



## NATIONAL ACCIDENT SAMPLING SYSTEM

Data Collection, Coding and Editing Manual  
1986 Continuous Sampling System

Version Number 9



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## ACKNOWLEDGEMENT

### NASS DATA COLLECTION, CODING AND EDITING MANUAL

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The production of this and previous editions of the NASS Data Collection, Coding and Editing Manual could not have been made possible without contributions from many unidentified sources within the U.S. Department of Transportation, the NASS Zone Centers and PSU teams, and the transportation community.









## TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION . . . . .	1
1.1 Purpose of the Manual . . . . .	1
1.2 Overview . . . . .	1
1.3 How to Use This Manual . . . . .	2
2.0 DESCRIPTION OF THE SAMPLING FRAME . . . . .	4
2.1 Accidents Which Qualify for Study . . . . .	4
2.1.1 Common Questions and Answers About Incidents Which Qualify for Study . . . . .	19
2.2 NASS PAR Sampling System . . . . .	21
2.2.1 Common Questions and Answers Regarding Stratification . . . . .	22
3.0 OVERVIEW OF SAMPLING ACTIVITIES . . . . .	25
3.1 Listing and Sampling Forms . . . . .	25
3.1.1 Case Day Assignment Sheet (CDAS) . . . . .	25
3.1.2 Stratification Record (SR) . . . . .	26
3.1.3 Accident Sampling Worksheet (SW) . . . . .	26
3.1.4 Sample Selection Within Stratum/Jurisdiction Form (SSSJ) . . . . .	26
3.1.5 Source Document Only Subsampling (SDOS) Worksheet . . . . .	26
3.2 Listing and Sampling Instructions . . . . .	26
3.2.1 Contacting Police Jurisdictions . . . . .	26
3.2.2 Completing the Stratification Record . . . . .	26
3.2.3 The NASS Automated Case Selection System . . . . .	35
3.2.4 The Manual Sample Selection Procedure . . . . .	35
3.2.4.1 Completing the Sampling Worksheet (SW) . . . . .	35
3.2.4.2 Completing the Sample Selection Within Stratum/ Jurisdiction (SSSJ) Form . . . . .	38
3.2.4.3 Temporary Case Numbers . . . . .	39
3.2.5 Subsampling for Source Document Only Investigations . . . . .	39
3.2.5.1 Automated Case Selection System Identification of SDO Subsample . . . . .	39
3.2.5.2 Manual Identification of SDO Cases . . . . .	40
3.3 Sampling Problems: How to Handle Them . . . . .	41
3.4 Beginning of Year Sampling Instructions . . . . .	42
4.0 OVERVIEW OF INFORMATION TO BE COLLECTED ON CASES SAMPLED . . . . .	43
4.1 Sequencing of Case Materials . . . . .	43
4.2 Information Required on Field Forms (Mandatory Variables) . . . . .	45
4.3 Update Procedures for Hardcopy Field Forms . . . . .	46
4.4 Form Logs . . . . .	48
4.4.1 Accident Log . . . . .	48
4.4.2 Pedestrian and Nonmotorist Log . . . . .	50
4.4.3 Nontowaway Vehicle Log . . . . .	51
4.4.4 Vehicle Log . . . . .	52
4.4.5 Driver Log . . . . .	53
4.4.6 Occupant Log . . . . .	57

TABLE OF CONTENTS (continued)

	<u>Page</u>
4.5 NASS Criteria for Acceptable Data Completion . . . . .	.59
4.6 Special Procedures for Stratum "E" Accidents . . . . .	.60
4.6.1 Procedure for Vehicle(s) in Case Stratum "E" . . . . .	.60
4.6.2 Procedure for Scene Reconstruction in Case Stratum "E" . . . . .	.61
4.6.3 Vehicles Not Affected by Procedures for Stratum "E" . . . . .	.61
4.6.4 Usage of Other NASS Forms in Nontowaway Stratum "E" . . . . .	.62
4.6.5 Selection of Vehicle Form and Scene Procedures When Towaway Status on Police Report is Not Indicated or In Error . . . . .	.62
5.0 SUBMISSION INSTRUCTIONS . . . . .	.64
5.1 Quality Control Checks for PSU Teams . . . . .	.64
5.1.1 Quality Control Checks Prior to Microcomputer Data Entry . . . . .	.64
5.1.2 Quality Control Checks Resulting from Remote Data Entry . . . . .	.64
5.1.3 Check to Make Sure Administrative Procedures are Being Followed . . . . .	.65
5.1.4 Check Sampling Procedures . . . . .	.65
5.1.5 Check Data Collection Procedures . . . . .	.65
5.1.6 Check to Make Sure Updates Are Being Processed Properly . . . . .	.65
5.1.7 Check Individual Effort and Accuracy in Collecting Evidence and Skill in Interpretation . . . . .	.65
5.2 Case Submission . . . . .	.65
5.3 Case Dropping Procedures . . . . .	.69
6.0 CODING INSTRUCTIONS . . . . .	.73
Accident Form	
Pedestrian and Nonmotorist Form	
Vehicle Form (Vehicle for Nontowaway Accident Form)	
Driver Form	
Occupant Form	
APPENDICES - Uniform Symbols for Scene Marking . . . . .	.Ap-1
Uniform symbols for Accident Diagramming . . . . .	.Ap-2
Photography Instruction . . . . .	.Ap-7
NASS Case Summary Form . . . . .	.Ap-16

# NASS DATA COLLECTION, CODING AND EDITING MANUAL

## 1.0 INTRODUCTION

### 1.1 Purpose of the Manual

In order to produce a national traffic accident data base for the evaluation of old and the development of new highway and vehicle safety standards and to identify highway safety needs, the National Accident Sampling System is being developed. Part of the final system will consist of 75 small teams of accident investigators situated throughout the 48 contiguous states and Hawaii. At each site (Primary Sampling Unit - PSU), the accident research team will investigate a probability sample of police reported accidents on a continuous basis (Continuous Sampling System - CSS). In addition, provision has been made for short term special studies (Special Studies Subsystem - SSS), ancillary studies and the study of minor and non-police reported accidents.

Zone Centers have been established to provide for the quality control of the CSS and special study data collected. Quality control is carried out through Zone Center site visits to the PSUs and through the review of accident case report materials received at the Zone Center. The Zone Centers provide quality control in the areas of sampling, completeness of data, reliability and validity of data. In addition, the Zone Centers provide data collection forms, coding manuals, annual team evaluations, training, extra PSU staff (when needed), and act as a communication link between the PSU teams and the NASS sampling and data processing contractors.

The purpose of this manual is to provide PSU team members, Zone Centers, the data processing contractor, sampling contractor, training contractors, and the National Center for Statistics and Analysis with a consistent, standardized set of instructions for sampling accidents and collecting, coding and editing the data.

### 1.2 Overview

The manual includes six substantive sections; each is summarized below.

Section 2.0 Description of the Sampling Frame describes the procedure for determining whether or not the incident reported on a police accident report (PAR) qualifies for inclusion in the study. In addition, it explains the three independent variables used to classify for sampling the PARs which qualify for NASS. The five PAR sampling strata are defined in terms of the values of the these variables.

Section 3.0 Overview of Sampling Activities describes the procedures for compiling the sampling frame list and selecting the accidents to be investigated. The manual sampling method which is used as a back-up for the NASS Automated Case Selection System is discussed in detail. Detailed instructions for use of the Automated System are found in the MDE User's Manual.

Section 4.0 Overview of Information to be Collected on Sampled Accidents describes the forms which are to be filled out on each accident, the different records (e.g., injury records), photographs and other information (e.g., crash runs), which make up a completed case report. Also discussed are the mandatory data items and forms which must be filled out before a case can qualify for submission. Procedures for filling out form logs are described. In addition, the NASS criteria for acceptable data completion are presented. Finally, the special procedures for handling Nontowaway Study Accidents (Stratum "E") are included.

Section 5.0 Submission Instructions describes when and where to submit case reports. It also describes the Quality Control procedures to be used at the PSU sites.

Section 6.0 Coding Instructions provides the general instructions for collecting and coding the data called for in the field forms. Documentation for each data element includes variable name, element values (attributes), definitions (where needed), data sources, collection method, reference materials (if needed), and remarks.

The Appendices contain some of the necessary references, including: (1) the Uniform Symbols of Scene Marking, (2) the Uniform Symbols for Accident Diagramming, and (3) the Photography Instructions.

Other references to be used in NASS not contained in this manual include: (1) the Fourth Edition of ANSI D16.1-1983, ANSI D6.1-1978; (2) the CRASH3 User's Manual; (3) SAE J224 MAR80; (4) Truck Deformation Classification (TDC) - SAE J1301; (5) the 1985 NASS Injury Coding Manual; (6) NATB books (see variable V16); (7) Passenger Car and Truck Investigators Manual (see variable V16); (8) the Branham Automobile Reference Book; (9) Diesel and Gasoline Truck Indices; (10) the Branham Motorcycle and Snowmobile Booklet; (11) the MVMA - Passenger Car Specifications (see variable V84); (12) Microcomputer Data Entry User's Manual for the NASS; (13) NASS Automated Case Selection System User's Manual; (14) the NASS Accident Investigation Procedures Manual; (15) the Luminaire and Sign Support Special Study Coding and Field Procedures Manual; (16) the Longitudinal Barrier Special Study Coding and Field Procedures Manual; and, (17) the Crash Cushion Special Study Coding and Field Procedures Manual.

### 1.3 How to Use This Manual

This manual is designed to be updated periodically without the need for replacing the entire document. This will be accomplished via a system for adding, deleting, and changing pages. Additions will be inserted in their proper location and will be identified by a different month and year. Pages which are changed will have the same month and year identifier.

When potential data encoding problems are detected in the NASS Data Collection, Coding and Editing Manual or interpretations of specific circumstances (including NASS definitions) are required, the following procedures, outlined by NCSA, will be followed:

- (a) Potential problems that are identified at the team level will be sent to the cognizant Zone Center via the NASS message system.

- (b) The Zone Center will review the potential problem.
- (1) If it is a misinterpretation of the manual, a clarification will be provided by the cognizant Zone Center via the NASS message system (with a telephone follow-up, if necessary).
  - (2) If the potential problem is determined to be valid, the cognizant Zone Center will broadcast the potential problem with a recommended solution to the other three (3) Zone Centers for review and concurrence. The final recommended solution will be sent to NCSA by the cognizant Zone Center for review and approval. This includes all additions, deletions, modifications or substantive interpretations that redefine, broaden or narrow the established definition of NASS variables or attributes.
- (c) Changes or interpretations which affect field data encoding and are approved by the NCSA will be given an effective implementation date and sent to Indiana University for inclusion in the NASS Coding Manual.

The above procedures were not established to restrict team or Zone Center operations but to ensure that program objectives and goals are not inadvertently changed (i.e., a variable is redefined beyond its intended purpose). When defining variables, NCSA must consider their operational utility within the restrictions of the data collection time frame and their intended purpose. Any diversions from these established procedures may destroy the data validity and/or result in serious analysis problems.

## 2.0 DESCRIPTION OF THE SAMPLING FRAME

### 2.1 Accidents Which Qualify for Study

The procedures for properly developing the list of motor vehicle accidents within the study area which qualify for investigation are shown in Figure 2-1 and described below.

Start with a Police Reported Incident--All incidents which meet the criteria of a motor vehicle accident, as defined in ANSI D16.1-1983 (section 2.4.20, page 16), and are (a) reported on the State accident form, or on local (surrogate) accident forms, (b) signed by a police officer, and (c) available through the police agency files, are to be considered for study. Other accident report forms, such as special driver report forms, that do not meet the requirements above are excluded from consideration.

Must Be Reported to the State--For an incident to qualify for the study, the police jurisdiction must send a copy of the Police Accident Report (PAR) to the State for inclusion in the State accident statistics. If a report will not be included in the state file, then the incident is not to be included in the list. If the investigator cannot determine whether or not an incident will be reported to the State, then he/she should include it in the list.

Must Involve a Harmful Event--If the incident does not involve property damage and/or personal injury, do not include it in the list. The presence of a Police Accident Report (PAR) creates a rebuttable presumption that a harmful event has occurred. It is the duty of the investigator to scrutinize any PAR which alleges the absence of a harmful event.

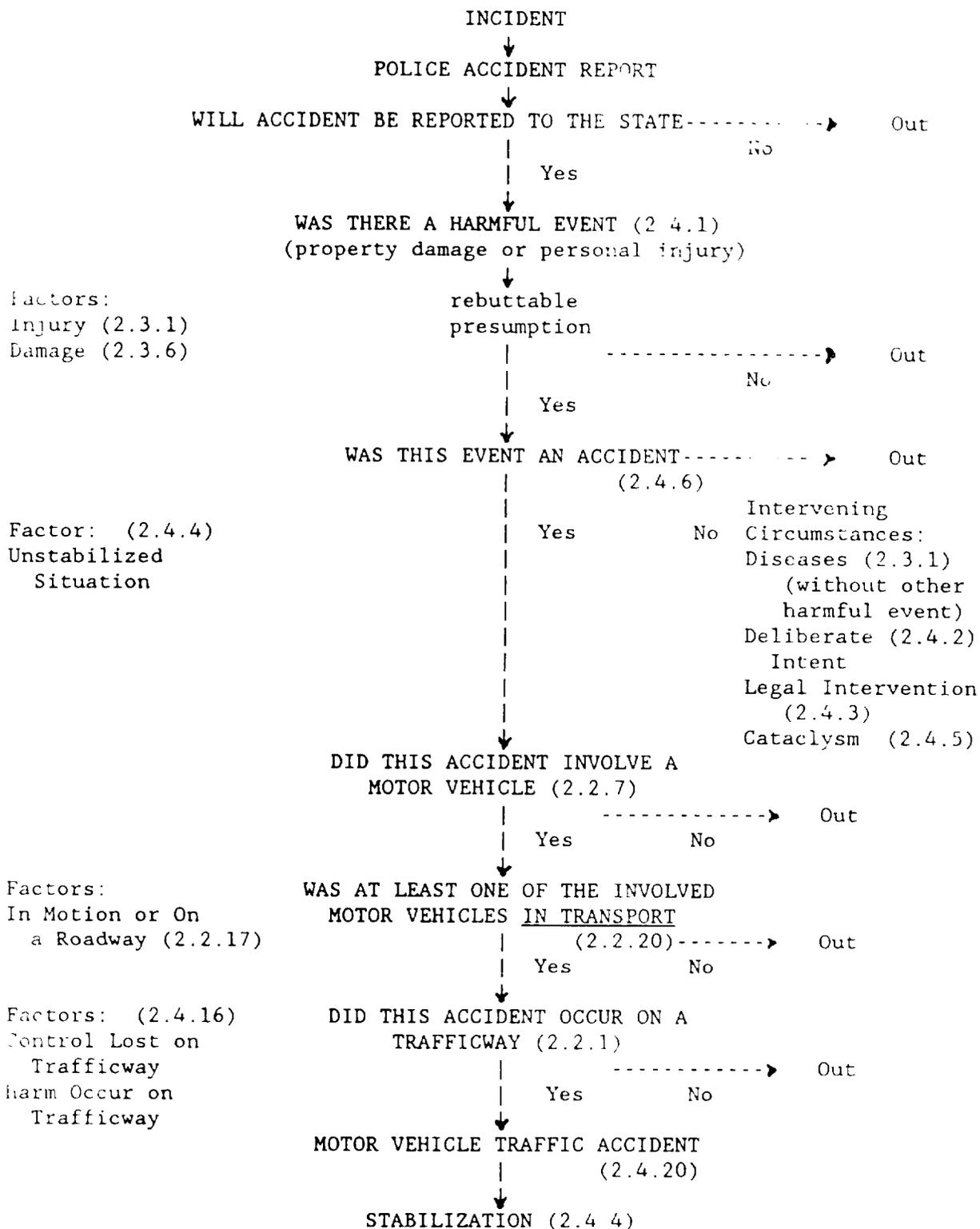
The Harmful Event Must Have Occurred as a Result of an Accident--An accident involves at least one harmful event (ANSI D16.1-1983, section 2.4.1, page 12) produced by an unstabilized situation (ANSI D16.1-1983, section 2.4.4, pages 14-15). There are four (4) ways in which a harmful event occurs that is not a result of an accident. They are: (a) the harmful event results from a diseased condition, (b) the unstabilized situation was the result of deliberate intent, (c) the unstabilized situation was the result of legal intervention, or (d) the harmful event results from a cataclysm (ANSI D16.1-1983, section 2.4.5, page 15). To further clarify the meaning of each of these "intervening circumstances", consider the examples below.

Disease: Even if the unstabilized situation is initiated by a disease such as cerebral hemorrhage, heart attack, diabetic coma, or epileptic seizure, which affects the driver of a motor vehicle in transport, any subsequent harmful event which occurs is considered an accident. This includes any nonvehicular damage that this vehicle causes. The disease itself is not a harmful event for our classification as a traffic accident.

Deliberate Intent: A harmful event which has been intentionally produced does not fall within the definition of an unstabilized situation and, thus, is not an accident.

A driver kills himself/herself (suicide) or self-inflicts injury by driving a motor vehicle: (1) against a fixed object, (2) into a body of water, or (3) otherwise misuses a motor vehicle in transport, and this

FIGURE 2-1



A motor vehicle traffic accident (MVTA) originates on a police accident report (PAR) filed with the state. It involves (a) a harmful event not directly resulting from a cataclysm, (b) produced by an unstabilized situation, (c) involving at least one motor vehicle, (d) in transport [in motion or on a roadway] such that (e) the harmful event occurred on a trafficway or the unstabilized situation originated on a trafficway.

intent is verified in some manner: such intentional events are not motor vehicle accidents. If during such intentional acts other injury or damage occurs that goes beyond the original intent, then these events are accidental and meet the specifications of a motor vehicle accident, unless the contrary can be clearly established.

Example 1 A driver who intends to commit suicide by driving head-on into another vehicle is involved in an accident, since any harmful event which results to the other vehicle or occupants goes beyond the original intent of the driver.

A person, having announced intent in some manner, causes death, injury, or damage by driving a motor vehicle against persons, motor or other road vehicles, or other property, with homicidal, injury, or damage inflicting intent, such intended acts are not motor vehicle accidents. If, in doing such intended acts, other injury or damage occurs that goes beyond the original intent (i.e., unintended consequences), these events are accidental and meet the specifications of a motor vehicle accident, unless the contrary can be clearly established.

Example 2: A driver (not connected with a law enforcement agency) who intentionally rams another vehicle, intending to inflict harm upon the other vehicle or its occupants, is not involved in an accident. In Example 1 above, if the driver intended to inflict harm upon the other vehicle or its occupants, as well as inflict harm upon himself/herself, then this also would not be an accident.

However, malicious mischief, such as throwing a rock toward a motor vehicle, dropping an object from an overpass, or rolling an object upon a trafficway, is not considered to be deliberate intent unless it is clearly established that the act was directed toward a specified person or motor vehicle. See ANSI D16 1-1983, section 2 6 3, page 25

For the purposes of NASS sampling (given limited information on a PAR), a first harmful event resulting from deliberate intent should not be classified as an accident, except where a subsequent harm occurs to a different vehicle or person such that the harm was an unintended consequence of the original event.

When in doubt, follow the instructions for listing the accident contained in Section 3 0 of this manual and call your Zone Center for guidance.

Legal Intervention Legal intervention is a type of deliberate intent involving intentional acts by a law enforcement agent, officer, or other official. If in doing such intended acts, injury or damage occurs that goes beyond the original intent, then the other events are accidental and meet the specifications of a motor vehicle accident, unless the contrary can be clearly established. The following are examples of legal intervention and should not be classified as accidents:

- (a) A road block is set up to stop a lawbreaker, and the lawbreaker crashes into it, either intentionally or unintentionally
- (b) A police unit cuts in front of another vehicle to force it to the curb or shoulder and, as a result, the two vehicles collide

- (c) A vehicle loses control as a result of bullets fired into it from a police officer's gun, and crashes.

The following are examples of an accident:

- (d) A driver, other than a lawbreaker, crashes unintentionally into a roadblock.
- (e) A lawbreaker, while eluding the police, loses control of his vehicle and crashes into another vehicle.
- (f) A police car skids and crashes while chasing a law violator.

If in (c) above, the vehicle had created a harmful event with another vehicle or person, then the presumed unintended consequences of the action would qualify this situation as an accident.

One example which has previously been encountered is as follows: A prisoner jumps out of a police car and is injured. An officer in another car who observes this event, writes a report. Is this an accident? Yes. Although the prisoner exited the car intentionally, the subsequent injury (harmful event) occurred as an unintended consequence of the prisoner's escape attempt, thus constituting this event as an accident. It should be assumed that the injury was an unintended consequence of the prisoner's action unless the contrary can be clearly established.

For the purposes of NASS sampling, the same guidance as given above applies.

Cataclysm: ANSI D16.1-1983 lists the following events as catastrophic: a cloudburst, cyclone, earthquake, flood, hurricane lightning, tidal wave, torrential rain, tornado, or volcanic eruption. If any one of these events was on-going at the time of the accident and produced the unstabilized situation which led to the harm, then the event(s) is(are) not considered an accident. One key phrase is "on-going". Consider the following example: A motor vehicle in transport was overwhelmed by a landslide or an avalanche which was a direct result of a cataclysm, such as an earthquake, torrential rain, etc. This circumstance would not be considered an accident. However, this exclusion would not apply if a cataclysm were not in existence at the time of the event; nor would this exclusion apply if the motor vehicle was unintentionally driven against any fallen materials covering a trafficway as a result of any landslide or avalanche. As this example points out, the catastrophic event "exclusion" should occur very rarely.

Another key phrase is "produced the unstabilized situation". The situation in which a vehicle hydroplanes in a torrential rain and exits the roadway, striking another motor vehicle or object, would fit the criteria for a NASS accident, but the situation in which a cloudburst/torrential rain washes a roadway out from under a vehicle travelling on a roadway would be excluded from the NASS sample. (Remember, the cataclysm must be on-going at the time of the accident.)

For the purposes of NASS sampling, list any accidents which you believe should be excluded under the cataclysm exception. Confirm their exclusion by relating the events to your Zone Center before drawing the sample.

If an official ruling or subsequent investigation reveals, after a case has been selected, that one of the exclusions applies, drop the case and notify your Zone Center. When dropping the case, the procedures outlined in section 5.3 should be followed.

Must Involve A Motor Vehicle as Defined by ANSI--If the police report which has been sampled does not involve at least one motor vehicle as defined by ANSI D16.1-1983 (section 2.2.7, page 7), then it should be returned to the file and not included in the list which qualifies for inclusion.

Example. A bicycle which runs off the road and hits a tree is not a motor vehicle accident and should not be included.

Must Involve a Motor Vehicle in Transport--Use the ANSI D16.1-1983 (section 2.2.20, page 9) definition to determine if the motor vehicles in the accident are in transport. There must be at least one motor vehicle in the accident in transport for the accident to qualify. (NOTE: Any driverless vehicle of which any portion is located on the roadway is considered as a vehicle in transport.)

Example 1. A bicyclist running into a car which is parked off the roadway does not constitute a motor vehicle accident for this study and would be excluded. If a police report has been filled out on such an incident, return the police report to the file because it does not qualify.

Example 2. Vehicles parked on roads of reduced width, such as can result from snow accumulation and incomplete snow removal, are to be considered in transport if any portion is on the roadway.

Must Involve a Motor Vehicle in Transport on a Trafficway--Exclude accidents which occur in places other than a trafficway. Examples of places which are not on the trafficway include parking lots (except entrances and roadway within parking lots which are customarily used to get from the entrance to a parking aisle) and private driveways. Review carefully the diagrams depicting rural, urban, and divided trafficways in Figures 2-2, 2-3 and 2-4.

Example. An abandoned vehicle, a portion of which is on the roadway is struck by a bicyclist, causing injury to the bicyclist: a police report is filled out by an investigating officer. Is this a motor vehicle accident? Yes it is. This is because there is a police reported incident involving a motor vehicle in transport on a trafficway.

In summary, each of the preceding questions is designed to focus your attention to the specific subset of transportation-related accidents characterized best as "motor vehicle traffic accidents". In NASS, you investigate Motor Vehicle Traffic Accidents. To put this subset of accidents which qualify for study in perspective, see Figure 2-5. This figure outlines the major definitional sections of ANSI D16.1-1983 into meaningful groups and shows how the phenomenon of motor vehicle traffic accidents fits into the

overall transportation accident picture. Accompanying Figure 2-5 are the primary ANSI definitions of interest to NASS. Figure 2-5 refers to these definitions. These definitions are provided here as both a reference source to you, the NASS investigator, as well as enabling you to understand the larger accident picture to which ANSI refers. Be sure to mark down in your memory the location in this manual of Figures 2-1 and 2-5; together, they can serve as a handy reference source to remind you of what constitutes a "NASS accident".

One sticky problem remains. Ideally, when you pick up a police report, that PAR should only be reporting about one accident. Unfortunately, this is not always true. There are practical and understandable reasons why this occurs. This manual would be remiss if it failed to discuss the issue of stabilization.

Stabilization--At times, one police report will contain more than one accident. This will happen when events constituting an accident have stabilized (see ANSI D16.1-1983, section 2.4.4, pages 14-15) and units involved in the first sequence are subsequently involved in another accident sequence which is recorded on the same police report. If more than one accident is recorded on a police report, based on the ANSI definition of stabilized, then use the following protocol to determine which of the accidents is to be stratified and listed:

- (1) If injury is involved and you can determine the relative degree of injury between events and one event is of higher severity, then choose that event.
- (2) If injury is involved and you determine that the relative injury between events is approximately equal, then choose the first of the highest equal injury events.
- (3) If injury is involved but you cannot determine the relative injury between events, then choose the first event.
- (4) If no injuries, then choose the first event.

In those cases where an accident, by NASS criteria, other than the one reported on the PAR, is alluded to (e.g., in the narrative), there is a rebuttable presumption that this PAR is the only PAR that will be submitted to report both accidents. This presumption may be overridden if the investigator has knowledge of: (1) another PAR on file, (2) a statement in the narrative indicating that there is, or will be, another PAR, or (3) the dispatcher or other police personnel having knowledge of the accidents, indicates that there is, or will be, another report filed.

Example: The PAR narrative states: "Vehicle #1 had been struck by an unidentified vehicle that did not stop. As driver of Vehicle #1 opened door to get out, door caught rear wheels of trailer of Vehicle #2." There is no other mention of the unidentified vehicle which failed to stop anywhere else on the PAR. The PAR contains two separate accidents. The injury severity for both is "no injury"; therefore, the first is used for stratification purposes, independent of the police emphasis on the second.

FIGURE 2-2

Example of a Rural Trafficway

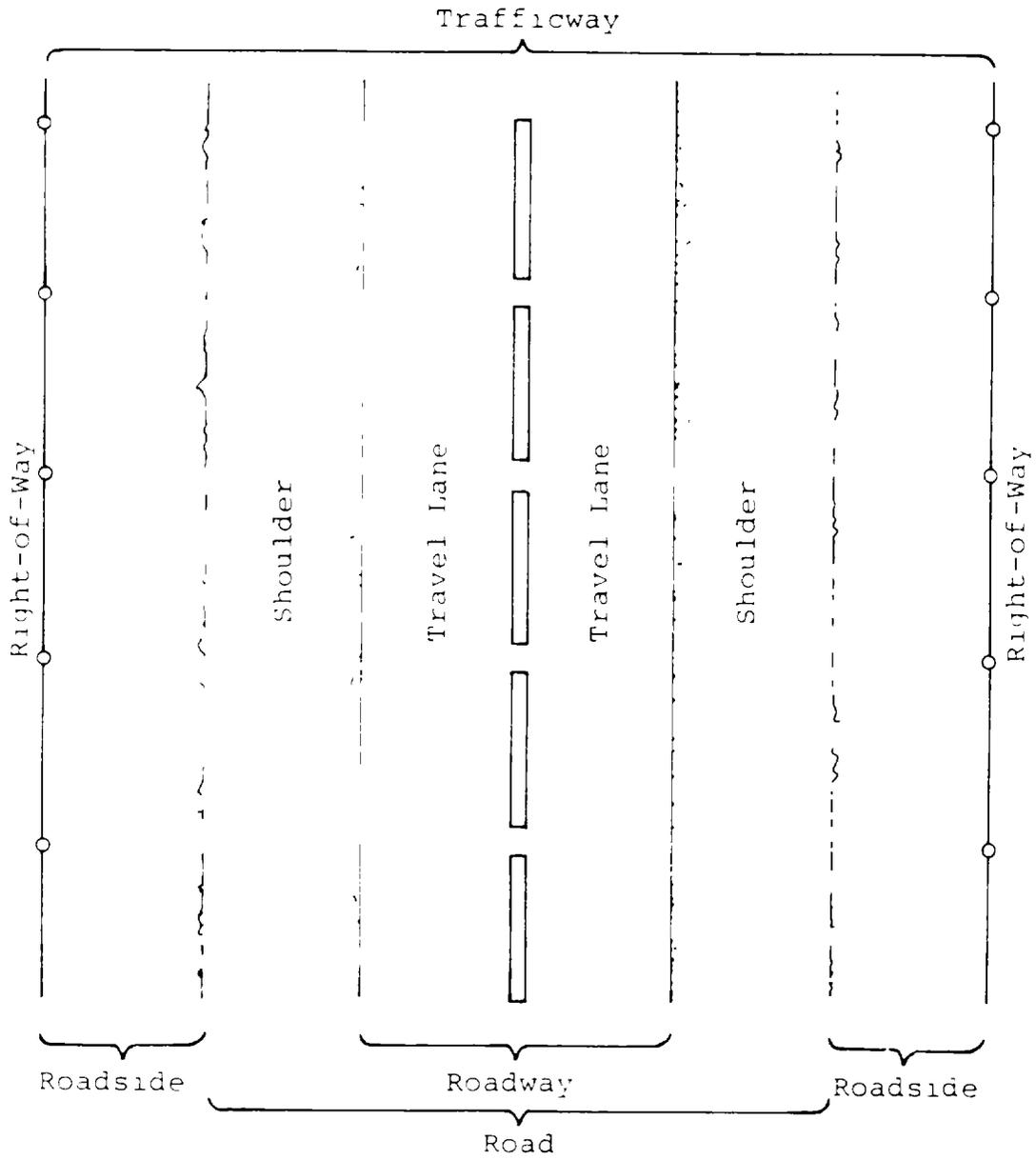
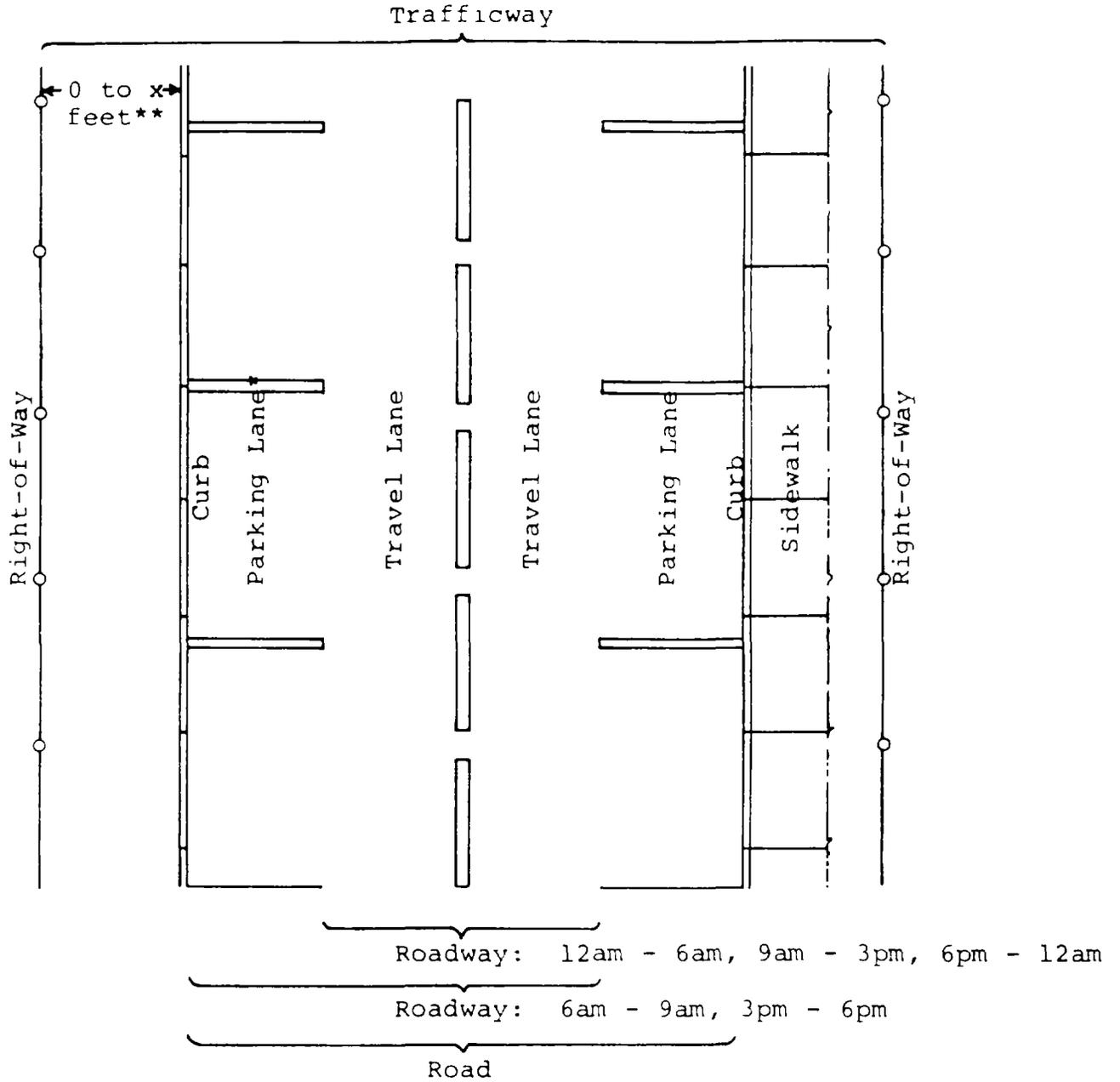


FIGURE 2-3

Example of an Urban Trafficway

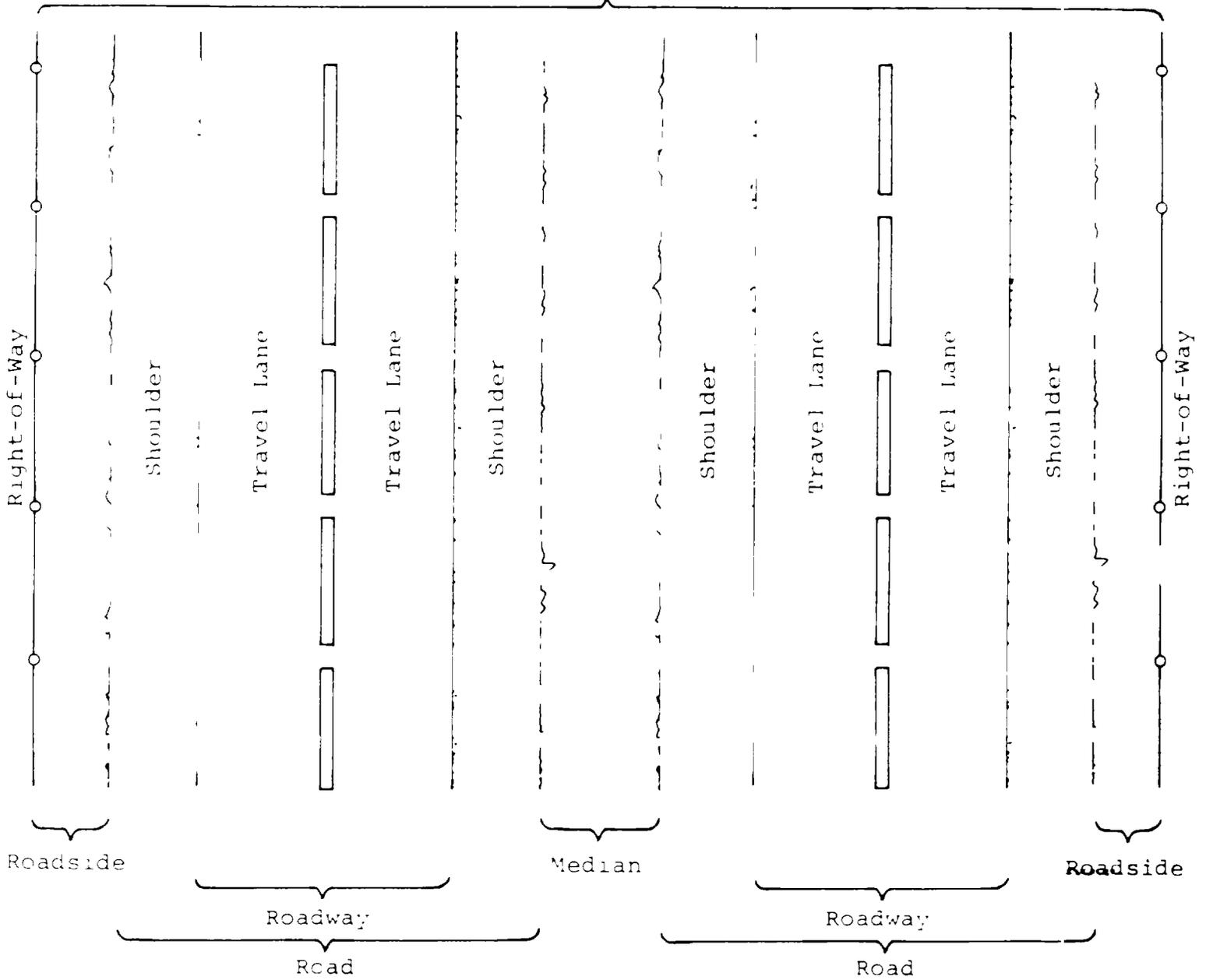


\* No parking allowed 6 to 9 a.m. or 3 to 6 p.m.

\*\* The actual right-of-way in many cases will not be known. But it is clear that the trafficway always goes from curb to curb or from shoulder to shoulder.

FIGURE 2-4

Example of a Divided Trafficway  
Trafficway



NOTE Median Width (D40) Includes Shoulders.

FIGURE 2-5

	<u>ANSI</u>
Person	2.1.1
Property	2.1.2
Transport device	2.1.3
Animal	- -
<u>Transport vehicle</u>	2.1.4
Aircraft	2.1.6
Watercraft	2.1.7
<u>Land vehicle</u>	2.1.8
Railway vehicle	2.2.4
<u>Road vehicle</u>	2.2.6
Motor vehicle	2.2.7
Other road vehicle	2.2.8
<u>In transport</u>	2.2.20
<u>Transport way</u>	2.1.5
Airway	2.1.9
Waterway	2.1.10
<u>Land way</u>	2.1.11
Railway	2.2.3
Private way	2.2.2
<u>Trafficway</u>	2.2.1
Road	2.2.19
Shoulder	2.2.18
Roadway	2.2.17
Roadside	- -
Median	- -
<u>Accidents</u>	2.4
Harmful event	2.4.1
Injury	2.3.1
Damage	2.3.6
Unstabilized situation	2.4.4
Deliberate intent	2.4.2
Legal intervention	2.4.3
Cataclysm	2.4.5
<u>Accident</u>	2.4.6
<u>Transport accident</u>	2.4.7
Aircraft accident	2.4.8
Watercraft accident	2.4.9
Railway accident	2.4.11
<u>Road vehicle accident</u>	2.4.15
Motor vehicle accident	2.4.10
Other road vehicle accident	2.4.12
or	
<u>Traffic Accident</u>	2.4.16
Nontraffic accident	2.4.17
	2.4.19

Motor Vehicle Traffic Accident

	Traffic Accident	Nontraffic Accident
Motor Vehicle	2.4.20	2.4.21
Other Road Vehicle	2.4.22	2.4.23

FIGURE 2-5 (Definitions)

TRANSPORT VEHICLE: (2.1.4) A transport vehicle consists of one or more devices or animals and their load. Such devices or animals must include at least one of the following:

- (1) a transport device, or a unit made up of connected transport devices, while idle or in use for moving persons or property from one place to another,
- (2) an animal or team of animals while in use for moving persons or property other than the animal or team itself from one place to another, or
- (3) a movable device such as construction, farm, or industrial machinery outside the confines of a building and its premises while in use for moving persons, the device itself, or other property from one place to another.

If such a device or animal has a load, the load is part of the transport vehicle. Loads include:

- Persons or property upon, or set in motion by, the device or animal;
- Persons boarding or alighting from the device or animal;
- Persons or property attached to and in position to move with the device or animal.

If the load upon a transport device includes another transport device, the entire unit including the load is considered to be a single transport vehicle.

Inclusions: (1) Transport Devices--

- airplane towing a sailplane,
- tugboat pushing a barge,
- boxcar coupled to a caboose,
- truck tractor towing a semitrailer and a trailer,
- snowmobile towing a skier;

(2) Animals--

- horse carrying a rider,
- dog team drawing a sled,
- team of horses drawing a sled,
- burro carrying a load of firewood,
- mule towing a boat on a canal;

(3) Other Movable Devices

- road grader while traveling under its own power from a maintenance depot to a working place,
- lawn mower while being ridden down a street under its own power,
- farm tractor while pulling a wagon loaded with corn from a field to a storage place,
- army tank while moving under its own power from a firing range to a motor pool.

Exclusions. (1) Transport Devices--

- pickup truck while being used to power a saw,
- dump truck while spreading its load,
- tow truck while using its winch,
- jeep while pulling a device picking up golf balls,
- transit mix concrete truck while discharging its load, and
- a dump truck while plowing snow.

LAND VEHICLE: (2.1.8) A land vehicle is a transport vehicle which is neither an aircraft nor a watercraft.

ROAD VEHICLE: (2.2.6) A road vehicle is any land vehicle other than a railway vehicle.

MOTOR VEHICLE: (2.2.7) A motor vehicle is any motorized (mechanically or electrically powered) road vehicle not operated on rails.

FIGURE 2-5 (Definitions - continued)

**OTHER ROAD VEHICLE:** (2.2.8) An other road vehicle is any road vehicle other than a motor vehicle. Inclusions: animal-drawn vehicle (any type), animal harnessed to a conveyance, animal carrying a person, street car (not on rails), pedalcycle.

**IN TRANSPORT:** (2.2.20) The term "in transport" denotes the state or condition of a transport vehicle which is in motion or within the portion of a transport way ordinarily used for travel by similar transport vehicles. When applied to motor vehicles, "in transport" means in motion or on a roadway. Inclusions: motor vehicle in traffic on a highway, driverless motor vehicle in motion, motionless motor vehicle abandoned on a roadway, disabled motor vehicle on a roadway.

**TRANSPORT WAY:** (2.1.5) A transport way is any way or place reserved or commonly used for the operation of transport vehicles.

**LAND WAY:** (2.1.11) A land way is the space within property lines or other boundary lines of any transport way that is neither an airway nor a waterway.

**TRAFFICWAY:** (2.2.1) A trafficway is any land way open to the public as a matter of right or custom for moving persons or property from one place to another.

**Inclusions:**

Within areas with guarded entrances, such as military posts or private residential developments, land ways are trafficways if the guards customarily admit public traffic.

**Exclusions:**

A land way under construction is not a trafficway if traffic is prohibited from entering by signing or barriers which are in conformance with applicable standards. However, if any part of the land way is open to travel while the remainder is closed, that part which is open for traffic is a trafficway. Likewise, any temporary bypass of a construction site is a trafficway.

A land way temporarily closed to travel and marked by signing or barriers which are in conformance with applicable standards is not a trafficway even though used by authorized vehicles, such as maintenance vehicles, or when intentionally or inadvertently used by unauthorized vehicles. A land way open only to local traffic is not considered closed.

**ROAD:** (2.2.19) Road is that part of a trafficway which includes both the roadway and any shoulder alongside the roadway.

**SHOULDER:** (2.2.18) A shoulder is 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.

**ROADWAY:** (2.2.17) A roadway is that part of a trafficway designed, improved, and ordinarily used for motor vehicle travel or, where various classes of motor vehicles travel or 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.

**HARMFUL EVENT:** (2.4.1) A harmful event is an occurrence of injury or damage.

**Inclusions:**

Injury or damage resulting when a driver dies or loses consciousness because of a disease condition such as a stroke, heart attack, diabetic coma, or epileptic seizure. In such case the immediate effect of the disease, such as the driver's death or loss of consciousness, is not itself considered to be a harmful event.

**INJURY:** (2.3.1) An injury is bodily harm to a person. Exclusions: effects of diseases, such as stroke, heart attack, diabetic coma, epileptic seizure.

FIGURE 2-5 (Definitions - continued)

**DAMAGE:** (2.3.6) Damage is harm to property that reduces the monetary value of that property. Inclusions: harm to wild animals, or birds, which have monetary value. Exclusions: harm to wild animals, or birds, which have no monetary value. Harm to a snowbank unless, for example, additional snow-removal costs are incurred because of the harm. Mechanical failure during normal operation such as tire blowout, broken fan belt, or broken axle.

**UNSTABILIZED SITUATION:** (2.4.4) An unstabilized situation is a set of events not under human control. It originates when control is lost and terminates when control is regained or, in the absence of persons who are able to regain control, when all persons and property are at rest.

Exclusions: Sets of events which are the result of deliberate intent or legal intervention.

Examples:

1. If intentional acts cause injury or damage beyond that reasonably to be expected from the acts, the unexpected injury or damage is not the result of deliberate intent. There is, therefore, an unstabilized situation unless the contrary can be clearly established.
2. In a motor vehicle crash live electric wires fall on a motor vehicle, but there is no injury from the electric current while the occupants remain in the motor vehicle. The unstabilized situation ends with the occupants in a temporary position of safety. Any subsequent injury resulting from attempts by the occupants to leave the motor vehicle, or attempts by others to rescue the occupants, is a part of a new unstabilized situation.
3. In a motor vehicle crash the occupants of the motor vehicle are carried or thrown into water, but there is no injury from the submersion and the occupants reach a temporary position of safety. At this point the unstabilized situation has ended. Any subsequent injury from attempts by the occupants to reach shore, or from attempts by others to rescue the occupants is part of a new unstabilized situation.
4. In a motor vehicle crash objects are loosened but remain in place until all persons are removed from danger from objects that might fall or roll. No property damage would result if the objects fell or rolled. This ends the unstabilized situation. Any subsequent injury attributable to the fall or roll of the loosened objects is not part of the original unstabilized situation.
5. In a motor vehicle crash the motor vehicle catches on fire and is burning, but all occupants have been rescued and the fire is under control. No additional property damage is expected. This is the end of the unstabilized situation. If the heat of the fire ignites nearby combustible materials, any subsequent injury or damage from the induced ignition is not part of the original unstabilized situation.
6. In a motor vehicle crash an involved motor vehicle carrying explosive materials is stopped and occupants and bystanders are removed from the scene. At this point the unstabilized situation is ended. If the explosive materials detonate during later attempts to remove or salvage them, any injury or damage resulting from the explosion is not part of the original unstabilized situation.

**DELIBERATE INTENT:** (2.4.2) Deliberate intent is the classification given to the cause of an event which occurs when a person acts deliberately to cause the event or deliberately refrains from prudent acts which would prevent the occurrence of the event. Inclusions: suicide, self-inflicted injury, homicide, injury or damage purposely inflicted. Exclusions: injury or damage beyond that which was intended.

FIGURE 2-5 (Definitions - continued)

Examples:

1. When a driver intentionally kills or injures himself with a motor vehicle, by driving it against a fixed object or into a body of water, for example, the driver's death or injury is a result of deliberate intent.
2. When a driver intentionally kills or injures another person with a motor vehicle, by running into a pedestrian, for example, the death or injury is a result of deliberate intent.
3. When a driver intentionally causes damage with a motor vehicle, by ramming another vehicle, for example, the damage is a result of deliberate intent.

LEGAL INTERVENTION: (2.4.3) Legal intervention is a category of deliberate intent in which the person who acts or refrains from acting is a law-enforcing agent or other official.

Examples:

1. If a lawbreaker crashes either intentionally or unintentionally into a road block set up by police to stop him, the crash is considered a result of legal intervention. If a driver other than the lawbreaker crashes into the road block, the crash is not considered to be a result of legal intervention.
2. If a police car is intentionally driven into another vehicle, the crash is considered to result from legal intervention. If a lawbreaker being pursued by the police loses control of his vehicle and crashes, the crash is not considered to result from legal intervention unless the police intended that the lawbreaker crash.

CATAclysm: (2.4.5) A cataclysm is a cloudburst, cyclone, earthquake, flood, hurricane, lightning, tidal wave, torrential rain, tornado, or volcanic eruption.

ACCIDENT: (2.4.6) An accident is an unstabilized situation which includes at least one harmful event not directly resulting from a cataclysm. Inclusions: motor vehicle driven into water after a bridge was washed out during a hurricane or flood (cataclysm), motor vehicle driven into fall materials covering a roadway after a landslide or avalanche (cataclysm). Exclusions: motor vehicle in transport washed away with a bridge during a hurricane or flood (cataclysm), motor vehicle in transport buried by a landslide or avalanche (cataclysm).

TRANSPORT ACCIDENT: (2.4.7) A transport accident is an accident (1) that involves a transport vehicle in transport and (2) in which the first harmful event is not produced by the discharge of a firearm or explosive device.

ROAD VEHICLE ACCIDENT: (2.4.15) A road vehicle accident is a transport accident that is either a motor vehicle accident or an other road vehicle accident.

MOTOR VEHICLE ACCIDENT: (2.4.10) A motor vehicle accident is a transport accident that (1) involves a motor vehicle in transport, (2) is not an aircraft accident or watercraft accident, and (3) does not include any harmful event involving a railway train in transport prior to involvement of a motor vehicle in transport.

OTHER ROAD VEHICLE ACCIDENT: (2.4.12) An other road vehicle accident is a transport accident that (1) involves an other road vehicle in transport and (2) is not an aircraft accident, watercraft accident, motor vehicle accident, or railway accident.

FIGURE 2-5 (Definitions - continued)

TRAFFIC ACCIDENT: (2.4.16) A traffic accident is a road vehicle accident in which (1) the unstabilized situation originates on a trafficway or (2) a harmful event occurs on a trafficway.

NONTRAFFIC ACCIDENT: (2.4.17) A nontraffic accident is a road vehicle accident which is not a traffic accident.

MOTOR VEHICLE TRAFFIC ACCIDENT: (2.4.20) A motor vehicle traffic accident is a motor vehicle accident which is a traffic accident.

However, caution must be exercised when separating accidents on a PAR. At times, it will appear that two distinct events of an accident sequence should be considered separately. According to ANSI (D16.1, section 2.4.4, pages 14-15), an unstabilization terminates "...when all persons and property are at rest..." "Property" can refer to the damaged vehicles, separated components of the vehicles, or cargo. Often the interviews will be the only source for determining whether or not stabilization occurred before the second event.

Example: Two vehicles collide in the eastbound lanes of a divided trafficway. Cargo from one vehicle spills into the westbound lanes and another vehicle is damaged. If it can be determined that stabilization never occurred (i.e., the cargo struck the vehicle, or the vehicle struck the moving cargo), the two harmful events would be considered one accident, and all three vehicles considered applicable to the NASS case. If it should be discovered during the investigation that the cargo came to rest for a period of time prior to being struck by the third vehicle, then the events would be considered as two separate accidents.

### 2.1.1 Common Questions and Answers About Incidents Which Qualify for Study

Please find below a list of some common questions which arise when determining if an accident report qualifies for the NASS.

Question: Now that the snow is gone, the potholes remain. If a motor vehicle in transport hits a pothole, causing damage to a tire and wheel or to the exhaust system, is this an eligible case?

Answer: Yes, it is an eligible case. To be eligible, recall that, first, a police report must be filed and, second, that the criteria set forth in ANSI D16.1-1983 (section 2.3, pages 10-12), have been met. In essence, these criteria mandate that the following occurs: (a) a harmful event (damage or injury), (b) involving a motor vehicle, (c) in transport, and (d) that the unstabilized situation originated (i.e., control was lost) on a trafficway or the harmful event occurred on a trafficway. If the parties involved suffered damage to the wheels, suspension, exhaust system, or undercarriage of their vehicles, then you have a valid case; however, ANSI D16.1-1983 specifically excludes damage from mechanical failure during normal operation (section 2.3.6, page 11). The intent is to exclude a "blow-out" accident where the driver brings the vehicle safely to the side of the road without incurring other damage. This exclusion was not meant to exclude an accident where a "blow-out" led to other vehicle damage (e.g., ran into a tree) while the driver was attempting to regain control.

Question: A man driving a motor home slams on his brakes to avoid another vehicle in his lane; he succeeds. However, his young daughter is thrown against the instrument panel and suffers possible injuries. Is this a motor vehicle accident?

Answer: It is a motor vehicle traffic accident involving one vehicle. The other vehicle is not involved.

Question: A car loses control on a trafficway, leaves the trafficway, and does damage to a private lawn. There is no damage to the car and the driver is not hurt. Is this a traffic accident?

Answer: Yes. It would also be a traffic accident if the motor vehicle left the scene before the police arrived (i.e., a hit-and-run vehicle). In these cases, the determining factor is whether or not the irate citizen called the police (i.e., considered their law damaged), and if the police filed an accident report that was eventually reported to the state.

Question: A pulp wood truck is travelling down a public road with an insecure load; the load shifts and all of the wood falls off the truck. The wood bounces and rolls, and then strikes a fence on the side of the road, doing approximately \$500 worth of damage to the fence. There is no damage to anything except the fence and no other vehicles are involved; however, there is a police report made out on the accident, which is eventually included in the state file. Does this accident qualify for NASS?

Answer: Yes this situation does qualify for NASS. The harmful event is the damage to the fence.

Question: A power line falls onto a motor vehicle in transport, causing personal damage -- is this an applicable case? A tree falls onto a motor vehicle as it was driving down the road -- is this an applicable case?

Answer: Both of the above situations, plus many similar ones (e.g., rocks fell onto the vehicle), fall into the category of near cataclysmic events. ANSI D16.1-1983 excludes, from the definition of an accident (section 2.4.6, page 15), harmful events resulting from a cataclysm. To further define this exclusion, the cataclysm must have been on-going at the time the accident happened. Cataclysms are defined in ANSI D16.1-1983 (section 2.4.5, page 15). Therefore, to exclude the situation of an object (power line, rock, etc.) falling on a motor vehicle in transport, the cataclysm which caused the object to fall must have been on-going at the time of the accident. In terms of the specific questions, they are NASS accidents.

Question: We have a rare case where a bystander dropped his gun; it struck the ground and discharged. A bullet struck the windshield of a vehicle in transport. Should this accident be listed as a motor vehicle accident?

Answer: No, this is a firearms accident. However, it is entirely possible that a firearms accident could trigger a traffic accident.

Question. A tow truck is towing a pickup. The pickup truck loses an axle, which subsequently strikes a vehicle parked in a parking lot. Is this a NASS accident.

Answer: Yes it is. A motor vehicle in transport loses part of its cargo (axle of pickup), which strikes (harmful event) a vehicle not in transport. This would be an example of an other noncollision (#12, First Harmful Event, equals "06").

Question: A motor vehicle, parked in a driveway, slipped out of gear and rolled down the drive, across the street, and struck a tree on the other side. Is this an applicable accident?

Answer: It depends on the location of the vehicle when control was lost and the location when the harm occurred. To be an applicable accident, the control must have been lost on a trafficway or the harmful event must have occurred on a trafficway. If the vehicle was up in its driveway (i.e., outside of the trafficway--it must be clearly beyond the curb or any sidewalk boarding the curb), then control was lost (i.e., control is assumed lost when the gears slipped) off a trafficway. If the tree that was struck was off the trafficway (same as above), then it is not an applicable accident and whether the vehicle is on or off the roadway at impact is irrelevant. Given that you have to make a decision at the police station (must have a police report to start with), scrutinize the police report for any information which would help you in determining the locations of the key elements. If the police report is uninformative concerning these key elements, include the accident for sampling purposes. If selected, a review of the scene should determine whether or not the case remains.

## 2.2 NASS PAR Sampling Strata

Before an accident, represented by a PAR, can be selected for investigation in the NASS, it must first be listed with all other qualifying PARs (the process of listing PARs is described in Section 3.2). From the listed PARs a sample of PARs will be chosen.

To increase the efficiency of the sample, qualifying PARs are grouped into sampling strata based on accident outcome, and a separate sample is selected from each. The information used to stratify the PARs is found in the report itself.

Most severe police reported injury--The police indication of the injury severity, if any, of each person involved in the accident. This severity should be translated to the KABCO codes, if necessary (see explanation of Variable 079 of this manual). For purposes of stratification for sampling, NASS is only concerned with the most severely injured victim.

Disposition of the injured--Indication on the police report that an accident victim went directly from the accident scene to a treatment facility (hospital, clinic, doctor's office, etc.). The means of transportation is not a consideration nor is the length of stay at the facility. One victim being transported qualifies the accident as "transported". If the PAR does not indicate the disposition of the injured parties, consider the accident as a nontransported accident.

Tow status of the vehicles--Indication on the police report that any transport vehicle involved in the accident was towed from the accident scene. One vehicle being towed qualifies the accident as "towaway". If no vehicles were towed from the accident scene or if the disposition of the vehicles was not noted by the police officer, then the accident is classified as "nontowaway".

The five PAR sampling strata used by NASS are:

- Stratum A--Accidents in which at least one victim was reported to have a police reported injury severity of K (fatal injury);
- Stratum B--Accidents in which no victim was reported as having a fatal injury (K), but at least one victim had a police reported injury severity of A (incapacitating injury);
- Stratum C--Accidents in which no victim was reported as having a fatal (K) or an incapacitating (A) injury, but at least one victim was reported as being transported directly from the scene to a treatment facility;
- Stratum D--Accidents in which no victim was reported as having a fatal (K) or an incapacitating (A) injury or was transported from the scene to a treatment facility, but at least one vehicle was towed from the scene;
- Stratum E--Accidents in which no victim was reported as having a fatal (K) or an incapacitating (A) injury or was transported from the scene to a treatment facility, and no vehicles were towed from the scene.

Notice that the five PAR sampling strata are hierarchical. PARs included in Stratum A are not considered for Strata B, C, D, or E. Therefore, in reviewing PARs for stratification, first identify the most severe injury recorded on the PAR. If the most severely injured victim was reported as having either a K or an A injury, then the PAR belongs in Stratum A or Stratum B, respectively. You do not need to review the transport status of the victims or the tow status of the vehicles. If there were no K or A injuries, review the transport status of the victims. If at least one victim was transported from the scene, classify the PAR into Stratum C. You do not have to review the tow status of the vehicles involved. If, however, there were no victims with a K or an A injury and there were no transported victims, look for tow status of the involved vehicles and classify appropriately into either Stratum D or Stratum E.

### 2.2.1 Common Questions and Answers Regarding Stratification

Please find below some typical examples of questions involving the classification of accidents

Question A vehicle ran off the road, struck a small tree, and continued on, eventually striking a pedestrian. Would this be coded as an other motor vehicle accident, since ANSI requires that in a pedestrian accident (section 2.6.4, page 25), the first harmful event must involve a collision with a pedestrian?

Answer. In NASS we are concerned with what is defined in ANSI as a motor vehicle traffic accident (MVTA) (section 2.4.20, page 16). The components of a MVTA are: (1) a police report, (b) a harmful event, (c) from an unstabilized situation, (d) involving at least one motor vehicle, (e) in transport [in motion or on a roadway], such that (f) the harmful event occurred on a trafficway or the unstabilized situation originated on a trafficway. Beyond this, we are not concerned with subdividing accidents according to ANSI. Nor do we stratify the PAR for sampling by the persons or the vehicles involved. Only the most serious police reported injury, the transported status of victims, and the tow status of the vehicles involved need to be considered.

Question: When a hit-and-run accident occurs and no information is available about the striking vehicle, how do you classify the accident on the stratification record?

Answer: Stratify the PAR according to the information available on the PAR for the known victims and vehicle.

Question: How is a street cleaner classified?

Answer: Stratify the PAR without regard to vehicle type according to the most serious police reported injury, the transported status of victims, and the tow status of the vehicles involved.

Question: How do you stratify a vehicle not in transport? The vehicle is unoccupied.

Answer: As with a vehicle in transport, the type of a vehicle not in transport is not used to determine the PAR sampling stratum (but not for CRASH program purposes, when impacted). If the vehicle had been occupied, then its occupants would be considered as nonmotorists and the injury severity and transported status of these victims would be considered in determining the PAR sampling stratum.

Question: It is, at times, difficult to determine whether or not the vehicle was on the roadway from simply reviewing a police accident report. Usually, the PAR merely states that the vehicle was parked. Unless one is familiar with the roadway, how do you determine if the vehicle was in transport or not?

Answer: Being familiar with the area can help a great deal in resolving these types of questions. In large urban areas, or even rural areas, this, of course, is not always going to be possible. First, look at the scene diagram provided by the police (if available). If parking lanes are indicated (either explicit or implicit) then you know the vehicle was not in transport. If the police cite the driver for illegal parking, this is a strong indication that the vehicle was in transport (although caution should be exercised since the illegal parking could have occurred due to time violation, parking by a fire hydrant, etc.). If the PAR does not contain sufficient helpful information, and you are not familiar with the area, then you must presume for stratification purposes (only), that the vehicle was not in transport.

Question: A vehicle had several persons riding on top of it. The police spotted the vehicle and started to give chase. The persons jumped off. In the process, one was injured. Is this person an occupant or a nonmotorist? What about the vehicle and its occupants?

Answer: The persons riding on the roof do not fit the appended-to-the-vehicle-for-motion exclusion (e.g., person on a bicycle or skateboard who is holding onto the back of a vehicle for added motion) cited under variables 008, Occupant Number, and 014, Occupants Seat Position; therefore, these persons are occupants of the in transport vehicle. Regarding the injured person, if that injury (harmful event) occurred as a result of exiting from the vehicle, then stabilization did not occur for that person. Therefore, in addition to those in the vehicle,

consider the person who was injured while jumping from the vehicle as an occupant also.

Question: A pickup truck was towing (pulling) a friend's passenger car to a service station. The car broke loose and impacted a tree. No damage occurred to the pickup. How would you stratify this accident?

Answer: If a victim in the accident had a K or A injury or was transported from the scene, the involvement of the vehicles does not matter. If this was not the case, in general, any motor vehicle on a roadway is in transport. An exception occurs where the vehicle is attached to another vehicle by means of **fixed linkage**. The critical issue is whether or not the attached vehicle has any control over its movement. In this instance, the answer depends on how the car and truck were attached. If the car was attached by a tow bar or any other form of fixed linkage, then the car is considered a trailing unit and the tow status of that vehicle is not considered in stratifying for sampling. On the other hand, if the linkage was nonfixed (e.g., rope, chain, etc.), then the car was in transport, and its tow status is considered. A fixed linkage is defined as one which has the property of keeping the towed unit separated from the power unit by a distance which is essentially constant. Included within this definition are cradle linkages where the towed unit has two or more wheels off the ground.

### 3.0 OVERVIEW OF SAMPLING ACTIVITIES

The procedure for selecting the NASS Accident Sample consists of three tasks:

- Task 1: Contact sampled police jurisdictions on specified days to review the accident reports (PARs).
- Task 2: At each jurisdiction, list all PARs which qualify for NASS and classify each into one of the five NASS PAR Sampling Strata, using the NASS Stratification Record.
- Task 3a: Using the Microcomputer Data Entry System, enter the listed PARs into the NASS Automated Case Selection System. The automated system will specify the sample of accidents to be investigated.

or

- Task 3b: If the NASS Automated Case Selection System is not accessible, complete the applicable forms to manually select the sample of accidents to be investigated. Note: even when the manual procedure is used, all listed PARs must be entered into the Automated Case Selection System, when it again becomes accessible.

Most teams will perform these tasks on Monday and Thursday of each week. A few teams will perform these tasks on Tuesday and Friday of each week. Still other teams will sample more than twice a week. Section 3.2 discusses the Monday-Thursday example. However, the procedure to be followed is the same, regardless of the schedule.

#### 3.1 Listing and Sampling Forms

The Contact Day Assignment Sheet (CDAS), the Stratification Record (SR), the Accident Sampling Worksheet (SW), the Sample Selection within Stratum/Jurisdiction (SSSJ) form, and the Source Documents Only Subsampling Worksheet (SDOS) to be used in PSU 02 (Muskegon, MI) are attached as examples.

##### 3.1.1 Contact Day Assignment Sheet (CDAS)

The Contact Day Assignment Sheet (Table 3-1) provided to your PSU is unique to your PSU. It covers team activities for the period specified on the top of the form. Updated versions of the CDAS will be sent to you twice a year or when your workload changes due to Source Document Only (SDO) coding. The CDAS must be initialed by a CTM and by Sample Design staff from the Mathematical Analysis Division. In addition to specifying the dates on which the contacts are to be made, the CDAS also indicates special studies assignments on a quarterly basis and, for each PAR sampling stratum, the CSS Sampling Ratios and the initial stratum counters (random starts). When a PSU is assigned Source Document Only (SDO) investigations, the CDAS will show the beginning and ending date for the SDO time period and the SDO subsampling ratio and counter (random start) for each stratum.

### 3.1.2 Stratification Record (SR)

All teams will use the same Stratification Record form (Table 3-2). Make photocopies of the form provided as needed. Instructions for completing the form are given in Section 3.2.2.

### 3.1.3 Accident Sampling (SW) Worksheet

The Accident Sampling Worksheet (Table 3-3) provided to each PSU is unique to that PSU; photocopy it as needed. Instructions for completing the worksheets are given in Section 3.2.4. Each worksheet lists the jurisdictions the team is to contact and specifies the days of the week on which the contacts are to be made.

### 3.1.4 Sample Selection Within Stratum/Jurisdiction (SSSJ) Form

All teams will use the same Sample Selection within Stratum/Jurisdiction form (Table 3-4). Make photocopies of it as needed. Instructions for completing the form are given in Section 3.2.4.

### 3.1.5 Source Document Only Subsampling (SDOS) Worksheet

All teams will use the same Source Document Only Subsampling Worksheet (Table 3-5). Make photocopies of it as needed. Instructions for completing the form are given in Section 3.2.5.

## 3.2 Listing and Sampling Instructions

### 3.2.1 Contacting Police Jurisdictions

Contact each of the jurisdictions indicated on the Sampling Worksheet on the day(s) of the week specified. For most teams, the jurisdictions are given in two different visitation patterns. For example, some jurisdictions are to be contacted on both Monday and Thursday while others are to be contacted on either Monday or Thursday (i.e., only one visit each week). If a team wishes to change the contact day for any jurisdiction, it must notify both its respective Zone Center and CTM for approval to implement the change.

### 3.2.2 Completing the Stratification Record

At each police jurisdiction, follow the guidelines in Section 2.0 of this manual to identify the PARs which qualify as NASS accidents. Complete the Stratification Record as follows.

- a. At the top of the form enter the PSU number and name, the contact date, the police jurisdiction name, and the name or initials of the team member making the visit.
- b. For each qualifying PAR:
  1. Enter the accident date, accident time and PAR Number in the appropriate columns.

Table 3-1

CONTACT DAY ASSIGNMENT SHEET			
F S U		Period	
1 - Muskegon MI		01-Jul-85	to 31-Dec-85
CONTACT DATES			
01-Jul-85	03-Sep-85	04-Nov-85	
05-Jul-85	05-Sep-85	07-Nov-85	
08-Jul-85	09-Sep-85	11-Nov-85	
11-Jul-85	12-Sep-85	14-Nov-85	
15-Jul-85	16-Sep-85	18-Nov-85	
18-Jul-85	19-Sep-85	21-Nov-85	
22-Jul-85	23-Sep-85	25-Nov-85	
25-Jul-85	26-Sep-85	29-Nov-85	
29-Jul-85	30-Sep-85	02-Dec-85	
01-Aug-85	03-Oct-85	05-Dec-85	
05-Aug-85	07-Oct-85	09-Dec-85	
08-Aug-85	10-Oct-85	12-Dec-85	
12-Aug-85	14-Oct-85	16-Dec-85	
15-Aug-85	17-Oct-85	19-Dec-85	
19-Aug-85	21-Oct-85	23-Dec-85	
22-Aug-85	24-Oct-85	26-Dec-85	
26-Aug-85	28-Oct-85	30-Dec-85	
29-Aug-85	31-Oct-85	02-Jan-86	
		16-Jan-86	

Special Studies Assignment: 2 Cases per Quarter

DSE Sampling Ratios (every Nth Weighted PAR)

Stratum	A	B	C	D	E
Ratio (N)	2.00	3.75	9.00	26.00	79.00
Random Start	1.00	0.24	8.00	17.00	37.00

Modified S. D. O. : 01-Jul-85 to 30-Sep-85

Subsampling Ratios (every Nth selected PARs)

Stratum	A	B	C	D	E
Ratio (N)	0.0	0.0	1.2	1.0	1.0
Random Start	0.0	0.0	0.6	0.0	0.0

Approved--MAD:

Approved--CTM:

Date: 06-Jun-85

STATE OF TEXAS

REPORT

FILE

CONTACT DATE

JURISDICTION

LISTED BY

STRATUM

FILE NUMBER

DATE TIME NUMBER NO. VEH. NO. PERSONS

Total Accidents per Stratum: A B C D E

Total NASS Accidents listed on this Page:

Table 3-3

NASS  
Accident Sampling Worksheet

02 - Muskegon County, Michigan

Contact Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
(mo) (day) (yr)

Stratum: \_\_\_\_\_

Sampling Ratio: \_\_\_\_\_

Contact Day(s)	Jurisdiction	W <sub>1</sub>	N <sub>1</sub>	N <sub>1</sub> W <sub>1</sub>	Cumulative Counter	First Reduction	Second Reduction	Third Reduction	Fourth Reduction	Fifth Reduction
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
PREVIOUS COUNTER										
M & Th	Muskegon (City)	1								
M & Th	Muskegon County Sheriff	1								
M & Th	Norton Shores	1								
M & Th	Muskegon Twp.	2								
M	Michigan State Police-Grand Haven	4								
M	Montague	3								
Carryover Counter										

Stratum \_\_\_\_\_

Sampling Ratio \_\_\_\_\_

PREVIOUS COUNTER										
Th	Muskegon (City)	1								
M & Th	Muskegon County Sheriff	1								
M & Th	Norton Shores	1								
M & Th	Muskegon Twp.	2								
M	Michigan State Police-Grand Haven	4								
M	Montague	3								
Carryover Counter										

Stratum \_\_\_\_\_

Sampling Ratio \_\_\_\_\_

PREVIOUS COUNTER										
M & Th	Muskegon (City)	1								
M & Th	Muskegon County Sheriff	1								
M & Th	Norton Shores	1								
M & Th	Muskegon Twp.	2								
M	Michigan State Police-Grand Haven	4								
M	Montague	3								
ver Counter										



Sample Selection within Stratum/Jurisdiction Form

PSU: \_\_\_\_\_ Contact Date: \_\_\_\_\_

S/J: \_\_\_\_\_

Number of Accident(s) to be selected in this S/J: \_\_\_\_\_

Sampling Ratio for this stratum: \_\_\_\_\_

	W 1 (1)	Cumulative Counter (2)	Difference (3)
A. Previous S/J cumulative counter	////////		////////
B. Listed FARS in this S/J	////////	//////////	////////
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
*10.			

\*Use Continuation Sheet if necessary.

NASS Form SSSJ, Revised 7/85



Table 3-5

Source Documents Only Subsampling Worksheet

Use to designate Selected PARs for Source Document Only Coding only if S.D.O. Subsampling Ratio for Stratum is not equal to 0 or 1.

PSU: \_\_\_\_\_ Contact Date: \_\_\_\_\_

PAR Sampling Stratum: \_\_\_\_\_ S.D.O. Subsampling Ratio : \_\_\_\_\_

	W 1 (1)	Cumulative Counter (2)	Difference (3)
A. Status (Carryover) of S.D.O. Cumulative Counter	//// ////		////////// //////////
B. Selected PARs this Stratum	////	//////////	//////////
1.	1		
2.	1		
3.	1		
4.	1		
5.	1		
6.	1		
7.	1		
8.	1		
9.	1		
10.	1		
C. Carryover of S.D.O. Cumulative Counter	//// ////		////////// //////////

2. Determine the PAR sampling stratum to which it belongs:
  - a) Determine if at least one person involved in the accident was killed
    - 1) If so, it belongs in Stratum A.
    - 2) If not,
  - b) Determine if at least one person involved in the accident had an A injury,
    - 1) If so, it belongs in Stratum B
    - 2) If not,
  - c) Determine if at least one person involved in the accident was transported directly from the accident scene to a treatment facility,
    - 1) If so, it belongs in Stratum C.
    - 2) If not,
  - d) Determine if at least one vehicle in the accident was towed,
    - 1) If so, it belongs in Stratum D.
    - 2) If not, it belongs in Stratum E (Nontowaway).
- 3 Make an entry in the appropriate stratum column. If the PAR is the first listed in that stratum, enter "1" in the appropriate stratum column. If it is the second listing, enter a "2", etc.

- c After listing all applicable PARS at a jurisdiction and entering 1, 2, 3 etc., in the appropriate column, draw a line across the sheet just below the last listed PAR. Write "Total" in the column titled "Date" and transcribe the highest number in each column into this row. Add these numbers. The sum should equal the total number of PARS listed. If it does not, recheck your work.

When making a visit to a police jurisdiction on the current contact day, all PARS that have not been listed previously are to be listed.

List all non-NASS PARS (e.g., private property, not state reported) on separate stratification record (SR) form(s). Use different forms for each jurisdiction sampled. Make sure the non-NASS accidents are not listed on the same stratification records as the NASS accidents.

Write the reason for listing the PAR as a non-NASS accident (e.g., private property, bicycle accident, deliberate intent, alley accident, accident not reported to state, accident outside the PSU area) under the "stratum" column of the stratification record.

During site visits the Zone Centers will bring the NASS and non-NASS stratification records for one jurisdiction (a one month period) and check to make sure all the PARS have been listed.

### 3.2.3 The NASS Automated Case Selection System

The Automated Case Selection System (ACSS), part of the Microcomputer Data Entry System, is the primary method for NASS sampling. It must be executed for each contact date listed on the Contact Day Assignment Sheet. Most teams will execute the Automated Case Selection System on their contact days, immediately after contacts at all jurisdictions scheduled for that day have been made. The Microcomputer Date Entry User's Manual includes instructions for using the NASS ACSS. Any problems or difficulties that are not identified in the manual should be referred to your Zone Center.

The ACSS reports the selected PARs on the Automated Case Selection System Report (ACSSR). See Table 3-6 for an example of the ACSSR. If the ACSS is not accessible for a 24 hour period, cases may be selected for investigation manually by completing the procedures in Section 3.2.4. The manual sample selection procedure is a backup procedure to the ACSS and the sample selected by the automated system is the official sample. Therefore, the same PARs must be entered into the Automated Case Selection System sequentially by contact date for each contact date missed, when the system again becomes available. Compare the cases which were selected manually with those reported on the ACSSR for the same contact day. If they do not agree, recompute the manual sample computations and examine the MDE PAR data entry to resolve the difference. If a resolution cannot be made, the team should refer the problem to its Zone Center.

### 3.2.4 The Manual Sample Selection Procedure

The procedure to manually select accidents for investigation is to be executed five times, once for each of the five PAR sampling strata. The same procedure is used for each stratum. It must be executed separately for each stratum.

#### 3.2.4.1 Completing the Sampling Worksheet (SW)

Step 1. Enter the contact date, PAR sampling stratum, and the CSS sampling ratio for each stratum in the space provided on the page. The sampling ratios may be found on either the CDAS or any ACSSR.

Step 2. On the row labelled "PREVIOUS COUNTER," transcribe the carryover counters from the previous contact day into column (6), Cumulative Counter. The previous counter is found either on the ACSSR ("CSS Counter Status") or on the SW for the previous contact day.

Step 3. Gather together all stratification records completed for the day.

Step 4. From each jurisdiction's SR, transcribe the counts for each stratum from the row labeled "Total" into column (4) of the SW. Be sure the counts are placed in the proper PAR sampling stratum for the correct jurisdiction.

Step 5. and Step 6. are to be executed once for each PAR sampling stratum. Step 5. is to be executed completely for each jurisdiction which listed PARs on that contact day before proceeding to the next jurisdiction. Take the jurisdictions in the order in which they are listed on the SW.

Table 3-6

N A S S  
 \* A U T O M A T E D C A S E S E L E C T I O N S Y S T E M \*  
 \* R E P O R T \*  
 \* \* \* \* \*

FSD NUMBER:

CONTACT DATE: / /

THE SAMPLE SELECTION ALGORITHM EXECUTED SUCCESSFULLY.

LAST CASE NUMBER:

THE FOLLOWING FARs WERE SELECTED:

Case Number	Police Jurisdiction	FAR Stratum	Accident Date	Accident Time	FAR Number	Type of Case

STATUS OF FAR STRATUM COUNTERS:

FAR STRATUM	A	B	C	D	E
CSS Counter Status					
CSS Selection Ratio					
SDO Counter Status					
SDO Selection Ratio					

Step 5. Compare the jurisdiction weight,  $W_i$  (Column (3) of SW), with the sampling ratio for that stratum.

a. If the jurisdiction weight is greater than or equal to the sampling ratio for that stratum, each PAR listed in that jurisdiction is selected with certainty.

1) Do not make any entries on this row.

2) If this is the last jurisdiction in the PAR sampling stratum, go to Step 6. Otherwise, go to the beginning of Step 5 and examine the next jurisdiction

b. If the jurisdiction weight is less than the sampling ratio, do the following

1) Multiply the jurisdiction weight, column (3),  $W_i$ , by the number of PARS listed in that jurisdiction, column (4),  $N_i$ , and record the product in column (5),  $N_i W_i$ .

2) Add the column (5) entry for this jurisdiction to the last entry in column (6), Cumulative Counter, or column (7) - (11), First-Fifth Reduction. Enter the sum in column (6), Cumulative Counter, for that jurisdiction

3) If column (6), Cumulative Counter, is less than the sampling ratio, return to the beginning of Step 5. and examine the next jurisdiction. If it is greater than or equal to the sampling ratio, then at least one accident is to be selected from this jurisdiction. Proceed with the following

a) Subtract the sampling ratio from column (6). Enter the result in column (7), "First Reduction".

b) If the First Reduction is greater than or equal to the sampling ratio, then subtract the sampling ratio from column (7). Enter the result in column (8), "Second Reduction".

Continue this process until the value entered into a "Reduction" column is less than the sampling ratio. The number of reductions taken is the number of PARS to select from this stratum/jurisdiction

c) If this is the last jurisdiction in the PAR sampling stratum, go to Step 6. Otherwise, return to the beginning of Step 5 to examine the next jurisdiction

Step 6. Enter into column (6) of the row entitled "Carryover Counter" the last value in column (6), Cumulative Counter, or Column (7) - (11) First-Fifth Reduction.

### 3.2.4.2 Completing the Sample Selection within Stratum/Jurisdiction (SSSJ) Form

If in a PAR sampling stratum, PARs are to be selected from a jurisdiction in which more than one PAR was listed, the SSSJ is to be used to identify the specific PAR(s) to be selected.

Step 1. Enter the PSU number and name, contact date, PAR Sampling Stratum/Jurisdiction (S/J), number of PARs to be selected, and the sampling ratio for the S/J at the top of the page.

Step 2 Transcribe the entry from the last "Reduction" column for the previous jurisdiction, or the Cumulative Counter if the Reduction columns are blank, from the SW to row A column 2 of the SSSJ

Step 3 Arrange the PARs for this S/J in ascending order by accident date, accident time, and PAR Number, if available. Enter this information into the rows under "B Listed PARs in this S/J". If individual PAR numbers do not exist for more than one PAR with the same accident date and time, assign fictitious but distinct numbers. Remember that these same numbers must be entered into the ACSS.

Step 4 Enter the S/J weight,  $W_j$ , [column (3) of the SW], into column ( )

If only one PAR is to be selected from a PAR sampling stratum and jurisdiction, complete only Step 5 and Step 7. If two or more PARs are to be selected, execute Steps 5, 6, and 7

Step 5 Identify the first selected PAR

a For the first PAR listed (row 1), add the previous cumulative counter (row A, column 2) to  $W_j$  for this PAR (Row 1, column 1) and enter the sum in column 2

1) If the cumulative counter (row 1, column 2) is greater than or equal to the sampling ratio, then the PAR is selected. If only one PAR was to be selected, go to Step 7. Otherwise, go to Step 6

2) If the cumulative counter for the first PAR is less than the sampling ratio, then go to Step 5 b and repeat for each listed PAR until a PAR is selected

b Add the previous cumulative counter (column 2) to  $W_j$  for this PAR (column 1) and enter the sum in column 2

1) If the cumulative counter is greater than or equal to the sampling ratio, then the PAR is selected. If only one PAR was to be selected, go to Step 7. Otherwise, go to Step 6

2) If not, go on the next PAR listed and repeat Step 5 b

Step 6 Subtract the sampling ratio from column (2), Cumulative Counter of the selected PAR and enter the result in column (3), Difference

- a. Add the  $W_i$  of the next PAR listed to the just computed column (3), Difference, and record in column 2.
  - 1) If column 2 is greater than or equal to the sampling ratio, the PAR is selected. If no more PARs are to be selected, go to Step 7. If more PARs are to be selected, return to the beginning of Step 6.
  - 2) If the cumulative counter is less than the sampling ratio, then go to Step 6.b. and repeat for each listed PAR until a PAR is selected.
- b. Add the previous cumulative counter (column 2) to  $W_i$  for this PAR (column 1) and enter the sum in column 2.
  - 1) If the cumulative counter is less than the sampling ratio, go on to the next PAR listed and repeat Step 6.b.
  - 2) If the cumulative counter is greater than or equal to the sampling ratio, the PAR is selected. If more PARs are to be selected, return to the beginning of Step 6. Otherwise, go to Step 7.

Step 7. Subtract the sampling ratio from the cumulative counter of the last selected PAR and enter the result in column (3), Difference.

- a. Add the  $W_i$  for the remaining listed PARs to the Difference.
- b. Compare this total with the last reduction for this jurisdiction on the SW. If they are not equal, then recheck your work.

#### 3.2.4.3 Temporary Case Numbers

Assign a temporary case number to the accidents that were selected. Case numbers should be assigned in the following sequence: PAR Sampling Stratum, Jurisdiction (as shown on the SW), Accident date, Accident time, and PAR number. The permanent case number will be assigned by the Automated Case Selection System, after the sample for this contact day has been selected by the Mainframe.

#### 3.2.5 Subsampling For Source Document Only Investigations

Occasionally, a team will be assigned Source Document Only (SDO) Investigations when the team has reduced workload capacity due to temporary staff reduction. The team will be notified of its SDO assignment by an updated CDAS. The CDAS will contain the beginning and ending dates of the SDO period and, for each PAR sampling stratum, the SDO subsampling ratios and initial counters which will be used to identify the cases for which an SDO Investigation will be conducted.

##### 3.2.5.1 Automated Case Selection System Identification of SDO Subsample

Under normal conditions the ACSS will identify the SDO cases when it provides the selected CSS PARs on the ACSSR

### 3.2.5.2 Manual Identification of SDO Cases

If the MDE is not available on a contact day during an SDO period, refer to the most recent ACSSR or to CDAS for the SDO Subsampling Ratios. Identify SDO cases using the following procedure.

- Step 1. If the SDO subsampling ratio is zero (0) for a PAR sampling stratum, no cases will be selected from that stratum.
- Step 2. If the SDO subsampling ratio is one (1) for a PAR sampling stratum, all PARs selected in that stratum will be done as SDO cases. No forms need to be filled out to identify the PARs.
- Step 3. If the SDO subsampling ratio is other than 0 or 1, complete the Source Documents Only Subsampling Worksheet (SDOS).
- a. Enter the PSU number and name, Contact Date, PAR Sampling Stratum, and SDO Subsampling Ratio in the appropriate places at the top of the SDOS.
  - b. Enter the carryover counter for this stratum on row A, column (2). The carryover will be found either on the ACSSR for the previous contact date, row C column (2) of the SDOS from the previous contact date, or, if this is the first day in an SDO period, on the CDAS.
  - c. Sort the selected PARs by jurisdiction (as shown on the SW), accident date, accident time, and PAR Number and list them in the numbered rows under: "B. Selected PARs this Stratum".
  - d. Beginning with the first selected PAR and continuing to the last:
    - 1) Add column (1),  $W_i$ , to column (3), Difference, or to column (2), Cumulative Counter, if column (3) of the previous row is blank, and enter the sum in column (2).
    - 2) If column (2) is less than the SDO Subsampling ratio, go to next listed PAR and repeat Step 3.d.1)
    - 3) If column (2) is greater than the SDO Subsampling Ratio, then the PAR is an SDO case
      - a) Subtract the SDO Subsampling Ratio from column (2) and enter the result in column (3), Difference.
      - b) Go to next listed PAR and repeat Step 3.d.1.
- Step 4. Transfer the entry in column (3) for the last PAR, or column (2) if column (3) is blank, to column (2), row "C. Carryover of SDO Cumulative Counter".

### 3.3 Sampling Problems: How To Handle Them

The following section describes problems that sometimes arise in sampling and outlines ways to address them. A critical element in each case is time, that is, the longer the period between the occurrence of the problem and the implementation of some corrective action, the less likely are our chances of resolving it. If a problem occurs which is not listed below, the investigator should inform his/her CTM or the NCSA Sampling staff at once.

**Problem 1:** A team member performs the sampling procedures correctly but picks up the wrong PAR at the police jurisdiction and investigates the wrong accident. The Zone Center discovers the error when it receives the hard copy.

**Action:** Case 1 -If the incorrect PAR comes from the same PAR sampling stratum and jurisdiction as the correct PAR, then the Zone Center should accept the date for the case. However, the team should be notified that it made an error.

Case 2 - If the incorrect PAR comes from a different PAR sampling stratum or jurisdiction than the correct PAR, then the data for that case should be deleted from the file. The Zone Center will tell the team to 1) obtain a copy of the correct PAR and 2) code the data forms using information from the PAR and all other available data sources (i.e., medical record, scene inspection, interview, etc.). Information that cannot be obtained will be coded unknown. The team will send the hard copy data to the Zone Center for data entry.

**Problem 2:** A team lists and stratifies accidents correctly, but the PAR for the selected case is missing when the investigator returns to the police jurisdiction after sampling.

**Action:** After all attempts to locate the PAR have been exhausted unsuccessfully, call the Zone Center to have the case dropped. Follow the dropped case procedures.

**Problem 3:** A team does not find any accidents to list.

**Action:** No cases will be selected this day. However, the MDE must be entered to close the Listed Cases File, even though it will be empty, and a Mainframe connect must be made to receive next contact date.

**Problem 4:** A team can't list and select on the designated contact date due to extreme weather conditions (in particular, snow hazards).

U.S. DOT  
Federal Highway Administration  
Planning & Research Engineer

State	Planning & Research Engineer	State Contact
Maryland	Mr. Fred Hempel Planning & Research Engineer Federal Highway Administration The Rotunda, Suite 220 711 West 40th Street Baltimore, Maryland 21211 FTS No. 922-4132	Mr. Clyde Pyers Director, Office of Transportation Planning Maryland Dept. of Transportation P.O. Box 8755 Baltimore-Washington Int'l Airport Baltimore, Maryland 21240 Tel. 301-787-7333
Massachusetts	Mr. Phillip Robinson Transportation Planner Federal Highway Administration Transportation Systems Center 55 Broadway, 10th Floor Cambridge, Massachusetts 02142 FTS No. 837-2253 or 837-2255	Mr. Michael D. Meyer Director, Bureau of Transportation Planning and Development Massachusetts Dept. of Public Works Transportation Building 10 Park Plaza Boston, Massachusetts 02116-3973 Tel. 617-727-5120
Michigan	Mr. Donald Cameron Planning & Research Engineer Federal Highway Administration Room 211, Federal Building P.O. Box 10147 Lansing, Michigan 48901 FTS No. 374-1865 or 374-1864	Mr. Robert G. Adams Deputy Director, Bureau of Transportation Planning Michigan Dept. of Transportation State Highway Building 425 West Ottawa P.O. Box 30050 Lansing, Michigan 48909 Tel. 517-373-2240
Mississippi	Mr. Andrew Jenkins Planning & Research Engineer Federal Highway Administration Suite 105 666 North Street Jackson, Mississippi 39202 FTS No. 490-4232	Mr. Lowell T. Livingston Transportation Planning Engineer Transportation Planning Div. State Highway Department Highway Laboratory Building 412 Woodrow Wilson Avenue P.O. Box 1850 Jackson, Mississippi 39205 Tel. 601-354-7172
Missouri	Mr. David Edwards Community Planner Federal Highway Administration 209 Adams Street P.O. Box 1787 Jefferson City, Missouri 65102 FTS No. 276-3541	Mr. Walter S. Vandelicht Division Engineer, Planning Missouri Highway and Transportation Department State Highway Building P.O. Box 270 Jefferson City, Missouri 65101 Tel. 314-751-3758

#### 4.0 OVERVIEW OF INFORMATION TO BE COLLECTED ON CASES SAMPLED

For each case sampled, please include in the case report a copy of the police report, newspaper photos and articles, correspondence, collision diagram, slides (including index), the applicable continuous sampling subsystem data collection forms with field logs, medical injury record, driver records, vehicle registration record CRASH and MDE output.

#### 4.1 Sequencing of Case Materials

Case report forms and miscellaneous materials are to be sequenced in conformity with the guidelines depicted in Figure 4-1. There are eight distinct groupings which may exist with each case, and while the number of groupings many vary with each accident, it is important for the case reviewer (team or Zone Center) that the composition of the eight groups be maintained.

The first group contains the police report, the NASS Case Summary Form, newspaper photographs, articles, and other miscellaneous, non-NASS generated materials. This group will give the Zone Center reviewer a general appreciation of the accident from non-NASS sources and facilitates review of sampling. The documents in this group should be bound with a paper clip. The group will appear in every case, although it will often be composed only of the police report and the NASS Case Summary Form.

The second group contains the Accident Collision Diagram, slides, and the slide index; thus, it provides the reviewer with a general overview of the case based upon the NASS investigation. Differences between the two versions (Non-NASS and NASS) are to be expected periodically, and preliminary review of this and the preceding group will alert the reviewer to those differences and their eventual resolution in the final NASS version. This group should appear in every case, bound together with a paper clip.

Third, the Accident Form with the Accident Log on the back of the last page forms a group which will appear in every case.

Fourth, all Pedestrian and Nonmotorist Forms (with logs) should be grouped together, beginning with pedestrian or nonmotorist number 1. Official injury information obtained for any pedestrian or nonmotorist should be identified by a pedestrian or nonmotorist number then stapled to the back of the respective form. This will collate the injury data to the pedestrian or nonmotorist and save time which might be lost searching through the various forms to make the correct association. Pedestrian and Nonmotorist forms will appear only in cases where applicable; it is desirable to use a paper clip to bind the forms in this group if there are more than one.

The fifth group contains a Vehicle Form, the state vehicle registration record, the Driver Form, the state driver record for that driver, forms for all the occupants contained in the vehicle, and any official injury documents for those occupants. The first form in this group is the Vehicle Form (with log), or Vehicle For Nontowaway Accident Form (with log), for this vehicle which has any state vehicle registration records stapled to the back of it. The Driver Form appears next and will have any state driver record stapled to

FIGURE 4-1

SEQUENCE OF CASE MATERIALS

Group I-----		Police Report		paper clip
		NASS Case Summary Form		
		Newspaper photos, articles, misc. other photos, etc.		
Group II-----		Collision Diagram		paper clip
		Slides		
		Slide Index		
Group III-----		Accident Form (with log)		
Group IV-----		Ped. & Nonmotorist 1 (with log)	staple	paper clip
		Official Injury Documents		
		Ped. & Nonmotorist 2 (with log)	staple	
		Official Injury Documents		
		Subsequent Ped. & nonmotorists		
		Vehicle 1 (with log)		
		State Vehicle Registration	staple	
		Driver (1)		
		State Driver Record	staple	
Group V-----		Occupant 01, (V1) (with log)	staple	paper clip
		Official Injury Documents		
		Occupant 02, (V1) (with log)	staple	
		Official Injury Documents		
		Subsequent Occupants this vehicle		
Group V-----		Subsequent Vehicles, Driver, and Occupants		paper clip
Group VI-----		CRASH Program Summary		paper clip
		CRASH Output (Hard Copy)		
Group VII-----		CSS MDE Output (Hard Copy)		
Group VIII-----		Special Study Forms		paper clip
		SS MDE Output (Hard Copy)		

the back of it. This will be followed by the first Occupant Form (with log) for this vehicle which has any official injury documents stapled to the back of it. All additional Occupant Forms (with logs) will follow in numerical order [Occupant 02 (V1), Occupant 03 (V1), etc]. At least one group of this type will appear in every NASS case. All the forms associated with this group should be bound together with a paper clip. Additional vehicles, registration records, their drivers, state driver records, occupants, and official injury documents should be grouped in a similar manner. Thus, each group may be thought to represent a vehicle and its occupants; and, each such group physically distinguishes one vehicle and its occupant from any other.

