerating using a moderate level of braking effort at the time the cargo begins to shift. A moderate level of braking effort generally implies that the level of braking effort is similar to the level typically associated with a normal traffic stop.	11
Decelerating using heavy braking Used when the driver is decelerating using a heavy level of braking effort (e.g., panic stop) at the time the cargo begins to shift. The vehicle will typically experience wheel "lock-up" in this circumstance, however, wheel lock is not a requirement for using this designation.	12
Other (specify) : Used when the driver/vehicle action or velocity characteristic is not described in preceding elements. An annotation is required to describe the circumstance.	13
No driver present	-8888

Pre-crash Assessment

Screen Name: Vehicle Maneuver During Pre-Crash Cargo Shift

Field Variable: CARGOSHIFT.CARGO_SHIFT_MANEUVER

Unknown

-9999

Used when there is insufficient information to determine if cargo shifted and when there is insufficient information to determine the driver/vehicle actions and velocity characteristics associated with the cargo shift event.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Cargo Spillage

Field Variable: PRECRASH.PRE_CRASH_SPILL

Label: Pre-crash cargo spillage

Remarks

This element value establishes the occurrence of cargo spillage during the pre-crash phase.

Range: 1-3, -8888, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No cargo Reserved for circumstances where the vehicle configurations are not regarded as legitimate "over-the-road" configurations, and for vehicles that are carrying no cargo.	1
No precrash cargo spillage Used when this vehicle is carrying cargo, but does not experience a precrash loss of any cargo.	2
Yes (specify): Used when pre-crash cargo spillage occurs. Specify the type of cargo that spilled and the total proportion of the cargo that spilled. Also estimate the percentage of the cargo that spilled.	3
No driver present	-8888
Unknown Used when there is insufficient information to determine if precrash cargo spillage occurred.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Vehicle Location at Start of Pre-Crash Cargo Shift

Field Variable: PRECRASH.CARGO_SHIFT_LOCATION

Label: Vehicle location at start of pre-crash cargo shift

Remarks

This element value identifies vehicle location at the start of the cargo shift sequence.

Range: 1,2,3,4,5,6,-8888,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No cargo Reserved for circumstances where the vehicle configurations are not regarded as legitimate "over-the-road" configurations, and for vehicles that are carrying no cargo.	1
No cargo shift Use when vehicle was carrying cargo, but it did not shift prior to the crash.	2
On roadway Used when the cargo shift begins while the vehicle is in designated travel lanes or in a parking lane within the roadway boundary.	3
On shoulder Used when the cargo shift begins while the vehicle is on the shoulder of the roadway. The shoulder area does not have to be paved to be considered as shoulder. This area, however, must be stabilized and graded. Nonstabilized areas adjacent to the roadway are considered to be part of the roadside area.	4
On roadside Used when the cargo shift begins while the vehicle is in the area between the outside edge of the shoulder and the right-of-way boundary. If there is no shoulder, the roadside area is defined as that area between the edge of the roadway and the right-of-way boundary. For this variable, the area beyond the right-of-way boundary is also considered to be part of the roadside designation.	5
On median Used when the cargo shift begins while the vehicle is in the median area that separates the roadways within the trafficway. The median may be unprotected or protected by a median barrier. Painted flush areas must be 1.2 m in width to constitute a median.	6
No driver present	-8888
Unknown Used when there is insufficient information to determine if a cargo shift occurred and when there is insufficient information to determine the vehicle's location at the start of the cargo shift sequence.	-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Trip Length

Field Variable: FATIGUE.TRIP_LENGTH

Label:

Remarks

This is a system generated value calculated from DI_DRIVER.TRIP_START_TIME and Crash Time and is used to determine the duration of the trip or last leg of multi-leg trip. However, this field can also be overridden.

Range: 0-24, -8888, -9999

Method: System generated value

Element Attributes:

No driver present

Unknown

Unknown value

Field Value

-8888

-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Time Driving this Portion of Trip (1/2 Hr Increments)

Field Variable: FATIGUE.TIME_ELAPS_DRIVING

Label: Time driving this portion of trip (1/2 hr increments)

Remarks

Enter the driving time elapsed for this trip. If a multileg trip, describe the time elapsed during the last leg of the trip.

Range: 1-9, -8888, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
< half hour Used when driving on this trip is less than one half hour.	1
30-59 minutes Used when driving on this trip is between 30 and 59 minutes.	2
60-89 minutes Used when driving on this trip is between 60 minutes and 89 minutes.	3
90-119 minutes Used when driving time is between 90 and 119 minutes.	4
2 to < 2 1/2 hours Used when driving on this trip is equal to or greater than two hours but less than two and one half hours.	5
2 1/2 to <3 hours Used when driving on this trip is equal to or greater than two and one half hours but less than three hours.	6
3 to <3 1/2 hours Used when driving on this trip is equal to or greater than three hours but less than three and one half hours.	7
3 1/2 to <4 hours Used when driving on this trip is equal to or greater than three and one half hours but less than four hours.	8
=> 4 hours Used when driving on this trip is equal to or greater than four hours.	9
No driver present Used when there is no driver present in the driver's seat at the time of the crash.	-8888
Unknown Used when it unable to be determined the length of time traveled on this trip.	-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Start Time of Trip

Field Variable: FATIGUE.TRIP_START_TIME

Label: Start time of trip

Remarks

Record the time when this trip began. This field will be used with Crash Time to determine the duration of the trip or last leg of multi-leg trip.

Range: 0000-2359

Method: Enter time ____:____

Element Attributes:

Field Value

No driver present

8888

Unknown start time

9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Sleep Start Prior to Date of Crash

Field Variable: FATIGUE.SLEEPSTART_DATE

Label: Date sleep start

Remarks

Enter the date the drivers last sleep period began including naps longer than 30 minutes.

Range: 12/31/2004 - 12/31/2007, 8/8/8888, 9/9/9999

Method: Enter Date ____ ____ / ____ ____ / ____ ____ ____ ____

Element Attributes:

Field Value

No driver present (8/8/8888)

888888

Used when there is no driver in the driver's seat position at the time of the crash. For ease of data entry, use the calendar popup to enter a random date with the calendar, then highlight the date, use the keyboard to enter the 8/8/8888

Unknown (9/9/9999)

999999

Used when the end of the sleep period cannot be determined.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Sleep Start Time.

Field Variable: FATIGUE.SLEEPSTART_TIME

Label: Time sleep start

Remarks

Enter the time the last sleep period began (military time) including naps longer than 30 minutes

Range: 0000-2359, -8888 (PA fm), -9999

Method: Enter time ____:____

Element Attributes:

Field Value

No driver present (8888)

8888

Used when there is no driver in the driver's seat position at the time of the crash.

Unknown (9999)

9999

Use this attribute when the interviewee does not know the time the driver's last sleep period began.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: End of Last Sleep

Field Variable: FATIGUE.SLEEPEND_DATE

Label: Date sleep end

Remarks

Enter the date the drivers last sleep period ended including naps longer than 30 minutes.

Range: 12/31/2004 - 12/31/2007, 5/5/5555, 8/8/8888, 9/9/9999

Method: Enter Date ____ / ____ / ____

Element Attributes:

Field Value

No sleep in last 24 hours

555555

Use this if the sleep period ended more than 24 hours prior to the crash.

No driver present (8/8/8888)

888888

Used when there is no driver present in the vehicle at time of crash. For ease of data entry, use the calendar popup to enter a random date with the calendar, then highlight the date, use the keyboard to enter the 8/8/8888

Unknown (9/9/9999)

999999

Used when there is insufficient information to determine the end date of the last sleep period.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Sleep End Time

Field Variable: FATIGUE.SLEEPEND_TIME

Label: Time sleep end

Remarks

Enter the time the last sleep period ended (military time) including naps longer than 30 minutes. It is important to query the driver carefully and compare the beginning and end times to the answer given for hours of sleep.

Range: 0000-2359,-8888 , -9999

Method: Enter time ____:____

Element Attributes:

	<u>Field Value</u>
No sleep in last 24 hours Use this attribute when the driver states his last sleep ended more than 24 hours ago.	5555
No driver present Used when there is no driver present in the vehicle at time of crash.	8888
Unknown (9999) Used when there is insufficient information to determine the end time of the last sleep period.	9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Duration of Last Sleep

Field Variable: FATIGUE.LASTSLEEP

Label: Duration of last sleep

Remarks

Number of hours the driver slept in time period leading up to the crash. This period may reflect the "best estimate" of the researcher as derived from available information sources.

Range: 0.5 - 24

Method: Enter hours _____

Element Attributes:

Field Value

No driver present

-8888

Unknown

-9999

Used when there is insufficient information to establish the requested time frame.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Sleep in Last 24 Hours

Field Variable: FATIGUE.SLEEP24HRS

Label: Sleep in last 24 hours

Remarks

Total hours of sleep in last 24 hours (includes main sleep plus any naps).

These periods may reflect the "best estimate" of the researcher as derived from available information sources.

If length of sleep time is less than 30 min, code 0. Otherwise code to the nearest hour up to 24. Cannot have more than 24 hours sleep in one day nor less than 0 time sleeping.

-

Range: 0-24.

Method: Enter hours _____

Element Attributes:

**Field
Value**

No driver present

-8888

Used when there is no driver in the driver's seat position at the time of the crash.

Unknown

-9999

Used when there is insufficient information to determine hours of sleep.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Time Since Last Sleep

Field Variable: FATIGUE.HOURS AWAKE

Label: Time since last sleep

Remarks

Hours since last sleep.

Do not include drivers who fall asleep while driving.

Range: 0.5 - 96, -8888, -9999

Method: Enter hours _____

Element Attributes:

Field Value

No driver present

-8888

Unknown

-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: What Is Your Normal Average Daily Sleep Interval?

Field Variable: FATIGUE.AVGSLEEPINT

Label: What is your normal average daily sleep interval?

Remarks

This variable records the driver's response for average daily sleep interval. It is unlikely that the interval will be less than four hours or greater than twelve hours.

This period may reflect the "best estimate" of the researcher as derived from available information sources.

For commercial driver's or persons who have traveled during the past week, it is very likely that the average length of sleep interval while the driver is at home will be different from the average length of sleep interval on the road. When this circumstance arises, this area should be carefully probed by the researcher.

Range: 0-24, -8888,-9997,-9999

Method: Enter hours _____

Element Attributes:

Field Value

No driver present

-8888

Unknown

-9999

Used when there is insufficient information to establish the requested time frames.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Change in Sleep Pattern this Week

Field Variable: FATIGUE.SLEEPROTATE

Label: Did you change your sleep or work hours during the last seven days?

Remarks

Did the driver change sleep pattern or rotate his/her work shift during the last seven day interval (e.g. rotating shift schedule)? This variable addresses changes in the driver's sleep/work pattern during the seven day period preceding the crash. This will include changes in sleep patterns due to health or emotional reasons.

Range: 1-2, -8888, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Yes	2
No	1
No driver present	-8888
Unknown	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Shortest Hourly Period Worked During the Seven-Day Interval Preceding Crash.

Field Variable: FATIGUE.WORKSHORTEST

Label: Shortest hourly period worked during the seven-day interval preceding crash.

Remarks

This variable documents the shortest hourly time period worked during the seven day interval preceding the crash. This time period must be continuous and includes lunch and break periods but not commuting or sleeping time. For persons on call (e.g. doctors, police, fireman, other similar occupations) include only actual time working.

Range: 0.5 - 24

Method: Enter hours _____

Element Attributes:

Field Value

No driver present

-8888

Not applicable

-9997

is reserved for circumstances such as: driver is on vacation during the seven day interval preceding the crash, driver is unemployed, or driver is a non-working housewife/student.

Unknown

-9999

Sources:

DRIVER INTERVIEW

SURROGATE INTERVIEW

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Longest Period (Hours:Mins) Worked During the Seven-Day Interval Preceding Crash.

Field Variable: FATIGUE.WORKLONGEST

Label: Longest period (hours:mins) worked during the seven-day interval preceding crash.

Remarks

Longest period worked during the seven-day interval preceding crash. Includes lunch hours and breaks but not commuting or sleeping time.

For persons on call (e.g. doctors, police, fireman, other similar occupations) include only actual time working.

Range: 0.5-24

Method: Enter hours _____

Element Attributes:

Field Value

No driver present

-8888

Not applicable

-9997

is reserved for circumstances such as: driver is on vacation during the seven day interval preceding the crash, driver is unemployed, or driver is a non-working housewife/student.

Unknown

-9999

Sources:

DRIVER INTERVIEW

SURROGATE INTERVIEW

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Average Number of Hours Worked During the Seven-Day Interval Preceding Crash.

Field Variable: FATIGUE.WORKAVG

Label: Average number of hours worked during the seven-day interval preceding crash.

Remarks

Average daily hours worked during the seven day interval preceding crash. Give the average over the number of days worked for both primary & secondary jobs in the last 7 days (e.g. If the driver worked 40 hours M-F, then divide 40 by 5, not by 7).

Range: 0.5 -24

Method: Enter hours _____

Element Attributes:

Field Value

No driver present

-8888

Not applicable

-9997

is reserved for circumstances such as: driver is on vacation during the seven day interval preceding the crash, driver is unemployed, or driver is a non-working housewife/student.

Unknown

-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Total Hours Worked in Seven Days

Field Variable: FATIGUE.WORKTOTAL

Label: Total Hours Worked In Seven Days

Remarks

Code the total number of hours the driver worked in the last seven days for both primary & secondary jobs .

Range: 0.5 - 126

Method: Enter hours _____

Element Attributes:

	<u>Field Value</u>
No driver present	-8888
Not applicable	-9997
is reserved for circumstances such as: driver is on vacation during the seven day interval preceding the crash, driver is unemployed, or driver is a non-working housewife/student.	
Unknown	-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Driver Fatigue

Field Variable: FATIGUE.DRIVER_FATIGUE

Label: Driver fatigue

Remarks

This element value assesses driver fatigue at the time of the crash. The assessment is based on an evaluation of the driver's current and preceding sleep schedules, current and preceding work schedules, and a variety of other fatigue related factors including recreational and non-work activities. This assessment reflects the Researcher's best judgment with respect to this issue and is based on all available information inputs.

Range: 1 - 2, -8888, -9999

Method: Fill a single item

Element Attributes:

Field Value

Driver fatigued

1

Used when available support information indicates that the driver has not received adequate sleep, is tired/fatigued due to extended work hours, is tired/fatigued due to strenuous recreational activities or strenuous nonwork activities, or is tired/fatigued due to a combination of factors.
This includes drowsy drivers and those who fall asleep while driving.

Driver not fatigued

2

Used when there is no information indicating that the driver exhibited symptoms of fatigue and support information indicates that rest and work intervals were within reasonable bounds.

No driver present

-8888

Unknown

-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Police Reported Alcohol Presence

Field Variable: OFFICIALRECORDS.PAR_ALCOHOL_PRES

Label: Police reported alcohol presence

Remarks

Record the PAR information about alcohol presence. Examine the PAR carefully as this information may be in a check box, written code or in the narrative notes.

Range: 1 - 3, 11, -8882, -8888, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No alcohol present Police report gives indication that no alcohol was present for this driver. This must be a positive indicator, ie PAR must indicate no alcohol if variable is present.	1
Yes - alcohol present Police indicate on PAR that this driver had alcohol presence, either by test, odor or presence of open containers in vehicle.	2
Not reported Police do not report presence or absence on PAR.	3
No PAR obtained (created) No police accident report was created.	-1111
Not a case vehicle	-8882
No driver present	-8888
Unknown Police are not specific about alcohol presence. Alcohol variable on PAR is blank and no mention is made of presence or absence.	-9999

Sources:

PAR

Pre-crash Assessment

Screen Name: BAC Test Source Official Records

Field Variable: DRIVER_HEALTH.ALCOHOL_TEST_SOURCE

Label: BAC Test Source Official Records

Remarks

This element value documents the source of BAC test results. These results must come from official medical records or PAR (or PAR related documents). Do not record results from other than official documents without Zone Center approval. If the delay between the crash time and the time of the BAC test is greater than 12 hours enter "No BAC test" (but note special rules for fatal victims under ALCOHOL_TEST_TIME).

Range: 1 - 4, -1111, -8888, -9995, -9996, -9997, -9999

Method: Fill a single item

Element Attributes:

Field Value

No PAR obtained (created)

-1111

No police accident report was created.

No BAC test

1

Used when no BAC test has been administered.

Medical Record

2

Used when the source of the BAC test is a medical record (including autopsy report)

Police Reported

3

Used when the BAC test result is reported on the police report or in the investigating officer's supplementary notes.

Other (specify) :

4

Used when test results are obtained from sources other than the police report and medical records. An example is a verbal BAC from an **official** source.

No driver present

-8888

Test refused

-9995

Select this attribute when credible sources indicate the driver refused a breath or blood test for alcohol presence.

Unknown if tested

-9999

Use this choice when it cannot be determined if a BAC test was administered.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: BAC Test Result

Field Variable: DRIVER_HEALTH.ALCOHOL_TEST_RESULT

Label: BAC Test Result

Remarks

Record the Blood Alcohol Content (BAC) test results. These results must come from official medical records or PAR (or PAR related documents). Do not record results from other than official documents without Zone Center approval. Alcohol is metabolized/excreted at the average rate of 0.015% per hour. Before recording results, check the time of the breath test or blood draw. If the breath test is performed or the blood is drawn more than eight hours after the crash, the results will have little value but are to be recorded.

If a breath test is performed or blood is drawn more than twelve hours after the crash, the results are invalid and must not be entered (but note special rules for fatal victims under ALCOHOL_TEST_TIME).

Range: 0- 0.49, -8888,-9995, -9996, -9997, -9999

Method: Enter a value _____

Element Attributes:

	<u>Field Value</u>
No BAC test Use this attribute when it can be determined that no BAC test was administered.	-9996
No driver present	-8888
Test refused Select this attribute when credible sources indicate the driver refused a breath or blood test for alcohol presence.	-9995
BAC test performed, results unknown Use this attribute in instances when the researcher can determine a BAC test was performed but is unable to obtain the results.	-9997
Unknown if tested Use this attribute in instances when it cannot be determined if a BAC test was administered.	-9999

Sources:

- PAR
- MEDICAL RECORDS

Pre-crash Assessment

Screen Name: BAC Test Time (HH:MM)

Field Variable: DRIVER_HEALTH.ALCOHOL_TEST_TIME

Label: BAC Test Time

Remarks

Record the time of BAC test administration. This information may be difficult to obtain. Examine all records for the time of the blood draw or breath test. This time may be found on medical records, PARs or other official records. If the time of test or blood draw is unknown, enter "BAC test performed, time unknown"

If a test is administered more than 12 hours after the time of the crash while the driver is alive, enter "No BAC test".

If the driver has died, use the following protocol:

Test administered prior to death - Enter test time

Died prior to test administered - Enter time of death as test time

Range: 0001-2400, 5555, 8888, 9995, 9996, 9997, 9999

Method: Enter time ____:____

Element Attributes:

	Field Value
No driver present	8888
Test refused	9995
Select this attribute when credible sources indicate the driver refused a breath or blood test for alcohol presence.	
No BAC test	9996
Use this attribute when it is determined that no BAC test was performed at any time after the crash.	
BAC test performed, time unknown	9997
Use this attribute in instances when the researcher can determine a BAC test was performed but is unable to obtain the results.	
Unknown if tested	9999
Use this attribute for instances when it cannot be determined if there was a BAC test administered.	

Sources:

PAR

MEDICAL RECORDS

Pre-crash Assessment

Screen Name: Test Delay

Field Variable: DRIVER_HEALTH.ALCOHOL_TEST_DELAY

Label: Time delay between crash and alcohol test

Remarks

Time between the time of the crash and the time blood was drawn or breath test administered.

This variable is autocalculated by subtracting CRASH.TIME from DRIVER_HEALTH.ALCOHOL_TEST_TIME.

Range: 0.08-12hrs

Method: System generated value

Element Attributes:

**Field
Value**

No driver present

-8888

Used when there is no driver in the driver's seated position of the vehicle at the time of the crash.

Test refused

-9995

Select this attribute when credible sources indicate the driver refused a breath or blood test for alcohol presence.

No BAC test

-9996

Use this attribute when it can be determined that no BAC test was administered.

BAC test performed, delay unknown

-9997

Use this attribute in instances when the researcher can determine a BAC test was performed but is unable to obtain the results. This attribute is also used when the test results are known, but the time the test was administered is unknown.

Unknown if tested

-9999

Used when there is insufficient information to make a determination.

Sources:

CALCULATION

Pre-crash Assessment

Screen Name: any Medications

Field Variable: DRIVER_HEALTH.MEDPRESENT

Label: Drugs taken last 24 hours

Remarks

This variable captures the driver's memory of drug ingestion or positive indication of drugs/medications taken per medical records. It is important to obtain as complete a list as possible. Query the driver regarding drug ingestion over the last 24 hours. Informing the driver that any non-food substance MIGHT be considered a 'drug' may generate a more complete response.

Drugs include all over-the-counter, prescription, nutritional supplements, and illicit drugs.