The sixth group is composed of the CRASH (or Poles or OLDMISS) Program Summary and the Output (hard copy), if the program has been exercised for the collision. Upon reviewing the above forms and having become familiarized with the accident, the reviewer is then prepared to evaluate both the appropriateness of using the program and the viability of the various inputs on the Program Summary. These two items, the summary and any output (always include the input data), should be bound together with a paper clip.

The seventh group is composed of the Microcomputer Data Entry (MDE) output.

Finally, the eighth group is composed of any Special Study forms completed for the accident and the hard copy of the Special Study Microcomputer Data Entry Output. These should be bound together with a paper clip.

#### 4.2 Information Required on Field Forms (Mandatory Variables)

Case Identification Variables--When using the microcomputer data entry system to enter the field data, certain information is required on each field form (log data are not entered) before it will be accepted. Every field form submitted must have a Primary Sampling Unit Number, A Case Number-Stratification, Record Number, Transaction Code, Version Number, and Investigator I.D. Number. The Record Number and Version Number will be preprinted on each of the forms. Team members should fill out the Primary Sampling Unit Number, Case Number-Stratification, Transaction Code Number, and the Investigator I.D. Number

Accident Form--For each accident investigated, one Accident Form must be filled out. The additional mandatory information needed on this form is the Date, Number of Vehicle Forms Submitted, and Number of Pedestrian & Non-motorist Forms Submitted.

Pedestrian and Nonmotorist Form--If a Pedestrian and Nonmotorist Form is submitted, the only additional mandatory data item is the Pedestrian or Nonmotorist's Number.

Vehicle Form--For each accident investigated, at least one Vehicle Form (or Vehicle For Nontowaway Accident Form) must be submitted. The additional mandatory information to be included on this form consists of the assigned Vehicle Number and the Number of Occupant Forms submitted.

Driver Form--For every Vehicle Form there must be included one Driver Form. The additional mandatory data items to be filled out on the Driver Form are Vehicle Number and Driver Presence in Vehicle.

Occupant Form--When Occupant Forms are filled out, Vehicle Number and Occupant Number must always be present

Treatment of Missing Cases--When accident-involved drivers, vehicles, occupants, pedestrians, or nonmotorists cannot be located or interviewed and all data items are missing, the appropriate form must be filled out with missing data codes and submitted with the case. One exception to this rule is permitted. In accidents which involve a bus, complete an Occupant Form for every person where information can be obtained (i.e., either through the police or leads which subsequently develop). For those occupants where no information exists, no Occupant Form is required. Once again, this except or is for buses only.

#### 4.3 Update Procedures for Hard Copy Field Forms

Data elements which may be updated in the hard copy case report are restricted to certain variables which appear on either the Pedestrian and Nonmotorist, Vehicle, Driver, and Occupant Forms. No other data will be updated if it is acquired after the initial submission of the case. Note that for MDE, any variable except for the mandatory variables may be updated before the case is forwarded to the Zone Center. Update records have been developed for those variables which are allowable hard copy update candidates. Update records which have been specially designed to accommodate these variables are not to be included with the initial submission of the case; instead, they are retained at the PSU and filled out partially upon initial case submission, then completed when the update information arrives. On the original case form, all data variables which the investigator intends to update should be coded with any available appropriate information or the code designating "unknown". In addition, the variable number should be circled. This will "signal" that an attempt will be made to update that data variable. In the case of injury updates, the "Update Candidate" circle should be marked in the affirmative. This procedure applies only to those data variables on the Pedestrian and Nonmotorist, Vehicle, Driver, or Occupant Forms which are designated below as candidates for updating.

The investigator is to complete the required sections prior to initial case submission so that the subsequently acquired information may be associated with the right case and vehicle/pedestrian or nonmotorist/occupant number. The newly acquired information should be entered on the front of the Update Forms and any supporting documents attached to the back.

Pedestrian and Nonmotorist Update Record--This form is to be used when the investigator expects to receive data regarding alcohol tests, working days lost, injuries or treatment received by any pedestrian/nonmotorist, and the data were not obtained from the hospital, private physician, pedestrian, etc. before the initial submission. The additional information required on this form allows the investigator to update variables P09, P10, P20, P21, P22, P31 through P78, P80 and P83, based on subsequent receipt of official or interviewee data where necessary. These data would be difficult to update without recorded knowledge regarding the initial coding of Treatment - Mortality (P20), Hospital Stay (P21), Working Days Lost (P22), Injury data (P31-P78), Time to Death (P80), and Alcohol Test Result (P83). The data on the specific injuries coded on the initial submission (P31-P78) may be combined with the new injury data using the NASS injury coding rules to revise the injury coding on the updated version. Also, it is suggested that a copy of

the sketch of the involved motor vehicle (page 3A, 3B, etc., of the Vehicle Form) be made prior to the initial submission, so that the investigator will be able to check for specific components contacted by the pedestrian when coding the injury sources on the update form.

Vehicle Update Record--This form is to be used to update both the Vehicle For Nontowaway Accident Form as well as the Vehicle Form. It is to be used if Vehicle Model Year (V12), Vehicle Make (V13), Vehicle Model (V14), Registration of Vehicle (V15), Vehicle Identification Number (V16), Body Type (V17), or Vehicle Curb Weight (V84) have not been determined prior to submission of the case. It should be noted that this update form was initiated to allow investigators to obtain data from running vehicle registrations through cooperating agencies.

Driver Update Record--This form is to be used if Alcohol Test Results (D25), Driver License Status (D26), Drivers License Type Compliance (D27), Driver License Restriction (D28), or convictions/suspensions/revocation/accidents (D29-D33) are not known at the time of initial submission.

Occupant Update Record--This form is similar to the Pedestrian and Nonmotorist Update Record with the exception that there exists the need to identify both the vehicle and the occupant number. It should be used when the investigator expects to receive data after the initial submission. Additional information required on this form prior to initial case submission allows the investigator to update variables 009, 010, 020, 021, 022, 031 through 078, and 080, based on subsequent receipt of official or interviewee data. These data would be difficult to update without recorded knowledge regarding the initial coding of Treatment - Mortality (020), Hospital Stay (021), Working Days Lost (022), injury data (031-078), and Time to Death (080). This information may then be combined with the new injury data using the NASS injury coding rules to revise the variables on the updated version. Also, it is suggested that a copy of the interior sketch (page 11 of the Vehicle Form) be made prior to the initial submission, so that the investigator will be able to check for specific components contacted by the occupant when coding the injury sources on the update form.

Update Filing and Submission Instructions--The investigator must complete each of the sections on the above forms, as required, prior to the initial submission. This allows the new information (update form) to be associated with the corresponding field form in the initial submission, and allows the originally coded data to be combined with the new data (using the NASS injury coding rules).

All update records may then be stored in a three-ring binder and segregated into three sections: (1) Vehicle Update Record Forms, (2) Driver Update Record Forms, and (3) Pedestrian and Nonmotorist and Occupant Update Record Forms. Each new addition of an update record may then be indexed by Case Number-Stratification, Vehicle Number, Pedestrian or Nonmotorist Number, and Occupant Number. They may also be partially cross-indexed alphabetically based on the name of the driver, pedestrian/nonmotorist or occupant in the appropriate section. This will facilitate the processing of inquiries from Zone Centers as well as the retrieval of the update record when the driver record or official medical data is received.

The name of the individual and any other descriptive information unique to the team which may identify the individual should be sanitized from the Pedestrian or Nonmotorist Update Record, Driver Update Record, and/or the Occupant Update Record and the attached reports after the information from the latter has been included on the update record.

Update records should be accumulated, packaged in an individual Zone Center approved size manila envelope (but not one envelope for each update), which identifies the PSU and is boldly marked: UPDATES, and sent to the Zone Center on a periodic basis according to the schedule in Section 5.2. If the updates are not obtainable by the due date, the reasons the updates could not be obtained are to be indicated on the update record and sent to the Zone Center. All updates or reasons the updates were not obtainable must be submitted to the Zone Center within 96 days of the date the case was sampled.

The update records, described above, will be attached by the Zone Center to the corresponding forms included in the initial submission to the Zone Center.

#### 4.4 Form Logs

The field forms (Accident, Pedestrian and Nonmotorist, Vehicle, Driver, and Occupant) have a unique log printed on the back of the last page. These logs provide information with respect to the acquisition and processing of accident data in the NASS system, as well as the quality of data collected. This information is used to establish reasonable acquisition expectations, to identify and evaluate Zone Center quality control effectiveness, and to provide complete and timely feedback to team members. Careful examination of the logs will reveal that minimal effort is required for the investigator to answer the questions, particularly if the entries are made in conjunction with, and at the time, the particular task is accomplished. The form logs also contain sections which will be completed by the Zone Center during the review process.

##### 4.4.1 Accident Log

The sections to be completed by the PSU are identified under the heading "Completed by Team" or "For Team Use." The block at the top of the page labeled "Forms For Team Use" is an area where the investigator accounts for the number of forms which are required and ultimately included with the case. The information on this section is transcribed to the front of the case envelope before submission to the Zone Center. Many of the forms which are needed under the required component of this section may be identified early in the investigation, thus, this section will serve to aid the investigator in determining the status of the case while it is in progress. At the time of the initial submission, or final submission (if there are to be no updates for the case), the investigator uses this section to verify that the number of forms included in the case report equals the number of forms required, with the exception of medicals. The number of medicals (Official Medical Data) required should reflect the number of people who were treated in a hospital, medical clinic, etc. This is true independent of the ability of the PSJ to obtain the data. The number of medicals included in the case report will reflect the number of medicals (on a person basis) which are included in the case at the time of initial submission.

The block marked "Completed by Team" is to be filled out by the appropriate investigator as the different activities described are completed. Each of Questions 1 through 15 (discussed below) must be completed before the case is submitted. Questions 1 through 6, commonly called the "header data", are coded the same as Variables A01 through A06 on the Accident Form. Question 7, Type of Case, is coded the same as A07 on the Accident Form. Question 8, Date of Accident, is filled in with the same month, day, and year as is designated under variable A08 on the Accident Form. Question 9, Date Sampled (Listed), is the contact date listed on the Contact Day Assignment Sheet (CDAS), unless the contact date was a holiday or a day when inclement weather prevented the sample, in which case the date the case was actually listed would be coded. Question 10, Date Scene Field Work Completed, is the date the investigator locates and inspects the accident scene. This variable should be coded with "0's" if the case is an SDO case. Question 11, Completing Person, is to be filled in with the number of the investigator who located and inspected the scene, and who will assume responsibility for the completeness and overall quality of the case. This variable is also coded "0" for SDO cases. The status of the scene location, mapping of the scene and the quality of the scene drawing is documented under Question 12. Question 13, Date Case Released to Zone Center, is filled in with the date the MDE "release" transaction was completed. Cases are to be released before they are forwarded to the Zone Center. The status of the case upon submission to the Zone Center is recorded under Question 14. If the case is complete and requires no updates, Box (1) is checked. If the case is to be updated, box (2) is checked, and if the case was dropped, box (3) is checked and the reason noted. Question 15, Are Special Studies Included, is used to record the status of special studies. For each special study included with the case, a "1" is placed in the column for the number of that special study. The remaining special study columns are coded with "0". The remainder of the Accident Log is completed by the Zone Center quality review staff and is identified under the heading "Completed By Zone Center". This section is completed by the case reviewer as the case report flows through the quality review process.

Question 16, Date Hard Copy Received at Zone Center, is filled in with the date the hardcopy arrives at the Zone Center. Question 17, Type of Review, is coded "1" if the case is reviewed. If the case is not reviewed (a percentage of cases of key case investigators), "2" is coded. Question 18, Date Review Completed, is filled in with the date that all quality review associated with the case is completed. Question 19, Reviewed By, is to be filled in with the number/initials of the person who is primarily responsible for the review of the case and made the assessment that the review is complete. Question 20, Case Review Status, is coded "1" if the review is completed and all updates are received and incorporated. If the review is not completed or all updates not received. Question 20 is coded "2". Question 21, Date Case Released to Master File, is filled in with the date the MDE "approval" transaction was completed. The remaining Accident Log Questions 22-30 are completed by the Zone Center using the criteria indicated for each data code for that question. If the review process involves reviewing a given percentage of the investigator's cases, Questions 22-30 are not completed for cases coded "2" under Question 17, Type of Review.

#### 4 4.2 Pedestrian and Nonmotorist Log

Each attempt to contact the involved pedestrian or nonmotorist is recorded on the INTERVIEW CONTACT RECORD portion of the log, which is noncoded and is provided on the bottom of the Pedestrian and Nonmotorist Log as an aid to the investigator. The date and time of the contact (military), along with the number of the contacting investigator, manner of contact, and result of contact are to be recorded for each attempt. The applicable codes for the "Manner" column are the element values of Question 8; the codes for the last contact attempt in the "Result" column are element values of Question 9, and the codes for a contact other than the last contact are listed under 9a. The final attempt (whether successful or not) should be coded in Questions 8 through 12 of the log. If multiple interviews are obtained, the investigator may use the INTERVIEWEE CONTACT RECORD to document them, yet only the contact of the principle interviewee should be documented in Questions 8 through 12. Questions 1 through 7 are coded the same as Variables P01 through P07 on the Pedestrian and Nonmotorist Form. Question 8, Manner of Last Contact Attempt, is coded with the method used in the last attempt to obtain an interview. Question 9, Results of Last Contact Attempt, records the degree of success in obtaining an interview. Responses "01" through "05" and "10" reflect no personal contact. Responses "06" through "08" reflect unsatisfactory contact attempts. Response "09" reflects unsuccessful attempts to obtain an interview for reasons other than that which is documented in the other codes, and responses "11" and "12" reflect a completed interview. Question 10, Date Interview Completed, is coded with the month and date a successful interview was conducted. If no interview is obtained (i.e., Question 9=01-10), then this question and Question 11 are coded "0's". Question 11, Completing Person, is the Investigator's I.D. Number who completed the interview. Question 12, Source of Interview Data, tells us the source of the Pedestrian/Nonmotorist data obtained during the interview. The objective in NASS is to interview the Pedestrian/Nonmotorist him/herself -- response "2" (Same person). If an interview cannot be obtained with the pedestrian/nonmotorist him/herself, certain surrogates may provide all the data necessary to complete the form. For example, Question 12 also identifies other persons who may provide this information if the pedestrian/nonmotorist is fatally injured, incapacitated or for other reasons cannot be or refuses to be interviewed.

Question 13, Reasons Medical Data Not Obtainable, describes not only the disposition of medical data, but also if the investigator was not able to obtain the data. Codes "01" through "06" provide reasons why, while code "09" reflects a large lag time (greater than 96 days from date sampled) in obtaining the record. Code "06", Private physician would not release information, whenever a nonhospital health care provider refused to release medical records, even if they required a medical release or other patient approval which was not obtained. Use code "02", Medical release required--not obtained, only for hospital refusals. If the official medical injury data are requested but not received at the time of initial case submission and Question 13 is coded as "08" (To be updated) then the investigator completes a Pedestrian and Nonmotorist Update Record Form.

Completeness, code "10" versus code "11", of medical records is assessed with respect to record acquisition, not with respect to the physical quality of the records themselves. Records are complete (code "10") if NASS obtained enough information to have a clear idea of the injuries recorded. Records are partial (code "11") if (1) it is unclear what injuries the victim sustained.

or (2) there is conflicting information regarding the injuries and additional medical records would probably have clarified the questions. Records are not partial because they cannot be read, or because they contain insufficient information regarding the person's injuries and no other records are available that might enhance the clarity of the descriptions. Admission records or discharge face sheets are not acceptable substitutes for discharge summaries where they exist. Records should be considered partial if complete discharge summaries would have enhanced data.

Assessing transcribed records is difficult. Transcribed records are not preferred and should be considered partial if (1) no transcription was made of a record that (a) was relevant to the person's injuries, and (b) probably was available or (2) there is a firm residual belief that not all of this person's injuries have been completely identified. On the other hand, transcribed records are complete if (1) all relevant records have been transcribed, and (2) you believe you know what this person's injuries are considering the interviewee's description when it has been obtained. This completes the information required from the team. The remaining Pedestrian and Nonmotorist Log questions, 14-17, are filled out by the Zone Center.

Question 14, Date Medical Record Update Received, is filled in with the date the medical update record arrives at the Zone Center. Question 15, Reviewed By, is filled in with the I.D. number/initials of the person who completes the medical update review. The remaining questions, 16 and 17, are completed by the Zone Center using the criteria indicated for each data code for that question. If the review process involves reviewing a given percentage of the investigator's cases, Questions 16 and 17 are not completed for cases coded "2" under Accident Log Question 17, Type of Review.

#### 4.4.3 Nontowaway Vehicle Log

The Nontowaway Vehicle Log must be completed for all vehicles which are in a case sampled in the nontowaway stratum E. The only questions filled out on the Nontowaway Vehicle Log by the team are Questions 1 through 8. Questions 1 through 7 are coded the same as Variables V01 through V07 on the Vehicle For Nontowaway Accident Form. Question 8 determines if vehicle registration information has been obtained at the time the case is submitted to the Zone Center. If Question 8 is coded as "8" (To be updated), then the investigator must complete a Vehicle Update Record Form. If the vehicle is inspected and/or all the updatable information is completed, then Question 8 is coded "0". Question 8 is coded "1" if the vehicle registration is requested and received before case submission to the Zone Center. Code "2" is used if the PAR reports the vehicle as hit and run with no identification. Codes "3"- "6" are used if a registration record is requested and returned without information on the vehicle. Code "7" is used for non-NASS states and foreign governments for which there is not currently an established relationship for obtaining vehicle registration records. Code "9" is used if an update record is received after the quarterly close out of a file. The remaining questions may be completed by the Zone Center.

Question 22, Date Official Record Update Received, is filled in with the date the update record arrives at the Zone Center. Question 23, Reviewed By, is filled in with the I.D. number/initials of the person who completes the update review

#### 4 4 4 Vehicle Log

The Vehicle Log must be completed for all vehicles which fall into a sampling stratum other than E. All questions (1-16) on the log should be completed by the investigator for each vehicle. Question 1 through 7 should be coded the same as Variables V01 through V07 on the Vehicle Form. Question 8 determines if vehicle registration information has been obtained at the time of case submission to the Zone Center. If it is coded as "8" (To be updated), then the investigator must complete a Vehicle Update Record Form. If the vehicle is inspected and/or all the updatable information is completed, then Question 8 is coded "0". Question 8 is coded "1" if the vehicle registration is requested and received before case submission to the Zone Center. Code "2" is used if the PAR reports the vehicle as hit and run with no identification. Codes "3"- "6" are used if a registration record is requested and returned without information on the vehicle. Code "7" is used for non-NASS states and foreign governments for which there is not currently an established relationship for obtaining vehicle registration records. Code "9" is used if an update record is received after the quarterly close out of a file. Questions 9 and 10 determine the lag time between the date the accident was sampled (Accident Form Log) and the date the vehicle was inspected, as well as the number of the investigator who completes the vehicle inspection. If a vehicle inspection is not completed, Question 9 and 10 should be coded "0's". Question 11, Reason Vehicle Inspection Not Completed, identifies the reasons why a vehicle inspection could not be completed. Question 12, Reason Highest Total Delta V Unknown, identifies the reasons why the CRASH or other reconstruction programs could not be utilized (the negative codes "5" through "11" are prioritized for coding). Code "00" is used for identifying vehicles sampled in stratum E for which a vehicle inspection is not required and, as a consequence, a reconstruction is not required. Code "11" (Insufficient data) is used when a vehicle inspection is required but the information obtained does not satisfy the minimum requirements to perform a reconstruction. Question 13, Confidence in Reconstruction Program Results (for Highest Delta V), allows the investigator to judge the quality of the reconstruction program output as well as the data input. Question 14, Reconstruction Program Output on Other than Highest Delta V, identifies cases where CRASH or other reconstruction program was run on a secondary impact and the results recorded in their appropriate noncoded location. Question 15, Data Obtained for This Vehicle's Most Severe Impact. Regardless of Usage, allows the investigator to encode the overall quality of the data related to this vehicle (i.e., CDC or TDC, Crush Profile or Damage sketch, and Trajectory data). For Question 16, Submission of Potential Safety Problem Bulletin, code "0" (No) when the Body Type (V17) is known and no potential safety problem bulletin was submitted. Use code "0" (No) whenever the Body Type (V17) is unknown ("99"). All teams will be provided with bulletins (forms)--Figure 4-2, to report any potential vehicle safety problems which they encounter. Code "1" (Yes) if a bulletin is submitted.

Submit bulletins to Mr. Vernon Roberts at NHTSA. It has been requested that each team be placed on the mailing list for reports of active defect investigations. Teams should become familiar with current investigations and be on the lookout for accidents which are relevant to these investigations, although, other defects or vehicle problems encountered are also of interest and should be reported. Attach a copy of the bulletin submitted to NHTSA to the Vehicle Form before submitting the case to your Zone Center. A list of

potential safety problems of current interest to NHTSA follows in Table 4-1. This list is provided for guidance and is not intended to be inclusive. The remaining vehicle log questions, 17-24, are completed by the Zone Center.

Questions 17-21 and 24 are completed using the criteria indicated for each data code for that question. If the review process involves reviewing a given percentage of the investigator's cases, Questions 17-21 and 24 are not completed for cases coded "2" under Accident Log Question 17, Type of Review. Question 22, Date Official Record Update Received, is filled in with the date the update record arrives at the Zone Center. Question 23, Reviewed by, is filled in with the I.D. number/initials of the person who completes the update review

#### 4.4.5 Driver Log

The investigator should be sure that each question (1-14) has been addressed for each driver before completing the log. Questions 1 through 7 are coded the same as Variables D01 through D07 of the Driver Form. Question 8 records the Occupant Number assigned to the driver. If no driver was present, code "00". Question 9, Type of Driver Interview Data Obtained, enables us to know what type of interview information was obtained. Response "0" (Driver not present) means that there was no driver in the vehicle when it was impacted. Response "1" (No data obtained) means no driver or surrogate interview was obtained. Response "2" (Driver history only) means that an interview was obtained with a person who only had knowledge regarding the driver's background and driving history (i.e., a person who can answer questions D10 through D13 (page 1) and D14-D18 (page 5) on the Driver Form. Response "3" (Accident circumstances only) means that an interview was obtained with a person who has knowledge regarding the circumstances surrounding the particular accident this driver was involved in (i.e., a person who can provide answers to some or all of the questions asked on pages 2-5 of the Driver Form) but who cannot provide any information regarding the driver's background or history (i.e., variables D10 through D18). Response "4" (Driver history and accident circumstances) means that an interview was obtained with a person knowledgeable regarding both the driver's background history and the circumstances of the accident

Question 10, Source of Driver Data, tells us the source of the driver data obtained during the interview. Needless to say, the objective in NASS is to interview the driver him/herself--response "2" (Driver). In certain instances (e.g., driver is fatally injured or incapacitated) another person or persons may provide the information. This question (10) allows us to identify the person. Response "0" (Driver not present) means that there was no driver in the vehicle when the accident occurred. Response "1" (No Data obtained) means that no driver or legitimate surrogate interview was obtained. Response "3" (Other occupant) is used if the data source was an occupant of the vehicle operated by the driver under consideration. The occupant may also have been a relative or friend of the driver. In any case, the person's occupant status takes precedence over whatever personal relationship existed. Response "4" (Relative or friend) is used whenever the data source is a relative or friend of the driver and the source was not involved in the accident. Use response "5" (Eyewitness) when the interviewee witnessed the accident. If the person

Table 4-1

SPECIFIC AREAS OF INTEREST TO NHTSA RULEMAKING

CRASH AVOIDANCE

- 1 Accidents involving vehicles driven by handicapped drivers.
- 2 Accidents involving vehicles equipped with adaptive aids
3. Accidents in which failure of a multipiece rim (not a tire failure) caused or contributed to the severity of the accident.
- 4 Accidents involving malfunction of a speed governor or speed control unit
- 5 Accidents where the driver reported confusion about the location of display or control elements of the vehicle.
- 6 Accidents where underinflation of tires caused or contributed to the severity of accident
- 7 Accidents involving pedestrian and/or cyclist injured by impact with outside mirrors.
- 8 Accidents involving injury to motorcycle drivers due to impact with the motorcycle mirrors
- 9 Accidents where driver reported that distortion of image in convex mirror confused him (especially late model GM cars)
- 10 Accidents where commercial vehicle drivers reported that they could not see car, pedestrian, or cycle in a specific blind spot (such as in the right front area of large truck-tractors)
- 11 Accidents where driver or a passenger car or light truck reported that they could not see because of an obstruction of view by some part of the vehicle (such as inside mirror or roof support pillar).
- 12 Accident where the vehicle's defrost/defog system or wiper system could not provide an adequate view of the traffic scene through the windshield.
- 13 Accidents where drivers reported they didn't see a heavy duty commercial vehicle before striking the rear or the side of that vehicle (i.e., truck conspicuity problems)
- 14 Accidents involving heavy duty vehicles where a malfunctioning antilock system is alleged to have caused or contributed to the severity of the accident
- 15 Accidents involving heavy duty vehicles where brakes out of adjustment caused or contributed to the severity of the accident
- 16 Accidents involving heavy duty vehicle hot brake fade (i.e., runaways)

Table 4-1 (continued)

17. Accidents involving pickup trucks pulling fifth-wheel type trailer.
18. Accidents involving heavy duty air braked vehicles in which the vehicle's being stalled in traffic due to emergency brake application (loss of air pressure) caused an accident.
19. Accidents involving braking, jackknifing, or loss of control of trailers equipped with electric brakes or no brakes.

CRASHWORTHINESS

1. Seat and/or seat back failures in crashes and their contributions to occupant injury.
2. Identify external vehicle components (i.e., hood, grill, windshield wiper, etc.) that penetrate the windshield and the degree of such penetration in crashes involving vans and light trucks.
3. Ejections through the hatchback or station wagon rear doors in rear impacts. Identify whether ejection was through window opening or through door or hatchback opening because of latch failure.
4. Cars involving child restraints that break or involve injury. Identify the restraint by make and model, how and which position used.

CORROSION

1. Structural rust of uni-body undercarriage, vehicle chassis frames, floor boards in areas of seat belt attachment points seat or seat track anchorages.
2. Rust which develops in areas where the owner can observe the rust and therefore be forewarned, but which might have safety implications such as cowl area and wipers, around windshield or backlite.
3. Rust on weight bearing or vehicle guidance components, the failure of which could affect vehicle safety and do not normally wear out in service, such as tie rods, control arms, strut rods.
4. Rust of areas where the owners report exhaust intrusion such as wheel wells, wagon tire wells and rear floor pans.

FIGURE 4-2

POTENTIAL SAFETY PROBLEM BULLETIN

Reporting Date \_\_\_\_\_

SEND TO: Vernon Roberts, NRD-32  
National Highway Traffic Safety Administration  
Nassif Building, Room 6213  
400 Seventh Street, S.W.  
Washington, D C. 20590

SUBJECT \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

IDENTIFICATION

TEAM \_\_\_\_\_ CASE NO. \_\_\_\_\_ ACCIDENT DATE \_\_\_\_\_

ACCIDENT LOCATION \_\_\_\_\_

INVESTIGATING POLICE AGENCY \_\_\_\_\_

VEHICLE MODEL YEAR \_\_\_\_\_ MAKE/MODEL \_\_\_\_\_

VIN \_\_\_\_\_ ODOMETER READING \_\_\_\_\_

ACCIDENT DESCRIPTION (include sanitized police report)

(continue on back)

ITEM DESCRIPTION (include hardware and photograph if possible)

was also a relative or friend, then response "5" (Eyewitness) takes precedence. Response "6" (Combination of 3, 4, and 5) is appropriate when the interview data was obtained from more than one person such that: (1) the driver was not one of their persons, and (2) the interviewees were from different categories. For example, if the data are obtained from two or more relatives or friends, then code "4"(Relative or Friend) should be used. If the data are obtained from the driver and another person, then code "1" (Driver). When code "1" (Driver) is used under Question 10, indicate in question 9 the type of driver data obtained from the actual driver. When codes "3" through "6" are used for Question 10, indicated the total data obtained ("2", "3", or "4") for Question 9 from all persons participating.

The valid combinations for Question 9 and 10 are shown in the table below.

Question	
if 9 =	then 10
0,1	0,1
2	2,4,6, or 7
3	2,3,5,6, or 7
4	2,3,6, or 7

Question 11, Result, encodes the success or failure in obtaining an interview, as well as documenting the reasons why no interview was obtained. Responses "00" and "11"- "12" mean that no interview was required or required interview obtained, respectively, while responses "01" through "05" and "10" reflect no personal contact. Responses "06" through "08" reflect unsatisfactory contact, while response "09" reflects unsuccessful attempts to obtain an interview for reasons other than that documented in the previous codes. For Questions 12 and 13, the investigator records the date the interview was conducted and the Investigator I.D. Number of the investigator completing the interview, respectively. If an interview is not conducted, Questions 12 and 13 are coded "0's". Question 14 documents with responses "2" through "7" and "9" the reasons why official driver records were not obtained. Response "0" (Driver not present) means there was no driver in the vehicle at the time of the accident. Response "1" (Records obtained) is coded if the driver record was obtained and coded in the appropriate variables. Code "8" (To be updated) means that the official records were not received prior to the initial submission of the case. In this case the investigator must also complete a Driver Update Record Form. This completes the information required by the team. The remaining Driver Log questions, 15-16, are completed by the Zone Center.

Question 15, Date Official Driver Record Update Received, is filled in with the date the update record arrives at the Zone Center. Question 16, Reviewed By, is filled in with the I.D. number/initials of the person who completes the update review.

#### 4 4 6 Occupant Log

Each attempt to contact the involved occupant is recorded on the INTERVIEW CONTACT RECORD portion of the log, which is noncoded and is provided on the bottom of the Occupant Log as an aid to the investigator. The date and time of the contact (military), along with the number of the contacting investigator, manner of contact, and result of contact are to be recorded for each attempt. The applicable codes for the "Manner" column are the element

values of Question 10; the codes for the last contact attempt in the "Result" Column are element values of Question 11, and the codes for a contact other than the last contact are listed under 11a. The final attempt (whether successful or not) should be coded in Questions 10 through 13 of the log. If multiple interviews are obtained, the investigator may use the INTERVIEW CONTACT RECORD to document them, yet only the contact of the principle interviewee should be documented in Questions 10 through 13. Questions 1 through 8 are the same as Variable 001 through 008 on the same Occupant Form. Question 9 records if the occupant was also the driver of the vehicle. Question 10, Manner of Last Contact Attempt, is coded with the method used in the last attempt to obtain an interview. Question 11, Result of Last Contact Attempt, records the degree of success in obtaining an interview. Responses "01" through "05" and "10" reflect no personal contact. Responses "06" through "08" reflect unsatisfactory contact attempts. Response "09" reflects unsuccessful attempts to obtain an interview for reasons other than that which is documented in the other codes, and responses "11" and "12" reflect a completed interview. Question 12, Date Interview Completed, is coded with the month and date a successful interview was conducted. If no interview is obtained (i.e. Question 11 = 01 - 10), then this question and Question 13 are coded "0's". Question 13, Completing Person, is the Investigator's ID Number who completed the interview. Question 14, Source of Interview Data, tells us the source of the occupant data obtained during the interview. The objective in NASS is to interview the occupant him/herself -- response "2" (Same person). If an interview cannot be obtained with the occupant him/herself, certain surrogates may provide all the data necessary to complete the form. For example, Question 14 also identifies other persons who may provide this information if the occupant is fatally injured, incapacitated, or for other reasons cannot be or refused to be interviewed.

Question 15, Reasons Medical Data Not Obtainable, describes not only the disposition of medical data, but also if the investigator was not able to obtain the data. Codes "01" through "06" provide reasons why, while code "09" reflects a large lag time (greater than 96 days from the date sampled) in obtaining the record. Code "06", Private physician would not release information, whenever a nonhospital health care provider refused to release medical records even if they required a medical release or other patient approval which was not obtained. Use code "02", Medical release required--not obtained, only for hospital refusals. If the official medical injury data are requested but not received at the time of initial case submission and Question 15 is coded as "08" (To be updated) then the investigator completes an Occupant Update Record Form.

Completeness, code "10" versus code "11", of medical records is assessed with respect to record acquisition, not with respect to the physical quality of the records themselves. Records are complete (code "10") if NASS obtained enough information to have a clear idea of the injuries recorded. Records are partial (code "11") if (1) it is unclear what injuries the victim sustained, or (2) there is conflicting information regarding the injuries and additional medical records would probably have clarified the questions. Records are not partial because they cannot be read, or because they contain insufficient information regarding the person's injuries, and no other records are available that might enhance the clarity of the descriptions. Admission records or discharge face sheets are not acceptable substitutes for discharge summaries where they exist. Records should be considered partial if complete discharge summaries would have enhanced data.

Assessing transcribed records is difficult. Transcribed records are not preferred and should be considered partial if (1) no transcription was made of a record that (a) was relevant to the person's injuries, and (b) probably was available or (2) there is a firm residual belief that not all of this person's injuries have been completely identified. On the other hand, transcribed records are complete if (1) all relevant records have been transcribed, and (2) you believe you know what this person's injuries are considering the interviewee's description when it has been obtained. This completes the information required from the team. The remaining Occupant Log questions, 16-19, are completed by the Zone Center.

Question 16, Date Medical Record Update Received, is filled in with the date the medical update record arrives at the Zone Center. Question 17, Reviewed By, is filled in with the I.D. number/initials of the person who completes the medical update review. The remaining questions, 18 and 19, are completed by the Zone Center using the criteria indicated for each data code for that question. If the review process involves reviewing a given percentage of the investigator's cases, Questions 18 and 19 are not completed for cases coded "2" under Accident Log Question 17, Type of Review.

#### 4.5 NASS Criteria for Acceptable Data Completion

The data completion criteria are used as a standard among all PSUs when determining the minimum acceptable data for completion of a case.

Scene Inspections: The Accident Collision Diagram, with at least a sketch of the physical plant, and slides of the scene are required. No excuse is acceptable. If the photo slides did not turn out, a return visit to the scene is made. Except for non-tow cases, all scene diagrams, irrespective of evidence or vehicle dynamics, shall be drawn to scale. They shall include:

1. Scaled roadway, lane and shoulder dimensions, including roadway curve documentation.
2. Scaled vehicles at location of impact and final rest,
3. Scaled dimensions locating contacted roadside furniture and furniture used in establishing the reference line and point,
4. Scaled dimensions locating the scene evidence.

In non-tow cases, the above information should be present, but need not be drawn to scale.

Vehicle Inspections: To be credited as "inspected", slides of the damaged vehicle must be submitted as well as the required measurements. If the vehicle has been repaired prior to the inspection, photo slides of the repaired vehicle and damaged components (where circumstances permit) along with a completed form are required. Crush dimensions and a CDC/TDC must be provided when data permit. If there is no measurable damage (i.e., in certain pedestrian or nonmotorist type accidents), slides of the vehicle and a completed Vehicle Form will suffice. Inspections are not normally required for E stratum vehicles. However, for some special studies E stratum cases, vehicle inspections may be required.

Interviews. If the driver, pedestrian, nonmotorist or occupant was contacted and an appropriate form completed (i.e., the information provided is sufficient enough to support that a partial or complete interview was obtained), and submitted, it is recorded as an interview. An interview with either a driver, occupant, relative, or friend is acceptable as a surrogate interview for other occupants--this refers to the occupant interview section of the Occupant Form. Police officers or occupants of other involved vehicles who know the victim only because of the accident cannot be considered as surrogates and, therefore, no partial or complete interview credit can be assigned to investigators.

The driver interview section of the Driver Form must be completed through an interview with the driver. However, if an interview cannot be obtained because the driver is fatally injured or incapacitated, the driver history can be obtained from a relative or friend but accident circumstances must be provided by an occupant of the same vehicle or an eyewitness (including occupants of uninvolved vehicles).

Official Driver Records. A paper copy or teletype of an official driver record is acceptable. The record must be attached to the case. Other procedures must be established with and previously authorized by the Zone Center with CTM concurrence to be acceptable.

Official Medical Data. A copy of a hospital records department or other clinical institute final discharge medical summary is required. Copies of an emergency room or other abbreviated and advanced medical reports are acceptable with prior Zone Center approval only if established relations dictate (i.e., hospital will not or does not provide more comprehensive medical report). Copies of physician reports are acceptable when appropriate (i.e., PAP reports victim as injured but driven to private physician). Substitute procedures, including handwritten or transcribed information, are acceptable only with the prior approval of the Zone Center with CTM concurrence. Only official copies of autopsy reports are acceptable. Reports from lay coroners and certificates of death are not considered official medical records.

Finally, before alternative methods for acquiring official records (i.e., handwritten copies or telephone transcripts of medical data and driver records) are authorized, all avenues for obtaining the hard copy must be exhausted. Therefore, establishment of PSU relations will be closely monitored by each Zone Center to ensure that teams do not default to alternative methods because they are easier to establish.

#### 4.6 Special Procedures for Stratum "F" Accidents

##### 4.6.1 Procedure for Vehicle(s) in Case Stratum "E"

Do not photograph or inspect any vehicle from an accident sampled in this stratum. Instead, the data obtained for these vehicles will be entered on an abbreviated vehicle form, essentially requiring no field effort. This Vehicle For Nontowaway Accident ("E") Form is only one page in length and has 17 variables. The PAR and vehicle registration data will be primary sources of information for this form. Vehicle registration records must be requested for each vehicle in every "E" case. The Vehicle Identification Number on the

registration record will supply make/model and body type information. If the registration record is unobtainable (e.g., unregistered vehicle), or if the registration or VIN does not supply sufficient information, the investigator may rely on the PAR information to code these variables. If the registration record is insufficient and the police report is not clear on year, make, model, or body type, the investigator may obtain this information from the driver interview. However, you should not collect any data for variables not on the Vehicle For Nontowaway Accident Form, inspect, or photograph the vehicle simply because it is readily available.

The CRASH or other reconstruction program is not to be exercised for vehicles in stratum "E" since the vehicle procedures and forms unique to these cases have no provision to store any results, and the field inputs for the program will not be collected.

#### 4.6.2 Procedure for Scene Reconstruction in Case Stratum "E"

General scene diagrams will be required for these cases, but it is neither necessary nor encouraged that they include representations of the vehicles at their pre-, at-, and post-crash positions. It is only necessary that you locate the first harmful event on the general diagram of the scene. This should be done by drawing an "X" within a circle at the appropriate location. An arrow representing the path of the vehicle prior to impact and leading to the first harmful event should also be included on the diagram. Examples of expected diagrams for accidents in Nontowaway stratum "E" are included (Figure 4-3).

Please note that it is still necessary for the investigator to respond to the scene in order to collect the environmental data on the Driver Form(s) for these "E" accidents. The field work at the scene will also provide the data for the general diagram (e.g., lane widths, etc.). Physical evidence (e.g., skid marks, etc.) should be noted on the diagram, but not measured.

Finally, photographs should be taken along the pre-impact path of each vehicle and oriented toward the location of the first harmful event. Additional photographs are to be taken to depict the type of roadway(s) involved if the coverage leading to the first harmful event was too narrow to represent the entire scene.

#### 4.6.3 Vehicles Not Affected by Procedures for Stratum "E"

The full Vehicle Form (pages 1-13) should be applied in its entirety and the vehicles inspected (as well as photographed) whether or not they were towed, if the accident has been stratified (last character of variable A02) as an "A", "B", "C", or "D". In other words, the abbreviated single page Vehicle For Nontowaway Accident Form and the instructions to neither inspect, photograph, nor locate vehicles at their pre-, at-, or post-crash positions applies only to vehicles in Nontowaway stratum "E". Please keep in mind that you will not have independent data regarding restraint usage and occupant contact points when the abbreviated form is used, therefore, you must carefully query the occupants to elicit this information for later use on the Occupant Form.

#### 4.6.4 Usage of Other NASS Forms in Nontowaway Stratum "E"

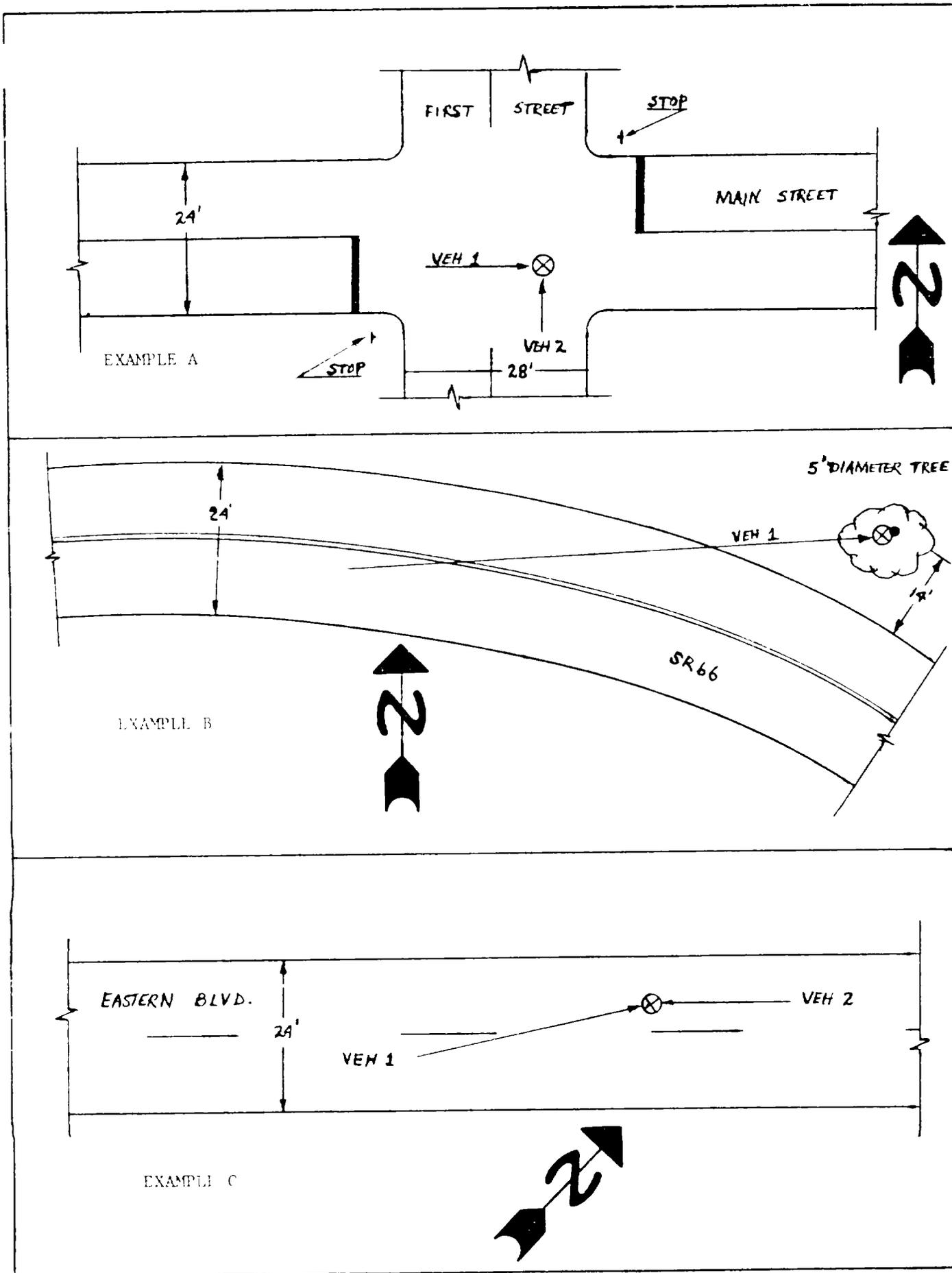
All other forms--Accident, Pedestrian and Nonmotorist, Driver, and Occupant--are to be applied in their entirety as applicable without regard to the stratification of the case.

#### 4.6.5 Selection of Vehicle Form and Scene Procedures When Towaway Status on Police Report Is Not Indicated or In Error

If the police report is designed to address the issue of towing but does not explicitly state whether any vehicle was towed, the investigator is to consider this a Nontowaway and stratify the accident in the "E" stratum, assuming that it does not qualify for a higher stratum. The investigator should then follow the procedures under Section 4.6.1 and 4.6.2, even if it is subsequently learned that one of the vehicles was towed and the police report was in error (e.g., by failing to make an entry with respect to the issue of towing). This rule also applies where the police indicate all the vehicles were driven from the scene by stating just that, marking through the section dealing with removal of the vehicle (if this is interpreted as inapplicable or vehicle driven from scene) etc.

Conversely, in the above accidents where the police indicate that at least one of the vehicles was towed, the accident should be stratified in stratum "L" or higher, depending on the injury severity or transport status. Once it has been stratified in a stratum other than "E", the Vehicle Form is applicable for each vehicle in the accident, even if it is subsequently determined that none of the vehicles were towed and the police report was in error. Special instructions are provided to PSU's (e.g., Chicago), where the issue of towing is not routinely within the scope of the police report.

FIGURE 4-3



## 5.0 SUBMISSION INSTRUCTIONS

### 5.1 Quality Control Checks for PSU Teams

Please find below a list of quality control checks to be made by PSU teams.

#### 5.1.1 Quality Control Checks Prior to Microcomputer Data Entry

Each case should be reviewed by a person other than the originating investigator prior to entering them via MDE. This effort tends to minimize encoding errors resulting from values which are either illegal or legal but incorrect. The noncoded items in the case should also be checked. The primary investigator is to be informed (preferably in writing) of any problems detected during this review and that investigator is to assume the responsibility for their resolution. Some suggested areas where problem may occur are as follows:

- . Has the case passed an in-house case review?
- . Are all official records and slides present?
- . Check slides and official records to make sure they correspond to the case submitted (slides and police report shouldn't be placed next to each other because the photocopied police report tends to "bleed" on the slide folders).
- . Have portions of update record forms been filled out where needed?  
  
Do the control charts properly reflect how much of the case report has been completed?  
  
Make sure medical reports are properly sanitized.  
  
Are all data collection forms present?  
  
Include forms for all persons and vehicles, even if they have not been interviewed or inspected.  
  
Are the logs properly completed on the forms?  
  
Make sure case materials are sequenced properly and the case report envelope is stamped and properly identified.  
  
Check noncoded data for correctness and its interface with coded data.  
  
Check to make sure that the coded data are properly and legibly entered on the data collection forms.  
  
Have "+"s or "-"s been circled for V60, V63, V89 and V90 on the Vehicle Form?

#### 5.1.2 Quality Control Checks Resulting from Microcomputer Data Entry

Inconsistencies, out-of-range values, and other error diagnostics encountered during the MDE are explained in Section 3, Tables A-1 through A-9, and Section

4 of the Microcomputer Data Entry (MDE) System User's Manual. All errors detected by the computer edits are corrected by the PSU before the case is forwarded to the Zone Center--unless the Zone Center is notified and suggests shipment of an incompletely entered case.

#### 5.1.3 Check to Make Sure Administrative Procedures are Being Followed

- . Are control charts and activity logs (when used) updated weekly?
- . Are monthly reports and sampling materials sent to the Zone Center?
- . Are manuals up-to-date and properly displayed?  
Are needed supplies in stock (e.g., film, etc.)?

#### 5.1.4 Check Sampling Procedures

- . Periodically review sampling procedures in team meetings.
- . Document any problems in the monthly report.

#### 5.1.5 Check Data Collection Procedures

- . Periodically review procedures. Document when meetings are held and any problems discovered with the data collection procedures or forms. Indicate problems in the monthly report or over Message System to your Zone Center. Keep a file of problems encountered and go over them with a Zone Center representative during the next Zone Center site visit.

#### 5.1.6 Check to Make Sure Updates Are Being Processed Properly

- . Are the vehicle record, driver record, and medical update records filed by case number?
- . Do Zone Center and PSU records agree (see Zone Center list of outstanding updates)?

#### 5.1.7 Check Individual Effort and Accuracy in Collecting Evidence and Skill in Interpretation

- . Discuss data collection procedures and efficient ways to execute them in team meetings. Discuss how much follow-up effort is needed for obtaining interviews and think about methods other than the phone and personal contact for obtaining more interviews (e.g., letters).

#### 5.2 Case Submission

The final date for the remaining submission of December 1985 cases (exclusive of updates) is February 21, 1986. All remaining updates for 1985 cases are to be submitted by March 7, 1986. This will allow the Zone Centers approximately three weeks to review and enter this new information (updates) on the 1985 version of MDE before it becomes inaccessible to them, as well as the PSUs, on March 28, 1986.

Cases acquired in 1986 shall be submitted to the Zone Centers on an approximate bi-weekly basis. The materials for each case are to be ordered in the recommended format discussed in section 4.1, each case is to be packaged in a separate envelope with the appropriate identification and account of contents on the front of the envelope. These procedures will provide uniformity across teams and, in turn, reduce the variation encountered by the Zone Center upon receipt of the cases. Furthermore, the bi-weekly submission will minimize the peaks and valleys in the Zone Center case review workload.

Submission Schedule--Cases shall be submitted on an approximate bi-weekly basis beginning 7 Feb. 1986, according to the schedule (Table 5.1). Essentially, there will be at least one month to make the initial submission of any case. All cases are to be submitted within 5 weeks following the date on which they were sampled. This means that the maximum time available to submit a case will be 35 days from the date of sample. Interviews, vehicle inspections, and scenes not completed in the allowed time period will not be updated.

Those variables which are allowed updates, but have not been completed within the time available for the initial case submission, should be documented on the appropriate record and submitted as updates in accordance with the schedule.

Cases which are completed (i.e., no updates needed) prior to elapsing of the available time period should be submitted on the next, earliest case submission.

Case Envelope--PSUs should consult with their Zone Centers as to the correct envelope size. The case envelope belongs inside the shipping envelope. The information below belongs on the case envelope, not on the covering shipping material. The PSU number, case number, accounting of case materials, and the status of the case at the time of submission, as shown below, are to be entered in the upper right hand corner of the envelope when the envelope is positioned with its flap on the underside and to the right.

PSU# _____	CASE# _____		
___ CASE COMPLETE	___ CASE TO BE UPDATED		
FORMS	Police		
		<u>Required</u>	<u>Included</u>
Accident		. _____	. _____
Collision Diagram		_____	_____
Non-Occupant		. _____	. _____
Vehicle		_____	. _____
Driver		. _____	. _____
Occupants		. _____	. _____
Medicals		_____	. _____
CRASH		_____	_____
Slides (Number)		. _____	. _____

Table 5-1: NASS 1986 Case Submissions Schedule  
(Dates Batches of Material Must Be Submitted By)

CASES SAMPLED ON OR BEFORE	MUST BE SUBMITTED ON OR BEFORE	MUST BE RECEIVED ON OR BEFORE	MUST BE REVIEWED ON OR BEFORE	UPDATES MUST BE RECEIVED ON OR BEFORE
	+ 4 WKS	+ 5 WKS	+ 7 WKS	+ 12 WKS
12/13/1985	1/10/1986	1/17/1986	1/31/1986	3/ 7/1986
12/27/1985	1/24/1986	1/31/1986	2/14/1986	3/21/1986
12/31/1985	1/28/1986	2/ 4/1986	2/18/1986	3/25/1986
1/10/1986	2/ 7/1986	2/14/1986	2/28/1986	4/ 4/1986
1/24/1986	2/21/1986	2/28/1986	3/14/1986	4/18/1986
2/ 7/1986	3/ 7/1986	3/14/1986	3/28/1986	5/ 2/1986
2/21/1986	3/21/1986	3/28/1986	4/11/1986	5/16/1986
3/ 7/1986	4/ 4/1986	4/11/1986	4/25/1986	5/30/1986
3/21/1986	4/18/1986	4/25/1986	5/ 9/1986	6/13/1986
4/ 4/1986	5/ 2/1986	5/ 9/1986	5/23/1986	6/27/1986
4/18/1986	5/16/1986	5/23/1986	6/ 6/1986	7/11/1986
5/ 2/1986	5/30/1986	6/ 6/1986	6/20/1986	7/25/1986
5/16/1986	6/13/1986	6/20/1986	7/ 4/1986	8/ 8/1986
5/30/1986	6/27/1986	7/ 4/1986	7/18/1986	8/22/1986
6/13/1986	7/11/1986	7/18/1986	8/ 1/1986	9/ 5/1986
6/27/1986	7/25/1986	8/ 1/1986	8/15/1986	9/19/1986
7/11/1986	8/ 8/1986	8/15/1986	8/29/1986	10/ 3/1986
7/25/1986	8/22/1986	8/29/1986	9/12/1986	10/17/1986
8/ 8/1986	9/ 5/1986	9/12/1986	9/26/1986	10/31/1986
8/22/1986	9/19/1986	9/26/1986	10/10/1986	11/14/1986
9/ 5/1986	10/ 3/1986	10/10/1986	10/24/1986	11/28/1986
9/19/1986	10/17/1986	10/24/1986	11/ 7/1986	12/12/1986
10/ 3/1986	10/31/1986	11/ 7/1986	11/21/1986	12/26/1986
10/17/1986	11/14/1986	11/21/1986	12/ 5/1986	1/ 9/1987
10/31/1986	11/28/1986	12/ 5/1986	12/19/1986	1/23/1987
11/14/1986	12/12/1986	12/19/1986	1/ 2/1987	2/ 6/1987
11/28/1986	12/26/1986	1/ 2/1987	1/16/1987	2/20/1987
12/12/1986	1/ 9/1987	1/16/1987	1/30/1987	3/ 6/1987
12/26/1986	1/23/1987	1/30/1987	2/13/1987	3/20/1987
12/31/1986	1/28/1987	2/ 4/1987	2/18/1987	3/25/1987
1/ 9/1987	2/ 6/1987	2/13/1987	2/27/1987	4/ 3/1987
1/23/1987	2/20/1987	2/27/1987	3/13/1987	4/17/1987

Table 5-1a: NASS 1986 File Closeout Schedule

CASES SAMPLED ON OR BEFORE	MUST BE APPROVED ON OR BEFORE	QUARTERLY FILE MUST BE CLOSED OUT ON OR BEFORE	QUARTERLY REPORT DUE ON OR BEFORE	ANNUAL REPORT DUE ON OR BEFORE
	+ 13 WKS	+ 13 WKS	+ 14 WKS	+ 16 WKS
12/13/1985	3/14/1986			
12/27/1985	3/28/1986			
12/31/1985	3/28/1986	3/28/1986	4/ 4/1986	4/22/1986
1/10/1986	4/11/1986			
1/24/1986	4/25/1986			
2/ 7/1986	5/ 9/1986			
2/21/1986	5/23/1986			
3/ 7/1986	6/ 6/1986			
3/21/1986	6/20/1986			
4/ 4/1986	7/ 4/1986	7/ 4/1986	7/11/1986	
4/18/1986	7/18/1986			
5/ 2/1986	8/ 1/1986			
5/16/1986	8/15/1986			
5/30/1986	8/29/1986			
6/13/1986	9/12/1986			
6/27/1986	9/26/1986	9/26/1986	10/ 3/1986	
7/11/1986	10/10/1986			
7/25/1986	10/24/1986			
8/ 8/1986	11/ 7/1986			
8/22/1986	11/21/1986			
9/ 5/1986	12/ 5/1986			
9/19/1986	12/19/1986			
10/ 3/1986	1/ 2/1987	1/ 2/1987	1/ 9/1987	
10/17/1986	1/16/1987			
10/31/1986	1/30/1987			
11/14/1986	2/13/1987			
11/28/1986	2/27/1987			
12/12/1986	3/13/1987			
12/26/1986	3/27/1987			
12/31/1986	3/27/1987	3/27/1987	4/ 3/1987	4/17/1987
1/ 9/1987	4/10/1987			
1/23/1987	4/24/1987			

A rubber stamp, ink pad, and ink have been provided. This information will help the Zone Center effectively sort the case at the inception of the quality control process; the standardized envelopes will facilitate storage and retrieval.

Case update records should be submitted in the same type of envelope. Identify the PSU, and boldly mark the front of the envelope: UPDATES. The updates will be removed from the envelope and collated with the original forms in their respective cases by the Zone Center.

Shipment of Cases--The envelopes containing the individual cases which are eligible for shipment, according to the schedule shown in Table 5-1, should be packaged in a box or other suitable container and mailed to the Zone Center. The PSU should provide an acknowledgement of delivery card, return receipt, or similar confirmation to ensure the shipment was received by the Zone Center.

The mailing addresses for the Zone Centers are as follows:

ZOA, Central	Transportation Research Center Attention: NASS Receiving SPEA Building, Room 430 Indiana University Bloomington, Indiana 47405
ZOB, Northern	Donald Neff Calspan Field Services, Inc. P.O. Box 400 Buffalo, New York 14225
ZOC, Southern	NASS Southern Zone Center Southwest Research Institute P.O. Drawer 28510 San Antonio, Texas 78284
ZOD, Western	Dynamic Science, Inc. 8531 East Florence Avenue Downey, California 90240

### 5.3 Case Dropping Procedures

The following procedure for dropping cases should be adhered to for all NASS cases:

1. Call your Zone Center for approval. Let it be known that a case is being dropped and give the reason why.
2. Send a follow-up message informing the Zone Center and NHTSA (HDQ) of the case to be dropped. Include in the message the case number and the reason the case is being dropped, the date of approval, and the person who approved the case for dropping.
3. The case must be MDE'ed by the PSU and subsequently released to the Zone Center. To MDE the case, complete the Accident Form, one Vehicle Form, one Driver Form, and one Occupant Form. This may differ from the

components of the case but is required for the case to be released. Data fields are to be completed as follows:

<u>Accident Level</u>	<u>Valid Codes</u>
A06	1-9
A07	1-3
A10	01
A11	00
A12-A23	\$ in first data field of each variable
A24-A29	0
AL10-AL12	\$ in first data field of each variable
AL14	3

<u>Vehicle Level</u>	<u>Valid Codes</u>
V06	1-9
V08	00, 01
V09-V19	\$ in first data field of each variable
V20-V23	\$ in the 3 data fields of V20 only
V24-V92	\$ in first data field of each variable
VL08-VL16	\$ in first data field of each variable

NOTE: SDO cases follow the same procedures as above. Machine generated "9's" (hard coded) for specific SDO variables cannot be changed. It is not necessary to code "\$" in these fields for SDO cases.

<u>Driver Level</u>	<u>Valid Codes</u>
D06	1-9
D08	00, 01, 99
D09	1, 2
D10-D58	\$ in first data field of each variable
DL08	00-01 (Code independent of seating position)
DL09-DL14	\$ in first data field of each variable

<u>Occupant Level</u>	<u>Valid Codes</u>
006	1-9
009-080	\$ in first data field of each variable
OL09-OL15	\$ in first data field of each variable

- 4 Send the dropped hardcopy case report to the Zone Center. Each dropped case is to be sent to the Zone Center in a separate standard envelope.

- A. The outside of the envelope should be labeled as follows:
- PSU stamp, on the upper right-hand corner, filled out with the PSU number and case number.
  - Written in large letters is: DROPPED (under the PSU stamp).
  - The date of Zone Center approval to drop the case.
  - The persons who gave Z.C. approval to drop the case.
- B. Inside the envelope should be:
- PAR
  - Accident Form with the following variables filled out:
    - Accident Data
      - A01-PSU number
      - A02-Case Number Stratification
      - A06-Investigator I.D. Number
      - A07-Type of Case
      - A08-Date
      - A15-Time
    - Accident Log
      - A1-PSU Number
      - A2-Case Number-Stratification
      - A4-Transaction Code
      - A6-Investigator I.D. Number
      - A7-Type of Case
      - A8-Date of Accident
      - A9-Date Sampled
      - A11-Completing Person
      - A14-Case Status
  - A14 Must be coded 3 (Case Dropped - Reason): Give a detailed explanation of the reason the case was dropped.
  - General, any other materials completed prior to dropping the case (i.e., slides)

### Zone Centers

The case will be deleted from the Zone Center's active case file at a later date after the Zone Center reviews the hardcopy case report and agrees that the case should be dropped.

Below are instructions followed by the Zone Centers.

1. List the case number and reason why the case was dropped in your monthly, quarterly and annual reports.

2. The COTR will use the monthly report as a record for advising Information Management Division (IMD) of cases to be deleted from the file.
3. Disposition (e.g., shipped to NHTSA for review or destroyed at the Zone Center) of the dropped case report will be determined by the CTM.

## 6.0 CODING INSTRUCTIONS

This section provides the general instructions for collecting and coding the data called for in the field forms. Documentation for each data element includes variable name, element values (attributes), definitions where needed, data sources, collection methodology, reference materials (if needed), remarks, consistency checks, and special processing information.



Accident Data

1 Primary Sampling Unit Number 1 2

2 Case Number-Stratification 3 4 5 6

3 Record Number 7

4 Transaction Code 8

5 Version Number 9

6 Investigator I D Number 10

IDENTIFICATION

7 Type of Case 11

\_\_\_ (1) Full data collection

\_\_\_ (2) Nontowaway (Stratum E)  
(Reduced data collection)

\_\_\_ (3) Source document only

8 Date (Month Day, Year) 12 13 14 15 16 17 18

9 Blank (This variable is left blank so that numbering consistency can be maintained with the 1985 CSS) 18

10 Number of Vehicle Forms Submitted 19 20

\_\_\_ Code the number of motor vehicles in transport for which a VEHICLE FORM was submitted

11 Number of Pedestrian & Nonmotorist Forms Submitted 21 22

\_\_\_ Code the number of pedestrians and/or non-motorists for which a PEDESTRIAN & NON-MOTORIST FORM was submitted

12 First Harmful Event

Non-collision

\_\_\_ (01) Fire or explosion

\_\_\_ (02) Immersion

\_\_\_ (03) Gas inhalation

\_\_\_ (04) Fell from vehicle

\_\_\_ (05) Injured in vehicle

\_\_\_ (06) Other noncollision (specify) \_\_\_\_\_

\_\_\_ (07) Overturn

\_\_\_ (08) Jackknife with intraunit damage

Collision With

\_\_\_ (09) Pedestrian

\_\_\_ (10) Pedalcyclist

\_\_\_ (11) Railway train

\_\_\_ (12) Animal

\_\_\_ (13) Motor vehicle in transport (same roadway)

\_\_\_ (14) Motor vehicle in transport (other roadway)

\_\_\_ (15) Parked motor vehicle

\_\_\_ (16) Other type nonmotorist (specify) \_\_\_\_\_

\_\_\_ (17) Thrown or falling object

\_\_\_ (18) Boulder

\_\_\_ (19) Other object (not fixed) (specify) \_\_\_\_\_

Collision with Fixed Object

\_\_\_ (20) Building

\_\_\_ (21) Impact attenuator/crash cushion

\_\_\_ (22) Bridge pier or abutment

\_\_\_ (23) Bridge parapet end

\_\_\_ (24) Bridge rail

\_\_\_ (25) Guardrail

\_\_\_ (26) Concrete traffic barrier

\_\_\_ (27) Median barrier

\_\_\_ (28) Other longitudinal barrier (specify) \_\_\_\_\_

\_\_\_ (29) Highway Traffic sign post

\_\_\_ (30) Overhead sign support

\_\_\_ (31) Luminaire/Light support

\_\_\_ (32) Utility pole

\_\_\_ (33) Other post, pole, or support (specify) \_\_\_\_\_

\_\_\_ (34) Culvert

\_\_\_ (35) Curb

\_\_\_ (36) Ditch

\_\_\_ (37) Embankment-earth

\_\_\_ (38) Embankment-rock, stone or concrete

\_\_\_ (39) Fence (wooden wire, chain link, etc.)

\_\_\_ (40) Wall (stone, rock, metal, etc.)

\_\_\_ (41) Fire hydrant

\_\_\_ (42) Shrubbery

\_\_\_ (43) Tree

\_\_\_ (44) Other fixed object (specify) \_\_\_\_\_

\_\_\_ (45) Pavement surface irregularity (pothole, grooved grates)

\_\_\_ (99) Unknown

13 Manner of Collision (Based on First Harmful Event)

(0) Not collision with vehicle in transport

(1) Rear-end

(2) Head-on

(3) Rear to rear

(4) Angle

(5) Sideswipe, same direction

(6) Sideswipe, opposite direction

(9) Unknown 25

14 Relation to Roadway (location of first harmful event)

(1) On roadway

(2) On shoulder

(3) In median

(4) On roadside

(5) Outside right-of-way

(6) Off roadway - location unknown

(7) In parking lane

(8) Gore or channel island

(9) Unknown 26

**AMBIENT CONDITIONS**

15 Time

Code reported military time of accident (NOTE: midnight = 2400)

(9999) Unknown 27 28 29 30

16 Light Conditions

(1) Daylight

(2) Dark

(3) Dark, but lighted

(4) Dawn

(5) Dusk

(9) Unknown 31

17 Atmospheric Conditions

(1) No adverse atmosphere related driving conditions

(2) Rain

(3) Sleet

(4) Snow

(5) Fog

(6) Rain and fog

(7) Sleet and fog

(8) Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify) \_\_\_\_\_

(9) Unknown 32

**ADMINISTRATIVE ITEMS**

18 Relation to Junction

(01) Non-junction

(02) Three leg intersection

(03) Four leg intersection

(04) More than four leg intersection

(05) Rotary or traffic circle

(06) Intersection related

(07) Channel

(08) Area of merge related

(09) Area of divergence related

(10) Entrance ramp

(11) Exit ramp

(12) Driveway, alley access related

(13) Railroad grade crossing related

(14) Crossover related

(99) Unknown 33 34

19 Interchange Geometry

(0) No interchange

(1) Full diamond

(2) Partial diamond

(3) Full cloverleaf

(4) Partial cloverleaf

(5) Trumpet

(6) Directional

(8) Other (specify) \_\_\_\_\_

(9) Unknown 35

20 Accident Occurrence in School Zone

(0) No

(1) Yes

(9) Unknown 36

21 School Bus Related

(0) No

(1) Yes 37

22 Right or Left Turn on Red Related

(0) No

Right turn related

(1) Yes - turn permitted

(2) Yes - turn prohibited

Left turn related

(3) Yes - turn permitted

(4) Yes - turn prohibited

(9) Unknown 38

ENVIRONMENTAL DATA	SPECIAL STUDIES - INDICATORS
<p>23 Driver Level Environmental Data That Is Most Representative of this Accident Location</p> <p>_____ Code the driver level number (the vehicle number coded in variable D07) that best describes the accident's environmental conditions</p> <p style="text-align: right;"><u>39</u> <u>40</u></p>	<p>Information Collected From This Accident As A Part of the Special Studies Subsystem</p> <p><input type="radio"/> NO - Code 0 for each of questions 24 through 29</p> <p>If YES - Check (✓) each of the studies from the list below that were indicated. code 1 for the checked studies and 0 for the studies not checked</p> <p>24 ___ SS8-Longitudinal Barrier <span style="float: right;"><u>41</u></span></p> <p>25 ___ SS9-Crash Cushion <span style="float: right;"><u>42</u></span></p> <p>26 ___ SS12 <span style="float: right;"><u>43</u></span></p> <p>27 ___ SS13 <span style="float: right;"><u>44</u></span></p> <p>28 ___ SS14 <span style="float: right;"><u>45</u></span></p> <p>29 ___ SS15 <span style="float: right;"><u>46</u></span></p>
Empty section for additional data	

FORMS: For Team Use

Police _____	Accident _____	Collision Diagram _____	Pedestrian & Nonmotorist _____	Vehicle _____	Driver _____	Occupant _____	Medical _____	Reconstruction Program Summary _____	Slides (Number) _____
Required	1	_____	_____	_____	_____	_____	_____	_____	_____
Included	_____	_____	_____	_____	_____	_____	_____	_____	_____

COMPLETED BY TEAM

1 Primary Sampling Unit Number \_\_\_\_\_ 1 2

2 Case Number-Stratification \_\_\_\_\_ 3 4 5 6

3 Record Number \_\_\_\_\_ 1 7

4 Transaction Code \_\_\_\_\_ 8

5 Version Number \_\_\_\_\_ 9 9

6 Investigator I.D. Number \_\_\_\_\_ 10

7 Type of Case \_\_\_\_\_ 11  
 \_\_\_\_\_ (1) Full data collection  
 \_\_\_\_\_ (2) Nontowaway (stratum E) (Reduced data collection)  
 \_\_\_\_\_ (3) Source document only

8 Date of Accident \_\_\_\_\_ 8 6  
 \_\_\_\_\_ 12 13 14 15 16 17

9 Date Sampled (Listed) \_\_\_\_\_ 8  
 \_\_\_\_\_ 18 19 20 21 22 23

10 Date Scene Field Work Completed \_\_\_\_\_ 8 28  
 \_\_\_\_\_ 24 25 26 27 28 29

11 Completing Person \_\_\_\_\_ 30

12 Status of Accident Diagram: \_\_\_\_\_  
 \_\_\_\_\_ (0) Scene not located (specify reason) \_\_\_\_\_

Scene Located \_\_\_\_\_  
 \_\_\_\_\_ (1) Sufficient data (i.e. physical evidence) to complete a scaled diagram  
 \_\_\_\_\_ (2) Insufficient data to complete a scaled diagram but area mapped (with dimensions) and dynamics estimated  
 \_\_\_\_\_ (3) No scaled diagram or sketch required (i.e. SDO) \_\_\_\_\_ 31

13 Date Case Released to Zone Center \_\_\_\_\_ 8  
 \_\_\_\_\_ 32 33 34 35 36 37

14 Case Status \_\_\_\_\_  
 \_\_\_\_\_ (1) Case complete - No updates required  
 \_\_\_\_\_ (2) Case to be updated  
 \_\_\_\_\_ (3) Case Dropped - Reason \_\_\_\_\_ 38

15 Are Special Studies Included? (if No, code '0'. If Yes, code '1') \_\_\_\_\_  
 SS8 SS9 SS10 SS11 SS12 SS13 SS14 SS15  
 \_\_\_\_\_ 39 40 41 42 43 44 45 46

COMPLETED BY ZONE CENTER

16 Date Hardcopy Received at Zone Center \_\_\_\_\_ 8  
 \_\_\_\_\_ 47 48 49 50 51 52

17 Type of Review \_\_\_\_\_  
 \_\_\_\_\_ (1) Reviewed  
 \_\_\_\_\_ (2) Not reviewed \_\_\_\_\_ 53

18 Date Review Completed \_\_\_\_\_ 8  
 \_\_\_\_\_ 54 55 56 57 58 59

19 Reviewed By \_\_\_\_\_ 60 61

20 Case Review Status \_\_\_\_\_  
 \_\_\_\_\_ (1) Complete  
 \_\_\_\_\_ (2) Not complete \_\_\_\_\_ 62

21 Date Case Release to Master File \_\_\_\_\_ 8  
 \_\_\_\_\_ 63 64 65 66 67 68

22 Subject Quality - Scene Slides \_\_\_\_\_  
 \_\_\_\_\_ (0) No slides  
 \_\_\_\_\_ (1) Good - Slides show all necessary roadways and physical evidence including all objects contacted  
 \_\_\_\_\_ (2) Fair - Slides show general area of accident site and objects contacted - additional pictures would have been helpful  
 \_\_\_\_\_ (3) Poor - Slides do not adequately show area of impact or path of travel off-road or at least one object definitely contacted was omitted \_\_\_\_\_ 69

23 Slide Quality - Scene Slides (See next page for codes) \_\_\_\_\_ 70

24 Subject Quality - Vehicle Interior Slides \_\_\_\_\_  
 \_\_\_\_\_ (0) No slides  
 \_\_\_\_\_ (1) Good - Slides show all areas of contact, probable contact and/or possible occupant contact areas - all intrusions, probable intrusion and/or possible intrusion areas - vehicle interior components (instrument panel, headers, roof areas, seat belts, etc.) and all occupant seated positions  
 \_\_\_\_\_ (2) Fair - Slides show only contact and intrusion areas or an overall view of the vehicle interior - probable areas of contact and/or intrusion - relevant vehicle interior components and relevant occupant seated positions are omitted for at least one vehicle  
 \_\_\_\_\_ (3) Poor - Obvious and/or probable contact and intrusion areas are not photographed for at least one vehicle \_\_\_\_\_ 71

25 Slide Quality - Vehicle Interior Slides (See next page for codes) \_\_\_\_\_ 72

COMPLETED BY ZONE CENTER

26 Subject Quality - Vehicle Exterior Slides  
 \_\_\_ (0) No slides  
 \_\_\_ (1) Good - Slide coverage is complete in that it includes all areas of all vehicles (whether or not damaged), it is possible to generate an accurate CDC and check damage measurements if applicable  
 \_\_\_ (2) Fair - Slide coverage is only broad enough (for at least one vehicle) to include the areas which were reportedly damaged (areas which are reportedly not damaged are not shown), it is possible to generate a reasonable CDC and check damage measurements if applicable  
 \_\_\_ (3) Slide coverage excludes one or more areas of reported damage (for at least one vehicle), it is difficult to generate an accurate CDC and check damage measurements if applicable

73

(NOTE The location of the vehicle is considered at the time the slides were taken. If another vehicle or object obscured the damaged area so it could not be photographed, then that vehicle should be categorized (1) or (2) based on the slides taken. If a damaged area could have been photographed but was not, then that vehicle should be categorized (3).

27 Slide Quality - Vehicle Exterior Slides  
 (See codes below)

74

Slide Quality - All Pictures  
 (0) No Slides  
 (1) Good - All areas in vast majority of all the slides are clearly defined the subject has proper framing and exposure  
 (2) Fair - All areas in most of the slides are distinguishable but some camera adjustment could have been made. For example  
 a underexposure (dark)  
 b overexposure (light)  
 c out of focus (usable slide)  
 (3) Poor - The area photographed in many of the slides cannot be seen. Example of some failures are  
 a underexposure (too dark)  
 b overexposure (too light)  
 c out of focus (unusable slide)  
 d flash not used  
 e flash reflection  
 f distance

28 Physical Evidence Documentation  
 \_\_\_ (0) No physical evidence present at scene  
 Yes - physical evidence visible in slides or noted by investigator  
 \_\_\_ (1) Complete - all physical evidence (skidmarks gouges fluid spills contacted objects, etc.) is documented using standard investigator techniques  
 \_\_\_ (2) Partial - Documentation is adequate however certain physical evidence is incorrectly noted or overlooked  
 \_\_\_ (3) Incomplete - Documentation is poor. Physical evidence is generally missed or incorrectly documented and contacted objects are overlooked  
 \_\_\_ (4) None - no documentation of physical evidence  
 \_\_\_ (5) Not required - E stratum case  
 \_\_\_ (6) SDO case

76

29 Accident Dynamics  
 \_\_\_ (1) Complete - Accident dynamics represents point of impact, headings and locations and final rest of vehicle(s)  
 \_\_\_ (2) Partial - Vehicle dynamics only represents an overview of the accident configuration. Vehicle input is missing or improbable for at least one vehicle  
 \_\_\_ (3) Incomplete - Accident dynamics are incorrect, improbable, or missing  
 \_\_\_ (4) Accident dynamics are approximated (or E stratum case)  
 \_\_\_ (5) SDO case

78

30 Roadway Measurement/Furniture Documentation  
 \_\_\_ (1) Complete - All necessary roadway measurements and roadside furniture are documented  
 \_\_\_ (2) Partial - Only basic measurements and furniture are documented. More information would have been helpful  
 \_\_\_ (3) Incomplete - Necessary measurements and/or roadside furnitures are not documented  
 \_\_\_ (4) SDO or no documentation required

77

ERROR TALLY  
 (Completed By Zone Center)

Blank - Not in error and not missing 0 - RDE system error 2 - Error (not correctable) 3 - Error (correctable) 6 - Sequencing errors in CDC's or injury data 8 - Data entry error 9 - Unknown coded on field form  A - Hardcopy change with no error - not automated	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Response	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94
	Variable	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
	Response	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
	Variable	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
	Response	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128





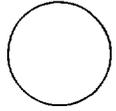
100

PSU No. — —

ACCIDENT COLLISION DIAGRAM

Case Number — — —

Indicate



North

Variable Name: Primary Sampling Unit Number

Format: 2 columns - numeric

Beginning  
Column 01

VALUES =====	STRATA =====	DESCRIPTION =====
01, 03, 31, 34, 35	1	Central City, one of the 10 largest 1970 SMSA's
36, 51, 63, 78, 85	2	Central city. one of the 11th - 60th largest 1970 SMSA'S
08, 09, 28, 32, 79	3	Suburban, one of the 17 largest 1970 SMSA'S; low gas sales
06, 29, 37, 38, 61	4	Suburban, one of the 18th - 60th largest SMSA'S: high gas sales
10, 33, 39, 52, 56. 80	5	Suburban, one of the 18th - 60 largest 1970 SMSA's, or PSU within 61st - 119th largest SMSA's not containing a central city
04, 27, 57, 82, 87	6	PSU within 61th - 119th largest SMSA's containing a central city
02, 30, 55, 58	7	PSU containing towns with 1977 population over 19,718; low gas sales
07, 11, 26, 59, 81	8	PSU containing towns with 1977 population over 19,718; high gas sales
12, 53, 54, 60, 62	9	PSU with no town with 1977 population over 19,718; low gas sales
05, 13, 14, 76, 83, 10	10	PSU with no town with 1977 population over 19,718; high gas sales

Each of the ten strata comprises approximately one tenth of the 1977 U.S. population. they are not exactly the same size. Consequently when the ten strata are subdivided into fifty substrata, greater equality among the fifty is possible without equiring each of the ten strata to be divided into the same number of substrata. In the fifty PSU design one PSU has been selected from each of these approximately equal substrata.

Variable Name Case Number--Stratum

Format 4 columns - alphanumeric Beginning  
Column 3

Element Values:

Range Case Number--000 through 999  
PAR Sampling Stratum--A, B, C, D, E

Source Assigned by Automated Case Selection System

Remarks

The Case Number--Stratum is assigned by the Automated Case Selection System and is composed of two parts: the first three digits are a number ranging from 000 to 999; the last digit is the letter identifying from which PAR sampling stratum the case was selected (A, B, C, D, E). The PAR sample strata are:

Stratum A - At least one person involved in the accident was killed.

Stratum B - No one in the accident was killed, but at least one person had an "A" injury

Stratum C - The accident did not have any fatalities or "A" injuries, but at least one person was transported directly from the scene to a treatment facility

Stratum D - The accident did not have any fatalities, "A" injuries or transported person, but at least one vehicle was towed from the scene.

Stratum E - The accident did not have any fatalities, "A" injuries, transported persons or towed vehicles.

Except as noted below, no numbers will be skipped. If a case must be dropped, the number will not be reused.

Case Numbers 001-500 are reserved for cases selected under the continuous sampling procedures.

Case Numbers 501-599 are reserved for those cases identified solely for special studies.

This variable is a mandatory variable and cannot be changed.

Variable Name Transaction Code

Format 1 column - numeric

Beginning  
Column 8

Element Values

- 1 Original case
- 2 Change to existing case
- 3 Delete existing case

Source Microcomputer Data Entry instructions

Remarks

Use code "1" (Original case) for initial submission. MDE (Microcomputer Data Entry) automatically updates the code thereafter.

This variable is a mandatory variable and cannot be changed.

Variable Name Investigator I D Number

Format 1 column numeric

Beginning  
Column 10

Element Values

Range 1 through 9

Source Zone center

Remarks

The person to whom the case has been assigned is to enter his/her unique number. Subsequent forms will reflect the unique number for the person completing the specific forms.

It is preferred that the person to whom the case has been assigned should also complete this information on the Accident Form and assume responsibility for the quality of the entire case.

Each researcher's unique number is assigned by the PSU's Zone Center.

This variable is a mandatory variable and cannot be changed.

Variable Name    Type of Case

Format    1 column - numeric

Beginning  
Column    11

Element Values

- 1    Full data collection
- 2    Nontowaway (Stratum E)  
      (Reduced data collection)
- 3    Source document only

Source    Assigned by the Automated Sampling System or team according to sampling procedures

Remarks

Code "1" (full data collection) is used when the initial stratum does not equal E

Code "2" (nontowaway) is used when the initial stratum equals E

Code "3" (source document only) should be used when the team is instructed by the Zone Center with prior approval from NHTSA headquarters. Scene and vehicle inspection are not required.

Variable Name Date (Month, Day, Year)

Format 6 columns - numeric

Beginning  
Column 12

Element Values

Month

01	January	07	July
02	February	08	August
03	March	09	September
04	April	10	October
05	May	11	November
06	June	12	December

Day

Range 01 through 31

Year

86 1986 (precoded value)

Source Police Report.

Remarks

This variable is a mandatory variable and cannot be changed

If the PAR indicates (usually a hit-and-run) that the accident occurred between some p.m. and a.m. time (e.g., 8:00 p.m. and 6:00 a.m.) on either a preceding or following day, code the accident as occurring on the following day. If a range of days is indicated (e.g., between Sunday and Friday) code the last date of the range (e.g., Friday).

If the month and year of accident occurrence is unknown: Code the sample month, unknown day (99) and sample year

This variable is left blank so that numbering consistency can be maintained with the 1987 C55.

Variable Name    Number of Vehicle Forms Submitted

Format    2 columns - numeric

Beginning  
Column    19

Element Values

Range:    01 through 30

Source    Researcher determined--inputs include police report, scene inspection, driver interviews, and other interviewees.

Remarks

Each accident must have at least one Vehicle Form or Vehicle For Nontowaway Accident Form submitted. For every form there must be one Driver Form. The value recorded must equal the number of Vehicle Forms or Vehicle For Nontowaway Accident Forms present in the case.

This variable is a mandatory variable and cannot be changed.

A form must be submitted for each in transport motor vehicle involved in the accident. For example, one vehicle is towing another by a nonfixed linkage (e.g., rope, chain, etc.) Both vehicles are involved in the accident. A form is required for both vehicles. Whereas, if the linkage was fixed (see V07, Vehicle Number, for a definition of "fixed linkage"), only the power unit would be considered in transport.

Hit and run accidents (see Variable V11, Hit and Run, for the meaning of this phrase for NASS purposes) occasionally cause some confusion on this variable. A vehicle form is filled out for each in transport vehicle involved in the accident independent of the amount of information collected on the vehicles by the police. Parked vehicles may or may not require a form depending on whether or not they were in transport. A thorough discussion of the sampling frame is found in section 2.0 of the Introduction (pages 4 through 22).

Variable Name Number of Pedestrian & Nonmotorist Forms Submitted

Format 2 columns numeric

Beginning  
Column 1

Element Values

Range 00 through 25

Source Researcher determined--inputs include police report scene inspection, driver interviews, and other interviewees

Remarks

A Pedestrian and Nonmotorist Form must be completed for each pedestrian or nonmotorist present in the accident. The value recorded must equal the number of pedestrians and/or nonmotorists for which a form was submitted.

This variable is a mandatory variable and cannot be changed.

Variable Name: First Harmful Event

Format 2 columns - numeric

Beginning  
Column 23

Element Values

Non-Collision

- 01 Fire or explosion
- 02 Immersion
- 03 Gas inhalation
- 04 Fell from vehicle
- 05 Injured in vehicle
- 06 Other non-collision (specify)
  
- 07 Overturn
- 08 Jackknife with intraunit damage

Collision with

- 09 Pedestrian
- 10 Pedalcyclist
- 11 Railway train
- 12 Animal
- 13 Motor vehicle in transport - same roadway
- 14 Motor vehicle in transport - other roadway
- 15 Parked motor vehicle
- 16 Other type nonmotorist (specify)
- 17 Thrown or falling object
- 18 Boulder
- 19 Other object (not fixed) specify

Collision with Fixed Object

- 20 Building
- 21 Impact attenuator/crash cushion
- 22 Bridge pier or abutment
- 23 Bridge parapet end
- 24 Bridge rail
- 25 Guardrail
- 26 Concrete traffic barrier
- 27 Median barrier
- 28 Other longitudinal barrier (specify)
- 29 Highway/Traffic sign post
- 30 Overhead sign support
- 31 Luminaire/Light support
- 32 Utility pole
- 33 Other post, pole, or support (specify)
- 34 Culvert
- 35 Curb



Variable Name: First Harmful Event (cont'd.)

Code "08" (Jackknife with intraunit damage) is used whenever there is sufficient rotation (articulation) between any two units such that they contact each other and leave any visible damage irrespective of the magnitude of the damage. Jackknife is not restricted to truck-tractor combinations, it may occur with any passenger vehicle, van, motorcycle, etc. which is pulling a trailing unit, and the trailing unit and pulling vehicle are capable of rotating (articulating) with respect to each other.

Code "09" (Pedestrian) refers to any person who is on a trafficway or on a sidewalk or path contiguous with a trafficway and who is not in, or on a nonmotorist conveyance. 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, wheel chair, rickshaw, etc. Excluded are pedalevelists.

Code "10" (Pedalcyclist) refers to any occupant of a pedalcycle (see ANSI D16.1-1976 section 2.2.16, page 6).

Code "13" (Motor vehicle in transport - same roadway) includes all initial impacts between two motor vehicles in transport which occur (1) at a junction or (2) not in a junction but on the same roadway. In the latter instance neither vehicle departed its roadway prior to impact.

A vehicle parked in a mid-block bus stop, fire hydrant, etc. should be considered as in transport if the vehicle should not be parked in the location (e.g. parked buses, fire trucks, etc.) are considered not in transport while a passenger car, motorcycle, etc. are considered in transport.

Code "14" (Motor vehicle in transport - other roadway) includes only those initial impacts when two motor vehicles in transport collide because one of the vehicles departed its roadway and entered, without previous harm, another roadway. One example of this phenomena occurs when a vehicle crosses through a median and strikes a vehicle in the opposing roadway. A second example involves the situation where a vehicle leaves the roadway and enters an intersecting roadway outside of the junction. This category is to be distinguished from the situation where a motor vehicle in transport leaves its roadway and strikes a motor vehicle not in transport. This latter situation is coded as "15" (Parked motor vehicle).

Code "15" (Parked motor vehicle) includes all initial impacts between a motor vehicle in transport and a motor vehicle neither on a roadway nor in motion.

## Variable Name First Harmful Event (cont'd )

Code "16" (Other type nonmotorist) refers to a person who is not a pedestrian or a pedalcyclist. See variable P08 (Pedestrian or Nonmotorist's Type), attributes "4" and "8". NOTE: If the first harmful event occurs with a motor vehicle not in transport which contains a nonmotorist (P08 = 4, Occupant of vehicle not in transport) use code "15" (Parked motor vehicle) above.

Code "17" (Thrown or falling object) refers to any object which (1) is thrown intentionally (subject to the malicious mischief exception to the deliberate intent exclusion--page 25) or unintentionally, and impacts an in transport vehicle, or (2) falls onto, into, or in the path of an in transport motor vehicle. However, objects set in motion by an in transport vehicle are to be coded under code "06" (Other non-collision). If a tree limb falls from a tree and is contacted by a car, use this code. If a tree limb falls from a tree trimming truck and is struck before it stabilizes, use code "06". If a boy maliciously throws a tree limb off of an overpass into traffic below, use this code.

Code "18" (Boulder) is used when an in transport motor vehicle contacts any large (not defined but at least larger than gravel) stationary rock.

Code "19" (Other object (not fixed)), refers to an initial impact between a motor vehicle in transport and any other object that is moving or not anchored prior to the accident. Included in this category is an initial collision between a motor vehicle in transport, which leaves its roadway, and a motor vehicle in motion off any trafficway. An example of this situation is where a vehicle loses control and contacts a snowmobile in motion off the trafficway.

Code "21" (Impact attenuator/crash cushion) should be used when the first harmful event is with any of the devices included on continuation pages (8) and (9).

Code "22" (Bridge pier or abutment) is used when the initial contact was with any part of a structural member of the bridge that supports the overpass structure (this includes side walls used to retain earth). See continuation page (10) Figure 2.

For contact to the "front face" of an overpass structure (e.g., the top of the cargo area of a truck strikes the front of a bridge with a low clearance) code "44" (Other fixed object).

Code "23" (Bridge parapet end) is used when the initial contact was with the end structure of the bridge rail (including the end structure of concrete type railings). See continuation page (10) Figure 2.

## Variable Name First Harmful Event (cont'd )

Code "24" (Bridge rail) is used when the initial contact was with any portion of the bridge rail except for the parapet end. See continuation page (10), Figure 2.

If the initial impact was with an impact attenuator protecting a bridge support, then code "21" (Impact attenuator/Crash cushion) should be used. Contact with the underside of the bridge deck is coded "44" (Other fixed object).

Included within the meaning of bridge structure are supports for railway underpasses, including those for mass transit type trains.

Codes 25, 26, 27 and 28 are coded by design and composition. Location is not considered when coding First Harmful Event (A12).

Code "25" (Guardrail) is used whenever the initial impact occurs with any longitudinal barrier types 1-9 regardless of its location, included on continuation page (11), Figure 3.

Code "26" (Concrete Traffic Barrier) is used whenever the initial impact occurs with a safety shaped, 1 or 2 sided, concrete barrier (commonly referred to as a GM or New Jersey barrier) regardless of its location. Use this code for temporary (e.g. construction sites) and permanent installations. Concrete traffic barriers located on a bridge with a closed median are not considered bridge rails. Concrete traffic barriers located on the outer road edges of a bridge are considered bridge rails. A concrete traffic barrier takes precedence over all longitudinal barriers. Concrete traffic barriers are shown on continuation pages (11) and (12). Figure 3, types 10 and 16.

Code "27" (Median Barrier) is used whenever the initial impact occurs with any non-concrete longitudinal barrier types 11-15, 17-20 regardless of its location, included on continuation page (12), Figure 3.

Code "28" (Other longitudinal barrier) is used whenever an impact occurs with a longitudinal barrier that does not meet the criteria for codes "24" (bridge rail), "25" (guardrail), "26" (concrete traffic barriers), or "27" (median barrier).

Codes "29" (Highway/Traffic sign post), "30" (Overhead sign support), "31" (Luminaire/light support), and "32" (Utility pole) are distinguished by the nature of the object supported. Use code "29" if the impact occurs to a support for a highway or traffic sign. Use code "30" if the impact occurs with anything that supports a sign under which vehicles travel. Use code "31" if the pole's primary function is to support a street light. Use code "32" if the pole's primary function is to support utility lines.

## Variable Name First Harmful Event (cont'd )

Code "33" (Other post, pole, or support) if the impact occurs with (1) a traffic signal pole, (2) any nonhighway or nontraffic sign (e.g., a private sign), (3) a mail box post, (4) a delineator post, or (5) any other type post, pole, or support. Code "33" should not be used when the initial impact was with any supporting structure of a bridge (see codes "22" through "24" above).

Code "34" (culvert) is 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 structure has a portion above the road surface which is of sufficient height to engage above the wheels of an errant passenger vehicle and redirect it, that part of the structure is considered a bridge rail (code "24"). A ditch (code "36") ends where a culvert begins and resumes on the opposite side of the culvert.

Code "36" (ditch) is a man made structure for drainage purposes. 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, code the impact with the struck side as an embankment (codes "37" or "38"). Substantial means that an embankment existed had the ditch not been present.

Code "37" (Embankment - earth) and "38" (Embankment - rock, stone or concrete) should be used only when damage or injury results from impacting the embankment. For example, the first harmful event for a motorcyclist who travels up an embankment, loses control, and falls over should be coded ground (code "44" Other fixed object). These codes are used if, for example, the motorcyclist car, etc., sustains direct damage from impacting the embankment.

Code "44" (Other fixed object) refers to any fixed object which is anchored and not moving and not specifically mentioned above. This includes ground and pavement, however, ground or pavement are not to be coded when the first event is an overturn ("07"). All motor vehicle (including motorcycles) may overturn. For object contacted (04) on ground event (04), 04 = 04 could be coded for an overturned vehicle but not on this variable (A12). Collisions which may be classified using this code include (but are not limited to): (1) vehicles which sustain undercarriage damage by straddling the pavement and shoulder and impacting a prominent pavement lip, or (2) free falls or vaults from the road surface to the ground or pavement without excessive roll action prior to impact.

Variable Name    First Harmful Event (cont'd )

Medians are handled as follows. If the median contains a physical barrier, code by design "25" (Guardrail), "26" (Concrete traffic barrier), "27" (Median Barrier), or "28" (Other longitudinal barrier). However, to use these codes the barrier type fixed object must have been the cause of the initial harm. Commonly encountered types are illustrated on continuation pages (11) and (12), Figure 3.

Where the median is curbed, paved, gravel, or grass only, then do not use these codes. If the median is depressed and the impact occurs with the ground, then code "37" (Embankment - earth), "38" (Embankment - rock, stone or concrete) or "44" (Other fixed object), whichever is most appropriate.

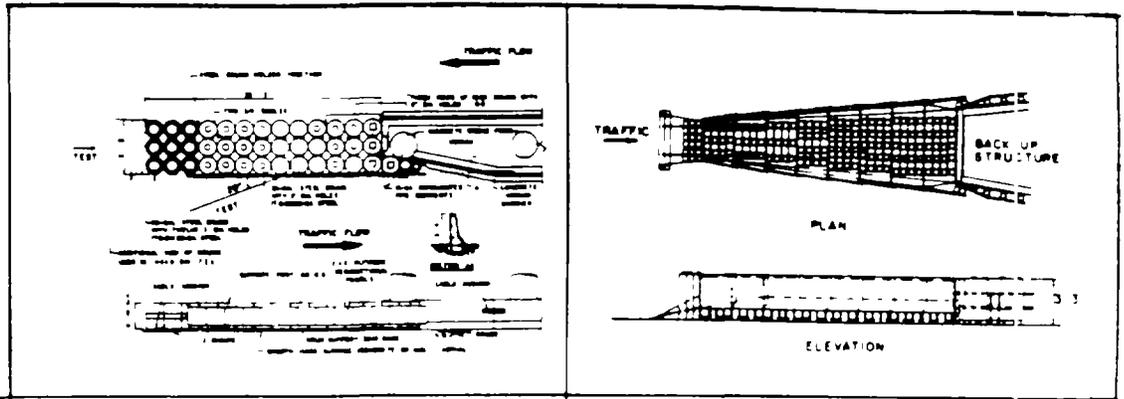
If the initial harmful event is with a raised, paved area (concrete or bituminous) then code "35" (Curb), should be used. This is true even if a barrier is anchored in the raised, paved area.

Tunnels are handled according to the following rules. If the impact is external (i.e., the impact is to the hill or mountainside), code embankment (codes "37" or "38"). If the impact is to the tunnel entrance (i.e., not protected by guardrails or bridge rails that lead into a tunnel or impact attenuators), then code "44" (Other fixed object). Code "40" (Wall) should be used if the plane of the tunnel is broad or wide enough that the tunnel entrance functions as a wall, and contact is made with this wall. External impacts to impact attenuators should be coded "21".

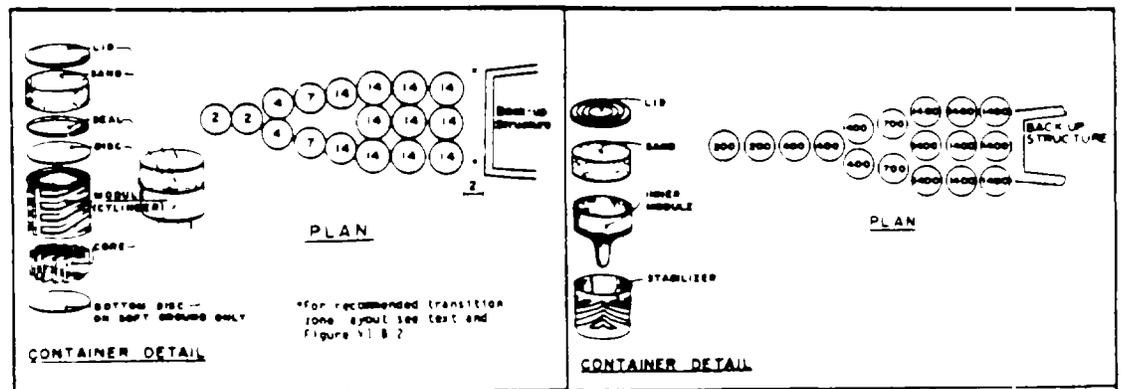
Internal or external impacts to (a) median barriers should be coded either "25" (Guardrail), "26" (Concrete traffic barrier), "27" (Median Barrier) or "28" (Other longitudinal barrier), (b) curbs (raised, paved medians) or walks should be coded "35" (Curb), or (c) the tunnel wall should be coded "40" [Wall (stone, rock, metal, etc.)]. If contact is made with a bridge that leads into a tunnel, code "23" (Bridge parapet end) or "24" (Bridge rail).

FIGURE 1  
IMPACT ATTENUATOR/CRASH CUSHION

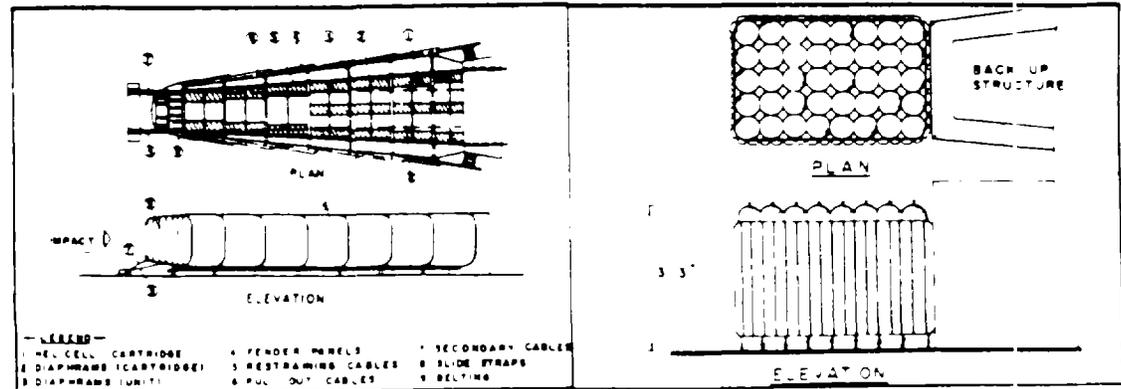
A12  
18



SYSTEM	C1 Steel Drums	C2 Hi-Dro Cell Sandrine
BARRIER DESCRIPTION	55 gallon tight head drum arranged in modular clusters. Fender panels with fish scales fastened to sides for side impact redirection. 1/2" x 4" plate used to secure drums for side impacts. 1/2" bolt nuts used to ensure uniform sliding of drums.	6" diameter polyvinyl chloride plastic cells filled with water. Fender panels with fish scales are provided for redirection.

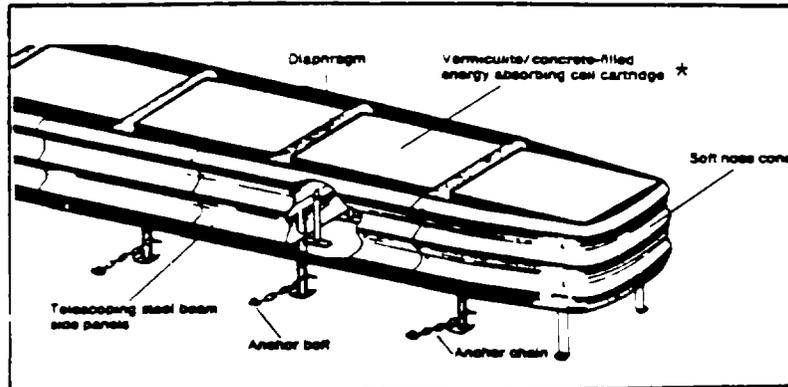


SYSTEM	C3 Fitch Inertial Barrier	C4 Energite Inertial Barrier
BARRIER DESCRIPTION	Specially manufactured plastic containers 36" in diameter and height filled with sand. Standard weights are 200, 400, 700, 400 and 2100 lb. Volume and density of sand may vary.	Specially manufactured plastic containers filled with sand. Standard size of container is 36" diameter top, 32" diameter base and 35 3/4" height. Standard weights of modules are 200, 400, 700 and 1400 lb.

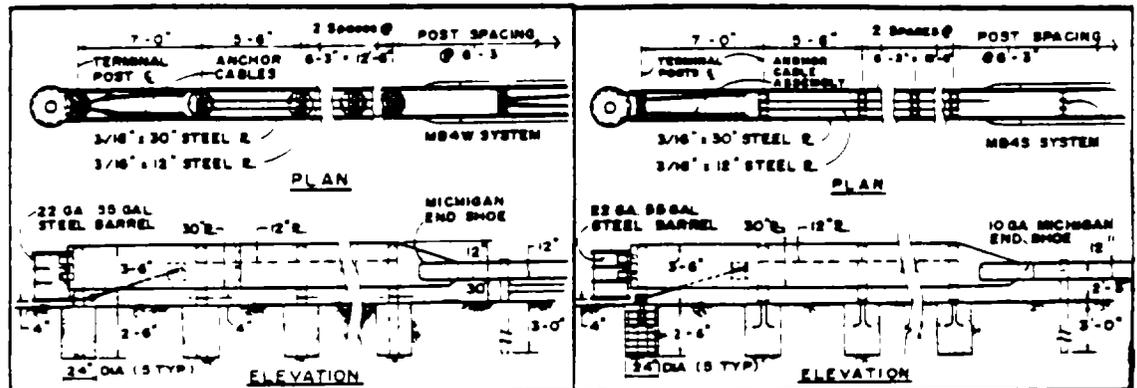


SYSTEM	C5 Hi-Dro Cell Cluster	C6 Hi-Dro Cell Cluster
BARRIER DESCRIPTION	Hi-Dro cell cartridges are arranged in a cluster and provided with fender panels with fish scales to provide absorption for head on and side impacts.	6" diameter polyvinyl chloride plastic cells arranged in a cluster and filled with water.

FIGURE 1 (cont'd)



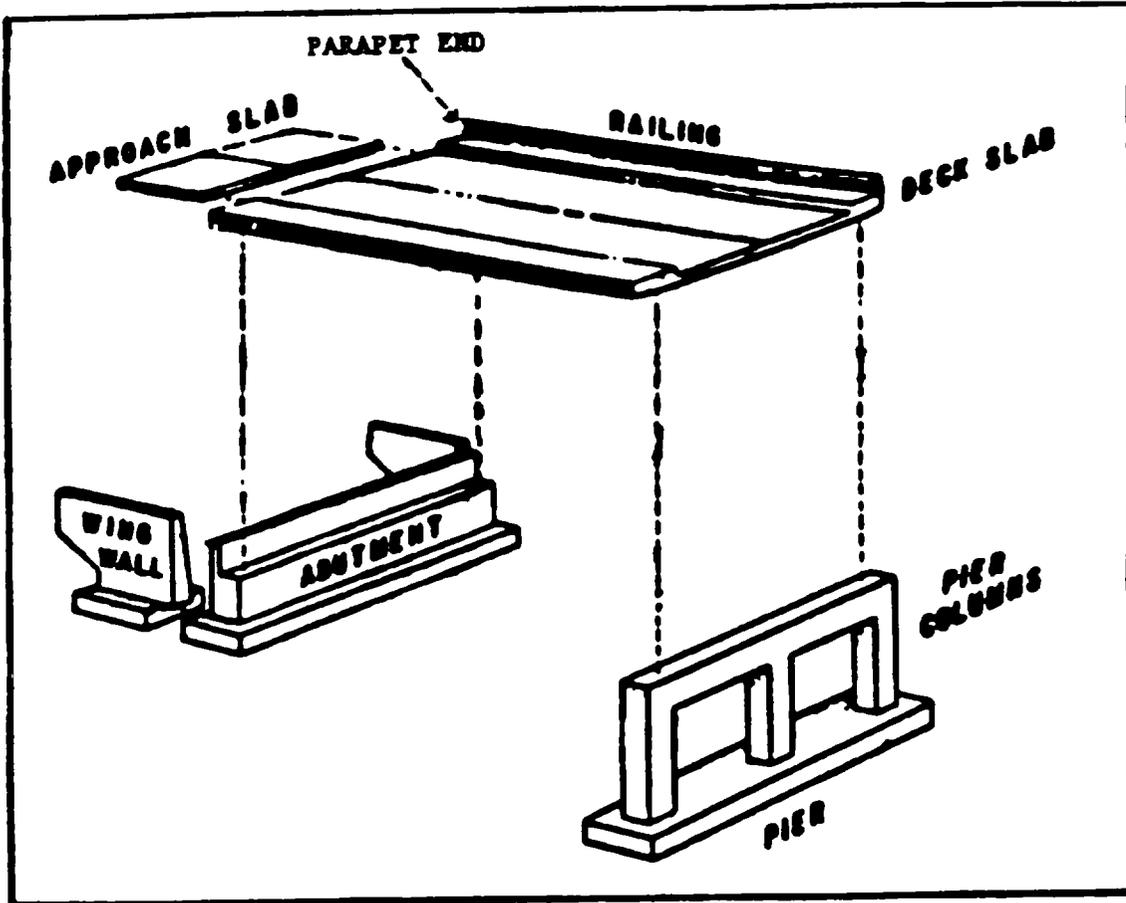
SYSTEM	Guard Rail Energy Absorbing Terminal (G.R.E.A.T.)
BARRIER DESCRIPTION	Maximum width of the barrier 20' Maximum width of the deckup 30' 2 1/2" unit also available. Weight 2,900 lbs. (typical 8-bay unit) Length 18' to 32' (4 bays to 10 bays)



SYSTEM	Median Barrier Broadway Cable Terminal (Wood Post)	Median Barrier Broadway Cable Terminal (Steel Post)
BARRIER DESCRIPTION	TYPICAL POST - 8"x8" Douglas Fir. TERMINAL POST - 6"x8" Southern Pine with 2 3/8" diameter hole drilled through neutral axis. ANCHORAGE - Cable assembly (see sketch). FOOTING - 24" diameter, 30" deep concrete for terminal posts, other posts require none. TYPICAL RAIL - steel "V" section, 12 GA. TERMINAL RAIL - 3/16"x30" steel plate. OFFSET BRACKETS - 4"x8" Southern Pine block.	TYPICAL POST - 6x8 S steel. TERMINAL POST - T56"x6"x0 1875" steel Broadway design. ANCHORAGE - Cable assembly (see sketch). FOOTING - 24" diameter, 30" deep concrete for terminal posts, other posts require none. TYPICAL RAIL - steel "V" section, 12 GA. TERMINAL RAIL - 3/16"x30" steel plate. OFFSET BRACKETS - 6"x6" steel blocks.

\*The cartridge may also be filled with Hex-Foam which is a matrix of hex-shaped cardboard honeycomb filled with polyurethane foam. The cardboard is stacked in one-inch layers in a cross-hatched fashion.

FIGURE 2  
BRIDGE COMPONENTS



INDIVIDUAL components of a bridge collectively become the bridge

FIGURE 3  
BARRIERS

A12  
(11)

	CODE 01	CODE 02	CODE 03	
SYSTEM	G1 Cable Guardrail	G2 6" x 8" Wood Post, Cable Guardrail (Steel Post)	G3 6" Beam	
BARRIER DESCRIPTION	16' 0" S3x5.7 steel Three 3/4" diameter steel cables None 5/16" diameter steel hook bolts 1/2" x 8" x 24" steel plate welded to post	12' 6" 5 1/2" dia x 6' treated wood posts Three 3/4" diameter cables, steel hook bolts, steel 5/16" diameter hook bolts, steel 6" x 18" x 18" precast concrete bearing block	12' 6" Nominal S3x5.7 steel Steel "M" section 12 GA None 5/16" diameter steel bolt 1/2" x 8" x 24" steel plate welded to post	6' 0" S3x5.7 steel 6" x 6" x 180" steel tube L5" x 3 1/2" x 1/4" steel angle 65' long 3/8" dia steel bolt/beam to angle 1/2" x 8" x 24" steel plate welded to post

	CODE 04	CODE 05	CODE 06	CODE 07
SYSTEM	G4(1M) Blocked-Out "M" Beam (Wood Post)	G4(2M) Blocked-Out "M" Beam (Wood Post)	G4(1S) Blocked-Out "M" Beam (Steel Post)	G4(2S) Blocked-Out "M" Beam (Steel C Posts)
BARRIER DESCRIPTION	6' 0" 6" x 8" Douglas Fir Steel "M" section, 12 GA 6" x 8" x 14" Douglas Fir Block 5/8" diameter carriage bolts None	6' 0" 6" x 8" Douglas Fir Steel "M" section, 12 GA 6" x 8" x 14" Douglas Fir Block 5/8" diameter carriage bolts None	6' 0" 4" x 8" steel post Steel "M" section 12 GA 4" x 8" x 14" long steel block 5/8" diameter bolt None	6' 0" 4 1/2" x 5 1/2" x 118" "C" steel post Steel "M" section 12 GA 4 1/2" x 5 1/2" x 118" "C" steel post 5/8" diameter bolt None

	CODE 08	CODE 09	CODE 10
SYSTEM	Blocked-Out "M" Beam (Steel Post)	W-beam (Strong Post)	Concrete Safety Shape
BARRIER DESCRIPTION	6' 0" 4" x 8" steel post 1 1/2" x 6" beam 4" x 8" x 14" long steel block 5/8" diameter carriage bolts None	None	None

FIGURE 3 (cont'd)

31  
1

	CODE 11	CODE 12	CODE 13	CODE 14
SYSTEM	#B1 Cable	#B2 "W" Section (Steel) Post	#B3 Box Beam	#B4 Blocked-Out "W" Beam (Wood Posts)
BARrier DESCRIPTION	8'-0" #2-#4 Two 3/4" diameter steel cables None None None None	12'-6" S3x5.7 Two steel "W" sections None 5/16" bolts 8"x14" steel plate welded to post	6'-0" S3x5.7 8"x6" steel tube None Steel saddles 8"x12" steel plate welded to post	6'-3" #2-#4 Douglas Fir Two "W" section box (6x8 2 channels) Two 8"x8" Douglas Fir Blocks 5/8" diameter bolts None

	CODE 15	CODE 16	CODE 17	CODE 18
SYSTEM	#B5 Blocked-Out "W" Beam Steel Posts	#B5 Concrete Water Barrier	#B7 Aluminum Screen Beam	#B8 Aluminum Extrusion Beam
BARrier DESCRIPTION	6'-3" max #418 S Two steel "W" sections Two #418 S 5/8" diameter steel bolts None	Continuously poured, reinforced, sloped face concrete section. Barrier can be anchored by dowels or an asphalt key.	6'-3" Aluminum 1" or steel S3x5.7 Aluminum extrusions None Steel or aluminum saddles 8"x12" steel or aluminum plate	2'-6" 5/8" x 7/8" section aluminum 5/8" x 7/8" section aluminum Four standard aluminum extrusions None Standard hardware None

	CODE 19	CODE 20
SYSTEM	#B9 Blocked-Out "W" Beam (Steel) Posts	#B10 Metal Beam Guard Fence (Steel) Posts
BARrier DESCRIPTION	6'-3" #418 S Two "W" Beams #418 S 5/8" diameter steel bolts None	6'-3" #418 S steel Two steel "W" sections None 5/8" diameter bolt 1/2" x 5/8" steel plate

\* Note: The use of 6" x 8" instead of 8" x 8" cross section is also acceptable.

\*\* Note: The use of 4 x 3" x 5.3 9" c 3.16" 10" steel post instead of W x 9" steel post is also acceptable.

Variable Name Manner of Collision (Based on First Harmful Event)

Format 1 column - numeric

Beginning  
Column 25

Element Values

0 Not collision with vehicle in transport  
1 Rear-end  
2 Head-on  
3 Rear-to-rear  
4 Angle  
5 Sideswipe, same direction  
6 Sideswipe, opposite direction  
9 Unknown

Source Researcher determined -- inputs include the police report, scene inspection, vehicle inspections, and driver interviews

Remarks

Code "0" (Not collision with vehicle in transport) means First Harmful Event (A12) was not coded as "13" or "14".

Code "1" (Rear-end) refers to a collision between the rear of one vehicle and the front of another vehicle

Code "2" (Head-on) refers to a collision where the front end of one vehicle collides with the front end of another vehicle

Code "3" (Rear-to-rear) refers to a collision where the rear of one vehicle collides with the rear of another vehicle

Code "4" (Angle) refers to those collisions which are known but cannot be classified with any other code. Included here, also, are endswipes.

Code "5" (Sideswipes, same direction) refers to collisions where the primary direction of force for the two motor vehicles is such that there is minimal side engagement of the two vehicles travelling in the same direction. The resulting damage is primarily restricted to sheet metal involvement with no significant structural engagement (i.e., no frame or A, B, C, etc., pillar engagement which halts the sideswipe). At least one vehicle must be contacted in the side (L or R in column 3 of CDC) and column 6 of the same CDC must equal S.

Variable Name Manner of Collision (Based on First Harmful Event) (cont'd)

Code "6" (Sideswipe, opposite direction) refers to collisions where the primary direction of force for the motor vehicles is such that there is minimal side engagement of the two vehicles traveling in opposite directions. The resulting damage is primarily restricted to sheet metal involvement with no significant structural engagement (i.e., no frame or A, B, C, etc., pillar engagement which halts the sideswipe). At least one vehicle must be contacted in the side (L or R) in column 3 of the CD and column 6 of the same CDC must equal S.

Variable Name: Relation to Roadway (Location of First Harmful Event)

Format: 1 column - numeric

Beginning  
Column 26

Element Values:

- 1 On roadway
- 2 On shoulder
- 3 In median
- 4 On roadside
- 5 Outside right-of-way
- 6 Off roadway - location unknown
- 7 In parking lane
- 8 Gore or channel island
- 9 Unknown

Source: Researcher determined -- inputs include the police report, scene inspection, vehicle inspections, and driver interviews.

Remarks.

Code the attribute that best describes the location of the First Harmful Event (A12).

Code "1" (On roadway) refers to that part of the trafficway designated, improved and ordinarily used for motor vehicle travel (Definition: ANSI D16.1-1983, section 2.2.17, page 9). In addition, code on roadway ("1") if the impact occurs with a bridge structure (see remarks section for A12, First Harmful Event, codes "22"- "24") that is on a roadway and was designed to allow motor vehicles to move in (change lanes) between the supporting piers. Note: This code may not be used when a vehicle in transport on a roadway impacts another vehicle (not in transport) or its cargo where it protrudes onto the roadway (e.g., side mirrors or a door opened from a parked vehicle in an implicitly designated parallel parking lane)

Signs, poles or trees can be located on a roadway (code "1") if struck. The objects should not be within an island or median, but actually protruding from the roadway surface.

Code "2" (On shoulder) refers to 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 (Definition: ANSI D16.1-1983, section 2.2.18, page 9).

Code "3" (In median) refers to the area of separation between two adjacent roadways on the same trafficway and is not a "gore" (see below). More than one "median" may exist on the same trafficway. Code "3" (In median) if the First Harmful Event (A12) occurs in the separation between two roadways.

## Variable Name Relation to Roadway (Location of First Harmful Event) (cont'd)

Also, use this code if the first harmful event occurs with a curb which is part of a curbed median (see also the discussion of medians in the remarks section for A12, First Harmful Event). In addition, code in median ("3") if the impact occurs with a bridge structure (see note above) that was designed to separate (or has the same secondary effect) opposing lanes of travel or prevent motor vehicles from changing lanes.

Code "4" (On roadside) refers to a location off the road, but inside the right-of-way (Definition: ANSI D16.1-1983, section 2.2.19, page 9). For example, a guardrail, tree, mailbox, etc., could be coded "4" (On roadside) since the shoulder is assumed to end where the object begins. Code "4" (On roadside) is used when a vehicle strikes a curb which is contiguous with either the roadway or a parking lane at the location of the impact.

Code "6" (Off roadway - location unknown) refers to a location off the roadway, but its relationship to the right-of-way is not known.

Code "7" (In parking lane) is used when an in transport vehicle enters a designated, implicit or explicit, parallel parking lane area on the road prior to impacting another vehicle, pedestrian or nonmotorist, or object in that same area [e.g., if you have determined that a struck motor vehicle was in a parking lane and, therefore, not in transport, code "7" (In parking lane) should be used.] Also use this code whenever a pedestrian or nonmotorist is struck within 7 feet of the curb or edgeline on roads where there is parking but there is no explicitly delineated parking lane width. If a collision occurs on the road in a nonparallel designated parking area (e.g., angular parking), then this code should be used.

A gore is an area of land where two roadways diverge or converge (Definition: ANSI D16.1-1983, section 2.5.20, pages 21 and 22). The area is bounded on two sides by the edges of the roadways, 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) beyond where the "roads" separate measured along the "roadways" from the point of divergence or convergence or, if any other "road" is within 70 meters (230 feet) of the apex of this triangulated area, a line 10 meters (33 feet) from the nearest edge of such road. Inclusions are areas at rest area entry or exit ramps, areas at truck weigh 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, and areas where a frontage road and another roadway or two frontage roads, diverge or converge. Normally one of the roadways will be a ramp (see A18, Relation to Junction, codes "10" and "11" (entrance or exit, at-grade or not at-grade)).

Variable Name: Relation to Roadway (Location of First Harmful Event (cont'd.))

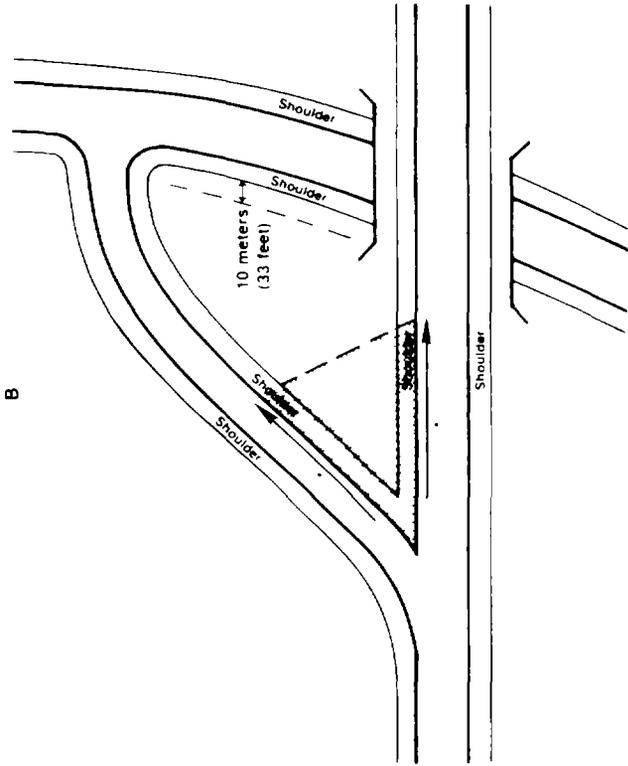
Code "8" (Gore or channel island) is used if the First Harmful Event (A12) occurs in the triangulated type area formed by the boundaries of the "roadways", measuring along them from the beginning of their separation (if painted lines are present at separation, begin measuring at apex of lines) to a point 200 feet on each "roadway" beyond the separation of the "roads", and a line between these two points. See continuation page (4), Figure 1 for an example gore (shaded) area where the distance measured along each of the roadways is 200 feet beyond the separation of the roads.

Channel island is the defined area between traffic lanes for control and guidance of vehicle movement. Islands may be provided for separation and special control of turning movements. Islands can separate opposing traffic or traffic in the same direction. See variable A18 (Relation to junction), continuation pages (11) and (12). An island may be designated by paint, curbs or pavement edge and can be paved or have a low growing plant cover.

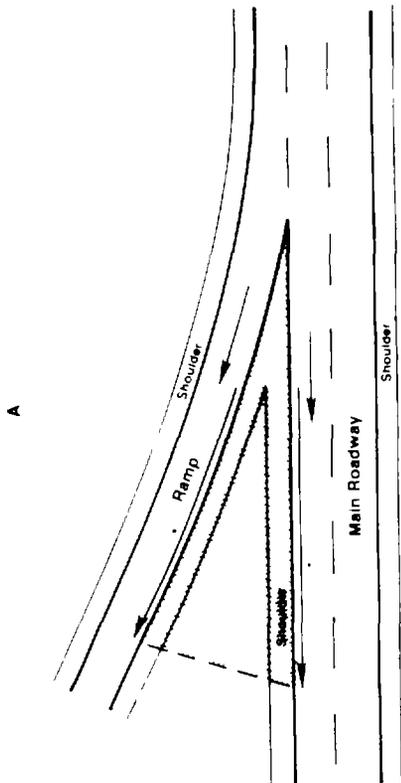
Code "8" (Gore or channel island) is used if the First Harmful Event (A12) occurs in an island (directional or channelizing).

Gore or channel island takes precedence over On shoulder, On roadside, Outside right-of-way, or Off roadway--location unknown (codes "2" and "4" through "6"). But, if a vehicle departs the roadway into the gore area but does not have its first harmful event until after it passes through the gore area, but before it enters any other roadway, then one of the codes "2" (On shoulder), "4" (On roadside), "5" (Outside right-of-way), or "6" (Off roadway-location unknown) should be used.

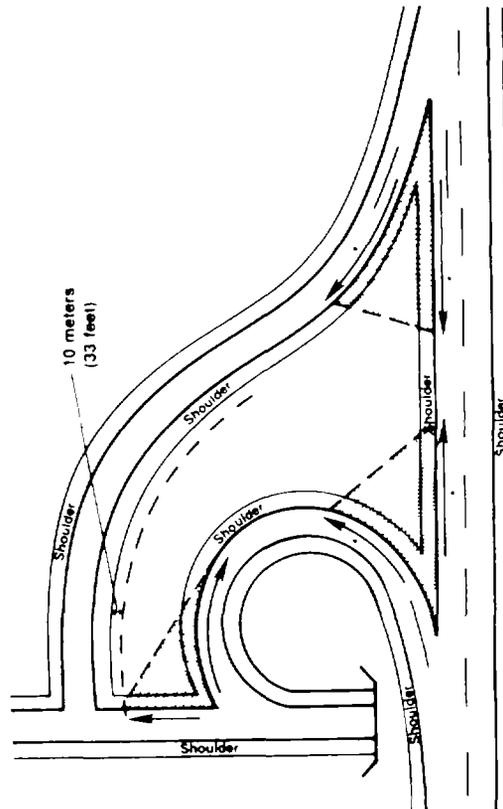
FIGURE 1  
GORE



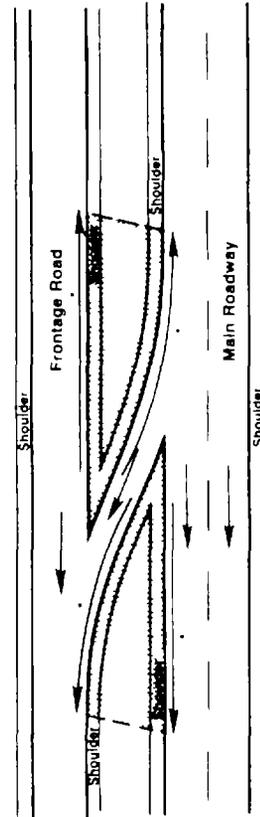
\* Distance is 60 meters (approximately 200 feet) measured along the roadway from where the roads separate



\* Distance is 60 meters (approximately 200 feet) measured along the roadway from where the roads separate



\* Distance is 60 meters (approximately 200 feet) measured along the roadway from where the roads separate



\* Distance is 60 meters (approximately 200 feet) measured along the roadway from where the roads separate

Variable Name: Time

Format: 4 columns - numeric

Beginning  
Column 27

Element Values:

Code reported military time of accident.

For example: 1200 - Noon

2400 - Midnight

9999 Unknown

Source: Police report.

Remarks.

Code to the nearest minute (e.g., 10:19 p.m. = 2219 hours). The time coded is taken from the "accident time" block on the PAR (usually at the top of the first page). If this block is left blank, then 9999 (Unknown) is coded.

If the block is coded "midnight" (i.e., 12:00 a.m., 0000, or 2400) a determination must be made for sampling purposes as to whether the police consider this accident to be the first or last accident on the date indicated on the PAR. Because of variability among police jurisdictions in how they handle midnight, researchers must look at the PAR date, day-of-week, and PAR number (if available) or question police personnel and make a determination regarding whether the particular jurisdiction considers the accident being sampled to be the first or last accident on the date indicated on the PAR. Technically, midnight (i.e., 12:00 a.m.) begins a new day, but not all jurisdictions treat midnight as such. If the jurisdiction considers the accident as the last (or one of the last) on the "date" indicated, code this variable as "2400" (Midnight); however, if the jurisdiction considers the accident as the first (or one of the first) on the "date" indicated, code this variable as "0001". Code "0000" is not allowed! Thus, 12:00 a.m. (0000, 2400) can be coded either "2400" or "0001" depending on how the particular jurisdiction handles midnight.

If the PAR indicates the accident occurred during some time interval (e.g., 8:00 p.m. to 6:00 a.m., or 8:00 a.m. to 5:00 p.m.), code "9999" (Unknown). However, if the interval was one hour or less, code the midpoint of the interval, e.g., 8:00 p.m. to 9:00 p.m., code "2030."

Variable Name Light Condition

Format 1 column - numeric

Beginning  
Column 31

Element Values

- 1 Daylight
- 2 Dark
- 3 Dark, but lighted
- 4 Dawn
- 5 Dusk
- 9 Unknown

Source Primary source is the police report, secondary sources include driver interviews, other interviewees, and scene inspection

Remarks

If element nomenclature differ between the police report and the NASS form, translate the value from the police report into the appropriate NASS value

If the police report indicates that it was dark only [the PAR having no response to indicate that it was dark, but lighted ("3")], the researcher may select the latter value if it is known that the scene was lighted (at the time) via luminaires or light standards specifically directed at the roadway

If the police report does not indicate the light conditions (i.e., a failure to check any category), the researcher should select the most representative value when reasonably certain of what it might have been. However the researcher, as a surrogate for the police in this example, should restrict the selection to "1", "2", or "3". In those cases where the police fail to indicate the condition and the researcher feels it might have been dusk or dawn (both being short, transitory light conditions) the researcher should code "9" (Unknown)

If the police report contains more than one coded, shaded, or checked response for light conditions (e.g., "dark" and "dusk"), then a secondary source of information is to be used. If no other information is available then code unknown, ("9")

If the police report is in error, code "1", "2", or "3", but do so only when certain of gross error by police

Variable Name: Atmospheric Condition

Format: 1 column - numeric

Beginning  
column 32

Element Values:

- 1 No adverse atmosphere related driving conditions
- 2 Rain
- 3 Sleet
- 4 Snow
- 5 Fog
- 6 Rain and fog
- 7 Sleet and fog
- 8 Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify)
- 9 Unknown

Source: Primary source is the police report, secondary sources include driver interviews and other interviewees.

Remarks:

If element nomenclature differ between the police report and the NASS form, translate the value from the police report into the appropriate NASS value.

If the police report does not indicate the atmospheric condition (i.e., a failure to check any category), the researcher should select the most representative value when reasonably certain of what it may have been. Additional information may be obtained by asking this as a specific interview question. In those cases where the police fail to indicate the condition and/or no interview was obtained, the researcher should code "9" (Unknown)

If the police report contains more than one coded, shaded, or checked response for atmospheric conditions, then a secondary source of information is to be used. If no other information is available, then code unknown ("9").

Code "3" (Sleet) includes hail.

Code "8" (Other) should not be used solely because of cloudy or overcast skies. The element values for this variable are oriented toward precipitation, or particle dispersion which may affect the driver's visual ability or the vehicle's controllability.

Variable Name    Relation to Junction

Format    2 columns - numeric

Beginning  
Column    33

Element Values

01    Non-junction  
02    Three leg intersection  
03    Four leg intersection  
04    More than four leg intersection  
05    Rotary or traffic circle  
06    Intersection related  
07    Channel  
08    Area of mvergence related  
09    Area of divergence related  
10    Entrance ramp  
11    Exit ramp  
12    Driveway, alley access related  
13    Railroad grade crossing related  
14    Crossover related  
99    Unknown

Source:    Researcher determined -- inputs include scene inspection, the police report, definitions, and driver interviews

Remarks

The element value selected is based on the location of the first harmful event. If the first harmful event occurs off the roadway, refer to the section at the point of departure to code this variable. In those off-roadway instances where the departure occurs from within a junction, code either "01" (Non-junction) or "06" (Intersection related). The latter code should be used if the junction was also an intersection (see definition below)

Junction is, in general, the area formed by the connection of two roadways. It includes (1) all at-grade intersections (ANSI D16 1-1983 section 5.12, page 19), (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 accesses, or (4) a connection between a driveway access and an alley access.

Intersection (codes "02" through "04") is a type of junction which (1) contains a crossing or connection of two or more roadways not classified as a driveway access or alley access, and (2) is embraced within the prolongation of the lateral curb lines or, if none, the lateral boundary lines of the roadways. Where the distance along a roadway between two

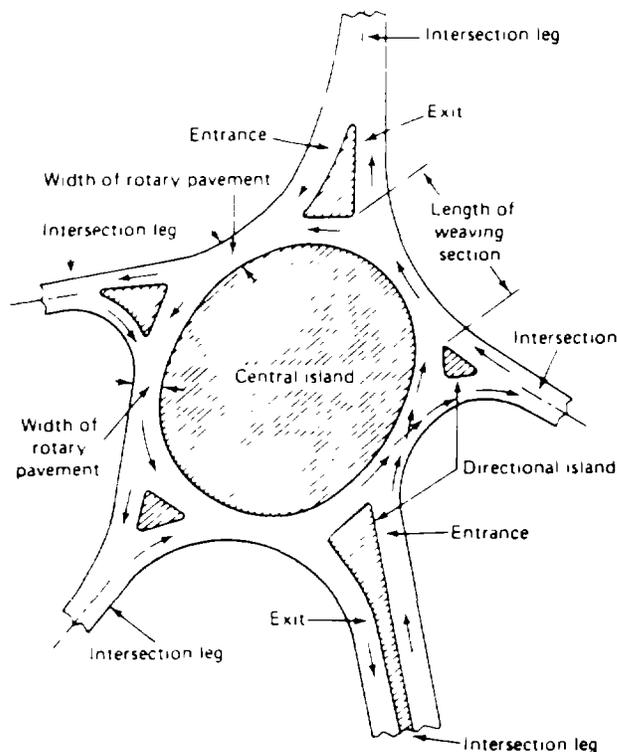
Variable Name Relation to Junction (cont'd.)

areas meeting these criteria is less than 10 meters (33 feet), the two areas and the roadway connecting them are considered to be parts of a single intersection. The measurement is made from inside-to-inside of the lateral curb/boundary lines. If the lines are not parallel, then the distance between them is measured along the shortest side of the roadway [see examples on continuation pages (3)-(7)]

Should the first harmful event occur within the area formed by the prolongation of curb or edge lines of the approach legs of the intersection, it is to be classified as an intersection accident whether or not the collision which occurred was in any way related to the fact of being within an intersection

Code "02" (Three leg intersection) includes any two leg intersections. To qualify for inclusion at least one of the two legs must be controlled by a regulatory sign (see D55, Traffic Control Device) or traffic signal; otherwise, treat the area as a sharp curve.

A rotary or traffic circle (code "05") is a specialized form of at-grade intersection. It is one through which traffic passes by entering and leaving a one-way roadway connecting all intersection approach legs and running continuously around a central island. Rotary intersections are commonly called traffic circles, but proper design can result in central islands of various rounded shapes. An example of a rotary intersection is shown below

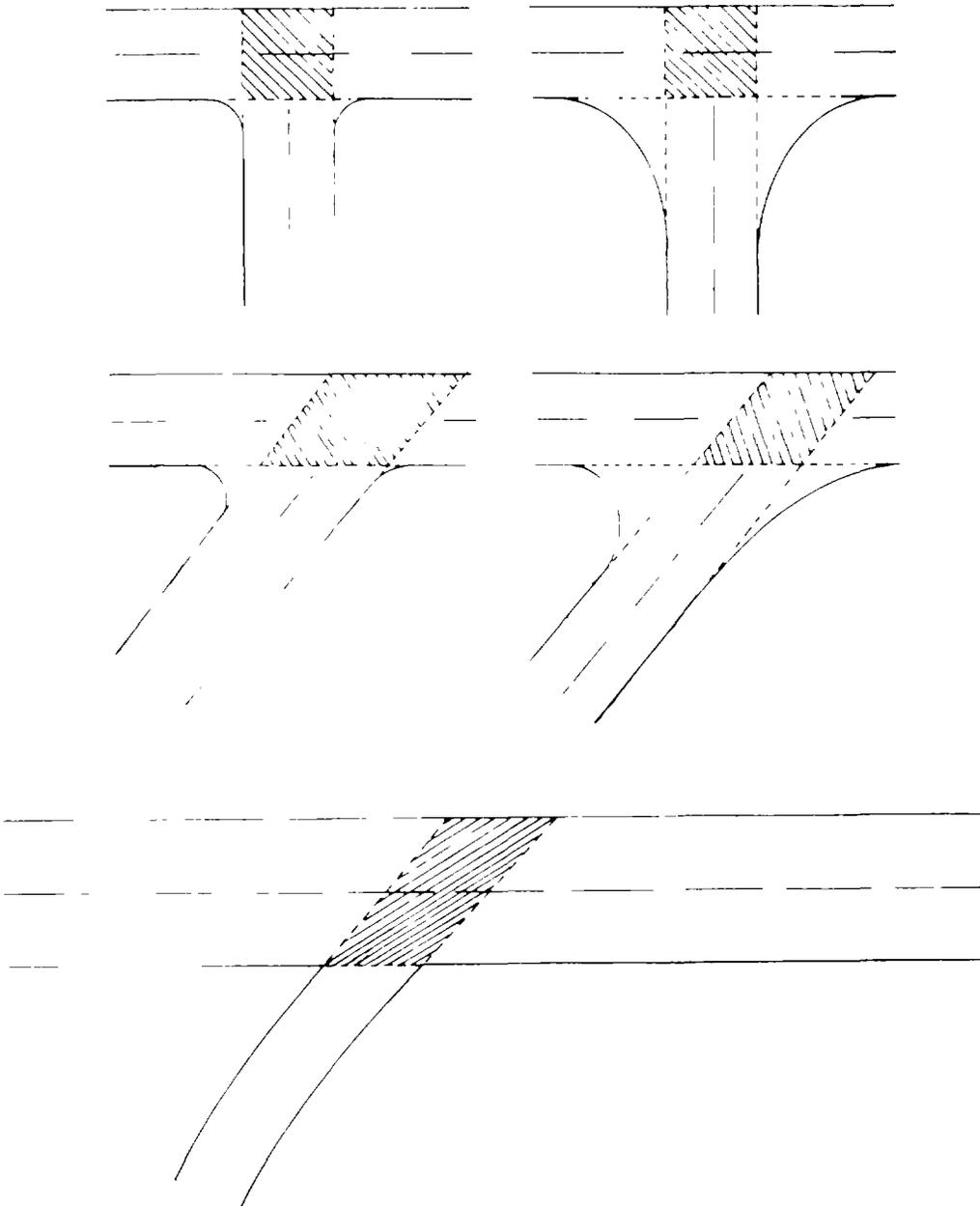


Variable Name: Relation to Junction (cont'd.)

Code "05" (Rotary or traffic circle) if the first harmful event occurs in the rotary roadway, in the central island, or on any directional islands which serve the rotary intersection.

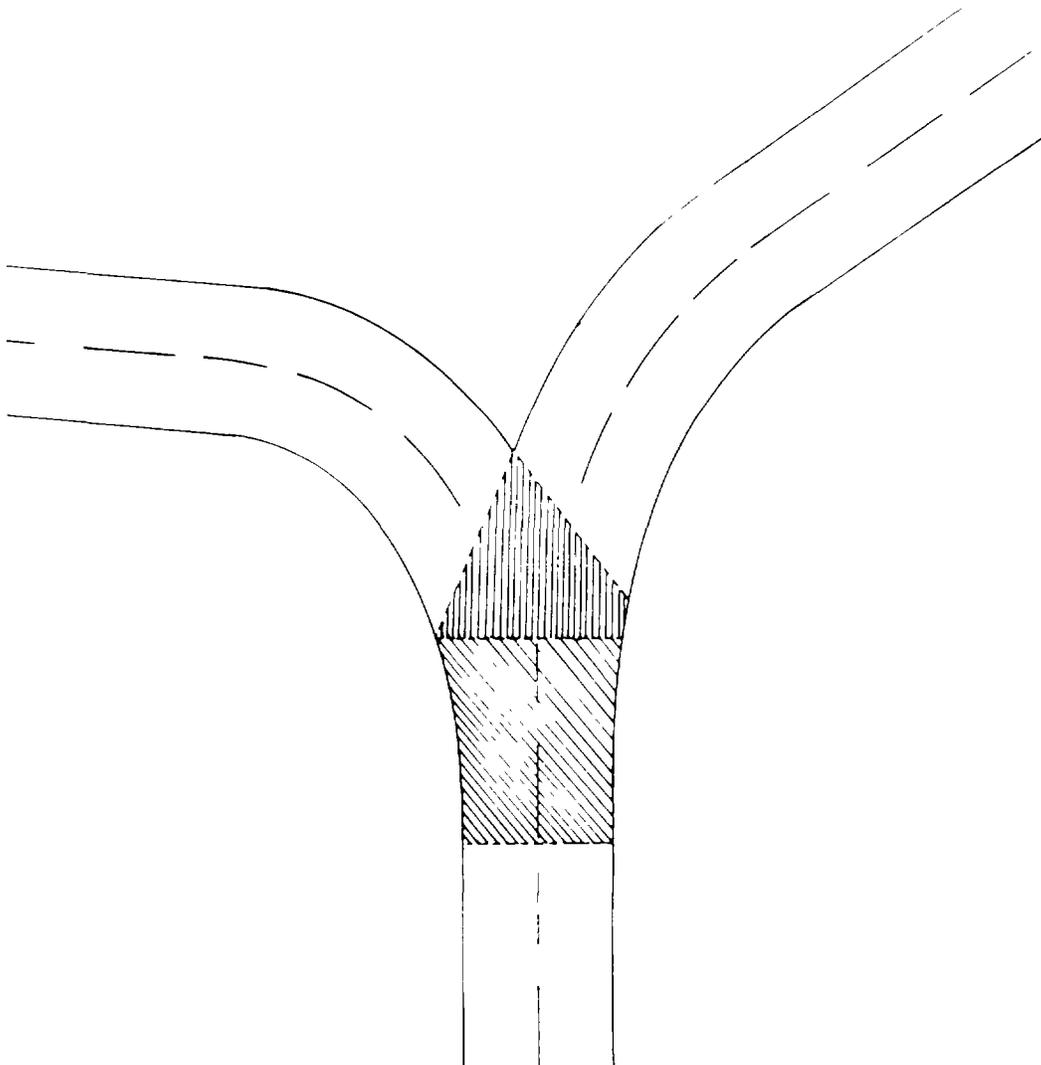
3-Leg Intersections

The following examples, although not intended to be inclusive, are presented for the purpose of helping to clarify the meaning of "prolongation" as it is used with respect to junctions.



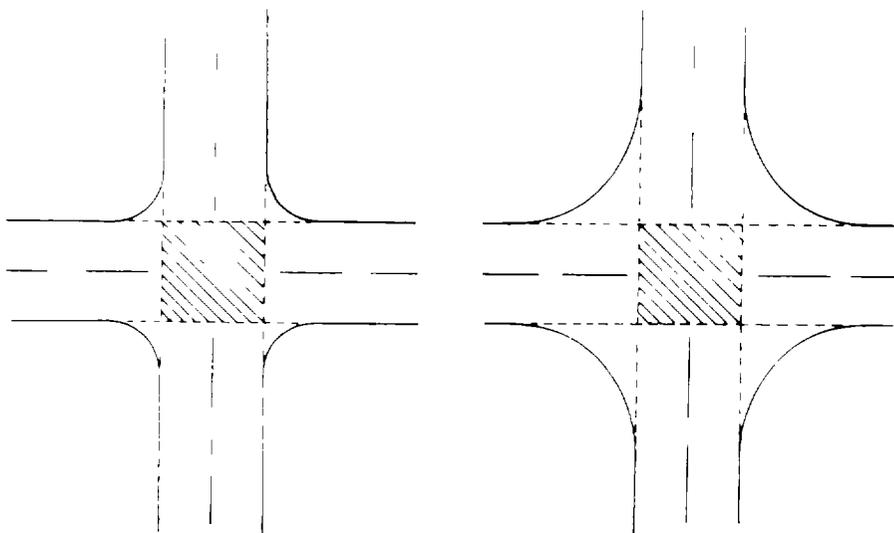
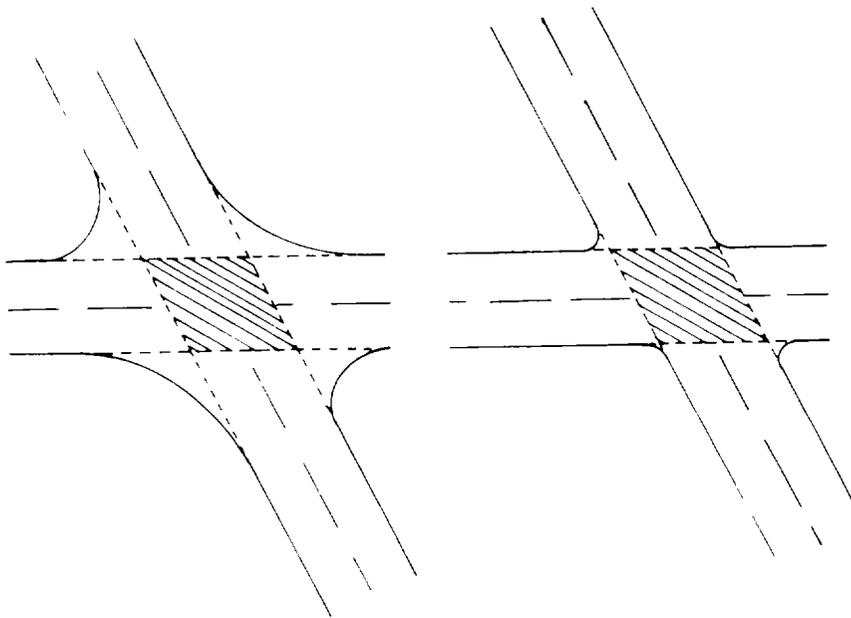
Variable Name: Relation to Junction (cont'd.)

The next example illustrates prolongation in the case of a diverging "Y" type (three leg) intersection (code "02"). Find the location along the Y's stem where the prolongation from the divergence is farthest from the apex. If the distance from the apex to a line perpendicular to the lateral boundary lines of the stem at the farthest point is greater than or equal to 16 meters (50 feet), then consider the first shaded area (vertical hash marks in the example) as the intersection. If the distance is less than 16 meters (50 feet), then add an additional 10 meters (33 feet) -- second shaded area (diagonal hash marks in the example) -- to the distance and consider both shaded areas as the intersection

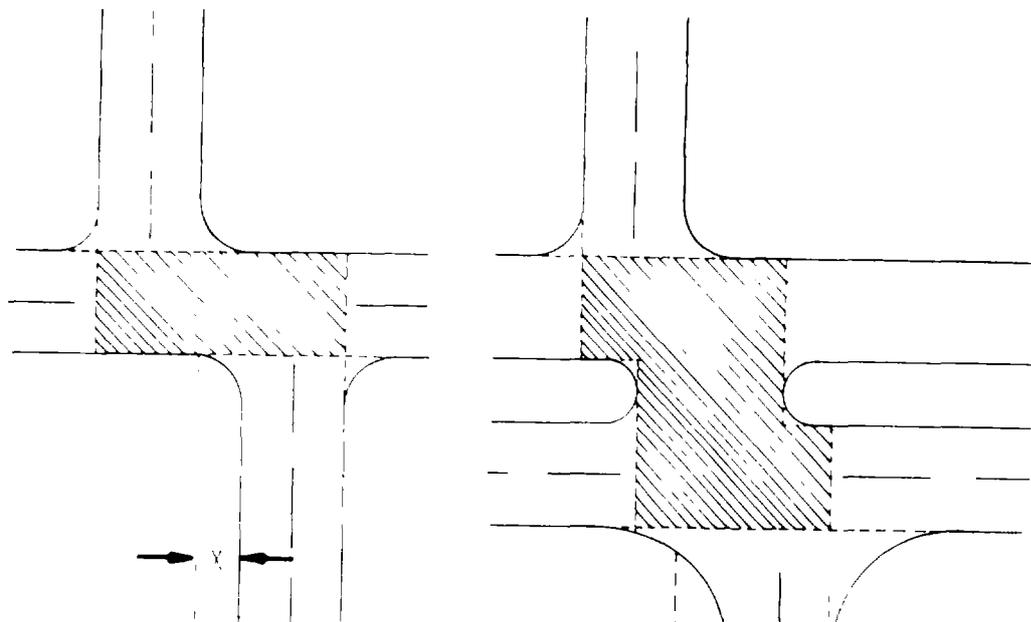


Variable Name: Relation to Junction (cont'd.)

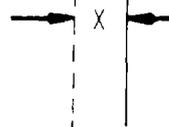
Four-leg Intersections



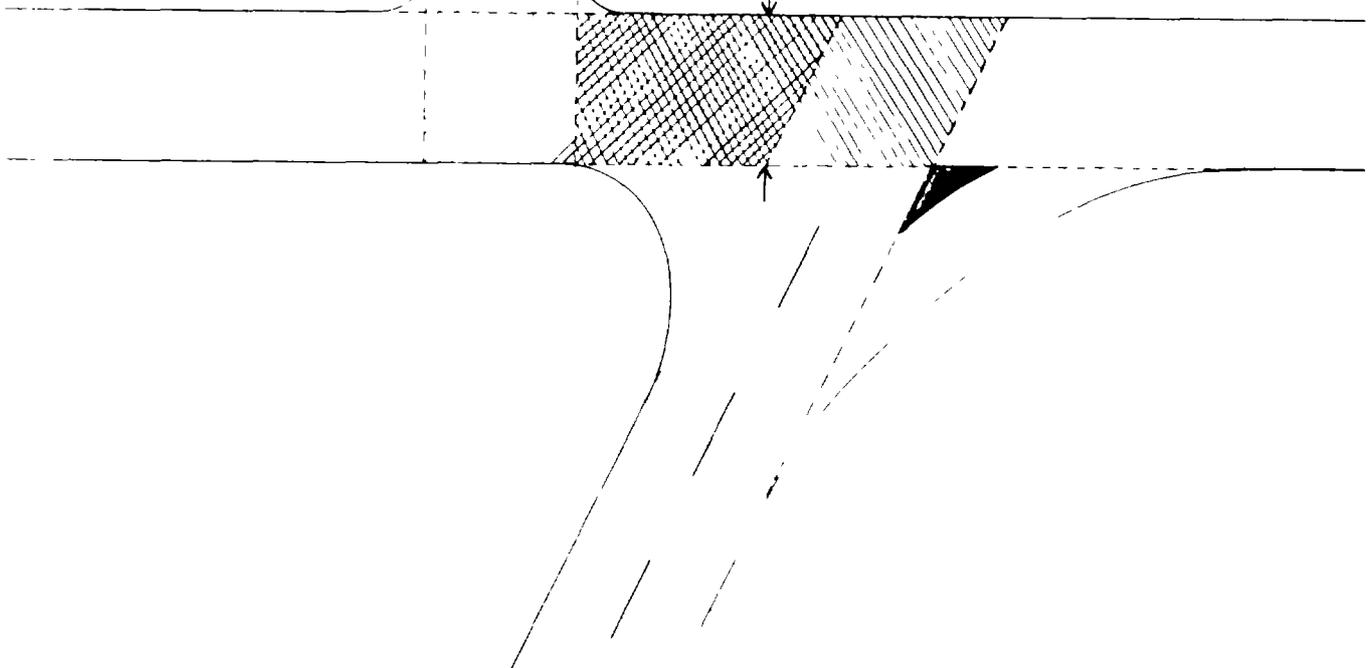
Variable Name      Relation to Junction (cont'd.)



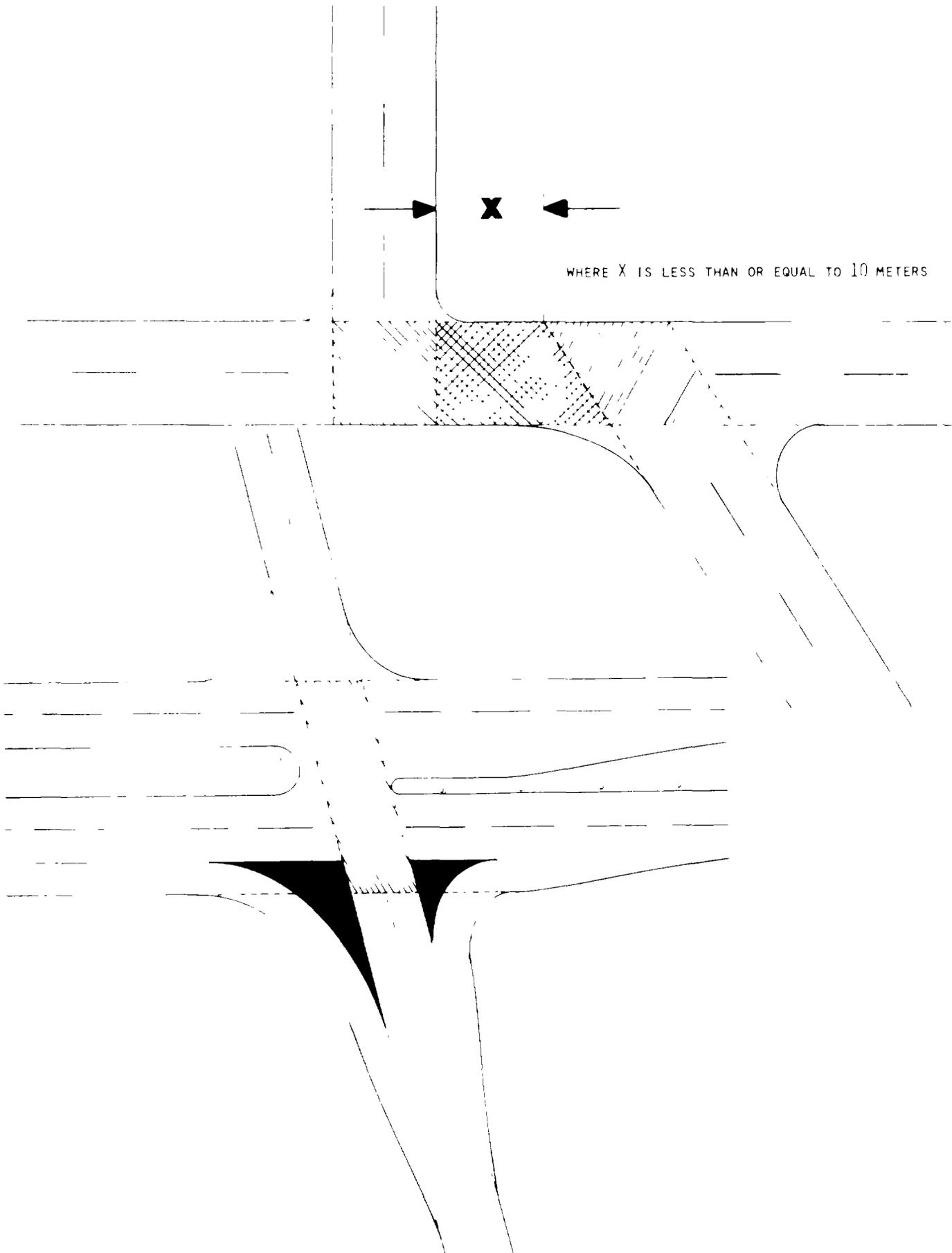
WHERE Y IS LESS THAN OR EQUAL TO 10 METERS



WHERE X IS LESS THAN OR EQUAL TO 10 METERS



Variable Name. Relation to Junction (cont'd )



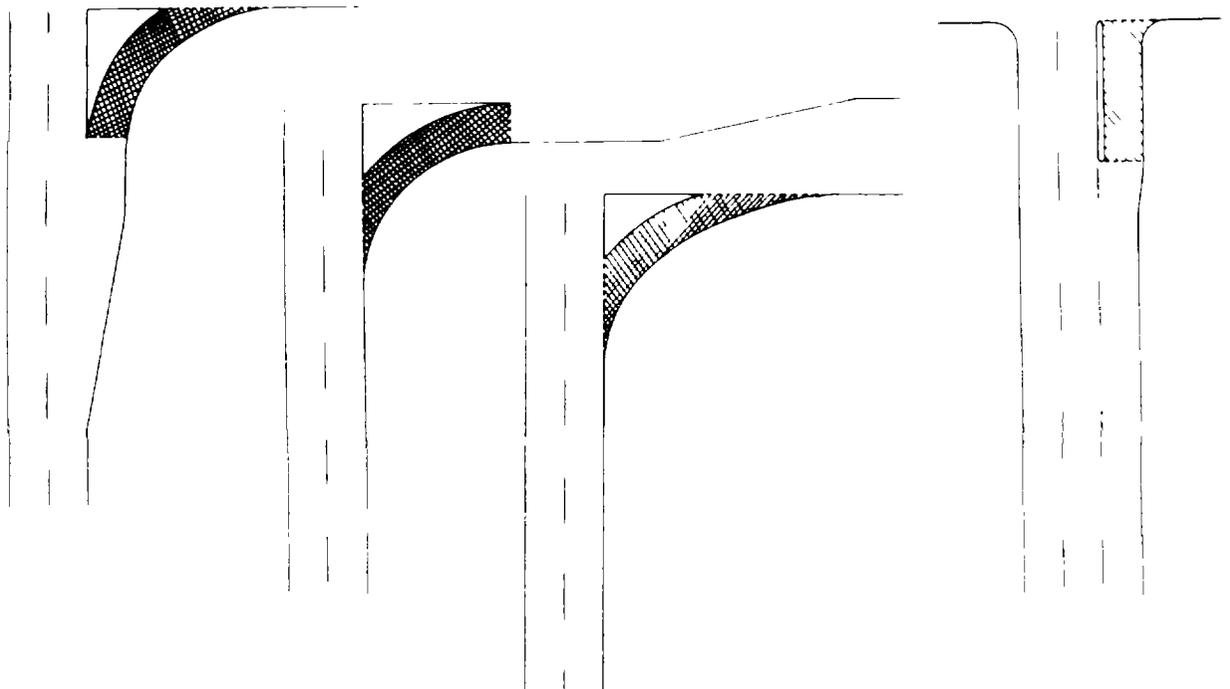
Variable Name. Relation to Junction (cont'd.)

Intersection related (code "06") means that the first harmful event (A12, First Harmful Event): (1) occurs on an approach to or exist from an intersection; and (2) results from an activity, behavior, or control related to the movement of traffic units through the intersection (for "traffic unit" see ANSI D16 1-1983, sections 2.2.26, 2.2.6, 2.1.8, and 2.1.4)

"Traffic units" above means any traffic unit (involved or not involved in the accident) If the first harmful event occurs outside but near an intersection and involves a vehicle which was engaged or should have been engaged in making a intersection related maneuver such as turning, then intersection related (code "06") must be coded. However, if the loss of control is unrelated to the intersection, then code non-junction ("01"). See examples on continuation pages (18)-(19).

If an accident meets the criteria of intersection related ("06") but also meets the criteria for codes "07" through "14", then the appropriate code ("07" through "14") takes precedence Remember, for codes "08" (Area of mergence related), "09" (Area of divergence related), "12" (Driveway, alley access related), "13" (Railroad grade crossing related) and "14" (Crossover related) to apply, a pedestrian, other nonmotorist associated with a nonmotorist conveyance, or road vehicle (ANSI D16.1-1983, section 2.2.6, page 7) must have been entering or existing the appropriate area

A channel (code "07") refers to any traffic lane that is directed into a path different than the through lanes by a traffic island. An island is defined as a raised or painted paved surface. The channel begins and ends at the extension of the island's lateral boundaries unless the channel is preceded or followed by an area of mergence or divergence (see below) The diagrams below show examples of a channel.



Variable Name: Relation to Junction (cont'd )

Code "07" (Channel) if the first harmful event occurs in the channel or on the traffic island (if the vehicle enters or strikes the island from within the channel) See Codes "10" and "11" (Entrance ramp and Exit ramp) for the difference between code "07" (Channel), and codes "10" (Entrance ramp) and "11" (Exit ramp)

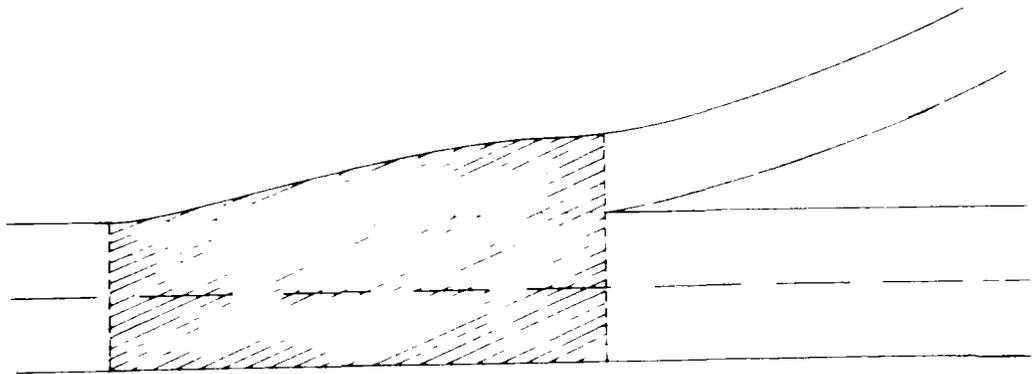
Code "08" (Area of merge related) refers to the area in and adjacent to an auxiliary lane which is adjacent to the through lane(s) and follows an entrance ramp (at grade or not at grade) channel A merge area extends longitudinally from where the ramp or channel ends and ends where the auxiliary lane ends The area extends laterally across the through lane(s), for traffic in the same direction, ending at a center line, median, or road edge/curb In order to use this code at least one involved pedestrian, other nonmotorist associated with a nonmotorist conveyance (see variable P08, Pedestrian or Nonmotorist Type), or road vehicle (ANSI D16 1-1983, section 2 2 6, page 7), involved in the first harmful event, must be entering or exiting from the ramp or channel Do not use this code if the accident was precipitated by the actions of a noncontact road vehicle or person

Code "09" (Area of Divergence Related) refers to the area in and adjacent to an auxiliary lane which is (1) adjacent to the through lane(s) and (2) precedes an exit ramp (at grade or not at grade) or channel A divergence area extends longitudinally from where the auxiliary lane begins and ends where the ramp or channel begins The area extends laterally across the through lane(s) for traffic in the same direction, ending at a centerline, median, or road edge/curb In order to use this code at least one involved pedestrian, other nonmotorist associated with a nonmotorist conveyance (see Variable P08, Pedestrian or Nonmotorist Type) or road vehicle (ANSI D16 1-1983, section 2 2 6, page 7), involved in the first harmful event, must be entering from the ramp or channel Do not use this code if the accident was precipitated by the actions of a noncontact road vehicle or person

If the location of the first harmful event (A12) meets the criteria for area of merge or divergence related (codes "08" and "09") and also meets the criteria for an intersection (codes "02" through "04"), or intersection related (code "06"), then codes "08" and "09" (Area of merge related or Area of divergence related) takes precedence

Variable Name: Relation to Junction (cont'd.)

Sketched below is an example of the prolongation associated with an area of mergence or divergence.



An entrance or exit ramp (codes "10" and "11") is a transition roadway: (1) which connects two roadways; (2) is used for entering or exiting through-traffic lanes, and (3) begins and ends at a gore or curb return. The widening of the roadway, where present, which allows one to diverge from or merge onto the through-traffic lanes is to be considered (1) as an additional lane associated with the connected roadway and (2) as an area of mergence or divergence as discussed previously. A ramp can connect two roadways which cross (either at-grade or with a grade separation) or two which do not cross (e.g., frontage roads). A ramp can form an intersection with a roadway as well as diverge from or merge into one. A ramp can form a channelized intersection. A ramp can also split into two ramps.

Code "10" (Entrance ramp) (1) when vehicles are traveling in the same direction, exiting a lower class trafficway (see Variable D36, Roadway Function Class) and entering a higher class trafficway; (2) vehicles are traveling in the same direction and the ramp connects trafficways of the same class and the harmful event occurs in the half length of the ramp, closest to the trafficway the vehicles are entering; (3) vehicles are traveling in opposite directions on a ramp connecting same class trafficways and the harmful event occurs in the half length of the ramp closest to the trafficway the most at-fault driver is entering.

Variable Name: Relation to Junction (cont'd.)

Code "11" (Exit ramp) (1) when vehicles are traveling in the same direction, exiting a higher class trafficway (see Variable D36, Roadway Function Class) and entering a lower class trafficway; (2) vehicles are traveling in the same direction and the ramp connects a trafficway of the same class and the harmful event occurs in the half length of the ramp closest to the trafficway the vehicles are exiting; (3) vehicles are traveling in opposite directions on a ramp connecting same class trafficways and the harmful event occurs in the half length of the ramp closest to the trafficway the most at-fault driver is exiting

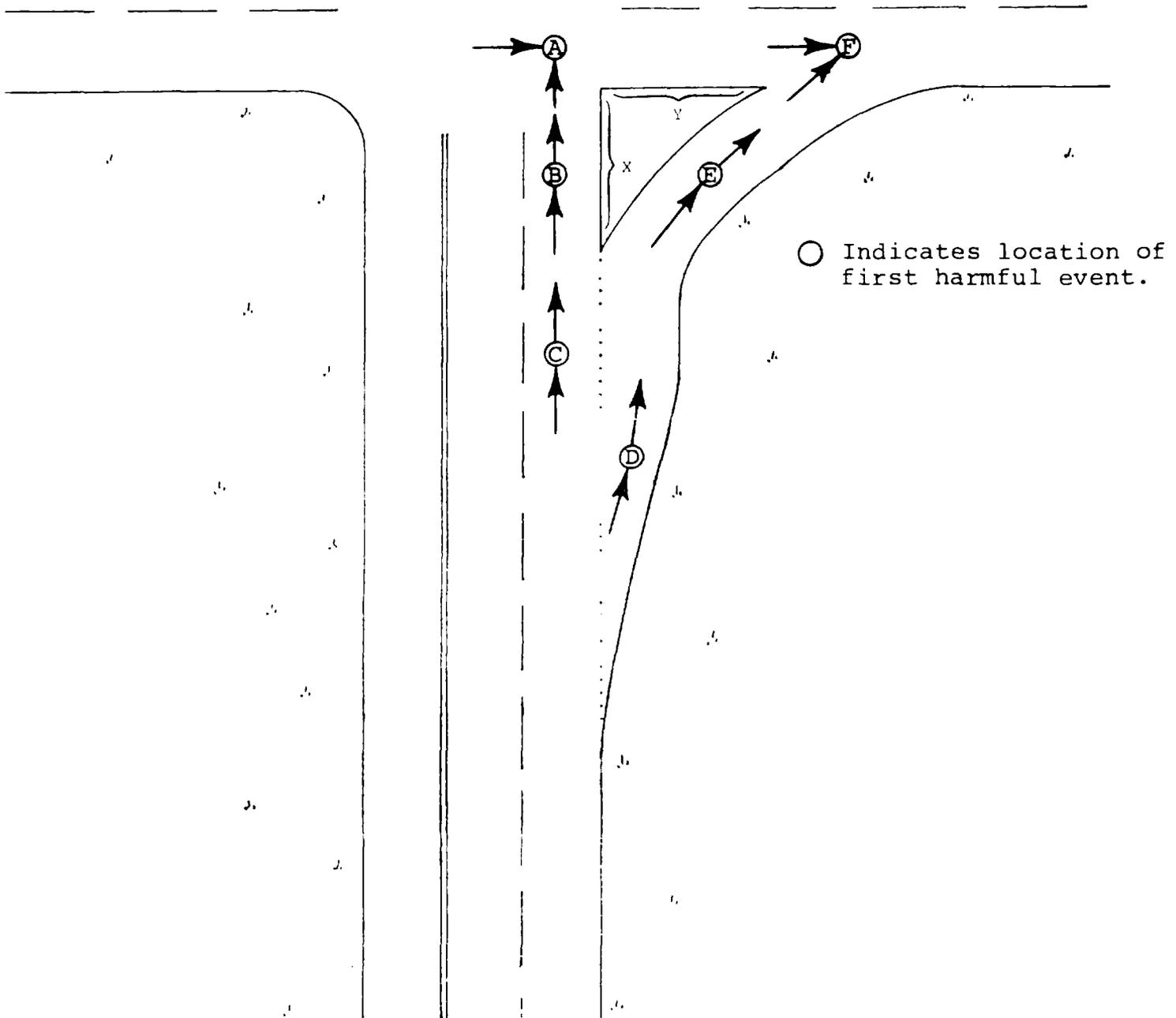
When vehicles are traveling in opposite directions on a ramp connecting unequal class trafficways code "10" (Entrance ramp) or "11" (Exit ramp) based on whether the most at-fault driver was entering or exiting the higher trafficway

If the first harmful event occurs while going into, within, or coming out of a channel, then code the Relation to Junction as intersection (codes "02" through "05" -- rare), Non-junction ("01"), Channel ("07"), Area of merge related ("08"), Area of divergence related ("09"), or Intersection related ("06"), depending upon whether or not the intersection related criteria are met. On the other hand, if the first harmful event occurs in an entrance or exit ramp, then code "10" (Entrance ramp) or "11" (Exit ramp) regardless of whether or not the first harmful event resulted from some action that would qualify as Intersection related (code "06")

Some at-grade intersections are channelized, some at-grade intersections have ramps. A channel can be distinguished from a ramp (for an at-grade intersection) according to the following criteria (see accompanying figure). Measure the X and Y distances at the island. To be a ramp (codes "10" and "11") the larger of X or Y must be greater than 16 meters (50 feet) and the smaller of X or Y must not be less than or equal to 10 meters (33 feet). Otherwise, the configuration constitutes a channel. A careful review of the table which accompanies the figure is in order

Variable Name Relation to Junction (cont'd )

Relation to Junction	Channel		Ramp	
	B	C	B	C
Non-junction or Intersection related				
Three leg or Four leg intersection -- two streets	A		A	
Three leg intersection -- street and a ramp			F	
Intersection related	F			
Channel	E			
Area of Divergence	D		D	
Entrance or exit ramp			E	



## Variable Name    Relation to Junction (cont'd )

Code "12" (Driveway, alley access related) is used when the first harmful event occurs on a NASS roadway (see below) which approaches or exits from the driveway or alley access junction and at least one involved pedestrian, other nonmotorist associated with a nonmotorist conveyance (see variable P08, Pedestrian or Nonmotorist's Type), or road vehicle (ANSI D16 1-1983, section 2 2 6, page 7) was entering or exiting from the driveway or alley. Do not use this code if the accident was precipitated by the actions of a noncontact road vehicle or person.

Where a controlled driveway/alley access junction overlaps (inside-to-inside of lateral boundary lines is less than or equal to 10 meters) a three leg intersection, code "03" (Four leg intersection) should be used.

When an uncontrolled driveway/alley access junction is also within the prolongation of a three leg intersection (code "02") and the accident would meet the criteria of driveway, alley access related (code "12"), code either "02" (Three leg intersection) if the first harmful event was within the intersection junction, or "06" (Intersection related) if it was not.

For an uncontrolled driveway/alley access junction within ten (10) meters (33 feet) of a three or four leg intersection (inside-to-inside of lateral boundary lines), code "12" (Driveway, alley access related) only if the criteria above are met and the location of the first harmful event is not within the intersection. Driveway access (code "12") is a roadway providing access to property adjacent to a trafficway. Alley access (code "12") is an unnamed roadway providing access, in general, to the rear of houses or buildings, some of which may be further served by a driveway access.

Most driveways (but not all) are not roadways in NASS. Examples of non-NASS roadways are driveways to service stations, residential dwellings, and most apartment complexes, hotels, motels, and other commercial establishments. There are two instances where driveways, which otherwise would not qualify as a NASS roadway, are to be considered as roadways. These two instances occur when a vehicle is exiting the driveway and the location of the First Harmful Event (A12) is in either of the following two areas. The first area is the area within the junction itself formed with the driveway access, or it is on the crossing roadway sufficiently near the junction such that in the investigator's opinion the driveway best represents the driver's pre-crash environment. The second area considered is the "throat" of the driveway. In either instance, the investigator should use the driveway as the roadway described on the vehicle's Driver Form.

An accident is considered to have occurred in the throat if, at the junction of a trafficway and a private way (ANSI D16 1-1983, section 2 2 2, page 6), a motor vehicle in transport is either entering or exiting the private way such that any part of the vehicle is in contact (on or over) with the road (of the trafficway) (ANSI D16 1-1983, section

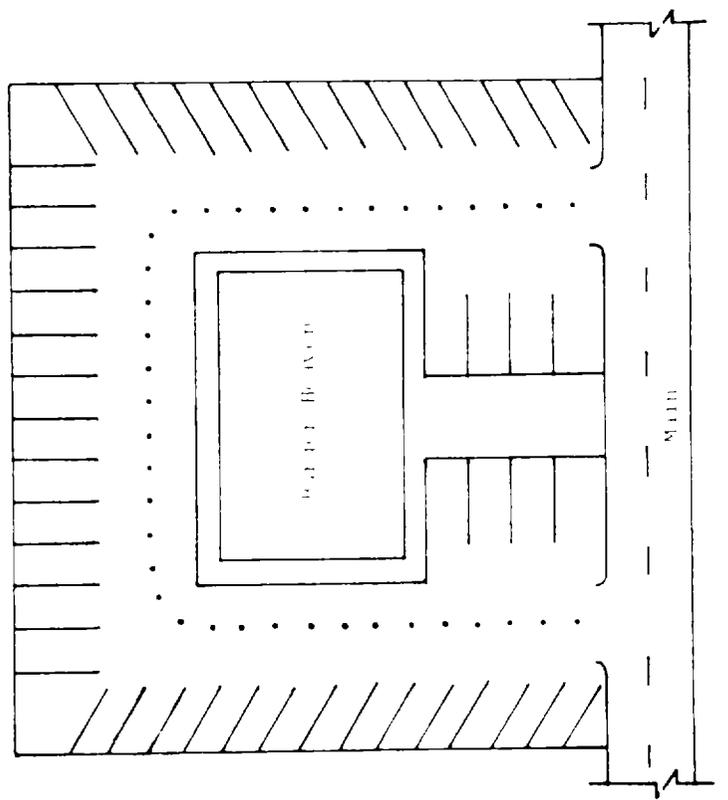
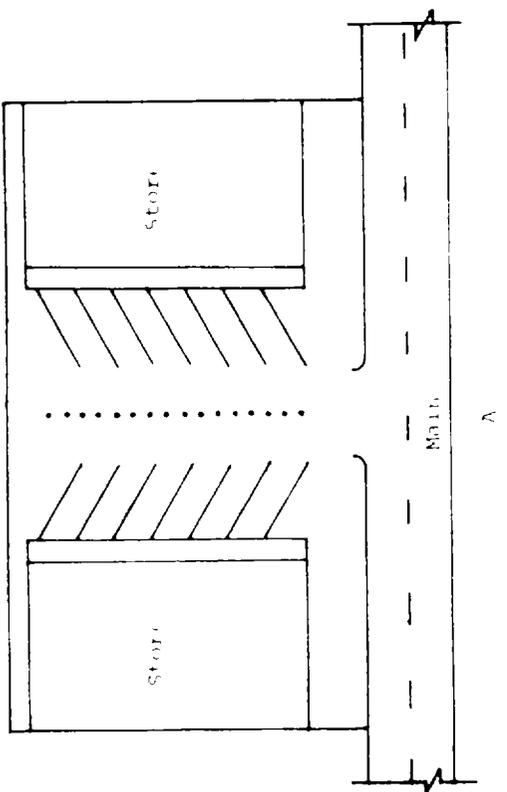
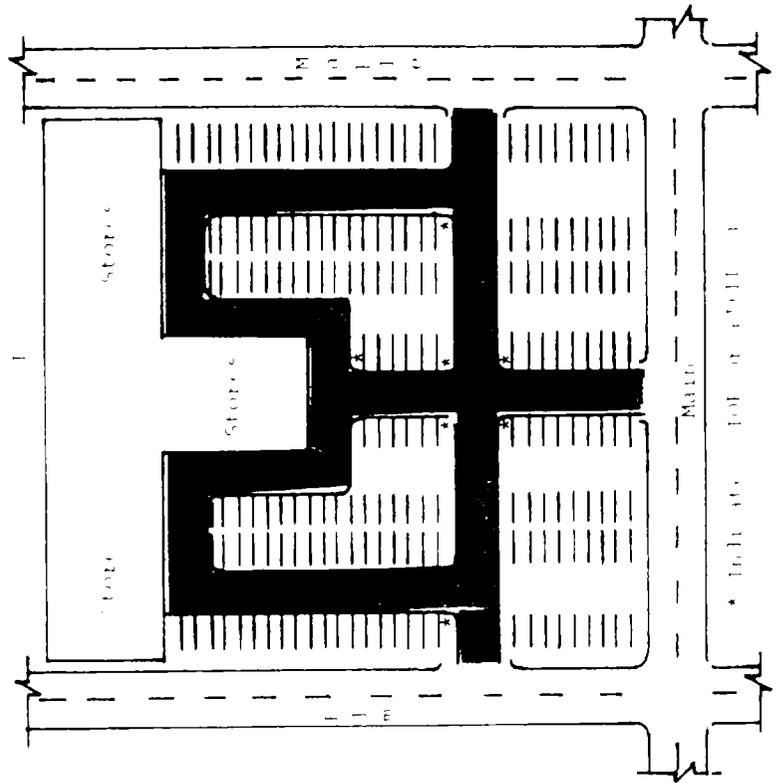
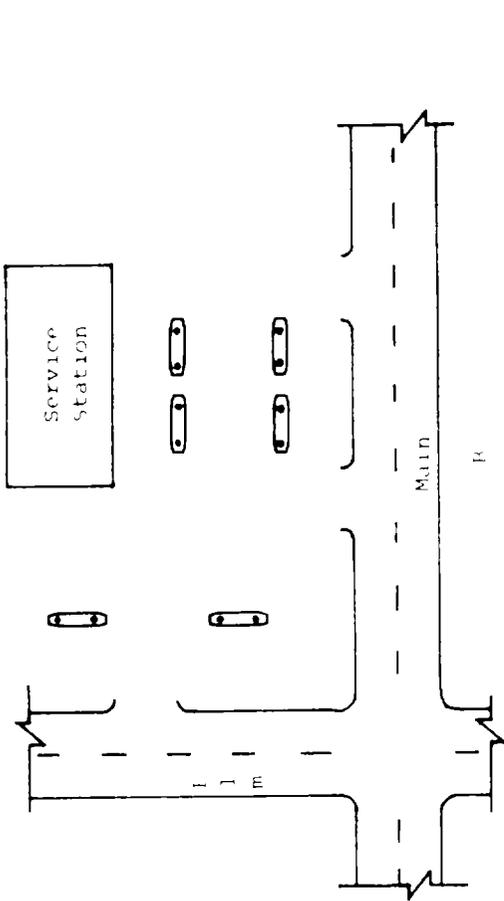
Variable Name: Relation to Junction (cont'd.)

2.2.19, page 9) at the location of the first harmful event (on the private way). If the accident occurred in the throat, then code "12" (Driveway, alley access related) should be used. In cases where a pedestrian, other nonmotorist associated with a nonmotorist conveyance (see variable P08, Pedestrian or Nonmotorist's Type), or road vehicle (ANSI D16.1-1983, section 2.2.6, page 7) is crossing laterally a private way (e.g., a driveway) and the pedestrian, nonmotorist, or vehicle is on the trafficway of the street or highway (e.g., within the horizontal extension of a sidewalk), then the "road" requirement of the "throat" rule is extended to include all of the trafficway. The road was used because it is more operationally defined than the trafficway; however, pedestrians, for example, crossing driveways who are struck by a vehicle entering the street or highway would technically not have their first harmful event occurring in the "throat". For this reason, where the trafficway is clearly defined, the throat can be extended up the private way to include any first harmful events which occur on the trafficway.

In the paragraph above, it is stated that many driveways are not roadways in NASS (e.g., driveways to service stations, residential areas, etc.) unless the first harmful event occurs in a junction, near a junction, or the "throat" rule condition is satisfied. There are driveways, however, which constitute roadways in NASS without having to satisfy these conditions. Certain driveways within parking or shopping lots qualify if they satisfy the three criteria discussed below.

The phrase "open to the public as a matter of right or custom" (ANSI D16.1-1983, section 2.2.1, page 6) causes problems when the property is privately owned. One problem area centers around shopping centers. It has been stated many times that private ownership does not automatically disqualify a case for consideration as a NASS accident. The nature and extent of "land ways" (ANSI D16.1-1983, section 2.1.11, page 6) on private property, and the differences in accident reporting criteria by police, have brought about the narrowing of the definition of a trafficway (ANSI D16.1-1983, section 2.2.1, page 6) to that which can be operationally defined. In parking or shopping lots three criteria have been suggested:

- \* There must exist two or more contiguous lanes of travel that are clearly marked;
- \* The land way must intersect another land way inside the lot or center; and
- \* The junction of the internal land ways must have traffic controls (i.e., STOP or YIELD signs or markings).



## Variable Name: Relation to Junction (cont'd.)

The intent is to select those land ways which serve the purpose of getting traffic to and from the parking area; however, the fact that parking is allowed immediately adjacent to the land way does not disqualify it from consideration. The diagram on the preceding page (containing four schematics) does not attempt to cover the entire spectrum of possibilities but only to illustrate some common examples. For situations A, B, and C none of the land ways should be considered as trafficways, since the criteria are not met. However, a NASS accident could occur at each of those if it satisfied the "throat rule" above. In situation D the screened in areas are roadways since they meet the criteria.

Code "13" (Railroad grade crossing related) should be used when the first harmful event occurred in the area formed by the at-grade connection of a railroad bed and a roadway, or an involved pedestrian, other nonmotorist associated with a nonmotorist conveyance (see variable P08, Pedestrian or Nonmotorist Type) or road vehicle (ANSI D16.1-1983, section 2.2.6, page 7) was on an approach to or exit from the railroad grade crossing. Do not use this code if the accident was precipitated by the actions of a noncontact road vehicle or person.

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 (highway, street, ramp, driveway, or alley) which intersects with either side of the roadways which the median divides.

Code "14" (Crossover related) should be used if the first harmful event occurred (1) in the junction of a crossover and a roadway, (2) on any leg of the roads which approach or exit from the crossover and which are just outside of the crossover junction itself (and subject to the provision below) or (3) in the crossover itself, and at least one involved pedestrian, other nonmotorist associated with a nonmotorist conveyance (see variable P08, Pedestrian or Nonmotorist's Type), or road vehicle (ANSI D16.1-1983, section 2.2.6, page 7) was entering, in, or exiting from the crossover. Do not use this code if the accident was precipitated by the actions of a noncontact road vehicle or person.

Median cuts which are directly across from or within 10 meters (33 feet) of the nearest lateral boundary line of any roadway (highway, street, ramp, driveway, or alley) are considered extensions of the roadway and do not count as an additional leg of the junction. The area between the

A18  
(17)

Variable Name: Relation to Junction (cont'd.)

roadways which the median cut serves is considered part of the junction unless the roadways belong to separate trafficways. In this case, consider the area as a separate road segment. If the location of the first harmful event is in the median cut, code the appropriate response -- "02" (Three leg intersection), "03" (Four leg intersection), or "12" (Driveway, alley access related).

The table on this page and the two preceding pages of diagrams depict a number of exemplary accidents along with the appropriate codes for two Accident Form variables.

Situation	A 1 8 Relation to Junction										A 1 9 Interchange Geometry		
	Non-junction	Three leg inter-section	Four leg inter-section	Inter-section related	Channel	Area of mer-gence related	Area of diver-gence related	Entrance ramp	Exit ramp	Driveway alley access related	Railroad grade crossing related	No interchange	Partial clover-leaf
A			*									*	
B										*		*	
C	?			?								*	
D										*		*	
E	NOT A NASS ACCIDENT												
F				*								*	
G			*									*	
H			*									*	
I				*								*	
J					*							*	
K	NOT A NASS ACCIDENT												
L			*									*	
M			*									*	
N	NOT A NASS ACCIDENT												
O											*	*	
P											*	*	
Q	?			?								*	
R				*								*	
S				*								*	
T	*											*	
U	*												*
V	*												*
W								*					*
X		*											*
Y				*									*
Z						*							*
A'	*												*
B'	*												*
C'	*												*
D'							*						*
E'	*												*

? This symbol is used to indicate that A18 (Relation to Junction) could be coded "00" (Non-junction) or "06" (Intersection related) since it is recognized that the accident may have occurred due to some event or activity at an intersection [exclusive of the vehicle(s) in this accident].

The table on this page and the two preceding pages of diagrams depict a number of exemplary accidents along with the appropriate codes for three Driver Form variables.

Situ- ation	D 3 4 Federal Aid System				D 3 7 Number of Travel Lanes		D 4 2 Trafficway Flow			
	Vehicle 1		Vehicle 2		Vehicle 1	Vehicle 2	Vehicle 1		Vehicle 2	
	Feder- al-aid	Non- feder- al-aid	Feder- al-aid	Non- feder- al-aid	Number	Number	Divided	Undivided	Divided	Undivided
A	*	*	*	*	2	6		*		*
B	*	*	*	*	1 or 2	1 or 2		*		*
C	*	*	*	*	6	6		*		*
D	*	*	*	*	1 or 2	6		*		*
E	NOT A N A S S ACCIDENT									
F	*	*	*	*	6	6		*		*
G	*	*	*	*	2	2		*		*
H	*	*	*	*	6	6		*		*
I	*	*	*	*	6	1 or 2		*		*
J	*	*	*	*	2	2		*		*
K	NOT A N A S S ACCIDENT									
L	*	*	*	*	2	1 or 2		*		*
M	*	*	*	*	2	2		*		*
N	NOT A N A S S ACCIDENT									
O	*	*	*	*	2	2		*		*
P	*	*	*	*	2	2		*		*
Q	*	N/A	N/A	N/A	2	N/A		*	N/A	N/A
R	*	N/A	N/A	N/A	2	N/A		*	N/A	N/A
S	*	N/A	N/A	N/A	2	N/A		*	N/A	N/A
T	*	*	*	*	2	2		*		*
U	*	*	*	*	2	2		*		*
V	*	N/A	N/A	N/A	2	N/A		*	N/A	N/A
W	*	*	*	*	1	1		*		*
X	*	*	*	*	1	2		*		*
Y	*	*	*	*	1	2		*		*
Z	*	*	*	*	2 or 3	1	*			*
A'	*	*	*	*	2	2		*		*
B'	*	N/A	N/A	N/A	1	N/A		*	N/A	N/A
C'	*	N/A	N/A	N/A	2	N/A	*		N/A	N/A
D'	*	*	*	*	2 or 3	2 or 3	*		*	*
E'	*	*	*	*	2	2	*		*	*

Variable Name Interchange Geometry

Format 1 column - numeric

Beginning  
Column 35

Element Values

- 0 No interchange
- 1 Full diamond
- 2 Partial diamond
- 3 Full cloverleaf
- 4 Partial cloverleaf
- 5 Trumpet
- 6 Directional
- 8 Other (specify)
- 9 Unknown

Source Primary source is the scene inspection, secondary sources include the police report and driver interviews.