A "presumptive" coding approach is used with respect to this variable. Specifically, it is assumed that illegal drugs are not involved unless there are positive test results or other official records indicating involvement. In this circumstance, Researcher field observations and the observations of other on-scene personnel (i.e., police officers, EMTs) may be used as a basis for coding unknown in the absence of test results and/or other official records.

Range: 1,2,-8888,-9999

Method: Select a single item

Element Attributes:

	<u>Field Value</u>
Yes	1
Yes, drugs/medications were ingested in the last 24 hours	
No	2
No drugs/medications were ingested in the last 24 hours	
No driver present	-8888
no driver present	
Unknown	-9999
is used when it is unknown if the driver ingested any drugs/medications in the last 24 hours	

Sources:

RESEARCHER ASSESSMENT

MEDICAL RECORDS

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Medications

Field Variable: DRIVERDRUG.DRUG

Label: List all drugs

Remarks

If the driver indicates use of any medication or positive indication of drugs/medications taken per medical records, then probe for the names of all substances ingested. Give examples of over the counter and prescribed medications or illegal drugs to prompt the driver (this includes prescription drugs that are not prescribed for this driver).

This variable is only completed when 'yes' was selected for the 'any medications' variable on the preceding tab.

Note: The general category of medication/drug should be included if it's the only available information. For example: cold medicine, not specified; antibiotic, not specified; and high blood pressure med, not specified; are all valid attributes.

Range: List of drugs, prescription, over the counter and controlled substances.

Method: List all drugs taken _____

Precrash Assessment

Screen Name: Medications

Field Variable: DRIVERDRUG.DRUG

Element Attributes:

Field Value

Abilify	453
Accolate	278
Accupril	137
Accupril-BP	2
Acetaminophen/ Codeine	130
Aciphex	320
Actifed	410
Actos	321
Acyclovir	322
Adalat CC	161
Adderall	221
Advair	444
Advil	47
Advil cold medicine	48
Albuterol	3
Albuterol (Liquid)	323
Albuterol Aerosol	316
Albuterol Neb Soln	317
Alesse	233
Alesse 28	318
Aleve	412
Allegra	271
Allegra-D	4
Allopurinol	266
Alphagan	259
Alprazolam	135
Altace	263
Amaryl	209
Ambien	133
Amitriptyline	174
Amoxicillin	102
Amoxil	126
Amphetamine	66
Antacid, Not specified	427
Antibiotic, not specified	431

Precrash Assessment

Screen Name: Medications
Field Variable: DRIVERDRUG.DRUG

Aricept	249
Arthritis medication - not specified	496
Arthrotec	255
Asacol	454
Asprin - all brands	49
Asthma Inhaler, not specified	430
Atacand	455
Atenolol	131
Ativan	445
Atrovent	186
Augmentin	103
Avandia	390
Avapro	237
Axid	245
Azmacort	225
Azolphazine	5
Baclofen	456
Bactrim	395
Bactroban	215
Barbiturates - not specific	382
Baycol	324
Benadryl (Di-Phenhydramine)	399
Benicar	457
Benzodiazepines - not specific	381
Benzonatate	325
Biaxin	128
Birth control, not specified	407
Bixion	6
Blood Thinner, not specified	440
BuSpar	176
Bumetanide	414
Butalbital / APAP / Caffiene	326
Buteral	7
Calan Effexor	8
Captopril	9
Carafate	447

Precrash Assessment

Screen Name: Medications

Field Variable: DRIVERDRUG.DRUG

Cardizem CD	139
Cardura	144
Carisoprodol	222
Cartia XT	327
Ceftin	185
Cefzil	168
Celebrex	104
Celexa	187
CellCept	458
Cephalexin	121
Cholesterol med, not specified	438
Cialis	459
Cimetidine	279
Cipro	123
Claritin	105
Claritin D 12 HR	275
Claritin D 24 HR	276
Claritin Reditabs	267
Claritin-D	10
Climara	260
Clindamycin	328
Clonapin	408
Clonazepam	170
Clonidine	226
Clorazepate	503
Cocaine	67
Codeine	389
Colchicine	460
Cold medicine, Not specified	426
Combivent	231
Contuss-XT	265
Coreg	461
Cortef	11
Coumadin	12
Cozaar	156
Crack cocaine	68

Precrash Assessment

Screen Name: Medications

Field Variable: DRIVERDRUG.DRUG

Crestor	462
Cyclobenzaprine	201
Cycrin	254
Cylert	13
Cymbalta	463
Darvocet	16
Daypro	229
Dayquil	415
Deltasone	280
Depakote	149
Desogen	228
Detrol	223
Diabet	14
Diabetes, oral medication, Not specified	425
Diazepam (Valium)	211
Diclofenac Sodium	329
Diflucan	157
Digitek	464
Digoxin	330
Dilantin	150
Diltiazem	441
Diovan	15
Diovan HCT	331
Ditropan	465
Diuretic, Not specified	424
Doxazosin	418
Doxepin	332
Doxycycline	333
Dyazide	281
Dylantin	17
Effexor XR	189
Elavil	466
Elocon	283
Enalapril	449
Endocet	284
Ery-Tab	236

Precrash Assessment

Screen Name: Medications
Field Variable: DRIVERDRUG.DRUG

Estrace	239
Estraderm	285
Estradiol	286
Estrogen medication - not specified	495
Evista	218
Fastin	18
Flexeril	19
Flomax	264
Flonase	143
Flovent	184
Flunitrazepam	377
Flurazepam	378
Folic Acid	262
Fosamax	145
Furosemide	106
Gemfibrozil	248
Geodon	467
Glaucoma med, not specified	437
Glipizide	288
Glucophage	21
Glucosamine/Chondroitin	432
Glucotrol XL	140
Glucovance	468
Glyburide	182
Glynase	20
Guaifenesin/PPA	289
Hashish	69
Heroin	70
High Blood Pressure medication, not specified	413
Humalog	419
Humulin 70/30	290
Humulin N	291
Hydrochlorothiazide	155
Hydrocodone w/ APAP	107
Hydroxyzine	335
Hyoscyamine	336

Precrash Assessment

Screen Name: Medications

Field Variable: DRIVERDRUG.DRUG

Hytrin	160
Hyzaar	212
Ibuprofen	273
Imdur	224
Imitrex	181
Indomethacin	405
Insulin, not specified	406
Isosorbide Mononitrate	244
K-Dur	124
K-Dur-20	293
Keppra	469
Klonopin	470
Klor-Con	242
Lamictal	471
Lamisil	258
Lanoxin	108
Lantus	472
Lasix	294
Laxative	51
Lescol	177
Levaquin	165
Levothroid	253
Levoxyl	109
Lexapro	473
Lexxel	22
Librium	384
Lipitor	23
Lisinopril	402
Lithium - all types	387
Lo/Ovral	213
Lo/Ovral 28	295
Loestrin-FE 1.5/30	296
Loestrin-FE 1/20	297
Loprazolam	379
Lopressor	401
Loprol	436

Precrash Assessment

Screen Name: Medications
Field Variable: DRIVERDRUG.DRUG

Lorabid	298
Lorazepam	162
Lorcet/Lortab	474
Lormetazepam	380
Lotensin	146
Lotrel	24
Lotrisone	190
Lovastatin	417
Lunesta	475
Lysergic Acid Diethylamide (LSD)	71
Macrobid	232
Marijuana	72
Mavik	420
Maxalt	446
Meclizine	337
Medroxyprogesterone	206
Meijer Asprin free	52
Metformin	416
Methadone	397
Methamphetamine	74
Methocarbamol	338
Methylphenidate	339
Methylprednisolone	251
Metoprolol Tartrate	188
Metronidazole	340
Mevacor	25
Miacalcin	219
Miacalcin Nasal	300
Micardis	476
Minocycline	341
Mirapex	477
Mircette	342
Mobic	478
Monopril	164
Morphine	75
Motrin	53

Precrash Assessment

Screen Name: Medications

Field Variable: DRIVERDRUG.DRUG

Mucinex	479
N-desmethylochlordiazepoxide - Librium metabolite	391
Nadolol	422
Naprosyn	26
Naproxen	362
Naproxen Sodium	343
Nardil	383
Nasonex	192
Necon	238
Necon 1/35	301
Neomycin/Polymx/HC	227
Neurontin	154
Nexium	400
Niaspan	480
Nitrazepam	376
Nitroglycerin	344
Nitrostat	234
No additional physical factors	1
No driver present	-8888
Used when there is no driver seated in the drivers position.	
Nodoze	54
Norchlordiazepoxide - Librium metabolite	392
Nortriptyline	345
Norvasc	27
Novolog	481
Nyquil	60
Opiate, not specified	403
Opium	76
Ortho Tri-Cyclen	129
Ortho-Cept	302
Ortho-Cyclen	217
Ortho-Novum 7/7/7	179
Orudus	28
Other (specify)	44

Other should only be used when the specific name of the drug is known but not included on the drug list provided in the application.

When specifying the other drug, the condition requiring the medication should also be included to assist in analysis.

Precrash Assessment

Screen Name: Medications

Field Variable: DRIVERDRUG.DRUG

Oxycodone / APAP	346
Oxycodone / Acetaminophen	250
Oxycontin	241
PCP	423
Pantoprazole	452
Paxil	110
Penicillin	30
Penicillin VK	277
Pentasa	482
Pentobarbital/Secobarbital	78
Pepcid	151
Percocet	393
Percoden	394
Perrigo	55
Phenazopyridine	347
Phencyclidine(PCP)	77
Phenergan Supp	246
Phenobarbital	348
Phentermine	483
Piroxicam	484
Plaquenil	485
Plavix	208
Plendil	240
Potassium Chloride	210
Potassium Supplement (unspecified)	502
Pravachol	31
Prednisone	125
Prednisone (oral)	349
Premarin	32
Prempro	270
Prevacid	111
Prilosec	112
Prinivil	138
Pro-hist-8	499
Procardia XL	147
Promethazine / Codeine	350

Precrash Assessment

Screen Name: Medications

Field Variable: DRIVERDRUG.DRUG

Promethazine tabs	303
Propacet 100	304
Propoxyphene N/APAP	134
Propranolol	230
Propranolol LA	305
Propulsid	172
Protonix	451
Proventil	257
Proventil HFA	351
Provera	306
Prozac	33
Pyridium	396
Rabeprazole	398
Ranitidine	200
Relafen	163
Remeron	352
Retin-A	307
Rezulin	204
Rhinocort	308
Risperdal	166
Rocaltrol	388
Roxicet	207
Rozeram	486
Serevent	173
Seroquel	442
Serzone	214
Singulair	202
Sinus/Allergy med, Not specified	428
Soma	487
Spiriva	488
Spironolactone	353
Sudafed	56
Sular Prylosac	34
Sulfasalazine	434
Synthroid	113
Tamoxifen	247

Precrash Assessment

Screen Name: Medications

Field Variable: DRIVERDRUG.DRUG

Tegretol	385
Temazepam	235
Tenorin	35
Terazosin	354
Tetrahydrocannabinol(THC)	79
Theo-Dur	450
Theophylline SR	355
Thyroid medication - not specified	497
Tiazac	252
Timoptic XE	310
Tinormin	36
Tobradex	256
Topomax	439
Topoxol	37
Toprol - XL	141
Tramadol	489
Travis D	57
Trazodone	261
Tri-Levlen	311
Triamcinolone (topical)	357
Triamterene / HCTZ	142
Tricor	435
Tricyclic Antidepressants	386
Trileptal	490
Trimethoprim/Sulfa	127
Trimox	268
Triphasil	171
Tylenol	58
Tylenol PM	59
Tylenol Sinus	429
Tylenol/Codeine	38
Ultram	136
Unknown	-9999
is used only if the driver ingested medications/drugs in the last 24 hours, but the specific drug name and/or category is unknown.	
Valtrex	358
Vancenase AQ DS	220

Precrash Assessment

Screen Name: Medications
Field Variable: DRIVERDRUG.DRUG

Vasotec	39
Veetids	180
Verapamil SR	169
Viagra	148
Vicodin	404
Vicoprofen	360
Vioxx	205
Vitamins	61
Vytorin	491
Warfarin	193
Wellbutrin SR	153
Xalatan	167
Xanax	312
Xopenex	443
Yasmin	492
Zaick	40
Zantac	313
Zesterol	42
Zestoretic	216
Zestril	114
Zetia	493
Ziac	41
Zithromax	272
Zithromax (Z-Pack)	115
Zithromax Susp	314
Zocor	118
Zoloff	119
Zonegran	494
Zovirax	448
Zyban	315
Zyprexa	191
Zyrtec	132
Zyrtec Syrup	361
Chlor-Trimeton	498
Chlor-phen	500
Chlorpheniramine Maleate	501

Precrash Assessment

Screen Name: Medications

Field Variable: DRIVERDRUG.DRUG

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Other Physical Factors

Field Variable: DRIVER_PHYSICALFACTOR.PHYSICAL_FACTOR

Label: Other physical factors

Remarks

This element value documents other physical factors that may be relevant to the driver's precrash driving performance. Selection of these factors does not imply a causal link between any factor and the crash events. Major medical problems (i.e. heart attack) are not included here, they are captured in the illness variable.

Range: 2-12, -8841, -8888, -9999

Method: Fill all that apply

Pre-crash Assessment

Screen Name: Other Physical Factors

Field Variable: DRIVER_PHYSICALFACTOR.PHYSICAL_FACTOR

Element Attributes:	Field Value
No other physical factors Used when the listed physical factors are not present in this driver.	-8841
Hearing impairment Used when the driver has a diagnosed hearing impairment. Entries in the electronic data file should be annotated to indicate the nature and extent of the impairment.	2
Vision Impairment Used when the driver has a diagnosed vision impairment. Entries in the electronic data file should be annotated to indicate the nature and extent of the impairment. The impairment must be severe enough to affect the performance of the driving task. If driver has a vision impairment but is wearing corrective lens at the time, then there is no vision impairment present at the time of the collision.	3
Prosthesis (specify) : Used when the driver is wearing a prosthesis. An annotation is required to specify the type of prosthesis and any limitations on driver performance associated with the prosthesis.	4
Paraplegia Used when the driver has paralysis of the lower limbs. Entries in the electronic data file should be annotated to indicate the use of hand controls.	5
Strenuous recreational activities Used when the driver participates in strenuous recreational activities during the seven day interval preceding the crash. Entries in the electronic file should be annotated to specify the nature and duration of the activity as well as the length of the time interval between activity completion and crash occurrence.	6
Strenuous non-work activities Used when the driver participates/engages in strenuous non-work activities (e.g., household chores) during the seven day interval preceding the crash. Entries in the electronic file should be annotated to specify the nature and duration of the activity as well as the length of the time interval between activity completion and crash occurrence.	7
Sleep apnea Used when the driver has an obstructive sleep apnea disorder.	8
Quadriplegia Used when the driver has full or partial paralysis of all limbs. Entries in the electronic data file should be annotated to specify the type of controls used.	9
Short term physical condition (specify) Used when the driver has a short term physical condition that has the potential to affect the drivers precrash driving performance. Examples include pregnancy, recent surgical procedures, limbs in cast, etc.	11
Chronic condition (specify) Used when the driver has a chronic condition that has the potential to affect the drivers precrash driving performance. Examples include diabetes, arthritis, etc.	12
Other (specify) : Used when there is a relevant physical factor that is not described in preceding elements. An annotation is required to specify the nature of this factor.	10

Precrash Assessment

Screen Name: Other Physical Factors

Field Variable: DRIVER_PHYSICALFACTOR.PHYSICAL_FACTOR

No driver present -8888

Used when there is no driver in the driver's seated position at the time of the crash.

Unknown -9999

Used when there is insufficient information to determine if other physical factors are relevant to this crash.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Illness

Field Variable: DRIVER_HEALTH.ILLNESS

Label: Illness

Remarks

This variable should be coded for presence of illness. The medical problem should be major and have the **potential** for influencing the performance of the driving task.

Major medical problems (i.e., heart attack, seizure, blackout, severe cold or flu) should have medical verification, but this is not required.

Document the source in a note if other than medical records.

Range: 1,2,-8888,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Yes	2
Used when the driver has an illness (includes heart attack, seizure, blackout, severe cold/flu symptoms etc..)	
No	1
Used when the driver is not ill.	
No driver present	-8888
Unknown	-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Hearing Impairment

Field Variable: DRIVER_HEALTH.HEARING_IMPAIRMENT

Label: Hearing impairment

Remarks

This variable records the presence of a driver hearing deficit. If the driver has a deficit, then the researcher must ask about the use of a hearing aid.

Range: 1,2,-8888,-9999

Method: Fill a single item

Element Attributes:

	Field Value
Yes The driver has a hearing deficit.	2
No The driver does not have a hearing deficit.	1
No driver present	-8888
Unknown	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Hearing Aid Worn?

Field Variable: DRIVER_HEALTH.HEAR_WORN

Label: Hearing aid worn?

Remarks

This variable records the use of a hearing aid by the driver at the time of the crash.

Range: 1,2,-8888,-9997,-9999

Method: Fill a single item

Element Attributes:

Yes

Driver was using a hearing aid at the time of the crash.

No

Driver was not using a hearing aid at the time of the crash.

No driver present

Not applicable

Driver does not have a hearing deficit.

Unknown

**Field
Value**

2

1

-8888

-9997

-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Driver Inattention

Field Variable: DRIVER_BEHAVIOR.THINKING_ABOUT

Label: Driver inattention

Remarks

What was the driver thinking about immediately before the crash? This element value documents driver inattention (i.e., focusing on internal thought processes). Identification of these thought areas does not necessarily imply a causal relationship.

Range: 1 - 8, -8888, -9997, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No inattention factors Used when there is no detectable incidence of driver inattention. In many cases this may be a subjective evaluation based on driver/witness inputs. This includes drivers who are incapacitated at the time of the crash.	1
Personal problem Used when the driver is thinking about a personal problem. This problem type may be work related or may involve interpersonal relationships in the work environment. This problem type also includes other interpersonal relationships (excluding family members) outside the work environment and a variety of legal matters.	2
Family problem Used when the driver is thinking about a family problem. This problem type may involve interpersonal relationships within the family or an interpersonal relationship between another family member and a non-family individual. It also includes a variety of legal matters involving other family members.	3
Financial problem Used when the driver is thinking about a personal financial problem involving bills, overall debt, credit card payments, etc. Financial problems involving other family members are classified as a family problem.	4
Preceding argument Used when the driver is thinking about a preceding argument with other individual(s). These arguments may have occurred more than 12 hours prior to the crash.	5
Future event (e.g. vacation, wedding, etc.) Used when the driver is thinking about a future event. These events should have pleasant connection. For example, if the driver is thinking about attending a funeral, this problem type should be classified in the other category.	6
Inattentive, thought focus unknown This attribute is used when it is believed that the driver is inattentive, but the nature of the thoughts cannot be determined.	7
Other (specify) : Used when the driver is thinking about a topic area that is not described in preceding elements. Specify the nature of the thought focus.	8
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine the nature of the driver's thought focus or to determine if the driver was inattentive as a result of focusing on internal thought processes.	-9999

Precrash Assessment

Screen Name: Driver Inattention

Field Variable: DRIVER_BEHAVIOR.THINKING_ABOUT

Sources:

DRIVER INTERVIEW

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Conversing

Field Variable: DRIVER_BEHAVIOR.CONVERSATION

Label: Conversing

Remarks

This element value documents driver participation in conversation. The conversation can be associated with a variety of sources including conversing with passengers, talking on a cell phone, or talking on a CB radio.

Range: 1 - 5, -8888, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Not conversing Used when the driver is not conversing with any of the sources described above.	1
Conversing with passenger Used when the driver is conversing with at least one other passenger in the vehicle during the immediate pre-crash phase.	2
Talking on phone Used when the driver is conversing on a phone during the immediate pre-crash phase. Drivers using 'hands free' phone set-ups are included in this category.	3
Talking on CB radio Used when the driver is conversing on a CB radio during the immediate pre-crash phase.	4
Other (specify) : Used when the driver is engaged in conversation during the pre-crash phase, but either the medium or context of the conversation is not described in preceding elements. An annotation is required to describe the specific circumstances relevant to the crash.	5
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine if the driver is engaging in conversation during the immediate pre-crash phase.	-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Conversant Relationship

Field Variable: DRIVER_BEHAVIOR.CONVERSE_RELATIONSHIP

Label: Relationship conversant

Remarks

This element value documents the relationship between the driver and the person the driver was conversing with during the immediate pre-crash phase.

Range: 1,2,3,4,5,6,7,8,-8888,-9997,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Business Used when the driver is conversing and the relationship is work related.	1
Social (friend) Used when the driver is conversing and the relationship is social in nature.	2
Boy/girlfriend Used when the driver is conversing and there is a romantic nature to the relationship.	3
Husband/wife Used when the driver is conversing with his/her spouse.	4
Parent/child Used when the driver is conversing with a related child.	5
No relationship/stranger Used when there is no relationship between the driver and the person he or she was conversing with during the pre-crash phase.	6
Other relative Use this attribute for any relative (blood or marriage) other than Parent/child or Husband/wife.	8
Other (specify) : Used when the relationship is other than specified by preceding codes. Specify the nature of the relationship.	7
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Not applicable Used when the driver was not conversing with anyone.	-9997
Unknown Used when there is insufficient information to determine if the driver is conversing with another individual during the pre-crash phase and/or if there is insufficient information to establish the nature of the relationship.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Nature of Conversation

Field Variable: DRIVER_BEHAVIOR.DISTRACTION_DISCUSS_SUBJECT

Label: Nature of conversation

Remarks

This element value documents the nature of the conversation the driver is involved in during the pre-crash phase.