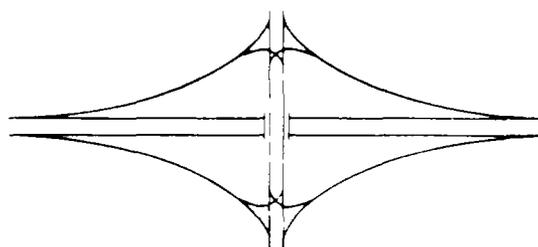
Remarks:

An interchange area is the area around a grade separation (ANSI D16.1-1983, section 2.5 14, page 19) 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. One may find included within an interchange area intersections, driveway accesses, and, of course, roadway sections which are non-junction. See Figure 1, continuation page (5)

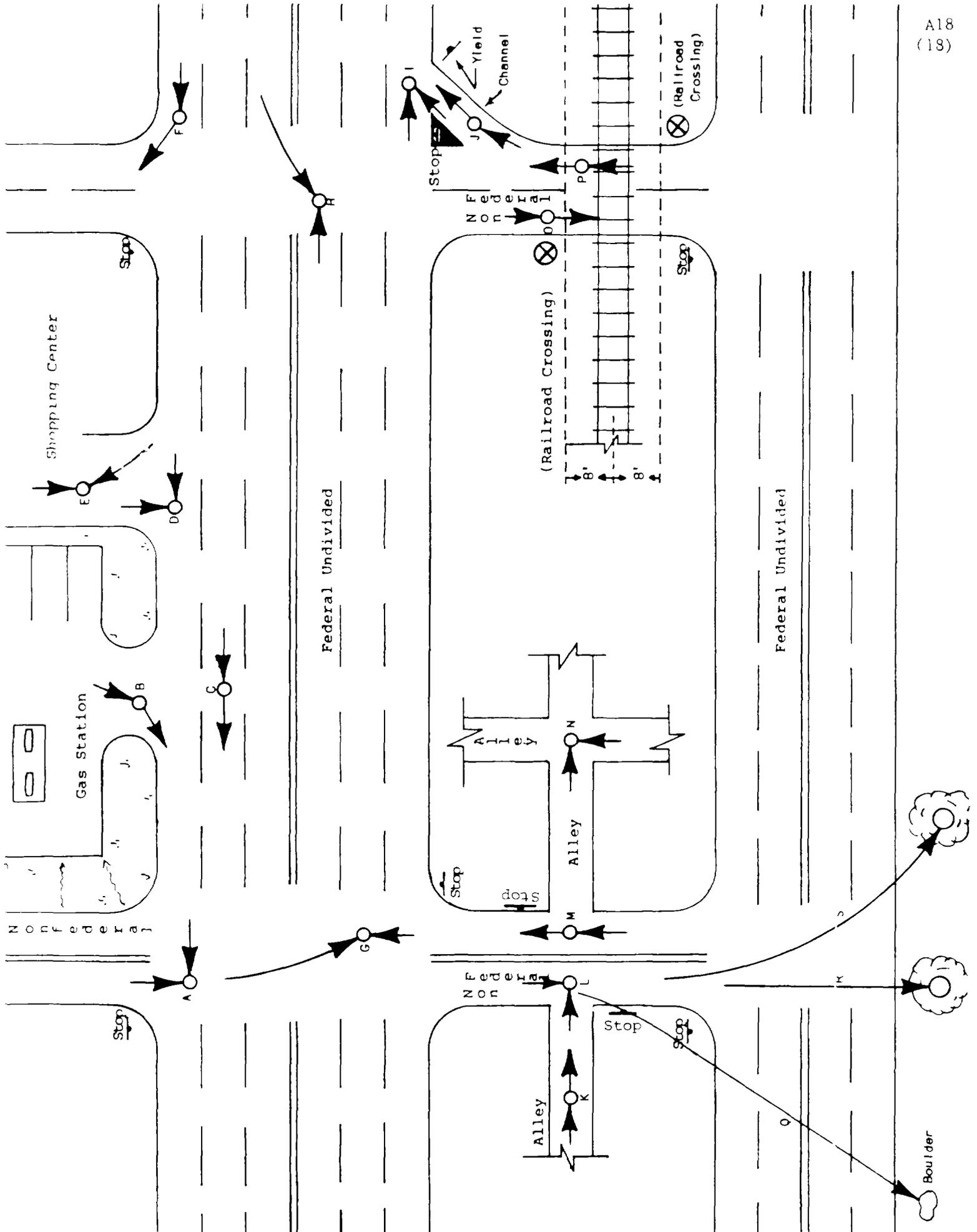
If the location of the first harmful event was not in an interchange area, code "0" (No interchange)

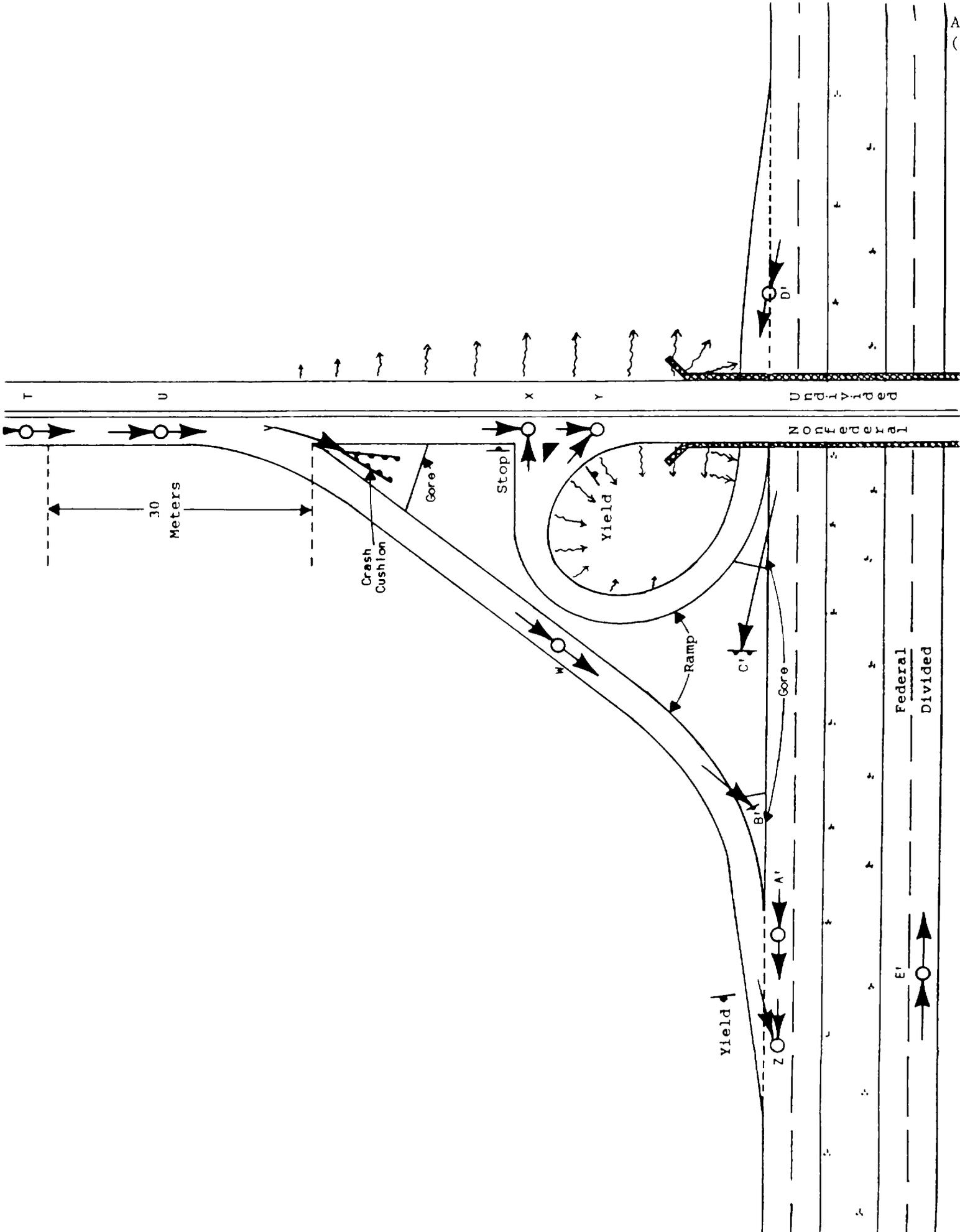
Definitions for codes "1" through "6" were taken from the Transportation and Traffic Engineering Handbook (1976), written by the Institute of Transportation Engineers -- pages 645, 646, and 650-655

A full diamond (code "1") is a four-leg interchange with a single, one-way ramp in each quadrant. All left turns are made directly on the minor highway. Shown below are regular diamond, diamond with "slip" ramps to frontage road, and "split diamond" interchanges.

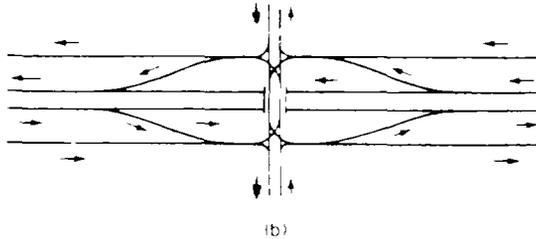


Regular  
Diamond  
Interchange

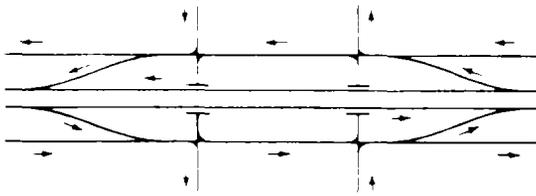




Variable Name Interchange Geometry (cont'd )



Diamond with slip ramp



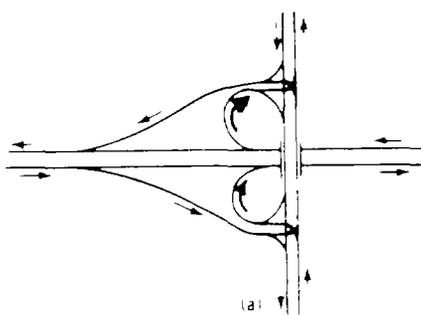
Split Diamond

(c)

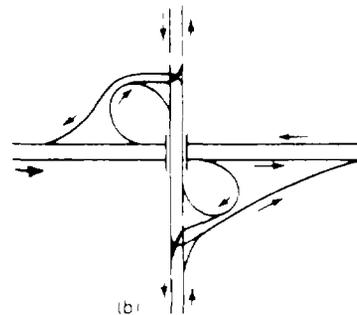
A partial diamond (code "02") is a four-leg interchange that basically fits the diamond configuration but lacks the existence of a single, one-way ramp in at least one quadrant

A full cloverleaf (code "03") is a four-leg interchange with ramps for two turning movements in each quadrant, one of which is a loop ramp

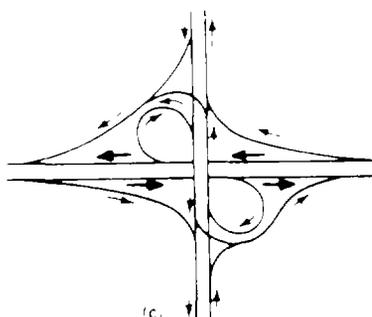
A partial cloverleaf (code "04") is a four-leg interchange that has some loop ramps for left turn maneuvers, but either does not have two ramps per quadrant or one loop ramp per quadrant. Typical cloverleaf patterns are shown below



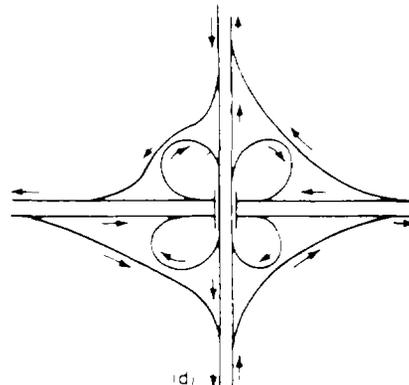
(a)



(b)

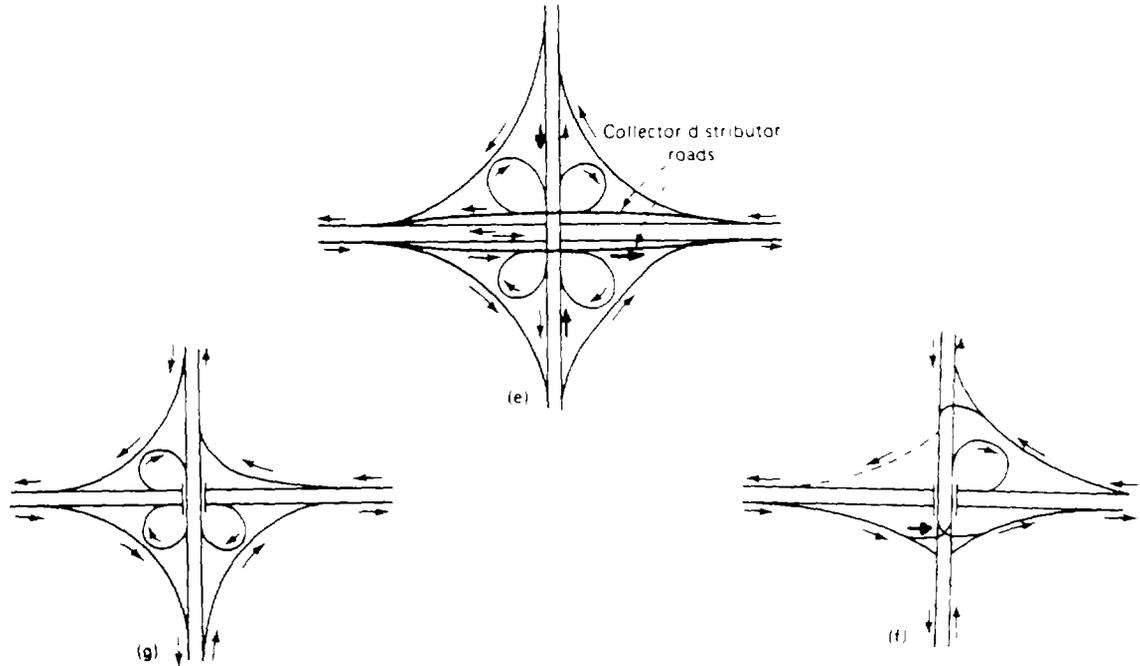


(c)



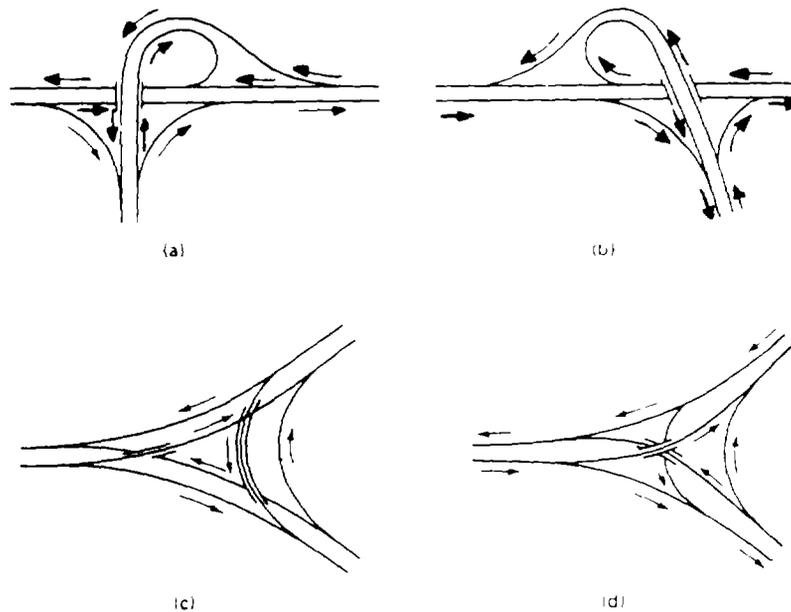
(d)

Variable Name: Interchange Geometry (cont'd.)

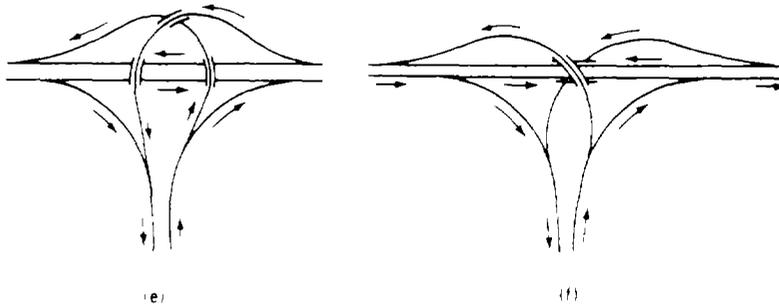


(a), (b), (c), (f), and (g) are examples of partial cloverleaf, while (d) and (e) are full cloverleafs

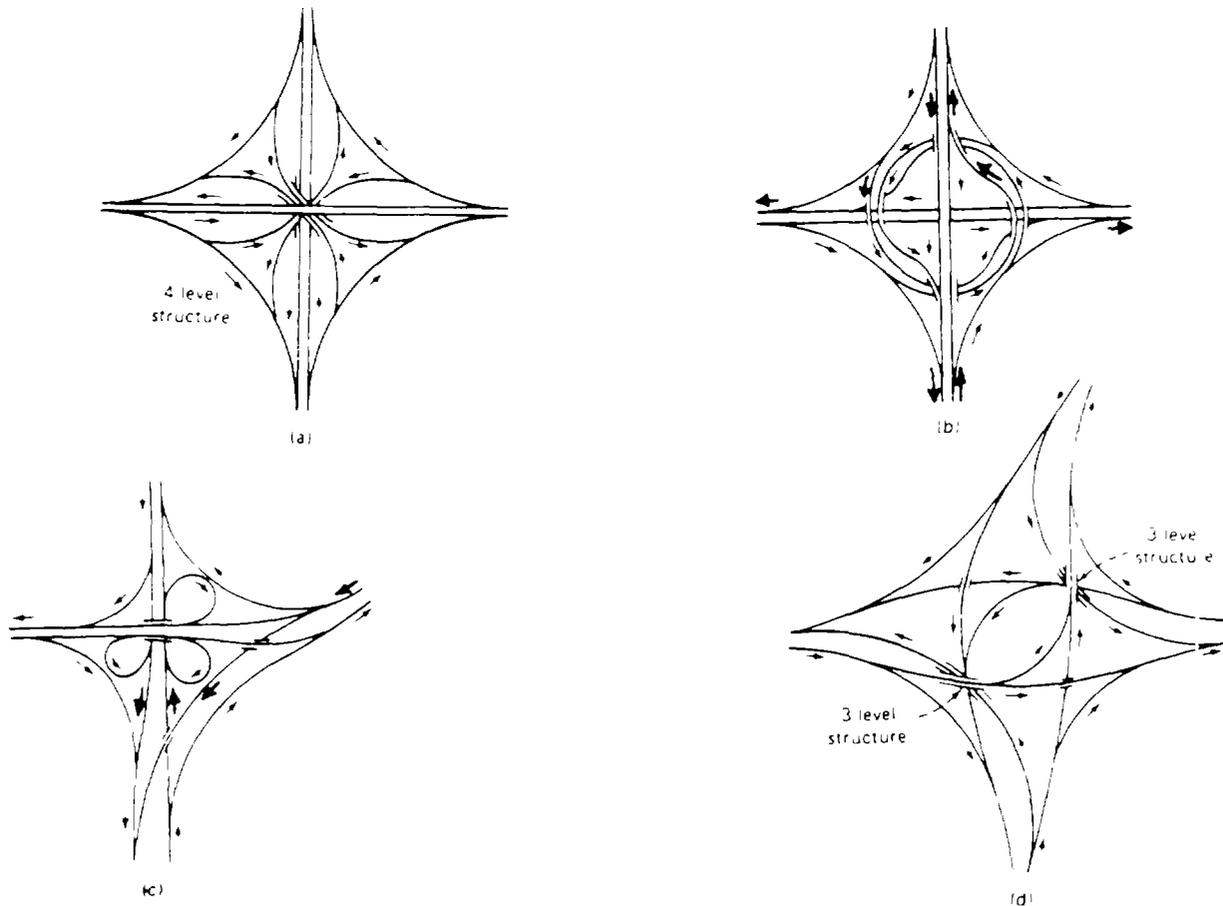
A trumpet (code "5") interchange is one with three approach legs. Code "trumpet" even if the interchange is a "Y" or a "T" interchange. Examples of each of these types is shown below.



Variable Name Interchange Geometry (cont'd.)



A directional (code "6") interchange is one having more than one highway grade separation with direct or semidirect connections for the major left turning movements. Four of the most common types are shown below. Patterns (a), (b), and (d) show complete directional patterns. Example (c) is a partial directional pattern with three loop ramps.



Use other (code "08") for any interchange design that does not fit in codes "1" through "6" above

Variable Name: Interchange Geometry (cont'd.)

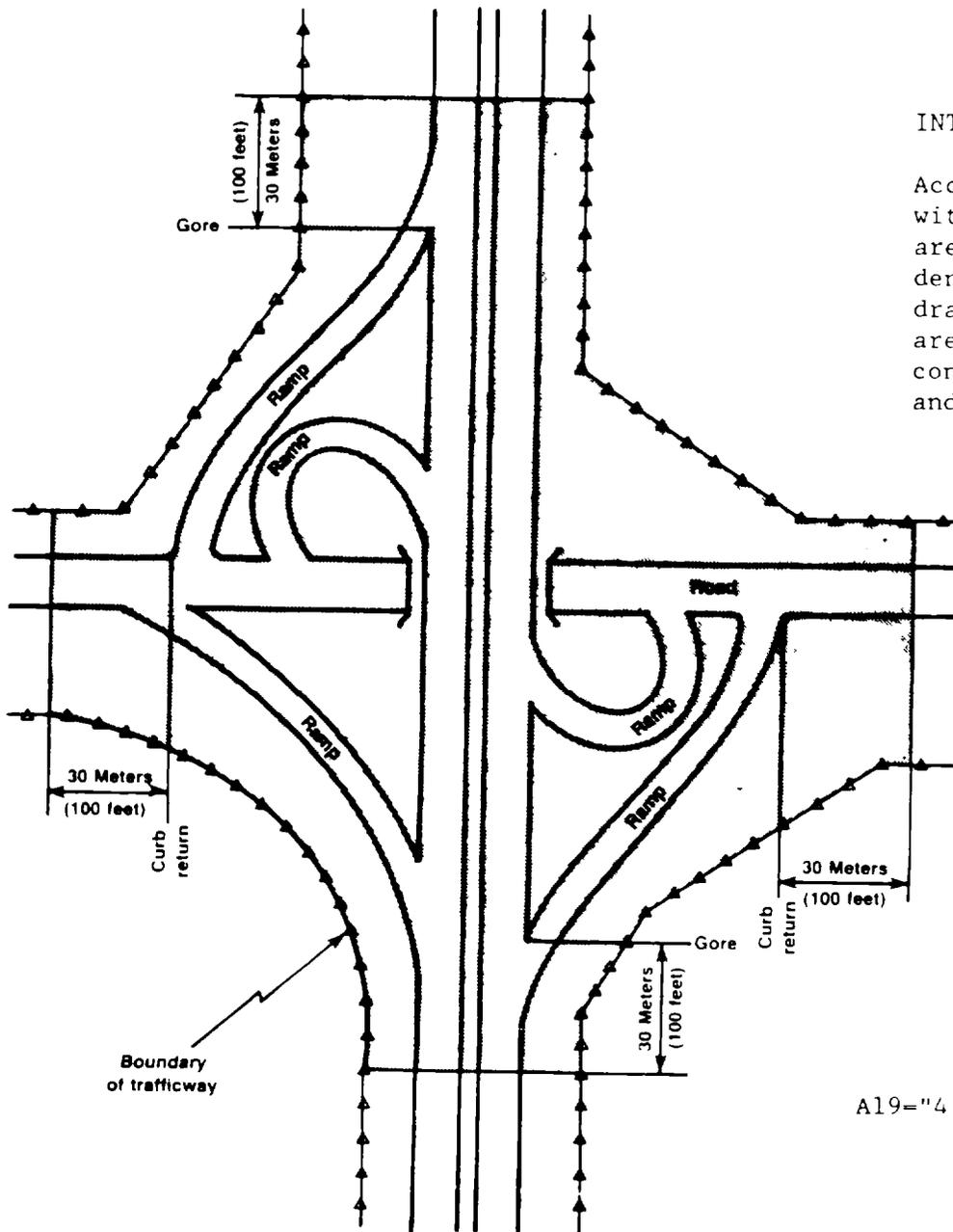


FIGURE 1

INTERCHANGE ACCIDENT

Accidents which occur within the shaded area are interchange accidents. Additional drawings of interchange areas are contained on continuation pages (6) and (7)

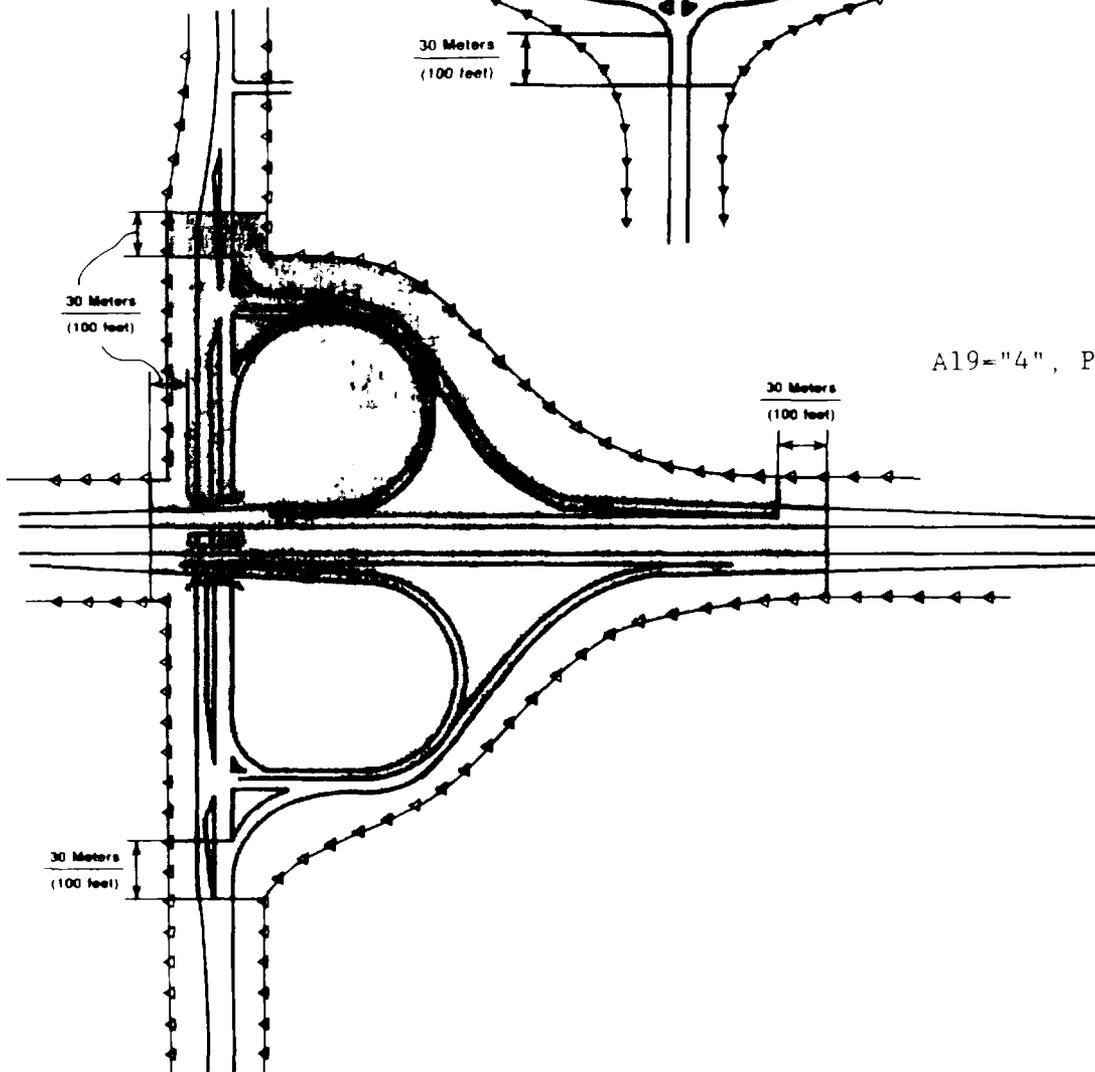
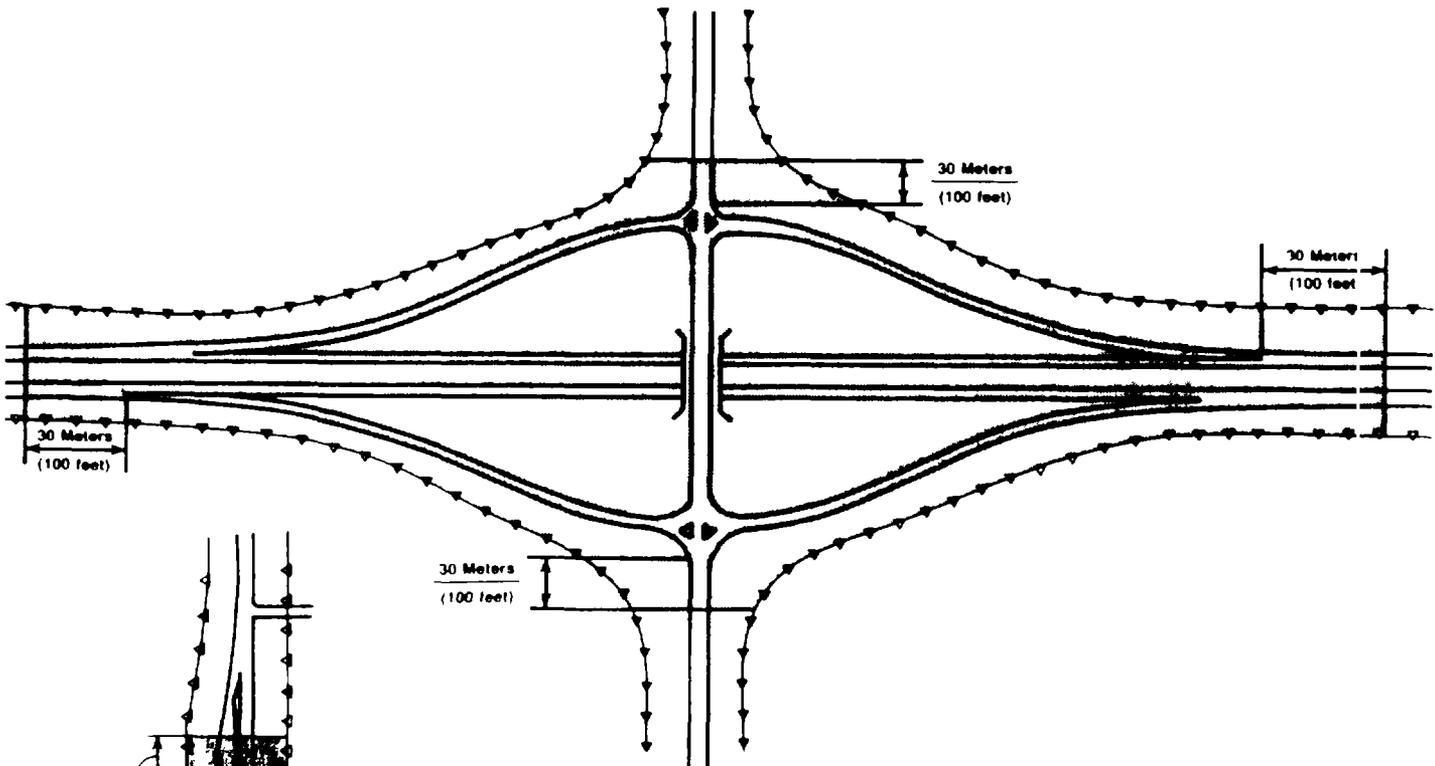
A19="4", Partial Cloverleaf

When dealing with an interchange that has at least two adjacent quadrants where no ramps exist, then the interchange area includes the actual grade separation plus an area of 30 meters beyond the bridge.

Private ways (ANSI D16 1 1983, section 2.2 2) and trafficways, but not those trafficways which are one of the reasons for the interchange, can form junctions with ramps or frontage roads associated with the interchange. These private ways and trafficways, including any channels associated with them, are not part of the interchange area except for their throats and the actual junctions themselves. Intersections, formed with trafficways which are one of the reasons for the interchange, are included in the interchange area up to the 30 meters limitation.

Variable Name Interchange Geometry (cont'd.)

A19="1", Full Diamond

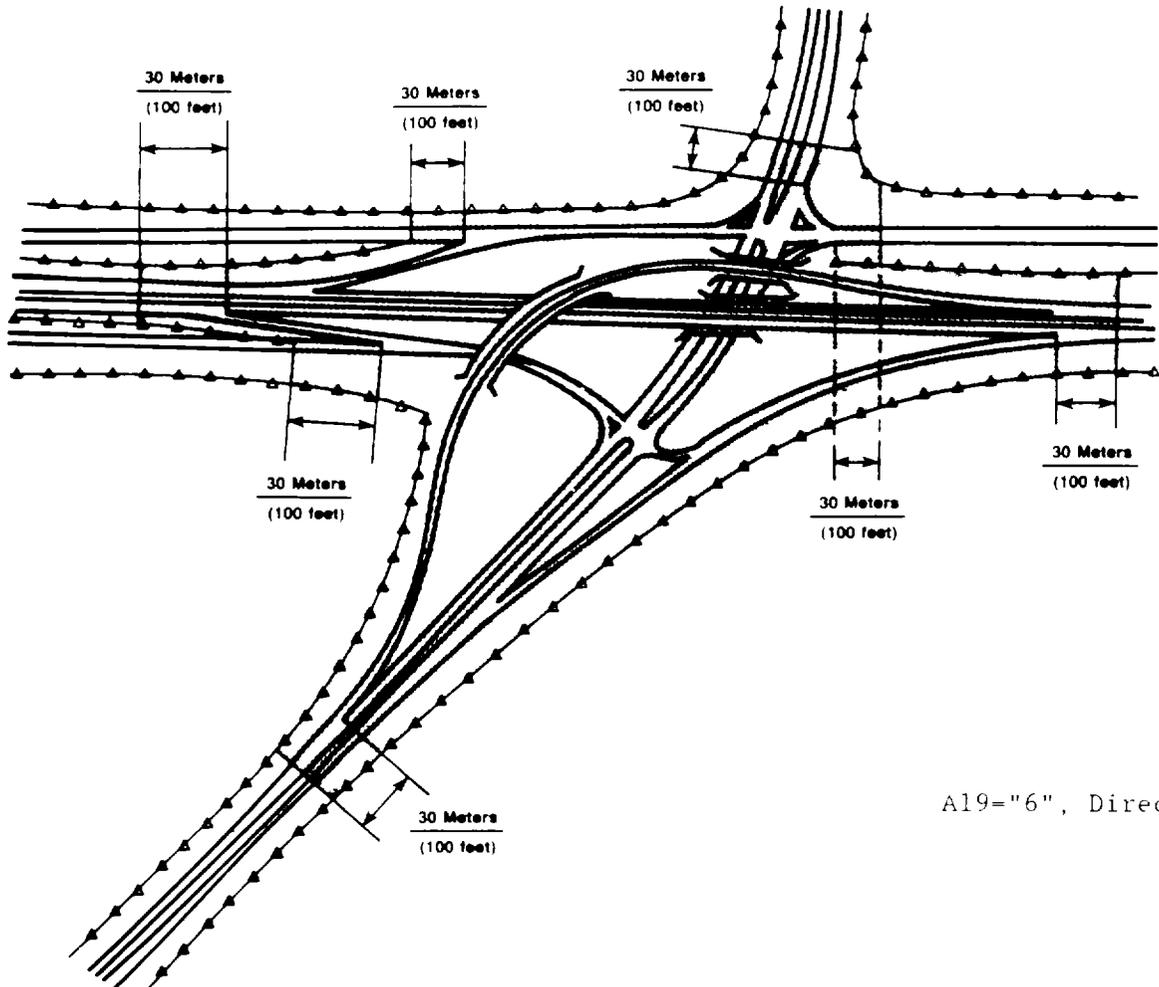
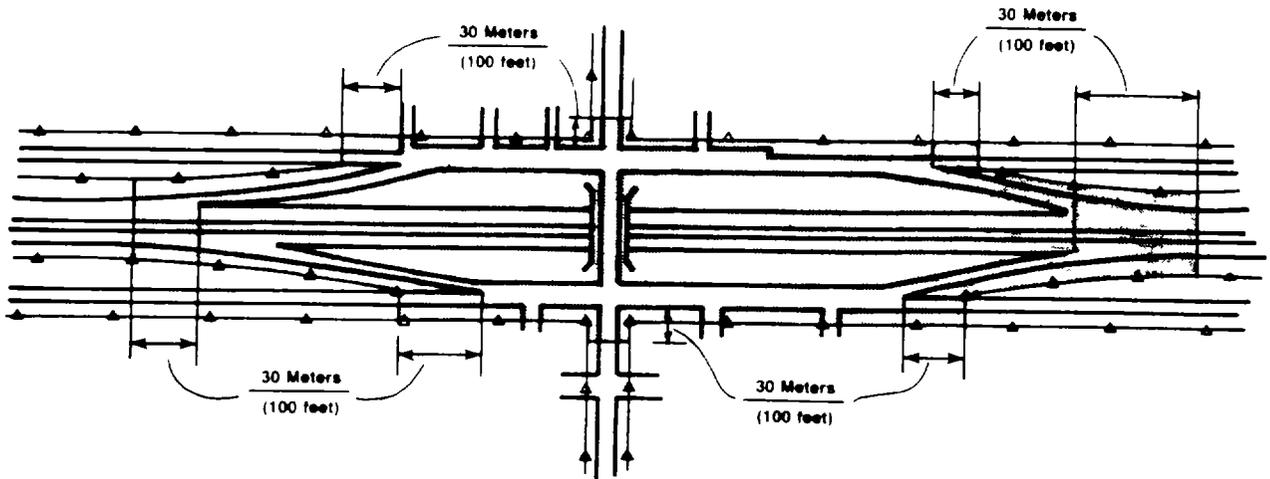


A19="4", Partial Cloverleaf

A19  
(7)

Variable Name Interchange Geometry (cont'd.)

A19="1". Full Diamond



A19="6", Directional

Variable Name: Accident Occurrence In School Zone

Format 1 column - numeric

Beginning  
Column 36

Element Values

0 No  
1 Yes  
9 Unknown

Source: Primary source is scene inspection; secondary sources include the police report and driver interviews.

Remarks:

The researcher selects the descriptor which identifies the environment at the crash site.

Code "1" (Yes) should only be used if a sign or road marking was present and the accident occurred during the time the sign or marking was in effect (i.e., this applies to the applicable time periods before, during, and following school sessions)

Variable Name: School Bus Related

Format 1 column - numeric

Beginning  
Column 37

Element Values

0 No  
1 Yes

Source: Researcher determined -- inputs include police report, vehicle inspections, driver interviews, and other interviewees.

Remarks:

This variable applies to accidents in which a school bus (V17, Body Type, need not equal 30) was directly or indirectly involved, such as an accident involving children alighting from a school bus. The school bus does not have to be involved in the accident. If it cannot be determined that a school bus was involved, code "0" (No)

For the purpose of this variable, a school bus refers to a motor vehicle which satisfies the following criteria:

- \* externally identifiable to other traffic units as a school/pupil transport vehicle, the vehicle may be equipped with flashing lights, may have a sway stop arm and traffic may be required to stop for the vehicle when occupants enter or exit,
- \* operated, leased or owned by a public or private school-type institution;
- \* where the institution's students may range from pre-school through high school;
- \* whose occupants, if any, are associated with the institution; and
- \* the vehicle is in operation at the time of the accident to and from the school or on a school-sponsored activity or trip.

Variable Name Right or Left Turn on Red Related

Format 1 column - numeric

Beginning  
Column 38

Element Values

0 No  
Right turn related  
1 Yes - turn permitted  
2 Yes - turn prohibited  
Left turn related  
3 Yes - turn permitted  
4 Yes - turn prohibited  
9 Unknown

Source Police report is used to determine if the accident is related to a right or left turn, police report and scene inspection are used to determine if the turn was permitted or prohibited.

Remarks

Code "0" (No) is used if the PAR does not indicate that a right or left turn was involved. Researcher opinion about the relationship between the accident and a right or left turning maneuver is not a consideration. In addition, code "0" (No) must be coded if the location of the first harmful event was not at or near an on-colors signalized junction (intersections, some driveways, etc.). Further, all turning movements indicated to have occurred on the green (i.e., not against the red) cannot qualify the accident for consideration.

Code "1", "2", "3", or "4" (Yes) if the PAR indicates that a turning maneuver occurred (1) at an on-colors signalized junction, (2) against the red, and (3) was related to the accident. Codes "1" or "2" (Right turn related) are used if a right turning maneuver was involved and codes "3" or "4" (Left turn related) if a left turning maneuver was indicated.

When that turning maneuver was related, the researcher determines from the police report, one's knowledge of state law and/or local ordinance (if applicable), and investigation of the scene whether or not a turn on red was permitted (codes "1" and "3") or prohibited (codes "2" and "4").

Code "9" (Unknown) is used if the PAR indicates the presence of a turning maneuver at an on-colors signalized junction but does not indicate whether or not the turning maneuver was related to the accident. For

A22

(2)

Variable Name: Right or Left Turn on Red Related (cont'd.)

example, if the diagram on the PAR shows a vehicle making a turning maneuver at a signalized junction but does not definitively state anywhere that the turning movement was (1) against the red and (2) related to the accident, then unknown ("9") should be coded.

Variable Name Driver Level Environmental Data that is  
Most Representative of this Accident  
Location

Format: 2 columns - numeric

Beginning  
Column 39

Element Values:

Code the driver level vehicle number (D07) that best describes the environment at the crash site

Source: Researcher determined -- inputs include police report, scene inspection and FHWA classification maps.

Remarks:

The vehicle number selected must be involved in the first harmful event. Select the vehicle number according to the following rules:

- (1) Choose the vehicle number on the roadway with the higher Federal Aid System (D34). If the values are equal,
- (2) Choose the vehicle number on the roadway with the greater number of travel lanes (D37). Excludes alleys and driveways which are not NASS roadways. If the number of travel lanes are equal,
- (3) Choose the vehicle number of the most at-fault driver.

Variable Name: SS8 - Longitudinal Barrier

Format: 1 column - numeric

Beginning  
Column 41

Element Values:

0 No  
1 Yes

Source: Special study procedures.

Remarks:

Code "0" (No) means there is no longitudinal barrier special study associated with this accident.

Code "1" (Yes) means there is a longitudinal barrier special study associated with this accident.

Variable Name: SS9 -- Crash Cushion

Format: 1 column - numeric

Beginning  
Column 42

Element Values:

0 No  
1 Yes

Source: Special study procedures.

Remarks:

Code "0" (No) means there is no crash cushion special study associated with this accident.

Code "1" (Yes) means there is a crash cushion special study associated with this accident.

Variable Name: SS12

Format: 1 column - numeric

Beginning  
Column 43

Element Values:

0 No  
1 Yes

Source: Special study procedures.

Remarks:

Code "0" (No) means there is no special study associated with this accident.

Code "1" (Yes) means there is a special study associated with this accident.

Variable Name: SS13

Format: 1 column - numeric

Beginning  
Column 44

Element Values:

0 No  
1 Yes

Source. Special study procedures.

Remarks:

Code "0" (No) means there is no special study associated with this accident.

Code "1" (Yes) means there is a special study associated with this accident.

Variable Name: SS14

Format: 1 column - numeric

Beginning  
Column 45

Element Values:

0 No  
1 Yes

Source: Special study procedures.

Remarks:

Code "0" (No) means there is no special study associated with this accident.

Code "1" (Yes) means there is a special study associated with this accident.

Variable Name: SS15

Format: 1 column - numeric

Beginning  
Column 46

Element Values:

0 No  
1 Yes

Source: Special study procedures.

Remarks:

Code "0" (No) means there is no special study associated with this accident.

Code "1" (Yes) means there is a special study associated with this accident.

PEDESTRIAN AND NONMOTORIST

1. Primary Sampling Unit Number 1 2

Case Number - Stratification 3 4 5 6

3. Record Number 2 7

4. Transaction Code 8

5. Version Number 9 9

6. Investigator I.D. Number 10

IDENTIFICATION

7. Pedestrian or Nonmotorist's Number 11 12

8. Pedestrian or Nonmotorist's Type

(1) Pedestrian

(2) Bicyclist

(3) Other cyclist (*specify*)

\_\_\_\_\_

(4) Occupant of vehicle not in transport

(8) Other nonmotorist (*specify*)

\_\_\_\_\_

\_\_\_\_\_

(9) Unknown 13

PEDESTRIAN OR NONMOTORIST INTERVIEW

9. Pedestrian or Nonmotorist's Age

\_\_\_\_\_ year(s) - Code actual age at time of accident

(00) Less than one year old

(97) 97 years and older

(99) Unknown 14 15

10. Pedestrian or Nonmotorist's Sex

(1) Male

(2) Female

(9) Unknown 16

11. Pedestrian or Nonmotorist's Height

\_\_\_\_\_ inches - Code actual height to the nearest inch.

(99) Unknown 17 18

12. Pedestrian or Nonmotorist's Weight

\_\_\_\_\_ pounds - Code actual weight to the nearest pound.

(999) Unknown 19 20 21

13. Pedestrian or Nonmotorist's Location

(01) Intersection related - in crosswalk

(02) Intersection related - on roadway, not in crosswalk

(03) Intersection related - on roadway, crosswalk not available

(04) Intersection related - on roadway, crosswalk availability unknown

(05) Intersection related - on sidewalk

(06) Intersection related - not on roadway or sidewalk

(09) Intersection related - unknown

(10) Nonintersection - in crosswalk

(11) Nonintersection - on roadway, not in crosswalk

(12) Nonintersection - on roadway, crosswalk not available

(13) Nonintersection - on roadway, crosswalk availability unknown

(14) Nonintersection - in parking lane

(15) Nonintersection - on road shoulder

(16) Nonintersection - on sidewalk

(17) Nonintersection - bike path

(18) Nonintersection - other, not on roadway (*specify*)

\_\_\_\_\_

(19) Nonintersection - outside trafficway

(20) Nonintersection - unknown

(99) Unknown 22 23

14. Distance From Intersection

(0) Not on roadway

On roadway

(1) Impact within 50 feet of intersection

(2) Impact between 51 and 500 feet of intersection

(3) Impact more than 500 feet from intersection

(9) Unknown 24



15 Pedestrian Activity <i>(Note: code the first attribute that applies)</i>	
___ (00) Not a pedestrian	
___ (01) Near a motor vehicle <i>(specify)</i> _____	
___ (02) Near a bus stop or mass transit entrance <i>(specify)</i> _____	
___ (03) Near a mobile vendor <i>(specify)</i> _____	
___ (04) Near an entrance <i>(specify)</i> _____	
___ (05) Darting or running into roadway	
___ (06) Crossing or attempting to cross roadway	
___ (07) Walking in the same direction as traffic	
___ (08) Walking in the opposite direction of traffic	
___ (09) Walking, direction unknown	
___ (10) Jogging or running in the same direction as traffic	
___ (11) Jogging or running in the opposite direction of traffic	
___ (12) Jogging or running, direction unknown	
___ (13) Playing	
___ (14) Working	
___ (15) Stationary <i>(specify)</i> _____	
___ (98) Other <i>(specify)</i> _____	
___ (99) Unknown	
	___ 25 ___ 26
16 - 19 Omitted <i>(These variables are omitted so that numbering consistency can be maintained with compatible variables on the Occupant Data Form.)</i>	

**INTERVIEW AND OFFICIAL SOURCES**

<u>Inter-viewee</u>	<u>Official Sources</u>
20 Treatment - Mortality	
___ (0) No treatment	___
___ (1) Fatal	___
___ (2) Fatal - ruled disease	___
Nontatal	
___ (3) Hospitalization	___
___ (4) Transported and released	___
___ (5) Treatment at scene - nontransported	___
___ (6) Treatment later	___
___ (8) Treatment - Other <i>(specify)</i> _____	___
___ (9) Unknown	___
	___ 27

<u>Inter-viewee</u>	<u>Official Sources</u>
21 Hospital Stay	
___ (00) Not hospitalized	___
___ day(s) - Code the number of days (up through 60) that the pedestrian / nonmotorist stayed in hospital	___
___ (61) 61 days or more	___
___ (99) Unknown	___
	___ 28 ___ 29
22 Working Days Lost	
___ (00) No working days lost	
___ day(s) - Code the number of days (up through 60) that the pedestrian nonmotorist lost from work due to the accident	
___ (61) 61 days or more	
___ (62) Fatally injured	
___ (97) Not working prior to accident	
___ (99) Unknown	
	___ 30 ___ 31
23 Vehicle Which Contacted Pedestrian or Nonmotorist	
___ (0) No injury	
___ (1) Vehicle number 01	
___ (2) Vehicle number 02	
___ (3) Vehicle number 03	
___ (4) Vehicle number 04	
___ (5) Vehicle number 05	
___ (6) Vehicle number 06	
___ (7) Multivehicle contact	
___ (8) Other vehicle number <i>(specify)</i> _____	
___ (9) Unknown	
	___ 32

24 - 30 Omitted *(These variables are omitted so that numbering consistency can be maintained with compatible variables on the Occupant Data Form.)*

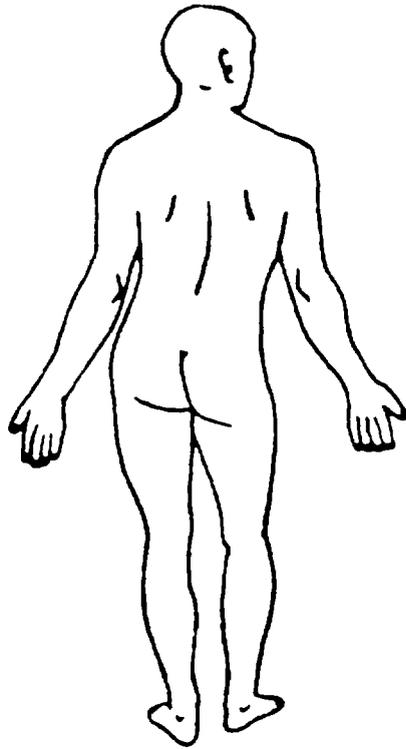
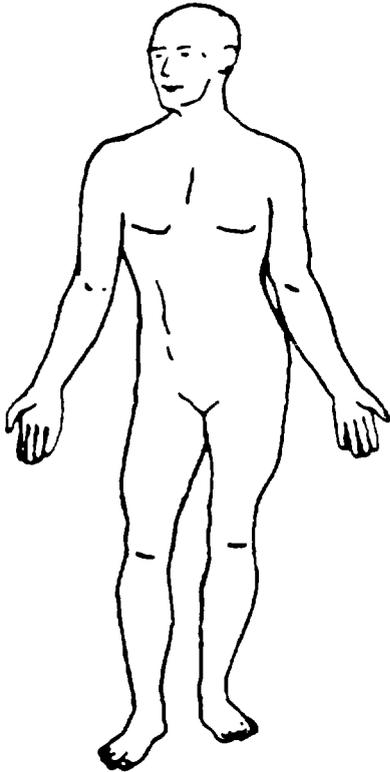
NCI

### INJURY DATA FROM INTERVIEWEE OR UNOFFICIAL SOURCE

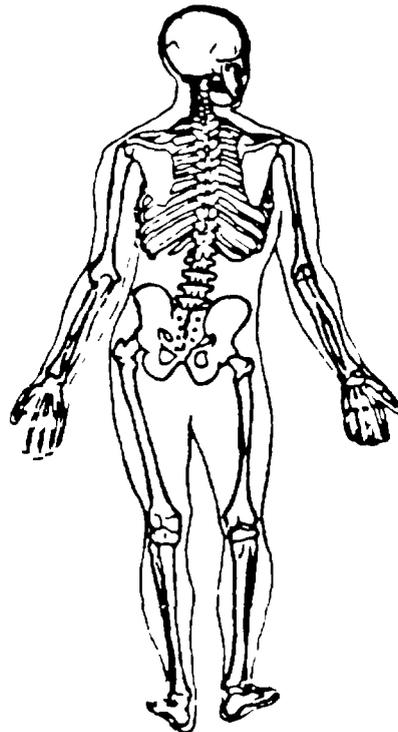
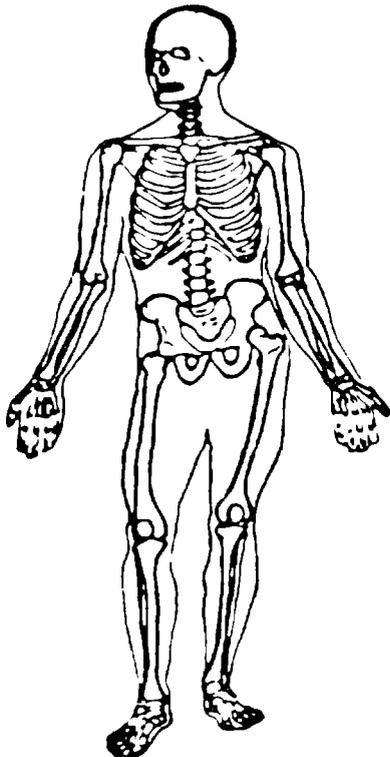
Indicate the *Nature, Location,* and injury *Source* of all injuries.

Specify Source. \_\_\_\_\_

#### Soft Tissue Injuries



#### Skeletal Injuries



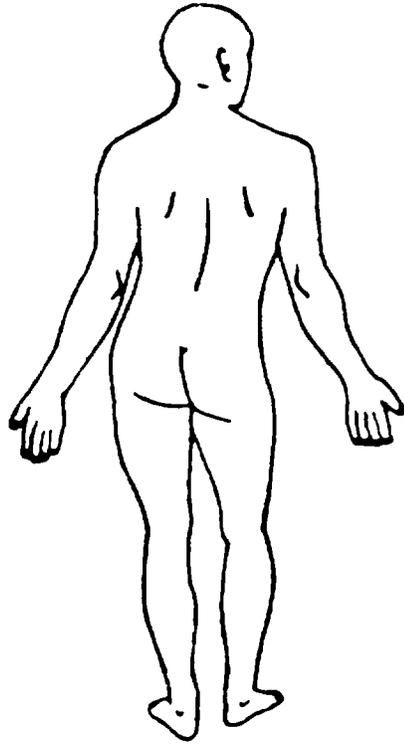
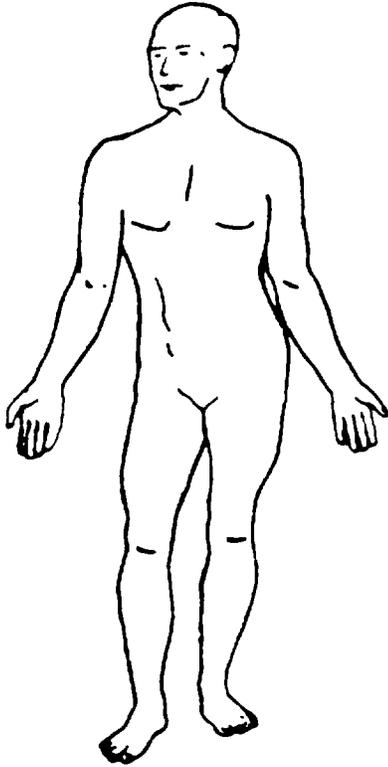
Collection Section

NCI

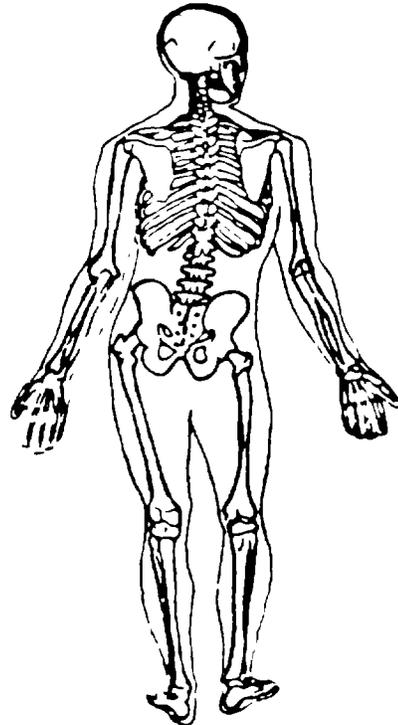
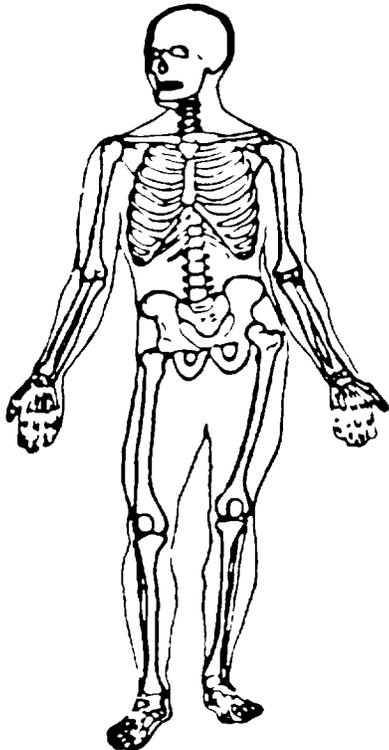
### OFFICIAL INJURY DATA

Indicate the *Nature, Location, and injury Source* of all injuries.

#### Soft Tissue Injuries



#### Skeletal Injuries



Write additional medical record injury data on reverse of this page

Collection Section



National Accident Sampling System - Continuous Sampling Subsystem: Pedestrian and Nonmotorist

NCT

**OCCUPANT INJURY CLASSIFICATION  
(FOR PEDESTRIAN AND NONMOTORIST)**

Consider all injuries which are reported from both *unofficial* and *official* sources. The information from official sources takes precedence over similar injuries reported by any other source. In other words, do not list the same injury twice, supercede the interview data with official data in the case of similar injuries. List all injuries by official medical sources first. Police reported injuries may be used, but only when no other source of injury information is available.

Were more than ten (10) injuries sustained? \_\_\_\_\_ Unknown, \_\_\_\_\_ No, \_\_\_\_\_ Yes - If more than ten dissimilar injuries were identified during the interview, from collection of official data, and from other unofficial sources (*excluding police*), list those from the official records first, exhausting that level of data before listing those from the interviewee or other sources.

	I.S.S. Body Region	O.I.C. Body Region	Aspect	Lesion	System/ Organ	A.I.S. Severity	Injury Source	Direct/ Indirect Injury	Source of Data
1	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---
	---	---	---	---	---	---	---	---	---

**Source of Data**

*Official*

- (01) Autopsy records with or without hospital/medical records
- (02) Hospital medical records other than emergency room (e.g., discharge summary)
- (03) Emergency room records only (including associated x-rays or other lab reports)
- (04) Private physician, walk-in or emergency clinic

*Unofficial*

- (05) Lay coroner report
- (06) E.M.S. personnel
- (07) Interviewee
- (08) Other source

- (09) Police
- (99) Unknown if injured
- (00) Not injured

Reduction Section

**I.S.S. Body Region**

- (1) Head or neck
- (2) Face
- (3) Chest
- (4) Abdominal or pelvic contents
- (5) Extremities or pelvic girdle
- (6) General (*external*)
- (0) Not injured
- (9) Unknown

**O.I.C. Body Region**

- (M) Abdomen
- (Q) Ankle-foot
- (A) Arm (upper)
- (B) Back - thoracolumbar spine
- (C) Chest
- (E) Elbow
- (I) Face
- (R) Forearm
- (H) Head - skull
- (U) Injured, unknown region
- (K) Knee
- (L) Leg (lower)
- (Y) Lower limb(s) (whole or unknown part)
- (N) Neck - cervical spine
- (P) Pelvic - hip
- (S) Shoulder
- (T) Thigh
- (X) Upper limb(s) (whole or unknown part)
- (J) Whole body
- (W) Wrist - hand
- (0) Not injured
- (9) Unknown if injured

**Aspect of Injury**

- (A) Anterior - front
- (C) Central
- (I) Inferior - lower
- (U) Injured, unknown aspect
- (L) Left
- (P) Posterior - back
- (R) Right
- (S) Superior - upper
- (W) Whole region
- (0) Not injured
- (9) Unknown if injured

**Lesion**

- (A) Abrasion
- (M) Amputation
- (V) Avulsion
- (B) Burn
- (K) Concussion
- (C) Contusion
- (N) Crush
- (G) Detachment, separation
- (D) Dislocation
- (I) Fracture
- (Z) Fracture and dislocation
- (U) Injured, unknown lesion
- (L) Laceration
- (O) Other
- (P) Perforation, puncture
- (R) Rupture
- (S) Sprain
- (T) Strain
- (E) Total severance, transection
- (0) Not injured
- (9) Unknown if injured

**System/Organ**

- (W) All systems in region
- (A) Arteries - veins
- (B) Brain
- (D) Digestive
- (E) Ears
- (O) Eye
- (H) Heart
- (U) Injured, unknown system
- (I) Integumentary
- (J) Joints
- (K) Kidneys
- (L) Liver
- (M) Muscles
- (N) Nervous system
- (P) Pulmonary - lungs
- (R) Respiratory
- (S) Skeletal
- (C) Spinal cord
- (Q) Spleen
- (T) Thyroid, other endocrine gland
- (G) Urogenital
- (V) Vertebrae
- (0) Not injured
- (9) Unknown if injured

**Abbreviated Injury Scale**

- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (*untreatable*)
- (7) Injured, unknown severity
- (0) Not injured
- (9) Unknown if injured

<b>Injury Source</b>	<b>ROOF</b>	<b>EXTERIOR of STRIKING MOTOR VEHICLE</b>
(00) No injury	(31) Front header	(71) Front bumper
<b>FRONT</b>	(32) Rear header	(72) Hood edge
(01) Windshield	(33) Roof side rails	(73) Other front of vehicle (specify)
(02) Mirror	(34) Roof or convertible top	
(03) Sunvisor	<b>FLOOR</b>	(74) Hood
(04) Steering wheel rim	(41) Floor	(75) Hood ornament
(05) Steering wheel hub/spoke	(42) Floor or console mounted transmission lever, including console	(76) Windshield, roof rail, A pillar
(06) Steering wheel (combination of codes 04 and 05)	(43) Parking brake handle	(77) Side surface
(07) Steering column, transmission selector lever, other attachment	(44) Foot controls including parking brake	(78) Side mirrors
(08) Add on equipment (e.g., CB, tape deck, air conditioner)		(79) Other side protrusions (specify)
(09) Left instrument panel and below	<b>REAR</b>	(80) Rear surface
(10) Center instrument panel and below	(45) Backlight (rear window)	(81) Undercarriage
(11) Right instrument panel and below	(46) Backlight storage rack, door, etc.	(82) Tires and wheels
(12) Other front object (specify)	(49) Other rear object (specify)	(83) Other exterior of striking motor vehicle (specify)
		(84) Unknown exterior of striking motor vehicle
<b>SIDE</b>	<b>EXTERIOR of NONMOTORIST'S VEHICLE</b>	<b>OTHER VEHICLE or OBJECT in the ENVIRONMENT</b>
(13) Side interior surface, excluding hardware or armrests	<b>Noncycle</b>	(86) Ground
(14) Side hardware or armrest	(51) Hood	(87) Other vehicle or object (specify)
(15) A pillar	(52) Outside hardware (e.g., outside mirror, antenna)	
(16) B pillar	(53) Other exterior surface or tires (specify)	(89) Unknown vehicle or object
(17) Other pillar (specify)	(59) Unknown exterior objects	
	<b>Cycle</b>	<b>NONCONTACT INJURY</b>
(18) Window glass or frame	(61) Handle bars or attachments	(90) Noncontact injury source
(19) Other side object (specify)	(62) Frame or suspension component or fender	(97) Injured, unknown source
	(63) Seat	(99) Unknown if injured
<b>INTERIOR</b>	(64) Foot pedal, foot rest, foot pegs	<b>DIRECT/INDIRECT INJURY</b>
(21) Seat, back support	(65) Wheel or tire	(0) No injury
(22) Belt restraint system	(66) Engine or transmission	(1) Direct contact injury
(23) Head restraint system	(67) Gas tank, gas tank filler cap or neck	(2) Indirect contact injury
(24) Air cushion	(69) Other cycle part (specify)	(3) Noncontact injury
(25) Other occupants (specify)		(7) Injured, unknown source
		(9) Unknown if injured
(26) Interior loose objects		
(29) Other interior object (specify)		

**OCCUPANT INJURY CLASSIFICATION (FOR PEDESTRIAN AND NONMOTORIST)**

If there are six or less injuries listed in the O I C reduction section, code all of the injuries ordered by Source of Data (1st-autopsy, 2nd-hospital/medical, 3rd-emergency room, 4th-private physician, or 5th-unofficial sources) and by A I S severity within source

If there are more than six injuries, order the injuries by source and by A I S severity within source. Code this ordering, injury by injury. If a group of ordered injuries has the same source, the same A I S, and the group includes at least the sixth and seventh injuries in the ordering, then a choice must be made as to which injury or injuries to code.

Choose the injury or injuries that will enable the maximum number of different I.S.S. body regions to be represented in the coded data. If no new I.S.S. body region can be added then simply code in accordance with the original ordering.

If the pedestrian or nonmotorist has less than six injuries, then the number of rows required to be completed is equal to the number of injuries plus one (e.g., no injuries requires one row - i.e. columns 33 to 42). In the additional row "No Injury" will be coded for all variables, including A I S severity.

If you cannot increase the number of different I.S.S. body regions or if you can choose between two or more injuries of the same source and A I S severity, any of which would constitute an additional I.S.S. region, then choose the injury that has a known injury source.

I.S.S. Body Region	O I C Body Region	Aspect	Lesion	System/Organ	A.I.S. Severity	Injury Source	Update Candidate							
							Direct/Indirect Injury	Source of Data						
1st	31	33	32	34	33	34	35	36	37	38	39	40	41	42
2nd	39	43	40	44	41	45	42	46	43	47	44	48	49	50
3rd	47	53	48	54	49	55	50	54	51	57	52	58	59	60
4th	55	63	56	64	57	65	58	62	59	67	60	68	69	70
5th	63	73	64	74	65	75	66	70	67	77	68	78	79	80
6th	71	83	72	84	73	85	74	78	75	87	76	88	89	90

Coding Section

OFFICIAL RECORDS	INVESTIGATOR DETERMINED
Injury Severity ( <i>Police Rating</i> ) (0) No injury ( <i>O</i> ) ___ (1) Possible injury ( <i>C</i> ) ___ (2) Nonincapacitating injury ( <i>B</i> ) ___ (3) Incapacitating injury ( <i>A</i> ) ___ (4) Killed ( <i>K</i> ) ___ (5) Injury, severity unknown ___ (6) Died prior to accident ___ (9) Unknown <div style="text-align: right;">93</div>	84. Pedestrian/Nonmotorist Related Factors ___ (00) No pedestrian/nonmotorist related factors ___ (01) Non-physical ( <i>i.e., mental or emotional factor</i> )  Physical impairments ___ (02) Blind ___ (03) Restricted sight ___ (04) Walking cane/crutches required ___ (05) Deaf ___ (06) Restricted to wheelchair ___ (07) Paraplegic ___ (08) Previous injury ___ (09) Other physical impairments ( <i>specify</i> ) _____
80 Time to Death ___ (00) Not fatal ___ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. ( <i>Note 1 day = 31, 2 days = 32, n days = 30 + n up through 30 days = 60</i> ) ___ (96) Fatal ruled disease ___ (99) Unknown <div style="text-align: right;">94 95</div>	Drug Impairments ___ (10) Drugs - medication ( <i>prescription, over-the-counter</i> ) ___ (11) Other drugs ( <i>excludes alcohol, includes uncontrolled substances</i> ) ( <i>specify</i> ) _____
81 Traffic Violation Charged Against This Pedestrian or Nonmotorist (0) No ___ (1) Yes ( <i>specify</i> ) _____ ___ (9) Unknown <div style="text-align: right;">96</div>	Pedalcyclist Related ( <i>Includes Animal Related</i> ) ___ (12) Inattention ___ (13) Interference with operator by other passenger ___ (14) Operator inexperience ___ (15) Erratic lane changing - cutting in and out of traffic ___ (16) Not yielding right-of-way ___ (17) Failure to yield to an emergency vehicle ___ (18) Disobeying stop sign ___ (19) Disobeying traffic signal ___ (20) Failure to obey other traffic sign or signal ( <i>specify</i> ) _____ ___ (21) Riding over or on the centerline ___ (22) Riding over or on the median ___ (23) Riding wrong way on 1-way street or entrance/exit ramp ___ (24) Pulling in front of traffic from a roadway or driveway ___ (25) Turning left or U-turning in front of oncoming traffic ___ (26) Making right turn from left lane, or left turn from right lane ___ (27) Making other improper turn ( <i>specify</i> ) _____
82 Police Reported Alcohol Presence ___ (0) No ( <i>alcohol not present</i> ) ___ (1) Yes ( <i>alcohol present</i> ) ___ (8) Not reported ___ (9) Unknown <div style="text-align: right;">97</div>	___ (28) Proceeding despite view obstruction ___ (29) Wrong signal given for maneuver executed ___ (30) Turning without giving a turn signal ___ (31) Hazard lights not used when appropriate or required ___ (32) Operator unfamiliar with roadway ___ (33) Overloading or improper loading of passengers and/or cargo ___ (38) Other pedalcyclist related factors ( <i>specify</i> ) _____
83 Alcohol Test Result  ___ Actual value ( <i>decimal implied before first digit</i> ) ( <i>0 xx</i> ) ___ (95) Test refused ___ (96) None given ___ (97) AC test performed, results unknown ___ (99) Unknown <div style="text-align: right;">98 99</div>	___ (99) Unknown <div style="text-align: right;">100 101</div>

**COMPLETED BY TEAM**

Primary Sampling Unit Number	1	2
2 Case Number Stratification	3	4
3 Record Number	2	7
4 Transaction Code	8	
5 Version Number	9	9
6 Investigator ID Number	10	

**Used in Coding the Interview Contact Record Only**

9a Result of Contact Attempt Other than Last Contact Attempt

(13) No answer (to phone call, no one at home, etc.)

(14) Other person at home work etc - Interviewee to contact investigator

(15) Other person at home, work etc - Investigator to repeat call, visit, leave questionnaire, or try elsewhere

(16) Must obtain permission of attorney or insurance company

(17) Attorney or insurance company provided permission

(18) Other (specify) \_\_\_\_\_

**PEDESTRIAN AND NONMOTORIST INTERVIEW**

7 Pedestrian or Nonmotorist Number

11    12

8 Manner of Last Contact Attempt

(1) Telephone

(2) Personal visit to home work etc

(3) Letter questionnaire

(4) Other (specify) \_\_\_\_\_

13

9 Results of Last Contact Attempt

(01) Unable to contact or locate

(02) Hit and run

(03) Fatal - surrogate not available

(04) In intensive care - surrogate not available

(05) Out of state resident

(06) Refused interview for other than on advice of attorney or insurance company (specify) \_\_\_\_\_

(07) Insurance company refusal

(08) Attorney refusal or litigation

(09) Other (specify) \_\_\_\_\_

(10) No return of letter questionnaire

(11) Return of letter questionnaire completed

(12) Partial complete interview

14    15

10 Date Interview Completed

16    17    18    19    20    21

8

11 Completing person

22

12 Source of Interview Data

(1) No data obtained

(2) Same person

(3) Other accident involved person

(4) Relative or friend

(5) Eyewitness

(6) Combination of 3, 4 or 5

(7) Other (Specify) \_\_\_\_\_

23

13 Reasons Medical Data Not Obtainable

(00) Not medically treated

(01) No record of treatment at medical facility

(02) Medical release required - not obtained

(03) Nonaccident related injury

(04) Noncooperative hospital

(05) Hospital out of study area

(06) Private physician would not release information

(07) Unknown if medically treated

(08) To be updated

(09) Record not received before file closed

(10) Complete record obtained (autopsy, hospital discharge summary, other complete medical)

(11) Partial record obtained (i.e., some records exists but was not acquired or released)

24    25

**INTERVIEW CONTACT RECORD**  
(See Variables 9 and 9a above)

Contact Sequence	Month	Day	Year	Time of Contact	Contacting Person	Manner	Result
1st	---	---	8	---	---	---	---
2nd	---	---	8	---	---	---	---
3rd	---	---	8	---	---	---	---
4th	---	---	8	---	---	---	---
5th	---	---	8	---	---	---	---
6th	---	---	8	---	---	---	---
7th	---	---	8	---	---	---	---
8th	---	---	8	---	---	---	---
9th	---	---	8	---	---	---	---

COMPLETED BY ZONE CENTER

<p>14 Date Medical Record Update Received</p> <p style="text-align: right;">8 26 27 28 29 30 31</p> <p>15 Reviewed By</p> <p style="text-align: right;">32 33</p> <p>16 Interviewee or Unofficial Injury Documentation</p> <p>___ (1) Complete - Injury descriptions are annotated in sufficient detail to enable independent OIC AIS coding. The protocol for completing the injury diagram has been used and a contact mechanism or "unknown" is indicated</p> <p>___ (2) Partial - All coded injuries are described in adequate detail however additional annotation would have been helpful for independent OIC AIS coding. Contact mechanism omitted for some injuries</p> <p>___ (3) Incomplete - Generally inadequate description of injuries or the coded injury does not correspond to the annotated injury</p> <p>___ (4) Not applicable - No interviewee reported injuries</p> <p style="text-align: right;">34</p>	<p>17 Official Injury Documentation</p> <p>___ (1) Complete - All injuries reported in the medical data are annotated with sufficient detail to enable independent OIC AIS coding. The protocol for completing the injury diagram has been used</p> <p>___ (2) Partial - All coded injuries are described in adequate detail however additional annotation would have been helpful for independent OIC AIS coding. Some minor injuries described in the medical data may be omitted</p> <p>___ (3) Incomplete - Generally inadequate or erroneous description of injuries and/or omitted major injuries described in the medical data</p> <p>___ (4) Not applicable - No official medical data</p> <p style="text-align: right;">35</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

ERROR TALLY (COMPLETED BY ZONE CENTER)

Blank - Not in error and not missing	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
	Response	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
RDE system error	Variable	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Field data not attributable to treatment	Response	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69
Sequence errors in field	Variable	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
100% missing data	Response	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
Unknown coded in field	Variable	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
	Response	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
40% error with a data entered	Variable	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
	Response	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120



### PEDESTRIAN AND NONMOTORIST FORM UPDATE RECORD

This section must be completed prior to initial case submission

1. Primary/Secondary Unit Number	1	2	PEDESTRIAN / NONMOTORIST / OTHER	_____	
2. Case Number - Stratification	3	4	5	6	Age _____
3. Record Number				7	_____
4. Transaction Code				8	_____
5. Verbal Name				9	_____
Investigator ID Number				10	_____
11. Pedestrian/Nonmotorist Number	11	12	DATA ON INITIAL SUBMISSION		_____
20. Treatment _____					
21. Initial Status _____					
22. Final Disposition _____					
23. Outcome _____					

ENTER RESPONSE FOR EACH VARIABLE WHERE DATA NOT AVAILABLE AT TIME OF SUBMISSION WAS UNKNOWN OR IS FELT TO BE IN ERROR (GIVEN RECEIPT OF OFFICIAL MEDICAL RECORDS)

COMPLETE PRIOR TO INITIAL CASE SUBMISSION

13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32

ENTER DATA CODED ON INITIAL SUBMISSION

33	34	35	36	37	38
39	40	41	42	43	44
45	46	47	48	49	50
51	52	53	54	55	56
57	58	59	60	61	62
63	64	65	66	67	68
69	70	71	72	73	74
75	76	77	78	79	80

UPDATED INJURY DATA BASED ON SUBSEQUENTLY ACQUIRED OFFICIAL MEDICAL DATA  
(for reason data not obtained (see response for log variable 13) \_\_\_\_\_)

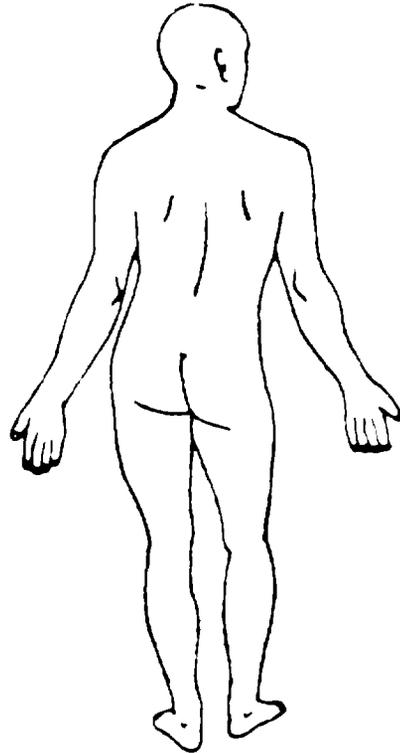
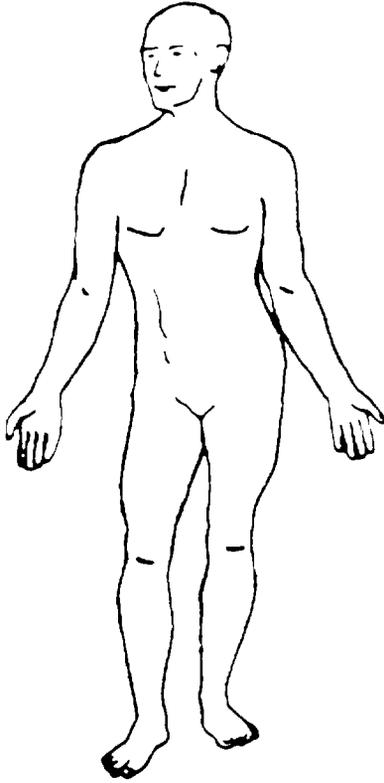
1st	81	82	83	84	85	86	87	88	89	90	91	92
2nd	93	94	95	96	97	98	99	100	101	102	103	104
3rd	105	106	107	108	109	110	111	112	113	114	115	116
4th	117	118	119	120	121	122	123	124	125	126	127	128
5th	129	130	131	132	133	134	135	136	137	138	139	140
6th	141	142	143	144	145	146	147	148	149	150	151	152
80. Time to Death						81. Final Test Results						
94						95						
98						99						

INDICATE THE NATURE AND LOCATION OF ALL INJURIES FROM THE OFFICIAL MEDICAL REPORT(S) ON THE REVERSE SIDE AND ATTACH THE REPORT(S) TO THIS UPDATE

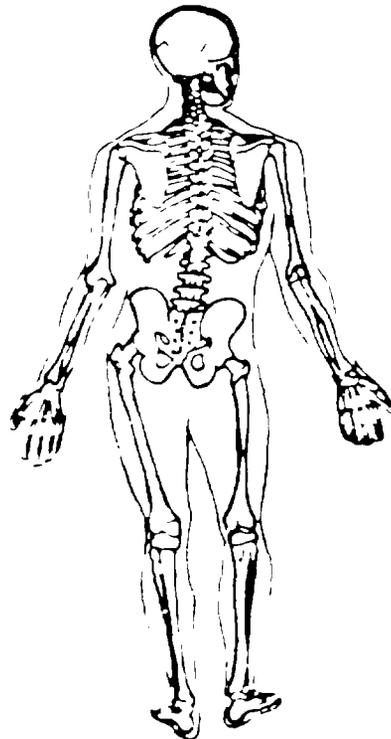
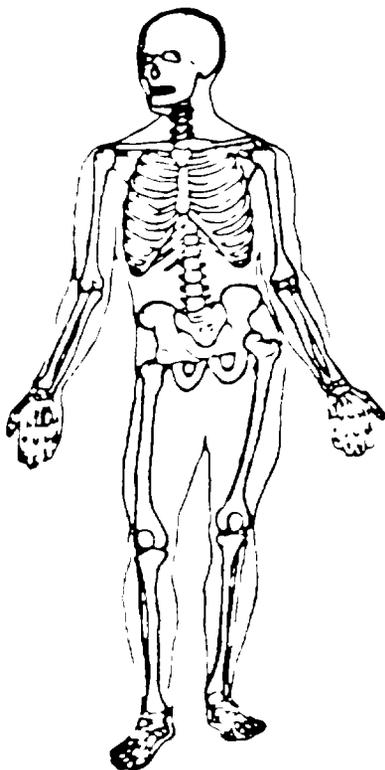
OFFICIAL INJURY DATA

Indicate the Nature, Location, and Injury Source of all injuries.

*Soft Tissue Injuries*



*Skeletal Injuries*



Variable Name. Investigator I.D Number

Format 1 column - numeric

Beginning  
Column 10

Element Values:

Range 1 through 9

Source Zone Center

Remarks

The person who was primarily responsible for the completion of this Pedestrian and Nonmotorist Form shall enter his/her unique number

Each researcher's unique number is assigned by the PSU's Zone Center.

This variable is a mandatory variable and cannot be changed.

PEDESTRIAN & NONMOTORIST FORM

PO7

Variable Name Pedestrian or Nonmotorist's Number

Format 2 columns - numeric

Beginning  
Column 1

Element Values

Range 01 through 25

Source Researcher assigned.

Remarks

Numbers assigned to pedestrians or nonmotorists must be consecutive starting with "01". no numbers may be skipped. Where two or more pedestrians or nonmotorists can be associated with a vehicle (motor or other (see ANSI D16 1-1983, section 2.2 8, page 7)), pedalcycle, or nonmotorist conveyance (any human-powered device designed for transporting people) assign their numbers in sequence.

The driver (person with steering control) of a pedalcycle is assigned the lowest number sequentially of any of the pedalcyclists specific to that unit (e.g. a pedalcycle for two). The pedalcyclist in front has steering control and therefore is the driver with Pedestrian or Nonmotorist's Number (PO7) "01". the other pedalcyclist in the rear is the passenger with Pedestrian or Nonmotorist's Number (PO7) "02".

Numbers assigned to nonmotorists in motor vehicles not in transport are assigned sequentially left to right and front to back beginning in the enclosed area. Assign numbers last to those persons in or on unenclosed areas.

This variable is a mandatory variable and cannot be changed.

Variable Name Pedestrian or Nonmotorist's Type

Format: 1 column - numeric

Beginning  
Column 13

Element Values

- 1 Pedestrian
- 2 Bicyclist
- 3 Other cyclist (specify)
- 4 Occupant of vehicle not in transport
- 8 Other nonmotorist (specify)
- 9 Unknown

Source. Researcher determined--inputs include the vehicle inspection, interviewee, and the police report

Remarks

A pedestrian ("1") is defined as any person who is on a trafficway or on a sidewalk or path contiguous with a trafficway, 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, wheel chair, rickshaw, etc. This includes those persons in a nonmotorist conveyance who hold onto a motor vehicle in motion. Excluded are pedalcyclists.

Bicyclist ("2") refers to only those pedalcyclists who were either a driver or passenger on a bicycle. This includes those bicyclists who hold onto a motor vehicle in motion.

Code "3" (Other cyclist) refers to all other pedalcyclists. This includes those pedalcyclists who hold onto a motor vehicle in motion.

Code "4" (Occupant of vehicle not in transport) represents those persons in or on a motor vehicle which is not in transport when struck.

Other nonmotorist ("8") includes any other person not included under the above definitions of a pedestrian, bicyclist, other cyclist, or occupant of a motor vehicle not in transport. Persons riding on an animal or in an animal powered conveyance are one example. Any person outside a trafficway or outside a sidewalk or path contiguous with a trafficway is another. Annotate in the space provided a description of the nonmotorist type.

PEDESTRIAN & NONMOTORIST FORM

PG6

Variable Name Pedestrian or Nonmotorist's Age

Format 2 columns - numeric

Beginning  
Column 14

Element Values

Range. 00 through 97, 99  
00 Less than one year old  
97 97 years and older  
99 Unknown

Source Primary source is interviewee. secondary sources include police report and official records (e.g. medical, license)

Remarks

Age is recorded at time of accident with respect to the pedestrian's or nonmotorist's last birthday

Variable Name: Pedestrian or Nonmotorist's Sex

Format: 1 column - numeric

Beginning  
Column 16

Element Values:

- 1 Male
- 2 Female
- 9 Unknown

Source. Primary source is interviewee; secondary sources include police report and official records (e.g., medical).

Remarks:

Self-explanatory.

PEDESTRIAN & NONMOTORIST FORM

P11

Variable Name Pedestrian or Nonmotorist's Height

Format 2 columns - numeric

Beginning  
Column 17

Element Values

Range 12 through 85 inches  
99 Unknown

Source Researcher determined--inputs include interviewee or official record,  
(e.g. medical)

Remarks

Code actual height to the nearest inch

The PAR may be used as a source if it contains this data, but it is  
superseded if other data exists

Autopsies often include this information, use it when present

Variable Name: Pedestrian or Nonmotorist's Weight

Format: 3 columns - numeric

Beginning  
Column 19

Element Values:

Range: 005 through 300 Pounds  
999 Unknown

Source Researcher determined--inputs include interviewees or official records (e.g., medical)

Remarks

Code actual weight to the nearest pound.

The PAR may be used as a source if it contains this data, but it is superceded if other data exists.

Autopsies often contain this information; use it when present.

Variable Name Pedestrian or Nonmotorist's Location

Format 2 columns - numeric

Beginning  
Column 22

Element Values

01 Intersection related - in crosswalk  
 02 Intersection related - on roadway, not in crosswalk  
 03 Intersection related - on roadway, crosswalk not available  
 04 Intersection related - on roadway, crosswalk availability unknown  
 05 Intersection related - on sidewalk  
 06 Intersection related - not on roadway or sidewalk  
 09 Intersection related - unknown  
 10 Nonintersection - in crosswalk  
 11 Nonintersection - on roadway, not in crosswalk  
 12 Nonintersection - on roadway, crosswalk not available  
 13 Nonintersection - on roadway, crosswalk availability unknown  
 14 Nonintersection - in parking lane  
 15 Nonintersection - on road shoulder  
 16 Nonintersection - on sidewalk  
 17 Nonintersection - bike path  
 18 Nonintersection - other - not a roadway (specify)  
 19 Nonintersection - outside trafficway  
 20 Nonintersection - unknown  
 99 Unknown

Source Researcher determined--inputs include scene inspection, interviewee, and police reports

Remarks

Select the value which best represents the location of the pedestrian or nonmotorist at the time of impact

To code "intersection related" ("01" through "06", and "09") the pedestrian or nonmotorist must have been struck in the area formed by the junction of two or more trafficways. If the pedestrian was struck in the intersection (of the roadways), or in the crosswalks, sidewalks, or islands within the junction of the trafficways, use these codes.

Sidewalk is defined as any improved surface primarily constructed for the use of pedestrians. A crosswalk is defined as a marked area (generally delineated by solid white lines) used by pedestrians when crossing a roadway. The crossing area must be marked to be classified as a crosswalk for the purpose of this variable.

Variable Name: Pedestrian or Nonmotorist's Location (cont'd )

The remaining codes ("10" through "20") are applicable to accidents occurring in a nonintersection area (i.e., not within the junction of two or more named trafficways). Driveway/alley accesses are nonintersection areas.

Use code "14" (Nonintersection - in parking lane) whenever a pedestrian or nonmotorist is struck within 7 feet of the curb or edgeline on roads where there is parking but no explicitly delineated parking lane width.

When both codes "15" and "16" apply, use code "16."

Code "17" (Nonintersection - bike path) refers to any officially designated path or lane (on or off the road but not within the junction of two or more named trafficways) on which pedalcyclists have preference. This includes those lanes which are bimodal if the accident occurs when they convert from motor vehicle to pedalcycle (e.g., weekends). For the purpose of this variable, all bike paths, if marked, are considered off roadway.

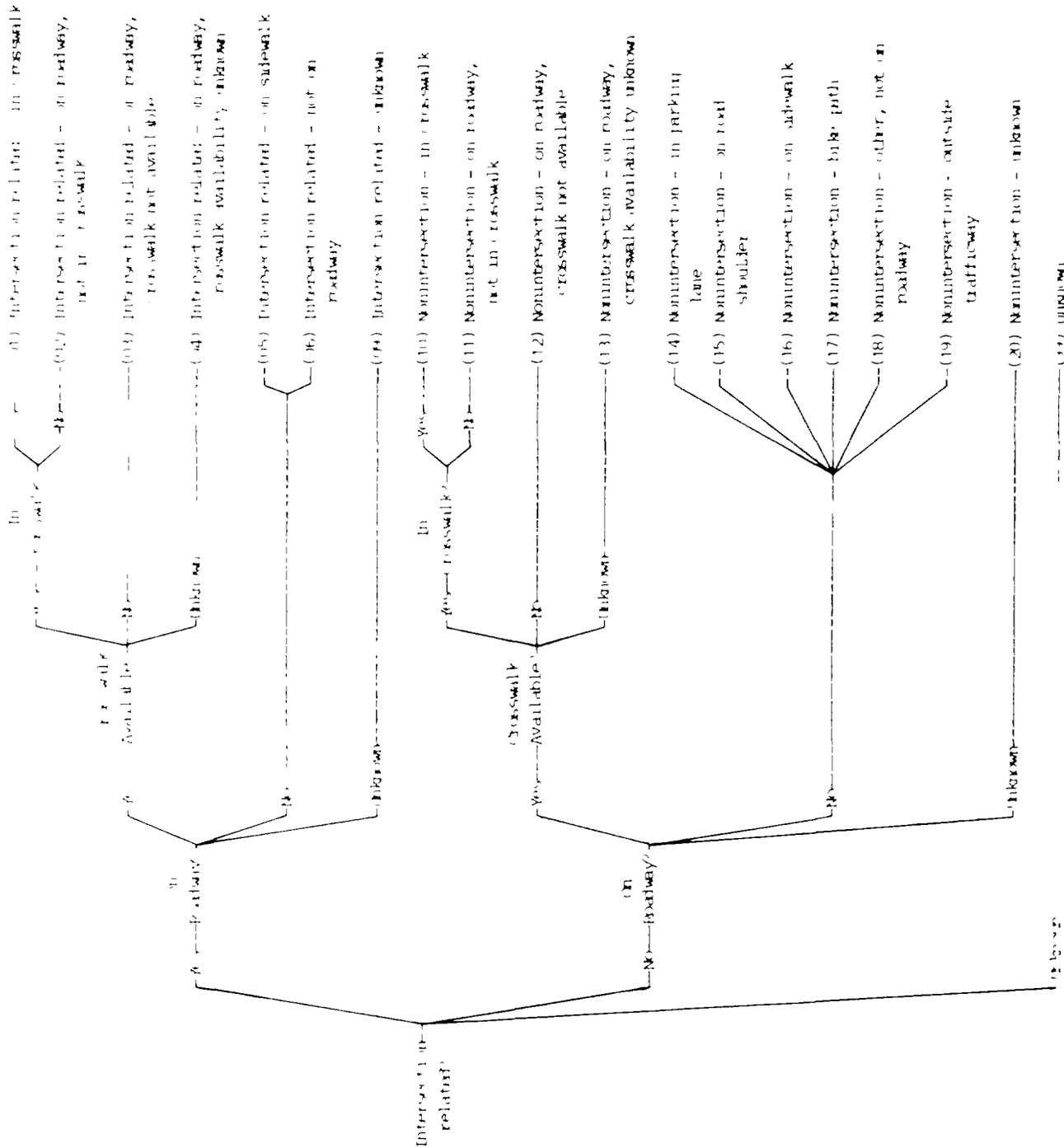
Code "18" (Nonintersection - other, not on roadway) should be used whenever the pedestrian or nonmotorist is struck on the "roadside," (i.e., within the trafficway but not on the "road" and not within the junction of two or more named trafficways).

Nonmotorists who are occupants of a motor vehicle not in transport are coded with respect to the location of the vehicle.

When distinguishing between codes "02" (Intersection related - on roadway, not in crosswalk), "03" (Intersection related - on roadway, crosswalk not available), "11" (Nonintersection related - on roadway, not in crosswalk), and "12" (Nonintersection related - on roadway, crosswalk not available), first determine if the impact was intersection related, then determine if any crosswalk was within a reasonable distance from the point of impact.