Range: 1,2,3,4,5,6,-8888,-9997,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Business Used when the driver is conversing and the conversation is work related.	1
Social Used when the conversation is not argumentative and does not involve work related issues.	2
Family matter Used when the conversation is related to the driver's family members.	3
Argument Used when the participants disagree on the topic of conversation. Elements of anger should be present.	4
Disciplinary Used when discussion is about disciplinary matters between the parent (or other adult) and child. Disciplinary discussions between co-workers are classified as business related.	5
Other (specify) : Used when the nature of the conversation is other than specified by preceding codes. Specify the nature of the discussion.	6
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Not applicable	-9997
Unknown Used when there is insufficient information to determine if the driver was conversing with another individual during the pre-crash phase and/or if there is insufficient information to establish the nature of the discussion.	-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Other Non-Driving Activities

Field Variable: DRIVERACTIVITY.OTHER_DRIVER_ACTIVITY

Label: Other non-driving activities

Remarks

This element value establishes other interior factors/events during the precrash phase. The intent is to identify factors which reduced/interfered with the driver's attention to the driving task.

Listening to radio/cd is not considered an other non-driving activity.

Range: 2 - 13, -8885, -8888, -9999

Method: Fill all that apply

Preocrash Assessment

Screen Name: Other Non-Driving Activities

Field Variable: DRIVERACTIVITY.OTHER_DRIVER_ACTIVITY

Element Attributes:	Field Value
No non-driving activities Used when the driver is not engaging in non-driving activities during the precrash phase.	-8885
Looking at movement/actions of other occupants Used when the driver is distracted by other occupants in the vehicle. The specific intent is to identify instances when the driver is distracted by movements or actions initiated by these occupants. Distraction as a result of conversation is classified in the preceding variable.	2
Dialing/hanging up phone Used when the driver is distracted as a result of either dialing or hanging up a phone during the precrash phase. This element value is also used when the driver is adjusting phone controls or is attempting to retrieve voicemail messages.	3
Adjusting radio/CD player Used when the driver is distracted as a result of attempting to adjust sound system controls.	4
Adjusting other vehicle controls Used when the driver is distracted as a result of attempting to adjust the heat, vent, or air conditioning controls. This category also includes attempted adjustments to other OEM and after market controls. Electronic file data entries should be annotated to indicate the system involved and the attempted adjustment.	5
Retrieving object from floor and/or seat Used when the driver is attempting to retrieve an object from either indicated location while driving. The objects in this category include everything with the exception of items related to smoking or eating which are addressed in selection of those individual attributes.	6
Retrieving object from other location Used when the driver is attempting to retrieve an object from a location other than the floor or seat. Objects in this category include everything with the exception of items related to smoking or eating which are addressed in selection of those individual attributes.	7
Eating or drinking	9
Smoking	10
Reading map/directions/newspaper etc	11
Focused on other internal object (specify) Use this attribute when the driver is not attending to the driving task due to focus on any object in the interior of the vehicle not related to other specific attributes for this variable.	12
Text messaging Any short electronically transmitted message. Typically sent to a handheld device such as a pager, PDA, or cell phone.	13
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine if the driver is distracted by interior factors.	-9999

Precrash Assessment

Screen Name: Other Non-Driving Activities

Field Variable: DRIVERACTIVITY.OTHER_DRIVER_ACTIVITY

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Exterior Factors

Field Variable: EXTERIORFACTOR.EXTERIOR_FACTOR

Label: Exterior factors

Remarks

This element value documents the driver focusing on factors exterior to the vehicle. The intent here is to identify factors which influenced the driver's focus with respect to the driving task.

Range: 2 - 9, -8841, -8888, -9999

Method: Fill all that apply

Pre-crash Assessment

Screen Name: Exterior Factors

Field Variable: EXTERIORFACTOR.EXTERIOR_FACTOR

Element Attributes:

Field Value

No exterior factors

-8841

Used when the driver is not distracted from the driving task by factors exterior to the vehicle.

Looking at previous crash

2

Used when the driver removes his/her focus from the driving task to look at a previous crash (i.e., "rubber-necking").

Looking at other vehicle

3

Used when the driver removes his/her focus from the driving task to look at other traffic. Other traffic only includes those vehicles not involved in the 1st harmful event.

Looking for street address

4

Used when the driver removes his/her focus from the driving task to search for a street address (usually searching for a specific building number).

Looking at outside person

5

Used when the driver removes his/her focus from the driving task to look at a person who is exterior to this vehicle. The person can be a pedestrian, bicyclist, skater, or an occupant of another vehicle or even a person in a building.

Looking at building

6

Used when the driver removes his/her focus from the driving task to look at a building (usually as a result of seeing a feature of interest). This category is closely related to "sight-seeing", but does not include individuals attempting to locate specific addresses.

Unspecified outside focus

7

Used when the driver removes his/her focus from the driving task to focus on something exterior to the vehicle, but there is insufficient information to determine the direction or the specific object that is being examined.

Other (specify) :

8

Used when the driver is distracted by something that is exterior to the vehicle and that is not adequately described in preceding elements. Specify the nature of the distraction.

Looking at animal

9

Used when the driver removes his/her focus from the driving task to look at an animal that is exterior to this vehicle.

No driver present

-8888

Used when there is no driver in the driver's seated position at the time of the crash.

Unknown

-9999

Used when there is insufficient information to determine if the driver is distracted by something that is exterior to the vehicle.

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Location of Exterior Factors With Respect to Driver

Field Variable: EXTERIORFACTOR_LOC.EXTERIOR_FACTOR_LOCATION

Label: Location of exterior factors with respect to driver

Remarks

This variable locates the exterior factor relative to the driver position.

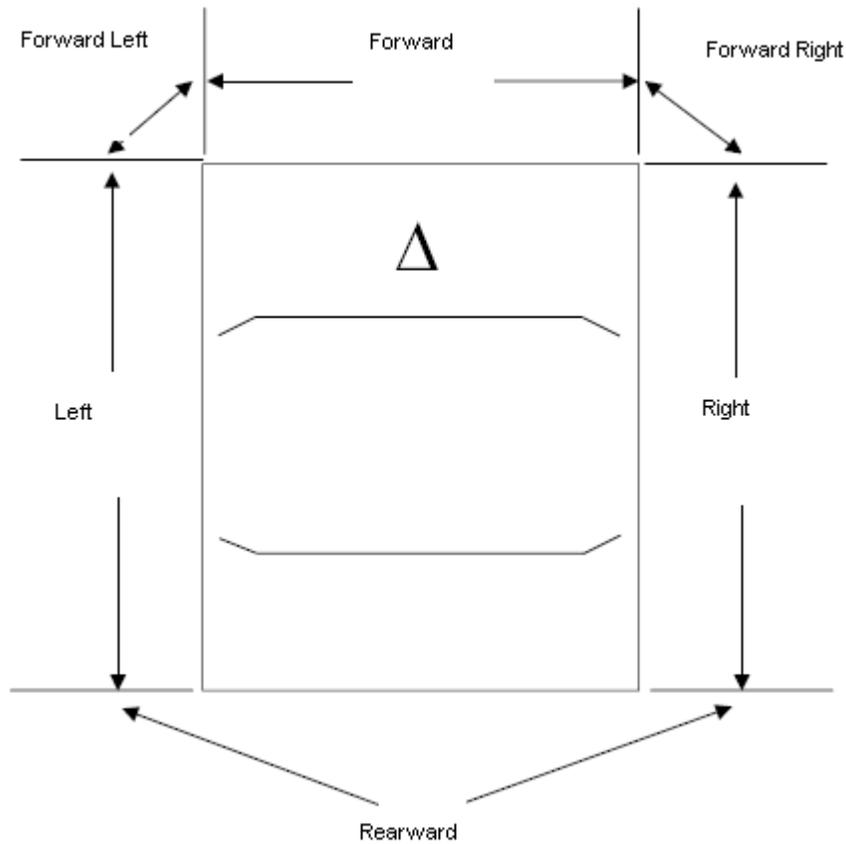


Figure 7: Location of Exterior Factors Codes

Range: 2,3,4,5,6,7,8,-8841,-8888,-9999

Method: Fill all that apply

Precrash Assessment

Screen Name: Location of Exterior Factors With Respect to Driver

Field Variable: EXTERIORFACTOR_LOC.EXTERIOR_FACTOR_LOCATION

Element Attributes:	Field Value
No exterior factors Used when the driver is not distracted from the driving task by factors exterior to the vehicle.	-8841
Forward Used when the distraction source is located forward of the driver's position and is contained within the straight line prolongations of the two sides of the vehicle. See Figure 7.	2
Forward, left Used when the distraction source is located forward and to the left of the driver's position (i.e., contained within the sector defined by straightline prolongations of the left side of the vehicle and the front bumper of the vehicle). See Figure 7.	3
Forward, right Used when the distraction source is located forward and to the right of the driver's position (i.e., contained within the sector defined by straightline prolongations of the right side of the vehicle and the front bumper of the vehicle). See Figure 7.	4
Left Used when the distraction source is located to the left of the driver's position (i.e., contained within the sector, to the left of the vehicle that is defined by straight line prolongations of the front and rear bumpers of the vehicle). See Figure 7.	5
Right Used when the distraction source is located to the right of the driver's position (i.e., contained within the sector, to the right of the vehicle that is defined by straight line prolongations of the front and rear bumpers of the vehicle). See Figure 7.	6
Rearward Used when the distraction source is located rearward of the straight line projection of the rear bumper. See Figure 7.	7
Other (specify) : Used when the driver is distracted by something that is exterior to the vehicle and the location is not adequately described in preceding elements. Specify the distraction source location.	8
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine if the driver is distracted by an exterior factor and when the location of the exterior factor cannot be determined.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Exterior Source Rearward, How Did the Driver Track

Field Variable: DRIVER_BEHAVIOR.EXTERIOR_FACTOR_REAR_TRACK

Label: Exterior source rearward, how did the driver track

Remarks

This element value establishes how the driver tracked the exterior item when this item is located behind the vehicle (i.e., code 'Rearward' in the preceding variable, 'External distraction').

Range: 1,2,3,4,-8888,-9997,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Turned head Used when the driver physically turns his/her head to track the exterior factor.	1
Used rearview mirror Used when the driver looks into the rearview mirror to track the exterior factor.	2
Used side mirror Used when the driver looks into a side mirror to track the exterior factor.	3
Other (specify) : Used when the specific mechanism used by the driver to track the exterior factor is not described in preceding elements. Specify the tracking mechanism.	4
No driver present	-8888
Not applicable Used when the driver is not looking rearward tracking factors exterior to the vehicle.	-9997
Unknown Used when there is insufficient information to determine if the driver was distracted by an exterior factor. This designation is also used if there is insufficient information to determine the specific tracking mechanism.	-9999

Sources:

RESEARCHER ASSESSMENT

Pre-crash Assessment

Screen Name: Inadequate Surveillance

Field Variable: DRIVER_BEHAVIOR.SURVEILLANCE

Label: Inadequate surveillance

Remarks

This variable records surveillance by the driver of this vehicle. This surveillance may or may not be related to the crash events. The intent is to include in-transport vehicles, non-motorists, and failure to see traffic control devices, etc.

For this variable obstacles include parked vehicles.

Range: 1-9,-8888,-9999

Method: Fill a single item

Precrash Assessment

Screen Name: Inadequate Surveillance
 Field Variable: DRIVER_BEHAVIOR.SURVEILLANCE

Element Attributes:

Field Value

No inadequate surveillance factors

1

Used when inadequate surveillance behaviors are not associated with this driver.

Failed to look far enough ahead

2

Used when the driver fails to check for obstacles/traffic located forward of this vehicle's location. The forward area in this instance is defined as shown in Figure 7.

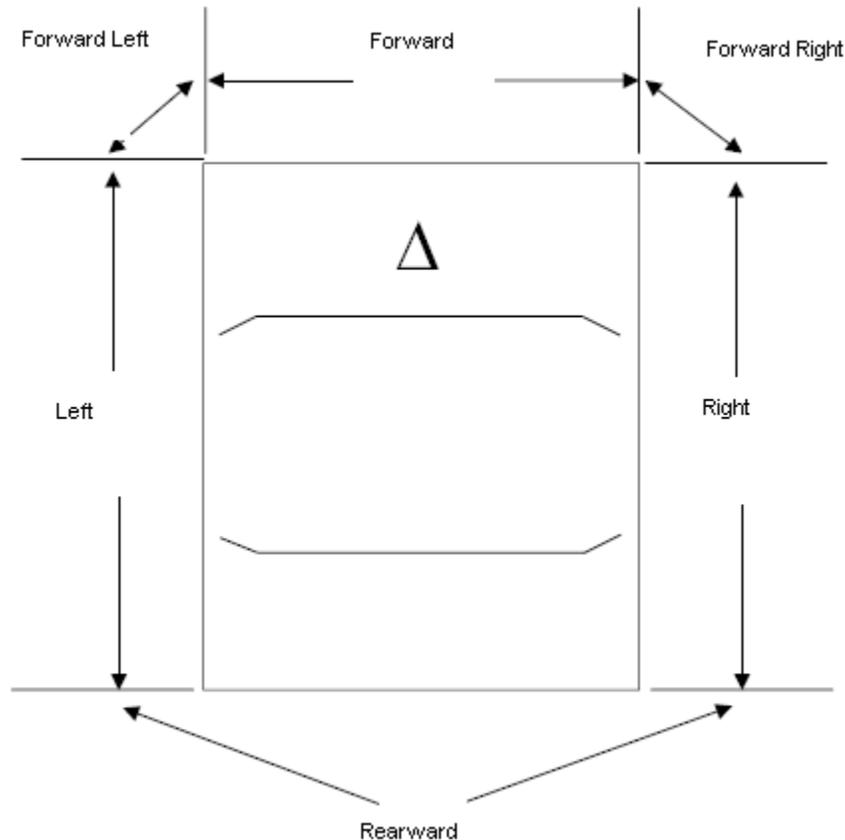


Figure 7: Location of Exterior Factors Codes

Failed to look either side ahead

3

Used when the driver fails to check for obstacles/traffic located forward and to either side of the vehicle (i.e., code areas 'forward left' or 'forward right' in Figure 7).

Failed to look to side

4

Used when the driver fails to check for obstacles/traffic located to either side of the vehicle (i.e., code areas 'left' or 'right' in Figure 7).

Failed to look to rear (mirrors)

5

Used when the driver fails to check for obstacles/traffic to the rear of the vehicle. For truck configurations it is assumed that the check involves use of exterior side mirrors. The specific area of interest is code area 'rearward' in Figure 7.

Pre-crash Assessment

Screen Name: Inadequate Surveillance

Field Variable: DRIVER_BEHAVIOR.SURVEILLANCE

Failed to look-other (specify) :	6
Used when the driver fails to check for obstacles/traffic in a location not described in preceding elements (e.g., up/down). Specify the location.	
Looked, but did not see	7
Used when the driver checks for approaching traffic, but does not see a specific vehicle that represents a threat to this vehicle. Legitimate cases in this category represent perceptual/processing errors. It is important to note that drivers will state they did not see an approaching vehicle when, in reality, they did not allow sufficient time to make a complete check (i.e., completed a perfunctory check for approaching traffic). Instances of this type should be classified in the Other category.	
Failed to see traffic control device	9
includes signs and on color signals	
Other (specify) :	8
Used when there is an inadequate surveillance mechanism that applies to this driver and that mechanism is not described in preceding elements. An example would be a driver who is in a hurry and performs a perfunctory check for cross/approaching traffic. Specify the mechanism and associated circumstances.	
No driver present	-8888
Used when there is no driver in the driver's seated position at the time of the crash.	
Unknown	-9999
Used when there is insufficient information to determine if an inadequate surveillance mechanism is associated with this crash.	

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Other Recognition Factors

Field Variable: DRIVER_BEHAVIOR.OTHER_REC_FACTOR

Label: Other recognition factors

Remarks

This element value establishes the occurrence of other recognition factors related to this driver.

Range: 1,2,3,4,-8888,-9999

Method: Fill a single item

Element Attributes:

**Field
Value**

No other recognition factors

1

Used when there are no other recognition factors associated with this driver.

Impending problem masked by traffic flow pattern

2

Used when this driver does not see a problem/obstacle as a result of the traffic flow pattern (i.e., intervening vehicle blocks this driver's view).

Driver focused on extraneous vehicle

3

Used when this driver focuses on a vehicle that is not in this driver's traffic stream (or in a potentially intersecting traffic stream). Therefore, the driver does not see a potential threat develop.

Other recognition error (specify) :

4

Used when a recognition error occurs and this error is not described in preceding elements. Specify the nature of the error.

No driver present

-8888

Used when there is no driver in the driver's seated position at the time of the crash.

Unknown

-9999

Used when there is insufficient information to determine if a recognition factor is present.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Traveling too Fast for Conditions

Field Variable: DRIVER_BEHAVIOR.TRAVEL_FAST

Label: Traveling too fast for conditions

Remarks

This element value documents reasons the driver was traveling at his/her pre-crash travel speed. It is important to note that this variable is only relevant in the circumstance where the driver has been assessed as traveling too fast for conditions.

The final coding is based on all available sources. Speed limit is not a criteria for this variable.

Range: 1-5, -8888, -9999

Method: Fill a single item

Element Attributes:

Field Value

No traveling too fast for conditions factors

1

Used when this driver is not traveling too fast for conditions.

Keeping up with traffic

2

Used when the driver indicates that he/she was merely moving at the same speed as the surrounding traffic flow.

Did not realize that caution was required

3

Used when the driver indicates that he/she was unaware of the presence of a condition (i.e., black ice) that required the use of caution (typically in the form of a reduced travel speed).

Too fast, reason unknown

4

Used when it has been determined (by outside sources, scene evidence) that the driver was traveling too fast, but it was not known why (most often used when the driver denies that he/she was traveling too fast).

Other (specify) :

5

Used when there is indication that he/she was traveling at the selected travel speed for a reason that is not described in preceding elements. Specify the reason.

No driver present

-8888

Used when there is no driver in the driver's seated position at the time of the crash.

Unknown

-9999

Used when there is insufficient information to determine the reason the driver was operating at the indicated pre-crash travel speed.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Following too Closely

Field Variable: DRIVER_BEHAVIOR.FOLLOW_CLOSE

Label: Following too closely

Remarks

This element value documents reasons the driver for traveling with less than the recommended gap interval to traffic forward of the driver's position. If the lead vehicle had stopped under normal deceleration then Following too closely should never be coded. The attributes in this variable are hierarchical in nature, i.e. Rush hour, heavy traffic would be coded before Keeping up with traffic.

In most of the driver education literature, the recommended gap time between vehicles is 2-6 seconds for good conditions, i.e. dry, clean road, good visibility, and daylight. Conditions other than these mean the following difference in time or distance in feet should be increased based on the difficulty of visibility, e.g. rain, fog, darkness, etc. The table below is provided to give some idea of the distance in feet between vehicles for the three and six second intervals.

Safe Following Distances

<u>Speed</u>	<u>Distance Traveled</u>	<u>Good Conditions- 3seconds</u>	<u>Marginal Conditions - 6 seconds</u>
25 m.p.h.	37 ft. per second	111 ft.	222 ft
35 m.p.h.	52 ft. per second	166 ft.	312 ft
45 m.p.h.	66 ft. per second	198 ft.	396 ft
55 m.p.h.	81 ft. per second	243 ft.	486 ft
65 m.p.h.	96 ft. per second	288 ft.	576 ft
75 m.p.h.	111 ft. per second	333 ft.	666 ft

Range: 1,2,3,4,5,6,-8888,-9999

Method: Fill a single item

Pre-crash Assessment

Screen Name: Following too Closely

Field Variable: DRIVER_BEHAVIOR.FOLLOW_CLOSE

Element Attributes:

Field Value

No following too closely factors

1

Used when the driver was not following too closely behind traffic forward of his/her position.

Congested traffic

2

Used when the driver indicates the he/she maintained a relatively short gap distance to forward vehicles as a result of heavy traffic congestion associated with rush hour traffic, road construction, merging traffic lanes, a previous traffic crash, or other reason resulting in heavy traffic flow conditions.

Keeping up with traffic

3

Used when the gap following distance is associated with keeping up with surrounding traffic.

Did not realize he/she was too close to forward vehicle

4

Used when the driver makes statements to this effect. This type of driver statement is generally reflective of a post-crash realization, by the following driver, that the gap following distance played a significant role in this crash.

Always drive at this gap distance

5

Used when the driver routinely drives using the gap distance noted in the pre-crash phase.

Other (specify) :

6

Used when the driver indicates a reason that is not described in preceding elements. Specify the reason the driver provided with respect to the pre-crash gap following distance.

No driver present

-8888

Used when there is no driver in the driver's seated position at the time of the crash.