Variable Name Pedestrian or Nonmotorist's Location (cont'd)

The following coding decision tree should be used to facilitate the proper coding of this variable. Items not previously defined in this manual follow the diagram.



Variable Name Distance From Intersection

Format 1 column - Numeric

Beginning  
Column 24

Element Values

- 0 Not on roadway
- 1 Impact within 50 feet of intersection
- 2 Impact between 51 and 500 feet of intersection
- 3 Impact more than 500 feet from intersection
- 4 Unknown

Source Researcher determined--inputs include scene inspection, pedestrian and driver interviews, and the police report

Remarks:

Junction is, in general, the area formed by the connection of two roadways. It includes (1) all at-grade intersections (ANSI D16.1-1983 section 2 5.12, page 19), (2) connections between a driveway access or alley access and a roadway which is not a driveway access or an alley access, (3) a connection between a driveway access and an alley access.

Intersection is a type of junction which: (1) contains a crossing or connection of two or more roadways not classified as a driveway access or alley access, and (2) is embraced within the prolongation of the lateral curb lines or, if none, the lateral boundary lines of the roadways. Where the distance along a roadway between two areas meeting these criteria is less than 10 meters (33 feet), the two areas and the roadway connecting them are considered to be parts of a single intersection. The measurement is made from inside-to-inside of the lateral curb/boundary lines.

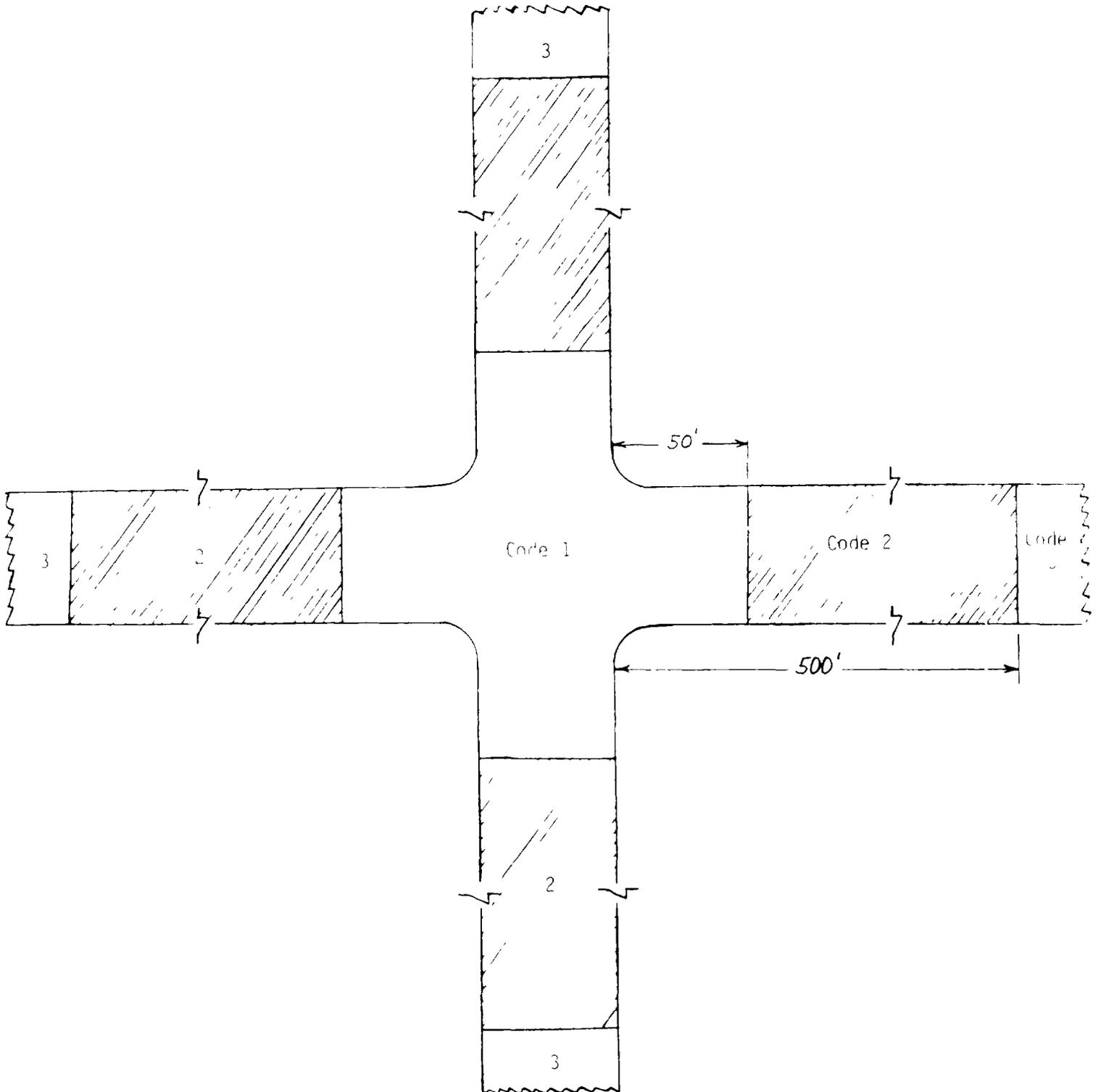
Code "0" (Not on roadway) when the pedestrian impact did not occur on any roadway.

Code "1" (Impact within 50 feet of intersection) if the point of impact with the pedestrian is in the intersection or is less than or equal to 50 feet from the intersection as shown in the diagram. The impact must occur on the roadway to use this code.

Code "2" (Impact between 51 and 500 feet of intersection) if the distance from the POI to the nearest intersection is between 51 and 500 feet.

Code "3" (Impact more than 500 feet from intersection) if the distance from the POI to the nearest intersection is greater than 500 feet.

Variable Name Distance From Intersection (cont'd)



Variable Name Pedestrian Activity  
(Note code the first attribute that applies)

Format 2 columns - numeric Beginning  
Column 25

## Element Values

00 Not a pedestrian  
01 Near a motor vehicle (specify)  
02 Near a bus stop or mass transit entrance (specify)  
03 Near a mobile vendor (specify)  
04 Near an entrance (specify)  
05 Darting or running into roadway  
06 Crossing or attempting to cross roadway  
07 Walking in the same direction as traffic  
08 Walking in the opposite direction of traffic  
09 Walking, direction unknown  
10 Jogging or running in the same direction as traffic  
11 Jogging or running in opposite direction of traffic  
12 Jogging or running, direction unknown  
13 Playing  
14 Working  
15 Stationary (specify)  
98 Other (specify)  
99 Unknown

Source Researcher determined--inputs include scene inspection, pedestrian and driver interviews, and the police report

## Remarks

Note The element values are coded in order of priority as follows: 00, 13, 14, 05 through 12, 01 through 04, 15, 98 and 99. The intent of the pedestrian is crucial to the selection of the proper attribute. Determine the pedestrian's intent based upon the preponderance of the evidence using the sources allowed.

Code "00" (Not a pedestrian) if P08 does not equal "1"

Code "01" (Near a motor vehicle) when the pedestrian is struck within 50 feet of and going to, standing at, or coming from a motor vehicle. Specify the type of motor vehicle and whether it is parked, stopped, stalled, disabled, etc.

Code "02" (Near a bus stop or mass transit entrance) when the pedestrian is struck within 50 feet of and going to, standing at or coming from a bus stop or mass transit entrance (e.g. subways, trains that transport

## Variable Name Pedestrian Activity (cont'd )

people similar to subways, city bus stations, etc. Stations for intercity travel such as Greyhound Trailways, etc. are excluded here but many fit under code "04" (Near an entrance)

Code "03" (Near a mobile vendor) when the pedestrian is struck within 50 feet of and going to, standing at or coming from a mobile vendor (e.g. ice cream trucks, bookmobiles, sandwich vendors, etc.). The vendor does not have to be a motor vehicle (e.g. trailers, pedalcycles, etc.)

Code "04" (Near an entrance) when the pedestrian is struck within 50 feet of and going to, standing at or coming from an access point (i.e. driveway, walk, doorway, etc.) to a building, park, playground, or other facility that goes from that facility to the trafficway. Buildings include houses, offices, schools, restaurants, theaters, sports arenas, etc.

First, determine the pedestrian's (POB = 1) intent to enter or exit. Next, determine where the access point (entrance/exit) to the facility intersects a trafficway. Finally, measure in a fifty (50) foot radius from the point of intersection and determine if the point of impact lies within that fifty foot radius.

Code "05" (Darting or running into roadway) is used when the pedestrian's activity just prior to impact can best be described as a sudden or impulsive dart, run, hurry, etc. movement across (as opposed to along) a roadway. For example, if a person's activity prior to the accident could best be described as jogging or running (see codes "10" through "12" below) but just prior to the impact the person darted into the roadway, then use this code because it is the first attribute to apply.

Classic examples of this code include (1) children playing who suddenly run into the roadway to retrieve an object associated with their play, and (2) children who dash out from behind a parked car to cross the street.

Code "06" (Crossing or attempting to cross) includes a pedestrian standing or waiting (perhaps chatting) but not a pedestrian standing and performing a specific activity such as working on a car or performing a job-oriented task. The pedestrian must be waiting to cross, not, for example, loitering or waiting for a bus. The focus here is on the pedestrian's intent to cross or enter (by walking) the roadway.

The pedestrian can be anywhere on the trafficway (e.g., sidewalk, parking lane, shoulder, median, traffic island, on a roadway, etc.) but the pedestrian must be crossing (includes crawling) or attempting to cross the roadway.

## Variable Name: Pedestrian Activity (cont'd )

For codes "07" (Walking in the same direction as traffic), "08" (Walking in the opposite direction of traffic), "10" (Jogging or running in the same direction as traffic), and "11" (Jogging or running in the opposite direction of traffic), the direction of traffic is based on the normal traffic direction in the travel lane closest to the pedestrian.

Joggers/runners can walk for a brief spell; walkers can run for short distances. When distinguishing walkers (codes "07" through "09") from joggers/runners (codes "10" through "12") focus on the intent of the pedestrian's activity prior to their involvement in the accident.

Codes "07" through "09" (Walking) are used if a pedestrian was moving at a walking pace prior to the collision; however, immediately before the impact, the pedestrian may have attempted to jump or run out of the path of the vehicle.

Codes "10" through "12" (Jogging) are used if the pedestrian was running, jogging, or moving quickly (hurrying) just prior to collision.

Code "13" (Playing) if the pedestrian was playing in the road before the vehicle arrived. He/she did not just run into the roadway after a ball, for example. Playing in the road includes ball games, fighting, grabbing hold of cars or playing "chicken" with vehicles.

Code "14" (Working) if pedestrian was present in the road because of the requirement of his/her job. This includes police, emergency personnel, flagmen, traffic guards, roadway construction or maintenance crew, garbage men, etc., but not people who are in the street voluntarily, such as a civilian directing traffic at the scene of an accident.

Code "15" (Stationary) when the pedestrian is standing, sitting, lying, etc. (but not moving) on or near the road and the activity does not fit in codes "01" through "04" or "06" above.

Code "98" (Other) for any pedestrian activity not specifically delineated above and specify what that activity was.

PEDESTRIAN & NONMOTORIST FORM

P16 - P19

These variables are omitted so that numbering consistency can be maintained with compatible variables on the Occupant Data Form

Variable Name Treatment - Mortality

Format: 1 column - numeric

Beginning  
Column 27

Element Values

0 No treatment  
1 Fatal  
2 Fatal - ruled disease  
Nonfatal  
3 Hospitalization  
4 Transported and released  
5 Treatment at scene - nontransported  
6 Treatment later  
8 Treatment - other (specify)  
9 Unknown

Source Researcher determined--inputs include interviewee, police report, and medical records

Remarks

Official sources (if they exist) take precedence over interview data.

Code "0" (No treatment) includes persons transported to a hospital but who refuse treatment. As long as there was transportation directly from the scene, a refusal of treatment will not, on its own, affect the Final Stratification (A09) of the case.

Code "1" (Fatal) when death occurs within 30 days of the accident. Death must have occurred as a consequence of injuries sustained in the traffic accident. Interview information alone should not be sufficient to select this code.

Code "2" (Fatal - ruled disease) is used in two situations. The first is when the effects of a disease can be deemed as a cause of the accident. Cause means that the on-set of the disease occurred prior to the first harmful event. When determining the time of on-set (relative to the first harmful event), the researcher can use any information source available. The researcher makes his/her determination after weighing all the evidence. (NOTE: The use of all available information sources is restricted to the determination of when the on-set occurred.)

Additionally, code "2" (Fatal - ruled disease) is used when a medical examiner (or other official vested by the state to verify the cause of death) or an official medical report verifies that the death resulted from either (1) a diseased condition, or (2) not from accident related injuries.

## Variable Name Treatment - Mortality (cont'd )

Code "3" (hospitalization) when hospitalization occurs as a result of injury (need not be taken directly to a hospital). See Hospital Sta. (P21) for hospitalization criteria. Also, use this code if a person is treated and released then subsequently hospitalized as a result of injuries sustained in the accident.

Code "4" (Transported and released) when the person went directly from the accident scene to a treatment facility (hospital, clinic, doctor's office, etc.) and the person is examined for injuries at the facility. The person need not have been injured. The means of transportation is not a consideration.

Code "5" (Treatment at scene - nontransported) includes treatment at scene such as first aid, self-treatment, EMT treatment, doctor treatment, etc. --and the person is not transported or does not go to a treatment facility (e.g. doctor, clinic, hospital, etc.) as a result of injuries sustained in this accident.

Code "6" (Treatment later) includes only professional treatment (e.g., doctor, clinic, hospital, etc.) where the person (1) did not go directly from the scene to treatment, and (2) was treated and released. If a person is treated at the scene, is not transported from the scene, and subsequently receives later treatment (without being hospitalized) then use this code.

Code "8" (Treatment - other) includes nonprofessional treatment such as first aid, self-treatment, etc. not at the scene of the accident.

If a person survives the injuries and receives treatment at a hospital but is not admitted for hospitalization, that person's treatment is to be coded as either "4" or "6", depending upon whether the person went directly or indirectly to the hospital. It does not matter if the person is treated for one hour or twelve, only that the person is released following treatment. Nor does it matter if the treatment begins prior to midnight and spans into the following day.

Variable Name Hospital Stay

Format 2 columns - numeric

Beginning  
Column 28

Element Values:

Range: 00-61, 99

00 Not hospitalized

Code the number of days (up through 60) that the pedestrian/nonmotorist stayed in hospital

61 61 days or more

99 Unknown

Source Researcher determined--inputs include interviewee and medical reports

Remarks

Official sources (if they exist) take precedence over interview data.

Code "00" (Not hospitalized) if not injured or injured but not admitted.

Code "00" (Not hospitalized) if fatal at scene, pronounced dead on arrival, or survival does not extend beyond the emergency room.

The basis for the number of days coded is an overnight criterion. Every time a person remains past midnight subsequent to admission, it is one day. The only exception is when a person dies on the same day as the admission.

In the event that the person survives the emergency room but dies subsequent to admission, then code at least "01", even if the person expires the same day as admitted.

If a person is admitted, lives four days in the hospital, then expires, code "04"

Variable Name Working Days Lost

Format 2 columns - numeric

Beginning  
Column 30

Element Values

Range 00-62, 97-99

00 No working days lost

Code the number of days (up through 60) that the pedestrian/nonmotorist lost from work due to the accident

61 61 days or more

62 Fatally injured

97 Not working prior to accident

99 Unknown

Source Primary source is the interviewee, a secondary source is the person's employer

Remarks

Report the actual number of "work" days lost due to the accident by an employed person or a full-time college student. Children, adolescents, retirees, or unemployed persons are not included (code "97" - Not working prior to accident)

Employed is defined to mean that the person was scheduled to work at least four hours on each of the days lost. Each such day is counted as a full day so long as the person was scheduled to work at least four hours on the day lost. Do not accumulate the hours and convert to equivalent full-time days; however, indicate on the form if the person works less than full-time but greater than four hours per day by annotating "part-time" or "PT"

If during the interview a reasonable projection of future days lost can be made, then add those days to those already known to have been lost. If a reasonable projection cannot be made, then code "99" (Unknown)

The days lost need not be due to injury

Days lost include Saturdays, Sundays, afternoon and evening shifts if so scheduled. Do not count double shifts or days at time and one-half pay, etc., as more than one day.

If a person is not employed, not a full-time college student, or works less than four hours per day, then code "97" (Not working prior to accident). This code includes all persons (except fatals) who do not qualify to lose working days.

PEDESTRIAN & NONMOTORIST FORM

P22  
(2)

Variable Name: Working Days Lost (cont'd.)

If a person is fatal - ruled disease, fatal at scene, pronounced dead on arrival, or survival does not extend beyond the emergency room, then code "62" (Fatally injured) is used.

If a person expires within thirty days following the accident, code "62" regardless of whether or not the person missed any working days.

If the reported work days lost includes a fraction, round one-half (1/2) day or greater up to a whole day. Less than one-half day should be excluded (rounded down).

If someone gets fired and loses their job as a result of the accident, count only the work days lost between the accident and the date of termination, inclusive

Do not include days lost by persons who were not directly involved in the accident but who lost days because of it (e.g., husband was not in accident but stayed home to take care of wife who was injured and required assistance).

If an involved person changes their work schedule as a result of an accident (e.g., to take care of someone injured in the accident), then the work time, which was given up as a result of the accident, shall not be considered as lost.

If no interview is obtained, there is a rebuttable presumption that persons over 65 or under 17 are not employed full-time; for these persons code "97" (Not working prior to accident) should be used, unless the person is fatally injured [codes "1" (Fatal) or "2" (Fatal - ruled disease) for P20, Treatment - Mortality]

Variable Name: Vehicle Which Contacted Pedestrian or Nonmotorist

Format: 1 column - numeric

Beginning  
Column 32

Element Values.

- 0 No injury
- 1 Vehicle number 01
- 2 Vehicle number 02
- 3 Vehicle number 03
- 4 Vehicle number 04
- 5 Vehicle number 05
- 6 Vehicle number 06
- 7 Multivehicle contact
- 8 Other vehicle number (specify)
- 9 Unknown

Source Researcher determined--inputs include interviewee(s), vehicle inspection, scene inspection, and police report.

Remarks

Code the NASS Vehicle Number (V07) of the vehicle(s) which impacted the person described in variable P08 (Pedestrian or Nonmotorist's Type). This variable in conjunction with Injury Source (P36 et al.) is used to link the vehicle information to the pedestrian or nonmotorist's injuries.

The impact can be to the person directly, to their nonmotorist conveyance, to their pedalcycle, to the nontransport motor vehicle they were in, etc. Thus, the vehicle number (V07) for the vehicle which sets an object in motion which subsequently results in an injury to pedestrian or nonmotorist should be coded

The impact did not have to produce the injuries that the person received, but to use codes "1" through "8" the person must have been injured. For example, a child is tapped by a car and receives injury from contacting the ground. Code the vehicle's (V07) number here.

Code "0" (No injury) if this person was not injured (P31 to P38 equal zeros)

PEDESTRIAN & NONMOTORIST FORM

P24 - P30

24. - 30. Omitted (These variables are omitted so that numbering consistency can be maintained with compatible variables on the Occupant Data Form.)

## Injury Data From Interviewee

This page is separated into four body diagrams. front and back soft tissue injuries and front and back skeletal injuries. These diagrams allow the documentation of all injuries sustained by a pedestrian or nonmotorist in the accident, as stated by the interviewee.

The nature, location, and injury source should be documented as follows

Nature - As stated by the interviewee document the lesion sustained (e.g , laceration, fracture, concussion, etc.) and its extent (e.g , size, severity, depth, etc.) The terms used by the interviewee may not necessarily coincide with the terms found in the OIC, but the injury should be documented as stated by the interviewee for ease of completion of this form during the interview. Length of unconsciousness, or state of consciousness on first observation by a medical specialist, and whether unconsciousness was a result of a head contact, should be noted.

Location The location of the injury, as stated by the interviewee, should be documented in two ways:

- By arrows, shading, bracketing (for large areas) on the body diagram; and
- By written description (e.g , left lower arm, right third rib, etc.) The written description may be abbreviated to aid in completion of the page during the interview. Refer to the Injury Coding Manual for standard abbreviations and symbols

Source The interviewee should be queried as to the source of the injury. Information gained from the interviewee may aid in the (1) final coding of injury source in variables P36, P44, P52, P60, P68 and P76, (2) vehicle inspection (if not done previous to interview), and (3) accident reconstruction. The injury source should be written immediately below the nature and written location of the injury and delineated by a horizontal line. If the interviewee does not know the source of the injury, unknown should be documented on the form.

Official Injury Data  
Specific Medical Record Data Used in Coding OIC/AIS

The official injury data page contains the four body diagrams previously seen on page 4 (Injury Data from Interviewee). The same guidelines should be used to document the nature and the locations of all injuries, but medical records will be used as the only source of information. At times, the medical records will also aid in the determination of source of injuries (e.g., glass in wound) and should be documented on this page as stated in the description of source of injury for page 4.

On the official injury data page the injuries should be clearly and precisely located on the diagrams and the medical record classification of the injury and its extent should be completely annotated. All data used to code the OIC/AIS of injuries [e.g., size of lacerations, level of consciousness on first observation by a medical authority, length of unconsciousness, loss of consciousness, size of hematoma or hemothorax (in cc of blood), etc.], should be written with the diagram or, if the description is too long, written on the additional medical record data used in coding OIC/AIS (reverse of page 5).

NASS Injury Coding Procedures

1. The first four rules below are given in the NASS field forms on how to select injuries for coding and are included here for the convenience of the coder.
  - a If there are six or less injuries listed in the O I C reduction section, code all of the injuries ordered by Source of Data (1st--autopsy, 2nd--hospital/medical, 3rd--emergency room, 4th--private physician, or 5th--unofficial sources) and by AIS severity within source Order by source
  - b If there are more than six injuries, order the injuries by source and by AIS severity within source. Code this ordering, injury-by-injury. If a group of ordered injuries has the same source, the same AIS, and the group includes at least the sixth and seventh injuries in the ordering, then a choice must be made as to which injury or injuries to code Then by severity within source
  - c Choose the injury or injuries that will enable the maximum number of different ISS body regions to be represented in the coded data. If no new ISS body region can be added, then simply code in accordance with the rule concerning known injury sources below. Maximize ISS within that source
  - d If you cannot increase the number of different ISS body regions or if you can choose between two or more injuries of the same source and AIS severity any of which constitute the 3rd ISS region, then choose the injury that has a known injury source Maximize by contact points
  - e If the occupant has less than six injuries, then the number of rows required to be completed is equal to the number of injuries plus one (e g., no injuries requires one row) In the additional row "not injured" will be coded for all variables including AIS severity If < 6 rows, close out next row with zeros
2. An AIS-6 should be used only for injuries specifically coded AIS-6 in the Abbreviated Injury Scale and not because the victim died Watch your '6"s
3. Try to associate contact points with individual injuries List individual injured areas (i e., body regions) if possible, instead of lumping them together into a code of X, Y, or O For Individualize injuries

instance, if there are lacerations to both thigh and shin, code both TLLI-1 and LLLI-1 instead of YLLI-1.

4. The coder should take care not to code the same injury twice simply because information concerning it is available from two different sources. For example, if the interview is used in gathering data, only the injuries not already coded based upon medical records should be coded. Don't double count
5. Pain, asphyxia, and hemorrhage represent results of injuries and are not injuries, per se; therefore, they are not coded. The AIS-80 revision is designed to code the injury itself (e.g., MIUU-3, retroperitoneum injury involving hemorrhage). Pain, asphyxia and hemorrhage not valid
6. In NASS, "not injured" is defined as AIS=0. Code "0" for all OIC variables, including AIS severity, for cases in which there are no injuries, or as the last injury listing for occupants sustaining less than six injuries. Closeout or no injury = 0
7. Definitions and procedures for the NASS for coding Injury Source for direct, induced, and noncontact injuries are: Injury Sources

direct injury - an injury to a particular body region caused by the traumatic contact of that body region with a vehicle component or other object. The vehicle component or other object is coded as the injury source for that injury

indirect or induced injury - an injury to a particular body region caused by a blow or a traumatic contact in some other body region (e.g., knee/acetabulum). The injury source for an induced injury would be the vehicle component contacted by the other body region (i.e., the occupant contact that initiates the injury mechanism)

Injury source is, therefore, defined as the vehicle component or object that initiated the injury mechanism (induced injury) or directly caused the injury (direct injury).

The noncontact injury source code ("90") is to be used only for the following specific types of injuries:

Non-contact  
Injury Sources

- (1) twisting or stretching of muscles in the arm, leg, back, etc. with no associated contact identifiable (most often these injuries will be minor muscle strain injuries),
- (2) head or neck injuries in which the torso is supported (e.g. by seat back or belt) and head or neck experiences traumatic forces due to inertial motion,
- (3) burns and flying glass injuries

The following examples should be helpful in illustrating the above definitions

Injury	Injury Mechanism Determined from Crash Evidence	Injury Source
Example 1		
Neck dislocation NPDV-3	a head strikes windshield	a (01) windshield
	b forehead hits roof or convertible top	b (34) roof or convertible top
	c head strikes steering assembly	c (04-07) steering assembly
	d back hits seatback, no head restraint, head rolls back over seat	d (90) noncontact injury source
	e neck forced into lateral flexion by impact forces	e (90) noncontact injury source
	f torso restrained by belt, head and neck inertia causes neck injury	f (90) noncontact injury source
	g back hits seat back, head hits head restraint, neck is injured	g (23) head restraint
Example 2		
Hip Dislocation P DJ-3	Knee strikes dash, forces transmitted along femur forcing femoral head out of the acetabulum	(09-11) instrument panel

Example 3

Shoulder-elbow- wrist fracture/ dislocation _.ZJ-2	Occupant braced hands on instrument panel, trans- mitting forces to wrist, elbow, and shoulder	(09-11) instrument panel
-------------------------------------------------------------	---------------------------------------------------------------------------------------------------------	--------------------------

Example 4

Acute lumbar strain BITM-1	Jackknife over seat belt, rotation about seat belt stretches back muscles	(22) belt restraint
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Example 5

Muscle strain in arms, back, chest, neck	Strain of muscles from twisting due to impact forces	(90) noncontact injury source
------------------------------------------------	------------------------------------------------------------	----------------------------------

8. When no other injury information is available, data from the PAR is to be coded. If specific injuries are detailed, code accordingly. If only a PAR injury severity rating is assigned, code: "injured, severity unknown". This implies the existence of an unspecified injury of unknown severity. Do not code: "unknown if injured". This denotes lack of knowledge concerning the existence of injury, which is contrary to information documented in the PAR. Consider the five example situations below and code according to the instructions given, for example, in variable P31 et al. (1st O.I.C. - Body Region). Coding PAR injury data
- a. No interview; no medical; PAR injury severity rating: "K", "A", "B", or "C"; code: "injured, severity unknown" -- 9UUUU797709.
  - b. No interview; no medical; PAR injury severity rating: "U", code: "Unknown if injured" --999999999999.
  - c. No interview; no medical; PAR injury severity rating: "O", code: "not injured" --000000000000.
  - d. No interview; no medical; PAR injury severity rating: "C", in addition, "laceration to forehead" is reported; code: 6FSLI1 \_ \_ \_ 09.
  - e. No interview; no medical, no PAR mention of injury; hit & run vehicle/driver reported; code: "unknown if injured"--999999999999.

Sub/P30  
(7)

- 9 If the PAR is "blank" where the injury severity is accessed and the person was at the scene during the police investigation, code no injury. However, if the person was not present during the police investigation, code unknown if injured Presumption of "no injury" or "unknown if injured "
10. NASS does not code possible injuries, but injuries whose existence is considered to be probable are coded. If the words "possible" or "probable" are used, code accordingly (i.e., code the probable injuries only) If it is difficult to determine if an injury is probable or possible (i.e., use of other indistinct language such as "suspected", "appears to be", etc.), judge whether "possible" or "probable" based on the specific situation. Code "Probable" injuries

NASS Injury Coding Conventions

1. If an AIS is determined to be one of two consecutive numbers, but a clear indication cannot be made after reviewing all the information provided, assign the lower AIS.      Uncertainty Rule #1--code lower
2. When there is uncertainty about the location of minor multiple abrasions, contusions, and lacerations to the body surface, they should be aggregated, regardless of their location(s), and the code OW \_\_ -1 should be used.      Uncertainty Rule #2--whole body
3. If the medical or interview information indicates a contused knee, elbow, wrist, ankle, etc., and does not specifically state whether the contusion is to the bone or joint, code the injury as integumentary, \_\_CI-1. If the contusion is known to be to the bone, use \_\_CS-\_; if to the joint, use \_\_CJ-\_. Example: contused knee, K.CI-1.      Uncertainty Rule #3--most superficial system if unknown system/organ
4. Cervical spine strain may, in some cases, still be referred to as "whiplash". "Whiplash" is not a medical term and is not used in AIS-80. If an injury is described as "whiplash", it should be coded as cervical spine acute strain, no fracture or dislocation, NPTM-1.      "Whiplash" NPTM-1
5. All internal structures of the mouth, with the exception of the teeth, are coded as part of the digestive system (D). Teeth are coded as skeletal (S).      Mouth-teeth=D
6. Body region code 0 (whole body) should be used only if 50% or more of the whole body surface (0) is affected. An exception is made for burns affecting more than one body region (see below). Aspect code W (whole region) is used only if 50% or more of the body region is affected.      50% rule
7. If a lesion involves more than one aspect of a body region:
  - a. Try to determine if one of the aspects is predominant. If so, code that aspect.
  - b. If not, use the aspect code W (whole).      Aspect Whole (W) Code
8. Burn injuries should be coded using the following guidelines:
  - a. If only one body region is burned, use that body region code (e.g., ARBI-1, burned right upper arm 1<sup>0</sup>).
  - b. If more than one body region is burned, but a single injury code will adequately describe the regions affected, use the single injury code (e.g., XRBI-2, burned right whole arm 2<sup>0</sup>).      Burn injuries and the rule of nines

Sub/P30  
(9)

- c. If more than one body region is burned and one injury code cannot be used to specify the body region involved, the injury is coded OWBI-\_\_ This will be the most likely case coding burns. Burn injuries and the rule of nines (cont'd )
- d. The Rule of Nines is used in the AIS severity level for (a), (b), and (c) above. See the Rules of Nines diagram.

9. The following definitions have been used traditionally to differentiate "sprain" and "strain" injuries: Strain versus sprain
- sprain - a joint injury which causes pain and disability depending on the degree of injury to ligaments and muscle tendons near the joint
- strain -an injury to a muscle or musculotendinous unit that results from overstretching and may be associated with a sprain or fracture.

In common medical practice, however, physicians often do not adhere strictly to these definitions, and may use the terms interchangeably. AIS-80 distinguishes sprains from strains. Care should be exercised in selection of the proper code, use \_\_SJ for sprains and \_\_TM-1 for strains.

Neck injuries may sometimes be described as "strains" and sometimes as "sprains". For NASS purposes, neck injuries should be coded as "strains" (see above definitions). No sprains to neck

- 10 Integumentary lesions to the forehead are coded "face superior", or FS\_\_-\_\_ in the NASS injury Coding Manual. Coding the forehead
- Fractures to the frontal bone are coded Head Anterior (HAFS-\_\_)

- 11 Coding of substantiated anatomic lesions to the brain: Anatomic Brain Lesions

- a. If there are no substantiated anatomic lesions to brain, the OIC and AIS will be coded as they appear in the Non-Anatomic injuries section (see HEAD, Part C, Non-Anatomic injuries)
- b. If only one substantiated anatomic lesion to the brain and the length of unconsciousness are known, the OIC will consist of the four letters describing the injury as it is specified in the "Anatomic Injuries" section (see HEAD, Part B, Anatomic injuries). The AIS assigned will be determined by comparing: (1) the AIS which accompanies the specified injury in the "Anatomic injuries" section, with (2) the AIS of the comparable injury in the "Non-Anatomic Injuries" section. The higher of the two AIS scores will be the one coded.
- c. If there are two or more substantiated anatomic lesions to the brain, the OIC and the AIS will be coded as they appear in the "Anatomic Injuries" section.

12. "Friction Burns" are to be coded as abrasions. The same criteria for assigning AIS applies (see definitions of abrasion - major and superficial, in the Glossary). If there is information as to the degree (e.g., 1<sup>o</sup>, 2<sup>o</sup>, 3<sup>o</sup>) code: AIS - 1 for 1<sup>o</sup>, 2<sup>o</sup>, or unspecified, and AIS - 2 for 3<sup>o</sup>. Friction Burns
13. When an injury is described as a "\_\_\_\_\_ type of laceration" (e.g., avulsion type laceration, flap laceration) use the "L" (laceration) lesion code. For all ambiguous situations use "laceration" over puncture, perforation, or avulsion. Laceration Type Injuries
14. A single compression fracture of the spine involving > 1 vertebra and overlapping adjacent regions of the spine is to be coded as one injury (i.e., one line of code). Choose the more superior of the two regions for the aspect code. Compression Fractures
15. For axilla (armpit) injuries code the Body Region for whatever can be determined to be nearest; A (arm), C (chest) or if in between S (shoulder). If unknown or unspecified use A (arm). Axilla Injuries
16. When "closed head injury", "head trauma", or other ambiguous phrase is the only information available, code HUUU-7. Closed Head Injury
17. The AIS codes individual injuries only. Injuries to body parts which are present on both sides of the body (bilateral) are coded as two separate injuries. It should be remembered that within the OIC "Aspect" measures the location of the injury being reported. Therefore, bilateral is not used to code the occurrence of hemo- or pneumothorax (results) present bilaterally. Instead, an upgraded AIS will account for the presence of bilateral results. Bilateral Not
18. The distinction in coding individual skull fractures versus subsuming them under the crush classification lies in the displacement of brain tissue. If it can be determined that brain matter is forcibly extracted or moved from the cranium in conjunction with extensive fracturing, then the term "crushed skull" is applicable. Lack of specificity regarding the displacement of brain tissue tells the coder not to use the crush code and to code the fracturing as individual injuries. An HUUU-7 may be added if brain injuries are present but not specifically described. Crushed Skull
19. In the absence of other medical information, code broken neck as cervical spine, fracture, unspecified (NPFS-2), if all neck injuries are believed to be AIS 2 or 3. Otherwise code NPFS-7 (e.g., fatal with only listed injury being broken neck.) Broken Neck

PEDESTRIAN & NONMOTORIST

P31  
P39  
P47  
P55  
P63  
P71

Variable Name: 1st O.I.C. - Body Region  
2nd O.I.C. - Body Region  
3rd O.I.C. - Body Region  
4th O.I.C. - Body Region  
5th O.I.C. - Body Region  
6th O.I.C. - Body Region

Format. 1 column - alphanumeric

Beginning;  
Column 33  
43  
53  
63  
73  
83

Element Values:

M	Abdomen	L	Leg (lower)
Q	Ankle - foot	Y	Lower limb(s) (whole or unknown part)
A	Arm (upper)	N	Neck - cervical spine
B	Back - thoracolumbar spine	P	Pelvic - hip
C	Chest	S	Shoulder
E	Elbow	T	Thigh
F	Face	X	Upper limb(s) (whole or unknown part)
R	Forearm	O	Whole body
H	Head - skull	W	Wrist - hand
U	Injured, unknown region	Ø	Not injured
K	Knee	9	Unknown if injured

Source Variables P38, P46, P54, P62, P70, and P78 respectively

Remarks:

The NASS Injury Coding Manual 1985 contains a listing of most injuries. Use the manual to code, for each injury, both its O.I.C. and I.S.S. body region and record them on the form. Ordering instructions are on page 7 of the Pedestrian & Nonmotorist Form.





PEDESTRIAN & NONMOTORIST

P33  
P41  
P49  
P57  
P65  
P73

Variable Name: 1st O.I.C. - Lesion  
2nd O.I.C. - Lesion  
3rd O.I.C. - Lesion  
4th O.I.C. - Lesion  
5th O.I.C. - Lesion  
6th O.I.C. - Lesion

Format: 1 column - alphanumeric

Beginning  
Column 35  
45  
55  
65  
75  
85

Element Values:

A Abrasion	U Injured, unknown lesion
M Amputation	L Laceration
V Avulsion	O Other
B Burn	P Perforation, puncture
K Concussion	R Rupture
C Contusion	S Sprain
N Crush	T Strain
G Detachment, separation	E Total severance, transection
D Dislocation	Ø Not injured
F Fracture	9 Unknown if injured
Z Fracture and dislocation	

Source: Variable P38, P46, P54, P62, P70, and P78 respectively.

Remarks:

The NASS Injury Coding Manual 1985 contains a listing of most injuries. Use the manual to code, for each injury, its lesion and record it on the form.

PEDESTRIAN & NONMOTORIST

P34  
P42  
P50  
P58  
P66  
P74

Variable Name: 1st O.I.C. - System/Organ  
2nd O.I.C. - System/Organ  
3rd O.I.C. - System/Organ  
4th O.I.C. - System/Organ  
5th O.I.C. - System/Organ  
6th O.I.C. - System/Organ

Format: 1 column - alphanumeric

Beginning  
Column 36  
46  
56  
66  
76  
86

Element Values:

W All systems in region	M Muscles
A Arteries - veins	N Nervous system
B Brain	P Pulmonary - lungs
D Digestive	R Respiratory
E Ears	S Skeletal
O Eye	C Spinal cord
H Heart	Q Spleen
U Injured, unknown system	T Thyroid, other endocrine gland
I Integumentary	G Urogenital
J Joint	V Vertebrae
K Kidneys	Ø Not injured
L Liver	9 Unknown if injured

Source Variables P38, P46, P54, P62, P70, and P78 respectively

Remarks

The NASS Injury Coding Manual 1985 contains a listing of most injuries. Use the manual to code, for each injury, its system/organ and record it on the form

PEDESTRIAN & NONMOTORIST

P35  
P43  
P51  
P59  
P67  
P75

Variable Name:       1st O.I.C. - Abbreviated Injury Scale  
                      2nd O.I.C. - Abbreviated Injury Scale  
                      3rd O.I.C. - Abbreviated Injury Scale  
                      4th O.I.C. - Abbreviated Injury Scale  
                      5th O.I.C. - Abbreviated Injury Scale  
                      6th O.I.C. - Abbreviated Injury Scale

Format: 1 column - numeric

Beginning  
Column               37  
                      47  
                      57  
                      67  
                      77  
                      87

Element Values:

- 0 Not injured
- 1 Minor injury
- 2 Moderate injury
- 3 Serious injury
- 4 Severe injury
- 5 Critical injury
- 6 Maximum (untreatable)
- 7 Injured, unknown severity
- 9 Unknown if injured

Source: Variables P38, P46, P54, P62, P70, and P78 respectively.

Remarks:

The NASS Injury Coding Manual 1985 contains a listing of most injuries. Use the manual to code, for each injury, its A.I.S. value and record it on the form.

PEDESTRIAN & NONMOTORIST

P36  
P44  
P52  
P60  
P68  
P76

Variable Name. 1st O.I.C. - Injury Source  
2nd O.I.C. - Injury Source  
3rd O.I.C. - Injury Source  
4th O.I.C. - Injury Source  
5th O.I.C. - Injury Source  
6th O.I.C. - Injury Source

Beginning  
Column 38  
48  
58  
68  
78  
88

Format 2 Columns - numeric

Element Values:

00 Not injured

Front

01 Windshield  
02 Mirror  
03 Sunvisor  
04 Steering wheel rim  
05 Steering wheel hub/spoke  
06 Steering wheel (combination of codes 04 and 05)  
07 Steering column, transmission selector lever, other attachment  
08 Add on equipment (e.g., CB, tape deck, air conditioner)  
09 Left instrument panel and below  
10 Center instrument panel and below  
11 Right instrument panel and below  
\*12 Other front object (specify)

Side

13 Side interior surface, excluding hardware or armrests  
14 Side hardware or armrests  
15 A pillar  
16 B pillar  
\*17 Other pillar (specify)  
18 Window glass or frame  
\*19 Other side object (specify)

PEDESTRIAN & NONMOTORIST

P36  
P44  
P52  
P60  
P68  
P76  
(2)

Variable Name:       1st O.I.C. - Injury Source (cont'd.)  
                      2nd O.I.C. - Injury Source (cont'd.)  
                      3rd O.I.C. - Injury Source (cont'd.)  
                      4th O.I.C. - Injury Source (cont'd.)  
                      5th O.I.C. - Injury Source (cont'd.)  
                      6th O.I.C. - Injury Source (cont'd.)

Interior

21   Seat, back support  
22   Belt restraint system  
23   Head restraint  
24   Air cushion  
\*25  Other occupants (specify)  
26   Interior loose object  
\*29  Other interior objects (specify)

Roof

31   Front header  
32   Rear header  
33   Roof side rails  
34   Roof or convertible top

Floor

41   Floor  
42   Floor or console mounted transmission lever, including console  
43   Parking brake handle  
44   Foot controls including parking brake

Rear

45   Backlight (rear window)  
46   Backlight storage rack, door, etc.  
\*49  Other rear objects (specify)

Exterior of Nonmotorist's Vehicle

Noncycle

51   Hood  
52   Outside hardware (e.g., outside mirror, antenna)  
\*53  Other exterior surface or tires (specify)  
59   Unknown exterior objects

Cycle

61   Handle bars or attachments  
62   Frame or suspension component or fender  
63   Seat

P36  
 P44  
 P52  
 P60  
 P68  
 P76  
 (3)

Variable Name 1st O.I.C. - Injury Source (cont'd.)  
 2nd O.I.C. - Injury Source (cont'd.)  
 3rd O.I.C. - Injury Source (cont'd.)  
 4th O.I.C. - Injury Source (cont'd.)  
 5th O.I.C. - Injury Source (cont'd.)  
 6th O.I.C. - Injury Source (cont'd.)

64 Foot pedal, foot rest, foot pegs  
 65 Wheel or tire  
 66 Engine or transmission  
 67 Gas tank, gas tank fill cap or neck  
 \*69 Other cycle part (specify)

Exterior of Striking Motor Vehicle

71 Front bumper  
 72 Hood edge  
 \*73 Other front of vehicle (specify)  
 74 Hood  
 75 Hood ornament  
 76 Windshield, roof rail, A-pillar  
 77 Side surface  
 78 Side mirrors  
 \*79 Other side protrusions (specify)  
 80 Rear surface  
 81 Undercarriage  
 82 Tires and wheels  
 \*83 Other exterior of striking motor vehicle (specify)  
 84 Unknown exterior of striking motor vehicle

Other Vehicle or Object in the Environment

86 Ground  
 \*87 Other vehicle or object (specify)  
 89 Unknown vehicle or object

Noncontact Injury

90 Noncontact injury source  
 97 Injured, unknown source  
 99 Unknown if injured

Source Researcher determined--inputs include vehicle inspection, interviewee, and medical records

PEDESTRIAN & NONMOTORIST

P36  
P44  
P52  
P60  
P68  
P76  
(4)

Variable Name:        1st O.I.C. - Injury Source (cont'd.)  
                         2nd O.I.C. - Injury Source (cont'd.)  
                         3rd O.I.C. - Injury Source (cont'd.)  
                         4th O.I.C. - Injury Source (cont'd.)  
                         5th O.I.C. - Injury Source (cont'd.)  
                         6th O.I.C. - Injury Source (cont'd.)

Remarks:

Code "06" (Combination of hub and rim/spokes) when there is an unspecified steering wheel injury source.

Code "90" (Noncontact injury source) is used for injuries which resulted from impact force (no contact), heat or flame from fire, battery acid, interior flying glass, etc. Interior flying glass refers to the person being struck by glass which has already fractured and is airborne. This does not refer to a person causing glass to shatter upon impacting it. For a more detailed discussion see NASS Injury Coding Procedure number 7.

Use page 4 of the Pedestrian and Nonmotorist Form to record the interviewee reported injury source evidence. For those nonmotorists who are occupants of a motor vehicle not in transport (P08, Pedestrian or Nonmotorist's Type, equal to "4"), attach page 7 of a Vehicle Form to the Pedestrian and Nonmotorist Form and document any potential contact points. The researcher should record only those contact mechanisms which can be documented by some physical evidence (e.g., scuffs, hair, smudges, dents, cracks, etc.).

The element values encoded can be based on physical evidence, occupant kinematics, and interviewee information. Although physical evidence is preferred, it does not have to be present to support a contact mechanism.

"Cycle" as used in the Injury Source codes is a general term and refers to both pedalcycles and motorcycles where the components are applicable.

If a parked (not in transport) vehicle is impacted by a pedestrian or nonmotorist, use the "87" (other vehicle or object) code.

\*Note: Whenever an "other" code (i.e., "12", "17", "19", "25", "29", "49", "53", "69", "73", "79", "83", or "87") is coded as the injury source, clearly identify, in the space provided next to each code on page 7 of the form, a description of the "other" source.

PEDESTRIAN & NONMOTORIST

P37  
P45  
P53  
P61  
P69  
F77

Variable Name: 1st O.I.C. - Direct/Indirect Injury  
2nd O.I.C. - Direct/Indirect Injury  
3rd O.I.C. - Direct/Indirect Injury  
4th O.I.C. - Direct/Indirect Injury  
5th O.I.C. - Direct/Indirect Injury  
6th O.I.C. - Direct/Indirect Injury

Format: 1 column - numeric Beginning  
Column 40  
50  
60  
70  
80  
90

Element Values:

- 0 No Injury
- 1 Direct contact injury
- 2 Indirect contact injury
- 3 Noncontact injury
- 7 Injured, unknown source
- 9 Unknown if injured

Source: Researcher determined--inputs include vehicle inspection, interviewee, and medical records.

Remarks:

The distinction between direct and induced is covered in greater detail in NASS Injury Coding Procedure number 7.

Code "0" (No injury) is used whenever the respective injury source (P36 et al.) is coded "00" (Not injured). Likewise, code "7" (Injured, unknown source) and code "9" (Unknown if injured) are used whenever the injury source is coded "97" (Injured, unknown source) and "99" (Unknown if injured), respectively. Finally, code "3" (Noncontact injury) is used when the respective P36 et al. equals "90" (Noncontact injury source).

PEDESTRIAN & NONMOTORIST

P37  
P45  
P53  
P61  
P69  
P77  
(2)

Variable Name: 1st O.I.C. - Direct/Indirect Injury (cont'd.)  
2nd O.I.C. - Direct/Indirect Injury (cont'd.)  
3rd O.I.C. - Direct/Indirect Injury (cont'd.)  
4th O.I.C. - Direct/Indirect Injury (cont'd.)  
5th O.I.C. - Direct/Indirect Injury (cont'd.)  
6th O.I.C. - Direct/Indirect Injury (cont'd.)

Code "1" (Direct contact injury) if the coded injury results from a force impacted directly on the injured body region by the component/object coded as the injury source (P36 et al.).

Code "2" (Indirect contact injury) if the coded injury results from a force transmitted from the component/object coded as the injury source (P36 et al.) through another body region to the injured body region (e.g., knee contacts dash, force transmitted through knee and femur causing a fractured pelvis).

PEDESTRIAN & NONMOTORIST

P3E  
P4E  
P54  
P62  
P7C  
P7E

Variable Name 1st O.I C - Source of Data  
2nd O.I C - Source of Data  
3rd O.I C - Source of Data  
4th O I C - Source of Data  
5th O I C - Source of Data  
6th O I C - Source of Data

Format 2 columns - numeric Beginning Column 41  
51  
61  
71  
81  
91

Element Values:

Official	Unofficial
01 Autopsy records with or without hospital/medical records	05 Lay coroner report
02 Hospital/medical records other than emergency room (e g , discharge summary)	06 E.M S personnel
03 Emergency room records only (including associated x-rays or other lab reports)	07 Interviewee
04 Private physician, walk-in or emergency clinic	08 Other source (specify)
	09 Police
	99 Unknown if injured
	00 Not injured

Source Element chosen

Remarks

Code "01" (Autopsy records with or without hospital/medical records) excludes records from lay, nonmedical personnel; they must be the result of an autopsy by a physician or other similarly qualified life scientist. A non-invasive external examination by a physician, though, should be coded either "02" (Hospital medical records other than emergency room) or "04" (Private physician, walk-in or emergency clinic) since it is generally a superficial listing of external injuries and possible internal injuries, therefore, injuries from a non-invasive exam should not be grouped with those from a thorough autopsy report.

Code "02" [Hospital/medical records other than emergency room (e.g., discharge summary)] is used whenever the injury is listed on the official

Variable Name: Injury Severity (Police Rating)

Format: 1 column - numeric

Beginning  
Column 93

Element Values:

0	No injury (O)
1	Possible injury (C)
2	Nonincapacitating injury (B)
3	Incapacitating injury (A)
4	Killed (K)
5	Injury, severity unknown
6	Died prior to accident
9	Unknown

Source: Police report

Remarks.

Code the police reported injury severity for this pedestrian or nonmotorist. It is possible that the police could have updated the PAR between the time it was stratified (A02, Case Number--Stratification) and when it was picked up. For example, a person might have been listed originally with incapacitating injuries ("3"). Later the person dies ("4"), 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" (code "3"), nonincapacitating-evident injuries are classified as "B" (code "2"), and possible injuries are "C" (code "1"). Property damage only is classified as "0" (code "0").

Code "5" (Injury, severity unknown) if the police report indicates a "U" or in any other way communicates the idea that the person was injured but their severity is unknown.

Code "6" (Died prior to accident) should only be coded 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, code "0" (No injury). If the PAR is "blank" and the person was not present during the police investigation, code "9" (Unknown).

PEDESTRIAN & NONMOTORIST

P79  
(2)

Variable Name. Injury Severity (Police Rating) [cont'd ]

Not all states use the KABCOU scheme. Listed below, by state, are alternative schemes: a mapping to the NASS scheme is provided.

State	PAR Code/Definition	NASS Scheme/Code
Alabama	K = Killed	K - 4
	A = Visible or carried from scene	A - 3
	B = Bruise/abrasion/swelling	B - 2
	C = No visibility - has pain/faint	C - 1
	Blank = No documentation of driver or occupant injury = No set unknown code	Blank - 0 - 9
Arizona	1 = No injury	0 - 0
	2 = Possible injury	C - 1
	3 = Nonincapacitating injury	B - 2
	4 = Incapacitating injury	A - 3
	5 = Fatal	K - 4
	6 = Unknown	U - 9
California	1 = Fatal	K - 4
	2 = Severe wound/distorted member	A - 3
	3 = Other visible injury	B - 2
	4 = Complaint of pain	C - 1
	Blank = Occupant present Blank = Occupant not present	0 - 0 - 9
Colorado*	5 = Fatal	K - 4
	4 = Evident - incapacitating	A - 3
	3 = Evident - nonincapacitating	B - 2
	2 = Possible injury	C - 1
	1 = No injury	0 - 0
Florida	1 = No injury	0 - 0
	2 = Fatal "in 90 days" injury	K - 4
	3 = Incapacitating injury	A - 3
	4 = Nonincapacitating injury	B - 2
	5 = Possible injury	C - 1
	6 = Non-traffic fatality = No set unknown code	K - 4 - 9

\*There is a box at the top of the PAR indicating number of persons injured. If this box is marked 0 and the injury code is left "blank", assume "No injury". If the box is marked 1 (or more) pertaining to the vehicle occupants in question and the injury code is "blank", assume "Injured, severity unknown". If "blanks" are present in both the persons injured box and the injury code box, assume "Unknown".

PEDESTRIAN & NONMOTORIST

P79  
(3)

Variable Name: Injury Severity (Police Rating) [cont'd.]

State	PAR Code/Definition			NASS Scheme/Code	
Indiana	Nature of Most Severe Injury	Location of Most Severe Injury	Victim's Injury Status		
	1-11 Any Entry	1-12 Any Entry	6 Dead	K - 4	
	1-11 Any Entry	1-12 Any Entry	2 Semiconscious 3 Incoherent 4 Unconscious	A - 3	
	1 Severed 2 Internal 4 Severe Burn 7 Severe Bleed (Arterial) 8 Fracture/dislocation	1-12 Any Entry	1 Conscious 5 Shock 7 Refused Med	A - 3	
	3 Minor Burn 6 Minor Bleed 10 Complaint of Pain 11 None Visible	3 Eye	1 Conscious 5 Shock 7 Refused Med	A - 3	
	3 Minor Burn 6 Minor Bleed	1-2, 4-12 (Any EXCEPT Eye)	1 Conscious 5 Shock 7 Refused Med	B - 2	
	5 Abrasion 9 Contusion/Bruise	1-12 Any Entry	1 Conscious 5 Shock 7 Refused Med	B - 2	
	10 Complaint of Pain 11 None Visible	1-2, 4-12 (Any EXCEPT Eye)	1 Conscious 5 Shock 7 Refused Med	C - 1	
	11 None Visible	Blank or Slashed	1 Conscious	0 - 0	
	Blank or Slashed	Blank or Slashed	Blank or Slashed	0 - 0	
	Unknown	Unknown	Unknown	U - 9	
	Iowa	1 - Fatal			K - 4
		2 - Major (incapacitating)			A - 3
		3 - Minor (bruises and abrasions)			B - 2
		4 - Possible (complaint of pain)			C - 1
0 - Unknown				U - 9	
Blank - No documentation of driver or occupants on back of PAR				0 - 0	
Louisiana	1 - Fatal			K - 4	
	2 - Severe			A - 3	
	3 - Noticeable			B - 2	
	4 - Complaint of pain or momentary unconsciousness			C - 1	
	5 - None			0 - 0	

PEDESTRIAN & NONMOTORIST

P79  
(4)

Variable Name: Injury Severity (Police Rating) [cont'd.]

State	PAR Code/Definition	NASS Scheme/Code
Maryland	5 - Fatal	K - 4
	4 - Incapacitating	A - 3
	3 - Nonincapacitating	B - 2
	2 - Possible injury	C - 1
	1 - No injury/Damage only	0 - 0
	Blank - No documentation of driver or occupants on front of PAR	
Massachusetts	K - Killed	K - 4
	A - Visible signs of injury, as bleeding wound or distorted member; or had to be carried from scene	A - 3
	B - Other visible injury, as bruises, abrasions, swelling, limping, etc.	B - 2
	C - No visible injury but complaint of pain or momentary unconsciousness	C - 1
	Blank - No documentation of driver or occupants on front of PAR	0 - 0
	= No set unknown code	- 9
Missouri	1 - Fatal	K - 4
	2 - Disabling	A - 3
	3 - Evident-Not Disabling	B - 2
	4 - Probable-Not Apparent	C - 1
	5 - None Apparent	0 - 0
	6 - Unknown	U - 9
Nebraska	4 - Fatal	K - 4
	3 - Incapacitating injury	A - 3
	2 - Nonincapacitating injury	B - 2
	1 - Possible injury	C - 1
	0 - No injury	0 - 0
	Blank - Occupant present	0 - 0
Blank - Occupant not present	- 9	

PEDESTRIAN & NONMOTORIST

P79  
(5)

Variable Name: Injury Severity (Police Rating) [cont'd.]

State	PAR Code/Definition			NASS Scheme/Code
New Jersey	Location of Injury	Type of Injury	Victim's Condition	
	Any entry	Any entry	Killed	K - 4
	Any entry	Any entry	Incapacitated	A - 3
	Any entry	amputation, concussion, internal, fracture/dislocation	Moderate injury Complaint of pain	A - 3
	Eye	burn, bleeding, complaint of pain	Moderate injury Complaint of pain	A - 3
	Any entry	bleeding, contusion, bruise, abrasion	Moderate injury	B - 2
	Any entry (except eye)	complaint of pain	Complaint of pain	C - 1
	-	-	-	0 - 0
	U	U	U	- 9
New York	Location of Injury	Type of Injury	Victim's Condition	
	Any entry	Any entry	Apparent death	K - 4
	Any entry	Any entry	Unconscious, Semi-conscious, Incoherent	A - 3
	Any entry	amputation, concussion, internal, severe bleeding, severe burn, moderate burn, fracture - dislocation	Shock, Normal	A - 3
	Eye	minor bleeding, minor burn, complaint of pain	Shock, Normal	A - 3
	All but eye	minor bleeding, minor burn	Shock, Normal	B - 2
	Any entry	contusions-bruise, abrasion	Shock, Normal	B - 2
	All but eye	complaint of pain	Shock, Normal	C - 1
	-	-	-	0 - 0
	X	X	X	- 9

Variable Name: Injury Severity (Police Rating) [cont'd.]

State	PAR Code/Definition	NASS Scheme/Code
Pennsylvania	0 - No injury	O - 0
	1 - Death	K - 4
	2 - Major injury	A - 3
	3 - Moderate injury [and] Type of Apparent Injury	A - 2
	- amputation	
	- broken bone(s)	
	3 - Moderate injury [and] Type of Apparent Injury	B - 2
	- abrasions/contusions/bruises	
	- burns	
	- bleeding	
- concussion		
- other		
4 - Minor injury [and] Type of Apparent Injury	C - 1	
- complaint of pain		
- dizziness		
- shock		
Rhode Island	1 - Fatal injury at scene	K - 4
	2 - Visible signs of injury - bleeding or broken bones	A - 3
	3 - Other visible injury - bruises or abrasions	B - 2
	4 - No visible injury, but complaints of pain	C - 1
	Blank - No injury	O - 0
South Dakota	0 - No injury	O - 0
	1 - Fatal	K - 4
	2 - Incapacitating injury	A - 3
	3 - Nonincapacitating injury	B - 2
	4 - Possible injury	C - 1
Tennessee	4 - Dead at time of report	K - 4
	3 - Bleeding wound, distorted member	A - 3
	2 - Bruises, abrasions, swelling, limping, etc.	B - 2
	1 - Complaint of pain, no visible injury	C - 1
	Blank - No documentation of driver or occupants on front of PAR or on supplement	O - 0

PEDESTRIAN & NONMOTORIST

P79  
(7)

Variable Name: Injury Severity (Police Rating) [cont'd.]

<u>State</u>	<u>PAR Code/Definition</u>	<u>NASS Scheme/Code</u>
Washington	1 - No injury	0 - 0
	2 - Dead at scene	K - 4
	3 - Dead on arrival	K - 4
	4 - Died in hospital	K - 4
	5 - Disabling injury	A - 3
	6 - Nondisabling injury	B - 2
	7 - Possible injury	C - 1
	Blank - Unknown	- 9

Variable Name Time to Death

Format. 2 column - numeric

Beginning  
Column 94

Element Values

Level 1 Range 00 through 24, 31 through 60, 96, 99

00 Not fatal

96 Fatal - ruled disease

99 Unknown

Source Police report, hospital/medical records, autopsy report, or other official records for actual time of death for fatally injured pedestrians or nonmotorists

Remarks

Code "00" should identify (from any source) all pedestrians or nonmotorists who are not fatally injured (i.e., death does not occur, or does not occur within thirty days of the accident)

All pedestrians or nonmotorists who die within thirty days of the accident should have their time-of-death recorded unless their death meets the criteria of the Fatal - ruled disease code "96".

Code "96" (Fatal - ruled disease) is used in two situations. The first is when the effects of a disease can be deemed as a cause of the accident. Cause means that the on-set of the disease occurred prior to the first harmful event. When determining the time of on-set (relative to the first harmful event), the researcher can use any information source available. The researcher makes his/her determination after weighing all the evidence. (NOTE: The use of all available information sources is restricted to the determination of when the on-set occurred.) Additionally, code "96" (Fatal - ruled disease) is used when a medical examiner (or other official vested by the state to verify the cause of death) or an official medical report verifies that the death resulted from either (1) a diseased condition, or (2) not from accident related injuries.

Code "01" should identify pedestrians or nonmotorists who die within (less than) one and a half hours of the time of the accident

Codes "02" through "24" should identify pedestrians or nonmotorists who die in the period of time between one and a half hours from the time of the accident to twenty-four hours after the accident. The variable should be coded to the nearest hour except for code "24" which is used only for the period between twenty-three and a half hours after the accident and twenty-four hours after the accident

Variable Name: Time to Death (cont'd.)

Codes "31" through "60" should identify pedestrians or nonmotorists who die in the period of time between greater than twenty-four hours after the accident (24 hours and one minute is coded as "31" while 24 hours is coded as "24") and thirty days after the accident. (NOTE: One day = "31", two days = "32", . . . , twenty-nine days = "59", and thirty days = "60".) The number of days should be rounded off to the nearest whole day except for code "60" which is used for the period between twenty-nine days and twelve hours and thirty days after the accident.

The exact time period which applies to each code is shown in the table below.

Code	Time period in hours	Code	Time period in days
01	0 - < 1 1/2	31	> 1 - < 1 1/2
02	1 1/2 - < 2 1/2	32	1 1/2 - < 2 1/2
03	2 1/2 - < 3 1/2	33	2 1/2 - < 3 1/2
04	3 1/2 - < 4 1/2	34	3 1/2 - < 4 1/2
05	4 1/2 - < 5 1/2	35	4 1/2 - < 5 1/2
06	5 1/2 - < 6 1/2	36	5 1/2 - < 6 1/2
07	6 1/2 - < 7 1/2	37	6 1/2 - < 7 1/2
08	7 1/2 - < 8 1/2	38	7 1/2 - < 8 1/2
09	8 1/2 - < 9 1/2	39	8 1/2 - < 9 1/2
10	9 1/2 - < 10 1/2	40	9 1/2 - < 10 1/2
11	10 1/2 - < 11 1/2	41	10 1/2 - < 11 1/2
12	11 1/2 - < 12 1/2	42	11 1/2 - < 12 1/2
13	12 1/2 - < 13 1/2	43	12 1/2 - < 13 1/2
14	13 1/2 - < 14 1/2	44	13 1/2 - < 14 1/2
15	14 1/2 - < 15 1/2	45	14 1/2 - < 15 1/2
16	15 1/2 - < 16 1/2	46	15 1/2 - < 16 1/2
17	16 1/2 - < 17 1/2	47	16 1/2 - < 17 1/2
18	17 1/2 - < 18 1/2	48	17 1/2 - < 18 1/2
19	18 1/2 - < 19 1/2	49	18 1/2 - < 19 1/2
20	19 1/2 - < 20 1/2	50	19 1/2 - < 20 1/2
21	20 1/2 - < 21 1/2	51	20 1/2 - < 21 1/2
22	21 1/2 - < 22 1/2	52	21 1/2 - < 22 1/2
23	22 1/2 - < 23 1/2	53	22 1/2 - < 23 1/2
24	23 1/2 - 24	54	23 1/2 - < 24 1/2
		55	24 1/2 - < 25 1/2
		56	25 1/2 - < 26 1/2
		57	26 1/2 - < 27 1/2
		58	27 1/2 - < 28 1/2
		59	28 1/2 - < 29 1/2
		60	29 1/2 - 30

Variable Name Traffic Violation Charged Against This Pedestrian or  
Nonmotorist

Format: 1 column - numeric

Beginning  
Column 96

Element Values:

0 No  
1 Yes (specify)  
9 Unknown

Source Police Report

Remarks:

If the police charged this pedestrian or nonmotorist with any violation,  
then code yes ("1") Specify the violation in the space provided, if  
known.

Variable Name. Police Reported Alcohol Presence

Format: 1 column - numeric

Beginning  
Column 97

Element Values:

0 No (alcohol not present)  
1 Yes (alcohol present)  
8 Not reported  
9 Unknown

Source. Police Report

Remarks:

Find the location on the police report that indicates the investigating officer's assessment with respect to whether or not alcohol was present in this pedestrian or nonmotorist in this accident. If the police report explicitly states or implies that alcohol was present or used by this pedestrian or nonmotorist prior to the accident, then code "1" [Yes (alcohol present)] If there is no specific variable concerning alcohol presence, see if it is addressed in the narrative description of the accident.

The phrase "alcohol present" means that this pedestrian or nonmotorist had consumed an alcoholic beverage. Presence is not an indication that alcohol was in any way a cause of the accident, even though it may have been. Finding opened or unopened alcoholic beverages with this pedestrian or nonmotorist does not by itself constitute presence.

Code "1" [Yes (alcohol present)] if the police indicate alcohol presence in the pedestrian or nonmotorist via a specific data element on the police report form and/or if the police charges the pedestrian or nonmotorist with walking while intoxicated (WWI) or public intoxication, etc., and/or if the police mention in the narrative section of the report that the pedestrian or nonmotorist had been drinking (or alcohol was present or involved) and/or the police report has a positive BAC test result (BAC > .00).

Code "0" [No (alcohol not present)] if the investigating officer's assessment (as reported on the police report) is that no alcohol was present in this pedestrian or nonmotorist.

Code "8" (Not reported) if there is a specific location on the police report for assessment of alcohol presence but the investigating officer fails to make either a positive or negative assessment of alcohol presence

Variable Name: Police Reported Alcohol Presence (cont'd.)

Code "9" (Unknown) if the alcohol presence is unknown. In general police reports have blocks to check either positive or negative alcohol presence, hence one of the codes "0", "1", or "8" is the appropriate response. But if a police report has provision for the investigating officer to respond "unknown alcohol presence", then code "9" (Unknown)

If the PAR has a block which is labeled "Alcohol/Drugs", then use any other information on the PAR to determine what was present, alcohol or some other type of drug. If no other information is available, then code "9" (Unknown) should be used.

Variable Name: Alcohol Test Result

Format: 2 columns - numeric

Beginning  
Column 98

Element Values:

Range: 00-49; 95-97; 99

Code actual reported number representing fraction of alcohol present  
(decimal implied before first digit 0.xx)

95 Test refused

96 None given

97 AC test performed, results unknown

99 Unknown

Source: Police report, medical reports, or other official sources.

Remarks:

A blood alcohol concentration (BAC) test could be a blood, breath, or urine test. No psychomotor (police observation of driver actions) test results are to be coded here. These preliminary tests include instrumented field screening tests which indicate the presence of alcohol, but not necessarily the particular content level. These devices are designed to segregate candidates for further testing from those persons where the suspected presence of alcohol is either nonexistent or too low for additional tests.

Code "95" (Test refused) when the person refuses to voluntarily take a BAC test and no subsequent test is given. If the person refuses, but a test is performed, code the reported BAC or "97" (AC test performed, results unknown).

Code "96" (None given) includes those instances when an instrumented field screening test was given and it determined that no BAC test was required.

If an instrumented field screening test was given and it was determined that a BAC test was required, code either the reported BAC from the subsequent test or "97" (AC test performed, results unknown) if the precise level was not obtained. Researchers should obtain BAC test results whenever possible. Code "97" should be used only after all available sources have been exhausted. Verbal BACs obtained from official sources are acceptable if written approval (or approval via the message system) has been obtained from the Zone Center.

PEDESTRIAN & NONMOTORIST

P83  
(2)

Variable Name    Alcohol Test Result (cont'd.)

If the results are not available at the time the NASS case is initially submitted, code "97" (AC test performed, results unknown), circle the variable number, and update this variable when the results are obtained.

If the BAC was given on the police report or subsequently added after the case was initiated, code the reported value. If the BAC was obtained from a medical report or any other official record, code the reported value. In essence, if any BAC is obtained, code the reported value.

Blood Alcohol Content (BAC) measures the percentage (expressed as a decimal) of the number of grams of alcohol in a liter of blood. The standard measure is expressed as the number of milligrams per deciliter (tenth of a liter) (e.g., .05 = 50 mg/100 ml, 15 = 150 mg/100 ml).

Variable Name: Pedestrian/Nonmotorist Related Factors

Format: 2 columns - numeric

Beginning  
Column 100

Element Values:

- 00 No pedestrian/nonmotorist related factors
- 01 Non-physical (i.e., mental or emotional factor)

Physical Impairments

- 02 Blind
- 03 Restricted sight
- 04 Walking cane/crutches required
- 05 Deaf
- 06 Restricted to wheelchair
- 07 Paraplegic
- 08 Previous injury
- 09 Other physical impairments (specify)

Drug Impairments

- 10 Drugs-medication (prescription, over-the-counter)
- 11 Other drugs (excludes alcohol, includes uncontrolled substances)  
[specify]

Pedalcyclist Related (Includes Animal Related)

- 12 Inattention
- 13 Interference with operator by other passenger
- 14 Operator inexperience
- 15 Erratic lane changing - cutting in and out of traffic
- 16 Not yielding right-of-way
- 17 Failure to yield to an emergency vehicle
- 18 Disobeying stop sign
- 19 Disobeying traffic signal
- 20 Failure to obey other traffic sign or signal (specify)
- 21 Riding over or on the centerline
- 22 Riding over or on the median
- 23 Riding wrong way on 1-way street or entrance/exit ramp
- 24 Pulling in front of traffic from a roadway or driveway
- 25 Turning left or U-turning in front of oncoming traffic
- 26 Making right turn from left lane, or left turn from right lane
- 27 Making other improper turn (specify)
- 28 Proceeding despite view obstruction
- 29 Wrong signal given for maneuver executed
- 30 Turning without giving a turn signal
- 31 Hazard lights not used when appropriate or required
- 32 Operator unfamiliar with roadway
- 33 Overloading or improper loading of passengers and/or cargo
- 38 Other pedalcyclist related factors (specify)

99 Unknown

PEDESTRIAN & NONMOTORIST

P84  
(2)

Variable Name: Pedestrian/Nonmotorist Related Factors (cont'd.)

Source: Researcher determined--inputs include scene inspection, pedestrian, nonmotorist, and driver interviews; and police report, hospital/medical report, or other official records.

Remarks

The purpose of these variables is to provide guidance to safety research on the involvement of these factors in accidents. Causal determinations must necessarily be based on more detailed investigations and other data, such as exposure data.

Related Factors are circumstances that may have contributed to the cause of an accident. For our purposes, regarding pedestrian/nonmotorist related factors, the factor chosen will be the researcher's best assessment of the police report (or other official records), interview data, and scene inspection. Concerning the police report, these factors can appear anywhere on the report--in the narrative section, in the space for violations, in the column titled "Contributing Factors" or "Driver/Operator Action", etc.

As described in the coding attributes, pedestrian/nonmotorist related factors are divided into two groups: (1) Physical/Mental Conditions (codes "01" - "11"), and (2) Operator Related Factors (codes "12" - "38").

Only the pedestrian/nonmotorist related factors that apply to that particular pedestrian/nonmotorist should be coded. If more than one code applies, choose the code that seems the most significant. If no pedestrian/nonmotorist related factors apply, code "00" (No pedestrian/nonmotorist related factors).

Code "00" (No pedestrian/nonmotorist related factors) is used if the researcher determines that there were no related factors for the pedestrian/nonmotorist in the accident.

Code "01" [Non-physical (i.e., mental or emotional factor)] includes anger, depression, excitement, illness, disease, blackout, etc. It also includes inattention for pedestrians.

Codes "02" through "11" (Physical and Drug Impairment) apply to impairments that are indicated on the PAR, in an interview, or specified in other official records.

Code "04" (Walking cane/crutches required) also includes ambulatory "walkers".

Variable Name: Pedestrian/Nonmotorist Related Factors (cont'd.)

If both "06" (Restricted to wheelchair) and "07" (Paraplegic) apply, code "07". Reserve "06" for those persons who are restricted to a wheelchair, but are not paraplegic.

Codes "12" through "38" are Operator Related Factors and apply only to pedalcyclists and operators of nonmotorist conveyances (including animal related).

Code "13" (Interference with operator by other person) is to be used whenever the operator or a pedalcycle or nonmotorist conveyance (including animal related) is distracted or restricted by an occupant of that pedalcycle or conveyance.

Code "26" (Making right turn from a left lane, making left turn from right lane) refers to any turn made from the wrong lane or from the wrong side of a lane. It includes turning into a driveway, turning at an intersection, etc.

Code "27" (Making other improper turn) includes all of the turns that do not apply above (e.g., U-turns, turning at an intersection when it is not allowed, turning into the wrong lane, etc.).

Code "31" (Hazard lights, not used when appropriate or required) includes operating the pedalcycle or conveyance without the proper light equipment (e.g., headlights, taillights, etc.).

Code "38" (Other pedalcyclist related factors) does not include alcohol presence or involvement.

Code "99" (Unknown) only when the researcher determines that "unknown contributing factors" best applies to this pedestrian or nonmotorist.



**Vehicle Data**

<p>1 Primary Sampling Unit Number <span style="float:right">1 2</span></p> <p>2 Case Number-Stratification <span style="float:right">3 4 5 6</span></p> <p>3 Record Number <span style="float:right">3 7</span></p> <p>4 Transaction Code <span style="float:right">8</span></p> <p>5 Version Number <span style="float:right">9 9</span></p> <p>6 Investigator I D Number <span style="float:right">10</span></p>	<p>11 Hit and Run Involvement  <input type="checkbox"/> (0) No hit-and-run  <input type="checkbox"/> (1) Yes - hit-and-run involved vehicle <span style="float:right">17</span></p>
<b>EXTERIOR ITEMS</b>	
<p style="text-align:center"><b>IDENTIFICATION</b></p> <p>7 Vehicle Number <span style="float:right">11 12</span></p> <p>8 Number of Occupant Forms Submitted  <input type="checkbox"/> Code only the number of occupants in this vehicle for which an OCCUPANT FORM was submitted  <input type="checkbox"/> (97) 97 or more <span style="float:right">13 14</span></p> <p>9 Vehicle Role <span style="float:right">15</span>  <input type="checkbox"/> (0) Noncollision  <input type="checkbox"/> (1) Striking unit  <input type="checkbox"/> (2) Struck unit  <input type="checkbox"/> (3) Both striking and struck  <input type="checkbox"/> (9) Unknown</p> <p>10 Manner of Leaving Scene (Determined by Investigator) <span style="float:right">16</span>  <input type="checkbox"/> (1) Driven  <input type="checkbox"/> (2) Towed due to vehicle damage  <input type="checkbox"/> (3) Towed - not due to vehicle damage  <input type="checkbox"/> (4) Towed - details unknown  <input type="checkbox"/> (5) Abandoned  <input type="checkbox"/> (9) Unknown</p>	<p>12 Vehicle Model Year  <input type="checkbox"/> Code the last two digits of the model year  <input type="checkbox"/> (99) Unknown <span style="float:right">18 19</span></p> <p>13 Vehicle Make (specify)  <hr/> Applicable codes are found in your NASS Data Collection, Coding and Editing Manual  <input type="checkbox"/> (99) Unknown <span style="float:right">20 21</span></p> <p>14 Vehicle Model (specify)  <hr/> Applicable codes are found in your NASS Data Collection, Coding and Editing Manual  <input type="checkbox"/> (99) Unknown <span style="float:right">22 23</span></p> <p>15 Registration of Vehicle <span style="float:right">24</span>  <input type="checkbox"/> (0) Not registered  <input type="checkbox"/> (1) In-state (at least)  <input type="checkbox"/> (2) Out-of-state (only)  <input type="checkbox"/> (8) Other registration (e.g., federal, foreign, military) (specify)  <hr/> <input type="checkbox"/> (9) Unknown</p>
<p>16 Vehicle Identification Number  <input type="checkbox"/> No VIN - Code all Zeros  <input type="checkbox"/> Unknown - Code all nines</p> <p>Left justify  Slash zeros 0</p>	
<span style="float:left">25</span> <span style="float:right">41</span>	

Delete sequential production number

## National Accident Sampling System - Continuous Sampling Subsystem: Vehicle Data

## 17 Body Type

## Automobiles

- \_\_\_ (01) Convertible (excludes sun-roof, t-bar)
- \_\_\_ (02) 2-door sedan, hardtop, coupe
- \_\_\_ (03) 3-door/2-door hatchback
- \_\_\_ (04) 4-door sedan, hardtop
- \_\_\_ (05) 5-door/4-door hatchback
- \_\_\_ (06) Station wagon (excluding van and truck based)
- \_\_\_ (08) Other automobile type (specify) \_\_\_\_\_
- \_\_\_ (09) Unknown automobile type

## Automobile Derivatives and Short Utility Vehicles

- \_\_\_ (10) Auto based pickup (includes El Camino, Caballero, Ranchero and Brat)
- \_\_\_ (11) Auto based panel (cargo station wagon, includes auto based ambulance/hearse)
- \_\_\_ (12) Short utility - not truck based (includes Jeep CJ-5, Jeep CJ-7, Renegade, Landrover, Pre-78 Bronco, Landcruiser, Thing)
- \_\_\_ (13) Large limousine - more than four side doors or stretched chassis

## Motorcycles

- \_\_\_ (20) Motorcycle
- \_\_\_ (21) Mopeds (motorized bicycles)
- \_\_\_ (28) Other motorcycle (minibikes, motorscooters) (specify) \_\_\_\_\_
- \_\_\_ (29) Unknown motorcycle type

## Bus (excludes van based)

- \_\_\_ (30) School bus (designed to carry students, not cross country or transit)
- \_\_\_ (31) Cross country intercity (designed for long distance)
- \_\_\_ (32) Transit bus (includes short ride city bus and medium range suburban bus)
- \_\_\_ (38) Other bus (e.g. bus based motorhome) (specify) \_\_\_\_\_
- \_\_\_ (39) Unknown bus type

Van Based Light Truck ( $\leq 10,000$  lbs GVWR)

- \_\_\_ (40) Van (includes VW bus, Vanagon, Kombi, Beauville, Chateau, Club Wagon, Sportsman, excludes moving van)
- \_\_\_ (41) Van-commercial cutaway (includes box van, multi-stop, parcel, van pickups)
- \_\_\_ (42) Van based motorhome
- \_\_\_ (48) Other van type (specify) \_\_\_\_\_
- \_\_\_ (49) Unknown van type

Light Conventional Truck (Pickup style cab,  $\leq 10,000$  lbs GVWR)

- \_\_\_ (50) Pickup (includes open box and caps)
- \_\_\_ (51) Pickup with slide-in camper
- \_\_\_ (52) Pickup based motorhome (chassis mounted)
- \_\_\_ (53) Cab chassis based (includes rescue vehicles, light stake, dump, and tow trucks)
- \_\_\_ (54) Truck based panel
- \_\_\_ (55) Truck based station wagon (4-door, includes Suburban, Travelall, Wagoneer)
- \_\_\_ (56) Truck based utility (2-door, includes Blazer, Bronco - 78 on, Jimmy, Ramcharger, Cherokee, Trailduster, Scout)
- \_\_\_ (58) Other light conventional truck (e.g., stretched Suburban limousine) (specify) \_\_\_\_\_
- \_\_\_ (59) Unknown light conventional truck
- \_\_\_ (69) Unknown light truck (van or pickup)

Medium/Heavy Truck ( $> 10,000$  lbs GVWR)

- \_\_\_ (70) Step vans
- \_\_\_ (71) Single unit straight truck (10,000 lbs  $<$  GVWR  $\leq 26,000$  lbs)
- \_\_\_ (72) Single unit straight truck ( $> 26,000$  lbs GVWR)
- \_\_\_ (73) Medium/heavy truck based motorhome
- \_\_\_ (74) Truck-tractor with no cargo trailer
- \_\_\_ (75) Truck-tractor pulling one or more trailers
- \_\_\_ (77) Truck-tractor (unknown if pulling trailer)
- \_\_\_ (78) Unknown medium/heavy truck type
- \_\_\_ (79) Unknown truck type (light/medium/heavy)

## Other Vehicles

- \_\_\_ (80) Snowmobile
- \_\_\_ (81) Farm equipment other than trucks
- \_\_\_ (82) ATV, all terrain vehicle (e.g., dune/swamp buggy)
- \_\_\_ (83) Construction equipment other than trucks (e.g., grader, off road)
- \_\_\_ (88) Other (e.g., go-cart, fork lift, city street sweeper) (specify) \_\_\_\_\_
- \_\_\_ (89) Unknown other vehicle (specify) \_\_\_\_\_
- \_\_\_ (99) Unknown body type

National Accident Sampling System - Continuous Sampling Subsystem Vehicle Data

18 Towed Trailing Unit

\_\_\_ (0) No towed unit

Yes

towed trailing unit hitch type

- \_\_\_ (1) Clamp on (temporary)
- \_\_\_ (2) Bumper hitch (bolted)
- \_\_\_ (3) Frame
- \_\_\_ (4) Fifth wheel
- \_\_\_ (5) Converter dolly - with 1 towbar
- \_\_\_ (6) Converter dolly with 2 towbars
- \_\_\_ (8) Other (specify) \_\_\_\_\_
- \_\_\_ (9) Unknown hitch type

44

19 Seating Capacity Truck Vocation

Passenger Vehicle by Designated Seating Capacity

Motorcycle Automobile Van Bus (exclude pickups)

- \_\_\_ (01) One seat position
- \_\_\_ (02) Two seat positions
- \_\_\_ (03) Three seat positions
- \_\_\_ (04) Four seat positions
- \_\_\_ (05) Five seat positions
- \_\_\_ (06) Six seat positions
- \_\_\_ (07) Seven seat positions
- \_\_\_ (08) Eight seat positions
- \_\_\_ (09) Nine seat positions
- \_\_\_ (10) 10 to 19 seat positions
- \_\_\_ (11) 20 to 49 seat positions
- \_\_\_ (12) 50 or more seat positions
- \_\_\_ (13) Motorhome (any light or medium truck based)
- \_\_\_ (14) Ambulance EMS (any auto or truck based)
- \_\_\_ (19) Unknown passenger vehicle seating capacity

Cargo Vehicle by Vocation (Cargo Configuration)

Platform

- \_\_\_ (20) Platform flatbed
- \_\_\_ (21) Platform with device (e.g. self-loader, spreader)
- \_\_\_ (22) Stake
- \_\_\_ (23) Drop frame, low bed, lowboy
- \_\_\_ (24) Livestock carrier
- \_\_\_ (28) Other platform (specify) \_\_\_\_\_

Open

- \_\_\_ (30) Pickup box (non-dump, includes open box and caps)
- \_\_\_ (31) Pickup with slide-in camper
- \_\_\_ (32) Dump (any light, medium, or heavy truck based)
- \_\_\_ (33) Dump with blade (front or undercarriage)
- \_\_\_ (34) Hopper (grain)
- \_\_\_ (35) Auto carrier transport (includes boat)
- \_\_\_ (36) Van - open top
- \_\_\_ (38) Other open (specify) \_\_\_\_\_

Closed

- \_\_\_ (40) Van - closed top (any light, medium or heavy truck based, e.g. multi-stop)
- \_\_\_ (41) Low bed van (e.g. moving van)
- \_\_\_ (42) Refrigerated or insulated
- \_\_\_ (43) Mobile home
- \_\_\_ (44) Beverage, bottler
- \_\_\_ (45) Container (e.g. piggy back)
- \_\_\_ (46) Tank - liquid and gaseous
- \_\_\_ (47) Tank - dry bulk
- \_\_\_ (48) Other closed (specify) \_\_\_\_\_

Services/Utility

- \_\_\_ (50) Garbage, refuse (including dumpster)
- \_\_\_ (51) Fire apparatus
- \_\_\_ (52) Concrete mixer
- \_\_\_ (53) Wrecker, tow
- \_\_\_ (54) Crane, aerial basket
- \_\_\_ (55) Service, mobile repair (e.g. phone line truck)
- \_\_\_ (56) Pole (e.g. pipe or log)
- \_\_\_ (57) Armored truck
- \_\_\_ (58) Other service/utility (specify) \_\_\_\_\_

- \_\_\_ (71) Truck-tractor - no trailer
- \_\_\_ (72) Chassis incomplete vehicle
- \_\_\_ (88) Other cargo vehicle (specify) \_\_\_\_\_

- \_\_\_ (97) Other nontruck (e.g. construction paver, farm tractor) (specify) \_\_\_\_\_

- \_\_\_ (98) Unknown cargo configuration
- \_\_\_ (99) Unknown if passenger or cargo vehicle

National Accident Sampling System – Continuous Sampling Subsystem: Vehicle Data

20 21 22 23 Tire Condition (at time of or resulting from accident)  
Code up to four tires - front to rear left to right See manual for tire numbering scheme

AXLE

- \_\_\_\_ (0) No abnormal tire condition
- \_\_\_\_ (1-7) Code actual axle number
- \_\_\_\_ (8) Axle number eight or greater (specify) \_\_\_\_\_
- \_\_\_\_ (9) Unknown axle

TIRE

- \_\_\_\_ (0) No abnormal tire condition
- \_\_\_\_ (1) Left outermost tire
- \_\_\_\_ (2) Left inner tire (if present)
- \_\_\_\_ (3) Right inner tire (if present)
- \_\_\_\_ (4) Right outermost tire
- \_\_\_\_ (9) Unknown tire position

CONDITION

- \_\_\_\_ (0) No abnormal tire condition
- \_\_\_\_ (1) Evidence of tread separation (with no sign of collision damage)
- \_\_\_\_ (2) Carcass failure
- \_\_\_\_ (3) Wear bars exposed
- \_\_\_\_ (4) Damaged as a result of the accident
- \_\_\_\_ (9) Unknown tire condition

	Axis	Tire	Condi- tion
(20)	47	48	49
(21)	50	51	52
(22)	53	54	55
(23)	56	57	58

24 25 Type of Outside Mirror

      L       R

- \_\_\_\_ \_\_\_\_ (0) Mirror not present
- \_\_\_\_ \_\_\_\_ (1) Plane mirror
- \_\_\_\_ \_\_\_\_ (2) Convex mirror
- \_\_\_\_ \_\_\_\_ (3) Plane plus stick-on convex mirror
- \_\_\_\_ \_\_\_\_ (4) Plane plus separate convex mirror
- \_\_\_\_ \_\_\_\_ (8) Other type mirror (specify) \_\_\_\_\_ 24 25

      L       R

- \_\_\_\_ \_\_\_\_ (9) Unknown \_\_\_\_\_ 59 60

26 Override/Underride (this vehicle)  
\_\_\_\_ (0) No override/underride or not applicable to CDC/TDC

Override (see specific CDC/TDC)

- \_\_\_\_ (1) 1st CDC
- \_\_\_\_ (2) 2nd CDC
- \_\_\_\_ (3) Other not automated CDC (specify) \_\_\_\_\_

Underride (see specific CDC/TDC)

- \_\_\_\_ (4) 1st CDC
- \_\_\_\_ (5) 2nd CDC
- \_\_\_\_ (6) Other not automated CDC (specify) \_\_\_\_\_
- \_\_\_\_ (7) Medium/heavy truck override/underride
- \_\_\_\_ (9) Unknown

61

27 Rear Turn Signal Color

- \_\_\_\_ (0) No turn signals
- \_\_\_\_ (1) Red
- \_\_\_\_ (2) Amber
- \_\_\_\_ (8) Other (specify) \_\_\_\_\_
- \_\_\_\_ (9) Unknown

62

MEDIUM/HEAVY TRUCK AND BUS DATA (V17 = 30-39 OR 70-78)

28 Cab Configuration

\_\_\_ (0) Not a medium heavy truck or bus  
(V17 ≠ 30-39 or 70-78)

Cab Over Engine (COE)

\_\_\_ (1) COE, high entry  
\_\_\_ (2) COE, low entry  
\_\_\_ (3) COE, unknown entry

Conventional (CBE-Cab Behind Engine)

\_\_\_ (4) 2-door (standard)  
\_\_\_ (5) 2 door extended cab 4-door crew cab  
\_\_\_ (6) Unknown number of doors  
\_\_\_ (7) Cab alongside engine (CAE)  
\_\_\_ (8) Other (specify) \_\_\_\_\_  
\_\_\_ (9) Unknown

63

29 30 31 32 Number of Axles

Power Trailer

Unit 1st 2nd 3rd

\_\_\_ \_\_\_ \_\_\_ \_\_\_ (0) Not a medium heavy truck or bus (V17 ≠ 30-39 or 70-78)  
\_\_\_ \_\_\_ \_\_\_ \_\_\_ (1) One  
\_\_\_ \_\_\_ \_\_\_ \_\_\_ (2) Two  
\_\_\_ \_\_\_ \_\_\_ \_\_\_ (3) Three  
\_\_\_ \_\_\_ \_\_\_ \_\_\_ (4) Four  
\_\_\_ \_\_\_ \_\_\_ \_\_\_ (5) Five  
\_\_\_ \_\_\_ \_\_\_ \_\_\_ (6) Six  
\_\_\_ \_\_\_ \_\_\_ \_\_\_ (7) Seven P 1 2 3  
or more \_\_\_ \_\_\_ \_\_\_ \_\_\_  
\_\_\_ \_\_\_ \_\_\_ \_\_\_ (8) No trailer  
\_\_\_ \_\_\_ \_\_\_ \_\_\_ (9) Unknown

P 1 2 3

64 65 66 67

33 34 35 Length of Trailing Units

Trailer

1st 2nd 3rd

\_\_\_ \_\_\_ \_\_\_ (0) Not a medium heavy truck or bus  
(V17 ≠ 30-39 or 70-78)  
\_\_\_ \_\_\_ \_\_\_ (1) Less than 26 feet  
\_\_\_ \_\_\_ \_\_\_ (2) 26 - 28 feet  
\_\_\_ \_\_\_ \_\_\_ (3) 29 - 31 feet  
\_\_\_ \_\_\_ \_\_\_ (4) 32 - 40 feet  
\_\_\_ \_\_\_ \_\_\_ (5) 41 - 45 feet  
\_\_\_ \_\_\_ \_\_\_ (6) 46 - 48 feet  
\_\_\_ \_\_\_ \_\_\_ (7) More than 48 feet 1st 2nd 3rd  
\_\_\_ \_\_\_ \_\_\_ (8) No trailer  
\_\_\_ \_\_\_ \_\_\_ (9) Unknown

1st 2nd 3rd

68 69 70

36 Maximum Overall Width

\_\_\_ (000) Not a medium heavy truck or bus  
(V17 ≠ 30-39 or 70-78)

\_\_\_ Code the actual value to the nearest inch

\_\_\_ (998) 998 inches or more

\_\_\_ (999) Unknown

71 72 73

37 Maximum Overall Length

(Includes the power unit and all trailers)

\_\_\_ (000) Not a medium heavy truck or bus  
(V17 ≠ 30-39 or 70-78)

\_\_\_ Code the actual value to the nearest foot

\_\_\_ (998) 998 feet or more

\_\_\_ (999) Unknown

74 75 76

38 Type of Brake Actuation

\_\_\_ (0) Not a medium heavy truck or bus  
(V17 ≠ 30-39 or 70-78)

\_\_\_ (1) Air

\_\_\_ (2) Hydraulic

\_\_\_ (8) Other (specify) \_\_\_\_\_

\_\_\_ (9) Unknown

77

39 Gross Vehicle Weight Rating (GVWR)

\_\_\_ (0) Not a medium heavy truck or bus  
(V17 ≠ 30-39 or 70-78)

\_\_\_ (1) 10,001 - 14,000 lbs

\_\_\_ (2) 14,001 - 16,000 lbs

\_\_\_ (3) 16,001 - 19,500 lbs

\_\_\_ (4) 19,501 - 26,000 lbs

\_\_\_ (5) 26,001 - 33,000 lbs

\_\_\_ (6) 33,001 lbs and above

\_\_\_ (9) Unknown

78

Specify GVWR \_\_\_\_\_

**National Accident Sampling System – Continuous Sampling Subsystem: Vehicle Data**

**FIELD MEASUREMENTS**

Complete When Applicable

<p style="text-align: center;">End Damage</p> <p>Undeformed end width _____</p> <p>Corner shift A1 _____</p> <p style="padding-left: 40px;">A2 _____</p> <p>End shift at frame (CDC) (check one)</p> <p style="padding-left: 20px;">&lt;4 inches _____</p> <p style="padding-left: 20px;">≥4 inches _____</p>	<p style="text-align: center;">Side Damage</p> <p>Bowing B1 _____ X1 _____</p> <p style="padding-left: 40px;">B2 _____ X2 _____</p> <p>Bowing constant</p> <p><math>\frac{X1 + X2}{2} =</math> _____</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Note: Measure C1 to C6 from Driver to Passenger side in Front or Rear impacts—  
 Rear to Front in Side impacts

Specific Impact Number	Plane* of C Measurements	Direct Damage		Field L**	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	±D
		Width*** (CDC)	Max*** Crush								

\*Identify the plane at which the C-measurements are taken (e.g. at bumper, above bumper, at sill, above sill, at beltline, etc.) or label adjustments (e.g. free space)

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

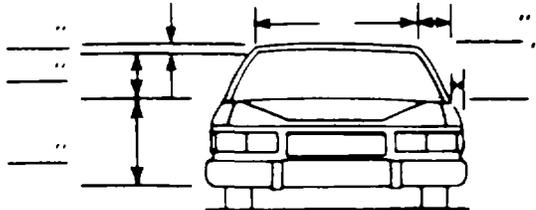
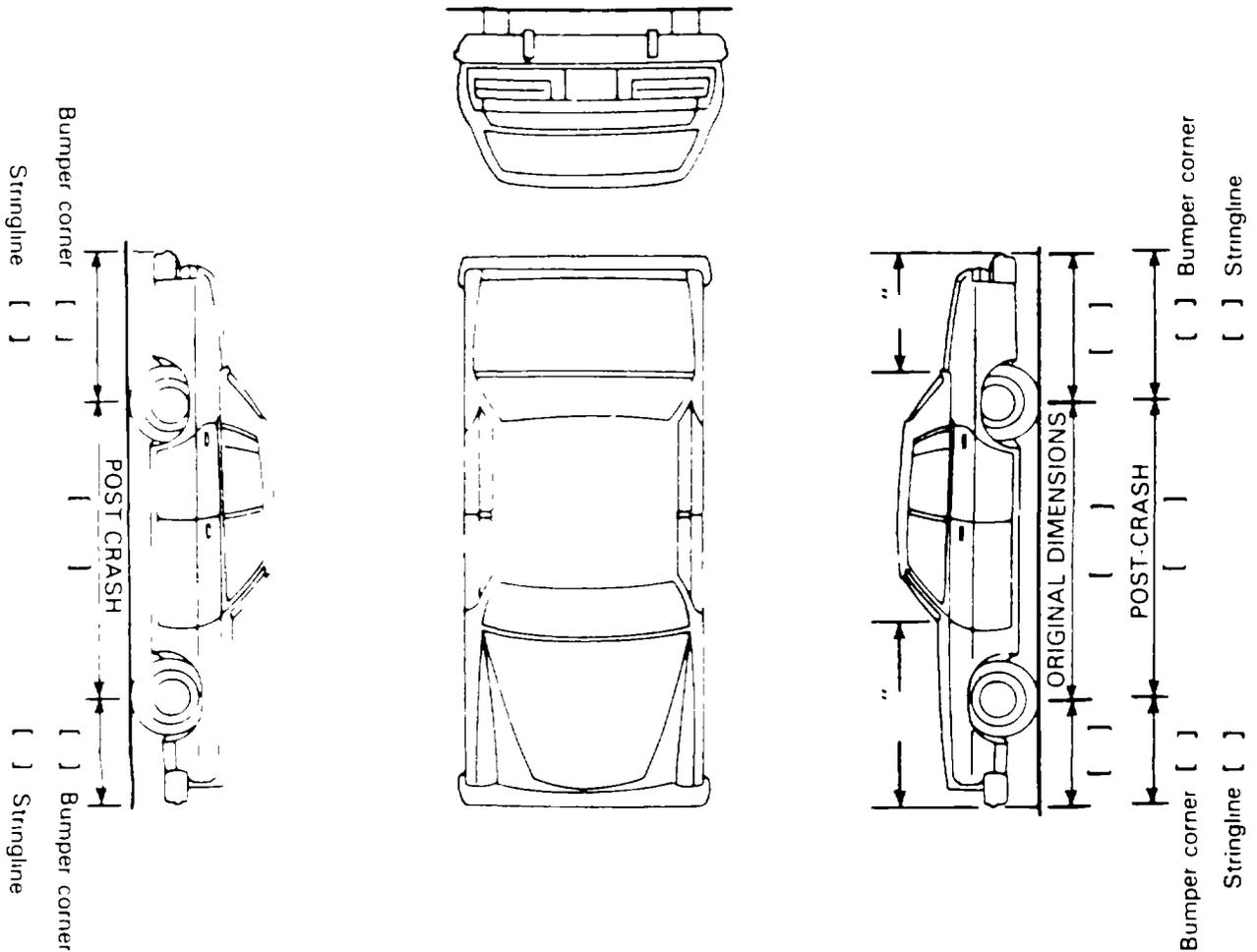
\*\*Measure and document on the vehicle diagram the beginning or end of the direct damage width and field L (e.g. side damage with respect to undamaged axle)

\*\*\*Measure and document on the vehicle diagram the location of the maximum crush

Note: Use as many lines/columns as necessary to describe each damage profile



DAMAGE DESCRIPTION	TYPE OF TRANSMISSION	WHEEL STEER ANGLES
Tire - Wheel Damage a Rotation physically restricted RF _____ LF _____ RR _____ LR _____ b Tire deflated RF _____ LF _____ RR _____ LR _____ (1) Yes, (2) No, (8) NA, (9) Unk	_____ Manual _____ Automatic Average Track _____ Maximum Width _____ Curb Weight _____ Overall Length _____ Wheel Base _____ Engine Size cyl. _____ displ. _____	(For locked front wheels or displaced rear axles only) RF ± _____ ° LF ± _____ ° RR ± _____ ° LR ± _____ ° Within ±5 degrees



**Note** Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g. grass in tire bead, direction of striations, scuff on sidewall etc).  
 If pulling trailer sketch type of trailer and damage received on the back of this page.  
 Annotate any damage caused by extrication such as component removal by torching, prying or hydraulic shears.  
 If the vehicle contacted a pedestrian, complete page 6R.