Unknown

-9999

Used when there is insufficient information to determine if the driver was following too closely and/or to determine the specific reason for the selected gap distance.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Misjudgment of Gap Distance to Other Vehicle or Speed of Other Vehicle

Field Variable: DRIVER_BEHAVIOR.MISJUDGE_GAP_VEL

Label: Misjudgment of gap distance to other vehicle or speed of other vehicle

Remarks

This variable records a decision error in which the subject driver either misjudges the gap distance to the other vehicle or misjudges the speed of the other vehicle. Attributes for this variable should be selected based on presence not relevance to the pre-crash events.

Misjudgment factors are only applicable to vehicles involved in the first harmful event.

Single vehicle crashes are coded No Misjudgment factors.

Range: 1,2,3,4,-8888,-9999

Method: Fill a single item

Element Attributes:

Field Value

No misjudgment factors

1

Used when there are no misjudgment factors associated with this driver.

Misjudgment of gap distance

2

Used when the preponderance of evidence indicates that this driver misjudged the gap distance to the other vehicle involved in the crash.

Misjudgment of velocity of other vehicle

3

Used when the preponderance of evidence indicates that this driver misjudged the velocity of the other vehicle.

Misjudgment of both factors

4

Used when the preponderance of evidence indicates that this driver misjudged some aspect of both the gap distance to the other vehicle and the velocity of that vehicle.

No driver present

-8888

Used when there is no driver in the driver's seated position at the time of the crash.

Unknown

-9999

Used when there is insufficient information to determine if this driver is associated with a decision error of this type.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Misjudged Vehicle Approaching
Field Variable: DRIVER_BEHAVIOR.VEH_APPR_DIREC

Label: Misjudged vehicle approaching from this driver's:

Remarks

This element value establishes the direction from which the other vehicle was approaching this driver's position.

Range: 1-7, -8888, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No misjudgment factors Used when there is no evidence that a decision factor of this type is involved.	1
Left Used when the other vehicle is approaching the crash site from this driver's left. This designation includes angular approaches that are between 90 and 119 degrees.	2
Right Used when the other vehicle is approaching the crash site from this driver's right. This designation includes angular approaches that are between 241 and 270 degrees.	3
Forward direction (170-190 deg opposed) Used when the other vehicle is approaching the crash site from a direction that is typically 180 degrees opposed to the subject vehicle's direction of motion. This designation also includes angle approaches (e.g., 170-190 degrees) from the forward direction which occur less frequently than 180 degree configuration. Approach trajectory separations in the 90 to 119 degree range are more accurately classified as Left and approach trajectory separations in 241 to 270 degree range are more accurately classified as Right .	4
Left forward direction (120 - 169 deg opposed) Used when the other vehicle is approaching the crash site from a direction that is between 120 and 169 degrees opposed to the subject vehicle's direction of motion.	5
Right forward direction (191 - 240 deg opposed) Used when the other vehicle is approaching the crash site from a direction that is between 191 and 240 degrees opposed to the subject vehicle's direction of motion.	6
Rear Used when the other vehicle is approaching the subject vehicle from the rear.	7
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine if this driver is associated with a decision error of this type.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: False Assumption of Other Road User's Actions

Field Variable: DRIVER_BEHAVIOR.FALSE_ASSUMPTION

Label: False assumption of other road user's actions

Remarks

This element value identifies false assumptions on the part of this driver with respect to other involved driver's actions or intended actions.

Range: 1,2,3,4,5,6,7,-8888,-9999

Method: Fill a single item

Element Attributes:

Field Value

No false assumption factors

1

Used when a decision error of this type is not associated with this driver.

Assumed that other driver would merge without stopping

2

Used when the driver assumes that a lead vehicle will continue to merge without stopping. This circumstance typically occurs on an entrance ramp where ramp traffic is attempting to merge with traffic in the through lanes.

Assumed that other driver would turn without stopping

3

Used when the driver assumes that another vehicle will complete a turn without stopping. This circumstance typically occurs at an intersection/crossover, the subject driver is typically in a following vehicle, and the lead vehicle may be turning left or right. In a less frequently occurring circumstance the subject driver is the lead vehicle in an opposing traffic stream and the other vehicle is turning left.

Assumed that other driver would continue to proceed

4

Used when the subject driver assumes the other vehicle will continue to execute an action that is underway. Turning and merging actions are excluded from this designation since they are covered in preceding elements.

Assumed that other driver would yield right-of-way

5

Used when the subject driver assumes the other driver will yield the right-of-way. This situation occurs most frequently at intersections, but can include a variety of turning scenarios.

Assumed that other driver would turn

7

Used when the subject driver incorrectly assumes the other vehicle will make a turn. A common example would be when an approaching vehicle has its turn signal activated, but does not turn.

Other false assumption (specify) :

6

Used when the driver makes a false assumption that is not described in preceding elements. Describe the assumption and the relationship of this assumption to the crash.

No driver present

-8888

Used when there is no driver in the driver's seated position at the time of the crash.

Unknown

-9999

Used when there is insufficient information to determine if the driver made a false assumption.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Illegal Maneuver

Field Variable: ILLEGALMANEUVER.ILLEGAL_MANEUVER

Label: Illegal maneuver

Remarks

This element value documents gross illegal maneuvers initiated by this driver. The driver does not have to be formally charged with an offense by the investigating police agency. The single criterion is whether or not the driver initiated a maneuver of this type.

Speeding, DUI, failure to yield, etc. are not included here.

Range: 2,3,4,5,6,7,8,-8841,-8888,-9999

Method: Fill all that apply

Element Attributes:

Field Value

No illegal maneuver factors

-8841

Used when a decision error of this type is not associated with this driver.

Crossed full barrier lines while passing

2

Used when the driver crosses no passing zone markings to execute, or while executing, a passing maneuver.

Passed on right (drive off travel lane to pass)

3

Used when the driver drives off the travel lane(s) to pass on the right (i.e., driver moves on to shoulder area to execute the passing maneuver).

Turned from wrong lane

4

Used when the driver executes a turn from the wrong lane (i.e., turns left from the right lane or turns right from the left lane of a multilane roadway).

Initiated illegal U-turn

5

Used when the driver initiates a turn in an area where turns are not permitted.

Failed to obey TCD

6

Used when the driver does not obey a displayed traffic signal phase or does not stop for a stop sign.

Drove wrong way on roadway

7

Used when the driver travels the wrong way on a roadway. This attribute excludes illegal passing maneuvers.

Other illegal maneuver (specify) :

8

Used when the driver initiates an illegal maneuver that is not described in preceding elements. An annotation is required to describe the maneuver. The failure to yield the right of way is not to be coded as an illegal maneuver.

No driver present

-8888

Used when there is no driver in the driver's seated position at the time of the crash.

Unknown

-9999

Used when there is insufficient information to determine if the driver has initiated an illegal maneuver.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Driver's Aggressive Acts

Field Variable: DRIVER_AGGRESSION.AGGRSV_ACT

Label: Driver's aggressive acts

Remarks

This element value documents aggressive driving behavior exhibited by the subject driver. Aggressive driving occurs when an individual commits a combination of moving traffic offenses so as to endanger other persons or property. Examples of aggressive driving include speeding (above the normal flow of traffic speed), constant lane changing, red light running and improper passing. To be considered aggressive driving, action of the driver must pose a serious safety risk to other road users. Aggressive driving acts do not include honking the horn, flashing lights or obscene gestures unless accompanied by moving traffic offenses. Since these behaviors are not well defined in current literature, the Researcher has some latitude with respect to determining the occurrence of these behaviors and their specific relevance to each crash. It is anticipated that many of these assessments will be derived from subjective evaluations (e.g., interview data).

Range: Pick as many as applicable

Method: Fill all that apply

Pre-crash Assessment

Screen Name: Driver's Aggressive Acts
Field Variable: DRIVER_AGGRESSION.AGGRSV_ACT

Element Attributes:	Field Value
No aggressive driving behaviors Used when it is known that this driver performed no aggressive acts in this crash.	-8841
Speeding Used when the driver is exceeding the speed limit by a minimum of 5 MPH (8.05 kmph) and the vehicle's speed has a bearing on subsequent crash events. A degree of caution is required when assigning this element. Specifically, to be considered as a valid aggressive driving element, the act of speeding should pose some risk to surrounding traffic. If, for example, the driver is speeding in a stream of traffic, this act poses a risk to surrounding traffic.	2
Tailgating Used when the subject driver is traveling in close proximity to a vehicle forward of his/her position. While the exact gap interval that qualifies for this assignment will vary with the velocity of the traffic stream, the interval should be sufficiently small/short to preclude the following vehicle/driver from executing a safe stop in an emergency stop circumstance.	3
Rapid/frequent lane changes/weaving Used when the driver weaves in and out of traffic to pass slower moving vehicles. While drivers engaging in this activity typically exceed the speed limit, speeding is not a requirement for valid use of this element.	4
Ignoring traffic control devices (eg. stopping, then running red light) Used when the driver deliberately violates a displayed red signal phase or a stop sign. Deliberate violation of a yield sign is coded in the "Other" designation.	5
Accelerating rapidly from stop (e.g. squealing tires, etc.) Used when the driver engages in these activities in a repeating fashion (i.e., squealing tires following a stop). This behavior pattern is often associated with being in a hurry or being late for some engagement.	6
Stopping suddenly (i.e. hard braking) Used when the driver engages in these activities in a repeating fashion (i.e., braking late for TCD and then accelerating rapidly away from that location and repeating this behavior at the next TCD). This behavior pattern is often associated with being in a hurry or being late for some engagement.	7
Honking horn Used when the driver repeatedly honks the vehicle's horn at surrounding traffic to gain a time/space advantage.	8
Flashing lights Used when the driver repeatedly flashes the vehicle's lights in an attempt to have traffic forward of this vehicle's position move either to the right or left so that this vehicle can 'get by'.	9
Obscene gestures Used when the driver indicates displeasure with other drivers by making obscene gestures.	10
Obstructing the paths of others Used when the driver physically obstructs the path of another vehicle by pulling in front of that vehicle. In addition, to physically blocking the path, the subject driver typically slows to force the other driver to take evasive action (e.g., steering, and/or braking actions).	11
Other (specify) : Used when an aggressive driving behavior that is not described in preceding elements occurs. Describe the behavior and its role in this crash.	12

Pre-crash Assessment

Screen Name: Driver's Aggressive Acts

Field Variable: DRIVER_AGGRESSION.AGGRSV_ACT

No driver present -8888

Used when there is no driver in the driver's seated position at the time of the crash.

Unknown -9999

Used when there is insufficient information to determine if the subject driver exhibited aggressive driving behavior.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Reasons for Aggressive Driving Behavior

Field Variable: DRIVER_AGGRESSION_REASON.AGGRSV_DRIVE_REASON

Label: Reasons for aggressive driving behavior

Remarks

This element value establishes the reason for aggressive driving reported in the preceding variable.

Range: 2-8, -8841, -8888, -9997,-9999

Method: Fill all that apply

Precrash Assessment

Screen Name: Reasons for Aggressive Driving Behavior

Field Variable: DRIVER_AGGRESSION_REASON.AGGRSV_DRIVE_REASON

Element Attributes:

Field Value

No aggressive driving behaviors

-8841

Used when a decision error of this type is not associated with this driver.

Anger

2

Used when the subject driver engages in aggressive driving behavior as a result of anger. See note following frustration attribute.

Frustration

3

Used when the subject driver engages in aggressive driving behavior as a result of frustration.

NOTE: Elements of both the anger response and frustration response will be involved with many aggressive driving behaviors. A simple hierarchy that should be used to assist the categorization effort is as follows:

Drivers typically become angry with respect to the actions of other drivers;

Drivers typically exhibit a frustration response to situations or events (not with respect to specific drivers).

If the correct element is not apparent after working through the above hierarchy default to the Anger designation.

Always drive this way

4

Used when the driver indicates that the displayed driving behavior is his/her normal driving pattern. This situation is often noted with respect to driving patterns involving tailgating, weaving in and out of traffic and speeding. The association with speeding typically occurs at lower levels than are noted with the first two listed behaviors.

In a hurry/Late

6

Used when the driver engages in aggressive driving behavior due to being in a hurry or late.

Fleeing

7

Used when the driver engages in aggressive driving behavior as the result of fleeing from a person or place. An example would include evading police.

Racing

8

Used when the driver engages in aggressive driving behavior due to racing another vehicle.

Other (specify) :

5

Used when the reason for the aggressive driving behavior displayed by this driver is not described in preceding elements. Specify the reason.

No driver present

-8888

Used when there is no driver in the driver's seated position at the time of the crash.

Unknown

-9999

Used when there is insufficient information to determine why this driver was driving aggressively and when it is unknown if the driver exhibited aggressive behavior.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Inadequate/Incorrect Evasive Action
Field Variable: DRIVER_BEHAVIOR.INADEQ_EVASIVE_ACTION

Label: Inadequate/Incorrect Evasive Action

Remarks

This element value establishes inadequate evasive actions on the part of this driver. This variable does not deal with legal requirements and the final assessment may be based on a subjective evaluation completed by the Researcher.

Range: 1,2,3,4,5,6,-8888,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No inadequate evasive action factors Used when a decision error of this type is not associated with this driver.	1
Insufficient steering inputs Used when the driver could avoid the crash (or reduce the severity of the crash) by steering, but either does not steer or does not use sufficient steering input to achieve these objectives.	2
Insufficient braking inputs Used when the driver could avoid the crash (or reduce the severity of the crash) by braking, but either does not brake or does not use sufficient brake pedal pressure to achieve these objectives.	3
Combination of insufficient steering and braking inputs Used when the driver could avoid the crash (or reduce the severity of the crash) by a combination of steering and braking inputs, but does not achieve these objectives as a result of insufficient inputs.	4
Chose inappropriate/unsuccessful evasive action Used when this driver initiates an inappropriate evasive action with respect to achieving crash avoidance.	5
Other insufficient evasive action (specify) : Used when an evasive action, not described in preceding elements, could have achieved crash avoidance or crash severity reduction, but was not initiated to a sufficient degree to achieve these objectives. An annotation is required to specify the evasive action.	6
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine if an evasive action is applicable to the circumstances of this crash and when there is insufficient information to determine if this driver's evasive action is inadequate.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Other Decision Factors

Field Variable: DRIVER_BEHAVIOR.DECISION_FACTOR

Label: Other decision factors

Remarks

This variable identifies elements present in the pre-crash phase that are not captured in preceding variables.

Range: 1,2,3,4,5,6,7,-8888,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No other decision factors Used when a decision error of this type is not associated with this driver.	1
Crossed with obstructed view Used when this driver attempts to cross an intersection or cross the roadway when his/her line of sight to approaching traffic is not clear. Typically, the view obstruction involves an intervening vehicle, but roadside appurtenances can also be involved.	2
Turned with obstructed view Used when this driver initiates a turn (typically left turn) at an intersection or into/out of a driveway, when his/her sightline to approaching traffic is not clear. Typically, the view obstruction involves an intervening vehicle, but roadside appurtenances can also be involved.	3
Stopped when not required Used when the driver stops in a traffic stream when there is no reason to stop (i.e., traffic is moving in an unrestricted manner).	4
Proceeded with insufficient clearance Used when the driver accelerates from a stopped position without having an adequate distance to traffic forward of his/her position. This designation can also be used in circumstances where there are insufficient lateral clearances. Misjudgement of gap/velocity factors is NOT included here. Example for coding this attribute: Driver enters an intersection but is unable to completely clear the intersection.	5
Turned without signaling Used when the driver initiates a turn without activating the vehicle turn signals and/or using hand signals.	6
Other decision error (specify) : Used when the driver makes a decision error that is not described in preceding elements. An annotation is required to specify the nature of the decision error.	7
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine if the driver made a decision error as described in preceding elements.	-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Performance Errors

Field Variable: DRIVERPERFORMANCE.DRIV_PERFORM_ERROR

Label: Performance errors

Remarks

This element establishes performance errors on the part of this driver.

Range: 2 - 5, -8841, -8888, -9999

Method: Fill all that apply

Element Attributes:

	<u>Field Value</u>
No performance errors Used when no performance errors are noted for this driver.	-8841
Panic/freezing Used when this driver fails to initiate evasive action as a result of panic/freezing. Panic refers to the irrational and impulsive actions that obviously do not assist the effort of crash avoidance (e.g. driver taking hands off the steering wheel and screaming). Freezing refers to drivers who cannot move or cannot think of an evasive maneuver and, therefore, do nothing.	2
Overcompensation Used when this driver overreacts to a situation requiring some adjustment in the velocity or path of the subject vehicle. A typical example is a driver running partly off the road to the right and overcorrecting to the left into oncoming traffic.	3
Poor directional control (e.g. failure to control vehicle with skill ordinarily expected) Used when this driver fails to maintain the degree of vehicle control ordinarily expected of a good driver. It is not intended for situations when a high degree of skill is required. This element is probably most applicable to unskilled, novice drivers or older drivers with degraded skills. In situations where there is evidence that the driver is not maintaining control as a result of inattention or distraction, those codes should be used.	4
Other (specify) : Used when the driver commits a performance error that is not described in the preceding attributes. An annotation is required to specify the nature of the error.	5
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when it is evident that a performance error has been committed, but the precise nature of the error cannot be determined.	-9999

Sources:

RESEARCHER ASSESSMENT

Pre-crash Assessment

Screen Name: Was the Driver Upset Prior to Crash

Field Variable: DRIVER_BEHAVIOR.DRIVER_UPSET

Label: Was the driver upset prior to crash

Remarks

This variable records whether or not the driver was upset prior to the crash.

Range: 1,2,3,4,5,6,7,-8888,-9999

Method: Fill a single item

Element Attributes:

	Field Value
Yes	2
No	1
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine if the driver was upset prior to the crash.	-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Did the Driver Experience Work-Related Stress/Pressure

Field Variable: DRIVER_BEHAVIOR.WORK_STRESS

Label: Did the driver experience work-related stress/pressure

Remarks

This records the presence of work-related stress for the driver in the days leading up to the crash.

Range: 0-11, -8888, -9997, -9999

Method: Fill a single item

Pre-crash Assessment

Screen Name: Did the Driver Experience Work-Related Stress/Pressure

Field Variable: DRIVER_BEHAVIOR.WORK_STRESS

Element Attributes:	Field Value
No employer relation factors Used when there are no work-related stress factors	1
Required to work extended work shifts Used when the employer schedules shifts in a manner that requires extended work shifts for the driver to complete the work assigned. This attribute implies the driver is working while fatigued.	2
Required to work rotating shift schedule Used when the carrier/employer requires the driver to work rotating shift schedules with an associated rotating sleep pattern.	3
Required to fill in for other workers Used when the carrier/employer requires the driver to fill-in (i.e., perform extra work) when other workers are absent.	4
Learning new position Used when the driver is under pressure as a result of learning a new position in his/her primary work place. This designation applies primarily to non-truck drivers, although drivers on occasion can also be learning a new work-related position while maintaining their driving status.	5
Tight/unrealistic production/delivery schedule Used when the driver is under time-related pressures associated with production/delivery schedules.	6
Adversarial work relationship (management) Used when the driver indicates that he/she has an adversarial work relationship with the management of his/her employer.	7
Adversarial work relationship (fellow workers) Used when this driver indicates that he/she has an adversarial work relationship with fellow workers.	8
Unemployment related Used when the driver indicates he/she has concerns about being unemployed.	10
General work-related stress Used when the driver gives indication that their job is stressful in general. One of the preceding attributes should be used if the driver identifies a specific aspect of the job that causes stress.	11
Other (specify) : Used when the carrier/employer requires the driver to do something that is likely to result in the driver operating while fatigued. Specify the factor and the effect of this factor on the driver.	9
No driver present Used when there is no driver present in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine if the carrier/employer pressures the driver.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Was Driver in a Hurry
Field Variable: DRIVER_BEHAVIOR.IN_A_HURRY

Label: Was driver in a hurry

Remarks

This element value establishes if the driver was in a hurry prior to crash occurrence. On the Driver Interview Form, code the response of the interviewee. During the interview, the Researcher should probe the driver to find out if this is his/her normal driving behavior. In coding the PAF, while the assessment may be subjective, where feasible, assessments of this type should be reflected in the driver's pre-crash driving behavior (i.e., speeding, sudden starts/stops, weaving in and out of traffic, etc.).

Range: 1,2,3,4,5,6,7,8,-8888,-9999

Method: Fill a single item

Element Attributes:

Field Value

Not in a hurry

1

Used when there is no evidence that the driver was in a hurry prior to the crash.

Due to work related delivery schedule

4

Used when the driver is in a hurry due to a very tight delivery schedule that has been established by the employer.

Late for business appointment

3

Used when the driver is in a hurry because he/she is late for a business appointment.

Late for social appointment

5

Used when the driver is in a hurry because he/she is late for a social appointment. Includes when late for any obligation not related to work or school.

Late for start of work shift/start of school classes

2

Used when the driver is in a hurry because he/she is late for the start of a work shift or the start of a school class.

Normal driving pattern

6

Used when the driver is in a hurry, but being in a hurry is the normal driving pattern for this driver.

Pursuing/Fleeing (specify)

8

Used when the driver is in a hurry due to pursuit of or fleeing from another person or vehicle. Emergency vehicles on calls would be included here.