## CODES FOR FRONT OCCUPANT AREA INTRUSION

### Magnitude of Intrusion

- \_\_\_ (0) No passenger compartment or no intrusion
- \_\_\_ (1) Less than 2 inches
- \_\_\_ (2)  $\geq 2$  inches but  $< 6$  inches
- \_\_\_ (3)  $\geq 6$  inches but  $< 12$  inches
- \_\_\_ (4)  $\geq 12$  inches
- \_\_\_ (9) Unknown

### Intruding Component

#### Primary

- \_\_\_ (00) No passenger compartment or no intrusion
- \_\_\_ (01) Steering column
- \_\_\_ (02) Instrument panel left
- \_\_\_ (03) Instrument panel center
- \_\_\_ (04) Instrument panel right
- \_\_\_ (05) A-pillar
- \_\_\_ (06) B pillar
- \_\_\_ (07) Door panel or side panel kick panel
- \_\_\_ (08) Roof
- \_\_\_ (09) Roof side rail
- \_\_\_ (10) Windshield header
- \_\_\_ (11) No intrusion of primary component

#### Other

- \_\_\_ (20) Steering column and instrument panel
- \_\_\_ (21) Steering column, instrument panel, and A pillar
- \_\_\_ (22) Instrument panel and A pillar
- \_\_\_ (23) A pillar and roof
- \_\_\_ (24) A pillar and any of the following: door panel, side panel, or B-pillar
- \_\_\_ (25) A pillar, roof, and windshield header
- \_\_\_ (26) Roof and any of the following: door panel, side panel, or B pillar
- \_\_\_ (27) Roof and windshield header
- \_\_\_ (97) Other combination of the above components (specify) \_\_\_\_\_
- \_\_\_ (98) Intrusion of unlisted component(s) (specify) \_\_\_\_\_
- \_\_\_ (99) Unknown

National Accident Sampling System - Continuous Sampling Subsystem Vehicle Data

64 Documentation of More Than Two CDC TDC's  
 \_\_\_ (1) Two or less coded CDC TDC's  
 \_\_\_ (2) More than two coded CDC TDC's 162

65 Vehicle Special Use (this trip)  
 \_\_\_ (0) No special use  
 \_\_\_ (1) Taxi  
 \_\_\_ (2) Vehicle used as school bus  
 \_\_\_ (3) Vehicle used as other bus  
 \_\_\_ (4) Military  
 \_\_\_ (5) Police  
 \_\_\_ (6) Ambulance  
 \_\_\_ (7) Fire  
 \_\_\_ (9) Unknown 164

66 Odometer Reading  
 \_\_\_\_\_ miles Code mileage to the nearest 1,000 miles  
 \_\_\_ (000) No odometer  
 \_\_\_ (001) Less than 1,500 miles  
 \_\_\_ (997) 996-500 miles or more  
 \_\_\_ (999) Unknown 0 0 0  
15 158 159

67 Passenger Compartment Integrity  
 \_\_\_ (0) No passenger compartment  
 \_\_\_ (1) No integrity loss  
 Yes integrity was lost through:  
 \_\_\_ (2) Windshield  
 \_\_\_ (3) Door (side)  
 \_\_\_ (4) Door (rear)  
 \_\_\_ (5) Roof  
 \_\_\_ (6) Windshield and door (side)  
 \_\_\_ (7) Side or rear window breakage  
 \_\_\_ (8) Other combination of above (specify) \_\_\_\_\_  
 \_\_\_ (9) Unknown 166

**FRONT OCCUPANT AREA INTRUSION**  
 (See reverse of preceding page for list of codes)

	Intruding Component	Magnitude of Intrusion
Driver Area Primary	68 <u>16</u> <u>162</u>	69 <u>163</u>
Driver Area Other	70 <u>164</u> <u>165</u>	71 <u>166</u>
Passenger Area Primary	72 <u>167</u> <u>168</u>	73 <u>169</u>
Passenger Area Other	74 <u>170</u> <u>171</u>	75 <u>172</u>

76 Steering Column Separation  
 \_\_\_ (0) No steering column  
 \_\_\_ (1) No - steering column did not separate  
 \_\_\_ (2) Yes - steering column separated  
 \_\_\_ (9) Unknown

77 Steering Rim Deformation  
 \_\_\_ (0) No steering rim deformation  
 \_\_\_ (1) Yes - steering rim deformation  
 \_\_\_ (9) Unknown

78 Fire Occurrence  
 \_\_\_ (0) No fire  
 Yes fire occurred  
 \_\_\_ (1) Started in vehicle - minor  
 \_\_\_ (2) Started in vehicle - major  
 \_\_\_ (3) Started external to vehicle - minor  
 \_\_\_ (4) Started external to vehicle - major  
 \_\_\_ (5) Origin unknown  
 \_\_\_ (9) Unknown

79 Type of Most Severe Impact This Vehicle  
 This Vehicle's Role  
 \_\_\_ (0) Nonimpact  
 \_\_\_ (1) Front of this vehicle  
 \_\_\_ (2) Left side of this vehicle  
 \_\_\_ (3) Right side of this vehicle  
 \_\_\_ (4) Rear of this vehicle  
 \_\_\_ (5) Other impact location (specify) \_\_\_\_\_  
 \_\_\_ (9) Unknown impact type

80 Role of Other Contacted Vehicle (Object or Person (for same impact as above))  
 \_\_\_ (0) Nonimpact  
 \_\_\_ (1) Front of other vehicle  
 \_\_\_ (2) Side of other vehicle  
 \_\_\_ (3) Rear of other vehicle  
 \_\_\_ (4) Intraunit damage  
 \_\_\_ (5) Other location on other vehicle (specify) \_\_\_\_\_  
 \_\_\_ (6) Object (stationary or nonstationary)  
 \_\_\_ (7) Pedestrian or nonmotorist  
 \_\_\_ (8) Motorcycle or moped  
 \_\_\_ (9) Unknown impact type

National Accident Sampling System - Continuous Sampling Subsystem Vehicle Data

NCI

RESTRAINT SYSTEM		Front Seat Left	Front Seat Middle	Front Seat Right	Second Seat Left	Second Seat Middle	Second Seat Right	Third Seat Left	Third Seat Middle	Third Seat Right	Other Position or Unit*
MANUAL	Availability	---	---	---	---	---	---	---	---	---	---
	Indication of Usage	---	---	---	---	---	---	---	---	---	---
AUTO-MATIC	Availability	---	---	---	---	---	---	---	---	---	---
	Function	---	---	---	---	---	---	---	---	---	---

Manual Restraint System Availability	Manual Restraint System Indication of Usage	Automatic Restraint System Availability	Automatic Restraint System Function
1 Not equipped 2 Air bag 3 Air bag (front) 4 Air bag (side) 5 Two-position air bag 6 Three-position air bag 7 Air bag (side/curtain) 8 Unknown type restraint system	1 Not equipped 2 Air bag 3 Air bag (front) 4 Air bag (side) 5 Two-position air bag 6 Three-position air bag 7 Air bag (side/curtain) 8 Unknown type restraint system	1 Not equipped 2 Air bag 3 Air bag (front) 4 Air bag (side) 5 Two-position air bag 6 Three-position air bag 7 Air bag (side/curtain) 8 Unknown type restraint system	1 Not equipped 2 Air bag 3 Air bag (front) 4 Air bag (side) 5 Two-position air bag 6 Three-position air bag 7 Air bag (side/curtain) 8 Unknown type restraint system

INDICATIONS OF EJECTION	Ejection Medium	Medium Status
1 Downside 2 Upside 3 Open roof structure 4 Eject window 5 Other medium type 6 Unknown 7 Operable windows 8 Roll-down type 9 Hinged type 10 Sliding type 11 Other type window	1 Operable 2 Separable 3 Closed, closed when damaged 4 Interior structure ripped open 5 Status unknown	1 Operable 2 Separable 3 Closed, closed when damaged 4 Interior structure ripped open 5 Status unknown

FRONT	CHECK ALL AREAS OF SUSPECTED OCCUPANT CONTACT	REAR
Wheel Motor Steering wheel Steering wheel hub/spoke Steering wheel combination of rim/hub/spoke Steering column/transmission selector lever/other attachment Additional equipment (e.g., CB, tape deck, air conditioner) Left instrument panel and bezel Center instrument panel and bezel Right instrument panel and bezel Other front object	INTERIOR Seat back support Belt restraint system Head restraint system Air cushion Other occupants Interior loose object Other interior object ROOF Front header Rear header Roll-over type Roll-over insensitive top FLOOR Floor Floor console mounted transmission lever including console Parking brake handle Floor controls including parking brake	Back light/rear window Back light storage rack door let Other rear object EXTERIOR OF OCCUPANT'S VEHICLE Nonvehicle Hood Outside hardware (e.g., outside mirror, antenna) Other exterior surface feature Unknown exterior objects CYCLE Handle bars or attachments Frame or suspension component or fender Seat Foot pedal/foot rest/foot pegs Wheel/tire Engine or transmission Gas tank/gas tank filling cap or neck Other cycle part

SIDE
Side interior surface (e.g., side panel) Side hardware (e.g., door) A-pillar B-pillar Other pillar Window glass/frame

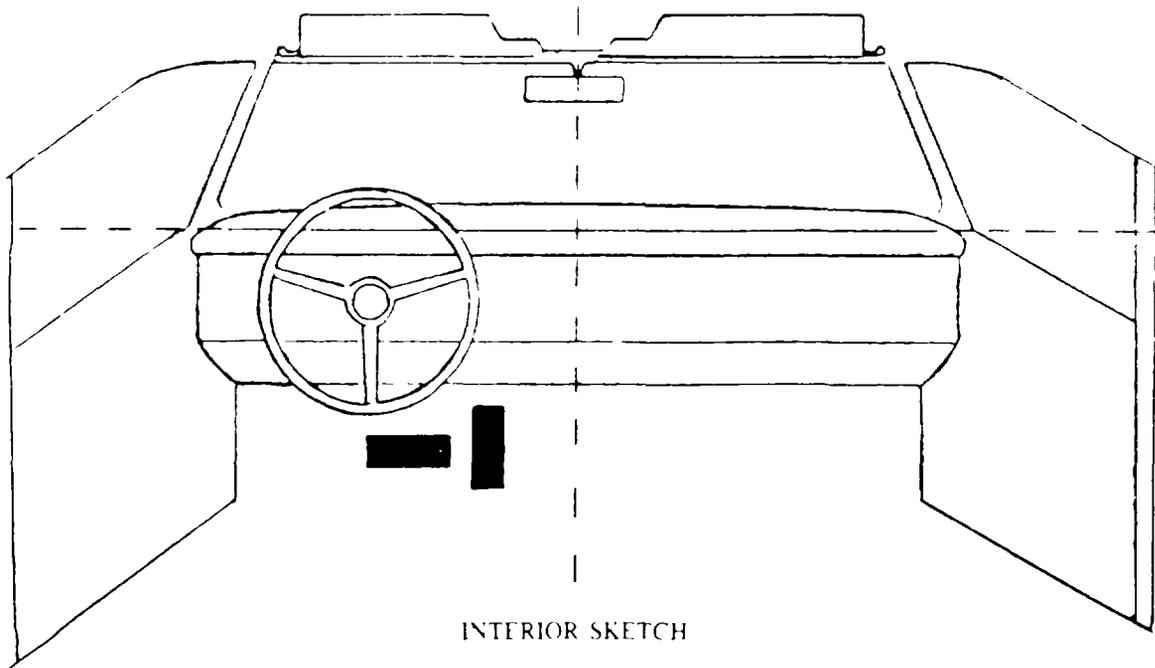
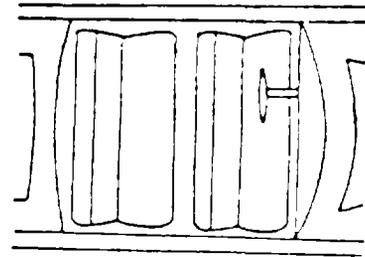
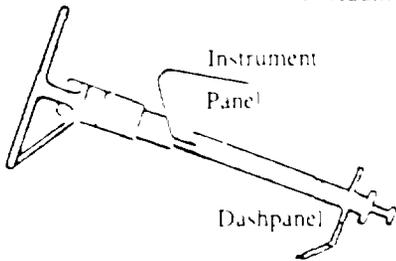
10

VEHICLE INTERIOR

POINTS OF OCCUPANT CONTACT

CONTACT	INTERIOR PART CONTACTED	SUPPORTING PHYSICAL EVIDENCE	Confidence Level of Contact Point
A			1 2
B			1 2
C			1 2
D			1 2
E			1 2
F			1 2
G			1 2
H			1 2

If Additional Contact Points Continue on Reverse Side



INTERIOR SKETCH

Sketch controls in appropriate positions if contacted. Sketch and describe all occupant contact points (i.e., dents, skin transfer, etc.) and code on preceding page. Dash lines indicate center of instrument panel-windshield area and top of panel for reference purposes.

Codes for Confidence Level of Contact Point are Certain 1 and possible 2

<p>81 Rollover</p> <p>___ (0) No rollover (no overturning)</p> <p>Rollover primarily about the longitudinal axis</p> <p>___ (1) Rollover, 1 quarter turn only</p> <p>___ (2) Rollover, 2 quarter turns</p> <p>___ (3) Rollover, 3 quarter turns</p> <p>___ (4) Rollover, 4 or more quarter turns (specify) _____</p> <p>___ (5) Rollover primarily about the lateral axis</p> <p>___ (9) Rollover (Overturn) details unknown <span style="float: right;">178</span></p> <p>82 Jackknife</p> <p>___ (0) Not an articulated vehicle</p> <p>___ (1) No jackknife</p> <p>___ (2) Yes prior to first impact for this vehicle</p> <p>___ (3) Yes after first impact but prior to last impact for this vehicle</p> <p>___ (4) Yes details unknown <span style="float: right;">179</span></p> <p>83 Hazardous Cargo</p> <p>___ (0) No hazardous cargo</p> <p>___ (1) Load of hazardous materials only (specify) _____</p> <p>___ (2) Load of hazardous and nonhazardous materials (specify) _____</p> <p>___ (9) Unknown <span style="float: right;">180</span></p> <p>NOTE (See coding manual for definitions and examples of hazardous materials)</p>	<p style="text-align: center;"><b>VEHICLE WEIGHT ITEMS</b></p> <p>84 Vehicle Curb Weight</p> <p>___ pounds Code weight to nearest 100 pounds</p> <p>___ (00) Less than 150 pounds</p> <p>___ (997) 99,650 lbs or more</p> <p>___ (999) Unknown <span style="float: right;">181 182 183 0 0</span></p> <p>Source _____</p> <p>85 Vehicle Cargo Weight</p> <p>___ pounds Code weight to nearest 100 pounds</p> <p>___ (000) Less than 50 pounds</p> <p>___ (997) 99,650 lbs or more</p> <p>___ (999) Unknown <span style="float: right;">184 185 186 0 0</span></p> <p>86 Investigator Reported Source of Cargo Weight</p> <p>___ (0) No cargo</p> <p>___ (1) Measured</p> <p>___ (2) Estimated</p> <p>___ (3) Rated capacity</p> <p>___ (9) Unknown source or weight <span style="float: right;">18</span></p> <p>Source _____</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



COMPLETED BY TEAM

Primary Sampling Unit Number \_\_\_\_\_

2 Case Number Stratification 3 4 5 6

3 Record Number 3  
7

4 Transaction Code 8

5 Version Number 9  
4

6 Investigator ID Number \_\_\_\_\_

VEHICLE INSPECTION

7 Vehicle Number \_\_\_\_\_  
12

8 Reason Vehicle Registration Records Are Not Obtainable  
 (0) Not required - vehicle inspected  
 (1) Records obtained  
 (2) Hit and run vehicle - no information  
 (3) Records not found  
 (4) Vehicle not registered  
 (5) Registration number not correct  
 (6) No information on vehicle  
 (7) Out of state - foreign vehicle  
 (8) To be updated  
 (9) Records not received before file closed

9 Date vehicle inspected and field data elements obtained 8  
14 15 16 17 18 19

10 Completing Person 20

11 Reason Vehicle Inspection Not Completed  
 (00) Not required  
 (01) Inspection completed  
 (02) Vehicle cannot be located  
 (03) Vehicle repaired or destroyed  
 (04) Vehicle outside of study area  
 (05) Vehicle impounded  
 (06) Vehicle sold  
 (07) Hit and run vehicle  
 (08) Owner could not be located  
 (09) Owner refusal  
 (10) Insurance company refusal  
 (11) Attorney refusal or litigation  
 (12) Repair or tow facility refusal  
 (13) Stolen  
 (14) Wrong name and address on PAR  
 (15) Interstate truck  
 (16) Commercial vehicle unavailable  
 (17) Other (specify) \_\_\_\_\_  
21 22

- 12 Reason Highest Total Delta V Unknown  
 (00) No reconstruction required  
 (01) Highest total delta V known based on CRASH damage data only  
 (02) Highest total delta V known based on CRASH damage and trajectory data  
 (03) Highest total delta V known based on Poles algorithm  
 (04) Highest total delta V known based on OLDMISS algorithm  
 (05) Rollover  
 (06) Other nonhorizontal force (e.g. vaulting)  
 (07) Sideswipe type damage severe override  
 (08) Vehicle out of scope pedestrian  
 (09) Yielding object (outside scope of poles algorithm)  
 (10) Other (e.g. animal) (specify) \_\_\_\_\_  
 (11) Insufficient data

- 13 Confidence in Reconstruction Program Results (for Highest Delta V)  
 (0) No reconstruction  
 (1) Collision fits model - results appear reasonable  
 (2) Collision fits model - results appear high  
 (3) Collision fits model - results appear low  
 (4) Borderline reconstruction - results appear reasonable

- 14 Reconstruction Program Output on Other than Highest Delta V  
 (0) No reconstruction program output for highest delta V or no reconstruction  
 (1) Yes - reconstruction program output on a secondary CDC

- 15 Data Obtained for this Vehicle's Most Severe Impact Regardless of Usage  
 (00) No data obtained  
 (01) CDC only  
 (02) TDC only  
 (03) Crush profile\* only (outside scope of CDC/TDC)  
 (04) Trajectory data only  
 (05) CDC and crush profile only  
 (06) TDC and crush profile only  
 (07) CDC and trajectory  
 (08) TDC and trajectory  
 (09) Crush profile\* (outside scope of CDC/TDC) and trajectory  
 (10) CDC, crush profile and trajectory  
 (11) TDC, crush profile and trajectory  
 (12) Other (specify) \_\_\_\_\_

\*For vehicles outside the scope of CDC/TDC, crush profile means damage sketch and applicable measurements

- 16 Submission of Potential Safety Problem Bulletin  
 (0) No  
 (1) Yes

COMPLETED BY ZONE CENTER

17 Use of Measurement Stands  
 \_\_\_ (0) No vehicle inspection  
 \_\_\_ (1) Vehicle inspected stands required used correctly  
 \_\_\_ (2) Vehicle inspected stands required used incorrectly  
 \_\_\_ (3) Vehicle inspected stands required not used  
 \_\_\_ (4) Stands not required  
30

18 Damage Measurements  
 \_\_\_ (0) No vehicle inspection  
 \_\_\_ (1) Vehicle inspected measurements required complete and correct  
 \_\_\_ (2) Vehicle inspected measurements required obtained incomplete measurements  
 \_\_\_ (3) Vehicle inspected measurements required obtained measurements incorrect  
 \_\_\_ (4) Vehicle inspected measurements required not obtained  
 \_\_\_ (5) Measurements not required  
31

19 Post Crash Baseline Measurements  
 \_\_\_ (0) Vehicle not inspected  
 \_\_\_ (1) Vehicle inspected measurements correct and completed  
 \_\_\_ (2) Vehicle inspected obtained incomplete measurements  
 \_\_\_ (3) Vehicle inspected obtained measurements incorrectly  
 \_\_\_ (4) Vehicle inspected measurements not obtained  
 \_\_\_ (5) Measurements not required  
32

20 Vehicle Damage Diagram Documentation  
 \_\_\_ (0) Vehicle not inspected  
 \_\_\_ (1) Vehicle inspected correct and complete documentation  
 \_\_\_ (2) Vehicle inspected incomplete documentation  
 \_\_\_ (3) Vehicle inspected incorrect documentation  
 \_\_\_ (4) Vehicle inspected no documentation  
 \_\_\_ (5) No documentation required  
33

21 Occupant(s) Contacts  
 \_\_\_ (0) Vehicle not inspected  
 \_\_\_ (1) Vehicle inspected contacts visible documented correctly and completely  
 \_\_\_ (2) Vehicle inspected contacts visible incomplete documentation  
 \_\_\_ (3) Vehicle inspected contacts visible documented incorrectly  
 \_\_\_ (4) Vehicle inspected contacts visible no documentation  
 \_\_\_ (5) Vehicle inspected no contacts visible  
 \_\_\_ (6) Vehicle interior not inspected  
 \_\_\_ (7) No documentation required  
34

22 Date Official Record Update Received  
35 36 37 38 39 40

23 Reviewed By  
41 42

24 Reconstruction Documentation  
 \_\_\_ (0) Reconstruction not applicable  
 Reconstruction applicable  
 \_\_\_ (1) PSU results accurate  
 \_\_\_ (2) Minor corrections to PSU results by Zone Center  
 \_\_\_ (3) Major corrections to PSU results by Zone Center  
 \_\_\_ (4) No PSU results computer run added by Zone Center  
 \_\_\_ (5) PSU reconstruction deleted by Zone Center  
 \_\_\_ (6) No PSU results incomplete data prevents Zone Center Run  
43

ERROR TALLY (Completed By Zone Center)

Blank	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
01 RDE system error	Response	<u>44</u>	<u>45</u>	<u>46</u>	<u>47</u>	<u>48</u>	<u>49</u>	<u>50</u>	<u>51</u>	<u>52</u>	<u>53</u>	<u>54</u>	<u>55</u>	<u>56</u>	<u>57</u>	<u>58</u>	<u>59</u>	<u>60</u>
02 Error in measurements	Response	<u>61</u>	<u>62</u>	<u>63</u>	<u>64</u>	<u>65</u>	<u>66</u>	<u>67</u>	<u>68</u>	<u>69</u>	<u>70</u>	<u>71</u>	<u>72</u>	<u>73</u>	<u>74</u>	<u>75</u>	<u>76</u>	<u>77</u>
03 Error in corrections	Response	<u>78</u>	<u>79</u>	<u>80</u>	<u>81</u>	<u>82</u>	<u>83</u>	<u>84</u>	<u>85</u>	<u>86</u>	<u>87</u>	<u>88</u>	<u>89</u>	<u>90</u>	<u>91</u>	<u>92</u>	<u>93</u>	<u>94</u>
06 Sequencing errors	Response	<u>95</u>	<u>96</u>	<u>97</u>	<u>98</u>	<u>99</u>	<u>100</u>	<u>101</u>	<u>102</u>	<u>103</u>	<u>104</u>	<u>105</u>	<u>106</u>	<u>107</u>	<u>108</u>	<u>109</u>	<u>110</u>	<u>111</u>
08 CDC's or in-cy data	Response	<u>112</u>	<u>113</u>	<u>114</u>	<u>115</u>	<u>116</u>	<u>117</u>	<u>118</u>	<u>119</u>	<u>120</u>	<u>121</u>	<u>122</u>	<u>123</u>	<u>124</u>	<u>125</u>	<u>126</u>	<u>127</u>	<u>128</u>
09 Unknown task field error	Response	<u>129</u>	<u>130</u>	<u>131</u>	<u>132</u>	<u>133</u>	<u>134</u>	<u>135</u>	<u>136</u>	<u>137</u>	<u>138</u>	<u>139</u>	<u>140</u>	<u>141</u>	<u>142</u>	<u>143</u>	<u>144</u>	<u>145</u>
0A Hardware change with no error not automated	Response	<u>146</u>	<u>147</u>	<u>148</u>	<u>149</u>	<u>150</u>	<u>151</u>	<u>152</u>	<u>153</u>	<u>154</u>	<u>155</u>	<u>156</u>	<u>157</u>	<u>158</u>	<u>159</u>	<u>160</u>	<u>161</u>	<u>162</u>

Variable Name: Investigator I.D. Number

Format 1 column - numeric

Beginning  
Column 10

Element Values

Range 1 through 9

Source Zone Center

Remarks

The person who was primarily responsible for the completion of the Vehicle Form shall enter his/her unique number.

Each researcher's unique number is assigned by the PSU's Zone Center.

This variable is a mandatory variable and cannot be changed.

Variable Name Vehicle Number

Format 2 columns - numeric

Beginning  
Column 11

Element Values

Range 01 through 30

Source PAR

Remarks

Numbers assigned to vehicles must be consecutive starting with 01 with no missing numbers. Each motor vehicle in transport must be assigned a unique number. Vehicle numbers are to be assigned consecutively according to the order NASS vehicles are listed on the PAR. If there are any NASS vehicles not listed on the PAR then use the next consecutive number as the investigator determines.

In the instance where one motor vehicle is towing another, the vehicle number or numbers assigned depends on the accident circumstances and the type of linkage between the vehicles. If the linkage between the vehicles is fixed (e.g. tow bar, cradle, etc.), then the combination is one vehicle.

If either component is involved in the accident, the power unit component is assigned a vehicle number. If the linkage is nonfixed (e.g. rope, chain, etc.), then assign a vehicle number to each component involved in the accident. If the linkage is nonfixed, then each vehicle is considered to be in transport. A fixed linkage is defined as one which has the property of keeping the towed unit separated from the power unit by a distance which is essentially constant. Included within this definition are cradle linkages where the towed unit has two or more wheels off the ground.

Do not assign a number to any struck motor vehicle not in transport (e.g. a vehicle parked out of the roadway). A Vehicle Form is not completed for these vehicles, nor is a Driver Form to be completed. Any occupants they contain, including a person who was intent on driving the vehicle, are to be handled using the Pedestrian & Nonmotorist Form. However, the vehicle should be shown on the accident diagram and referred to as P-1, etc. Also, data which may be required to exercise the CRASH program is to be collected. The necessary data questions are located at the bottom of the second page of the CRASH Program Summary.

Variable Name: Number of Occupant Forms Submitted

Format: 2 columns - numeric

Beginning  
Column 13

Element Values:

Range: 00 through 50  
97 97 or more

Source: Researcher determined -- inputs include police report, vehicle inspection, driver interviews, and other interviewees.

Remarks.

Code only the number of occupants in this vehicle for which an Occupant Form was submitted.

The value coded here should agree with the value coded on variable D08, Number of Occupants This Motor Vehicle, unless: (1) the actual number of occupants in this vehicle is unknown (D08 equal "99"), or (2) this vehicle qualifies under the "special bus rule" cited in section 4.2, page 4

Code "01" (one occupant) is used in the case of a hit-and-run vehicle, where it is assumed that only one occupant/driver was present. Additional Occupant Forms (and thus the number coded here) can be submitted if reliable evidence exists that additional occupants were present.

This variable is a mandatory variable and cannot be changed.

Variable Name. Vehicle Role

Format: 1 column - numeric

Beginning  
Column 15

Element Values

0	Noncollision
1	Striking unit
2	Struck unit
3	Both striking and struck
9	Unknown

Source Researcher determined from all available information

Remarks

Code "0" (Noncollision) only when the noncollision occurred first, even if subsequent impacts occurred. Noncollision includes overturned (which includes overturning motorcycles), fire/explosion, jackknifed, or immersion. A vehicle that sets an object (e.g., cargo, spewed gravel, etc.) in motion which strikes or is struck by another motor vehicle prior to stabilization of the object is coded as "0". The other motor vehicle (if in transport) is either a striking unit ("1") or a struck unit ("2") depending on whether or not the unit is in motion or stationary.

A vehicle must be in motion to be a striking vehicle. If the vehicle was not in motion then it was struck. If a vehicle in motion contacts an object with its leading end and/or side (including an object that was set in motion by another motor vehicle), then the vehicle is striking.

If a vehicle in motion contacts another vehicle, pedestrian, or nonmotorist with its leading end, and/or side, then the vehicle is striking. For example, in a head-on collision both vehicles are striking. If a vehicle is moving forward and is not in rotation and contacts another vehicle, pedestrian, or nonmotorist with other than its front (with one exception), then the vehicle is struck. The exception is for sideswiping vehicles. Both sideswiping vehicles are striking. Sideswiping includes front or rear endswipes.

For a vehicle to be both striking and struck it must sustain two impacts such that they did not occur with the same vehicle (e.g., side-slap), object, pedestrian, or nonmotorist. If the impacts occurred at the same location on this vehicle, they must have occurred at different points in time in the accident sequence. The classical example of a vehicle which is both striking and struck is the chain reaction rear-end where the vehicle which is striking and struck is located within the chain.

A vehicle that impacts an object and sends that object into another vehicle, or another vehicle's path, is coded as "1", striking unit.

VEHICLE FORM (V09)

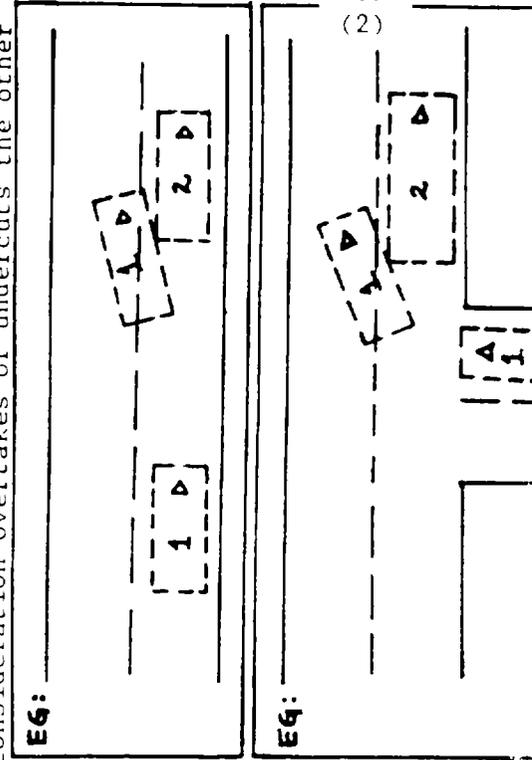
OTHER VEHICLE/OBJECT/ Pedestrian or Nonmotorist	MOTOR VEHICLE UNDER CONSIDERATION (BEING INSPFC I/D)			NOT TRACKING (Significant yaw and/or Rotation) Other than its Leading End and/or Side <sup>2</sup> is Contacted
	STATIONARY	CONTACT IS TO OTHER THAN ITS LEADING END <sup>1</sup>	CONTACTS ITS LEADING END AND/OR SIDE <sup>2</sup>	
VEHICLE IN MOTION	STRUCK	STRUCK <sup>3</sup>	STRUCK <sup>3</sup>	STRUCK
OBJECT IN MOTION	STRUCK	STRUCK <sup>3</sup>	STRUCK <sup>3</sup>	STRUCK
STATIONARY VEHICLE OR OBJECT	Should Not Apply	STRUCK	STRUCK	Should Not Apply
PEDESTRIAN OR NON-MOTORIST	STRUCK	STRUCK <sup>3</sup>	STRUCK <sup>3</sup>	STRUCK

- Leading End (Tracking): That end (Back or Front) of the vehicle under consideration which passes over a section of terrain before its opposite end.
- Leading End and/or Side (Not Tracking): That end and/or side (Back, Front, Left or Right) of the vehicle under consideration which passes over a section of terrain before its opposite end and/or side.

3. Exception: Code "Striking" in those cases where the vehicle under consideration overtakes or undercuts the other vehicle/object/pedestrian or nonmotorist.

a. Overtaking: The vehicle under consideration is passing the other vehicle/object/pedestrian or nonmotorist and contacts the other vehicle/object/pedestrian or nonmotorist with its side.

b. Undercutting: The vehicle under consideration "cuts a corner" or turns in such a manner as to contact with its side the other vehicle/object/pedestrian or nonmotorist which is stationary or moving in the same general direction.



Variable Name Manner of Leaving Scene (Determined by Investigator)

Format: 1 column - numeric

Beginning  
Column 16

Element Values.

- 1 Driven
- 2 Towed - due to vehicle damage
- 3 Towed not due to vehicle damage
- 4 Towed - details unknown
- 5 Abandoned
- 9 Unknown

Source Researcher determined -- inputs include vehicle inspection, interviewees, wrecker operators, police report.

Remarks

This variable measures the disposition of the vehicle or power unit of an articulated combination at the accident scene

The source of information for selecting an element value is the researcher, based on his/her final information which may be different from the police report.

Code "2" (Towed - due to vehicle damage) refers to any towing which is due to disabling damage caused by this accident which prohibits vehicle movement under its own power.

Code "3" (Towed - not due to vehicle damage) refers to those cases where the towing results from other than damage (e g , mired vehicles, driver arrested, etc )

Code "4" (Towed - details unknown) refers to any towing, the reason for which is unknown In other words, a vehicle is towed but it cannot be determined whether it was due to damage or for other reasons

For E stratum cases, vehicles which are discovered later to have been towed but which are not reported as such on the police report, are to be coded either "2" (Towed - due to vehicle damage), "3" (Towed - not due to vehicle damage), or "4" (Towed - details unknown)

Code "5" (Abandoned) should only be used when all the information available to the researcher, at the time of case submission, indicates that the vehicle still remained at the scene

Remember, if the case was stratified under Case Number -- Stratification (A02) as E stratum, then the form entitled "Vehicle For Nontowaway Accident Form", is required for all vehicles in the case This form requires no inspection and must be used even if it is subsequently

Variable Name: Manner of Leaving Scene (Determined by Investigator) [cont'd.]

learned that one of the involved vehicles was towed. Conversely, cases originally stratified as other than stratum E require that all vehicles be inspected using the Vehicle Form. This is true even if it is subsequently learned that none of the involved vehicles were towed.

Consider the following examples.

If a vehicle is involved in a previous accident (stabilization had occurred) and is then involved in another accident (in transport because on roadway) and finally is towed from the scene but not because of the damage sustained in the second impact, then code "3" (Towed - not due to vehicle damage) is used.

If a motorcycle is walked home [or a car pushed (by hand or by another car)] after the accident, then consider the motorcycle towed. If it was walked home because it was not driveable, then code "2" (Towed - due to vehicle damage)

A vehicle is driven from a scene and subsequently breaks down. It is towed from that location. That towing may have been a result of the damage sustained in the accident. Even if the subsequent towing was due to damage, code "1" (Driven) for this vehicle.

Variable Name: Hit and Run Involvement

Format 1 column - numeric

Beginning  
Column 17

Element Values:

- 0 No hit-and-run
- 1 Yes - hit and run involved vehicle

Source. Primary source is the police report, the researcher can determine if the police report contains an omission or a commission and modify accordingly.

Remarks

A hit-and-run may occur when a motor vehicle in transport has contact with. (a) another motor vehicle in transport, (b) a motor vehicle not in transport, (c) a motor vehicle not in transport which contains a nonmotorist, (d) a pedestrian, (e) pedalcyclist, (f) another nonmotorist, or (g) an object. Hit-and-run is only considered when a motor vehicle in transport, or its driver, departs from the scene; therefore, fleeing pedestrians and motor vehicles not in transport are excluded

It does not matter whether the hit-and-run vehicle was striking or struck. The hit-and-run vehicle(s) is (are) the one(s) that departed prior to investigation by the police, or that vehicle which is abandoned at the scene when its occupant(s) fled from the area (see exceptions below). If the police report indicates that the vehicle was involved in a collision which was investigated, but there is little or no information on that vehicle because of its departure prior to police arrival on-scene, then "hit-and-run" should be indicated.

Exceptions to this "departed prior to investigation by the police" rule exist. One exception occurs if an occupant, or occupants, of a vehicle are taken, or go, directly from the scene to a medical treatment facility or physician. If doubt exists concerning the departure for treatment, assume hit-and-run. A second exception involves a driver who leaves the scene but furnishes name, address, vehicle make, model, and model year such that it is recorded on the PAR, and the PAR does not indicate hit-and-run. No hit-and-run (code "0") is to be coded in this instance independent of the truthfulness of the information provided. A third exception involves vehicles which set an object in motion such that (1) the object is contacted by another motor vehicle in transport before it stabilizes, and (2) the vehicle which set the object in motion leaves the scene without providing the pertinent information (compare with exception two above), and (3) the PAR does not indicate hit-and-run. In this instance code "0" (No hit-and-run) is to be used, however, if the PAR had indicated hit-and-run, then code "1" (Yes - hit-and-run involved vehicle) should be used.

Variable Name: Hit and Run Involvement (cont'd.)

Code "1" (Yes - hit and run involved vehicle) when it has been determined that a hit and run (as defined in paragraphs one through three of this variable) has occurred.

When the presence of a hit-and-run vehicle is indicated (V11 equals code "1"), the NASS researcher should include Vehicle and Driver Forms for each such vehicle. If the vehicle was known or assumed to have been in transport at the time of the accident, at least one Occupant Form should be completed. If it can be determined from reliable source that a vehicle contained "x" number of occupants or nonmotorists (departed scene but was not in transport at time of impact) at the time of its involvement, then submit the appropriate number of forms (Occupant or Pedestrian and Nonmotorist). Although most of the variables on the forms will have element values which are unknown, the forms are necessary to document the presence of the vehicle(s) and its person(s).

Hit-and-run (code "1") can also be used if it is alleged by one of the involved parties that another vehicle, not reported by the police, was involved in the accident. However, the allegation must be supported by statements to this effect from an unbiased witness or from the existing physical evidence. An unsupported claim by one of the parties that a hit-and-run vehicle was involved should be coded as no hit-and-run ("0").

If the PAR indicates the presence of a hit-and-run vehicle, but the NASS researcher learns during the investigation that the allegation of the involvement of a hit-and-run vehicle was fabricated, then any information about the fabricated vehicle can be dropped. Caution must be used in this instance. The dropping of a police-reported vehicle must be based on an interviewee's admission or upon reliable evidence collected. Suspicion of falsehood is not an acceptable justification

Variable Name Vehicle Model Year

Format: 2 columns - numeric

Beginning  
Column 18

Element Values:

Range. 60 through 87

Code the last two digits of the model year for which the vehicle was  
manufactured

99 Unknown

Source Primary source is the VIN during vehicle inspection; secondary  
sources include registration, police report, and interviewees

Remarks:

A vehicle manufactured as a 1986 model is to be coded as "86."

Variable Name: Vehicle Make

Format: 2 columns - numeric

Beginning  
Column 20

Element Values:

Automobile

01	American Motors	39	Jaguar
02	Jeep (includes AMC-Jeep, Kaiser)	40	Lancia
03	AM General	41	Mazda
		42	Mercedes Benz
		43	MG
06	Chrysler	[18]	Opel
07	Dodge	44	Peugeot
08	Imperial	45	Porsche
09	Plymouth	46	Renault
		47	Saab
		48	Subaru
12	Ford	49	Toyota
13	Lincoln	50	Triumph
14	Mercury	51	Volvo
		52	Mitsubishi
		53	Suzuki
18	Buick (includes Opel)	59	Other foreign
19	Cadillac	<u>V14</u>	
20	Chevrolet	31	Aston Martin
21	Oldsmobile	32	Bricklin
22	Pontiac	33	Citroen
23	GMC	34	Delorean
		35	Ferrari
		36	Hillman
29	Other domestic	37	Jensen
	<u>V14</u>	38	Lamborghini
	01 Studebaker/Avanti	39	Lotus
	02 Checker	40	Maserati
	28 Other domestic (e.g., Desoto)	41	Morris
		42	Rolls Royce/Bentley
30	Volkswagen (domestic and foreign)	43	Rover
31	Alfa Romeo	44	Simca
32	Audi	45	Sunbeam
33	Austin/Austin Healey	46	TVR
34	BMW	47	Daihatsu
35	Datsun	48	Destra (APV-utility)
36	Fiat	49	Reliant (British)
37	Honda	50	Yugo
38	Isuzu	51	Hyundai
		58	Other foreign (e.g., Morgan, Singer)

Variable Name. Vehicle Make (cont'd.)

Motored Cycles

[34] BMW  
 60 BSA  
 61 Ducati  
 62 Harley-Davidson  
 [37] Honda  
 64 Kawasaki  
 64 Moto-Guzzi  
 65 Norton  
 [53] Suzuki  
 [50] Triumph  
 67 Yamaha  
 69 Other

0) Mo-ped (all mo-peds whose  
 manufacturer is not specifically  
 listed above)

[48] Subaru  
 [49] Toyota  
 [30] Volkswagen  
 [51] Volvo  
 88 White  
 95 Other  
V14  
 01 Autocar  
 02 Auto-Union-DKW  
 03 Divco  
 04 Western Star  
 05 IVECO  
 88 Other truck or  
 bus(e.g , Oshkosh)

Trucks and Busses

[03] AM General  
 80 Brockway  
 [20] Chevrolet  
 81 Diamond Reo or Reo  
 [35] Datsun  
 [07] Dodge  
 12 Ford  
 82 Freightliner or White Freightliner  
 83 FWD  
 [23] GMC  
 84 International Harvester  
 38 Isuzu  
 [02] Jeep  
 85 Kenworth  
 86 Mack  
 [41] Mazda  
 [42] Mercedes Benz  
 [52] Mitsubishi  
 87 Peterbilt  
 [09] Plymouth

Other make

98 Other make (use codes  
 29, 59, 69, 70, or 95  
 if applicable)

Unknown make

99 Unknown make

0) The brackets mean that the make's  
 number has been previously listed

Variable Name: Vehicle Make (cont'd.)

## Alphabetical Listing of Makes

31	Alfa Romeo	82	Freightliner or	61	Moto-Guzzi
03	AM General		White Freightliner	65	Norton
01	American Motors	83	FWD	21	Oldsmobile
5931	Aston Martin	23	GMC	18	Opel
32	Audi	62	Harley-Davidson	87	Peterbilt
33	Austin	5936	Hillman	44	Peugeot
34	BMW	37	Honda	09	Plymouth
5932	Bricklin	5951	Hyundai	22	Pontiac
80	Brockway	84	International	45	Porsche
60	BSA		Harvester	5949	Reliant (British)
18	Buick	38	Isuzu	46	Renault
19	Cadillac	39	Jaguar	5942	Rolls Royce/Bentley
2902	Checker	02	Jeep	5943	Rover
20	Chevrolet	5937	Jensen	47	Saab
06	Chrysler	63	Kawasaki	5944	Simka
5933	Citroen	85	Kenworth	2901	Studebaker/Avanti
35	Datsun	5938	Lamborghini	48	Subaru
5934	Delorean	40	Lancia	5945	Sunbeam
5948	Desta (APV- utility)	13	Lincoln	53	Suzuki
5947	Diahatsu	5939	Lotus	50	Triumph
81	Diamond Reo or Reo	86	Mack	49	Toyota
		5940	Maserati	5946	TVR
07	Dodge	41	Mazda	30	Volkswagen
61	Ducati	42	Mercedes-Benz	51	Volvo
5935	Ferrari	14	Mercury	88	White
36	Fiat	43	MG	67	Yamaha
12	Ford	52	Mitsubishi	5950	Yugo
		5941	Morris		

Source: Primary source is the VIN during vehicle inspection; secondary sources include the police report, interviewees, and vehicle registration files

## Remarks:

Please write the Vehicle Make of the vehicle in the available space for ready visual reference, even though the information is incorporated in the Make Code.

V13  
(4)

Variable Name. Vehicle Make (cont'd )

The Make codes are organized into general groups These groups are.

01-29 - Domestic automobiles  
 30-59 - Foreign automobiles  
 60-70 (34, 37, 50, 53) - Motored Cycles  
 80-88 (02, 03, 07, 09, 12, 20, 23, 30, 35, 38, 41, 42, 48, 49, 51) -  
     Trucks and Buses  
 29, 59, 69, 70, 95, 98 - Other  
 99 - Unknown

If the make of the vehicle is unknown and is not listed as one of the specific attributes, select an "other" code based upon the vehicle's body type (V17) Reference table below.

<u>V13</u>	<u>Vehicle Make</u>	<u>V14</u>	<u>Vehicle Model</u>	<u>17</u>	<u>Body Type</u>
29	Other domestic automobile	01, 02, 28		01-13	
59	Other foreign automobile	31-46, 58		01-13	
69	Other motored cycle (except Moped)	61-68		20, 28, 29	
70	Other Moped	61, 62		21	
95	Other Truck/Bus	01-04, 78, 88		30-79	
98	Other	97		80-89, 99	

If the make of a vehicle is known, but the model is not, then code Vehicle Model (V14) as "99" (unknown).

If the make and model of a vehicle is not known but the body style is known (e.g. hit-and-run vehicle), then code Vehicle Make (V13) and Vehicle Model (V14) as "99" (unknown) and Body Type (V17) as "01-06, 08-13, 20-21, 28-32, 38-42, 48-56, 58-59, 69-75, 77-83, 88-89".

If no information is available for a vehicle then Vehicle Make (V13), Vehicle Model (V14), and Body Style (V17) will all be coded "99" (unknown)

V13, Vehicle Make, V14, Vehicle Model, and V17, Body Style, have to be used in conjunction, therefore, refer to remarks for V14 and V17

Variable Name: Vehicle Model

Format: 2 columns - numeric

Beginning  
Column 22

Element Values:

<u>Model Code</u>	<u>Vehicle Line</u>	<u>Includes</u>	<u>Model Years</u>
<u>American Motors (01)</u>			
01	Rambler/American	Rogue, 220, 440, Scrambler	
02	Rebel/Matador	550,770,660, Classic, Brougham, Barcelona x, Marlin	
03	Ambassador	880,990, SST, DPL, Brougham	
04	Pacer	DL, Limited	
05	AMX	(2-seater)	68-70
06	Javelin	SST, AMX (1971-1974)	
07	Hornet/Concord	SST, Sportabout, AMX (1975-1978), Limited, DL, SC 360	
08	Spirit/Gremlin	Limited, DL, Custom, AMX (1979 on), GT (1983 on)	
09	Eagle	DL, Limited	80 on
10	SX4/Kamback	DL, Limited	81 on
*	Alliance/Encore		
28	Other (domestic automobile)		
72	Espace (Mini-Van)		
99	Unknown		
<u>Jeep (02)</u>			
01	CJ-2/CJ-3/CJ-4	Military	
02	CJ-5/CJ-6/CJ-7/ CJ-8	Scrambler, Golden Eagle, Renegade, Laredo	
71	Cherokee	Wide Track Chief, Commando, Jeepster	
73	Pick-up	J-10, J-20, Honcho	
76	Wagoneer	Custom, Brougham Limited	
77	Comanche		86 on
78	Other (light truck)		
28	Other (domestic automobile)		
99	Unknown		

\* See Renault

Variable Name. Vehicle Model (cont'd.)

Model Code	Vehicle Line	Includes	Model Years
------------	--------------	----------	-------------

AM General (03)

01	Dispatcher	Post Office (Jeep)	
75	Dispatcher	DJ-Series, Post Office Delivery (Van)	
87	Bus (rear engine)	Transit	
88	Other (truck)	Military off-road	
28	Other (domestic automobile)		
99	Unknown		

Chrysler (06)

07	LeBaron	S, Medallion, Salon, GTS	77 on
09	Cordoba	Crown, 300, LS	
10	Newport/New Yorker	Town and Country, Brougham, Custom, Royal, 300 (through 1971)	thru 82
14	E-Class	New Yorker, Fifth Ave.	83 on
15	Laser	Turbo, XE, XT	84 on
28	Other (domestic automobile)		
31	Maserati Sport		87 on
99	Unknown		

Dodge (07)

01	Dart	170,270, Custom, GT, Swinger, Sport, Demon, 340,360, Special, Special Edition	
02	Coronet/Charger/Magnum	Brougham, Custom, Super Bee, Crestwood, Deluxe, XE, R/T, 440,500	
03	Polara/Monaco	Custom, Special, Police, Taxi, Crestwood, Brougham	
04	Royal Monaco		
05	Challenger	R/T, T/A, Rallye	70-74
06	Aspen	Custom, Special Edition, Police	
07	Diplomat	Medallion, "S", Salon	
08	Omni	024, De Tomaso, Miser, Charger 2.2, Custom, Shelby, GLH	
09	Mirada		
10	St Regis		
11	Aries (K)	Custom, SE	
12	400	LS	
13	Rampage (car based pick-up)	2 2	

Variable Name: Vehicle Model (cont'd.)

Model Code	Vehicle Line	Includes	Model Years
<u>Dodge</u> (07) (cont'd.)			
14	600	ES	83 on
15	Daytona	Turbo, Z	84 on
16	Lancer	Pacifica	
17	Shadow		86 on
33	Challenger-foreign		78 on
34	Colt	GT, Custom, Carousel, RS	
35	Conquest		86 on
43	Colt Pickup, Vista Van	Power Ram, Ram 50	
71	Ramcharger	Ram	
72	Caravan	S-Van, Mini Ram Van	84 on
73	B, W-Series Pickup	Ram, Custom, Royal, Miser	
74	Van	Sportsman Van, Royal, Maxiwagon, Ram	
75	Van Derivative	Karivan	
77	Dakota/D50		
81	Medium/Heavy: CBE		
82	Medium/Heavy: COE, low entry		
83	Medium/Heavy: COE, high entry		
84	Medium/Heavy: unk. engine location		
85	Medium: Bus (not van based)		
88	Other (truck)		
28	Other (domestic automobile)		
90	Medium/Heavy: COE, unk. entry position		
99	Unknown		
<u>Imperial</u> (08)			
10	Imperial	Imperial LeBaron	thru 75
28	Other (domestic automobile)		
99	Unknown		
<u>Plymouth</u> (09)			
01	Valiant/Duster/ Scamp	100,200, Taxi, Brougham, Signet, Custom, Special 340, Special 360 340, 360	thru 76

## Variable Name Vehicle Model (cont'd.)

Model Code	Vehicle Line	Includes	Model Years
<u>Plymouth</u> (09) (cont'd )			
02	Satellite/ Belvedere	Belvedere I, II, GTX, Road Runner (through 1974), Brougham, Sebring, Sebring Plus, Superbird	
03	Fury	I, II, III, Road Runner (1975), Suburban, Salon, VIP, Sport	
04	Gran Fury	Sedan, Brougham, Custom, Sport, Suburban	
05	Barracuda	Formula "S", 340, Gran Coupe, AAR Cuda	
06	Volare	Custom, Premier, Road Runner (1976 on), Police	
07	Caravelle		
08	Horizon	TC-3, Turismo, Miser, Turismo 2.2, Custom, SE, Duster	
11	Reliant (K)	Custom, SE	
13	Scamp (car based pick-up)	GT	82 on
17	Sundance		86 on
31	Cricket		
32	Arrow	GS, GT, Fire Arrow	
33	Sapporo		
34	Champ/Colt	Custom	
35	Conquest		
71	Trailduster		
72	Vovager	S-Van	84 on
74	Van (Vovager)	Sport, Premier	
77	Arrow pickup (foreign)		
78	Other (light truck)		
78	Other (domestic automobile)		
99	Unknown		
<u>Ford</u> (12)			
01	Falcon	Falcon-Futura (through 1969)	thru 70
02	Fairlane	500, 500 XL, Fairlane-Torino (1968-70)	thru 70
03	Mustang/Mustang II	Mach I, Boss, Grande, Cobra, Cobra II, Ghia, SV0, GT	
04	Thunderbird	All sizes, Town Landau, Heritage	
05	LTD II	Squire, Brougham	77-79
06	LTD/Galaxy Custom	XL, Landau, Ranch Wagon, County Squire, S, 500, 500 XL, Brougham, Crown Victoria (81 and 82)	
07	Ranchero (car based pick-up)	500, GT, Squire, Custom	

## VEHICLE FORM

V14  
(5)

Variable Name: Vehicle Model (cont'd.)

Model Code	Vehicle Line	Includes	Model Years
<u>Ford</u> (12) (cont'd )			
08	Maverick	Grabber	70-77
09	Pinto	MPG, Pony, ESS	71-80
10	Torino/Gran Torino	Elite, GT, Cobra, Sport, Squire, Brougham	71-76
11	Granada	Ghia, L, GL, GLX	75 on
12	Fairmont	Fairmont-Futura (1978-1981)	78 on
13	Escort	L, GL, GLX, SS, GT	81 on
14	EXP	Turbo	82 on
15	Tempo	L, GL, GLX, Sport 4x4	83 on
16	Crown Victoria		83 on
17	Taurus		86 on
31	English Ford	(e.g., Cortina)	
32	Fiesta		78-80
33	Laser	GL Ghia, GL Sport	83 on
70	Bronco II	Ranger based	83 on
71	Bronco	Full size truck based	
72	Aerostar		
73	F-Series Pickup	F-100 to F-350	
74	Van	E-Series, Econoline, Club Wagon, Chateau, Cutaway based (e.g., box van, van bus/RV)	
75	Van derivative	Parcel	
77	Ranger	Super Cab, Courier (Import)	82 on
78	Other (light truck)		
81	Medium/Heavy CBE	F-500 through F-800, L/LN/LNT/LT/LS/LTS-series, FT8000, FT800D, FT800	
82	Medium/Heavy COE low entry	C/CT-series	
83	Medium/Heavy: COE, high entry	C/CLT-series	
84	Medium/Heavy: unk. engine location		
85	Medium Bus	B-series (not van based)	
88	Other (truck)		
90	Medium/Heavy. COE, unk. entry position		
28	Other (domestic automobile)		
99	Unknown		

Variable Name: Vehicle Model (cont'd.)

Model Code	Vehicle Line	Includes	Model Years
<u>Lincoln</u> (13)			
01	Lincoln	Lincoln Continental (thru 81), Town Car (82 on)	
02	Mark	I, II, III, IV, V, VI, VII	
05	Continental		82 on
11	Versailles		77-80
28	Other (domestic automobile)		
99	Unknown		
<u>Mercury</u> (14)			
02	Cyclone	GT, CJ, Spoiler	thru 71
03	Capri-Domestic		79 on
04	Cougar	Villager, Brougham, XR7 (thru 80)	67 on
05	Cougar XR7		81 on
06	Marquis/Monterey	Marauder, X-100, Parklane, Colony Park, S-55, Custom, Brougham, Grand (thru 82), Montclair	67 on
08	Comet	Caliente, Capri (1966-1967), GT, Vovager, 202	
09	Bobcat		75-80
10	Montego	GT, MX, Villager, Brougham	67-76
11	Monarch	Ghia	75-81
12	Zephyr	Z7, GS	78 on
13	Lynx	L, LS, GS, RS, XR3	81 on
14	LN7		82-83
15	Topaz	L, LS, GS	83 on
16	Grand Marquis		83 on
17	Sable		86 on
31	Capri-foreign	Capri (1970-1978), Capri II	70-78
33	Pantera		
34	Merkur	XR4T	
35	Scorpio		87 on
28	Other (domestic automobile)		
99	Unknown		
<u>Buick</u> (18)			
01	Regal/Century/ Special	GS, GS350, GS400, GS455, Luxus, Skylark, (thru 1972), Sportswagon, Wagon, Custom Special, Sport Coupe, Limited	thru 81
02	LeSabre/Wildcat/ Centurion	Estate Wagon, Custom, Luxus, Sport Coupe, Wagon, Limited, Invicta	

## Variable Name: Vehicle Model (cont'd )

Model Code	Vehicle Line	Includes	Model Years
<u>Buick</u> (18) (cont'd.)			
03	Electra/Electra 225	Custom, Limited, Park Avenue, Wagon	
05	Riviera	"S" Type, "T" Type	
08	Apollo	S/R, Skylark (1975)	73-75
10	Regal	G-car, "T" Type, Grand National	82 on
12	Skyhawk	"S" Type, Road Hawk	75-81
15	Skylark	Limited, Sport, S/R, "S", Custom (see code 01), "T" Type, "T" Type Custom	76 on
16	Skyhawk	J-car, "T" Type	82 on
17	Century	A-car, "T" Type	82 on
18	Somerset Regal	N-car	85 on
31	Opel Kadett		thru 75
32	Opel Manta/1900	Luxus, Rallye, Sports Coupe	thru 75
33	Opel GT		thru 75
34	Opel Isuzu	Deluxe, Sport	76-79
28	Other (domestic automobile)		
99	Unknown		
<u>Cadillac</u> (19)			
03	DeVille/Brougham	Calais, 60-Special, Coupe, Sedan, Fleetwood	
04	Limousine	Fleetwood 75, Formal	
05	Eldorado	Touring Coupe, Biarritz	
09	Allante		87 on
06	Commercial Series	(e.g., ambulance, hearse)	thru 81
14	Seville	Elegante	76 on
16	Cimarron	J-car, D'oro	82 on
28	Other (domestic automobile)		
99	Unknown		
<u>Chevrolet</u> (20)			
01	Malibu/Chevelle	Classic Concours, Laguna S-3, Nomad Greenbriar, Estate, 30 SS-396/454, Deluxe	64 on
02	Caprice/Impala	Classic, Kingswood, Townsman, Estate, Brookwood, Super Sport, Bel Air, Biscayne	
04	Corvette	Stingray	53 on
06	Corvair	Corvair Monza, 500, Corvair Spyder, Corsa	thru 69
07	El Camino	Royal Knight	59 on

## Variable Name. Vehicle Model (cont'd.)

Model Code	Vehicle Line	Includes	Model Years
<u>Chevrolet</u> (20) (cont'd.)			
08	Nova	Chevy II, Chevy Nova, LN, LE, Concours	thru 79
09	Camaro	SS, LT, Z-28, Berlinetta, Iroc-Z	67 on
10	Monte Carlo	G-car, SS	70 on
11	Vega	GT, Cosworth, Kammback	71-77
12	Monza	2 + 2, Spyder, Sport, Towne Coupe	75-80
13	Chevette	Scooter	76 on
15	Citation	X-car, X-11	80 on
16	Cavalier	J-car, CS, RS, Z24	82 on
17	Celebrity	A-car, Wagon, Eurosport	82 on
19	Baretta/Corsica		87 on
31	Spectrum (Isuzu made)		
32	Nova (Toyota)		86 on
33	Sprint		
70	Blazer	S-10 based	83 on
71	Blazer	Full size truck based	
72	Astro Van	LUV pickup	
73	C, K-Series Pickup		
74	G-Series Van	Beauville, Chevy Van, Sport Van	
75	Van Derivatives	P-Series, Parcel Van	
76	Suburban		
77	S-10		82 on
78	Other (light truck)		
81	Medium/Heavy CBE	C50, C60 and C65 series, M60 and M65 series, H70, H80 and H90 series, J70, J80 and J90 series, Bison 90	
82	Medium/Heavy: COE low entry	T60 and T65 series	
83	Medium/Heavy: COE high entry	Titan 90	
84	Medium/Heavy: unk engine location	PS6500, P6T042	
85	Bus	S60 series	
88	Other (truck)		
90	Medium/Heavy: COE unk. entry position		
28	Other (domestic automobile)		
99	Unknown		

Variable Name: Vehicle Model (cont'd.)

Model Code	Vehicle Line	Includes	Model Years
<u>Oldsmobile (21)</u>			
01	Cutlass	Supreme, Calais, Cruiser, "S", "LS", Salon, Brougham, Vista Cruiser, 442, F-85 (thru 1972), Rallye 350, Hurst Olds	
02	Delta 88	Royale, Custom, Custom Cruiser, Jetstar 88, Delmont 88, Delta, Starfire (thru 1966)	
03	Ninety-Eight	Regency, Luxury	
05	Toronado	Brougham, XSR, Custom	
06	Commercial Series	Chassis Cowl, CKD Chassis	
12	Starfire	"SX"	75-80
15	Omega	Brougham, Salon, F-87, F-85 (1975 on), X-car (1980 on)	73 on
16	Firenza	J-car	82 on
17	Ciera	A-car, Cutlass Ciera, ES, Brougham	82 on
18	Calais	N-car	85 on
28	Other (domestic automobile)		
99	Unknown		
<u>Pontiac (22)</u>			
01	LeMans/Tempest	Grand Am, Safari, T-37, Grand Sport, Luxury, Custom, GTO (thru 1973), Judge, GT-37, Sprint	
02	Bonneville/ Catalina/Parisienne	Brougham, Grand Safari, Safari, GrandVille, Executive, 2 + 2, Starchief	
05	Fiero	P-car, 2M4	84 on
08	Ventura	SJ, Custom, II, Sprint, GTO (1974 on)	71-77
09	Firebird/Trans Am	Esprit, Formula, Skybird, Redbird, Yellowbird, Spring	68 on
10	Grand Prix	LJ, SJ, Brougham, G-car	
11	Astre	Safari, Wagon, SJ, Custom	75-77
12	Sunbird	Sport, Safari, Wagon	76 on
13	T-1000/1000		81 on
15	Phoenix	LJ, SJ, X-car, (1980 on)	78 on
16	J-2000/2000	J-car, Sunbird Convertible, LE, SE	82 on
17	6000	A-car, STE	82 on
18	Grand Am	N-car	85 on
28	Other (domestic automobile)		
99	Unknown		
<u>GMC (23)</u>			
07	Caballero/Sprint		
70	Jimmy	S-15 based	83 on

Variable Name: Vehicle Model (cont'd.)

Model Code	Vehicle Line	Includes	Model Years
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GMC (23) (cont'd.)

71	Jimmy	Full sized truck based	
72	Safari (Mini-Van)		
73	C, K-Series Pickup		
74	G Van/Vandura, Rally Van		
75	Van Derivatives	P-series, Value Van, Magnavan	
76	Suburban		
77	S-15		82 on
78	Other (light truck)		
81	Medium/Heavy: CBE	C-5000, C-6000, C-7000 series, Brigadier 8000, Brigadier 9500, General 9500	
82	Medium/Heavy: COE low entry	W-6000, W-7000	
83	Medium/Heavy: COE high entry	Astro 95	
84	Medium/Heavy: unk. engine location	P5G500, P68042	
85	Bus	B-6000	
88	Other (truck)		
90	Medium/Heavy: COE unk entry position		
28	Other (domestic automobile)		
99	Unknown		

Other domestic (29)

01	Studebaker/Avanti		
02	Checker		
28	Other (domestic automobile (e.g., Desoto)		

Volkswagen (30)

31	Karmann Ghia		
32	Beetle		
33	Super Beetle		
34	411/412	Squareback, Fastback	

Variable Name: Vehicle Model (cont'd.)

<u>Model Code</u>	<u>Vehicle Line</u>	<u>Includes</u>	<u>Model Years</u>
<u>Volkswagen (30) (cont'd.)</u>			
35	Squareback/ Fastback	Type 3, 1600	
36	Rabbit	L, GTI Sport, LS Custom, GL Deluxe	
37	Dasher		
38	Scirocco		
39	The Thing		
40	Jetta		
41	Quantum		
42	Golf	Syncro	85 on
43	Rabbit Pickup		
74	Van/Vanagon/Camper		
78	Other (light truck)		
58	Other (foreign automobile)		
99	Unknown		
<u>Alfa Romero (31)</u>			
31	Spider	Veloce, 2000/1750, all roadsters	
32	Sports Sedan	Alfetta, Berlina, 2000/1750, Giulia Super, 4 door sedans, Milano (86 on)	
33	Sprint Veloce	Alfetta GT 2000 GTV, 1750 GTV, Giulia Sprint GT, all 2 door coupes	
34	GTV-6		
58	Other (foreign automobile)		
99	Unknown		
<u>Audi (32)</u>			
31	Super 90		
32	100	LS, GL	
33	Fox		
34	4000		
35	5000	Coupe	
36	Quattro		82 on
58	Other (foreign automobile)		
99	Unknown		
<u>Austin/Austin Healey (33)</u>			
31	Marina	GT	
32	America		

Variable Name: Vehicle Model (cont'd.)

<u>Model Code</u>	<u>Vehicle Line</u>	<u>Includes</u>	<u>Model Years</u>
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Austin/Austin Healey (33) (cont'd.)

33	Healey Sprite		
34	Healey 3000	Healey 100	
35	Mini		
58	Other (foreign automobile)		
99	Unknown		

BMW (34)

31	1600, 2002	Tii	
32	Coupe	3.OCS, 2800 CS	
33	Bavaria Sedan	2500, 2800	
34	630, 633		
35	320i, 318i, 325E		
36	524i, 528i, 530i	TD, Automatic	83 on
	533i		
37	733i		
61	0- 50 cc		
62	51-124 cc		
63	125-349 cc		
64	350-449 cc		
65	450-749 cc		
66	750 cc or over		
58	Other (foreign automobile)		
99	Unknown		

Datsun/Nissan (35)

31	F-10		
32	200 SX		
33	B210/210/1200	Honeybee	
34	240/260/280/300	Z, ZX, 2 + 2	
35	310		
36	510	PL	
37	610	PL	
38	710	PL	
39	810/Maxima	Maxima	
40	Roadster (SPL 311/ SRL 311)	1600/2000 Convertible	thru 70

Variable Name: Vehicle Model (cont'd.)

<u>Model Code</u>	<u>Vehicle Line</u>	<u>Includes</u>	<u>Model Years</u>
<u>Datsun/Nissan (35) (cont'd.)</u>			
41	PL 411/RL 411		
42	Stanza	XE	82 on
43	Sentra		83 on
44	Pulsar	NX, EXA (86 on)	83 on
70	MPV		86 on
77	Pickup		
78	Other (light truck)		
58	Other (foreign automobile)		
99	Unknown		
 <u>Fiat (36)</u>			
31	124 (Coupe/Sedan)	Sport	
32	124 (Spider)	Spider 2000	
33	Brava/131		
34	850 (Coupe & Spyder)		
35	128		
36	X-1/9		
37	Strada		
58	Other (foreign automobile)		
99	Unknown		
 <u>Honda (37)</u>			
31	Civic	1300, 1500, CVCC	
32	Accord	LX, CVCC	
33	Prelude		
34	600	Coupe, Sedan	
35	Civic-CRX	2 seater	
36	Acura	HX, Integra	86 on
61	0- 50 cc		
62	51-124 cc		
63	125-349 cc		
64	350-449 cc		
65	450-749 cc		
66	750 cc or over		
58	Other (foreign automobile)		
99	Unknown		

Variable Name: Vehicle Model (cont'd.)

Model Code	Vehicle Line	Includes	Model Years
<u>Isuzu</u> (38)			
31	I Mark	Gemini	
32	Impulse		83 on
33	Aska		87 on
70	Trooper II		84 on
77	P'up (Pick-up)	Rodeo, Space Cab	
78	Other (light truck)		
58	Other (foreign automobile)		
99	Unknown		
<u>Jaguar</u> (39)			
31	XJ-S Coupe		
32	XJ6/XJ12 Sedan/Coupe	L, XJ, C, 420/340 Sedans	
33	XK-E	2 + 2, V-12 Roadster, 120	
58	Other (foreign automobile)		
99	Unknown		
<u>Lancia</u> (40)			
31	Beta Sedan /HPE		
32	Beta Coupe/Zagato		
33	Scorpion		
58	Other (foreign automobile)		
99	Unknown		
<u>Mazda</u> (41)			
31	RX2		
32	RX3		
33	RX4		
34	RX7	GLE, SE	
35	GLC/323		
36	Cosmo		
37	626		
38	808		
39	Mizer		thru 76
40	R-100		thru 72
41	618/616		
42	1800		
43	929		86 on
77	Pick-up	B-2200, B-2000, SE5, Cab Plus, LX	

Variable Name: Vehicle Model (cont'd.)

<u>Model Code</u>	<u>Vehicle Line</u>	<u>Includes</u>	<u>Model Years</u>
<u>Mazda</u> (41) (cont'd.)			
78	Other (light truck)		
58	Other (foreign automobile)		
99	Unknown		
<u>Mercedes-Benz</u> (42)			
31	200/220/230/240/ 250/280/300 (Sedan and 5 passenger "C" only)	SE,CD,D,SD,TD,CE,E [excludes 280 S, 280 SE (1975 on), 300 SD Sedan (see Code 37]	
32	230 SL/280 SL (2 passenger)		
33	350 SL/450 SL/380 SL		
34	350 SLC/ 450 SLC/380 SLC		
35	300 SEL/280 SEL	TD-T, TD, CDT	
36	450 SEL/380 SEL/ 500 SEL/500 SEC		
37	450 SE/380 SE	280 S, 280 SE (1975 on), 300 SD Sedan	
38	600/6.9 Sedan	Pullman	
39	190		
75	Van Derivative	Kurbstar	82 on
81	Medium/Heavy: CBE		
82	Medium/Heavy: COE low entry		
83	Medium/Heavy: COE high entry		
84	Medium/Heavy: unk. engine location		
85	Medium: Bus		
88	Other (truck)		
90	Medium/Heavy: COE unk. entry position		
58	Other (foreign automobile)		
99	Unknown		

Variable Name: Vehicle Model (cont'd.)

<u>Model Code</u>	<u>Vehicle Line</u>	<u>Includes</u>	<u>Model Years</u>
<u>MG</u> (43)			
31	MG Midget		
32	MGB		
33	MGB GT		
34	MGA		
35	TA/TC/TD/TF		
36	MGC	MGC/GT	
58	Other (foreign automobile)		
99	Unknown		

Mitsubishi See V14 Code (52) listed after VolvoOpel See Buick--(18)Peugeot (44)

31	304		
32	403		
33	404		
34	505/504	STI	
35	604	SL, D	
58	Other (foreign automobile)		
61	0-50 cc		
62	51-124 cc		
99	Unknown		

Porsche (45)

31	911	S, E, T, SC, Carrera	
32	912/912E		
33	914	914/S	
34	924	Turbo	
35	928	S	
36	930/Turbo		82 on
37	944		
38	959		86 on
58	Other (foreign automobile)		
99	Unknown		

Variable Name: Vehicle Model (cont'd.)

<u>Model Code</u>	<u>Vehicle Line</u>	<u>Includes</u>	<u>Model Years</u>
<u>Renault</u> (46)			
31	LeCar	5	
32	10/Dauphine/ Caravelle/R-8		
33	12	R12	
34	15	R15TL	
35	16		
36	17	R17, Gordini Coupe	
37	R18i		
38	Fuego	TL, TS, GTL, GTS	
39	Alliance	L, DL, Limited	83 on
40	Encore		
41	Alpine GT		87 on
58	Other (foreign automobile)		
99	Unknown		
<u>Saab</u> (47)			
31	99/99E/900/9000	Turbo	
32	Sonnet	Sonnet III, Sonnet 97	
33	95/96/97		
58	Other (foreign automobile)		
99	Unknown		
<u>Subaru</u> (48)			
31	FE/GF/DL/STD/GL/G/ GLF	4 wheel drive, Turbo 4x4	
32	Star		
33	360		
43	Brat	DL, GL	
78	Other (light truck)		
58	Other (foreign automobile)		
99	Unknown		
<u>Toyota</u> (49)			
31	Corona	Custom, Deluxe, Mark II, 1900, 2000	
32	Corolla	1100,1200,1600, Deluxe, Custom, SR 5, LE	
33	Celica	1900, 2000, GTS	

Variable Name: Vehicle Model (cont'd.)

<u>Model Code</u>	<u>Vehicle Line</u>	<u>Includes</u>	<u>Model Years</u>
<u>Toyota</u> (49) (cont'd.)			
34	Celica Supra	Soarer	
35	Cressida		
36	Crown	2300, 2600	
37	Carina	2000	
38	Tercel	4WD Wagon, Corolla-Tercel	
39	Starlet		
40	Cambry		
41	MR2	(2-seater)	85 on
*	Nova	See Chevrolet	
70	4-Runner		
71	Landcruiser		
72	Mini-Van		
77	Pickup	Chinook, LN44, Wonder Wagon, SR5, Extra Cab Sport	
78	Other (light truck)		
58	Other (foreign automobile)		
99	Unknown		
<u>Triumph</u> (50)			
31	Spitfire	I, II, III, IV, 1500	
32	GT6		
33	TR4	TR3, TR2, TR4A	
34	TR6		
35	TR7/TR8		
36	Herald	Vitesse	
37	Stag		
61	0- 50 cc		
62	51-124 cc		
63	125-349 cc		
64	350-449 cc		
65	450-749 cc		
66	750 cc or more		
58	Other (foreign automobile)		
99	Unknown		
<u>Volvo</u> (51)			
31	122	S	
32	142/144/145	S, Deluxe, GL, GLS, E	
33	164	S, E	

Variable Name: Vehicle Model (cont'd.)

<u>Model Code</u>	<u>Vehicle Line</u>	<u>Includes</u>	<u>Model Years</u>
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Volvo (51) (cont'd.)

34	242/244/245	Deluxe, DL, GLE, GLT, GL	
35	262/264/265	GL	
36	1800	E, S, ES	
37	P-544		
38	760/780		83 on
39	740	GLE	
81	Medium/Heavy: CBE		
82	Medium/Heavy: COE, low entry		
83	Medium/Heavy: COE, high entry		
84	Medium/Heavy: unk. engine location		
85	Medium: Bus		
88	Other (truck)		
90	Medium/Heavy: COE, unk. entry position		
58	Other (foreign automobile)		
99	Unknown		

Mitsubishi (52)

31	Starion	2 + 2	83 on
32	Tredia		83 on
33	Cordia		83 on
34	Galant		
70	Montero		
72	Mini-Van		83 on
77	Pickup		
58	Other (foreign automobile)		
99	Unknown		

Suzuki (53)

61	0- 50 cc		
62	51-124 cc		
63	125-349 cc		
64	350-449 cc		
65	450-749 cc		
66	750 cc or over		
70	SJ - 410	Samurai SJ-413	
99	Unknown		

V14  
(20)

Variable Name: Vehicle Model (cont'd.)

<u>Model Code</u>	<u>Vehicle Line</u>	<u>Includes</u>	<u>Model Years</u>
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Other Import (59)

31	Aston Martin		
32	Bricklin		
33	Citroen		
34	Delorean		
35	Ferrari		
36	Hillman		
37	Jensen		
38	Lamborghini		
39	Lotus		
40	Maserati		
41	Morris		
42	Rolls Royce/Bentley		
43	Rover		
44	Simca		
45	Sunbeam		
46	TVR		
47	Daihatsu		
48	Desta (APV-utility)		
49	Reliant (British)		
50	Yugo		
51	Hvundai		
58	Other (foreign automobile) [e.g., Morgan, Singer]		

## MOTORED CYCLE (60-69)

V13

BMW (34)  
BSA (60)  
Ducati (61)  
Harley-Davidson (62)  
Honda (37)  
Kawasaki (63)  
Moto-Guzzi (64)  
Norton (65)  
Suzuki (53)  
Triumph (50)  
Yamaha (67)  
Other Motored Cycle (69)

V14

61 0- 50 cc  
 62 51-124 cc

V14  
(21)

Variable Name: Vehicle Model (cont'd.)

<u>Model Code</u>	<u>Vehicle Line</u>	<u>Includes</u>	<u>Model Years</u>
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V14 (cont'd.)  
 63 125-349 cc  
 64 350-449 cc  
 65 450-749 cc  
 66 750 cc or over  
 99 Unknown

V13Mo-ped (70)

V14  
 61 0- 50 cc  
 62 51-124 cc  
 99 Unknown

TRUCKS AND BUSES (80-83, 85-88)

V13

Brockway (80)  
Diamond Reo or Reo (81)  
Freightliner or White Freightliner (82)  
FWD (83)  
Kenworth (85)  
Mack (86)  
Peterbilt (87)  
White (88)

V14  
 80 Motor Home  
 81 Medium/Heavy: CBE  
 82 Medium/Heavy: COE, low entry  
 83 Medium/Heavy: COE, high entry  
 84 Medium/Heavy: unknown engine location  
 +85 Bus: conventional (engine out front)  
 86 Bus: flat front, front engine  
 87 Bus: flat front, rear engine  
 88 Other (truck)  
 90 Medium/Heavy: COE, unk. entry position  
 99 (Unknown Model)

+Use code "85" (Bus) if the frontal plane or the engine location is unknown.

Variable Name: Vehicle Model (cont'd.)

Model Code	Vehicle Line	Includes	Model Years
------------	--------------	----------	-------------

International Harvester (84)

71	Scout	Scout II, Utility Pickup, SS-2, Roadstar, Terra Traveltop, 800 Series, Traveler	
73	Pickup/Panel	R100, 900A-1500C, 1000D-1500D, 1010-1510, 100-500	
75	Multistop	Metro RM 120-160, MS1210, MS1510	
76	Travellall	1010-1210, 100-200	
78	Other (light truck)		
80	Motor Home	1310 MHC, 1500 MHC	
81	Medium/Heavy CBE	Loadstar/Fleetstar, Paystar, CBE Transstar (4200), S-Series, Mixer	
82	Medium/Heavy: COE, low entry	CO, VCO, DCO (190-1950), Cargostar, LFM 5370 (Garbage)	
83	Medium/Heavy: COE, high entry	DCO, DCOT, UCO, VCOT, (405 Series), COE Transstar, Unistar, Conco 707B, 9600 Series	
84	Medium/Heavy: unk engine location		
85	Bus Conventional	R153-1853, Loadstar 1603-1853	
86	Bus flat front, front engine	173 FC, 183 FC	
87	Bus flat front, rear engine	183RE, 193RE, (transit)	
88	Other (truck)	Fire Truck - R140-R306, CO 8190	
90	Medium/Heavy: COE, unk entry position		
99	Unknown		

Other (Truck or Bus) (95)

01	Autocar		
02	Auto-Union-DKW		
03	Divco		
04	Western Star		
05	IVECO/MAGIRUS		
78	Other (light truck)*		
88	Other (truck+)	(e g., Oshkosh, Grumman)	

Variable Name: Vehicle Model (cont'd.)

Other make (98)

97 Other (e.g., snowmobile, go-cart)  
99 Unknown\*\*

- \* Use code "88" (other (truck)) if the vehicle's GVWR is unknown.
- \*\* Occurs when make is not explicitly listed and it is unknown whether make is domestic or import.
- + Truck as used here includes (1) any truck of unknown GVWR, (2) medium or heavy trucks, and (3) buses.

Unknown make (99)

99 Unknown\*

\*Use this code even if you know more detail about the model than this code indicates (e.g., unknown pickup truck, unknown CBE tractor semi-trailer, unknown bus, or unknown car pickup body). V17, Body Type, is available to code the additional information.

Source: Primary source is the VIN during vehicle inspection; secondary sources include police report, interviewees, and vehicle registration.

Remarks:

The model codes are organized into general groups. These groups are:

- 01-28, 99 - domestic passenger car (automobile)
- 31-58, 99 - foreign passenger car (automobile)
- 60-68, 99 - motored cycles (including motorcycles, mini-bikes, motor scooters, dirt bikes, and mo-peds)
- 70-78, 99 - light trucks (including truck based utility vehicles, light duty pickup trucks, standard pickup trucks, vans, van based station wagons, van based buses, van derivatives, and truck based station wagons)
- 80-90, 99 - trucks and buses (includes all trucks over 10,000 lbs. GVWR except those pickup type trucks mentioned under Body Type (V17) code "50" (Pickup), and all buses except those that are van based)

Within these groups, the model codes for automobiles and light trucks generally are not ordered to give any indication of vehicle size or type. However, the model codes for motored cycles, trucks/buses, other and unknown have specific definition. These definitions are:

Variable Name: Vehicle Model (cont'd.)

Motored Cycle

61 0-50 cc  
 62 51-124 cc  
 63 125-349 cc  
 64 350-449 cc  
 65 450-749 cc  
 66 750 cc or over  
 99 Unknown

These codes should be used to indicate the manufacturer's model size rather than the actual piston displacement. For example, a 1980 Honda CB 750 has an original piston displacement of 749cc. This would be coded as "66" (750 or over)

Trucks/Buses

80 Motor Home  
 81 Medium/Heavy: CBE  
 82 Medium/Heavy: COE, low entry  
 83 Medium/Heavy: COE, high entry  
 84 Medium/Heavy: unknown engine location  
 +85 Bus: conventional (engine out front)  
 86 Bus: flat front, front engine  
 87 Bus: flat front, rear engine  
 88 Other (truck)  
 90 Medium/Heavy: COE, unk. entry position  
 99 Unknown

+Use code "85" (Bus) if the frontal plane or the engine location is unknown

Other make (98)

28 Other domestic automobile  
 58 Other foreign automobile  
 78 Other light truck  
 88 Other truck  
 97 Other (e.g., snowmobile, gocart)

Other make (99)

99 Unknown\*

\*Use this code even if you know more detail about the model than this code indicates (e.g., unknown pickup truck, unknown CBE tractor semi-trailer, unknown bus, or unknown car pickup body) V17, Body Type, is available to code the additional information

V14  
(25)

Variable Name: Vehicle Model (cont'd.)

V13, Vehicle Make, V14, Vehicle Model, and V17, Body Type, have to be used in conjunction; therefore refer to remarks for V13 and V17.

Variable Name Registration of Vehicle

Format. 1 column numeric

Beginning  
Column 24

Element Values:

- 0 Not registered
- 1 In-state (at least)
- 2 Out-of-state (only)
- 8 Other registration (e.g , federal, foreign, military) (specify)
- 9 Unknown

Source Primary sources are the whole vehicle inspection, police report, and vehicle registration files

Remarks

Registration means that the vehicle was registered to drive on street/highway. Some states require a registration for off-road use vehicle registered only for off-road use that was involved in an accident associated with a NASS roadway, is not considered registered--code "0" (Not registered)

Vehicles displaying a valid temporary registration certificate are to be considered registered. Expired registrations are not valid and are to be ignored when selecting the proper attribute. Vehicles displaying dealer's tags are not registered (code "0"). The assumption is that the association between the tag and the vehicle is short-lived.

Code "0" means that the vehicle has no currently valid registration. This would include expired registrations and exempt vehicles.

Code "1" (In-state) means that the vehicle was registered in the state in which the accident occurred. The vehicle may or may not have also been registered in other states. The vehicle, in the instance of tractor-trailer or multi-unit trucks, includes the registration found for both the tractor and its trailer(s).

Code "2" (Out-of-State) means that the vehicle was registered, but not in the state in which the accident occurred. State-owned vehicles are coded "1" if the accident occurred in the same state in which the vehicle is registered.

Use code "0" when the only source of information is the PAR and the Vehicle Registration Record does not match the PAR (PAR can still be used to code year, make, and model).

Variable Name: Vehicle Identification Number

Format: 17 columns - alphanumeric

Beginning  
Column 25

Element Values:

Code the entire VIN, left justify  
000000000000000000 No VIN  
999999999999999999 Unknown

Source: Primary source is vehicle inspection; secondary sources are the police report and the vehicle registration files.

Remarks:

If a vehicle is inspected the VIN must be obtained from the vehicle if at all possible. Only in those cases where the vehicle condition prevents obtaining the VIN from the vehicle is it allowable to use vehicle registration data or the PAR to code this variable.

Leave "Blank" any column which does not have a VIN character.

If part of the VIN is missing or not decipherable, leave the column any such character would ordinarily occupy "Blank".

If the entire VIN is unknown or missing, enter "9"s in the entire field.

If the vehicle is a type which has no VIN (e.g., go-cart), enter "0"s in the entire field.

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

Code the entire VIN as found during inspection of the vehicle and left justify, as shown in the following example:

VIN: A 3 A 1 9 7 H 1 1 8 8 1 5  
CODE: A 3 A 1 9 7 H 1 1 8 8 1 5 \_ \_ \_ \_

Code the police reported or vehicle registration VIN, if available (and indicate police or vehicle registration). Do so only when the vehicle is not inspected, and the reported characters are consistent with reference materials (e.g., NATB) with respect to alphanumeric characters.

Variable Name Vehicle Identification Number

If the vehicle is manufactured by the Ford Motor Company and begins with a script, "F", the "F" should not be coded. Proceed to the next character as in the example

```
VIN      3 U 6 2 S 1 0 0 9 3 2
CODE.    3 U 6 2 S 1 0 0 9 3 2 - - - - -
```

NOTE: For this variable only, slash zeros "0", so that they are not confused with the alphabet character "O", as in DOT.