Other (specify) :

7

Used when the driver is in a hurry prior to the crash, but the reason is not described in preceding elements. Specify the reason.

No driver present

-8888

Used when there is no driver in the driver's seated position at the time of the crash.

Unknown

-9999

Used when there is insufficient information to determine if the driver was in a hurry prior to the crash.

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Other Emotional Factors

Field Variable: DRIVER_BEHAVIOR.EMOT_FACTOR

Label: Other emotional factors

Remarks

This element value establishes if other emotional factors are relevant to this driver's pre-crash behavior. Other types of emotional factors include the driver being clinically depressed, diagnosed with a psychosis or some other emotional disorder.

Range: 1,2,-8888,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Yes Used when this driver has Other emotional factors.	2
No Used when this driver does not have any additional Other emotional factors.	1
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine if other emotional factors are relevant to this driver.	-9999

Sources:

RESEARCHER ASSESSMENT
MEDICAL RECORDS
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Recent Experience Driving this Vehicle

Field Variable: DRIVER_BEHAVIOR.RECENT_EXP_THIS_VEHICLE

Label: Recent experience driving this vehicle

Remarks

This variable indicates driver familiarity with the vehicle. The number of times a person operates a vehicle usually has a direct relationship to the comfort level in operating the vehicle.

Range: 1 - 5, -8888, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
More than 10 times in the past three months Used when the driver operated the vehicle more than ten times in the three months prior to the crash.	1
6-10 times in the last three months Used when the driver has operated the vehicle on preceding occasions, but not more than ten times in the past three months.	2
2-5 times in the last three months Used when the driver has operated the vehicle on preceding occasions, but not more than 5 times in the past three months.	3
Less than 2 times in the past three months Used when the driver has driven this specific vehicle less than 2 times in the past three months.	4
First time driving this vehicle Used when this is the first time the driver has operated this vehicle in its intended operational mode. This circumstance includes situations where the driver has completed one preceding test drive to familiarize him/her with operational characteristics of the vehicle.	5
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to establish vehicle experience factors.	-9999

Sources:

DRIVER INTERVIEW

RESEARCHER ASSESSMENT

Pre-crash Assessment

Screen Name: Frequency of Driving Road

Field Variable: DRIVER_BEHAVIOR.THIS_ROUTE_FREQUENCY

Label: Frequency of driving road

Remarks

This variable records the frequency of use for this roadway. Frequency of travel over the roadway is related to the comfort level and confidence of the driver.

Range: 1-6, -8888, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Daily Used when the driver travels on this roadway at least four times per week.	1
Weekly Used when the driver travels on this roadway approximately one to three times per week.	2
Several times a month Used when the driver travels on this roadway two to three times per month.	3
Monthly Used when the driver travels on this roadway approximately once per month.	4
Rarely Used when the driver travels on this roadway less than eight times per year, or less than once per month.	5
First time on road Used when this is the first time the driver has operated a vehicle on this roadway.	6
No driver present	-8888
Unknown	-9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Other Driver Related Experience Factors

Field Variable: OTHER_EXPFACOR.OTHER_EXP_FACTOR

Label: Other driver related experience factors

Remarks

This element value establishes the presence of other experience/exposure/comfort factors that may be relevant to the crash.

Range: 2 - 7, -8841, -8888, -9999

Method: Fill all that apply

Element Attributes:

	<u>Field Value</u>
No other factor types Used when there is no evidence that experience/exposure factors of this type are relevant to this driver.	-8841
Uncomfortable with surrounding traffic densities Used when the driver is uncomfortable with surrounding traffic densities. In this circumstance the densities are usually very high as might be associated with rush hour traffic.	2
Uncomfortable with general traffic speeds Used when the driver is uncomfortable with the general speed of surrounding traffic. The discomfort in this circumstance is typically associated with the driver feeling that surrounding traffic is moving too fast.	3
Uncomfortable with general traffic flow (specify) : Used when the driver is uncomfortable with the general flow of surrounding traffic. Typically this is expressed as a feeling that traffic is starting/stopping suddenly. Other conditions, however, also apply. Specify the problem as expressed by this driver.	4
Uncomfortable with some aspect of vehicle/load (specify) : Used when the driver is uncomfortable with either the vehicle or load. Specify the problem as expressed by this driver.	5
Inexperienced driver Used when the driver has had a lack of training or is inexperienced. Less than one year driving experience must be coded here. This attribute is based on the researcher's best judgement taking into account experience, training, age and other related factors.	6
Other (specify) : Used when the driver is uncomfortable with an aspect of the traffic pattern that is not described in preceding elements. Specify the condition and specific characteristics which made this driver uncomfortable.	7
No driver present Used when there is no driver in the driver's seated position at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine if experience/exposure factors of this type are relevant to the subject driver.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Vehicle Condition Related Factors

Field Variable: VEH_CONDFACTOR.VEH_COND_RELAT_FACTOR

Label: Vehicle condition related factors

Remarks

This variable identifies vehicle conditions that may be factors in the crash occurrence.
Select all applicable conditions.

Range: 2 - 12, -8841, -8888, -9999

Method: Fill all that apply

Precrash Assessment

Screen Name: Vehicle Condition Related Factors

Field Variable: VEH_CONDFACTOR.VEH_COND_RELAT_FACTOR

Element Attributes:	Field Value
No vehicle related factors Used when there is no evidence that a vehicle related condition is relevant to this crash.	-8841
View obstruction - related to load Used when the driver experiences a view obstruction that is related to the vehicle's load. To select this attribute, the cargo must block the driver's view of at least one direction from the driver's seat. An example is a load of balloons which blocks the driver's view of the right rear and rear windows of the vehicle.	2
View obstruction - related to vehicle design Used when the driver experiences a view obstruction that is related to vehicle design (e.g., view blocked by right upper A-pillar).	3
View obstruction - related to other Used when the driver experiences a view obstruction that is associated with a factor not described in preceding elements. Includes very dirty windows or glazing obscured by frost/snow etc.. Annotate electronic file entries to indicate the nature of this factor.	4
Tire/wheel deficiency Used when the vehicle experiences a tire deficiency/malfunction (e.g., blowout, airout, etc.) during the precrash phase.	5
Braking system deficiency Used when the vehicle experiences a braking system deficiency/malfunction during the precrash phase.	6
Engine deficiency Used when the vehicle experiences an engine related problem during the precrash phase. Examples of engine related problems include stalling, missing, and throttle problems.	7
Transmission deficiency Used when the vehicle experiences a transmission deficiency/malfunction during the precrash phase.	8
Suspension deficiency Used when any suspension component(shock absorber, strut, etc) is relevant or contributes to a loss of stability or control in the critical precrash envelope of the crash.	9
Lighting deficiency Used when any lighting component (headlights, taillights etc) is relevant or contributes to an event in the critical precrash envelope of the crash.	10
Steering deficiency Used when any steering component deficiency/malfunction is relevant or contributes to an event in the critical precrash envelope of the crash.	11
Other (specify): Used when the vehicle experiences a problem/exhibits a condition during the precrash phase that is relevant to crash occurrence, but is not described in preceding elements. Specify the problem/condition.	12
No driver present Used when there is no driver present in the driver's seat of the vehicle.	-8888

Precrash Assessment

Screen Name: Vehicle Condition Related Factors

Field Variable: VEH_CONDFACTOR.VEH_COND_RELAT_FACTOR

Unknown

-9999

Used when there is insufficient information to determine if there is a vehicle condition that is relevant to crash occurrence.

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Traffic Flow Interruption Factors

Field Variable: FLOWINTERRUPTFACTOR.FLOW_INTERRUPT_FACTOR

Label: Traffic flow interruption factors

Remarks

This element value establishes the presence of traffic flow interruption factors which may have a bearing on driver performance/crash occurrence.

Range: ,3,4,5,6,7,-8841,-8888,-9999

Method: Fill all that apply

Element Attributes:

	<u>Field Value</u>
No traffic flow factors Used when there are no traffic flow factors relevant to the crash.	-8841
Previous crash nearby Used when traffic flow at the crash site is interrupted by a previous crash located near this site.	2
Construction work zone Used when traffic flow is interrupted as a result of the crash site being located in a construction work zone.	3
Emergency vehicle approaching Used when traffic flow at the crash site is interrupted as a result of an emergency vehicle approaching from either direction.	4
Congested traffic Used when traffic flow at the crash site is interrupted as a result of heavy traffic congestion. Includes rush hour traffic.	5
Disabled vehicle/object in roadway Used when traffic flow at the time of the crash is interrupted as a result of a disabled vehicle or an object in the roadway. This includes animals and nonmotorists.	7
Other (specify) : Used when traffic flow at the crash site is interrupted as a result of a factor not described in preceding elements. Describe the reason for the interruption.	6
No driver present	-8888
Unknown Used when there is insufficient information to determine if there is a traffic flow interruption that is relevant to this crash.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Roadway Related Factors

Field Variable: ROADWAY_RELATED_FACTOR.ROAD_RELATED_FACTOR

Label: Roadway related factors

Remarks

This element value establishes the presence of roadway related factors that may be relevant to crash occurrence.

Range: 2 - 16, -8841, -8888, -9999

Method: Fill all that apply

Preocrash Assessment

Screen Name: Roadway Related Factors

Field Variable: ROADWAY_RELATED_FACTOR.ROAD_RELATED_FACTOR

Element Attributes:

Field Value

No roadway related factors

-8841

Used when there are no roadway related factors relevant to this crash.

Traffic signs/signal missing/defective

2

Used when traffic signs/signals have been removed from this designated location and are not physically present, or are present but defective/malfunctioning.

The removal can be associated with either a repair function or vandalism.

Roadway view obstructions including factors or devices like signal boxes

3

Used when there is a view obstruction associated with roadway design including such added devices as signal boxes, signal light support poles, guardrails, and crash cushions.

View obstructed by other vehicle

4

Used when the driver's view is obstructed by another vehicle.

Roadway geometry (crossover)

5

Used when roadway geometry, in the form of a crossover, is relevant to this crash.

Roadway geometry (curve)

6

Used when roadway geometry, in the form of a curve, is relevant to this crash.

These measurements are provided in the collision measurement log, general vehicle form, and included on the scene diagram.

Lane delineation problem (not present, worn, etc.)

7

Used when this driver encounters difficulty as a result of lane delineation. The delineation markings in this circumstance may not be present, may be worn (i.e., reduced visibility), or may be covered in some manner (i.e., gravel, debris, etc.).

Narrow/ No shoulders

8

Used when this driver experiences a problem as a result of the shoulder which is not sufficiently wide or not present. While circumstances will vary depending on location, shoulder width should be less than 4.9 feet (1.5 meters) to qualify for this designation.

Narrow road

9

Used when this driver experiences a problem as a result of insufficient roadway width. While circumstances will vary depending on the type of roadway, two lane roadways should be less than 20 feet (6.1 meters) in width to qualify for this designation.

Ramp speed

10

Used when the posted ramp entrance/exit speed is inappropriate. This includes circumstances where the posted speed is adequate for one class of vehicle, but is too high for another class of vehicle (e.g., adequate for automobiles, but too high for large trucks).

Roadway condition (potholes, deteriorated road edges, etc.)

11

Used when the driver encounters a problem as a result of an roadway maintenance condition. Specific areas of concern include potholes, deteriorated/broken road edges, washboard areas, and depression where a localized area of the surface has sunk several inches or more.

Pre-crash Assessment

Screen Name: Roadway Related Factors

Field Variable: ROADWAY_RELATED_FACTOR.ROAD_RELATED_FACTOR

Wet roads	12
Use this attribute when the roads are wet from rain or other water source. If the rain had just started and the road was slick due to the road oil coming to the surface code Slick surface instead. The road must be well drained for this variable. If there is standing water of 1/4 inch or more, then the Road under water attribute should be used.	
Road under water	13
Used for the circumstance where at least one travel lane is completely covered with water. The depth of the water must be greater than 1/4 of one inch.	
Slick surface (low friction value due to icy condition, loose debris, or any other cause)	14
Used when the driver encounters a low friction surface most commonly associated with an icy condition. There are several other circumstances which can also be associated with a pronounced reduction of friction values. These include loose gravel/sand spread over a paved surface and oil build-ups. Wet surfaces are not included in this designation unless the moisture adds to an existing condition such as an oil build-up.	
Road washed out	15
Used when a portion of the roadway collapses/washes away as a result of exposure to running water.	
Other roadway problem (specify) :	16
Used when the driver encounters a roadway problem that is not described in preceding elements. Specify the nature of this problem.	
No driver present	-8888
Used when there is no driver in the driver's seated position at the time of the crash.	
Unknown	-9999
Used when there is insufficient information to determine if a roadway related factor is relevant to this crash.	

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Precrash Assessment

Screen Name: Sight Line Restrictions

Field Variable: PRECRASH.SIGHT_LINE_RESTRICTION

Label: Sight line restrictions

Remarks

This variable documents objects (or the absence of) which interfere with the driver's sight line to the other vehicle. The intent is to identify physical objects interfering with the driver's view.

Range: 1-5, -9997, -9998, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No sight restrictions Used when the driver's sight line to the other vehicle(s) is not obstructed/blocked by features in the environment.	1
Vehicle Used when the driver's sight line to the other vehicle is obstructed by a non-contact vehicle located between the driver's vehicle and the other vehicle. The vehicle may be stationary or moving. The single criteria is "Did the vehicle cause a view obstruction for this driver?".	2
Building Used when the driver's sight line to the other vehicle is obstructed by a roadside building. Annotate the form and database as to nature and location of this obstruction.	3
Shrubbery Used when the driver's sight line to the other vehicle is obstructed by a roadside shrubbery. These obstructions can be naturally occurring (e.g., trees, shrubs, tall grass, hedge, etc.). Annotate the form and database as to the nature and location of this obstruction.	4
Other (specify) Used when this driver's sight line to the other vehicle is restricted by something that is not described in preceding elements. Use the specify field to note a short description of the obstruction. If the description requires more than 25 characters, please use the annotation option.	5
No driver present	-9998
Unknown Used when there is insufficient information to determine if the driver's view to the other vehicle is clear.	-9999

Sources:

SURROGATE INTERVIEW
RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Atmospheric Condition

Field Variable: ATMOSPHERIC_CONDITION.ATMOSPHERICCONDITION

Label: Atmospheric condition

Remarks

Code all atmospheric conditions present at the scene. Each driver may experience different conditions in the crash.

Range: 2, 3, 4, 5, 6, 7, 8, 9, -8841, -8888, -9999

Method: Fill all that apply

Pre-crash Assessment

Screen Name: Atmospheric Condition

Field Variable: ATMOSPHERIC_CONDITION.ATMOSPHERICCONDITION

Element Attributes:

Field Value

Clear--No adverse conditions

-8841

Used when no meteorological conditions present at time of the crash which affected visibility or road surface.

Cloudy

2

Used when the sky is cloud covered, reducing the ambient light without precipitation conditions.

Snow

3

Used when the precipitation falling at the time of the crash is predominately in the form of translucent ice crystals originating in the upper atmosphere as frozen particles of water vapor. Accumulation is not necessary to select this attribute.

Fog, smog, smoke

4

Used when condensed water vapor, in cloud-like masses, is close to the ground limiting visibility at the time of the crash scene. This attribute is also used for heavy smog presence. Heavy is defined as enough to limit visibility.

Rain

5

Used when the precipitation falling at the time of the crash is predominately in the form of water droplets

Sleet, hail (freezing rain or drizzle)

6

Used when the precipitation meets the definition of sleet or hail. Sleet forms in the winter as raindrops freeze on their descent toward the ground. Since the drops are not bounced up and down inside the cloud, sleet cannot grow in size like hail, and typically reaches the ground as small pellets of ice.

Hail typically forms in violent thunderstorms when raindrops can accumulate many layers of ice while bouncing up and down within the storm. This can result in large hailstones.
Hail forms from thunderstorms, while sleet forms from winter storms.

Blowing snow

7

Used when the precipitation falling at the time of the crash is predominately in the form of translucent ice crystals originating in the upper atmosphere as frozen particles of water vapor. There must be significant wind at the time to select this attribute. Accumulation is not necessary to select this attribute.

Severe crosswinds

8

Used when a wind gust blowing at an angle to the path of the vehicle occurs prior to the crash. Straight on headwinds and tailwinds should not be used to select this attribute. If applicable, wind velocity may be obtained from the National Weather Service internet site.

Other (specify) :

9

Used when there is a relevant weather related factor that is not described in preceding elements. Specify the nature of this factor.

Unknown

-9999

Used when there is insufficient information to determine what weather conditions were present at the time of the crash.

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Pre-crash Assessment

Screen Name: Other Environmental Crash Factors

Field Variable: OTHER_ENVIRONFACTOR.OTHER_ENVIRON_FACTOR

Label: Other environmental crash factors

Remarks

This variable documents the presence of environmental factors that may have affected the crash events. Select and enter up to four attributes that are present at the time of the crash.

Range: 2-6, -8841, -8888, -9999

Method: Fill all that apply

Element Attributes:

	<u>Field Value</u>
No other factors Used when there is no evidence that factors of this type are relevant to the crash.	-8841
Sun glare Used when the driver's view of the roadway and environment is obscured by sun glare.	2
Headlight glare Used when the driver's view of the other vehicle or environment is obscured by headlight glare.	3
Blowing debris Used when this driver is exposed to some form of blowing debris which obscures view of environment or other vehicles. Examples include paper, cardboard boxes, and tree limbs.	4
Smoke Used when the driver's view of environment or other vehicles is obscured by the presence of smoke (e.g., smoke from a grass fire, house fire, or forest fire).	5
Other sudden change in ambient conditions Used when this driver's view of environment or other vehicles is obscured by something other than the conditions specifically noted in this variable. Annotate the nature of this condition.	6
No driver present Used when there is no driver present at the time of the crash.	-8888
Unknown Used when there is insufficient information to determine if environmental factors caused an obscuring of the driver's view of the roadway or environs.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Occupant

Screen Name: Occupant Number

Field Variable: OCCUPANT.OCCNUMBER

Label: Occupant Num. ____

Remarks

Assign numbers left to right and front to back among occupants.

1. Occupant numbers must be assigned sequentially, beginning in the enclosed area with "1". No numbers may be skipped.
2. Assign numbers to persons on the vehicle or in an unenclosed area **after** all persons in designated seating positions. Persons appended to vehicle for motion (e.g., bicyclist holding onto vehicle) are either pedestrians or other nonmotorists and not occupants; therefore, no form is completed, and no number is assigned.
3. Drivers do not have to be "1" (e.g., right hand drive vehicles containing left front occupant). The assumed driver of a hit-and- run vehicle is assigned "1".
4. For each seating location begin numbering with the occupant seated. Occupants sitting, side by side, in the same seat position, in forward or rear facing seats should be numbered sequentially L to R. For each additional occupant in the lap or lying across, assign one number higher. If an occupant is on the floor in front of a person(s) assign one number higher than the persons in the seat.

Range: 1 - 40

Method: Enter value in appropriate space

Occupant

Screen Name: Age

Field Variable: OCCUPANT.AGE

Label: Age

Remarks

For people less than 24 months old at the time of the crash, enter the age in months. If less than one month old, enter one month. If between one month and 2 months old, enter 1 month, if between 2 and 3 months old enter 2, and so on.

For people 2 years old or older at the time of the crash, enter the age in years as of the last birthday prior to the crash date.

If you are unable to obtain the age of a driver, request a driver's license record. **This action must be discussed and a policy determined with your zone center and COTR. Licensing file data takes precedence over police or interview data.**

Range: 1-23, 24, 36, 48, ... 1206, -9999

Method: Enter age _____ yrs(> 23 mos) _____ mos(1-23)

Element Attributes:

Unknown

Used when the age cannot be determined from any source.

Sources:

DRIVER INTERVIEW

PAR

**Field
Value**

-9999

Occupant

Screen Name: Sex

Field Variable: OCCUPANT.SEX_PREGNANCY

Label: Sex

Remarks

Sex

Range: 1 - 2, -9999

Method: Enter value in appropriate space

Element Attributes:

Male

Female

Unknown

**Field
Value**

1

2

-9999

Occupant

Screen Name: Height

Field Variable: OCCUPANT.HEIGHT

Label: Height

Remarks

Record the height of the occupant. System displays in centimeters.

Range: 30-220 cm, -9999

Method: Enter Feet/ Inches _____ ' _____ '''

Element Attributes:

Field Value

Unknown

Unable to determine the driver's height.

-9999

No driver present

Select this attribute when the vehicle is in transport but no driver is present.

-8888

Occupant

Screen Name: Weight

Field Variable: OCCUPANT.WEIGHT

Label: Weight

Remarks

Enter the weight of the occupant. System displays in kilograms.

Range: 2-275 kg, -9999

Method: Enter pounds _____ lbs

Element Attributes:

	Field Value
Unknown Select this attribute when the driver's weight cannot be determined.	-9999
No driver present Select this attribute when the vehicle is in transport but no driver is present.	-8888

Occupant

Screen Name: Seat Position

Field Variable: OCCUPANT.SEATPOS

Label: Seat Position

Remarks

Select the attribute which best describes the seating location of the occupant. This description relates to an area of the vehicle interior. A seat need not be present in the area selected.

Range: 11,12,13,14,15,21,22,23,24,25,31,32,33,34,35,41,42,43,44,45,51,52,53,54,55,96,97,-9999

Method: Enter Seat Position Code

Occupant

Screen Name: Seat Position

Field Variable: OCCUPANT.SEATPOS

Element Attributes:	Field Value
Front row, left position Row closest to the vehicle controls, left side, facing to the front of the vehicle.	11
Front row, center position Row closest to the vehicle controls, center, facing to the front of the vehicle.	12
Front row, right position Row closest to the vehicle controls, right, facing to the front of the vehicle.	13
Front row, other (specify) : Row closest to the vehicle controls, location not described as left center or right, facing to the front of the vehicle.	14
Front row, on lap of another occupant Row closest to the vehicle controls, occupant sitting on lap of any other occupant in row.	15
Second row, left position Second row from vehicle controls, left side.	21
Second row, center position Second row from vehicle controls, center.	22
Second row, right position Second row from vehicle controls, right side.	23
Second row, other position	24
Second row, on lap of another occupant	25
Third row, left position	31
Third row, center position	32
Third row, right position	33
Third row, other position	34
Third row, on lap of another occupant	35
Fourth row, left position	41
Fourth row, center position	42
Fourth row, right position	43
Fourth row, other position	44
Fourth row, on lap of another occupant	45
Fifth row, left position	51
Fifth row, center position	52
Fifth row, right position	53
Fifth row, other position	54
Fifth row, on lap of another occupant	55
Other enclosed area	96

Occupant

Screen Name: Seat Position

Field Variable: OCCUPANT.SEATPOS

Other unenclosed area

97

Unknown

-9999

Use when the researcher is unable to determine the seating position of this occupant. In or on vehicle unknown location

Sources:

DRIVER INTERVIEW

SURROGATE INTERVIEW

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Occupant

Screen Name: Occupant KABCO Rating

Field Variable: OCCUPANT.KABCOU

Label: PAR occupant KABCO rating

Remarks

Select the police reported injury severity for this occupant. It is possible that the police could have updated the PAR between the time it was stratified and when it was picked up. For example, a person might have been listed originally with incapacitating injuries. Later the person dies, and the PAR is changed accordingly. Therefore, use the latest information on the PAR at the time it was obtained from the police agency.

If the police report contains a detailed description of the injuries but does not translate the injuries into the KABCO codes, use the police method for doing so. For example, injuries which are considered to be of an incapacitating nature are classified as "A", nonincapacitating-evident injuries are classified as "B", and possible injuries are "C", Property damage only is classified as "O".

U Injury, severity unknown

is used when the police report indicates a "U" or in any other way communicates the idea that the person was injured but their severity is unknown.

Died prior to crash

is only used if the police explicitly so indicate.

As a general rule, if the PAR is "blank" where the injury severity is assessed and the person was at the scene during the police investigation, then select "O" - No injury. If the PAR is "blank" and the person was not present during the police investigation, then select "Unknown".

Not all states use the KABCOU scheme.

Range: 1- 7,-1111, -9999

Method: Enter value in appropriate space

Element Attributes:

	<u>Field Value</u>
O - No injury	1
C - Possible injury	2
B - Non-incapacitating injury	3
A - Incapacitating injury	4
K - Killed	5
U - Injury, severity unknown	6
Died prior to crash	7
No person in vehicle	10
No PAR obtained	-1111
No police accident report was created.	
Unknown if Injured	-9999

Sources:

PAR

Occupant

Screen Name: Transported to a Treatment Facility From the Scene

Field Variable: OCCUPANT.EMSTRANSPORT

Label: Transported to a treatment facility from the scene

Remarks

Determine if the occupant was transported to a treatment facility from the scene. Treatment facility includes physician's office, clinic, hospital, emergency clinic and trauma center. Do not consider the reason for transport when coding this variable.

Range: 1 - 2, -9999

Method: Enter value in appropriate space

Element Attributes:

	<u>Field Value</u>
Yes	2
This occupant was taken directly from the scene of the crash to a treatment facility; trauma center, hospital, clinic or doctor's office.	
No	1
This occupant was not taken directly from the scene of the crash to a treatment facility.	
Unknown	-9999

Sources:

PAR
RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Occupant

Screen Name: Occupant's Role

Field Variable: OCCUPANT.ROLE

Label: Occupant's Role

Remarks

Occupant's role in the vehicle

Range: 1 - 2, -9999

Method: Enter value in appropriate space

Element Attributes:

	Field Value
Driver	1
Driver of the vehicle.	
Passenger	2
Passenger in the vehicle	
Unknown	-9999

Sources:

DRIVER INTERVIEW

RESEARCHER ASSESSMENT

Nonmotorist

Screen Name: Critical Reason for Critical Pre-Crash Event

Field Variable: NONMOTORIST.CRITICAL_REASON_YN

Label: Critical reason for critical pre-crash event

Remarks

This variable establishes the critical reason for the occurrence of the critical event. The critical reason is the immediate reason for this event and is often the last failure in the causal chain (i.e., closest in time to the critical precrash event).

Although the critical reason is an important part of the description of crash events, it is not the cause of the crash nor does it imply the assignment of fault. The concept of right-of-way and a number of other causal-related variables are coded in other locations on the Precrash Assessment Form. The primary purpose of the critical reason variable is to enhance the description of crash events and to thus allow analysts to better categorize similar events.

The following general guidelines apply to coding the critical reason for the critical event:

- Generally, one critical reason is assigned per crash (NOTE: exception occurs in simultaneous events such as two vehicles entering an uncontrolled intersection at the same time).
- Coded to vehicle/nonmotorist action/event that makes the collision inevitable.
- Critical reason can be subjective in nature.
- Final selection is based on the preponderance of evidence. There is only one reason that can be assigned to the Nonmotorist.

Range:

Method: Fill a single item

Element Attributes:

Field Value

No critical reason assigned to this person

1

Used when the critical reason is coded to one of the vehicles or other nonmotorists involved in the crash sequence and this nonmotorist has no factors relative to the critical event.

Critical reason for critical event assigned to this person

2

Used when the factors for this nonmotorist show a preponderance for the critical reason to this nonmotorist. All vehicles should be coded as No critical reason assigned to this vehicle, when this attribute is selected for the nonmotorist.

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Nonmotorist

Screen Name: Nonmotorist Number

Field Variable: NONMOTORIST.NM_NUMBER

Label: Nonmotorist Number

Remarks

Nonmotorists are numbered as they become involved in the crash sequence. They are numbered independently of the vehicles. For example, if there are two nonmotorists, the first one struck is assigned 1 and the second nonmotorist involved is assigned 2. In cases where the nonmotorists are struck simultaneously, use your best judgment. Include only those nonmotorists contacted by the first three vehicles in transport or vehicles or objects set in motion by one of the case (first three) in transport vehicles.

Range:

Method: Enter a value _____

Element Attributes:

	<u>Field Value</u>
1 First nonmotorist involved in the crash sequence.	1
2 Second nonmotorist involved in the crash sequence.	2
3 Third nonmotorist involved in the crash sequence.	3
4 Fourth nonmotorist involved in the crash sequence.	4
5 Fifth nonmotorist involved in the crash sequence.	5
6 Sixth nonmotorist involved in the crash sequence.	6
7 Seventh nonmotorist involved in the crash sequence.	7
8 Eighth nonmotorist involved in the crash sequence.	8
9 Ninth nonmotorist involved in the crash sequence.	9
10 Tenth nonmotorist involved in the crash sequence.	10

Nonmotorist

Screen Name: Age

Field Variable: NONMOTORIST.AGE

Label: Age

Remarks

For people less than 24 months old at the time of the crash, enter the age in months. If less than one month old, enter one month. If between one month and 2 months old, enter 1 month, if between 2 and 3 months old enter 2, and so on.

For people 2 years old or older at the time of the crash, enter the age in years as of the last birthday prior to the crash date.

If you are unable to obtain the age of a driver, request a driver's license record. **This action must be discussed and a policy determined with your zone center and COTR. Licensing file data takes precedence over police or interview data.**

Range: 1-23, 24, 36, 48, ... 1206, -9999

Method: Enter age _____ yrs(> 23 mos) _____ mos(1-23)

Element Attributes:

Unknown

Used when the age cannot be determined from any source.

**Field
Value**

-9999

Nonmotorist

Screen Name: Sex

Field Variable: NONMOTORIST.SEX

Label: Sex

Remarks

Sex

Range: 1-7, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Male	1
Female	2
Unknown	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Nonmotorist

Screen Name: Type of Nonmotorist
Field Variable: NONMOTORIST.NM_TYPE

Label: Type of nonmotorist

Remarks

This variable establishes the specific type of nonmotorist involved in the crash.

Range: 1,2,3,4,5,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Pedestrian Used when the nonmotorist's primary method of movement is related to walking, jogging, running, etc. A nonmotorist seated on a bench is classified as a pedestrian.	1
Bicyclist Used when the nonmotorist's primary method of movement is related to pedaling some form of bicycle. Nonmotorists on tricycles and "big wheels" are classified in the other category.	2
Skater Used when the nonmotorist's primary method of movement is related skating (e.g., conventional skates, in-line roller blades, etc.).	3
Other cyclist (specify) : Used when the nonmotorist's method of movement is pedal-based but cannot be classified as a bicycle. Children on tricycles and big wheels are classified in this category.	4
Other nonmotorist (specify) : Used when the nonmotorist's method of movement is other than specified by preceding categories. Specify the nonmotorist type. Examples of other non-motorists include occupants of wagons, wheel chairs, strollers, etc. Individuals using scooters and other wheeled conveyances are also classified in this category.	5
Unknown Used when there is insufficient information to determine the type of nonmotorist involved.	-9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Nonmotorist

Screen Name: Nonmotorist's Action Relative to the Roadway

Field Variable: NONMOTORIST.NM_ACTION

Label: Nonmotorist's action relative to the roadway

Remarks

This variable describes the direction of nonmotorist motion with respect to the roadway, prior to the nonmotorist's first avoidance action. If there are no avoidance actions, select the element value which describes the nonmotorist's motion with respect to the roadway, just prior to first impact. Thus, code 02 (Crossing road, straight) indicates the nonmotorist is crossing the road perpendicular to the traffic flow just prior to the nonmotorist's first avoidance action (or just prior to impact if there are no avoidance actions).

Range: 1 - 12, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Stopped Used when the pedestrian is in a stationary position.	1
Crossing road, straight Used when the pedestrian is crossing a road, moving, perpendicular to the traffic flow.	2
Crossing road, diagonally Used when the pedestrian is crossing a road and the travel direction is oblique to the traffic flow.	3
Moving in road, with traffic Used when when the pedestrian is in the road and moving in the same direction as traffic flow.	4
Moving in road, against traffic Used when the pedestrian is in the road and moving in the opposite direction of the traffic flow.	5
Off road, approaching road Used when the pedestrian is not in the road, but is moving toward the road.	6
Off road, going away from road Used when the pedestrian is not in the road, but is moving in a direction that is away from the road.	7
Off road, moving parallel with traffic Used when the pedestrian is not in the road and is moving in a direction that is parallel to the road in the same direction as traffic is flowing.	8
Off road, moving parallel against traffic Used when the pedestrian is not in the road and is moving in a direction that is parallel to the road in the opposite direction that traffic is flowing.	9
Off road, crossing driveway Used when the pedestrian is off road, crossing a driveway, and is struck by a vehicle entering or leaving the driveway.	10
Off road, moving along driveway Used when the pedestrian is off road,moving along the direction of the driveway, and is struck by a vehicle entering, leaving, or moving along the driveway.	11
Other (specify) : Used when the pedestrian's action is not described in preceding elements. A brief annotation must be provided to describe the action.	12
Unknown Used when there is insufficient information to determine pedestrian action relative to the striking vehicle	-9999

Nonmotorist

Screen Name: Nonmotorist's Action Relative to the Roadway

Field Variable: NONMOTORIST.NM_ACTION

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Nonmotorist

Screen Name: Nonmotorist's Body Orientation Relative to Vehicle

Field Variable: NONMOTORIST.NM_ORIENTATION

Label: Nonmotorist's body orientation relative to vehicle

Remarks

This variable describes the pedestrian's body orientation with respect to the striking vehicle prior to avoidance actions. "Facing vehicle" indicates the pedestrian's body (chest) is facing the path of travel of the striking vehicle (which may be tracking or yawing). View the pedestrian as having four planes (i.e., front, back, left, and right: Top and bottom planes are classified in the other category). Choose the plane that best indicates how the pedestrian was positioned prior to any avoidance actions. For example, if the left side and rear area of the pedestrian's body are exposed to the striking vehicle (i.e., 45 degrees off the assumed 90 degree orientation), then select element value "2" (Facing away) or element value "3" (Left side to vehicle) depending on the pedestrian's activity and action. If, as in this example, the pedestrian is crossing the road, select element value "3" (Left side to vehicle). If, however, the pedestrian is moving with or against traffic, then select element value "2" (Facing away). For orientations between 45 degrees and 90 degrees, select the element value based on the body area which is exposed the most (i.e., side or rear).

Range: 1,2,3,4,5,9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Facing vehicle	1
Indicates the pedestrian's body (chest) is facing toward the contacting vehicle (which may be tracking or yawing).	
Facing away from vehicle	2
Left side of body toward vehicle	3
Right side of body toward vehicle	4
Other (specify) :	5
Unknown	9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Nonmotorist

Screen Name: Motion of Nonmotorist

Field Variable: NONMOTORIST.NM_MOTION

Label: Motion of nonmotorist

Remarks

Description of pre-avoidance motion of non-motorist

Range: 1,2,3,4,5,6,7,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Not moving Used when the pedestrian is stationary and includes crouching, kneeling, and bending at the waist.	1
Walking slowly Used when the pedestrian is advancing on foot in such a manner that part of one foot or the other is always in contact with the ground and pace is a normal walking stride.	2
Walking rapidly Used when the pedestrian is advancing at an accelerated rate (i.e., deliberately moving his/her legs quickly to achieve a more rapid advance than a normal walking stride, but not running).	3
Running or jogging Used when the pedestrian is moving rapidly in a manner where both feet are off the ground for a portion of each step.	4
Moving on skates/skate board	5
Cycling	6
Other (specify) : Used when the pedestrian's motion is not described in the above categories. A brief annotation describing the situation must be provided. This attribute includes hopping, jumping, skipping	7
Unknown Used when there is insufficient information to determine pedestrian motion.	9999

Sources:

RESEARCHER ASSESSMENT

REVIEWER ASSESSMENT

Nonmotorist

Screen Name: Position of Nonmotorist
Field Variable: NONMOTORIST.NM_ATTITUDE

Label: Position of nonmotorist

Remarks

This variable describes the pedestrian's vertical orientation just prior to the pedestrian's first avoidance action. If there are no avoidance actions, code the attribute which best describes the pedestrian's vertical orientation just prior to the first impact. Individuals who are standing in a stationary position, walking, or running are all classified as standing. Variations in the range of upright positions are distinguished in the next variable (i.e., Pedestrian Motion).

Range: 1,2,3,4,5,6,9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Standing Used when the pedestrian is upright on both feet. This category includes pedestrians who are leaning to one side or are leaning against an object. It also includes pedestrians who are walking, running, hopping, skipping, or jumping.	1
Crouching Used when the pedestrian is stooped down or bent low by using the knees as a pivot point.	2
Kneeling Used when at least one knee of the pedestrian is in contact with the ground or an object.	3
Bending at waist Used when the pedestrian is bent over using the hips as the pivot point.	4
Moving on skates/skate board	5
Other (specify) : Used when the non-motorist's attitude is not covered by preceding categories. Examples include the non-motorist seated on a bench and/or lying in the roadway. Specify the pre-crash attitude.	6
Unknown Used when there is insufficient information to determine the non-motorist's attitude.	9999

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Nonmotorist

Screen Name: Nonmotorist Using Cell Phone Precrash

Field Variable: NONMOTORIST.CELL_TALK_NM

Label: Nonmotorist using cell phone precrash

Remarks

Determine if the nonmotorist was using a cellular phone during the precrash phase.

Range:

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No Used when it is determined that the nonmotorist was not talking on the cell phone at the time of the crash.	1
Yes Used when it can be determined that the nonmotorist was talking on a cell phone at the time of the crash.	2
Unknown Used when it cannot be determined that the nonmotorist was talking on the cell phone at the time of the crash.	-9999

Sources:

WITNESS

NONMOTORIST INTERVIEW

Nonmotorist

Screen Name: Illness

Field Variable: NONMOTORIST.ILLNESS

Label: Illness

Remarks

This variable should be coded for presence of illness. The medical problem should be major and have the **potential** for influencing the performance of the driving task.

For the Driver or Nonmotorist interview, code the interviewee's response.

For the Precrash Assessment or Nonmotorist form, major medical problems (i.e., heart attack, seizure, blackout, severe cold or flu) should have medical verification, but this is not required. Document the source in a note if other than medical records.

Range: 1,2,3,4,5,6,7,8,9,-8888,-9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
No	1
Used when the driver is not ill.	
Yes	2
Used when the driver has an illness (includes heart attack, seizure, blackout, severe cold/flu symptoms etc..)	
Unknown	-9999
Heart attack	3
Used when the driver has a medically verified heart attack during the precrash phase.	
Seizure (related to diagnosed epilepsy)	4
Used when the driver has a medically verified epileptic seizure during the precrash phase.	
Seizure (other source)	5
Used when the driver has a medically verified seizure, that is not related to epilepsy, during the precrash phase.	
No driver present	-8888
Blackout (diabetes related)	6
Used when the driver has a blackout during the precrash phase and this event can be traced to a medically diagnosed diabetic condition (e.g., driver blacks out as a result of insulin shock or high/low blood sugar level).	
Blackout (other source)	7
Used when the driver has a blackout during the precrash phase and this event is not related to a diabetic condition.	
Severe cold/flu symptoms	8
Used when the driver is operating the vehicle while experiencing severe cold/flu symptoms that influence driving performance.	
Other (specify) :	9
Used when the driver experiences an illness or physical symptoms that are not described in preceding elements. An annotation is required to specify the nature of the illness/symptom(s).	

Sources:

RESEARCHER ASSESSMENT
REVIEWER ASSESSMENT

Nonmotorist

Screen Name: Police Reported Drug Presence

Field Variable: NONMOTORIST.PAR_DRUG_PRES

Label: Police reported drug presence

Remarks

This variable documents police reported drug presence, if there is no indication on the PAR code 'No'.

Range: 1 - 4, 11, -8888, -9999

Method: Fill a single item

Element Attributes:

Field Value

-	
No	1
Used when the PAR indicates no illegal drugs are used by this driver.	
Yes (specify) :	2
Used when drugs are indicated for this driver. Record drug under DRUGTYPE variable.	
Yes - none specified	3
Used when drugs are noted for this driver but type(s) are unknown.	
Unknown	-9999
-	

Sources:

PAR

Nonmotorist

Screen Name: Police Reported Alcohol Presence

Field Variable: NONMOTORIST.POLICE_ALCOHOL

Label: Police reported alcohol presence

Remarks

PAR reported alcohol presence. If the PAR shows alcohol presence in any manner, check box, narrative, etc. this variable must be coded Yes.

Range:

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
Yes	2
No	1
Not reported	3
Police do not report presence or absence on PAR.	
Unknown	-9999

Sources:

PAR

Nonmotorist

Screen Name: Nonmotorist KABCO Rating

Field Variable: NONMOTORIST.KABCOU

Label: PAR nonmotorist KABCO rating

Remarks

Select the police reported injury severity for this occupant. It is possible that the police could have updated the PAR between the time it was stratified and when it was picked up. For example, a person might have been listed originally with incapacitating injuries. Later the person dies, and the PAR is changed accordingly. Therefore, use the latest information on the PAR at the time it was obtained from the police agency.

If the police report contains a detailed description of the injuries but does not translate the injuries into the KABCO codes, use the police method for doing so. For example, injuries which are considered to be of an incapacitating nature are classified as "A", nonincapacitating-evident injuries are classified as "B", and possible injuries are "C", Property damage only is classified as "O".

U Injury, severity unknown

is used when the police report indicates a "U" or in any other way communicates the idea that the person was injured but their severity is unknown.

Died prior to crash

is only used if the police explicitly so indicate.

As a general rule, if the PAR is "blank" where the injury severity is assessed and the person was at the scene during the police investigation, then select "O" - No injury. If the PAR is "blank" and the person was not present during the police investigation, then select "Unknown".

Not all states use the KABCOU scheme.

Range: 1- 7,-1111, -9999

Method: Select a single item

Element Attributes:

	<u>Field Value</u>
No PAR obtained No police accident report was created.	-1111
O - No injury	1
C - Possible injury	2
B - Non-incapacitating injury	3
A - Incapacitating injury	4
K - Killed	5
U - Injury, severity unknown	6
Died prior to crash	7
Unknown if Injured	-9999

Other Vehicle

Screen Name: Vehicle Number

Field Variable: .VEH_NUMBER

Label: Vehicle number

Remarks

Other vehicles include: in-transport vehicles after first three involved, not in-transport vehicles, and working vehicles.