In addition, if any hyphens or periods are contained in the string of alphanumeric characters, they they should be ignored 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 - - - - -
```

The VIN for the vehicle chassis of motor homes and school busses should be encoded and the secondary manufacturer's number should be annotated

If the state will not allow transmittal of the complete VIN, code all characters except the sequential production numbers. Code zeros ("0") in place of the sequential numbers.

In those cases where the VIN reported by the state does not match the references given below, the reported VIN should be coded and a note should be made on the form indicating the discrepancy.

The location of the VIN will vary among, and within, vehicles. Reference sources which may prove helpful in locating the VIN include, but are not limited to

- (1) Motor Vehicle Identification Manual  
National Automobile Theft Bureau  
Palmer Publications Company  
Downers Grove, Illinois 60515
- (2) Passenger Car and Truck-Accident  
Investigator's Manual  
MVMA of the U.S., Inc  
300 New Center Building  
Detroit, Michigan 48202
- (3) Lee S. Cole  
Davis Publishing Co  
Post Office Box 841  
Santa Cruz, California 95060  
(Vehicle Identification 1938-1968  
Vehicle Identification 1968-1981)
- (4) N.A.D.A. Official Used Car Guide  
National Automobile Dealers Association  
8400 Westpark Drive  
McLean, Virginia 22102

Variable Name: Body Type

Format: 2 columns - numeric

Beginning  
Column 42

Element Values:

Automobiles

- 01 Convertible (excludes sun-roof, t-bar)
- 02 2-door sedan, hardtop, coupe
- 03 3-door/2-door hatchback
- 04 4-door sedan, hardtop
- 05 5-door/4-door hatchback coupe
- 06 Station wagon (excluding van and truck based)
- 08 Other automobile type (specify)
- 09 Unknown automobile type

Automobile Derivatives and Short Utility Vehicles

- 10 Auto based pickup (includes El Camino, Caballero, Ranchero, Brat)
- 11 Auto based panel (cargo station wagon, includes auto based ambulance/hearse)
- 12 Short utility - not truck based (includes Jeep CJ-5, Jeep CJ-7, Renegade, Landrover, Pre-78 Bronco, Landcruiser, Thing)
- 13 Large limousine - more than four side doors or stretched chassis

Motorcycles

- 20 Motorcycle
- 21 Mopeds (motorized bicycles)
- 28 Other motorcycle (minibikes, motorscooters) (specify)
- 29 Unknown motorcycle type

Bus (excludes van based)

- 30 School bus (designed to carry students, not cross country or transit)
- 31 Cross country/intercity (designed for long distance)
- 32 Transit bus (includes short ride city bus and medium range suburban bus)
- 38 Other bus (e.g., bus based motor home) (specify)
- 39 Unknown bus type

Van Based Light Truck (< 10,000 lbs. GVWR)

- 40 Van (includes VW Bus, Vanagon, Kombi, Beauville, Chateau, Club Wagon, Sportsman; excludes moving van)

Variable Name: Body Type (cont'd )

Van Based Light Truck (< 10,000 lbs GVWR)

- 41 Van-commercial cutaway (includes box van, multi-stop, parcel, van pickups)
- 42 Van based motor home
- 48 Other van type (specify)
- 49 Unknown van type

Light Conventional Truck (Pickup style cab, < 10,000 lbs GVWR)

- 50 Pickup (includes open box and caps)
- 51 Pickup with slide-in camper
- 52 Pickup based motorhome (chassis mounted)
- 53 Cab chassis based (includes rescue vehicles, light stake, dump, and tow trucks)
- 54 Truck based panel
- 55 Truck based station wagon (4-door, includes Suburban, Travelall, Wagoneer)
- 56 Truck based utility (2-door; includes Blazer, Bronco - 78 on, Jimmy)
- 58 Other light conventional truck (e.g., stretched Suburban limousine) (specify)
- 59 Unknown light conventional truck
- 69 Unknown light truck (van or pickup)

Medium/Heavy Truck (> 10,000 lbs GVWR)

- 70 Step vans
- 71 Single unit straight truck (10,000 lbs. < GVWR ≤ 26,000 lbs.)
- 72 Single unit straight truck (> 26,000 lbs. GVWR)
- 73 Medium/heavy truck based motor home
- 74 Truck-tractor with no cargo trailer
- 75 Truck-tractor pulling one or more trailers
- 77 Truck-tractor (unknown if pulling trailer)
- 78 Unknown medium/heavy truck type
- 79 Unknown truck type (light/medium/heavy)

Other Vehicles

- 80 Snowmobile
- 81 Farm equipment other than trucks
- 82 ATV, all terrain vehicle (e.g., dune/swamp buggy)
- 83 Construction equipment other than trucks (e.g., grader, off road)
- 88 Other (e.g., go-cart, fork lift, city street sweeper) (specify)
- 89 Unknown other vehicle (specify)
- 99 Unknown body type

Variable Name: Body Type (cont'd.)

Source: Primary source is vehicle inspection; secondary sources include police report, interviewees, and vehicle registration.

Remarks:

Note the selection of any code is based solely on its body type rather than usage or ownership (i.e., code the vehicle as it was originally manufactured).

Code "01" (Convertible) refers to automobiles with soft or removable hard shells which are considered to be "convertibles". A removable hardtop is one that can be removed without tools, such as older Corvettes or XKE's. This would also include "targa" tops. Removable solid roof sections that were bolted on at the factory are considered standard roofs. Cars with sun roofs or "T" tops should be considered as having a standard roof. The position of the top at the time of the collision is not considered when coding the Body Type.

Codes "03", "05" (3 or 5-door hatchback coupe) includes those automobiles with hinged rear "doors" which include large glass cargo portals as found on fastbacks or hatchbacks. Station wagons with hinged doors which open vertically are excluded from this category since they are coded "06" (Station wagon excluding van-based or truck-based station wagon).

Code "08" (Other automobile) refers to other automobiles such as the one-door Isetta, street rods without doors, etc.

Code "11" (Ambulance, hearse type only) refers to hearse body vehicles which may be used for ambulance, funeral, or other purposes (including private usage). Note that only ambulances with a hearse body style are coded here. Ambulances other than hearse types are coded according to their particular body type. These vehicles will subsequently be identified as ambulances under V65, Vehicle Special Use.

A motorcycle (motored cycle) is defined as any motor vehicle having a seat or saddle for the use of the rider and designed to travel on not more than 3 wheels in contact with the ground, but excluding a tractor (Source: Uniform Vehicle Code and Model Traffic Ordinance - revised 1968, section 1-135.)

Code "20" (Motorcycle) is restricted to "standard" motorcycles [i.e., it excludes minibikes, motorscooters, or any motorcycles with sidecars attached--these are coded under "28" (Other motorcycle)].

Variable Name: Body Type (cont'd.)

Code "21" [Moped (motorized bicycle)] refers to a motor-driven cycle whose speed attainable in 1 mile is 30 mph or less, which is equipped with a motor that produces 2-horsepower or less. If an internal combustion engine is used, the piston displacement shall not exceed 50 cc and the power drive system shall not require the operator to shift gears. Also note that pedals are not required equipment on mopeds.

Codes "30" through "39" refer to vehicles (excluding vans, truck-based station wagons, etc.) which are designed to transport more than ten persons.

Code "30" (School bus) refers to vehicles which are specifically designed for usage by a school corporation for the purpose of transporting children independent of usage and ownership at the time of the accident. Body Type alone, independent of color (e.g., yellow), is the determining criterion.

Code "31" (Cross country) refers to busses having adjustable seat backs and only one normal entry-exit door. This bus is of the type most commonly used for commercial cross country service; however, recall that body type alone (independent of usage and ownership) is sufficient by itself to use this code

Code "32" (Transit bus) refers to busses having fixed seatbacks and two normal entry-exit door systems. This bus is of the type most commonly used for intra-city commuter service; however, recall that body type alone (independent of usage and ownership) is sufficient by itself to use this code.

Code "38" (Other bus) is used for busses which are exclusive of the above bus codes or in cases where the investigator has identified and photographed the vehicle but is uncertain as to which of the above bus codes is to be used.

Code "39" (Unknown type bus) is used when the investigator has no information which would allow more specific classification in one of the bus codes.

Code "40" (Van) includes VW Bus, Econoline, Chevy Van, Dodge Tradesman, and station wagons based on these models. Minivans (e.g., Ford Aerostar) should also be included

Code "40" and "55" (Van, truck-based station wagon) are to be used in instances where these trucks are used as busses, although not specifically designed for that purpose. It is permissible to consider these trucks as other motor vehicles while stratifying due to limited information on the police report, yet code them under trucks on this variable

Variable Name: Body Type (cont'd.)

Code "41" (Van-commercial cutaway) includes all derivatives other than motor homes that are based on a van chassis, even if greater than 10,000 lbs. GVWR (e.g., Chevrolet Hi Cube Van, Dodge Kary Van, Ford Econoline Parcel Delivery Van).

Code "48" (Other van type) would be used for light duty vans that would not qualify for a more specific code. Possible inclusions for this could be some special use mail vans, milk trucks or light duty step vans. Note that step vans over 10,000 lbs. GVWR would be coded "70".

Code "50" (Pickup) includes all trucks based on a pickup chassis, even if greater than 10,000 lbs. GVWR (e.g., Chevrolet C30, Ford F350, Dodge D300, etc.).

For Cherokees and other similar vehicles, code 56, truck based utility, for the two door model and code 55, truck based station wagon, for the four door model. Use code 59 for situations when the number of doors is unknown.

Code "70" (Step Vans) for medium/heavy truck based commercial cutaway type vans. A commercial cutaway type van built on a van based (light truck) chassis should be coded "41".

Code "77" (Unknown if pulling trailer) can be used when you know that a truck tractor was involved, but it is unknown if a trailer was attached.

Code "82" (Dune buggy, swamp buggy, etc.) also can be used if an amphibious vehicle is encountered.

Code "83" excludes passenger vehicles which are owned/leased and operated by construction related firms. These should be assigned codes "01" through "06" unless the vehicle has been modified, in which case, it should be coded "08". Construction related includes state or municipally owned road cleaning equipment, or utility related equipment where the model is essentially a special vehicle ("83"). However, some of these vehicles are single unit trucks modified with the cleaning or repair equipment attached front or rear. In the latter case, code straight truck over 10,000 lbs. GVWR ("71" or "72").

Code "88" (Other) is used for special vehicles which are exclusive of the above special vehicle codes (e.g., go-cart).

Fire trucks will be coded based on GVWR and Body Type, and identified under V19, Seating Capacity/Truck Vocation, code "51" (Fire apparatus) and V65, Vehicle Special Use, code "7" (Fire).

VEHICLE FORM

V17

(6)

Variable Name: Body Type (cont'd.)

Use the codes "09", "29", "39", "49", "59", "69", "78", "79", or "89" in those cases where the make and model of a vehicle are not known but some detail concerning the body type is known (e.g., a hit and run vehicle described as a "pickup truck" would be coded as "59" [Unknown light conventional truck]). These codes would normally be used when the Vehicle Make, V13, and Vehicle Model, V14, are coded as "99" (Unknown).

Variable Name: Towed Trailing Unit

Format: 1 column - numeric

Beginning  
Column 44

Element Values:

- 0 No towed unit  
Yes, towed trailing unit hitch type
- 1 Clamp on (temporary)
- 2 Bumper hitch (bolted)
- 3 Frame
- 4 Fifth wheel
- 5 Converter dolly - with 1 towbar
- 6 Converter dolly - with 2 towbars
- 8 Other (specify)
- 9 Unknown hitch type

Source: Primary source is vehicle inspection; secondary sources include driver interview, photographs, and police report.

Remarks:

A towed trailing unit includes horse trailers, fifth wheel trailers, travel trailers, camper trailers, boat trailers, truck trailers, towed motor vehicles or any other trailer (except as excluded above).

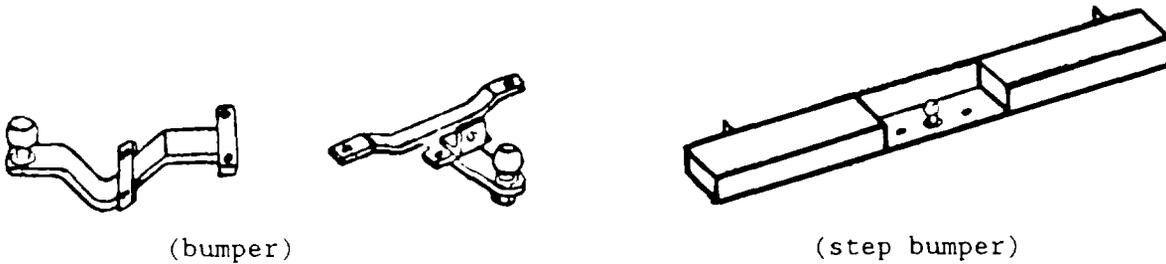
Code "0" (No towed unit) is used when it is unknown whether or not a trailer was being towed, or when no wheeled unit was being towed by the vehicle, or when V17 (Body Type) is coded "74" (Truck tractor with no cargo trailer)

If V17 = 75 or 77 code "0" if only one trailer; if more than one trailer then code as appropriate for the second (third, etc.) trailer.

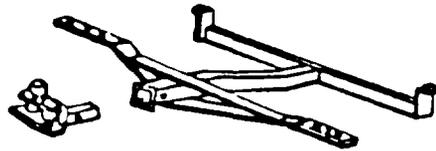
Code "1" (Clamp on) is used to describe a trailer hitch that is mounted by bands or clamps that are tightened around the bumper face (no holes are drilled in the bumper for mounting purposes).

Variable Name: Towed Trailing Unit (cont'd.)

Code "2" (Bumper hitch) is used to describe a trailer hitch that is permanently mounted by drilling holes and bolting the hitch to the bumper. Also included would be a trailer ball mounted on a step bumper.

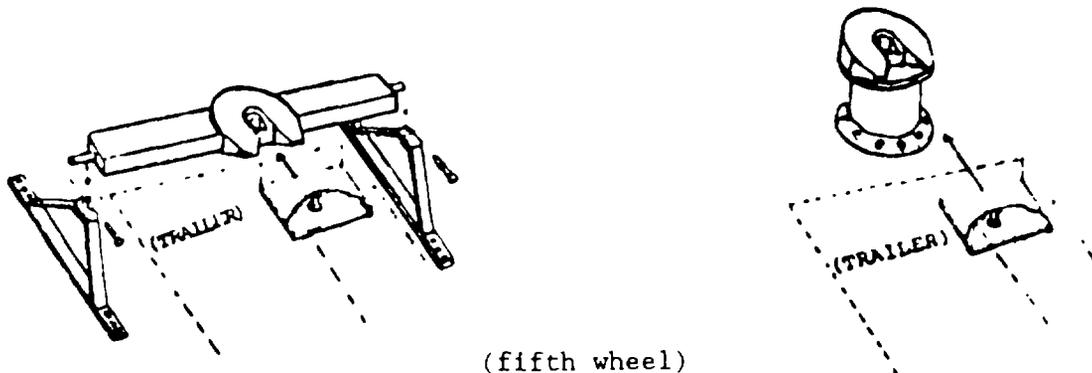


Code "3" (Frame) is used to describe a trailer hitch that is permanently mounted by drilling holes and bolting (or welding) the hitch to the frame rails. In most cases, this type of hitch is also attached to the bumper.



(frame hitch)

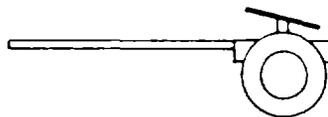
Code "4" (Fifth wheel) is used to describe a trailer hitch that is a permanently mounted rounded plate upon which the trailer rests and is coupled to the towing unit. Note that this does not include the "fifth wheel" hitch used on tractor-semi-trailer combinations.



(fifth wheel)

Variable Name: Towed Trailing Unit (cont'd.)

Code "5" (Converter dolly - with one towbar) and Code "6" (Converter dolly - with two towbars) refer to devices which convert the wheel-less front support of a standard truck trailer that normally hooks up with the fifth wheel of a truck tractor, so that it hooks up with a fifth wheel on a converter dolly. It will then be able to hook up to a straight truck, or another truck trailer that does not have a fifth wheel.



Code "8" (Other) is used to code a trailer hitch that cannot be described by using one of the more specific codes 1 through 4. Also included would be nonfixed linkage (i.e., rope, cable, chain), even if the nonfixed linkage is attached to a specific hitch type.



Code "9" (Unknown hitch type) is used when it is known that a trailer was being towed (V14 = 75, 77) but specific hitch type is unknown.

Variable Name: Seating Capacity/Truck Vocation

Format: 2 columns - numeric

Beginning  
Column 45

Element Values:

Passenger Vehicles by Designated Seating Capacity

Motorcycle/Automobile/Van/Bus (exclude pickups)

- 01 One seat position
- 02 Two seat positions
- 03 Three seat positions
- 04 Four seat positions
- 05 Five seat positions
- 06 Six seat positions
- 07 Seven seat positions
- 08 Eight seat positions
- 09 Nine seat positions
- 10 10 to 19 seat positions
- 11 20 to 49 seat positions
- 12 50 or more seat positions
- 13 Motorhome (any light or medium truck based)
- 14 Ambulance/EMS (any auto or truck based)
- 19 Unknown passenger vehicle seating capacity

Cargo Vehicles by Vocation (Cargo Configuration)

Platform

- 20 Platform, flat bed
- 21 Platform with device (e.g., self-loader, spreader)
- 22 Stake
- 23 Drop frame, low bed, lowboy
- 24 Livestock carrier
- 28 Other platform (specify)

Open

- 30 Pickup box (non-dump, includes open box and caps)
- 31 Pickup with slide-in camper
- 32 Dump (any light, medium, or heavy truck based)
- 33 Dump with blade (front with under carriage)
- 34 Hopper (grain)
- 35 Auto carrier/transport (includes boat)
- 36 Van-open top
- 38 Other open (specify)

Closed

- 40 Van-closed top (any light, medium or heavy truck based, e.g. multi-stop)
- 41 Low bed van (e.g., moving van)
- 42 Refrigerated or insulated

Variable Name: Seating Capacity/Truck Vocation (cont'd.)

Cargo Vehicles by Vocation (Cargo Configuration)

Closed (cont'd.)

- 43 Mobile home
- 44 Beverage, bottler
- 45 Container (e.g., piggy back)
- 46 Tank-liquid and gaseous
- 47 Tank-dry bulk
- 48 Other closed (specify)

Service/Utility

- 50 Garbage, refuse (including dumpster)
- 51 Fire apparatus
- 52 Concrete mixer
- 53 Wrecker, tow
- 54 Crane, aerial basket
- 55 Service, mobile repair (e.g., phone line truck)
- 56 Pole (e.g., pipe or log)
- 57 Armored truck
- 58 Other service/utility (specify)
- 71 Truck-tractor - no trailer
- 72 Chassis, incomplete vehicle
- 88 Other cargo vehicle (specify)
- 97 Other nontruck (e.g., construction paver, farm tractor)
- 98 Unknown cargo configuration
- 99 Unknown if passenger or cargo vehicle

Source. Primary source is vehicle inspection; secondary sources include driver interview, photographs, and police report.

Remarks:

Any motor vehicle designed primarily to transport people should be encoded using elements 01-19 to indicate "designed" seating capacity. For those vehicles manufactured with restraints at each "designed" seat (approximately 1968 and newer) which have not been altered (removed restraints or seat types exchanged) the "designed" seating capacity can generally be determined by the number of restraints installed in the vehicle. For altered vehicles, vans with add-on (rigidly attached) seats, or most vehicles manufactured prior to 1968 the seating capacity can be determined from the seat width. Seats that are not rigidly attached to the vehicle are not considered as part of the seating capacity

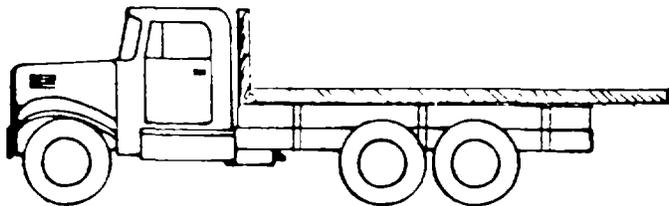
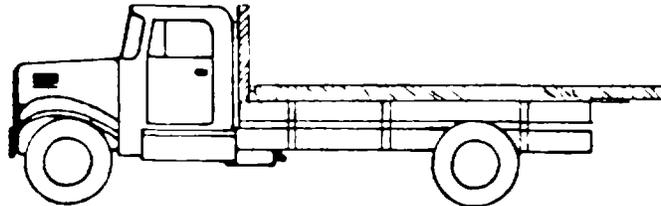
Auto and truck based utilities are coded for seating capacity if rear seats exist. If no rear seats exist, code for cargo configuration. Otherwise, code unknown (V19 = 99).

Variable Name Seating Capacity/Truck Vocation (cont'd.)

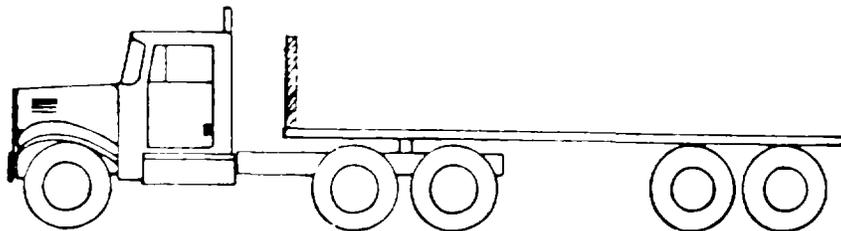
Code            Description  
 20            Platform, flatbed - A body having a floor without sides or roof.

Example

V17 = 53, 71 or 72  
 V18 = 0  
 V19 = 20



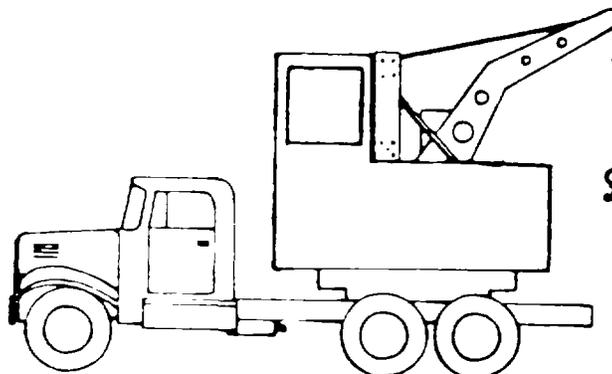
V17 = 75  
 V18 = 0  
 V19 = 20



21            Platform with device (example: crane or "cherry picker") - A body having a floor without sides or roof on which additional machinery is securely mounted for work or other purposes.

Example

V17 = 53, 71 or 72  
 V18 = 0  
 V19 = 21



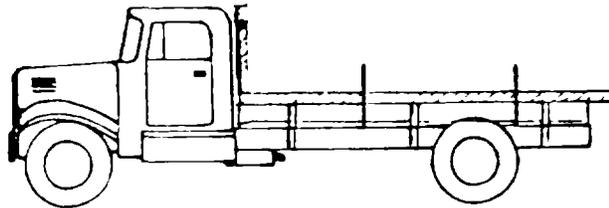
Variable Name: Seating Capacity/Truck Vocation (cont'd.)

Code      Description

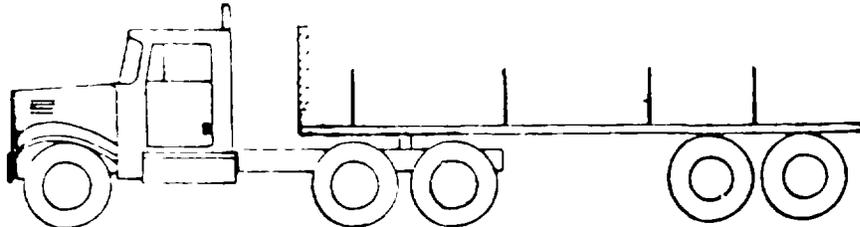
22      Stake - A body having a floor without sides or roof with stakes mounted around the perimeter to confine the commodity to the cargo area.

Example:

V17 - 53, 71 or 72  
V18 - 0  
V19 - 22



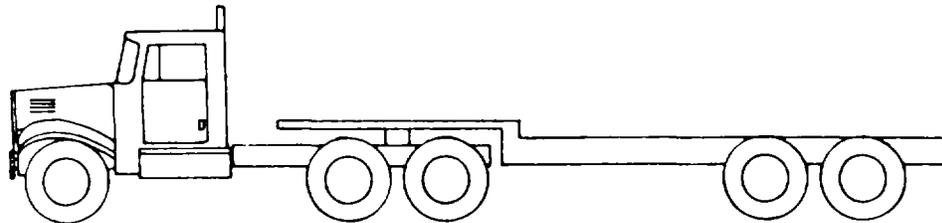
V17 - 75  
V18 - 0  
V19 - 22



23      Drop frame, low bed, lowboy - A trailer with a platform body constructed to provide a low loading height and designed for the transportation of extremely heavy or bulky property.

Example:

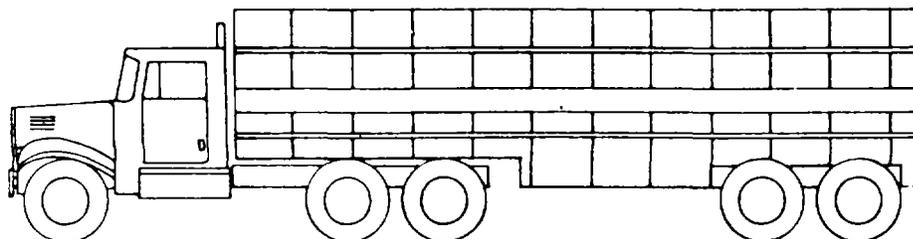
V17 - 75  
V18 - 0  
V19 - 23



24      Livestock carrier - A rack body with or without roof designed primarily for transportation of livestock.

Example:

V17 - 75  
V18 - 0  
V19 - 24

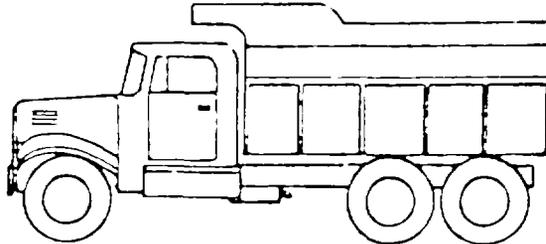


Variable Name: Seating Capacity/Truck Vocation (cont'd.)

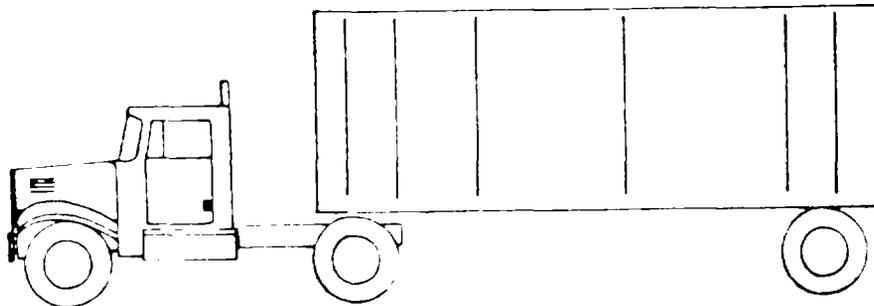
<u>Code</u>	<u>Description</u>
30	<u>Pickup box (non-dump, includes open box and caps)</u> - A cap is attached to top of the pickup bed and is not enclosed when standing by itself.
31	<u>Pickup with slide-in camper</u> - A slide-in camper is an enclosed (self-contained) unit that slides into the bed of the pickup.
32	<u>Dump</u> - A low slide open box body, designed primarily to transport dry fluid commodities in bulk, which can be tilted or otherwise manipulated to discharge its load by gravity.

Example

V17 = 53, 71 or 72  
V18 = 0  
V19 = 32



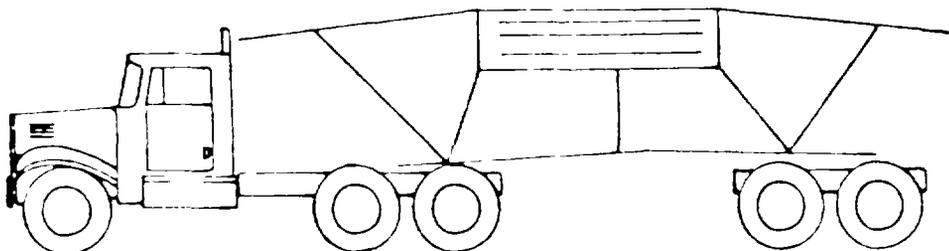
V17 = 75  
V18 = 0  
V19 = 32



35 Auto carrier/boat carrier - A body designed primarily for the transportation of other transport vehicles.

Example.

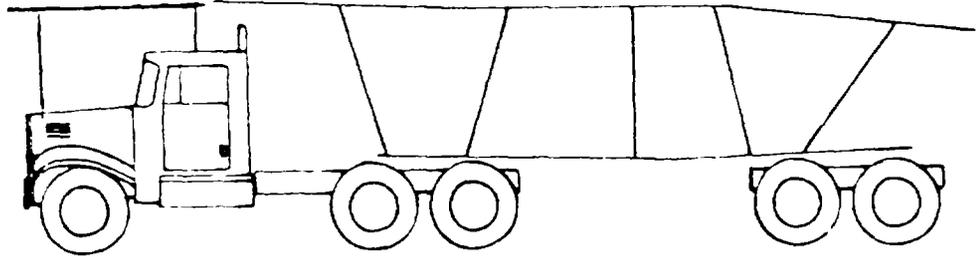
V17 = 75  
V18 = 0  
V19 = 35



Variable Name: Seating Capacity/Truck Vocation (cont'd.)

Code      Description

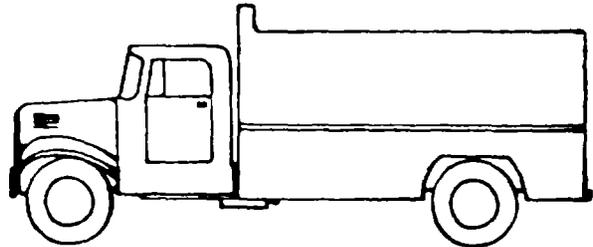
V17 - 75  
V18 - 0  
V19 - 35



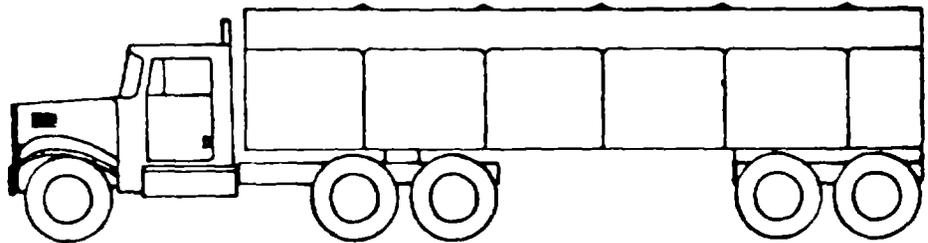
36      Van-open top - A body with high closed sides and ends, and a removable top, which usually is a tarpaulin cover.

Example:

V17 - 53, 71 or 72  
V18 - 0  
V19 - 36



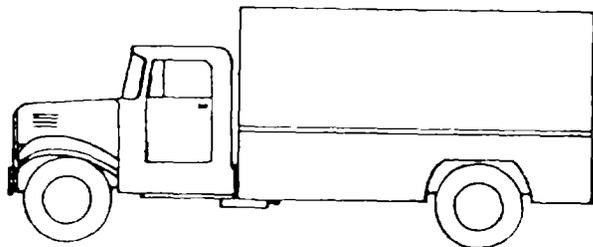
V17 - 75  
V18 - 0  
V19 - 36



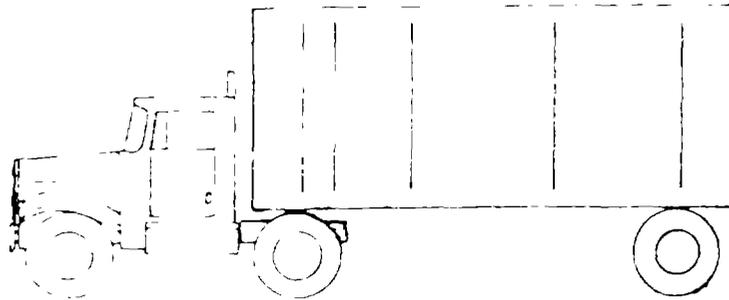
40      Van-closed top - A fully enclosed body designed primarily for the transportation of package commodities.

Example:

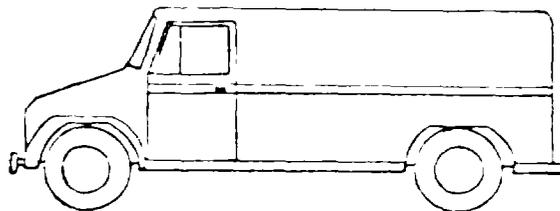
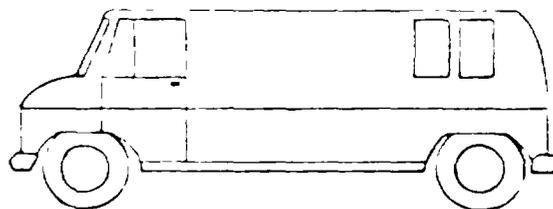
V17 - 41, 53, 70, 71, 72  
V18 - 0  
V19 - 40



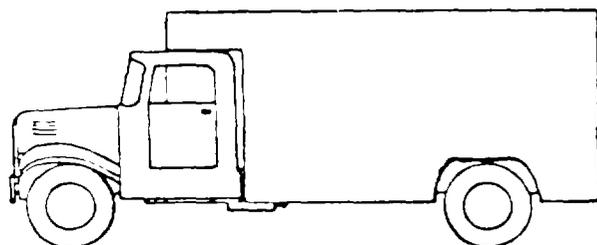
Variable Name Seating Capacity/Truck Vocation (cont'd.)

Code      DescriptionV17 = 75  
V18 = 0  
V19 = 4040      Van-closed top (e.g., multi-stop or walk-in)- A fully enclosed body with driver's compartment integral and designed for easy access

Example

V17 = 70  
V18 = 0  
V19 = 40V17 = 70  
V18 = 0  
V19 = 4041      Low bed Van (e.g., moving van) - A van body designed primarily for transportation of furniture or household goods. Customarily, when truck-mounted, it includes an integral driver's compartment

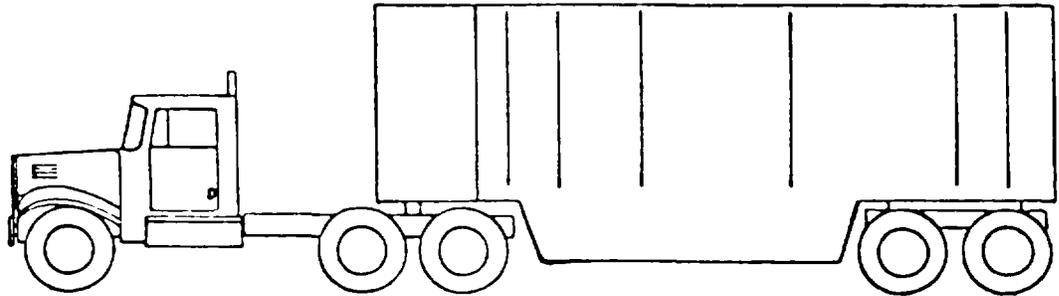
Example

V17 = 41, 53, 71, or 72  
V18 = 0  
V19 = 41

Variable Name: Seating Capacity/Truck Vocation (cont'd.)

Code      Description

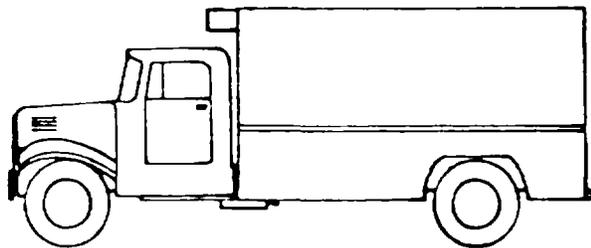
V17 - 75  
V18 - 0  
V19 - 41



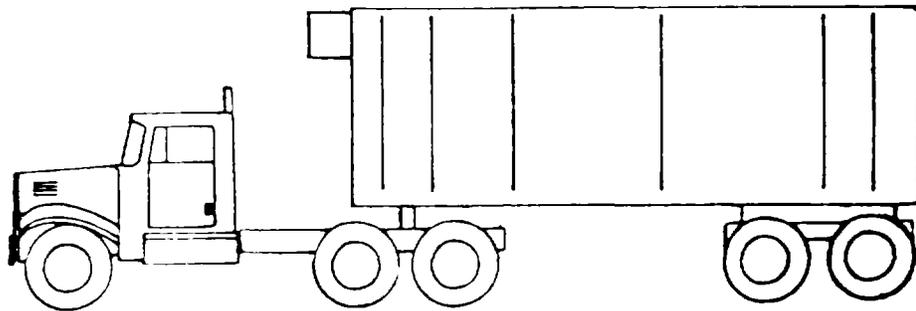
42      Refrigerated or insulated - A van body designed primarily for the transportation of commodities or the vending of food, beverage, or confections at controlled temperatures. It may be provided with equipment for refrigeration or heating.

Example:

V17 - 41, 48, 52, 70, 71 or 72  
V18 - 0  
V19 - 42



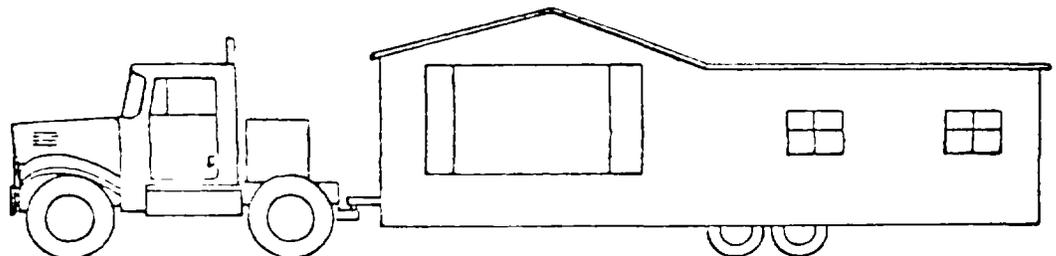
V17 - 75  
V18 - 0  
V19 - 42



43      Mobile home - A body designed for use as an abode with bunk(s), including house body and camper body.

Example:

V17 - 75  
V18 - 0  
V19 - 43



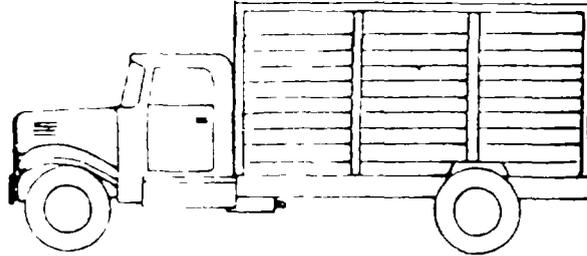
Variable Name. Seating Capacity/Truck Vocation (cont'd.)

Code      Description

44      Beverage, bottler - A body designed primarily for the transportation of cased, bottled beverages on opened or closed shelves, A-frame or pallets.

Example

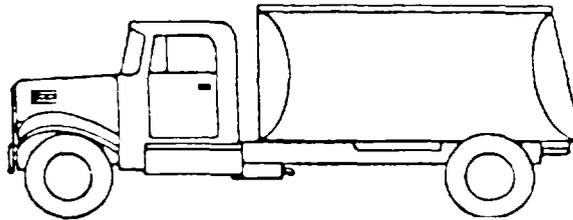
V17 = 71 or 72  
V18 = 0  
V19 = 44



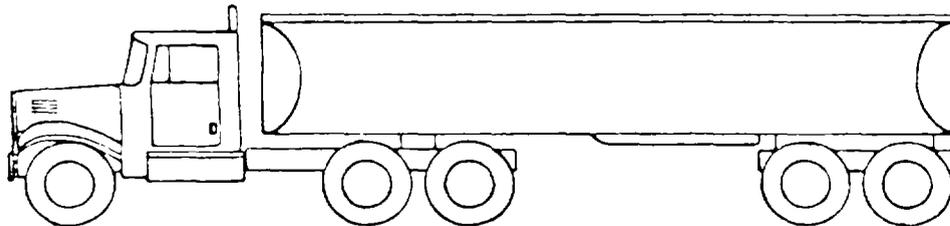
46      Tank-liquid and gaseous - A body designed for the transport of bulk liquid commodities (i e., petroleum, oil, water, etc.).

Example

V17 = 53, 71 or 72  
V18 = 0  
V19 = 46



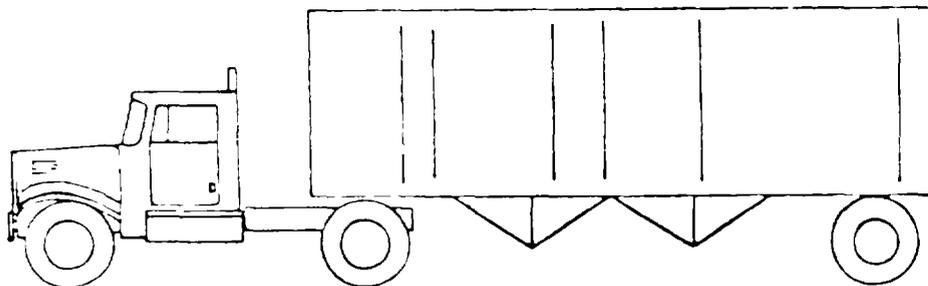
V17 = 75  
V18 = 0  
V19 = 46



47      Tank-dry bulk- A body designed for the transport of bulk dry commodities (i e. grain or dry chemicals)

Example

V17 = 75  
V18 = 0  
V19 = 47



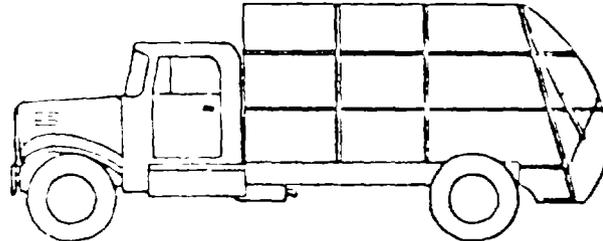
Variable Name: Seating Capacity/Truck Vocation (cont'd.)

Code      Description

50      Garbage - refuse - A body designed primarily for the collection of garbage and refuse. It is frequently equipped within the body.

Example:

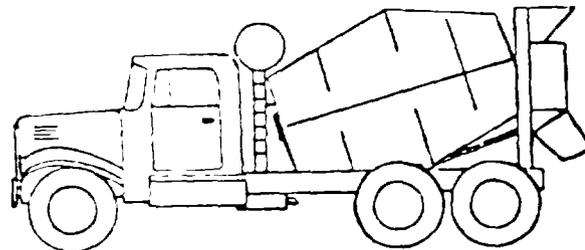
V17 - 71 or 72  
V18 - 0  
V19 - 50



52      Cement mixer - A body designed and equipped to mix or agitate concrete.

Example:

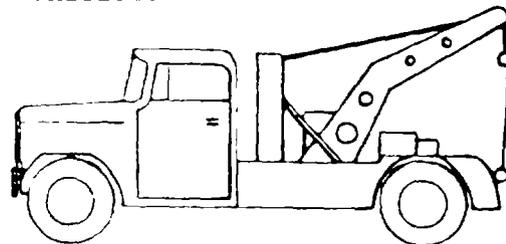
V17 - 71 or 72  
V18 - 0  
V19 - 52



53      Wrecker, tow - A body designed primarily for the transportation of equipment for salvaging disabled vehicles and equipped with means for hoisting and towing such vehicles.

Example:

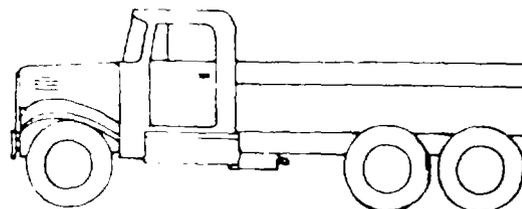
V17 - 53, 71 or 72  
V18 - 0  
V19 - 53



55      Service, mobile repair (example: electrical utility repair vehicle)  
- A body designed primarily for the transportation of tools, equipment, and supplies for construction, maintenance, and repair purposes.

Example:

V17 - 53, 71 or 72  
V18 - 0  
V19 - 55



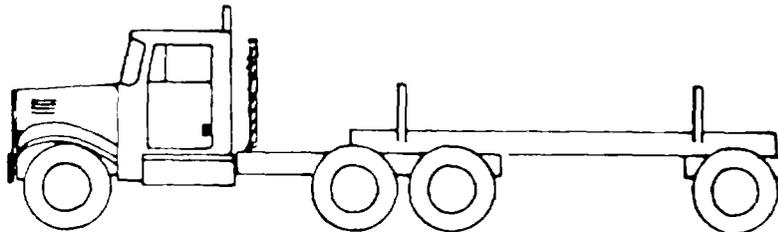
Variable Name Seating Capacity/Truck Vocation (cont'd )

Code      Description

56      Pole - A body comprised of sill, bolsters, with or without headboard, with provision for uprights, and designed primarily for the transportation of logs, poles, pipes or other loads which may be boomed

Example

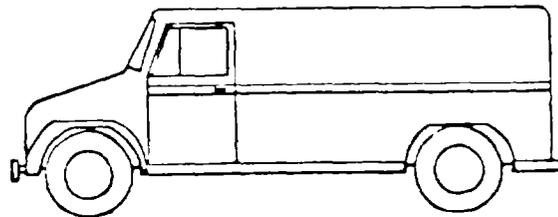
V17 = 75  
V18 = 0  
V19 = 56



57      Armored truck - An enclosed cargo body with integral driver's compartment so constructed as to protect cargo and crew from overt attack

Example

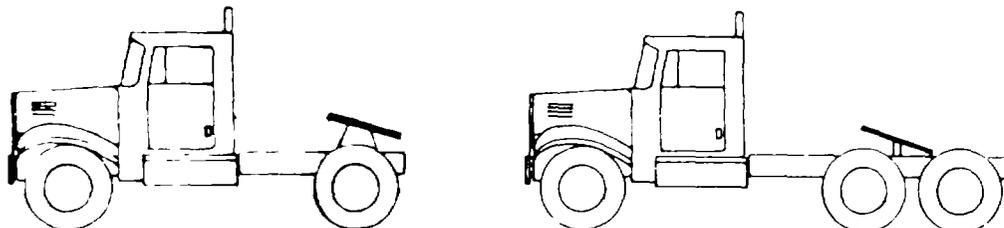
V17 = 41, 53, 70, 71 or 72  
V18 = 0  
V19 = 57



61      Truck-tractor no trailer- Any vehicle constructed primarily to pull a semi-trailer, full trailer, pole trailer, house trailer or equipment

Example

V17 = 74  
V18 = 0  
V19 = 71

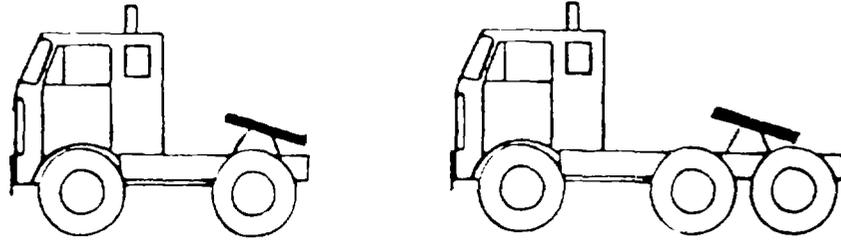


Variable Name: Seating Capacity/Truck Vocation (cont'd.)

Code      Description

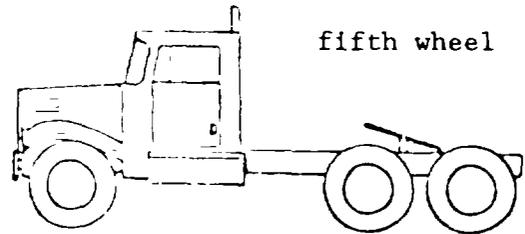
Cab over engine (COE) configuration

V17 - 74  
V18 - 0  
V19 - 71



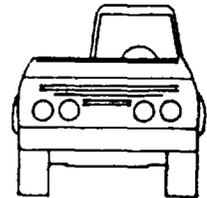
Cab behind engine (CBE) configuration

V17 - 74  
V18 - 0  
V19 - 71

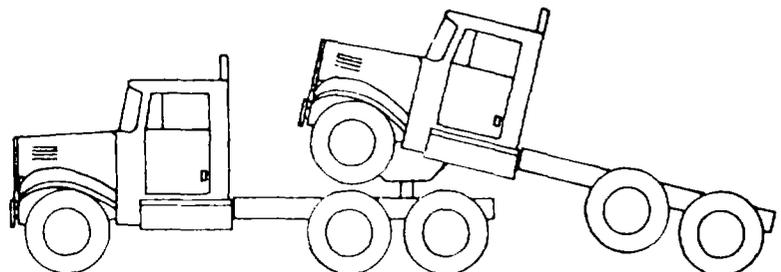


Cab alongside engine (CAE) configuration

V17 - 74  
V18 - 0  
V19 - 71



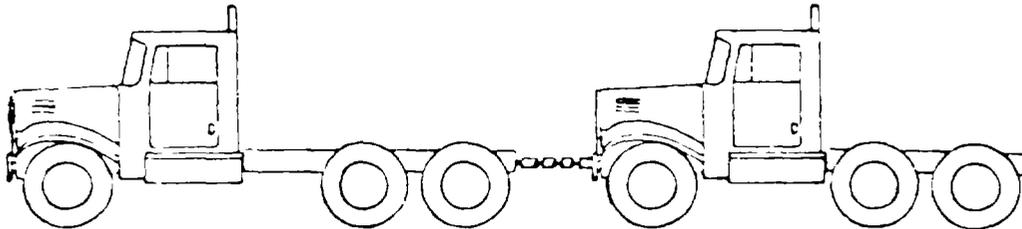
V17 - 74  
V18 - 0  
V19 - 71



Variable Name: Seating Capacity/Truck Vocation (cont'd.)

Code      Description

V17 = 74  
V18 = 1  
V19 = 71



Other (Codes "28", "38", "48", "58", and "97") - Includes any body style that is known and can be typed, yet cannot be coded in one of the specific attributes.

Unknown (Codes 19 and 98) - Includes body types that can be identified as either passenger or cargo vehicles but the seating capacity/cargo configuration is unknown.

Unknown (Code 99) - Includes hit and run vehicles which are not identifiable by body type in the police accident report. This also includes any other vehicle which is not inspected and the information on the PAR is not sufficient to identify the body type as being passenger or cargo



V20  
 V21  
 V22  
 V23  
 (2)

Variable Name: Tire Condition (at time of or resulting from accident)

Axle  
 Tire  
 Condition [cont'd.]

Only tires identified as having a pre-existing condition or sustaining damage during the accident sequence are noted in these variables. If no tires are identified, then all columns should be coded "0" (no abnormal tire condition). If only one, two, or three tires are identified then the remaining fields should be "closed-out" with code "0". In the case of multiple tires regarding coding, prioritize the tires from left to right and front to back.

Code (9) for all fields if the vehicle was not inspected. For vehicles with missing tires, code the axle and location appropriately and code the condition "9". For all remaining undamaged tires, code 0's unless a pre-existing condition or collision damage is noted. For vehicles with more than four tires, when not all tires are inspected (e.g., tractor trailers with only a tractor inspection), code all known pre-existing or damage conditions and code 9 for all remaining Tire Condition variables.

All tires on the vehicle or its trailing unit(s) may be identified. This includes the power unit as well as all trailers or towed units.

#### Axle

Code "0" (no abnormal tire condition) if no abnormal condition or accident damage is identified. This code is also used as a default in the case that a pre-existing condition which is not found in condition codes "1" - "3" exists.

Code "1" - "7" for the actual axle on which the damage tire is positioned. Axles are numbered starting from the front and going to the last axle present on the vehicle and its trailing units.

Code "8" if an identified tire is positioned on axle number eight or greater.

Code "9" (unknown axle) if the vehicle was not inspected or in the circumstances noted above. Also in the case of a known tire condition but the axle number cannot be determined (by trailer inspected and power unit not seen) the "9" is valid in combination with a known tire condition.

#### Tire

Code "0" (no abnormal tire condition) as described above.

V20  
 V21  
 V22  
 V23  
 (3)

Variable Name: Tire Condition (at time of or resulting from accident)  
 Axle  
 Tire  
 Condition [cont'd.]

In this field a maximum of four tires are available for coding to a particular axle. Codes "1" and "2" are the left side tires on an axle while codes "3" and "4" are the right side tires. Codes "1" and "4" are the outmost tires on an axle while codes "2" and "3" are the inner tires on an axle. Codes "2" and "3" are to be utilized only in the case of dual wheels on an axle. Some typical footprints with the proper tire coding are shown below:

1 4	1	1 4
1 4	1	1 2 3 4
Passenger Car	Motorcycle	1 2 3 4
1 4	1	1 2 3 4
1 2 3 4	1 4	1 2 3 4
Dual Wheel Pickup	Motorcycle with Sidecar	5-axle tractor semitrailer with dual wheels on all axles except front

If there are more than two tires on one side of the axle and a condition is identified on one of the inner tires the code "2" or "3" is applicable.

Code "9" (unknown axle damage) if the vehicle is not inspected or if a tire condition is identified but the tire's position on the axle is not known.

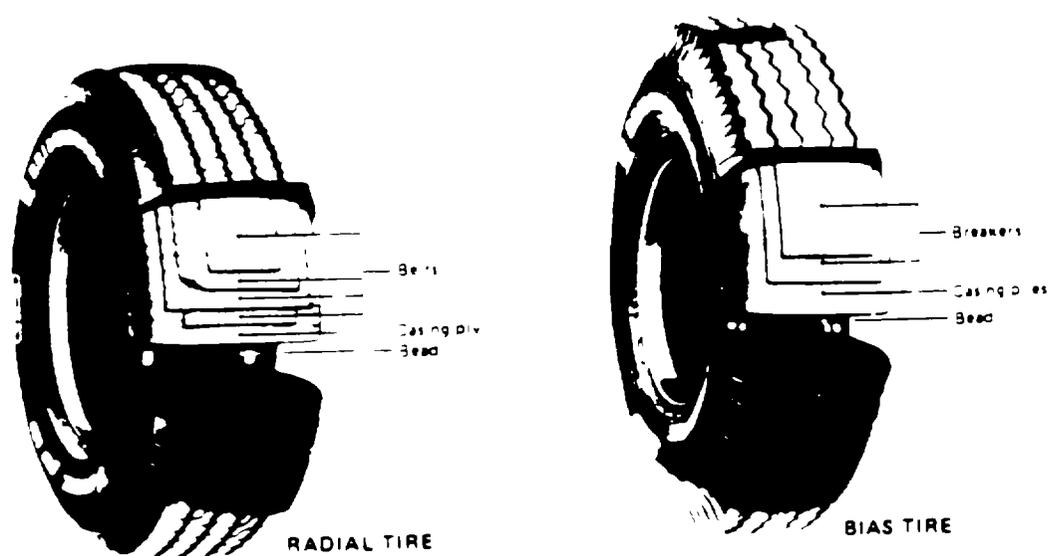
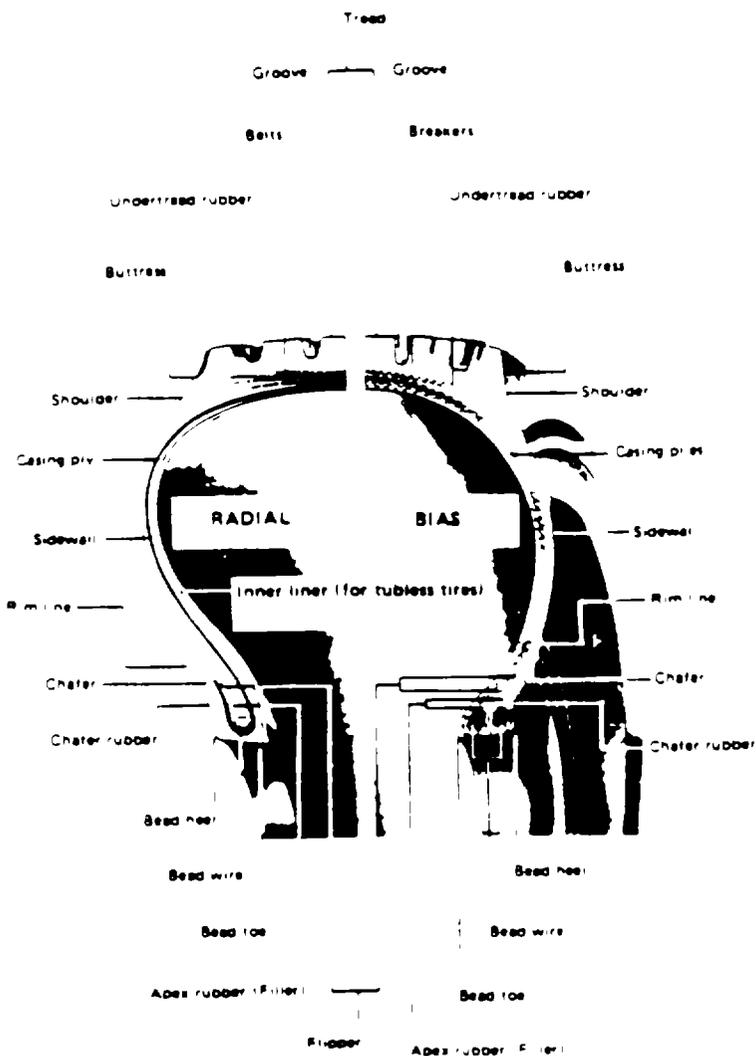
Condition:

Code "0" (no listed abnormal tire condition) as shown above.

The following figures illustrating the various parts of a tire may aid in defining codes "1", "2", and "3".

FIGURE 1  
TIRE CONSTRUCTION

V2C  
V21  
V22  
V23  
(4)



V20  
V21  
V22  
V23  
(5)

Variable Name: Tire Condition (at time of or resulting from accident)  
Axle  
Tire  
Condition [cont'd.]

Codes "1", "2", and "3" are pre-existing conditions only and take precedence over code "4" which is damage incurred during the accident sequence. If two conditions exist on the same tire, code the condition with the lowest numbered code. Only one condition is coded per tire. Also, damage to the rim or wheel is not coded in this variable.

Code "1" (Evidence of tread separation) if any of the following conditions exist:

- a. There is a physical separation of any portion of the tread from the tire body or carcass (casing ply) with dimensions greater than 3 inches in any direction.
- b. There is a crack or delamination at the inboard or outboard shoulder of the tire tread of a length and of a depth of at least 1/4 inch. The depth can be determined by inserting a metal probe into the crack and measuring the penetration.
- c. There is any raised blister or bubble of any size at any place on the tread surface. This shall be determined by manually feeling the tire tread surface and looking for bubbles.
- d. There is any evidence of exposed cord at the area where the tread meets the shoulder of the tire.

Code "2" (Carcass failure) is indicated when there is any evidence of broken tire cords or casing ply(ies) at any place on the tire body including the tire sidewall or tread area. These broken cords may or may not extend completely through the tire body. Consequently carcass failure may be indicated even when the tire is not flat.

V20

V21

V22

V23

(6)

Variable Name: Tire Condition (at time of or resulting from accident)

Axle

Tire

Condition [cont'd.]

Code "3" (Wear Bars Exposed) when there is any exposure of at least one of the tire tread bars. All car, truck, and motorcycle tires sold in the USA are required to have treadwear indicators molded into the tire tread pattern. These show the amount of tread rubber that is left before the tire is worn completely smooth. The treadwear bar indicators consist of raised areas in the bottom of the tread grooves which are approximately 1/2 inch long. They are located in a band across the face of the tread. When the tire wears down to where the treadwear bar indicators are exposed, then the tread pattern in this location disappears and a smooth band or a bar of rubber appears across the face of the tread. The number of treadwear indicators around the circumference of the tire as well as the indicated remaining tread depth depend on the tire type. There are three cases as follows:

V20  
V21  
V22  
V23  
(7)

Variable Name: Tire Condition (at time of or resulting from accident)  
Axle  
Tire  
Condition [cont'd.]

Case I - All Truck Tires and 13", 14", and 15" Passenger Car Tires

Treadwear bar indicators are located in at least six places around the circumference of the tire (i.e., every 60 degrees) and indicate 2/32 inch of tread remaining.

Case II - 12" Passenger Car Tires

Treadwear bar indicators are located in at least three places around the circumference of the tire (i.e., every 120 degrees) and indicated 2/32 inch of tread remaining.

Case III - Motorcycle Tires

Treadwear bar indicators are located in at least three places around the tire circumference of the tire (i.e., every 120 degrees) and indicate 1/32 inch of tread remaining.

Code "4" (Damaged as a result of the accident) includes air out - loss of air pressure. This must be a result of damage and is distinguished from a tire going flat while sitting in a tow yard. One must look to the tire for evidence of damage [e.g., bent rim, grass/weeds in bead, scraped/shredded sidewall (damage in and of itself), etc.].

Code "9" (Unknown tire condition) if the vehicle (or only portion there of) is not inspected and the pre-existing or damage conditions of the tires could not be identified.

Variable Name: Type of Outside Mirror - Left  
Type of Outside Mirror - Right

Format: 1 column - numeric

Beginning  
Column 59  
60

Element Values:

- 0 Mirror Not Present
- 1 Plane Mirror
- 2 Convex Mirror
- 3 Plane plus stick-on convex mirror
- 4 Plane plus separate convex mirror
- 8 Other type mirror (specify)
- 9 Unknown

Source. Vehicle Inspection

Remarks

This variable pertains to all vehicle body types and is based on vehicle inspection. It is coded for mirrors present on the left and/or right sides of the vehicle and the mirrors must be present and operational (i.e., not broken) at the time of the accident to use codes 1-8.

Code "0" (mirror not present) if vehicle was not equipped with an outside mirror. A mirror which is broken in such a fashion that the driver does not have a clear rear view is not operational and should be coded "0". Code "0" includes mirrors which are clouded due to age, fractures, etc., or any other abnormal condition which renders the mirror useless.

Code "1" (plane mirror) if vehicle was equipped with only a plane mirror on the left and/or right side.

Code "2" (convex mirror) if vehicle was equipped with only a convex mirror on the left and/or right side.

Code "3" (plane plus stick-on convex mirror) if vehicle was equipped with a plane plus stick-on convex mirror and/or right side. A stick-on convex mirror is defined as any rectangular, oval, circular, etc. convex mirror that is partially applied to a plane mirror surface.

VEHICLE FORM

V24  
V25  
(2)

Variable Name: Type of Outside Mirror - Left (cont'd.)  
Type of Outside Mirror - Right (cont'd.)

Code "4" (plane plus separate convex mirror) if in addition to a plane mirror a separate convex mirror has been affixed to the left and/or right side of the vehicle.

Code "8" (Other) if the type of mirror is other than those listed. Specify the type and document photographically.

Code "9" (Unknown) if the type of mirror cannot be determined (i.e., vehicle not inspected) or if the mirror(s) is damaged, missing, etc.

Variable Name: Override/Underride (this vehicle)

Format: 1 column - numeric

Beginning  
Column 61

Element Values:

0 No override/underride or vehicle not applicable to CDC/TDC

Override (see specified CDC)

1 1st CDC (V42-47)

2 2nd CDC (V51-56)

3 Other not automated CDC (specify)

Underride (see specified CDC)

4 1st CDC (V42-47)

5 2nd CDC (V51-56)

6 Other not automated CDC (specify)

7 Medium/heavy truck override/underride

9 Unknown

Source: Vehicle Inspection

Remarks

Override/Underride is coded from the perspective of vehicle damage patterns and is not based on coding in column 6 of the CDC/TDC.

This variable is intended to capture those instances where there is an uneven damage pattern caused by different amounts of crush in different vertical zones of the vehicle. Because of the different crush stiffnesses involved in these collisions, and the strict requirements for coding override situations with CDC, some method was needed to alert the vehicle safety analysts to these uneven crush patterns.

This variable is coded for the action of the vehicle, i.e., overriding (codes 1-3) or underriding (code 4-6). Code "0" if no override/underride occurred to this vehicle or if the vehicle is not applicable to CDC/TDC. This variable is coded for vehicle-to-vehicle collisions only. If the action of one vehicle is overriding (codes 1-3), then the action of the other vehicle must be underriding (codes 4-6). A not-in-transport vehicle (TDC/CDC applicable) will be treated as a vehicle and not as an object for the purposes of this variable.

Variable Name: Override/Underride (this vehicle) [cont'd.]

Codes "1" - "6" and "9" are to be used only when both vehicles of a two vehicle accident involved in the override/underrides configuration are CDC applicable. If either or both vehicles are TDC applicable and an override/underride occurred use code "7".

Override/Underride as used in this variable is defined as any situation where the bumpers of two vehicles do not match up vertically and damage occurs above or below the bumper of the vehicle in question. Codes "4" - "6" apply to any vehicle where the technique of averaging of two planes of measurements is utilized. For end to end impacts, a mismatch of bumpers is sufficient. For side impacts, codes "4" - "6" are used only when the impact on a vehicle with side damage requires a second set of measurements for averaging (i.e., latch, hinge, or pillar failure).

Although the measurement techniques utilized in NASS do not include those instances where the damage is below the bumper or sill, those cases are to be coded "1" - "3" as appropriate.

The attributes "1" - "6" relate to the coded CDCs; in other words the first CDC (codes "1" and "4") means the most severe impact to the vehicle. If an impact involving override/underride is not the first or second most severe impact to the vehicle use the codes "3" or "6" and specify the event number.

For those vehicles beyond the scope of TDC and CDC code "0".

The only instance in which both vehicles in an impact, for which there is a codeable Override/Underride, would not have an Override or Underride coded is when one of the vehicles is not inspected. In this case, the inspected vehicle would receive, if applicable, an Override/Underride code and the non-inspected vehicle be coded as "9" (Unknown).

Code "9" (Unknown) when there is no codeable known CDC for this vehicle.

Variable Name: Rear Turn Signal Color

Format: 1 column - numeric

Beginning  
Column 62

Element Values:

- (0) No turn signals
- (1) Red
- (2) Amber
- (8) Other (specify)
- (9) Unknown

Source: Vehicle Inspection

Remarks:

This variable is to be coded for all body types based on vehicle inspection. The code should reflect the color of the turn signals on the rearmost portion of the vehicle (trailer, etc.).

Code "0" (No turn signals) only if there are no lights on the rear of the vehicle to indicate the desired turn direction.

Code "1" (Red) if the rear turn signals equipped on the vehicle are red.

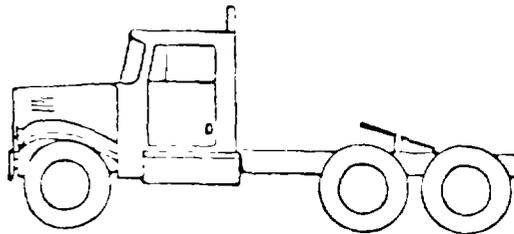
Code "2" (Amber) if the rear turn signals equipped on the vehicle are amber (yellow).

Code "9" (Unknown) if the exact color cannot be determined.

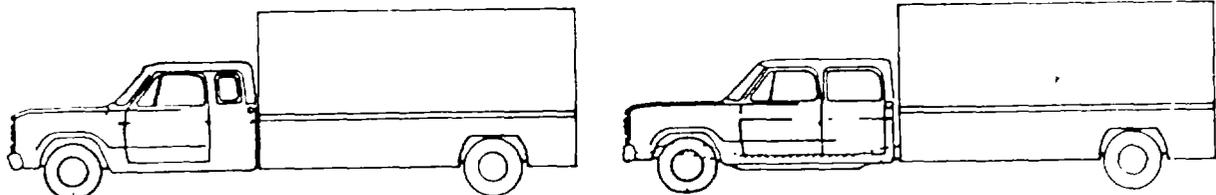
Variable Name: Cab configuration (cont'd.)

<u>Code</u>	<u>Description</u>
3	Code "3" is used when it can be determined that the truck has a COE configuration, however, it is unknown whether it has a high or low entry.

4	CBE - 2-door (standard)
---	-------------------------

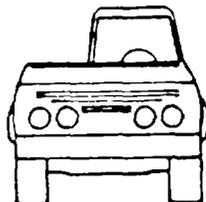


5	CBE - 2-door extended cab/4-door crew cab
---	-------------------------------------------



6	Code "6" is used when it can be determined that the truck has a CBE (Conventional) configuration, however, the number of doors is unknown.
---	--------------------------------------------------------------------------------------------------------------------------------------------

7	Cab alongside engine (CAE)
---	----------------------------



Variable Name: Cab configuration (cont'd.)

<u>Code</u>	<u>Description</u>
7	Code "8" (Other) is used when the truck cab configuration cannot be classified using one of the above codes. This code is also used for busses (V17 = 30-39) or step vans (V17 = 70).
9	Code "9" (Unknown) is used when the cab configuration cannot be determined (e.g., no vehicle inspection). Code "9" is also used when it cannot be determined if the vehicle is a truck or another motor vehicle.

The relationship between this variable and V17 Body Type, is shown in the table below:

If V17 Equals	Then V28 equals
01-29,40-69	0
30-39, 70	8
71-79,99	1-9
80-89	0

VEHICLE FORM

V29  
V30  
V31  
V32

Variable Name: Number of Axles - Power Unit (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)  
 Number of Axles - 1st Trailer (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)  
 Number of Axles - 2nd Trailer (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)  
 Number of Axles - 3rd Trailer (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)

Format: 1 column - numeric  
 Beginning Column 47  
 48  
 49  
 50

Element Values:

- 0 Not a medium/heavy truck or bus over 10,000 lbs. GVWR - (V17 ≠ 30-39 or 70-78)
- 1 One
- 2 Two
- 3 Three
- 4 Four
- 5 Five
- 6 Six
- 7 Seven or more
- 8 No trailer
- 9 Unknown

Source Primary source is vehicle inspection; secondary source includes driver interview, photographs (newspaper, police, etc.), and police report.

Remarks

Axles are coded for the unit to which they are primarily attached. Axles on a converter dolly are coded for the unit under which they exist.

Liftable axles (axles which are intermittently load bearing) are coded independent of their position at the time of the accident, it doesn't matter if they were up or down.

VEHICLE FORM

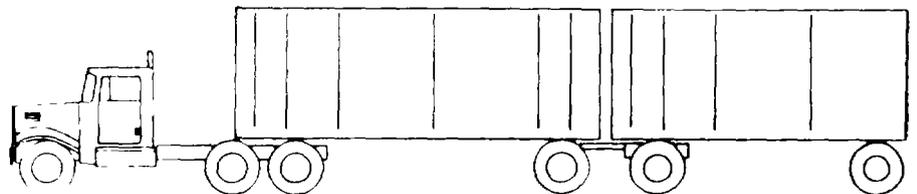
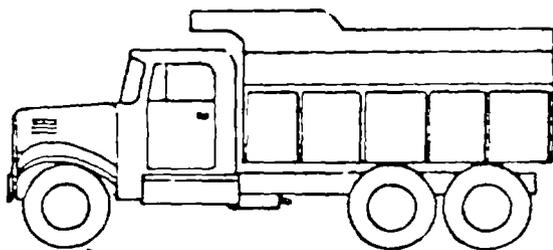
V29  
 V30  
 V31  
 V32  
 (2)

Variable Name: Number of Axles - Power Unit (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)  
 Number of Axles - 1st Trailer (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)  
 Number of Axles - 2nd Trailer (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)  
 Number of Axles - 3rd Trailer (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)

If V17 = 78 (unknown truck type [medium/heavy]) these variables must be coded "9" (unknown).

"DOLLY LEGS", which are used to hold up the front of a semi-trailer when not attached to a tractor, should not be counted as an axle for Variables 29-32.

EXAMPLES:

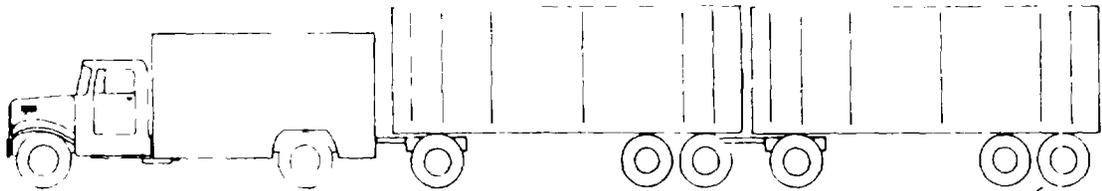


Codes: 29 - 1 + 1+1 - 3  
 30 - . . . . . 8  
 31 - . . . . . 8  
 32 - . . . . . 8

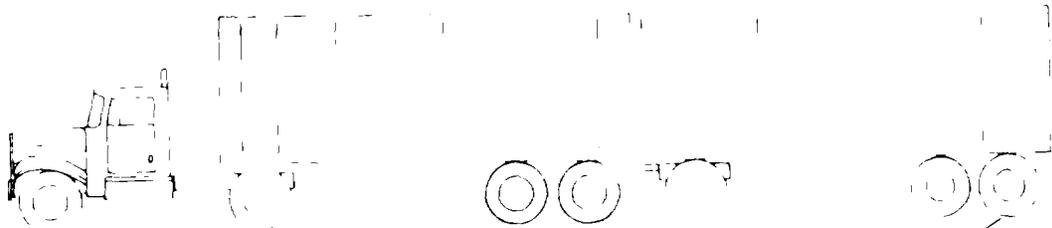
Codes: 29 - 1 + 1+1 - 3  
 30 - . . . . . - 1  
 31 - . . . . . 1+1 - 2  
 32 - . . . . . - 8

V29  
 V30  
 V31  
 V32  
 (3)

Variable Name: Number of Axles - Power Unit (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)  
 Number of Axles - 1st Trailer (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)  
 Number of Axles - 2nd Trailer (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)  
 Number of Axles - 3rd Trailer (Medium/Heavy Trucks and Busses Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)



Codes: 29 - 1 + 1 - 2  
 30 - . . . . . 1+1+1 - 3  
 31 - . . . . . 1+1+1 = 3  
 32 - . . . . . - 8



Codes: 29 - 1 + 1 - 2  
 30 - . . . . . 1+1 - 2  
 31 - . . . . . 1+1+1 = 3  
 32 - . . . . . - 8

VEHICLE FORM

V33  
V34  
V35

Variable Name: Length of 1st Trailing Unit (Medium/Heavy Trucks or Bus  
Over 10,000 lbs. GVWR -- [V17 = 30-39 or 70-78])  
Length of 2nd Trailing Unit (Medium/Heavy Trucks or Bus  
Over 10,000 lbs. GVWR -- [V17 = 30-39 or 70-78])  
Length of 3rd Trailing Unit (Medium/Heavy Trucks or Bus  
Over 10,000 lbs. GVWR -- [V17 = 30-39 or 70-78])

Format: 1 column - numeric

Beginning	
Column	68
	69
	70

Element Values:

0	Not a medium/heavy truck or bus (V17 = 30-39 or 70-78)
1	Less than 26 feet
2	26-28 feet
3	29-31 feet
4	32-40 feet
5	41-45 feet
6	46-48 feet
7	More than 48 feet
8	No trailer
9	Unknown

Source: Primary source is vehicle inspection; secondary sources include registration, driver interview, police reports, and company records.

Remarks:

If the vehicle qualifies as a medium/heavy truck or bus (V17 = 30-39 or 70-78), the investigator should measure the length of each trailer being towed. This includes semi-trailers as well as full trailers.

For multiple trailing units, measure only the length of the trailer itself. Do not include trailer dollies or drawbars in the length (see diagram below).

The actual length of each trailer should be noted on page 6A-6P and in the space provided on the form. For trailers of variable length (i.e., logging trailers), code the trailer's measured length if it is unchanged from the length at the time of the accident. If the trailer's length is reportedly changed, then code the trailer's length from available information (i.e., police reports, driver interviews and company records).

VEHICLE FORM

V33  
V34  
V35  
(2)

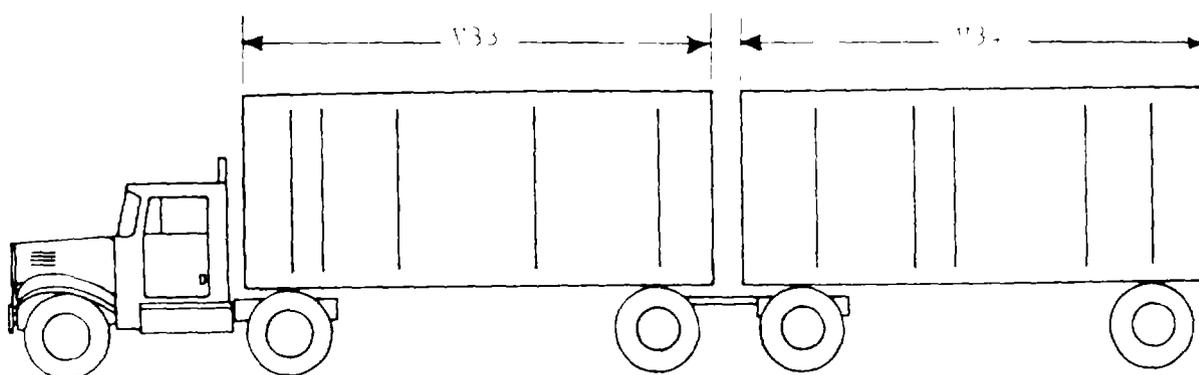
Variable Name: Length of 1st Trailing Unit (Medium/Heavy Trucks or Bus  
Over 10,000 lbs. GVWR -- [V17 = 30-39 or 70-78])  
Length of 2nd Trailing Unit (Medium/Heavy Trucks or Bus  
Over 10,000 lbs. GVWR -- [V17 = 30-39 or 70-78])  
Length of 3rd Trailing Unit (Medium/Heavy Trucks or Bus  
Over 10,000 lbs. GVWR -- [V17 = 30-39 or 70-78])

Any vehicle which is not a medium/heavy truck or bus (V17 = 30-39 or 70-78) must be coded "0" (not a medium/heavy truck or bus (V17 = 30-39 or 70-78)).

Trailer lengths should be rounded to the nearest foot for encoding purposes.

Code "0" for any vehicle where V17 = 79 (unknown truck type [light/medium/heavy]).

Code "9" (Unknown) for any vehicle where V17 = 78 (unknown truck type [medium/heavy]).



V35=8

Variable Name: Maximum Overall Width (Medium/Heavy Trucks and Busses  
Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)

Format: 3 columns - numeric

Beginning  
Column 71

Element Values:

Code actual maximum width to the nearest inch

Range: 48-130 inches

000 Not a medium/heavy truck or bus (V17 = 30-39 or 70-78)

998 998 inches or more

999 Unknown

Source: Vehicle Inspection

Remarks:

The maximum width of the vehicle, including any trailing units, should be recorded on page 6A-6P and in the space provided. The value should be coded to the nearest inch.

Vehicles which do not qualify as medium/heavy trucks or busses (V17 = 30-39 or 70-78) should be coded as "000" (not a medium/heavy truck or bus).

Maximum width does not include any add-on equipment (e.g., mirrors, horns, etc.) even though they may be permanently attached. Cargo is not included in maximum overall width.

Code "000" includes any vehicle where V17 = 79 (unknown truck type [light/medium/heavy]).

Code "998" should never occur.

Code "999" (Unknown) includes any vehicle where V17 = 78 (unknown truck type [medium/heavy]).

Variable Name: Maximum Overall Length (Medium/Heavy Trucks and Busses  
Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)

Format: 3 columns - numeric

Beginning  
Column 74

Element Values:

Code actual maximum length to the nearest foot,  
including the power unit and all trailers

Range: 10-150 feet

000 Not a medium/heavy truck or bus (V17 = 30-39 or 70-78)

998 998 or more

999 Unknown

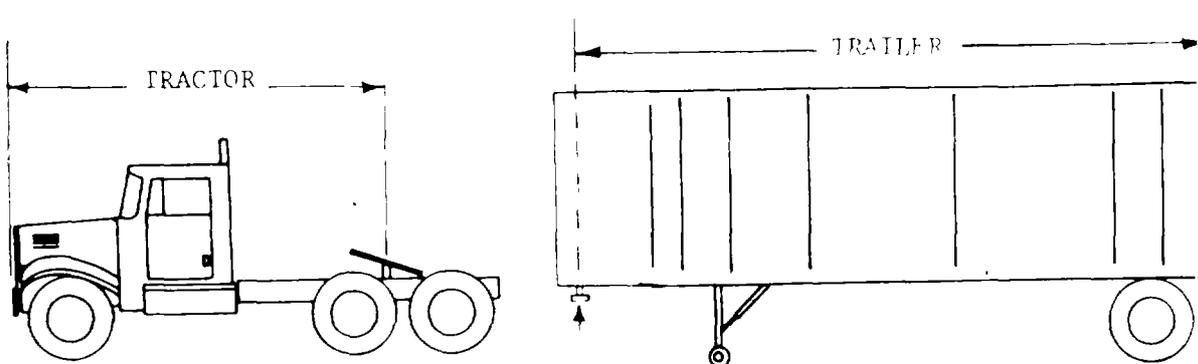
Source: Primary source is vehicle inspection; secondary sources include  
driver interview and vehicle logbook

Remarks:

Measure entire length of the vehicle including all trailers, drawbars,  
etc. Code to the nearest foot the actual length, which should be noted  
on page 6A-6P and in the space provided on the form.

If the vehicle is no longer configured as it was at the time of the  
accident (i.e., trailer is no longer attached to power unit), attempt to  
establish the overall length by estimating the relative positions of the  
components. On a tractor-semi-trailer this can be accomplished by  
measuring from the front of the tractor to the fifth-wheel position,  
measuring from the rear of the trailer to the trailer king-pin, and  
adding the measurements (see example below).

Code "000" includes any vehicle where V17 = 79 (Unknown truck type  
[light/medium/heavy]).



king-pin

VEHICLE FORM

V37  
(2)

Variable Name: Maximum Overall Length (Medium/Heavy Trucks and Busses  
Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)

Code "998" should never occur.

Code "999" (Unknown) includes any vehicle where V17 = 78 (unknown truck  
type [medium/heavy]).

Variable Name: Type of Brakes (Medium/Heavy Trucks and Busses  
Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)

Format: 1 column - numeric

Beginning  
Column 77

Element Values:

- 0 Not a medium/heavy/truck or bus over 10,000 lbs. GVWR  
(V17 ≠ 30-39 or 70-78)
- 1 Air
- 2 Hydraulic
- 8 Other (specify)
- 9 Unknown

Source: Primary sources are vehicle inspection and the driver interview.

Remarks:

If the vehicle qualifies as a medium/heavy truck or bus then the investigator should be sure to write on page 2 of the Driver Form (in the Specific Question block) a question to ask the driver concerning the type of brakes used by the power unit.

For tractor/trailer units, code the brake system of the tractor and annotate the trailer brake system on the vehicle sketch (pages 6L-6M).

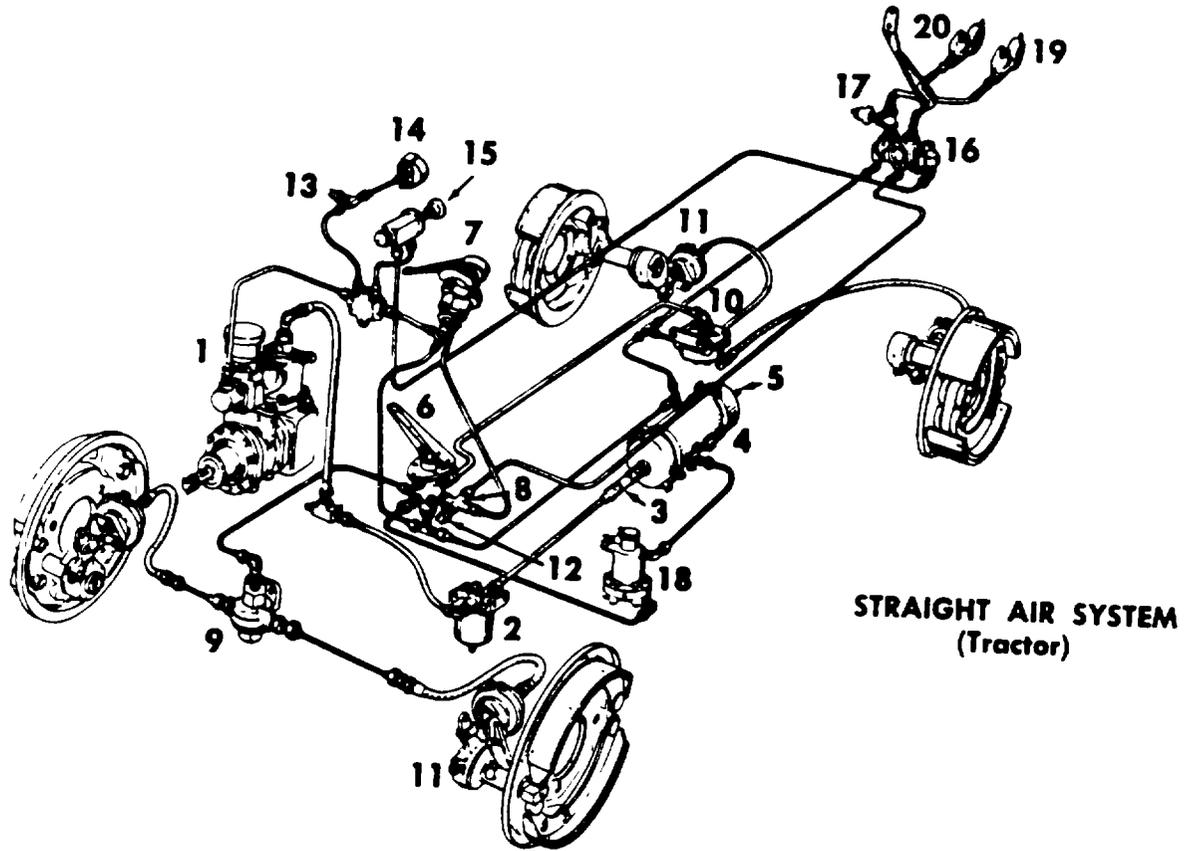
Air (code "1") brakes are normally recognized by a cylinder chamber that is attached to the brake drum and an air gauge on the instrument panel. Items 11 and 26 on the accompanying diagrams indicate the cylinder chambers on the tractor and trailer, respectively.

Hydraulic (code "2") brakes are normally recognized by a fluid line that leads directly into the brake drum.

Code "8" (Other) should be used if it is known that the type of brake actuation is not hydraulic or air.

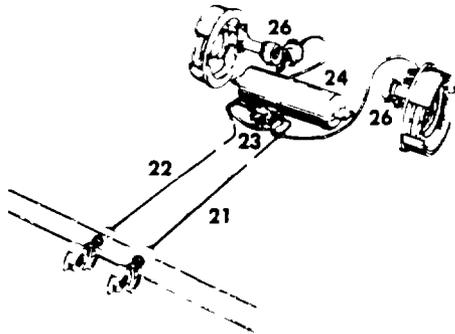
Code "9" (Unknown) must be used if the type of brake system is not known or if V17 = 78 (unknown truck type [medium/heavy])

Variable Name: Type of Brakes (Medium/Heavy Trucks and Busses  
Over 10,000 lbs. GVWR -- V17 - 30-39 or 70-78)



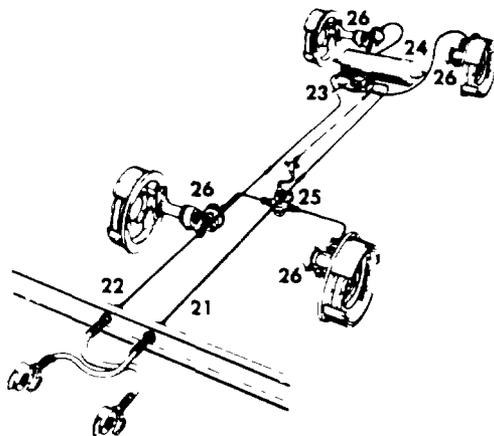
Variable Name: Type of Brakes (Medium/Heavy Trucks and Busses  
Over 10,000 lbs. GVWR -- V17 = 30-39 or 70-78)

PROTECTED TRACTOR



STRAIGHT AIR SYSTEM (Semi-Trailer)

- 1 Compressor (includes control valve)
- 2 Alcohol injector--accessory
3. Single check valve
4. Air tank
5. Reservoir safety valve
6. Foot application valve
7. Hand application valve
- 8 Two-way check valve
9. Quick-release valve
10. Relay quick-release valve,  
or  
Quick-release valve
11. Straight Air:  
Brakechamber or  
power cylinder  
Air-Over-Hydraulic.  
Power cluster
12. Switch, normal stop light  
circuit
13. Switch, low pressure indica-  
tor circuit
14. Air gauge
15. Emergency brake valve
16. Tractor air line  
protection valve
17. Switch, emergency stop light  
circuit
- 18 Moisture ejection valve--  
accessory
19. Emergency air line and hose  
coupler
- 20 Service air line and hose  
coupler



STRAIGHT AIR SYSTEM (Full Trailer)

PROTECTED TRAILER

21. Emergency air line
22. Service air line
23. Relay quick-release emer-  
gency (breakaway) valve
24. Close-coupled trailer tank
25. Quick-release valve
26. Brake chamber and slack  
adjuster
27. Power cluster

V41

V50

(2)

Variable Name: 1st C.D.C./T.D.C. - Object Contacted (cont'd.)  
2nd C.D.C./T.D.C. - Object Contacted (cont'd.)

Collision with Nonstationary Object

- 73 Animal
- 74 Trailer, disconnected in transport
- 75 Train
- 76 Other nonstationary objects  
(specify)
- 81 through 95  
If the object contacted by the  
vehicle under consideration  
was a pedestrian or nonmotorist,  
add eighty (80) to the  
Pedestrian or Nonmotorist  
number, and code the resultant  
sum (e.g., 5 + 80 = 85)
- 96 Vehicle occupant
- 97 Other object (specify)
- 99 Unknown

Source: Primary sources are the scene and vehicle inspections;  
secondary sources include the police report and interviewees.

Remarks:

Code the appropriate object contacted for each event even if there is no  
C.D.C./T.D.C.

This section is not to be completed until after the CRASH program is  
exercised except for those cases where: (1) the CRASH program is  
inapplicable, (2) the vehicle has sustained but one impact and there is  
insufficient data for a trajectory reconstruction to aid in the  
determination of force directions, or (3) the vehicle is outside the  
scope of CDC (SAE J224 MAR80).

Code "00" (Noncollision) refers to those situations where this vehicle's  
harmful event (see ANSI D16.1-1983, section 2.4.1, page 12) did not in  
any sequence result from an impact. Examples of such situations are  
covered under codes "02" through "08" of A12, First Harmful Event.  
However, it must be kept in mind that even if a vehicle's first harmful  
event did not involve an impact, the vehicle may subsequently have  
impacted a vehicle, object, pedestrian, or nonmotorist. Just because A12  
(First Harmful

INSTRUCTIONS FOR COMPLETION OF FIELD MEASUREMENTS PAGE

Document all the necessary field measurements on this page following the Crush Measurement Techniques protocol as specified in the Vehicle Inspection section of the NASS Accident Investigation Procedures Manual. Complete the top portion (measurements related to shift and bowing) when applicable. The first line would be used for base line measurements. The second line would be used for free space adjustments, and the third line would be used for recording the crush resultant. Use as many lines as necessary when applying averaging techniques. For example, on a side impact with sill override, the crush measurements taken along the plane of maximum crush are averaged with the measurements taken at the sill level. Thus, seven lines will be necessary to describe the damage profile and all seven lines will have the same impact number but different L, C, and D measurements. Note that the measurements on the seventh line are average measurements and, thus, should be annotated average under Column 2 (Plane of C-measurements)

For fiberglass bodied vehicles (e.g., Corvettes), "C" measurements should be taken where the depths of penetration or crush can be determined. This usually occurs where structural supporting members for the fiberglass panels have been deformed. For the cases where the fiberglass panels are cracked and resume their original shape or where sections are completely broken away, "C" measurements are not applicable.

INSTRUCTIONS FOR COMPLETION OF VEHICLE SKETCH

The investigator must keep in mind that all relevant data is not clearly recognized and encoded when the vehicle is inspected. Some information, of no apparent value at the time of the inspection, may be of great value in explaining vehicle or occupant phenomena in the subsequent reconstruction. For this reason, all scrapes, scratches, transfers, buckling and indications of engagement or relative motion must be annotated on this form. If there is insufficient room for this purpose, use a numerical coding scheme in which the numerals on the form page (6A through 6P) are keyed to the investigator's descriptive statements on the back of the page.

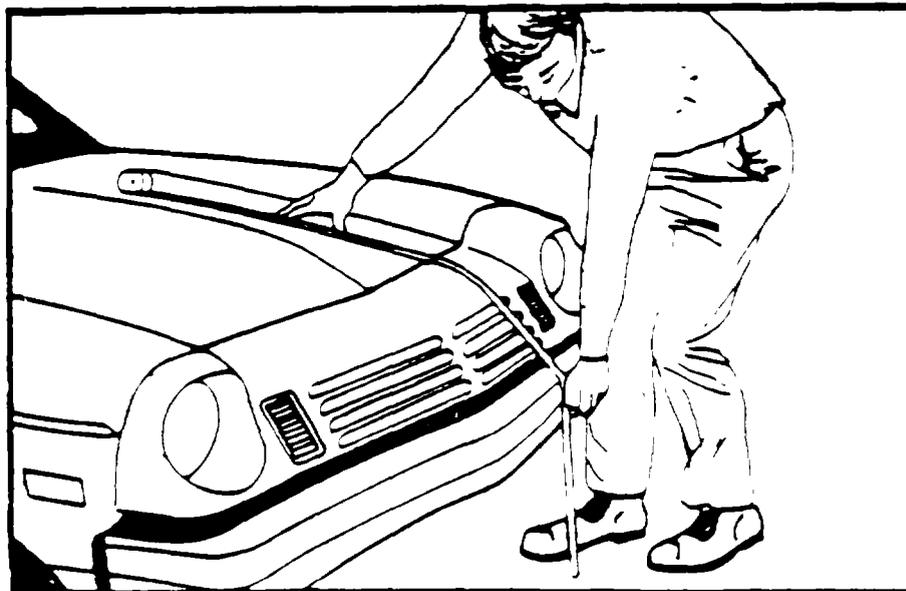
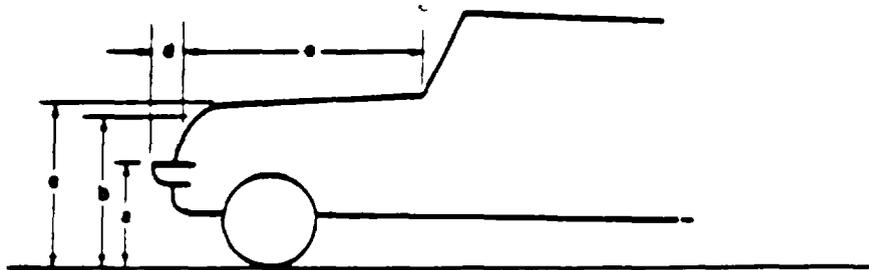
All the observed damage is sketched on page 6A (or 6B through 6P) of the Vehicle Form. Any damage known to be pre-crash is so specified. In sketching the damage, boundaries of the damaged area are marked by solid lines, with damage highlighted by crosshatching (XXXXXXXX) to indicate direct damage and single hatching (/////////) to indicate induced damage.

The original and post-crash wheelbase, front and rear overhangs, as well as the dimensions required to determine extent-zone (column 7 of CDC/TDC) are measured and documented on page 6A (or 6B through 6P). Also, the vehicle number, the damage to the tires, wheel steer angles, type of transmission, average track (front track for tractors and straight trucks), maximum width (cab width for tractors and straight trucks), curb weight, overall length, wheel base, engine size (number of cylinders and displacement) of the vehicle, and the location of maximum crush are measured and documented on the page.

For pedestrian accidents involving the front of the vehicle, page 6R must also be completed with the following measurements. The measurements should be adjusted to reflect the at-impact condition of the vehicle (i.e., adjust for post-crash tire deflation or body damage) and should be taken at or near the area of pedestrian contact.

- a) Bumper Height: is measured vertically from the ground to the top of the bumper.
- b) Contact Height-to End of Vertical: is measured vertically from the ground to the end (transition point between the front vertical plane and the hood horizontal plane) of the vertical plane (e.g. for the pictured Vega the end of the vertical plane is at the top of the louvers in the grille). Where the end of the vertical plane is not easily discernable use the 45 degree midpoint between the vertical and horizontal planes. An example of an unusual vehicle would be the V.W. Beetle where the end of the vertical plane occurs at the top of the bumper.

- c) Hood Height-to-Horizontal: is measured vertically from the ground to the front edge of the hood (e.g. for the pictured Vega the hood height would be measured from the ground to the height of the hood at the seam between the hood and the grille).
- d) Bumper Lead: is the protrusion of the bumper from the grille measured horizontally.
- e) Hood Length: is measured horizontally from the end of the vertical plane (as defined in Contact Height) to the base of the windshield (e.g. for the pictured Vega the hood length would be measured from the top of the louvers in the grille to the base of the windshield).
- f) Wrap Distance(s): is measured (continuously along the vehicle profile) from the ground to each distinguishable pedestrian contact point (e.g. dents) on the grille, hood and windshield and each point measured should be identified (e.g. top of grille/hip; middle of hood/shoulder; windshield/head).



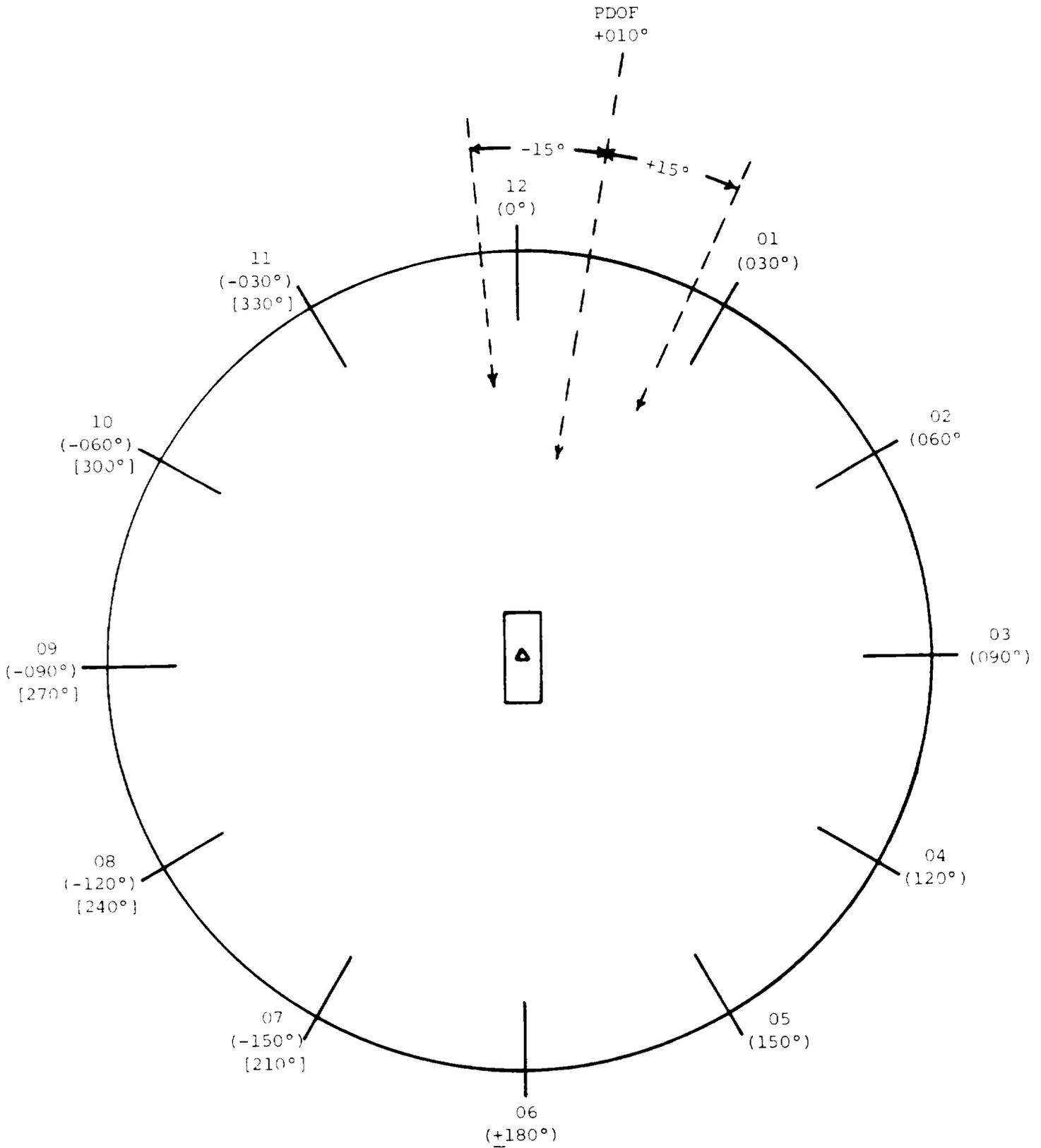
CDC/TDC RELATED REMARKS

An estimated CDC/TDC should be indicated for each impact (bottom of page 7). In this estimate write the direction of principal force in increments of ten degrees rather than in clock positions. Thus, if the direction appeared to be approximately ten degrees to the right of straight-ahead, indicate "010". If the direction of force appeared to be ten degrees left of straight-ahead, indicate "-010" ("350"). The final coding of the CDC/TDC at the bottom of page 4 reflects the direction of force in clock positions. So in the example where the principal direction of force (PDOF) is closest to ten degrees to the right of straight-ahead "010" ["-005" ("355") to "025"] then the estimate is coded according to the clock direction--either 12 or 01 as determined by examining all available inputs to ensure accuracy for force assignments. If upon examining all the available inputs the investigator feels the PDOF is more likely to be within +015 to +025 and classifies the clock direction as "01", the top of page 4 should still reflect the original value "010".

When occasional differences which seem to be inconsistent (e.g., PDOF = 010° and clock position = 01) are encountered on page 4, they actually reflect the investigative method; therefore, they can be reconciled by reviewing the entire case and any CRASH output to determine if the difference is reasonable. This procedure allows the reviewer to appreciate what the investigator thought the PDOF (bottom of page 7) was, to the closest 10 degrees, based upon examination of that vehicle alone, while the clock position representing the force at the top of page 8 reflects the final determination after examining all sources (vehicles, objects contacted, scene evidence, CRASH program, etc.). In other words, it is not necessary for the force directions at the top of page 8 and bottom of page 7 to be compatible; however, any force directions on the final CRASH output must be compatible with the force direction at the top of page 8.

Coding CDC's for articulated vehicles, snow plows, deer guards, etc.

- A. If a trailer separates from the CDC-applicable vehicle which was towing it and subsequently impacts the vehicle, the trailer is treated as an object and the vehicle receives a CDC.
- B. If a trailer jackknives and contacts the CDC-applicable vehicle that is towing it but does not separate, the vehicle receives a CDC.
- C. When a plow attached to a CDC-applicable vehicle is impacted by that vehicle, a CDC will not be generated. The respective CDC variables on the vehicle form will be blank.
- D. When damage occurs to a CDC-applicable vehicle due to cargo shifts a CDC will not be generated. The respective CDC variables on the vehicle form will be left blank.



V40  
V49

Variable Name: 1st C.D.C./T.D.C. - Event Number (this vehicle)  
 2nd C.D.C./T.D.C. - Event Number (this vehicle)

Format: 1 column - numeric

Beginning  
 Column 79  
 91

Element Values:

Blank - No event  
 1-7 - First through seventh  
 8 - Eighth or additional  
 9 - Unknown

Source: Primary sources are the scene and vehicle inspections;  
 secondary sources include the police report and interviewees.

Remarks:

"Event Number (this vehicle)" is the chronological sequence of events to a specific vehicle. In V40 and V49 these events are arranged in order of descending severity. Severity level should be based on CRASH output when available; otherwise, it must be based on damage severity.

CDC/TDCs are listed at the bottom of page 7 of the Vehicle Form in the order of their occurrence and are linked with an event number specific to this vehicle. In other words, the first line contains information representing the first event related to this vehicle. The second line contains information representing the second event related to this vehicle, etc. In most instances there will be a CDC/TDC and an object contacted associated with the event number. In those cases the event numbers will represent the impacts to the vehicle. If more than four events occurred to this vehicle, list the additional CDC-related information on the back of page 7. When the CDC/TDCs are ranked at the top of page 8 (Vehicle Form) in the descending order of delta "V" severity, its corresponding event number (this vehicle) is also coded. For example, a vehicle is struck in the rear, loses control and sideswipes a parked car, then continues on finally striking a large tree. The front to rear end collision would be event number one, the sideswipe event number two and the tree event number three. By means of the CRASH program and inspection, the event severities are ranked tree, rear ending, and sideswipe. Therefore, V40 would be coded 3 and V49 would be coded 1.

Variable Name: 1st C.D.C./T.D.C. - Object Contacted  
 2nd C.D.C./T.D.C. - Object Contacted

Format: 1 column - numeric

Beginning  
 Column 80  
 92

Element Values.

- 00 Noncollision  
 01 through 30 - If the object contacted by the vehicle under consideration was a motor vehicle in transport, code the Vehicle Number assigned to that vehicle.

Collision with Stationary Object

- |                                          |                                                      |
|------------------------------------------|------------------------------------------------------|
| 31 Motor vehicle not in transport        | 53 Embankment--rock, stone or concrete               |
| 32 Tree ( $\leq$ 6 inches in diameter)   | 54 Building, rigid                                   |
| 33 Tree ( $>$ 6 inches in diameter)      | 55 Building, nonrigid                                |
| Highway/Traffic Supports                 | 56 Bridge pier or abutment                           |
| 34 Luminaire--breakaway                  | 57 Bridge rail                                       |
| 35 Luminaire--nonbreakaway               | 58 Bridge parapet end                                |
| 36 Large sign--breakaway                 | 59 Guardrail-bridge rail transition                  |
| 37 Large sign--nonbreakaway              | 60 Guardrail end (non-median)                        |
| 38 Small sign--breakaway                 | 61 Guardrail end (median)                            |
| 39 Small sign--nonbreakaway              | 62 Guardrail (non-median)                            |
| 40 Utility pole                          | 63 Guardrail (median)                                |
| 41 Traffic signal pole                   | 64 Concrete barrier (non-median)                     |
| 42 Delineator                            | 65 Concrete barrier (median)                         |
| 43 Other post, pole or support (specify) | 66 Other median barrier (specify)                    |
| 44 Fence                                 | 67 Other longitudinal barrier (non-median) (specify) |
| 45 Mail box                              | 68 Impact attenuator/crash cushion                   |
| 46 Other movable object (specify)        | 69 Ground                                            |
| 47 Culvert                               | 70 Train                                             |
| 48 Railroad tracks                       | 71 Ditch                                             |
| 49 Curb                                  | 72 Other stationary/fixed object (specify)           |
| 50 Abutment                              |                                                      |
| 51 Wall (stone, rock, metal, etc.)       |                                                      |
| 52 Embankment--earth                     |                                                      |

V41

V50

(2)

Variable Name: 1st C.D.C./T.D.C. - Object Contacted (cont'd.)  
2nd C.D.C./T.D.C. - Object Contacted (cont'd.)

Collision with Nonstationary Object

- 73 Animal
- 74 Trailer, disconnected in transport
- 75 Train
- 76 Other nonstationary objects  
(specify)
- 81 through 95  
If the object contacted by the  
vehicle under consideration  
was a pedestrian or nonmotorist,  
add eighty (80) to the  
Pedestrian or Nonmotorist  
number, and code the resultant  
sum (e.g., 5 + 80 = 85)
- 96 Vehicle occupant
- 97 Other object (specify)
- 99 Unknown

Source: Primary sources are the scene and vehicle inspections;  
secondary sources include the police report and interviewees.

Remarks:

Code the appropriate object contacted for each event even if there is no  
C.D.C./T.D.C.

This section is not to be completed until after the CRASH program is  
exercised except for those cases where: (1) the CRASH program is  
inapplicable, (2) the vehicle has sustained but one impact and there is  
insufficient data for a trajectory reconstruction to aid in the  
determination of force directions, or (3) the vehicle is outside the  
scope of CDC (SAE J224 MAR80).

Code "00" (Noncollision) refers to those situations where this vehicle's  
harmful event (see ANSI D16.1-1983, section 2.4.1, page 12) did not in  
any sequence result from an impact. Examples of such situations are  
covered under codes "02" through "08" of A12, First Harmful Event.  
However, it must be kept in mind that even if a vehicle's first harmful  
event did not involve an impact, the vehicle may subsequently have  
impacted a vehicle, object, pedestrian, or nonmotorist. Just because A12  
(First Harmful

V41  
V50  
(3)

Variable Name: 1st C.D.C./T.D.C. - Object Contacted (cont'd.)  
2nd C.D.C./T.D.C. - Object Contacted (cont'd.)

Event) equals "02 through "08" does not mean that the vehicle involved was not subsequently involved in an impact for which the object contacted is coded here. For example, when A12 = 04 (Fell from vehicle), there is a good chance, particularly if the person was the driver, that the vehicle was subsequently involved in an impact. Further, in some instances of A12 = 08 (Jackknife with intraunit damage) code "00" (Non-collision) ought not be used. In the jackknife situation, this occurs when the power unit of the articulated vehicle impacts the trailer unit in which case you should code the vehicle's own number.

Code "00" (Noncollision) may also be used for a vehicle which sets an object in motion that strikes or is struck by a vehicle. Examples include dislodged cargo, spewed gravel, etc. It may also be used in other situations subject to consultation with the Zone Centers.

Code "31" (Motor vehicle not in transport) refers to a motor vehicle which is not on the roadway and not in motion (e.g., vehicle located in parking lane).

For codes "32" and "33" (Tree ), measure the diameter of the tree on the horizontal plane at the point of impact.

For pole (codes "34" through "42") the word "pole" used in a general sense, includes all types of supports for utility lines, light standards, traffic control signals, and signs. A pole may be made of wood, metal, or concrete and may have various cross-sectional shapes and dimensions. The pole must be nontemporary (i.e., have a permanent base). The pole must be at least five feet in height with the minimum cross-sectional dimension greater than two inches. U-shaped ( ) support (other than C-Channels) or supports are not poles.

Codes "34" and "35" (Luminaire ....) refer to a pole whose primary purpose is to support one or more light standards. A secondary purpose may be to support a traffic signal or sign. Private luminaires are not eligible.

Codes "36" through "39" (Sign pole ....) refer to a pole whose sole purpose is to support one or more highway traffic sign(s) that provides warning, guidance, or regulatory information. Private signs are not eligible.

Variable Name: 1st C.D.C./T.D.C. - Object Contacted (cont'd.)  
2nd C.D.C./T.D.C. - Object Contacted (cont'd.)

Codes "34", "36", and "38" (... breakaway) refer to a breakaway device that is designed to readily disengage, fracture, or bend away from an impacting vehicle above a predetermined force level. A pole fitted with such a breakaway device is a breakaway pole; otherwise, it is a nonbreakaway pole. Common types include: slip base (steel); frangible base (cast aluminum); and progressive shear (galvanized steel or stainless steel).

Codes "35", "37", and "39" (. nonbreakaway) refer to supports which are not designed to "break away" and reduce the deceleration force experienced by the vehicle.

For codes "36" and "37" (Large sign ....) the support pole's largest cross-sectional dimension is greater than or equal to 4 inches.

For codes "38" and "39" (Small sign . . .) the support pole's largest cross-sectional dimension must be greater than or equal to 2 inches and less than 4 inches.

Code "40" (Utility pole) refers to a pole whose primary purpose is to support utility lines. A secondary purpose may be to support a light standard, traffic signal, or sign.

Code "41" (Traffic signal pole) refers to a pole whose primary purpose is to support a traffic signal. A secondary purpose may be to support a sign.

Code "43" (Other post, pole, or support) includes U-shaped ( ) supports (e.g., STOP or YIELD signs), other small poles that are less than 2 inches in cross-sectional dimension, all private (nonhighway, nontraffic) signs and supports, and any other post, pole, or support not coded in codes "34" through "42". [NOTE: This code does not relate directly with A12, First Harmful Event, equaling "33" (Other post, pole, or support) since STOP or YIELD signs would be coded "29" (Highway/Traffic sign post) for A12.]

If you are unable to identify the type of pole (or barrier, although the barrier types are not detailed here) impacted, help is available from the following contacts listed in the table below. Contact with these individuals should be infrequent and should only be made when the team is unable to make a determination.

## VEHICLE FORM

'41  
'50  
'5)

Variable Name. 1st C.D.C./T.D.C. - Object Contacted (cont'd.)  
2nd C.D.C./T.D.C. - Object Contacted (cont'd.)

----FHWA----				
PSU	Region	Site	Contact Name	Phone
01	5	2	No contact	
02	5	10	Robert Dogyns	(616) 788-2381
03	7	11	(Team leader has own contacts)	
04	5	16	Jim Lindemuth or Dan Vanltine	(517) 754-7443
05	5	20	Wayne Smith	(616) 849-2811
06	5	23	Dan Shamo	(219) 362-6125
07	5	27	No contact	
08	5		Major Anthony Yucevicius	(312) 865-4770
09	5		John Kinville/Don Polaski	(313) 224-7626
10	5		Maynard Stoehr	(608) 266-0421
11	5		F.W. DesAutels	(313) 761-1500
12	5		Maynard Stoehr	(608) 266-0421
13	5		Steve Hardesty	(317) 362-9484
14	7		Maurice F. Burr	(515) 472-4171
26	1	5	James Pierson	(914) 331-5533
27	3	1	Bob Johnson	(814) 437-5711, Ext. 374
28	3	4	John Laughner	(215) 687-1600, Ext. 369
29	1	14	No contact	
30	3	17	Angelo Boezi	(717) 962-4062
31	3	21	John Laughner	(215) 687-1600, Ext. 369
32	3	22	Andy Rost	(412) 565-2555
33	1	24	Ed Dannehy	(518) 393-0863
34	1		Ray Carter	(212) 938-3380
35	1		John Gallagher	(617) 727-4710
36	1		Norman Winkler (North)	(716) 683-3476
			George Tolsma (South)	(716) 649-2349
37	3		John Laughner	(215) 687-1600
38	3		Ed Meehan/Dave Curtin	(301) 345-7100
39	1		Thomas Jackvony	(401) 277-2378

V41  
V50  
(6)

Variable Name: 1st C.D.C./T.D.C. - Object Contacted (cont'd.)  