Number the vehicles as they become involved in the crash events. This should be done at the time of the on-scene investigation. Doing this at the time of scene response investigation will assist the researcher in reconstruction of the Precrash elements for each vehicle and may reduce the number of return visits to the scene, vehicle inspections or reinterviews of drivers.

Use the examples below as guidelines for vehicle numbering and classification. All vehicles are CDS applicable unless noted.

Example #1

Eastbound Vehicle 1 runs off road, front strikes back of Vehicle 2 (not in transport).

Event 1 V-1 Front vs V-2 Back

Inspection/interview V-1, document V-2 year/make/model.

Example #2

Southbound Vehicle 1 runs off road into Vehicle 2 (not in-transport) front to back.

Vehicle 1 is redirected into northbound lane contacting in-transport NonCDS Vehicle 3 front to front.

Vehicle 3 is deflected into in-transport Vehicle 4 which is southbound behind Vehicle 1, front to front.

Vehicle 4 is redirected into of Vehicle 5 (not in transport) front to back.

Vehicle 5 is redirected into roadway and is struck by Vehicle 6.

Event 1 V-1 Front vs V-2 Back

Event 2 V-1 Front vs V-3 Front

Event 3 V-3 Front vs V-4 Front

STOP

Inspection/interview V-1,-3 and -4, document V-2 year/make/model.

Example #3

Eastbound and down, Vehicle 1 runs off road into bicyclist 1, striking with front.

Vehicle 1 continues off road into NonCDS, not-in-transport Vehicle 2, occupied by a driver, front to front.

Vehicle 2 is deflected into the roadway and contacts in-transport Vehicle 3, which is eastbound behind Vehicle 1, front to front.

Vehicle 3 continues forward, striking not in-transport Vehicle 4 front to back.

Vehicle 3 is redirected into Vehicle 5 (not in-transport) front to back.

Vehicle 5 is redirected into roadway and is struck by westbound, in-transport, NonCDS Vehicle 6, front to front.

Vehicle 6 strikes bicyclist 2 who was originally riding next to bicyclist 1.

Event 1 V-1 Front vs NM-1 Back

Event 2 V-1 Front vs V-2 Front

Event 3 V-2 Front vs V-3 Front

Event 4 V-3 Front vs V-4 Back

Event 5 V-3 Front vs V-5 Back

Event 6 V-5 Front vs V-6 Front

STOP

Inspection/interview V-1,-3 and -6, interview NM-1, document V-2, -4 and -5, year/make/model.

As can be seen from the previous examples, determining which crash participants to inspect/interview may be difficult. Most crash scenarios will not be as complex as Example #3.

Range: 1-40

Method: Enter a value _____

Other Vehicle

Screen Name: Model Year

Field Variable: VEHICLE.MODELYEAR

Label: Model year

Remarks

Select the model year for which the vehicle was manufactured

Range: 1900-2008, -9999

Method: Enter Model Year ____ _

Element Attributes:

**Field
Value**

Unknown

-9999

Use only if the vehicle model year cannot be determined. This should occur rarely.

Other Vehicle

Screen Name: Make

Field Variable: VEHICLE.MAKE

Label: Make

Remarks

Select the make of this vehicle from the list.

Range: 1-10, 12-14, 18-25, 29-63, 69-76, 78-88, 99, 2901-2909, 2999, 6901-6921, 6999, 9801- 9810, 9899, 15691, 20212, 24428, 30189, 67602, 104476, 143055

Method: Enter Make _____

Element Attributes:

	<u>Field Value</u>
UNKNOWN MANUFACTURER	99
HYOSUNG	232974
KTM	232985

Other Vehicle

Screen Name: Model

Field Variable: VEHICLE.MODEL

Label: Model

Remarks

Select the vehicle model for this vehicle.

Other Vehicle

Screen Name: Model
Field Variable: VEHICLE.MODEL

Range: -9999, 5, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 34, 36, 37, 40, 41, 42, 44, 46, 47, 53, 57, 58, 59, 60, 61, 62, 63, 65, 66, 67, 68, 70, 72, 73, 74, 75, 76, 77, 79, 80, 87, 88, 92, 94, 98, 100, 105, 110, 115, 118, 124, 126, 127, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 147, 148, 152, 153, 154, 155, 156, 157, 158, 159, 160, 163, 164, 165, 166, 171, 173, 175, 177, 179, 180, 181, 183, 185, 186, 187, 188, 189, 191, 192, 195, 196, 197, 200, 203, 204, 206, 208, 215, 216, 221, 223, 226, 227, 228, 230, 231, 232, 234, 235, 236, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 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6723, 6724, 6725, 6727, 6729, 6731, 6732, 6733, 6734, 6735, 6736, 6738, 6746, 6748, 6750, 6752, 6754, 6756, 6758, 6759, 6760, 6761, 6762, 6763, 6764, 6765, 6766, 6767, 6769, 6771, 6774, 6776, 6777, 6779, 6780, 6781, 6782, 6784, 6786, 6788, 6790, 6791, 6792, 6793, 6794, 6795, 6796, 6797, 6798, 6799, 6801, 6803, 6805, 6807, 6809, 6811, 6813, 6815, 6817, 6819, 6821, 6822, 6823, 6824, 6825, 6826, 6827, 6828, 6829, 6830, 6831, 6833, 6839, 6849, 6851, 6853, 6854, 6855, 6857, 6859, 6861, 6863, 6865, 6867, 6870, 7878, 7880, 7882, 7884, 7886, 7890, 7896, 7898, 7900, 7901, 7906, 7908, 7909, 7912, 7914, 7916, 7918, 7922, 7931, 9536, 9538, 9540, 9542, 9544, 9545, 9546, 9547, 9548, 9562, 9564, 9566, 9568, 9569, 9570, 9572, 9573, 9574, 9575, 9576, 9577, 9587, 9589, 9591, 9595, 9597, 9599, 9601, 9603, 9605, 9607, 9609, 9611, 9613, 9615, 9625, 9626, 9627, 9628, 9629, 9630, 9631, 9632, 9634, 9636, 9638, 9641, 9643, 9645, 9647, 9648, 9649, 9651, 9653, 9655, 9657, 9666,

Other Vehicle

Screen Name: Model
 Field Variable: VEHICLE.MODEL

9668, 9670, 9672, 9673, 9676, 9678, 9680, 9682, 9685, 9687, 9689, 9691, 9693, 9695, 9697, 9699, 9701, 9703, 9705, 9706, 9707, 9708, 9709, 9710, 9711, 9712, 9713, 9714, 9718, 9719, 9720, 9721, 9722, 9723, 9724, 9725, 9726, 9727, 9728, 9729, 9730, 9731, 9732, 9733, 9734, 9735, 9736, 9737, 9738, 9739, 9740, 9742, 9743, 9744, 9745, 9746, 9748, 9749, 9750, 9751, 9752, 9753, 9754, 9755, 9756, 9757, 9758, 9759, 9760, 9761, 9762, 9763, 9764, 9765, 9766, 9767, 9768, 9769, 9770, 9771, 9772, 9773, 9774, 9775, 9776, 9777, 9778, 9779, 9780, 9781, 9782, 9783, 9784, 9785, 9786, 9787, 9788, 9789, 9790, 9791, 9792, 9793, 9794, 9795, 9796, 9797, 9798, 9799, 9800, 9801, 9802, 9803, 9804, 9805, 9806, 9807, 9809, 9810, 9811, 9812, 9813, 10351, 12227, 12908, 12910, 12911, 12912, 12913, 12914, 12915, 12916, 12917, 12918, 12919, 12920, 12921, 12922, 12923, 12924, 16407, 16507, 18847, 19571, 19947, 20200, 20207, 20209, 20213, 20215, 20217, 20220, 20801, 20803, 22152, 22154, 22156, 22158, 22160, 22163, 22165, 22167, 22169, 22171, 22173, 22175, 22177, 22179, 22182, 22184, 22187, 24066, 24068, 24429, 24431, 24433, 24435, 24437, 24439, 24515, 25735, 25907, 25908, 26126, 27266, 27267, 27268, 27269, 27270, 27271, 27272, 27273, 27274, 27275, 27276, 27277, 27310, 27455, 27456, 27457, 27458, 28553, 30195, 30198, 30199, 30250, 30251, 30252, 31388, 31389, 31390, 31608, 31610, 31612, 31615, 31617, 31619, 31624, 31626, 31628, 31629, 31630, 32508, 32509, 32510, 32511, 32512, 32513, 32514, 32515, 32516, 32517, 32518, 32520, 32522, 32523, 32524, 32525, 32526, 32527, 32528, 32529, 32530, 32531, 32532, 32533, 36181, 37074, 37076, 37077, 37078, 37080, 37082, 37084, 37454, 37748, 38480, 38482, 38484, 38486, 39465, 39814, 39816, 39977, 39978, 39979, 39980, 39981, 40034, 40755, 40757, 40759, 40760, 40761, 40895, 44198, 44656, 44657, 44658, 44659, 44661, 44662, 44663, 44664, 44666, 44667, 45074, 45076, 45079, 45081, 45083, 45085, 45087, 45089, 45091, 45093, 45154, 45155, 45156, 45158, 45159, 45160, 46434, 46435, 46436, 104455, 104456, 104457, 104458, 104459, 104460, 104466, 104467, 104471, 104478, 104479, 104480, 104481, 104482, 104483, 104484, 104485, 104486, 104594, 133074, 133514, 143056, 146512, 146514, 146516, 146518, 146522, 146524, 146526, 146528, 146530, 146532, 146534, 146536, 146538, 146540, 146542, 146552, 146554, 146556, 146558, 146560, 146562, 147792, 148083, 148360, 149626, 157958, 158101, 158103, 158105, 158107, 158109, 158111, 158113, 158115, 158117, 158120, 158122, 158124, 158126, 158128, 158130, 158132, 158134, 158136, 158138, 158140, 158142, 158144, 158146, 158148, 158150, 158152, 158154, 158156, 158158, 158160, 158162, 158164, 158166, 174881, 174884, 174886, 174888, 174890, 174892, 174894, 174896, 174898, 174900, 174902, 174904, 174906, 174909, 174911, 174913, 174915, 174917, 174919, 174921, 174923, 174924, 174925, 174927, 174929, 174931, 175434, 193699, 210233, 210235, 210237, 210239, 210241, 210243, 210245, 210247, 210249, 210251, 210253, 210258, 210260, 210262, 210264, 210266, 210268, 210270, 210272, 210274, 210276, 210278, 210280, 210282, 210284, 210286, 210288, 210290, 210292, 210294

Method: Enter Model _____

Element Attributes:	Field Value
FUSION	210249
LUCERNE	210239
DTS	210241
AZERA	210253
B9 TRIBECA	210288
ASPEN	232963
YARIS	210292
MAZDA 5	210266
AVENGER	232965
Unknown	-9999

Unknown Model - Fill all spaces with 9s

Other Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

Label: Body type

Remarks

The category indicating the general configuration or shape of a motor vehicle distinguished by characteristics of the vehicle.

Range: 1-17, 19-25, 28-33, 39-42, 45, 48-50, 58-70, 78-82, 88-93, 97, 99, 39462

Method: Select a single item

Other Vehicle

Screen Name: Body Type
Field Variable: VEHICLE.BODY_TYPE

Element Attributes:

Field Value

Convertible

1

Passenger car equipped with a removable or retractable roof. To qualify for this attribute, the entire roof must open. Convertible roofs are generally fabric; however, removable hardtops are also included. This attribute takes priority over 2-door or 4-door attributes.

2-door sedan, hardtop, coupe

2

Passenger car equipped with two doors for ingress/egress and a separate trunk area for cargo (i.e., trunk lid hinged below the backlight). Folding rear seats do not necessarily violate the separate "trunk area" concept.

3-door/2-door hatchback

3

Passenger car equipped with two doors for ingress/egress and a rear hatch opening for cargo (i.e., hinged above the backlight). The cargo area is not permanently partitioned from the passenger compartment area.

4-door sedan, hardtop

4

Passenger car equipped with four doors for ingress/egress and a separate trunk area for cargo (i.e., trunk lid hinged below the backlight). Folding rear seats do not necessarily violate the separate "trunk area" concept.

5-door/4-door hatchback

5

Passenger car equipped with four doors for ingress/egress and a rear hatch opening for cargo (i.e., hinged above the backlight). The cargo area is not permanently partitioned from the passenger compartment area.

Station Wagon

6

Passenger car with an enlarged cargo area. The entire roof covering the cargo area is generally equal in height from front to rear and full height side glass is installed between the C and D-pillars. The rearmost area is not permanently partitioned from the forward passenger compartment area (e.g., "horizontal window shades" to hide cargo do not constitute partitions).

Hatchback, number of doors unknown

7

Passenger car with an unknown number of doors for ingress/egress and a rear hatch opening for cargo (i.e., hinged above the backlight). The cargo area is not permanently partitioned from the passenger compartment area.

Other automobile type

8

Select this for a passenger car that cannot be described by any of the other passenger car attributes.

Unknown automobile type

9

Select this attribute when it is known that the vehicle is a passenger car, but there is insufficient data to determine the type.

Auto based pickup

10

Passenger car based, pickup type vehicle (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup). The roof area (and side glass) rearward of the front seats on a station wagon have been removed and converted into a pickup-type cargo box.

Auto based panel

11

Automobile (not a truck type) station wagon that may have sheet metal rearward of the B-pillar rather than glass (cargo station wagon, auto based ambulance/hearse).

Other Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

Large limousine	12
Automobile that has sections added within its wheelbase (more than four total side doors) or stretched chassis to increase length and passenger/cargo carrying capacity .	
Three-wheel automobile or automobile derivative	13
Three-wheeled vehicle with an enclosed passenger compartment. The single wheel may be in the front or the back of the vehicle.	
Compact utility	14
Short wheelbase and narrow tracked multi-purpose vehicle designed to operate in rugged terrain (examples include: 4-Runner, Amigo, Bravada, Bronco [76 and before], Bronco II, Cherokee [84 and after], Defender, Discovery, Dispatcher, Explorer, Geo Tracker, Golden Eagle, Grand Vitara, Jeep CJ-2 - CJ-7, Laredo, Montero, Mountaineer, Navajo, Passport, Pathfinder, Raider, RAV4, RX-300, Renegade, Rocky, Rodeo, S-10 Blazer, S-15 Jimmy, Samurai, Scrambler, Sidekick, Sportage, Thing, Trooper, Trooper II, Wrangler, Xterra, X-90)	
Large utility	15
Full-size multi-purpose vehicles primarily designed around a shortened standard pickup truck chassis. While generally a station wagon style body, some models are equipped with a removable top (examples include: Bronco-full-size [78 and after], full-size Blazer, full-size Jimmy, Hummer, Jeep Cherokee [83 and before], Durango, Escalade, Landcruiser, LX450, Navigator, Ramcharger, RangeRover, Scout, Tahoe, Trailduster, Yukon),	
Utility station wagon	16
Full sized pickup truck based chassis with a station wagon body (examples include: Chevrolet Suburban, Ford Excursion, GMC Suburban/Yukon XL, Travelall, Grand Wagoneer, includes Suburban limousine)	
3-door coupe	17
Passenger car equipped with three doors (two front seat and one rear seat) for ingress/egress and a separate trunk area for cargo (i.e., trunk lid hinged below the backlight). Folding rear seats do not necessarily violate the separate "trunk area" concept.	
Utility, unknown body type	19
Select this attribute when it is known that the vehicle is a utility vehicle, but there is insufficient data to determine the specific type. Class of Vehicle is entered as (Compact utility vehicle).	
Minivan	20
Small cargo or passenger vans. Examples include: Aerostar, Astro, Caravan, Expo Wagon, Grand Caravan, Grand Voyager, Lumina APV, Mazda MPV, Mini-Ram, Mitsubishi Minivan, Nissan Minivan, Odyssey, Previa, Quest, Safari, Sienna, Silhouette, Town and Country, Toyota Minivan, Toyota Van, Trans Sport, Vanagon/Camper, Venture, Villager, Vista, Voyager, Windstar)	
Large van	21
Full sized cargo or passenger van, generally based on a light truck frame similar to a full sized pickup truck. Examples include: B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura). These vans will generally have a larger capacity in both volume and GVWR.	
Step van or walk-in van	22
Multi-stop delivery vehicle with a GVWR less than or equal to 4,536 kilograms. Examples are the Grumman LLV used by the US Postal Service or the Aeromate manufactured by Utilimaster Motor Corporation. These vehicles will be large and boxy looking, generally with a sliding door and pedestal seat for the driver.	

Other Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

Van based motorhome	23
<p>Van conversion where the chassis and cab portions from the B-pillar forward of this vehicle are the same as in attributes minivan, large van, step van, however, a frame mounted living or recreational unit is added behind the driver/cab area. This attribute takes priority over attributes minivan and large van.</p>	
Van based school bus	24
<p>Passenger van designed to carry students (passengers) to and from educational facilities and/or related functions. The vehicles are characteristically painted yellow and clearly identified as school buses. Use this attribute regardless of whether the vehicle is owned by a school system or a private company. Van based school buses converted for other uses (e.g., church bus) also take this attribute.</p>	
Van based other bus	25
<p>Van derivative (e.g., taxi, small local transit) designed to carry passengers for low occupancy functions or purposes. Examples are car rental vans seen at the airports, retirement home shuttles, etc. Do not code this attribute for van based school buses .</p>	
Other van type	28
<p>Cargo or delivery van where the chassis and cab portions from the B-pillar forward of this vehicle are the same as in Minivans and Large Vans with a frame mounted cargo area unit added behind the driver/cab area, or if the van cannot be described as a Minivan, Large Van, Step-van or a Van-based motorhome. Annotate the van type when using this attribute. This attribute takes priority over Minivans and Large Vans.A clue to this type is PCVina or Vinassist will return a Chassis/cab or incomplete when the VIN is input.</p>	
Unknown van type	29
<p>Select this attribute when it is known that this vehicle is a light truck based van, but its specific type cannot be determined.</p>	
Compact pickup	30
<p>Pickup truck having a width of 178 centimeters or less. (examples include: Arrow Pickup [foreign], Colt P/U, Courier, D50, Dakota, Datsun/Nissan Pickup, Frontier, Hombre, LUV, Mazda Pickup, Mitsubishi Pickup, Pup, Ram 50, Ranger, S-10 , S-15, Sonoma, T-10, T-15, Tacoma, Toyota Pickup)</p>	
Large pickup	31
<p>Pickup truck having a width of greater than 178 centimeters (examples include: C10-C35, Comanche, D100-D350, F100-F350, Jeep Pickup, K10-K35, R100-R500, R10-R35, Ram Pickup, Sierra, Silverado, T100, V10-V35, W100-W350)</p>	
Pickup with slide-in camper	32
<p>Pickup truck that is equipped with a slide-in camper. A slide-in camper is a unit that mounts within a pickup bed. Pickup bed caps, tonneau covers, or frame mounted campers are not applicable for this attribute.</p>	
Convertible pickup	33
<p>Pickup truck equipped with a removable or retractable roof. To qualify for this attribute, the entire roof must open. Convertible roofs are generally fabric; however, removable hardtops are also included. This attribute takes priority over compact and large pickups.</p>	
Unknown pickup style light conventional truck type	39
<p>Select this attribute when this vehicle is a Light Conventional Truck and it is known to have a conventional pickup style cab, but there is insufficient data to determine the specific attribute.</p>	
Cab chassis based	40
<p>Light truck with a pickup style cab and a commercial body attached to the frame. Included are pickup cab based ambulances and tow trucks.</p>	

Other Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

Truck based panel	41
Truck based station wagon (e.g. Suburban) that has sheet metal rather than glass above the beltline rearward of the B-pillars.	
Light truck based motorhome (chassis mounted)	42
Use this attribute for frame mounted recreational unit attached to a light conventional pickup cab or van chassis.	
Other light conventional truck type	45
Select this attribute when the vehicle under consideration cannot be included in any of the other light conventional truck attributes.	
Unknown light truck type	48
Select this attribute when it is known that the vehicle is a light truck chassis based vehicle but insufficient data exist to specify the type.	
Unknown light vehicle type	49
Select this attribute when the vehicle is a can be identified as a light vehicle, but insufficient information exists to identify the type (automobile, light truck, van, etc.).	
School bus	50
Vehicle designed to carry passengers to and from educational facilities and/or related functions. The vehicles are characteristically painted yellow and clearly identified as school buses. Use this attribute regardless of whether the vehicle is owned by a school system or a private company. School buses converted for other uses (e.g., church bus) also take this attribute. Do not use this attribute for cross country or transit buses, even when used for transporting students.	
Other bus type	58
Transport device designed to carry passengers for longer periods of time. These vehicles may be classified as over-the-road, transit or intercity. Include bus based motorhome (other than school bus based) in this attribute.	
Unknown bus type	59
Select this attribute when it is known the transport device is a bus but there is insufficient data to choose between attributes School bus and Other bus type.	
Step van	60
Single unit enclosed body with a GVWR greater than 4,536 kilograms and an integral driver's compartment and cargo area. Step vans are generally equipped with a folding driver seat mounted on a pedestal and a sliding door for easy ingress/egress.	
Single unit straight truck(4500kg<GVWR<=8850kg)	61
Non-articulated truck designed to carry cargo. The gross vehicle weight rating of the vehicle must exceed 4,536 kilograms and be less than or equal to 8,845 kilograms.	
Single unit straight truck(8850kg<GVWR<=12000kg)	62
Non-articulated truck designed to carry cargo. The gross vehicle weight rating of the vehicle must exceed 8,845 kilograms and be less than or equal to 11,793 kilograms.	
Single unit straight truck (GVWR > 12,000 kgs)	63
Non-articulated truck designed to transport cargo with a gross vehicle weight rating in excess of 12,000 kilograms. Use this attribute if it is known that the GVWR of a single unit straight truck is greater than 4,536 kilograms but there is insufficient data to specify the type of single unit truck.	

Other Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

Single unit straight truck (GVWR unknown)	64
Single unit straight truck, GVWR unknown.	
Medium/heavy truck based motorhome	65
Recreational vehicle installed on a single unit medium/heavy truck chassis.	
Truck-tractor (Cab Only, or any trailing units)	66
Truck tractor power unit, fifth wheel equipped, no trailer attached.	
Truck-tractor with no cargo trailer	67
Truck tractor power unit, fifth wheel equipped, with no trailer attached.	
Truck-tractor pulling one trailer	68
Truck tractor power unit, fifth wheel equipped, with one trailer attached.	
Truck-tractor pulling two or more trailers	69
Truck tractor power unit, fifth wheel equipped, with two or more trailers attached.	
Truck-tractor (unknown if pulling trailer)	70
Truck tractor power unit, fifth wheel equipped, unknown if any trailer(s) attached.	
Medium/heavy Pickup (>=4,536 kgs)	39462
Pickup style cab and box, designed as a medium weight truck, that is, manufactured to have a GVWR of more than 4,536 kgs (10, 000 lb), without additional options. This type truck has a larger, stronger frame than a light truck.	
Unknown medium/heavy truck type	78
Select this attribute when the only available information indicates a truck that meets the medium/heavy size criterion.	
Unknown truck type (light/medium/heavy)	79
Use this attribute when it is known that this vehicle is a truck, but there is insufficient data to classify the vehicle further.	
Motorcycle	80
Vehicle under consideration is a two-wheeled, open (i.e., no enclosed body) vehicle propelled by an internal combustion engine. Select this attribute for motorcycles equipped with a side car.	
Moped	81
Vehicle under consideration is a motorized bicycle capable of being propelled either by pedaling or an internal combustion engine.	
Three-wheel motorcycle or moped	82
Vehicle is a three-wheeled open vehicle which can be propelled by an internal combustion engine or by being pedalled.	
Other motored cycle (minibike, motorscooter)	88
Select this attribute when the vehicle in question does not qualify for attributes Motorcycles, Moped, Three wheeled motorcycle or moped. Examples of this type of vehicle are minibikes or motorscooters (e.g. Vespa)	
Unknown motored cycle type	89
Select this attribute for vehicles known to be motored cycles, but no further information is available.	

Other Vehicle

Screen Name: Body Type

Field Variable: VEHICLE.BODY_TYPE

ATV(All-Terrain Vehicle) & ATC(All-Terrain Cycle)	90
Off-road recreational vehicle which cannot be licensed for use on public roadways. ATVs have 4 or more wheels and ATCs have 2 or 3 wheels. Generally, the tires are flotation/balloon type and are designed to operate with low air pressure. The tires generally have a very wide profile and aggressive tread patterns.	
Snowmobile	91
Vehicle designed to be operated over snow propelled by an internal combustion engine.	
Farm equipment other than trucks	92
Agricultural machinery other than trucks propelled by an internal combustion engine (e.g., farm tractors, combines, etc.).	
Construction equipment other than trucks	93
Construction equipment, generally designed for non-roadway use, propelled by an internal combustion engine (e.g., bulldozer, road grader, etc.). This attribute excludes trucks.	
Other vehicle type	97
Motorized vehicle in question does not qualify for a road vehicle (ie passenger car, light truck, etc.), Construction equipment other than trucks, Farm equipment other than trucks, Snowmobile, ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle) (e.g., go-cart, dune buggy, "kit" car, etc.). In other words, any motorized vehicle which does not fit in any other category.	
Unknown body type	99
No information available about the vehicle. This lack of information prohibits the accurate classification of this vehicle within one of the preceding attributes	

Other Vehicle

Screen Name: Class of Vehicle

Field Variable: VEHICLE.HIT_CLASS

Label: Class of Vehicle

Remarks

The Passenger Car Classification Subcommittee, A3B11(1), of the Transportation Research Board, Traffic Records and Accident Analysis Committee, A3B11, assessed size based on the vehicle wheelbase. The guidelines for this classification can be found in the report entitled Recommended Definitions for Passenger Car Size Classification by Wheelbase and Weight, August 1984 by the previously mentioned subcommittee. This variable is the same variable that appears in the Identification section of the General Vehicle Form.

Range: 0 - 5, 9, 14 - 16, 19 - 21, 24, 28 - 31, 38, 39, 45, 48 - 50, 58 - 60, 67, 68, 78 - 80, 90, 99, -9999

Method: Select from appendix list _____

Other Vehicle

Screen Name: Class of Vehicle

Field Variable: VEHICLE.HIT_CLASS

Element Attributes:	Field Value
Noncollision Used when the event is a noncollision for striking vehicle.	100
Subcompact/mini (wheelbase < 254 cm) Passenger vehicle-selected based upon wheelbase.	1
Compact (wheelbase >= 254 but < 265 cm) Passenger vehicle-selected based upon wheelbase.	2
Intermediate (wheelbase >= 265 but < 278 cm) Passenger vehicle-selected based upon wheelbase.	3
Full Size (wheelbase >= 278 but < 291 cm) Passenger vehicle-selected based upon wheelbase.	4
Largest (wheelbase >= 291 cm) Passenger vehicle-selected based upon wheelbase.	5
Unknown passenger car size Known to be passenger vehicle-selected when wheelbase cannot be determined from any source.	9
Compact utility vehicle Select when this vehicle meets definition of Compact utility under Body Type. Use this attribute if the size of the utility vehicle is unknown.	14
Large utility vehicle (<= 4,536 kgs GVWR) Select when this vehicle meets definition of Large utility under Body Type. Refers to full-size multipurpose vehicles primarily designed around a shortened pickup truck chassis. While generally a utility station wagon body style, some models are equipped with a removable or soft top.	15
Utility station wagon (<= 4,536 kgs GVWR) Select when this vehicle meets definition of Utility station wagon under Body Type. Refers primarily to a pickup truck based chassis configured as a station wagon.	16
Unknown utility type Use this attribute when it is known that the vehicle is a utility vehicle, but there is insufficient data to determine the specific type/size.	19
Minivan (<= 4,536 kgs GVWR) Select when this vehicle meets definition of Minivan under Body Type. Refers to a standard size cargo or passenger van.	20
Large van (<= 4,536 kgs GVWR) Select when this vehicle meets definition of Large van under Body Type. Refers to a standard size cargo or passenger van.	21
Van Based school bus (<= 4,536 kgs GVWR) Select this attribute when the vehicle is a passenger van designed to carry students (passengers) to and from educational facilities and/or related functions. These vehicles are characteristically painted yellow and clearly identified as school buses. Use this attribute regardless of whether the vehicle is owned by a school system or a private company. Van based school buses converted for other uses (e.g., church bus) also take this attribute refers to vehicles defined as Van based school bus under Body Type.	24

Other Vehicle

Screen Name: Class of Vehicle

Field Variable: VEHICLE.HIT_CLASS

Other van type (<= 4,536 kgs GVWR)	28
Select this attribute when the vehicle is a Step van or walk-in van, Van based motorhome, Van based other bus and coded Other van type under Body Type.	
Unknown van type (<= 4,536 kgs GVWR)	29
Select this attribute when the vehicle is known to be a light van, but its specific type cannot be determined. Refers to vehicles described as Unknown van type under Body Type.	
Compact pickup truck (<= 4,536 kgs GVWR)	30
Select this attribute when the vehicle meets the qualifications of a Compact pickup truck in Body Type. This generally means an overall body width of 178 centimeters or less.	
Large pickup truck (<= 4,536 kgs GVWR)	31
Select this attribute when the vehicle meets the qualifications of a Large pickup truck under Body Type. This generally means an overall body width of greater than 178 centimeters.	
Other pickup truck type (<= 4,536 kgs GVWR)	38
Select this attribute when the vehicle meets the qualifications of a Pickup with slide-in camper and Convertible pickup under Body Type.	
Unknown pick up truck (<=4,536 kgs GVWR)	39
Select this attribute when the vehicle meets the qualifications of an Unknown pickup style light conventional truck type under Body Type.	
Other light truck (<= 4,536 kgs GVWR)	45
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Cab-chassis based (includes rescue vehicles, light stake, dump, and tow truck), Truck based panel, Light truck based motorhome (chassis mounted), and Other light conventional truck type under Body Type.	
Unknown light truck type (<= 4,536 kgs GVWR)	48
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Unknown light truck type under Body Type.	
Unknown light vehicle type	49
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as Unknown light vehicle type (automobile, utility, van, or light truck) under Body Type.	
School bus (excludes van based)(>4,536 kgs GVWR)	50
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as a School bus (designed to carry students, not cross country or transit) under Body Type.	
Other bus (>4,536 kgs GVWR)	58
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as an Other bus type (e.g., transit, intercity, bus based motorhome) under Body Type.	
Unknown bus type	59
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as an Unknown bus type under Body Type.	
Truck (>4,536 kgs GVWR)	60
Select this attribute when the vehicle meets the qualifications of a vehicle model defined under Body Type, as Step van (>4,536 kgs GVWR), Single unit straight truck (4,536 kgs < GVWR <= 8,845), Single unit straight truck (8,845 kgs < GVWR <= 11,793), Single unit straight truck (>11,793 kgs GVWR), Single unit straight truck, GVWR unknown and Medium/heavy truck based motorhome.	

Other Vehicle

Screen Name: Class of Vehicle

Field Variable: VEHICLE.HIT_CLASS

Tractor without trailer	67
Select this attribute when the vehicle meets the qualifications of a vehicle model defined as a Truck-tractor with no cargo trailer under Body Type.	
Tractor-trailer(s)	68
Select this attribute when the vehicle meets the qualifications of a vehicle model defined in attributes: Truck-tractor pulling one trailer, Truck-tractor pulling two or more trailers and Truck-tractor (unknown if pulling trailer) under Body Type.	
Unknown medium/heavy truck type	78
Select this attribute when the only available information indicates a truck of medium/heavy size. Refer to Unknown medium/heavy truck type under Body Type.	
Unknown light/medium/heavy truck type	79
Select this attribute when the vehicle meets the qualifications described by Unknown truck type (light/medium/heavy) under Body Type.	
Motored cycle	80
Select this attribute when the vehicle meets the qualifications of Body Type, Motorcycle, Moped (motorized bicycle), Three-wheel motorcycle or moped, Other motored cycle (minibike, motorscooter) and Unknown motored cycle type.	
Other vehicle	90
Select this attribute when the vehicle meets the qualifications described by ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle), Snowmobile, Farm equipment other than trucks, or Other vehicle type under Body Type.	
Unknown	99

Other Vehicle

Screen Name: Vehicle Identification Number

Field Variable: VEHICLE.VIN

Label: Vehicle Identification Number

Remarks

If a vehicle is inspected, if at all possible, the VIN must be obtained from the vehicle. If the VIN cannot be read from the cowl, door panel, glove box or trunk lid, then other sources may be used.

The PAR may be used to obtain a VIN when a vehicle inspection is not required (i.e., non-tow CDS applicable and WinSMASH is not applicable; or Body Category, equals Buses, Medium/Heavy Trucks, Motorcycles, or Other Vehicles.

Enter the entire VIN; leave "blank" any column which does not have a VIN character.

If character of the VIN is missing or indecipherable, leave the column any such character would ordinarily occupy "blank".

Use VIN Assist, to check the VIN. Additionally, in NASSMAIN the VIN can be checked on the GV Form by going to Process / VIN Check Routine.

999999999999999999

if the entire VIN is unknown, or missing enter a "9" in each position.

If the vehicle is a motor home or school bus, the vehicle chassis VIN is coded and the secondary manufacturer's number should be annotated if indicated on the PAR.

If the vehicle is manufactured by the Ford Motor Company (prior to 1980) and the VIN begins or ends with a script, "F", the "F" is not entered. Proceed to the next character, as in the example below.

VIN: F 3 U 6 2 S 1 0 0 9 3 2 F

CODE: 3 U 6 2 S 1 0 0 9 3 2

In addition, if any hyphens, periods, or blank spaces are contained in the string of alphanumeric characters, ignore them as in the example below.

VIN: S M - E 3 0 7 6 4 2 1

CODE: S M E 3 0 7 6 4 2 1

Range: -7777, -9999

Method: Enter VIN _____

Element Attributes:

Vehicle not required to have vin

Field Value

-7777

Unknown VIN - Fill all spaces with 9s

-9999

If the entire VIN is unknown, or missing enter 999999999999999999

Other Vehicle

Screen Name: Dominant Color

Field Variable: VEHICLE.COLOR

Label: Dominant color

Remarks

Enter the dominant color of the vehicle.

Range: 1-16, -9999

Method: Fill a single item

Other Vehicle

Screen Name: Dominant Color

Field Variable: VEHICLE.COLOR

Element Attributes:

Field Value

Black	1
Charcoal gray Used for vehicles that are a dark gray.	2
Light gray/silver Used for vehicles that are gray or silver. Includes platinum. Does not include darks grays.	3
Brown	4
Gold/tan/copper Used for vehicles that are in the light brown family. Includes gold and bronze.	5
Purple Used for vehicles that are dark or light purple.	6
Dark blue Used for vehicles that are dark blue. Includes navy blue.	7
Light blue Used for vehicles that are light blue. Includes electric blue.	8
Dark green Used for vehicles that are darkgreen. Includes hunter/forest green.	9
Light green Used for vehicles that are light green. Includes lime green.	10
Maroon Used for vehicles that are much darker than red and have either a purple or a brown tint.	11
Red	12
Orange	13
Yellow	14
White	15
Other (specify) : Select this attribute when the vehicle does not have one color over the majority of the exterior surface or none of the colors in the list for this variable describe the dominant color . Describe the color(s) present, in the specify space.	16
Unknown The color could not be determined due to the vehicle burning, hit and run or some other reason the color could not be seen.	-9999

Other Vehicle

Screen Name: In-Transport Status

Field Variable: VEHICLE.TRANSPORT

Label: In-transport status

Remarks

This variable identifies the transport status of the vehicle. In-transport generally means in motion on a trafficway (except working vehicles) or stopped or in motion within the boundaries of a roadway. Not in transport generally means off the roadway and not in motion or off the trafficway. Working vehicles are exceptions to the previous categories.

Range: 1-3, -9999

Method: Fill a single item

Element Attributes:

	<u>Field Value</u>
In transport	1
Used when the vehicle has been determined to be a vehicle that is in-transport. This means the vehicle is in motion on a trafficway or any part of the vehicle is within the boundaries of the roadway. This is researcher determined and may not necessarily agree with the police report.	
Not in transport	2
Used for vehicles not in-transport. Not in-transport vehicles are defined as 1. Stationary vehicles outside the boundaries of the roadway2. Stationary emergency vehicles in the roadway with emergency lights in operation.3. Vehicles in motion outside the trafficway.This attribute is researcher determined and may not necessarily agree with the police report.	
Working motor vehicle	3
Used to indicate that this is a motor vehicle that was in the act of performing highway construction, maintenance or utility work when it became an involved unit. This work may be located within or outside the roadway boundaries, including portions of the highway closed for construction. This code does not include private construction/maintenance vehicles, or vehicles such as garbage trucks, delivery trucks, taxis, emergency vehicles, tow trucks, etc. Examples: <ul style="list-style-type: none">• Steam roller working in a highway construction zone.• State highway maintenance crew mowing grass on roadside.• Utility truck performing maintenance on the power lines/lights along the roadway.	
This is researcher determined and may not necessarily agree with the police report.	
Unknown	-9999

Other Vehicle

Screen Name: Vehicle Location

Field Variable: VEHICLE.OTHER_VEH_LOC

Label: Vehicle location

Remarks

A parked vehicle is either a not-in-transport motor vehicle or a working motor vehicle. A not in-transport motor vehicle is a motor vehicle which is stopped off the roadway, e.g., parked off the roadway. A working motor vehicle is a motor vehicle which is being used as equipment (e.g., a tow truck while using its winch or a pickup truck while being used to power a saw). This element is coded as to the location of the Not in-transport or Working vehicle.

Range: 1-10, -9997, -9999

Method: Fill a single item

Other Vehicle

Screen Name: Vehicle Location

Field Variable: VEHICLE.OTHER_VEH_LOC

Element Attributes:

Field Value

Not a case vehicle

-8882

On roadway

1

The roadway is that part of a trafficway designed, improved and ordinarily used for motor vehicle travel or, where various classes of motor vehicles are segregated, that part of a trafficway used by a particular class. Separate roadways may be provided for northbound and southbound traffic or for trucks and automobiles. The roadway and any shoulder alongside the roadway together make up the road.

On shoulder

2

That part of a trafficway contiguous with the roadway for emergency use, for accommodation of stopped vehicles and for lateral support of the roadway structure.

On median

3

That area of a divided trafficway between parallel roads separating the travelways for traffic in opposite directions. The principal functions of a median are to provide the desired freedom from interference of opposing traffic, to provide a recovery area for out-of-control vehicles, to provide a stopping area in case of emergencies, and to minimize headlight glare. Medians may be depressed, raised or flush. Flush medians can be as little as 4-feet wide between roadway edgelines. Painted roadway edgelines four (4) or more feet wide denote medians. Medians of lesser width must have a barrier to be considered a median.

On roadside

4

Off the roadway, but inside the right-of-way. It is the outermost part of the trafficway which lay between the outer property line or other barrier and the edge of the first road encountered in the trafficway. Use this element if the parked vehicle is in a raised or painted island (directional or channeling).

Outside trafficway

5

Used when the parked vehicle is outside the right-of-way.

In parking lane

6

Refers to a strip of road located on the roadway or next to the roadway, on which parking is permitted. This includes curb-side and edge-of-roadway parking (for example, legal residential parking, city street parking, etc.). Sometimes a strip of roadway can be designated for parking at certain hours of the day (parking lane) and for regular travel at other hours (travel lane). This code should not be used during hours when parking is NOT permitted.

Gore

7

An area of land where two roadways diverge or converge. The area is bounded on two sides by the edges of the roadway, which join at the point of divergence or convergence. The direction of traffic must be the same on both of these roadways. The area includes SHOULDERS or marked pavement if any, between the roadways. The third side is 60 meters (approximately 200 feet) from the point of divergence or convergence or, if any other road is within 70 meters (230 feet) of that point, a line 10 meters (33 feet) from the nearest edge of such road.

Gore Inclusions:

Areas at rest area or exit ramps

Areas at truck weight station entry or exit ramps

Areas where two main roadways diverge or converge

Areas where a ramp and another roadway or two ramps, diverge or converge

Areas where a frontage road and another roadway or two frontage roads diverge or converge- And others.

Gore Exclusions:

Islands for channelizing of vehicle movements- Islands for pedestrian refuge- And others.

Other Vehicle

Screen Name: Vehicle Location

Field Variable: VEHICLE.OTHER_VEH_LOC

Separator	8
The area of a trafficway between parallel roads separating travel in the same direction or separating a frontage road from other roads. A Separator may be a physical barrier or a depressed, raised, flush or vegetated area between roads.	
Continuous left turn lane	9
A two-way left turn lane positioned between opposing straight through travel lanes.	
Off roadway - location unknown	10
Refers to a location off the roadway, but its relationship to the right-of-way is not known.	
Not a parked vehicle	-9997
Unknown	-9999
Coded only if the location of the parked vehicle cannot be established by any means.	

Other Vehicle

Screen Name:

Field Variable: VEHICLE.CASEVEHICLE

Label: CASE VEHICLE

Remarks

Case vehicle status is noted with a checkmark on the electronic or paper forms.

To be a case vehicle, the vehicle must be:

1. In transport as defined by ANSI D.16
2. A motor vehicle as defined by ANSI D.16.
3. One of the first three in-transport vehicles in the collision, based on the chronological sequence of events beginning with the first harmful event.

A vehicle is NOT a case vehicle if it meets any one of the following conditions:

1. Not in transport as defined by ANSI D.16.
2. Is not a motor vehicle as defined by ANSI D.16.
3. Is the fourth or greater, in-transport vehicle based on event sequence in the collision.

Range: 1-2

Method: Check or Enter Value in Box

Element Attributes:

Yes

This vehicle is an in-transport vehicle and is one of the first three, relative to crash events, involved in the crash.

No

This vehicle is not one of the first three in-transport vehicles, relative to crash events, involved in the crash. Please refer to the EVENTNUMBER variable for the structuring of the case.

**Field
Value**

1

2

Sources:

VEHICLE INSPECTION

SCENE INSPECTION

DOT HS 811 051
December 2008



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