 2nd C.D.C./T.D.C. - Object Contacted (cont'd.)

----FHWA----				
PSU	Region	Site	Contact Name	Phone
51	4	6	Ron Register	(305) 776-4300
52	4	7	James Braden - Shelby County	( ) 668-0173
			Billy Franklin - St. Clair Cty.	( ) 274-2112
53	6	9	Jim Allbritton	(501) 534-1612
54	4	19	Gene Ednonds	(704) 258-6178
55	4	26	Carl Guin	( ) 759-4281
56	4		Frank Deluca	(305) 377-5290
57	4		Terry Grubb	(615) 546-3660
58	4		M.C. (Bob) Adams	(919) 733-2330
59	4		A.S. (Bud) Smith	(601) 683-3341
60	6		Corporal Russel Roge	(318) 352-8101
61	6	3	Bob Lay	(512) 465-6366
62	6	29	Bob Lay	(512) 465-6366
63	6		Milton Watkins, Jr.	(214) 321-6421
76	10	8	No contact	
78	7	12		
79	9	13	Jim Collins	(415) 557-0154
80	8	15	Bill Tucker	(303) 757-9271
81	9	18	John Churchman	(602) 782-1646
82	6	25	Parker Bell	(505) 983-0630
83	8	30	Clint Gregory	(605) 773-3462
85	10	28	No contact	
87	9		Don Cornelison	(602) 261-7386

Code "44" (Fence) includes both the fence material and the support posts

Code"45" (Mail box) includes mail box and any supporting posts associated with it.

Code "46" (Other movable objects) includes other stationary objects that are readily movable--compare with code "72" (Other stationary/fixed object). Examples include trash cans, grocery carts, unoccupied pedalcycles, small boulders, etc.

V41  
V50  
(7)

Variable Name: 1st C.D.C./T.D.C. - Object Contacted (cont'd.)  
2nd C.D.C./T.D.C. - Object Contacted (cont'd.)

Code "47" (Culvert) is 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 structure has a portion above the road surface which is of sufficient height to engage above the wheels of an errant passenger vehicle and redirect it, that part of the structures is considered a bridge rail, code "57". A ditch code "71" ends where a culvert begins and resumes on the opposite side of the culvert.

Code "50" (Abutment), is a structural member that supports an overhead structure that is used for other than vehicular or pedestrian traffic (e g , support for a tunnel, overhead pipeline, etc.). Abutments related to bridges should be coded "56" (Bridge pier or abutment).

Code "56" (Bridge pier or abutment) is a structural member of a bridge that supports an overpass structure used for vehicular or pedestrian traffic. This code is directly related to A12, First Harmful Event, code "22" (Bridge pier or abutment). See A12, Code "22" figure 8 for descriptive drawing.

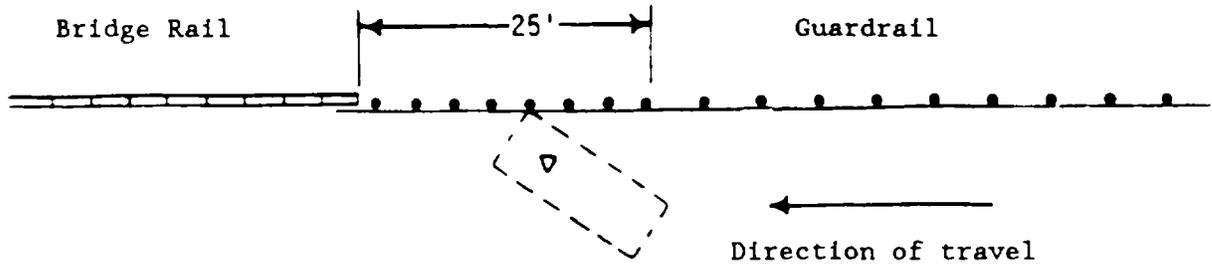
Code "57" (Bridge rail) is a longitudinal barrier located on a bridge and is used when the contact was with any portion of the rail except for the parapet end. This code is directly related to A12, First Harmful Event, code "24" (Bridge rail).

Code "58" (Bridge parapet end) is the end structure of a bridge rail (including concrete supports for the bridge rail ends). This code is directly related to A12, First Harmful Event, code "23" (Bridge parapet end)

Code "59" (Guardrail - bridge rail transition) is used when any contact was made with a guardrail within 25 feet from the leading end (upstream end) of the bridge rail or parapet wall. The upstream end should be for the vehicle's direction of travel, not necessarily the normal traffic flow. This transition guardrail may be located on the roadside, in a gore or median. This code takes precedence over codes 62 and 63 below. See example 1.

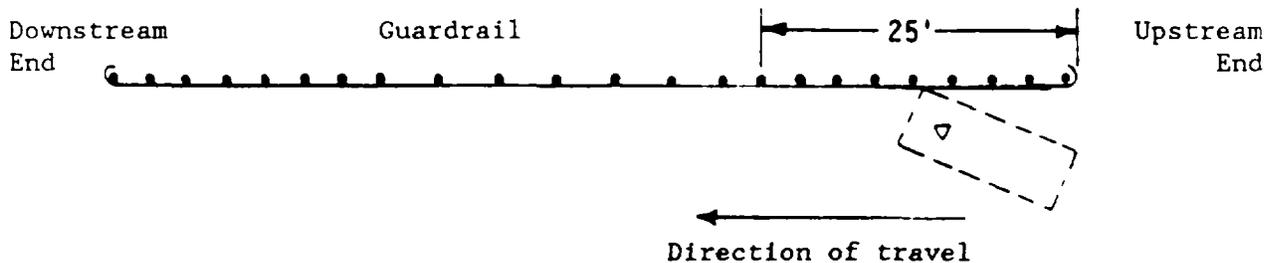
V41  
V50  
(8)

Variable Name: 1st C.D.C./T.D.C. - Object Contacted (cont'd.)  
2nd C.D.C./T.D.C. - Object Contacted (cont'd.)

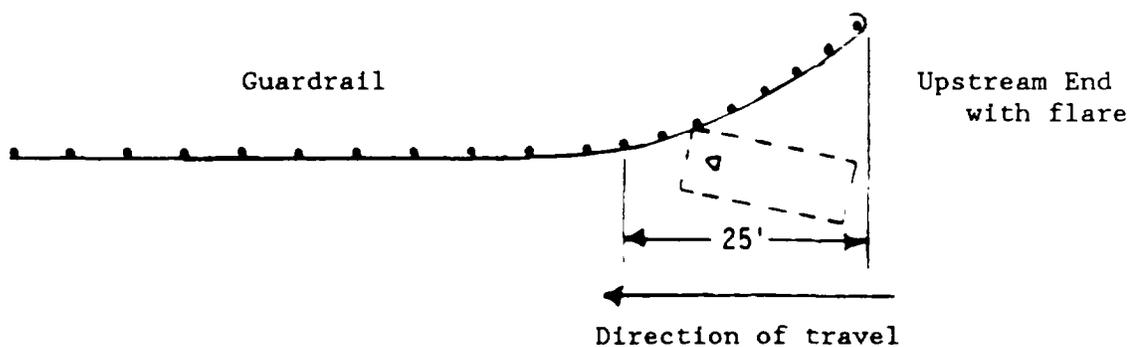


EXAMPLE 1

Code "60" [Guardrail end (non-median)] is used when any vehicle contact is made with a guardrail within 25 feet of its leading end (upstream end). The upstream end should be considered for the direction of vehicle travel, not necessarily the normal traffic flow. The guardrail end may be located on the roadside or in a gore. The flare length is not a consideration for coding this variable. The guardrail must meet the definition of code "62" below. This code takes precedence over code "62" below. See example 3.

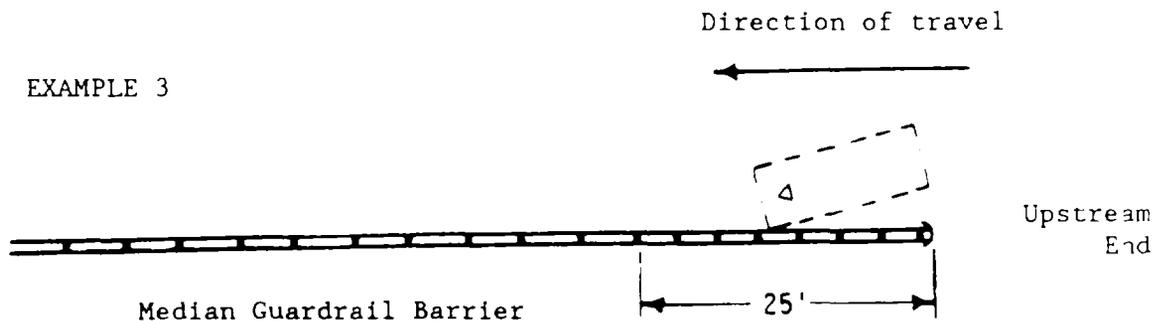


EXAMPLE 2



Variable Name: 1st C.D.C./T.D.C. - Object Contacted (cont'd.)  
2nd C.D.C./T.D.C. - Object Contacted (cont'd.)

Code "61" [Guardrail end (median)] is used when any vehicle contact is made with a median barrier within 25 feet from its leading end (upstream end). The upstream end should be considered for the direction of vehicle travel not necessarily the normal traffic flow. The guardrail must meet the definition of code "63" below. This code takes precedence over code "63" below. See example 3.



Code "62" [Guardrail (non-median)] is a longitudinal barrier, designed as a guardrail, located on the outside of the road surface. Guardrails which are located in gore areas (ANSI D16.1-1976, section 2.5.20, page 15) are considered guardrails (non-median) (code "62"), although they are used to redirect traffic at ramp areas. If the trafficway is undivided, it makes no difference on which side of the road the struck guardrail was located. See page V41 et al. (10), types 01-09, for examples of guardrails.

Code "63" [Guardrail (median)] is a longitudinal barrier, designed as a guardrail [e.g., types 01-09 on V41 et al. (10)] located in a median

Code "64" [Concrete barrier (non-median)] is a concrete safety shape barrier [e.g., types 10 or 16 on V41 et al. (10 or 11)] located on the outside of the road surface. Concrete barriers located in gore areas are considered concrete barriers (non-median) (code "64"), although they are used to redirect traffic at ramp areas. If the trafficway is undivided, it makes no difference on which side of the road the struck barrier was located.

Code "65" [Concrete barrier (median)] is a concrete safety shape barrier [e.g., types 10 and 16 on V41 et al. (10 and 11)] located in a median.

Code "66" (Other median barrier) is a barrier designed as a median barrier [e.g., types 11-15, 17-20 on V41 et al. (11)] located in the median.

V41  
V50  
(10)

	CODE 01	CODE 02	CODE 03	
SYSTEM	G1 Cable Barrier	G2 6" x 8" Wood Post, Cable Guardrail (Wood Post)	G3 "C" Beam (Steel Post Post)	
BARrier DESCRIPTION	16'-0" S3x5.7 steel Three 3/4" diameter steel cables ----- 5/16" diameter steel hook bolts 4"x8"x24" steel plate welded to post	12'-6" 9x12" dia. rd. treated wood posts Three 3/4" diameter cables, steel hook bolts, steel ----- 5/16" diameter hook bolts, steel 8"x18"x18" precast concrete bearing block	12'-6" S3x5.7 steel Steel "C" section, 12 GA ----- 5/16" diameter steel bolt 4"x8"x24" steel plate welded to post	6'-4" S3x5.7 steel 6"x6"x180" steel tube L3"x3x1/4" steel angle 4' long 3/8" dia steel ball/beam to angle 4"x8"x24" steel plate welded to post

	CODE 04	CODE 05	CODE 06	CODE 07
SYSTEM	G4(1W) Blocked-Out "C" Beam (Wood Post)	G4(2W) Blocked-Out "W" Beam (Wood Post)	G4(1S) Blocked-Out "W" Beam (Steel Post)	G4(2S) Blocked-Out "C" Post (Steel "C" Posts)
BARrier DESCRIPTION	6'-3" 8"x8" Douglas Fir Steel "W" section, 12 GA 8"x8"x14" Douglas Fir Block 5/8" diameter carriage bolts None	6'-3" 8" x 8" Douglas Fir Steel "W" section, 12 GA 6" x 8" x 14" Douglas Fir Block 5/8" diameter carriage bolts None	6'-3" W4x5 steel post Steel "W" section, 12 GA W4x5 14' long steel block 5/8" diameter bolt None	6'-3" 4 1/3"x5 5/8"x3/16" "C" steel post Steel "W" section, 12 GA 4 1/3" x 5 5/8"x3/16" "C" steel post 5/8" diameter bolt None

	CODE 08	CODE 09	CODE 10
SYSTEM	G5 Blocked-Out "C" Beam (Steel Post)	V-beam (Strong Post)	Concrete Safety Shape
BARrier DESCRIPTION	6'-3" W4x5 steel Thrie beam steel W4x5 and W4x7.2 steel 2 5/8" diameter steel bolts UNAV		

	CODE 11	CODE 12	CODE 13	CODE 14
SYSTEM	HB1 Cable	HB2 "W" Section (Steel Road Post)	HB3 Box Beam	HB4 Blocked-Out "W" Beam (Steel Posts)
BARrier DESCRIPTION	8' 0" 42"x41" Two 3/4" diameter steel cables None 1/2" diameter steel "U" bolt Various	12' 6" 53x57 Two steel "W" sections None 5/16" bolts 8"x4"x24" steel plate welded to post	6' 0" 53x57 8"x6"x6" steel tube None Steel saddles 8"x4"x24" steel plate welded to post	6' 3" 8"x8" Douglas Fir Two "W" section (see Code 2) subrails Two 8"x8"x14" Douglas Fir blocks 5/8" diameter bolts None

	CODE 15	CODE 16	CODE 17	CODE 18
SYSTEM	HB5 Blocked-Out "W" Beam (Steel Posts)	HB6 Concrete Median Barrier	HB7 Aluminum I-Beam Beam	HB8 Aluminum I-Beam Beam
BARrier DESCRIPTION	6' 3" HB15 Two steel "W" sections Two HB15 5/8" diameter steel bolts None	Continuously poured, reinforced, sloped face, concrete section. Barrier can be anchored by dowels or an asphalt key.	6' 3" Aluminum I or steel 53x57 Aluminum extrusions None Steel or aluminum saddles 8"x3/16"x24" steel or aluminum plate	12' 6" 5 1/2"x7 1/2" H section aluminum 5 1/2"x7 1/2" H section aluminum Four standard aluminum extrusions None Standard hardware None

	CODE 19	CODE 20
SYSTEM	HB9 Blocked-Out Thrie Beam (Steel Posts)	HB10 Metal Beam Guard Fence (Steel Brackets, Posts)
BARrier DESCRIPTION	6' 3" HB15 Two Thrie Beams HB15 5/8" diameter steel bolts None	6' 3" HB15 steel Two steel "W" sections None 5/8" diameter bolt 11"x15/8" steel plate

\* Note. The use of 8" x 8" instead of 8" x 8" cross section is also acceptable.

\*\* Note. The use of a 1 1/2" x 5 1/2" x 16" "C" steel post instead of HB x 5.5 steel post is also acceptable.

## VEHICLE FORM

V41  
V50  
(12)

Variable Name: 1st C.D.C./T.D.C. - Object Contacted (cont'd.)  
2nd C.D.C./T.D.C. - Object Contacted (cont'd.)

Code "67" [Other longitudinal barrier (non-median)] is any barrier that does not meet the requirements for codes "62" or "64" and is located on the outside of the road surface or in a gore area.

Code "68" (Impact Attenuator/Crash Cushion) refers to crash cushions which are barriers placed in front of fixed objects on the highway to absorb energy, and to thus mitigate the injury effects of collisions at such sites. A number of the common devices are described and illustrated following A12 (First Harmful Event) in this manual. Other impact attenuating devices may be encountered; therefore, the investigator should be sure to photograph them for verification when uncertain.

Code "69" (Ground) refers to an impact with the ground. Collisions which may be classified using this code include (but are not limited to) vehicles which overturn/rollover as well as those 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. This includes uncontrolled motorcycles which contact the ground first. For motorcycle impacts, ground will be coded as an impact unless evidence indicates that the motorcycle did not strike the ground.

Code "71" (Ditch) is a man made structure for drainage purposes. 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, code the impact with the struck side as an embankment (codes "52" and "53"). Substantial means that an embankment existed had the ditch not been present.

Code "72" (Other stationary/fixed object) is any other object of sufficient mass, or anchored, such that it is not readily movable--compare with code "46" (other movable objects). Examples include large boulders, large logs (fallen trees), etc.

Code "73" (Animal) should be coded if the object contacted was an animal (stationary or nonstationary). Where a nonmotorist was associated with the animal [i.e., on the animal, or on or in an animal powered nonmotor vehicle transport device (see P08, Pedestrian and Nonmotorist Type, code "8")] use the following scheme. If the contact is to (1) the animal, the animal and the person, the animal and the conveyance, or the animal, conveyance, and the person, code "73" (Animal); (2) the conveyance or to

Variable Name: 1st C.D.C./T.D.C. - Object Contacted (cont'd.)  
2nd C.D.C./T.D.C. - Object Contacted (cont'd.)

both the conveyance and the person, code "76" (Other nonstationary objects); or (3) to the person, code the person's Pedestrian or Nonmotorist's Number plus 80 (codes "81" through "95")

Code "76" (Other nonstationary objects) refers to any other object that is moving (exceptions include a stationary pedalcycle associated with a pedalcyclist or a stationary nonmotorist conveyance associated with a nonmotorist).

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, wheel chair, rickshaw, etc. Excluded are pedalcyclists. Pedalcyclist refers to any occupant of a pedalcycle (see D16.1-1976, section 2.2.16, page 6). For a pedalcyclist or nonmotorist associated with a nonmotorist conveyance, code "76" (Other nonstationary objects) if the impact was with the pedalcycle, the conveyance, the pedalcycle and pedalcyclist, or the conveyance and nonmotorist associated with the conveyance; code "81" through "95" if the impact was with the person(s)

Codes "81" through "95" are used to identify contacted pedestrian or nonmotorists where the code is derived by adding eighty (80) to that person's unique number and coding the resultant sum (e.g., 5 + 80 = 85). Pedestrian refers to any person who is on a trafficway or on a sidewalk or path contiguous with a trafficway, and who is not in or on a nonmotorist conveyance.

Code "96" (Vehicle occupant) is used when the object contacted was any person who was an occupant of a motor vehicle. Two examples of this code are as follows. Code "96" (Vehicle occupant) for any occupant who falls from a vehicle (A12, First Harmful Event, equal 04) and is subsequently run over before stabilization occurred. In addition, use this code for any motorcyclist who separates from his/her motorcycle during impact and subsequently impacts a motor vehicle before stabilization occurred.

VEHICLE FORM

V42  
V51

Variable Name: 1st C.D.C./T.D.C. - Direction of Force  
2nd C.D.C./T.D.C. - Direction of Force

Format: 2 columns - numeric

Beginning  
Column 82  
94

Element Values:

Range: Blank, 00-13, 20-32, 40-52, 60-72, 80-92, 99

C.D.C. or T.D.C.

Blank - No C.D.C./T.D.C.

00 Non-horizontal force	08 8 o'clock
01 1 o'clock	09 9 o'clock
02 2 o'clock	10 10 o'clock
03 3 o'clock	11 11 o'clock
04 4 o'clock	12 12 o'clock
05 5 o'clock	13 Intra-unit force (T.D.C. only)
06 6 o'clock	99 Unknown
07 7 o'clock	

Incremental Values for Above Force Directions (C.D.C. only)

00 No shift  
20 End shift vertical--up; top shift forward  
40 End shift vertical--down; top shift rearward  
60 End or top shift lateral--right  
80 End of top shift lateral--left.

Source: Restricted to vehicle inspection or photographs.

Remarks:

Code the principal direction of force incremented to indicate vertical or lateral shifting of vehicle basic end structures which occur during horizontal force application or longitudinal or lateral shifting to the top structure as a result of non-horizontal force application to the top. In other words, the combined value (Direction of Force + Incremental Value for CDC only) is coded under this variable.

V42  
V51  
(2)

Variable Name: 1st C.D.C./T.D.C. - Direction of Force (cont'd.)  
2nd C.D.C./T.D.C. - Direction of Force (cont'd.)

Code variables 41 and 50 (1st and 2nd C.D.C./T.D.C. - Object Contacted) with the appropriate code(s) when the object contacted is known regardless of how the C.D.C./T.D.C.s, variables 42-47 and 51-56 are coded.

The CDC/TDC generated for a particular impact is based upon damage which is the result of direct impact only; it does not include induced damage. All CDC/TDCs are based entirely upon the procedures in SAE J224 MAR80, or SAE J1301.

Any time a vehicle becomes inverted and impacts any object or vehicle while inverted, the clock direction is coded as "00" (plus any incremental value for a top structure impact). Also use "00" (Non-horizontal force) with any other circumstance which is consistent with the directions contained in SAE J224 MAR80, or SAE J1301.

If there is only one CDC, it should be entered in variable 42-47, whether or not CRASH was exercised. Variables 49-57 should then be left "Blank"

If it is unknown whether the vehicle sustained a second impact, code variables 49-57 unknown ("99" or "9").

Rank order any CDCs on the basis of the CRASH program results, if used.

If there are two or more CDCs, and if CRASH is exercised on none or on a portion of the CDCs, subjectively order the most severe impacts (in terms of assumed change in velocity, delta "V").

If CRASH can be exercised on only one CDC, where two or more exist, the CDC used in CRASH should be coded in variables 42-47 if it is felt to represent the highest change in velocity (delta "V"); it should be coded in variables 51-56 if it is felt to represent the second highest delta "V", etc. It should not be coded if it is felt to represent the third highest or lesser delta "V".

If no CDC/TDC has been recorded for a vehicle which has sustained but one impact, row variables 42-47 are coded as unknown ("99" or "9") and the remaining row is left "Blank". If no CDC/TDCs are recorded for a vehicle which has sustained more than one impact, fill in the CDC/TDC rows with unknowns ("99" or "9"). If an unknown number of impacts occurred, fill in both CDC/TDC rows with the appropriate CDC/TDCs (or unknowns, if

V42  
V51  
(3)

Variable Name: 1st C.D.C./T.D.C. - Direction of Force (cont'd.)  
2nd C.D.C./T.D.C. - Direction of Force (cont'd.)

applicable). If a vehicle has sustained multiple impacts and, for example, the only CDC/TDC which can be generated (due to contamination from repair process which was underway at the time of inspection, etc.) is for the second most severe impact, row variables 42-47 are coded as unknown ("99" or "9") and the generated CDC/TDC is coded in row variables 51-56.

No CDC/TDCs may be entered in the row variables unless those CDC/TDCs are known in their entirety [i.e., do not use "9" (Unknown) for any missing character when that character is unknown]. Conversely, any time a "9" is coded in any column for the CDC/TDC row variables, all other CDC/TDC columns in that row must be coded "9" (Unknown); however, variables 47 and 56 may be coded "09".

Verbal Descriptions by drivers, occupants, or owners may not form the basis for a CDC/TDC except in pedestrian accidents or very minor accidents (no residual damage) where the vehicle has been inspected. In cases involving no residual damage and where the vehicle is involved with another vehicle or object, that other vehicle or object should be inspected.

In some instances where the vehicle is undergoing repair (parts removed) or has been repaired (parts available) a CDC/TDC may be determined from those parts and a description of the damage from testimony of a repairman judged to be reliable. (NOTE: Do not formulate "C" measurements for these vehicles unless there is only minor alteration which does not detract from the investigator's confidence in those measurements.)

Leave the CDC/TDC row variables "Blank" for vehicles which are beyond the scope of the CDC/TDC protocols (e.g., motorcycles, busses, snowmobiles, farm equipment other than trucks, dune buggies, construction equipment other than trucks, etc.). References should be made to the damage classification protocols to determine if any vehicle not mentioned above is within the scope of those protocols. Recall that the object of any of these vehicles contacted is still coded in either V41 and V50 [1st (2nd) C.D.C./T.D.C. - Object Contacted] even though the CDC/TDC row variables are left "Blank" because they are not in scope for classification.

VEHICLE FORM

V42  
V51  
(4)

Variable Name: 1st C.D.C./T.D.C. - Direction of Force (cont'd.)  
2nd C.D.C./T.D.C. - Direction of Force (cont'd.)

For Intraunit force type damages (i.e., Jackknife), where multiple CDC/TDCs may be coded, if a vehicle inspection is not obtained, multiple CDC/TDCs (1\*\*99999999 1) need to be coded. Note: code one row of unknowns for CDC applicable vehicles and two rows of unknowns for TDC applicable vehicles.

\*\* Code actual object contacted if known (i.e., in a jackknife the objects contacted would be that vehicle's number)

VEHICLE FORM

V43  
V52

Variable Name: 1st C.D.C./T.D.C. - Deformation Location  
2nd C.D.C./T.D.C. - Deformation Location

Format: 1 column - alphanumeric

Beginning  
Column 84  
96

Element Value:

<u>C.D.C.</u>	<u>T.D.C.</u>
Blank - no C.D.C./T.D.C.	Blank - no C.D.C./T.D.C.
F Front	F Front
R Right side	R Right side
L Left side	L Left side
B Back (rear)	B Back of unit with cargo area (rear of trailer or straight truck)
T Top	D Back (rear of tractor)
U Undercarriage	C Rear of cab
9 Unknown	V Front of cargo area
	T Top
	U Undercarriage
	9 Unknown

Source: Restricted to vehicle inspection or photographs.

Remarks:

See remarks section for variables V42 and V51.

Variable Name: 1st C.D.C./T.D.C. - Specific Longitudinal or Lateral Location  
 2nd C.D.C./T.D.C. - Specific Longitudinal or Lateral Location

Format: 1 column - alphanumeric

Beginning Column 85  
 97

Element Value:

C.D.C.

T.D.C.

Blank - no C.D.C./T.D.C.  
 D Distributed--side or end  
 L Left--front or rear  
 C Center--front or rear  
 R Right-front or rear  
 F Side front--left or right  
 P Side center section--L or R  
 B Side rear--left or right  
 Y Side (F + P) or end (L + C)  
 Z Side (P + B) or end (C + R)  
 9 Unknown

Blank - no C.D.C./T.D.C.  
 D Distributed--side or end  
 L Left--front or rear  
 C Center--front or rear  
 R Right--front or rear  
 F Side front (forward of windshield)  
 P Side cab  
 W Side rear of cab to rear of tractor  
 K Side (P + W)  
 S Side (F + P + W)  
 B Side rear of cab to rear of trailer or cargo area  
 T Side trailer (rear of tractor to rear of trailer)  
 Y Side (F + P) or end (L + C)  
 Z Side (B + P) or end (R + C)  
 9 Unknown

Source: Restricted to vehicle inspection or photographs.

Remarks:

See remarks section for variables V42 and V51.

V45  
V54

Variable Name: 1st C.D.C./T.D.C. - Specific Vertical or Lateral Location  
 2nd C.D.C./T.D.C. - Specific Vertical or Lateral Location

Format: 1 column - alphanumeric

Beginning  
 Column 86  
 98

Element Value:

C.D.C. (Vertical - Front, Rear, or Side Impacts)

Blank - no C.D.C./T.D.C.

A All

H Top of frame to top

E Everything below belt line

G Belt line and above

M Middle--top of frame to belt line or hood

L Frame--top of frame, frame, bottom of frame (including undercarriage)

W Below undercarriage level (wheels and tires only)

9 Unknown

T.D.C. (Vertical - Front, Rear, or Side Impacts)

Blank - no C.D.C./T.D.C.

A Top of vehicle to bottom of vehicle exclusive of wheels

H Top of frame to top of vehicle

T Everything above cab

G Belt line and above

E Belt line and below

M Middle--top of frame to belt line or hood

L Low--top of frame, frame, and bottom of frame (including undercarriage)

W Below undercarriage level (wheel and tires only)

9 Unknown

VEHICLE FORM

V45  
V54  
(2)

Variable Name: 1st C.D.C./T.D.C. - Specific Vertical or Lateral Location  
(cont'd.)  
2nd C D.C /T.D.C. - Specific Vertical or Lateral Location  
(cont'd.)

C D.C. or T.D.C. (Lateral - Top and Undercarriage Impacts)

Blank - no C.D.C./T.D.C.  
D Distributed  
L Left  
C Center  
R Right  
Y Left and Center (L + C)  
Z Right and Center (R + C)  
9 Unknown

Source: Restricted to vehicle inspection or photographs.

Remarks:

See remarks section for variables V42 and V51.

VEHICLE FORM

V46  
V55

Variable Name: 1st C.D.C./T.D.C. - Type of Damage Distribution  
2nd C.D.C./T.D.C. - Type of Damage Distribution

Format: 1 column - alphanumeric

Beginning  
Column 87  
99

Element Value:

C.D.C. or T.D.C.

Blank - no C.D.C./T.D.C.  
W Wide impact area  
N Narrow impact area  
S Sideswipe  
O Rollover (includes side)  
A Overhanging structure  
E Corner  
K Conversion in impact type (C.D.C. only)  
U No residual deformation  
R Override (T.D.C. only)  
9 Unknown

Source: Restricted to vehicle inspection or photographs.

Remarks:

See remarks section for variables V42 and V51.

VEHICLE FORM

V47  
V56

Variable Name 1st C.D.C./T.D.C. - Deformation Extent Guide  
2nd C.D.C./T.D.C. - Deformation Extent Guide

Format: 2 columns - alphanumeric

Beginning  
Column 88  
100

Element Value:

C.D.C. or T.D.C.

Blank - no C D.C./T.D.C.	07	Seven
01 One	08	Eight
02 Two	09	Nine
03 Three	0A	(T.D C only)
04 Four	0B	(T.D.C. only)
05 Five	0C	(T.D.C. only)
06 Six	0D	(T.D.C. only)
	0X	(T.D.C. only)
	99	Unknown

Source: Restricted to vehicle inspection or photographs.

Remarks:

See remarks section for variables V42 and V51.

When a body panel is torn loose from the vehicle frame due to impact, the extent zone should be coded from direct damage only; consider body panels torn loose from the frame as not representative of residual crush.

VEHICLE FORM

V48  
V57

Variable Name: 1st C.D.C./T.D.C. - Event Number (in accident)  
2nd C.D.C./T.D.C. - Event Number (in accident)

Format: 2 columns - numeric

Beginning  
Column 90  
102

Element Values:

Blank - no event  
1-7 - First through seventh  
8 - Eighth or additional  
9 - Unknown

Remarks:

In accidents involving multiple vehicles and multiple events, the events are numbered in sequence by chronology in reference to the entire accident. This total accident sequence number is coded adjacent (V48 or V57) to the CDC/TDC that was produced during this event. For example, three cars are waiting at a red light. A pickup truck rear ends the third car in line and pushed it into the second car which in turn is pushed into the first car. The sequential event numbers in this accident would be as follows;

Number 1 - pickup vs. 3rd car  
Number 2 - 3rd car vs. 2nd car  
Number 3 - 2nd car vs. 1st car

Do not forget that the numbers are actually encoded in accordance with CDC/TDC prioritization.

Crush Profile

V58-V64

Within this section entitled "Crush Profile" there is room to encode the damage dimensions of two impact damage patterns (V58-V60 and V61-V63). The crush profiles in these fields must be coded relative to the impacts described in variables V40-V48 and V49-V57, respectively. The L, Cs, and D values coded must be a clear measurement of the actual direct plus induced damage profiles and must not be altered significantly by another impact (i.e., overlapping impacts).

If the damage pattern measurements are known and have not been altered, encode the appropriate measurements to the nearest inch. If only two or four C-values are collected (rare occasions) then leave the remaining C-value fields blank.

VEHICLE FORM

V58  
V61

Variable Name: Crush Profile - L

Format: 4 columns - numeric

Beginning  
Column 103  
129

Element Values:

Range: 0001 through 0250 inches, blank

Nearest inch

Blank - No crush profile for most severe impact(s)

Source: Vehicle Inspection

Remarks:

These variables should reflect the "L" dimensions, as measured during vehicle inspection, of the highest (V58) and second highest (V61) delta "V" impacts sustained by the vehicle.

The damage measurements associated with a CDC/TDC may be coded regardless of the utilization of a reconstruction program. In either case the measurement normally used in a computer simulation would be coded (i.e. CRASH L). This measurement may be different than the Field "L" in those cases where the entire end sustains direct and/or induced damage, in those cases the undeformed end width is used for the reconstruction program and should be coded here.

In the case that a reconstruction algorithm is utilized, the output of the reconstruction program contains a "Summary of the Damage Data." The value of "L" coded must be the same as the "L" value given in this reconstruction program output's summary. (NOTE: The "L" measurement used in the reconstruction program considers both direct and induced damage.)

If there is a reconstruction attempt, but this variable is unknown, leave blank.

When a reconstruction program is used but no value is entered into the reconstruction program (e.g., CDC only run or OLDMISS), leave blank.

If no reconstruction program is utilized but damage dimensions are obtained code the acquired dimensions appropriately.

VEHICLE FORM

V59  
V62

Variable Name: Crush Profile - C1-C6

Format: 18 columns - numeric  
(6 groups of 3)

Beginning  
Column 107  
133

Element Values:

Range: 000 through 120 inches, blank

Nearest inch

Blank - No crush profile for most severe impact(s)

Source: Vehicle Inspection

Remarks:

The damage measurements associated with a CDC/TDC may be coded regardless of the utilization of a reconstruction program. In this case the C values obtained for each impact (highest two delta V impacts) are coded to the nearest inch in the space provided.

If a reconstruction program is utilized, the values of "C" (i.e., C1, C2, C3, C4, C5, and C6) coded must be the same as the "C" values given in the reconstruction output Summary. These are the C-values used in the reconstruction program, and they may differ from C-measurements made in the field. For example, in a side impact with sill override, the C-measurements are taken along the plane that represents maximum crush and at the sill level. These C-measurements are averaged for the reconstruction purposes. In this example, the C-values coded are averaged C-measurements. [NOTE: If only 4 C-measurements are taken (i.e.,  $L \leq 16$ "), then leave C5 and C6 "Blank".)

If there is a reconstruction attempt on the most severe impact, but these variables are unknown, leave blank.

When no value is entered into the reconstruction program (e.g., CDC only run, OLDMISS), leave blank.

If no reconstruction program is utilized but damage dimensions are obtained, code the acquired dimensions appropriately.

VEHICLE FORM

V60  
V63

Variable Name: Crush Profile  $\pm$ D

Format: 4 columns - numeric

Beginning  
Column 125  
151

Element Values:

Range: -120 inches through +120 inches, blank

Nearest inch

Blank - No crush profile for most severe impact(s)

$\pm$ 000 Greater than -0.5 and less than +0.5

Source: Vehicle inspection

Remarks:

The damage measurements associated with a CDC/TDC may be coded regardless of the utilization of a reconstruction program. If the measured or calculated D value obtained for the particular crush profile is "0", code as +000 in the place provided, otherwise code the value to the nearest inch.

If a reconstruction program is utilized, this is the value of "D" entered in the program, and remember that it is the induced plus direct "D" that is used in the reconstruction program.

If there is a reconstruction attempt run on the most severe impact, but this variable is unknown, leave blank.

When no value is entered into the reconstruction program (e.g., CDC only run, OLDMISS), leave blank.

If no reconstruction program is utilized but damage dimensions are obtained, code the acquired dimensions appropriately.

Variable Name: Documentation of More than Two C.D.C./T.D.C.s

Format: 1 column - numeric

Beginning  
Column 155

Element Values:

- 1 Two or less coded C.D.C./T.D.C.s
- 2 More than two coded C.D.C./T.D.C.s

Source: Restricted to vehicle inspection

Remarks:

Code "1" (Two or less coded C.D.C./T.D.C.s) when two or less C.D.C./T.D.C.s are coded in row variables V40-V48 and V49-V57 and no other C.D.C./T.D.C.s are formulated at the bottom of page 7, Vehicle Form.

Code "2" (More than two coded C.D.C./T.D.C.s) when two C.D.C./T.D.C.s are coded in row variables V-40-V48 and V49-V57; and additional C.D.C./T.D.C.s are reported at the bottom of page 7, Vehicle Form. Unknown C.D.C./T.D.C.s are not considered documented and should not be counted

A coded CDC/TDC includes only complete CDCs or TDCs. Unknown CDCs and TDCs are not to be counted, nor are blank CDC/TDCs.

Variable Name: Vehicle Special Use (this trip)

Format: 1 column - numeric

Beginning  
Column 156

Element Value

0	No special use
1	Taxi
2	Vehicle used as school bus
3	Vehicle used as other bus
4	Military
5	Police
6	Ambulance
7	Fire
9	Unknown

Source: Investigator determined -- inputs include vehicle inspection, driver interviews, police report, and other interviewees.

Remarks:

Code "0" (No Special Use).

Code "1" (Taxi) refers to vehicles used during this trip (at the time of the accident) 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 accident are not included. The investigator should ask taxi drivers a special question on the Driver Form to determine if he/she was on duty at the time of the accident.

Code "2" (Vehicle used as school bus) refers to a motor vehicle (V17, Body Type, need not equal 30) which satisfies the following criteria:

- \* externally identifiable to other traffic units as a school/pupil transport vehicle. The vehicle may be equipped with flashing lights, may have a sway stop arm and traffic may be required to stop for the vehicle when occupants enter or exit.
- \* operated, leased or owned by a public or private school-type institution;

Variable Name: Vehicle Special Use (this trip) [cont'd.]

- \* where the institution's students may range from pre-school through high school;
- \* whose occupants, if any, are associated with the institution; and,
- \* the vehicle is in operation at the time of the accident to and from the school or on a school-sponsored activity or trip.

Code "3" (Vehicle used as other bus) refers to a motor vehicle which is designed for transporting more than ten persons and does not satisfy the above criteria of a school bus.

For codes "4" (Military), "5" (Police), "6" (Ambulance), and "7" (Fire), special use means "in use" and not necessarily emergency use. External identification to the normal driving public is the criterion.

Code "4" (Military) refers to a vehicle which is owned by any of the Armed Forces. These vehicles are presumed to be in special military use at all times and should be coded as such regardless of body type.

Code "5" (Police) refers to a readily identifiable (lights or markings) vehicle which is owned by any local, county, state or federal police agency. The vehicles are presumed to be in special police use at all times. Personal vehicles (not owned by the agency) which are used by officers or agents (e.g., undercover) are excluded.

Military police vehicles are coded "4" (Military).

Code "6" (Ambulance) refers to those readily identifiable (lights or markings) vehicles: (1) whose sole purpose is to provide ambulance service and which is always presumed to be in special ambulance use at all times, or (2) vehicles serving dual purposes such as a hearse used for both funeral and emergency purposes, which is only coded, when used for the latter purpose.

Military ambulances are coded "4" (Military).

Code "7" (Fire) refers to a readily identifiable (lights or markings) vehicle which is owned by any government (typically local) or cooperative agency. This vehicle is presumed to be in special use at all times. For volunteer fire companies, firefighting apparatus and other vehicles owned by the company or government qualify for code "7". Privately owned vehicles, even if equipped with lights, do not qualify.

Military fire vehicles are coded "4" (Military).

Variable Name: Odometer Reading

Format: 3 columns - numeric

Beginning  
Column 157

Element Values:

Range: 001 through 500

Code mileage to the nearest 1,000 miles

000 No odometer

001 Less than 1,500 miles

997 Greater than or equal to 996,500 miles

999 Unknown

Source: Primary source is the vehicle inspection; however, it may be supplemented with information from the police report and/or driver interview.

Remarks:

Code to the nearest 1,000 miles as in the examples:

Mileage: 7,498

Code: 007

Mileage: 7,502

Code: 008

Mileage: 18,342

Code: 018

Mileage: 147,687

Code: 148

Code "001" if the mileage is less than 1,500.

Code "999" (Unknown) if the odometer was disconnected or broken before the collision, or if the mileage is unknown.

This variable measures the mileage on the vehicle's odometer; however, in cases where it is suspected that the odometer is working but has turned over (i.e., recycled) the coded value represents the total mileage on the vehicle rather than the reading on the odometer.

Variable Name: Passenger Compartment Integrity

Format: 1 column - numeric

Beginning  
Column 160

Element Values:

No passenger compartment  
No integrity loss

Yes, integrity was lost through:

- 2 Windshield
- 3 Door (side)
- 4 Door (rear)
- 5 Roof
- 6 Windshield & door (side)
- 7 Side or rear window breakage
- 8 Other combination of above (specify)
- 9 Unknown

Source: Restricted to vehicle inspection or photographs.

Remarks:

Consider the passenger compartment as a "package" which is designed to contain the occupant. If an opening occurs of sufficient magnitude through which an occupant could have been ejected totally or partially (although it is not necessary for an occupant to have been so ejected), the integrity of the compartment should be considered to have been lost. While it is difficult to define the magnitude of the opening in a universal manner, the minimum size of the opening would be equivalent to the head of most adults. Components which may lose their integrity are restricted to the windshield, windows (side or rear), door or roof (individually or in combination).

The question of integrity loss is assessed with respect to impact-related damage. The damage can be either direct or induced. Damage which is not impact-related (e.g., fire) is not considered.

Code "0" (No passenger compartment) if the vehicle has no passenger compartment (e.g., motorcycle).

Doors which open prior to an impact do not constitute loss of integrity, but those which open upon impact or from occupant or cargo loading due to the impact constitute loss of integrity.

Code "3" [Door (side)] refers to any door (including cargo doors) along the left or right side of a vehicle that is not separated from the passenger compartment by a full partition.

Variable Name: Passenger Compartment Integrity (cont'd.)

Code "4" [Door (rear)] refers to a door at the back of a vehicle (not a rear side door). For this door to qualify, there can be no full partition between this rear door and the passenger compartment. For example, rear doors of hatchbacks and stationwagons would qualify; a trunk lid would not.

Code "5" (Roof) includes convertibles, "T-tops", targa tops and removable tops that are up or in place. These tops should not be coded as having lost integrity if they are removed or in the down position prior to impact. Sun/Moon roofs are also excluded, even if shattered.

Code "7" (Side or rear window breakage) regardless of the window type (fixed or movable). Movable windows which were open (down) at impact should not be coded as having lost integrity.

## VEHICLE FORM

V68  
V70  
V72  
V74

Variable Name: Intruding Component

Format: 2 column - numeric

Beginning  
Column 161  
164  
167  
170

Element Values:

Primary

00 No passenger compartment or no intrusion  
01 Steering column  
02 Instrument panel left  
03 Instrument panel center  
04 Instrument panel right  
05 A-pillar  
06 B-pillar  
07 Door panel or side panel/kick panel  
08 Roof  
09 Roof side rail  
10 Windshield header  
11 No intrusion of primary component

Other

20 Steering column and instrument panel  
21 Steering column, instrument panel, and A-pillar  
22 Instrument panel and A-pillar  
23 A-pillar and roof  
24 A-pillar and any of the following: door panel, side panel or  
B-pillar  
25 A-pillar, roof, and windshield header  
26 Roof and any of the following: door panel, side panel, or  
B-pillar  
27 Roof and windshield header  
97 Other combination of the above components (Specify)  
98 Intrusion of unlisted components (Specify)  
99 Unknown

Source: Vehicle Inspection

Remarks:

Intrusion into the passenger compartment of a vehicle occurs only when an object violates the space previously available to vehicle occupants. For the purpose of this variable only vehicle components, particularly those listed in codes 01 through 10, are noted as having been intruded. Intrusion cannot occur unless the vehicle sustained an impact (i.e., intrusion due to fire is coded as "00") yet the damage which caused the intrusion may be either direct or induced. The crushing of exterior

VEHICLE FORM

V68  
V70  
V72  
V74  
(2)

Variable Name: Intruding Component (cont'd.)

sheet metal with no movement of the interior vehicle structure is not coded as intrusion since the occupant "space" volume was not reduced.

Two areas are coded for these variables: Driver area and Front Seat Passenger area. The front seat area is divided into Driver and Passenger area dependent on the number of seating positions available. If the front seat has three seated positions then the driver area is 1/3 of the area from door surface to door surface while the remaining 2/3 of the area is considered passenger area. If the front seat has two seated positions then the area is divided evenly between driver and passenger areas. For each area (Driver, Passenger) two possible intrusions may be coded: Primary and other. The "primary" intrusion variables (V68, V72) must be coded with any single component code (codes 01-11). The other intrusion variables (V70, V74) must be coded with any of the combination of component attributes (codes 20-27). See Code 98 for exceptions.

The primary intrusion variables should be coded for the single component (listed in codes 01-11) which intruded the greatest amount into the particular space (driver or front seat passenger). If two components intruded the same amount and both were greater than any other component listed then code the "primary" variable with the lower numbered component (i.e., the codes are prioritized).

The combination codes (20-27 and 97) are used for the "other" intrusion into the particular occupant space (driver or front seat passenger). These combination codes are available to allow the coding of two vehicle components which intruded secondary to the primary component (the next most severe intrusion). These codes are restricted to the combination of codes 01 through 10. Any other combination should be coded as "98" (Intrusion of unlisted components).

Code "00" (No passenger compartment) if the vehicle has no passenger compartment (e.g., motorcycle). Note that all fields of the intrusion variables (V68-V75) must be coded as "00" in this occurrence.

Code "01" (steering column) includes the steering rim, hub, spokes and column. The steering column must actually move into the particular area and not just shift due to vehicle damage or occupant contact.

Codes "02", "03", "04" (Instrument panel left, center, and right, respectively) when any portion of the instrument panel or dash intrudes into a front seat area space. To discriminate left, center, and right the instrument panel may be measured and divided into thirds.

V68  
V70  
V72  
V74  
(3)

Variable Name: Intruding Component (cont'd.)

Code "05" (A-pillar) for any portion of the upper A pillar (i.e., above the beltline).

Code "06" (B-pillar) for any portion of the upper B pillar (i.e., above the beltline).

Code "07" (Door panel or side panel/kick panel) for any side surface, from the toe pan to the B-pillar.

Code "08" (Roof) for the roof panel only since the roof side rails (above the door portion) is coded as "09" and the windshield header (forward most portion of the roof) is coded as "10".

Code "11" (No intrusion of primary component) is used in "primary" area intrusion variables (V68 and V72). If intrusion did not occur by any of the listed components (codes 1-10), then use this code for variables V68 and V72.

Code "20" through "27" are combinations of codes "01" through "10". These combinations are coded for "other" area intrusion only. If there are greater than two intrusions into an area the combination code should not include the component coded in the primary intrusion. On the other hand, if only two intrusions occurred the combination code including the primary component may be used.

Code "97" (other combination of the above components - specify) for any combination of components listed in codes "01 - 10" but not found in the combination codes "20 - 27".

Code "98" [Intrusion of unlisted component(s)] is used in the "other" area intrusion variables (V70, V74) only. If the only intrusion to the driver or passenger area is by an unlisted component, then use this code for the respective area (driver, passenger). If intrusion occurs both by an unlisted component and by a listed component (codes 1-10), then code the listed component in the primary area--even if the intrusion by the unlisted component is greater. If more than two components intrude upon an area and at least one of them is unlisted, report the intrusions only for the listed components individually or in combination in accordance with the guidelines discussed above. Please specify all unlisted components (single or combinations) for each coded intrusion.

Code "99" (Unknown) for all fields if the vehicle is not inspected or the intruded components have been repaired such that intrusion cannot be determined.

## VEHICLE FORM

V69  
V71  
V73  
V75

Variable Name: Magnitude of Intrusion

Format: 1 column - numeric

Beginning  
Column 163  
166  
169  
172

Element Values:

0 No passenger compartment or no intrusion  
1 Less than 2 inches  
2  $\geq 2$  but  $< 6$  inches  
3  $\geq 6$  but  $< 12$  inches  
4  $\geq 12$  inches  
9 Unknown

Source: Vehicle Inspection

Remarks:

Intrusion was defined in the previous variables. In this variable the maximum amount of intrusion of the component or combination of components is documented. A good estimation of intrusion may be made by measuring driver or passenger space originally available then subtracting the space left after the impact and then coding the measurement in the ranges available in codes "1" through "4".

Code "0" if the vehicle has no passenger compartment or if there are no primary or other intrusions for the particular space.

Code "9" for all fields if the vehicle was not inspected or the intruded components have been partially repaired. In the rare occurrence that the intrusion cannot be measured or estimated "9" may be coded.

Variable Name: Steering Column Separation

Format: 1 column - numeric

Beginning  
Column 173

Element Values:

0 No steering column  
1 No - column did not separate  
2 Yes - column did separate  
9 Unknown

Source: Vehicle inspection

Remarks:

This variable assesses the performance of the steering column in the impact. Steering column design and performance in collisions varies by year, make, and model of vehicle and will not be evaluated directly in the CSS data collection effort. This variable is an indication to the analysts of the amount of steering column movement resulting from the accident.

For vehicles without steering columns (i.e., motorcycles), code "0" for this variable.

Code "1" (No - column did not separate) should be used whenever the steering column remained attached to the instrument panel.

Code "2" (Yes - column did separate) should be used whenever the steering column became detached from the instrument panel.

During vehicle inspection the investigator should physically attempt to move the steering wheel up and down as well as side to side. (NOTE: Make sure that any tilt or telescoping devices on the steering column are locked in one position.) If the wheel and column move freely then separation has occurred and code "2" should be used. If no movement occurs code "1" unless you can see that the column has separated from its normal instrument panel mounts and is held in place by other than normal means (e.g. intrusion); then use code "2".

Code "9" (Unknown) when no vehicle inspection is obtained, the steering column is no longer in the vehicle, or the vehicle has been repaired.

Variable Name: Steering Rim Deformation

Format: 1 column - numeric

Beginning  
Column 174

Element Values:

0 No steering rim deformation  
1 Yes - steering rim deformation  
9 Unknown

Source: Vehicle inspection

Remarks:

Steering Rim in this variable is defined as the steering wheel rim, not including spokes and hub. Deformation can be assessed by placing a flat object such as a clipboard on the rim and looking to see if the rim touches it all the way around.

If the vehicle is not inspected or the steering wheel is missing code "9" (unknown).

Any deformation of the rim, regardless of the cause or severity, would be coded "1" (Yes - steering rim deformation).

Code "0" (No steering rim deformation) for vehicles that do not have a steering rim (e.g., motorcycles).

Variable Name: Fire Occurrence

Format: 1 column - numeric

Beginning  
Column 175

Element Values:

0 No fire  
Yes, fire occurred  
1 Started in vehicle, minor  
2 Started in vehicle, major  
3 Started external to vehicle, minor  
4 Started external to vehicle, major  
5 Origin unknown  
9 Unknown

Source: Primary source is the vehicle inspection; a secondary source is the police report and scene inspection.

Remarks:

Code "0" (No fire) includes those vehicles which are not inspected but for which it is reasonable to presume any fire to those vehicles would have been mentioned, if it occurred, on the police report. It also includes vehicles with smoke damage only, but which sustained no fire.

To code fire occurrence (codes "1" through "5"), the fire must reach the "vehicle" as defined by the variable Body Type (V14).

Code "1" (Started in vehicle, minor) refers to a fire which starts anywhere in the vehicle but consumes less than 50% of the passenger compartment.

Code "2" (Started in vehicle, major) refers to a fire which starts anywhere in the vehicle and consumes 50% or more of the passenger compartment.

Code "3" (Started external to vehicle, minor) refers to a fire which starts external to the vehicle but consumes less than 50% of the passenger compartment.

Code "4" (Started external to vehicle, major) refers to a fire which starts external to the vehicle but consumes 50% or more of the passenger compartment.

Code "5" (Origin unknown) if the origin of the fire is unknown, regardless of the extent of the fire Scene inspection should serve as a secondary source for determining fire occurrence. Where the PAR does not

Variable Name: Fire Occurrence (cont'd.)

address fire and no vehicle inspection or interviews are obtained, burned debris and a charred surface are good indicators of fire occurrence providing for the investigator to code "5", origin unknown.

Code "9" (Unknown) if there is no vehicle inspection and no interviews of occupants, witnesses or other persons involved in the accident, including the investigating officer, and one cannot reasonably presume the occurrence of any fire would have been reported on the police report.

The occupant area of a motorcycle is equivalent to the passenger compartment of another vehicle.

Variable Name: Type of Most Severe Impact This Vehicle, This Vehicle's Role

Format: 1 column - numeric

Beginning  
Column 176

Element Values:

- 0 Nonimpact
- 1 Front of this vehicle
- 2 Left side of this vehicle
- 3 Right side of this vehicle
- 4 Rear of this vehicle
- 5 Other impact location (specify)
- 9 Unknown impact type

Source: Primary source is the vehicle inspection; secondary sources include photographs, police report, and driver interviews.

Remarks:

This variable measures the general area of deformation of this vehicle's most severe impact; consequently, the value coded represents the same plane of the vehicle that was coded for V43, 1st C.D.C./T.D.C. - Deformation Location, where V43 is other than "9" or "Blank". This association and unknown as well as out of scope damage classifications for V43 are illustrated in the table below, recognizing that the table is interpretable in only one direction. In other words, it may only be used by beginning the logic with a value for V43, 1st C.D.C./T.D.C. - Deformation Location, to determine the value or range of values for V79, Type of Most Severe Impact This Vehicle, This Vehicle's Role.

IF		THEN
V43 equals:		V79 equals
C.D.C.	T.D.C.	
F	F,V	1
L	L	2
R	R	3
B	B,C,D	4
T,U	T,U	5
9	9	0, 1-5, or 9
Blank	Blank	0, 1-5 or 9

It should be recognized from the above table that vehicles which are beyond the scope of the C.D.C./T.D.C. are coded under this variable as "0" (Nonimpact), "1" - "5" (i.e., one of the various impact aspects) or "9" (Unknown impact type)

Variable Name: Type of Most Severe Impact This Vehicle, This Vehicle's Role  
(cont'd.)

Code "0" (Nonimpact) is used when the vehicle sustains no impact but is part of the case due to: fire or explosion, immersion, gas inhalation, an occupant's fall from the vehicle, an injured occupant without an external impact, or other nonimpacts except most jackknife situations.

If the impact occurred at a corner, follow the corner protocol spelled out in SAE J224 MAR80 and SAE J1301 for selection of the proper plane.

"Vehicle" as used in this variable is the same as V17, Body Type, plus any trailers connected by means of a fixed linkage at the time of impact. The four planes (front, right, left, rear) are measured with respect to the entire vehicle (capsule). In contrast, any trailer disconnected prior to impact is treated as an object.

Variable Name: Role of Other Contacted Vehicle, Object, or Person (for same impact as above)

Format: 1 column - numeric

Beginning  
Column 177

Element Values:

- 0 Nonimpact
- 1 Front of other vehicle
- 2 Side of other vehicle
- 3 Rear of other vehicle
- 4 Intraunit damage
- 5 Other location on other vehicle (specify)
- 6 Object (stationary or non-stationary)
- 7 Pedestrian or nonmotorist
- 8 Motorcycle or moped
- 9 Unknown impact type

Source: Primary source is the inspection of the other vehicle; secondary sources include the inspection of this vehicle; photographs, police report, and driver interviews.

Remarks:

Code "0" (Nonimpact) should be used only when V79, Type of Most Severe Impact This Vehicle, This Vehicle's Role, equals "0" (Nonimpact).

Codes "1" (Front of other vehicle), "2" (Side of other vehicle), "3" (Rear of other vehicle), and "5" (Other location on other vehicle) report the geographical location on the other vehicle for the common impact that produced the most severe impact on the vehicle under consideration. Row variables V42 through V47 may or may not be of help in this matter, since the most severe impact for this vehicle may not have produced the most severe impact for the other vehicle.

If a C.D.C./T.D.C. for the other vehicle is coded on its Vehicle Form (i.e., V42-V47 or V51-V56) which corresponds with this vehicle's most severe impact (this is true even if no C.D.C./T.D.C. for this vehicle was coded -- variables V42-V47), then use the table below to select the appropriate value. Remember, this table, as its predecessor (V79), is only interpretable in one direction.

Variable Name: Role of Other Contacted Vehicle, Object, or Person (for same impact as above) [cont'd.]

IF		THEN
V43 or V52 equals		V 80
C.D.C.	T.D.C.	equals
F	F,V	1
L,R	L,R	2
B	B,C,D	3
T,U	T,U	5
9	9	0-9
Blank	Blank	0-9

If no C.D.C./T.D.C. on the other vehicle maps to this vehicle's most severe impact (for whatever reason), then code the most appropriate response.

Code "4" (Intraunit damage) is used whenever the most severe impact for the vehicle under consideration was produced by (1) its trailer and/or towed trailing unit for TDC applicable vehicles or (2) its towed trailing unit and/or cargo for CDC applicable vehicles.

Code "6" [Object (stationary and nonstationary)] whenever the most severe impact for the vehicle under consideration was produced by an object. Object includes motor vehicles not in transport, which do not contain any nonmotorists, and trailers which disconnect.

Code "7" (Pedestrian or nonmotorist) whenever the most severe impact for the vehicle under consideration occurred with a pedestrian, pedalcyclist, occupant of an animal related nonmotor vehicle transport device, nonmotorist inside a motor vehicle not in transport, or another nonmotorist. This code is used even if the nonmotorist inside the motor vehicle not in transport was not injured.

Code "8" (Motorcycle or moped) whenever the most severe impact for the vehicle under consideration was produced by a motorcycle or moped.

Code "9" (Unknown impact type) whenever the most severe impact for the vehicle under consideration resulted from an impact [nonimpacts are coded "0" (Nonimpacts)] of unknown origin.

When applicable the codes "4" (Intraunit damage), "7" (Pedestrian or Nonmotorist), and "8" (Motorcycle or Moped) take precedence over other available codes.

Instructions for Completion of Restraint System Usage

Restraint usage recorded on page 10 of the Vehicle Form is based only on inspection of the vehicle; in other words, it is the recording of the evidence concerning restraint usage provided only by vehicle inspection.

An indication of restraint usage must be determined for every seating position in the vehicle, regardless of the number of occupants in the vehicle. This "indication of usage" should represent "recent usage" rather than "usage ever" if at all possible. Look for such things as:

- \* Belt/fittings damaged by occupant loading: deformed anchorages, stretched webbing, latch metal peening (loading impression on metal);
- \* Placement of belts: on, behind, or under seatbacks or benches; and,
- \* Condition of belts: dirty, dust covered, mechanically unusable, knotted, size adjustment on fixed length belts, cut for convenience or comfort (out of the way, near housings), or cut for occupant extraction by emergency personnel (usually at an easily accessible position).

Restraint "usage in this accident" is not determined on the Vehicle Form. Vehicle evidence, along with police report information, interviews, relationship of contact points to seat position given the PDOF applied to the vehicle, presence of belt-caused injuries, presence or absence of ejection, etc., are used for the final determination of restraint usage recorded on the Occupant Form.

Where recent usage is indicated, code the type of restraint. Where belts have been used but it cannot be determined whether or not the restraint was used recently (e.g., well worn belts and latches), code the type of restraint and annotate the reason for the code. If usage is not indicated, code none ("0").

When a child safety seat exists in other than a normal seating position, such as the floor behind the back seat, use the last column (other position or unit) to code the presence and any indication of usage for that seat. If the child safety seat is in a normal position, make a diagonal line through each appropriate box and code data for the child safety seat in one half and the normal seat position in the other half. Due to the transient nature of these seats, one should key questions regarding its presence and usage at the time of the accident in the interview before making the final assessments on the Occupant Form.

Indications of Ejection

If acquired information indicated that an occupant of a vehicle has been ejected but the vehicle cannot be inspected, do not complete the section entitled "Indication of Ejection". The information on this page can only be obtained through a visual inspection of the vehicle.

## INSTRUCTIONS FOR COMPLETION OF VEHICLE INTERIOR PAGE

Sketch and label (A,B,C,...etc.) all occupant contact points or evidence of contact (i.e., dents, skin transfer, etc.) on the appropriate diagram, identifying the occupant number (or seat location) and possible body part contacting at each point on the diagram. Using the table, document the "Interior Part Contacted" (i.e., dash, radio knob, AC duct, etc.), the "Supportive Physical Evidence" (i.e., dent, skin or cloth transfer, hair, scuff, etc.), and the "Confidence Level of Contact Point" (your confidence that the point is indeed an occupant contact from this accident). If you are reasonably certain that the area was contacted during this accident circle the 1; if you think it is only a possible contact, then circle the 2.

The diagram of the steering column should be used to show steering wheel deformation and contacts to the column.

The overhead view of the interior (center right part of page) should be used to indicate areas of intrusion, deformation of seat backs, rear seat area occupant contacts, in some cases the direction of occupant travel from seat position to contacted areas, and in some cases areas where the vehicle interior has bulged outward.

Variable Name: Rollover

Format: 1 column - numeric

Beginning  
Column 178

Element Values:

0 No rollover (no overturning)

Rollover primarily about the longitudinal axis

1 Rollover, 1 quarter turn only

2 Rollover, 2 quarter turns

3 Rollover, 3 quarter turns

4 Rollover, 4 or more quarter turns (specify)

5 Rollover primarily about the lateral axis

9 Rollover (overturn), details unknown

Source: Primary sources are the vehicle and scene inspections; secondary sources include photographs, police report, driver interviews, and other interviewees.

Remarks:

Rollover is defined as any vehicle rotation of 90 degrees or more, about any true longitudinal or lateral axis. Rollover can occur at any time during the collision and is coded independently of other configuration questions. If a trailer, attached to the case vehicle, rolled over but the vehicle itself did not, the variable should be coded "0" (No rollover).

If First Harmful Event (A10) equals "01" (Overturn) and it was based on this vehicle, then Rollover must not equal "0" for this vehicle, unless Body Type (V17) equals "20" - "29" (Motorcycles) for this vehicle.

It should be known whether or not this vehicle rolled over. If uncertainty exists, code "0" (No rollover).

Codes "1", "2", "3", and "4" are coded on the basis of accident reconstruction by the investigator. A "quarter turn" is defined as a rotation of 90 degrees about an axis of the vehicle (this does not include rotation about the vertical axis, commonly called yaw). Therefore, if a vehicle rolled, about its longitudinal axis (i.e., side to side roll), onto its roof it would have rolled 180 degrees and would be coded "2" (Rollover, 2 quarter turns).

Variable Name: Rollover (cont'd.)

When a vehicle rolls 4 or more quarter turns, code "4" and specify the number of quarter turns involved.

Code "5" (Rollover primarily about the lateral axis) should be used when the roll is mainly an end-over-end rollover. This code may be 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.

Variable Name: Jackknife

Format 1 column - numeric

Beginning  
Column 179

Element Values:

- 0 Not an articulated vehicle
- 1 No
- 2 Yes - prior to first impact for this vehicle
- 3 Yes - after first impact but prior to last impact
- 4 Yes - details unknown

Source: Primary source is the vehicle inspection; secondary sources include photographs, police report, driver interviews, and other interviewees.

Remarks:

Jackknife can occur at any time during the accident sequence. The phenomenon called "jackknife" is not restricted to truck-tractor vehicles, it may occur with any passenger vehicle, van, motorcycle, etc., which is pulling a trailing unit, and the trailing unit and the pulling vehicle are capable of rotating (articulating) with respect to each other.

Vehicles coded in variable V18 (Towed Trailing Unit) as "0" (No) are to be coded "0" (Not an articulated vehicle), unless they were previously coded as "75" (Truck tractor pulling one or more trailers), on variable V17 (Body Type). Code "75" (for variable V17, Body Type) as well as any vehicle for which variable V18, Towed Trailing Unit, equals "1" - "9", must be coded, on this variable, either "1" (No), or "2" through "4" (Yes).

Code "2" through "4" (Yes) when any uncontrolled articulation between the units occurs. These codes attempt to capture the time during the accident sequence that the jackknife situation occurred.

Code "2" (Yes - Prior to primary impact for this vehicle) when any uncontrolled articulation between the units occurs prior to the primary impact for this vehicle.

Code "3" (Yes - After primary impact for this vehicle but prior to last impact) when any uncontrolled articulation between units occurs after the primary impact for this vehicle but prior to the last impact in the accident sequence. Any articulation which occurs after the last impact in the accident is not coded due to the probability of the impact directly causing the units to articulate.

Variable Name: Jackknife (cont'd.)

Code "4" (Yes - Details unknown) when any uncontrolled articulation between units occurs but when it occurred in the accident sequence could not be determined.

Uncontrolled articulation of units may be defined as:

- 1) The pulled unit is not tracking (following directly behind) the power unit; and
- 2) The driver of the vehicle did not initiate the "not-tracking" situation. A turn is an example of a controlled articulation which is not coded in this variable.

Variable Name: Hazardous Cargo

Format: 1 column - numeric

Beginning  
Column 180

Element Values:

- 0 No hazardous cargo
- 1 Load of hazardous materials only (specify)
- 2 Load of hazardous and nonhazardous materials (specify)
- 9 Unknown

Source: Primary source is the vehicle inspection; secondary sources include driver interview, photographs, and police report.

Remarks:

The following definitions have been abstracted from the Code of Federal Regulations, Title 49 - Transportation, Parts 100 to 177. Refer to the referenced sections for complete details. NOTE: Rulemaking proposals are outstanding or are contemplated concerning some of these definitions.

HAZARDOUS MATERIAL - Means a substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated. (Sec. 171.8)

HAZARD	CLASS	UN No	DEFINITIONS
			<u>An Explosive</u> - Any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion, i.e., with substantially instantaneous release of gas and heat, unless such compound, mixture, or device is otherwise specifically classified in Parts 171-179. (Sec. 173.50)
CLASS A EXPLOSIVE		1	Detonating or otherwise of maximum hazard. The nine types of Class A explosives are defined in Sec. 173.53.
CLASS B EXPLOSIVE		1	In general, function by rapid combustion rather than detonation and include some explosive devices such as special fireworks, flash powders, etc. (Sec. 173.88)
CLASS C EXPLOSIVE		1	Certain types of manufactured articles containing Class A or Class B explosives, or both, as components but in restricted quantities, and certain types of fireworks (Sec. 173.100)
BLASTING SCENT		1	A material designed for blasting which has been tested in accordance with Sec. 173.114a(b) and found to be so insensitive that there is very little probability of accidental initiation to explosion or of transition from deflagration to detonation. [Sec. 173.114a(b)]

HAZARD CLASS	UN No	DEFINITIONS
		<u>Compressed Gas</u> - Any material or mixture having in the container a pressure EXCEEDING 40 psia at 70°F., or a pressure exceeding 104 psia at 130°F.; or any liquid flammable material having a vapor pressure exceeding 40 psia at 100°. [Sec. 173.300(a)]
		<u>Non-liquefied compressed gas</u> is a gas, other than gas in solution, which under the charged pressure is entirely gaseous at a temperature of 70°F
		<u>Liquefied compressed gas</u> is a gas which, under the charged pressure, is partially liquid at a temperature of 70°F.
		<u>Compressed gas in solution</u> is a nonliquefied compressed gas which is dissolved in a solvent.
FLAMMABLE GAS	2	Any compressed gas meeting the requirements for lower flammability limit, flammability limit range, flame projection, or flame propagation criteria as specified in Sec. 173.300(b).
NONFLAMMABLE GAS		Any compressed gas other than a flammable compressed gas.
COMBUSTIBLE LIQUID	3	Any liquid having a flash point at or above 100°F. and below 200°F. as determined by tests listed in Sec. 173.115(d). Exceptions are found in Sec. 173.115(b).
FLAMMABLE LIQUID	3	Any liquid having a flash point below 100°F. as determined by tests listed in Sec. 173.115(d). For exceptions, see Sec. 173.115(a).
		<u>Pyroforic Liquid</u> - Any liquid that ignites spontaneously in dry or moist air at or below 130°F. [Sec. 173.115(c)]
FLAMMABLE SOLID	4	Any solid material, other than an explosive, which is liable to cause fires through friction, retained heat from manufacturing or processing, or which can be ignited readily and when ignited, burns so vigorously and persistantly as to create a serious transportation hazard. Included in this class are spontaneously combustibile and water-reactive materials. (Sec. 173.150)
		<u>Spontaneously Combustible Material (Solid)</u> - A solid substance (including sludges and pastes) which may undergo spontaneous heating or self-ignition under conditions normally incident to transportation or which may, upon contact with the atmosphere, undergo an increase in temperature and ignite. (Sec. 171.8)
		<u>Water Reactive Material (Solid)</u> - Any solid substance (including sludges and pastes) which, by interaction with water, is likely to become spontaneously flammable or to give off flammable or toxic gases in dangerous quantities. (Sec. 171.8)

HAZARD CLASS	UN No	DEFINITIONS
ORGANIC PEROXIDE	5	An organic compound containing the bivalent -O-O structure and which may be considered a derivative of hydrogen peroxide where one or more of the hydrogen atoms have been replaced by organic radicals must be classed as an organic peroxide unless...[See Sec. 173.151(a)]
OXIDIZER	5	A substance such as chlorate, permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter. (See Sec. 173.151)
POISON A	2	<u>Extremely Dangerous Poisons</u> - Poisonous gases or liquids of such nature that a very small amount of the gas, or vapor of the liquid, mixed with air is dangerous to life. (Sec. 173.326)
POISON B	6	<u>Less Dangerous Poisons</u> - Substances, liquids, or solids (including pastes and semi-solids), other than Class A or Irritating materials, which are known to be so toxic to man as to afford a hazard to health during transportation; or which, in the absence of adequate data on human toxicity, are presumed to be toxic to man. (Sec. 173.343)
IRRITATING MATERIAL	6	A liquid or solid substance which, upon contact with fire or when exposed to air, gives off dangerous or intensely irritating fumes, but not including any poisonous material, Class A. (Sec. 173.381)
ETIOLOGIC AGENT	6	An "etiologic agent" means a viable micro-organism, or its toxin, which causes, or may cause, human disease. (Sec. 173.386)
RADIOACTIVE MATERIAL	7	Any material, or combination of materials, that spontaneously emits ionizing radiation, and having a specific activity greater than 0.002 microcuries per details]
CORROSIVE MATERIAL	8	Any liquid or solid that causes visible destruction or irreversible alterations in human skin tissue or a liquid that has a severe corrosion rate on steel. [See Sec. 173.240(a) and (b) for details]
ORM - OTHER REGULATED MATERIALS		(1) Any material that may pose an unreasonable risk to health and safety or property when transported in commerce; and (2) Does not meet any of the definitions of the other hazard classes specified in this subpart; or (3) Has been reclassified on ORM (specifically or permissively) according to this subchapter. [Sec. 173.500(a)]
		NOTE: A material with a flashpoint of 100°F. to 200°F. must be classed as a combustible rather than as an ORM if it is a hazardous waste or is offered in a packaging having a rated capacity of more than 110 gallons.
ORM-A	9	A material which has an anesthetic, irritating, noxious, toxic, or other similar property and which can cause extreme annoyance or discomfort to passengers and crew in the event of leakage during transportation [Sec. 173.530 (b)(1)]

HAZARD CLASS	UN No	DEFINITIONS
ORM-B	9	A material (including a solid when wet with water) capable of causing significant damage to a transport vehicle from leakage during transportation. Materials meeting one or both of the following criteria are ORM-B materials: (1) A liquid substance that has a corrosion rate exceeding 0.250 inch per year (IPY) on aluminum (nonclad 7075-T6) at a test temperature of 130°F. An acceptable test is described in NACE Standard TM-01-69; and/or (2) Specifically designated by name in Sec. 172.101 [Sec. 173.500(b)(2)]
ORM-C	9	A material which has other inherent characteristics not described as an ORM-A or ORM-B but which makes it unsuitable for shipment, unless properly identified and prepared for transportation. Each ORM-C material is specifically named in Sec. 172.101. [Sec. 173.500(b)(3)]
ORM-D	9	A material such as a consumer commodity which, through otherwise subject to the regulations of this subchapter, presents a limited hazard during transportation due to its form, quantity and packaging. They must be materials for which <u>exceptions</u> are provided in Sec. 172.101. A shipping description applicable to each ORM-D material or category of ORM-D materials is found in Sec. 172.101. [Sec. 173.500(b)(4)]
ORM-E	9	A material that is not included in any other hazard class, but is subject to the requirements of this subchapter. Materials in this call include (1) hazardous waste and (2) hazardous substance, as defined in Sec. 171.8. [Sec. 173.500(b)(5)].
THE FOLLOWING ARE OFFERED TO EXPLAIN SOME OF THE ADDITIONAL TERMS USED IN PREPARATION OF HAZARDOUS MATERIALS FOR SHIPMENT. (Sec. 171.8)		
CONSUMER COMMODITY (See ORM-D above)		A material that is packaged or distributed in a form intended and suitable for sale through retail sales agencies or instrumentalities for consumption by individuals for purposes of personal care of household use. This term also includes drugs and medicines. (Sec. 171.8)
FLASH POINT		The minimum temperature at which a substance gives off flammable vapors which, in contact with a spark or flame, will ignite. For liquids, see Sec. 173.115; for solids, see Sec. 173.150.

HAZARD CLASS	UN No	DEFINITIONS
FORBIDDEN		Material is prohibited from being offered or accepted for transportation. This prohibition <u>does not</u> apply if these materials are diluted, stabilized, or incorporated in devices and they are classed in accordance with the definitions of hazardous materials. [Sec. 172.101(d)(1)]
HAZARDOUS SUBSTANCE		For transportation purposes, a material and its mixtures or solutions, that is identified by the letter "E" in Column (1) of the Hazardous Materials Table, Sec. 172.101, when offered for transportation in one package, or in one transport vehicle if not packaged, and when the quantity of the material therein equals or exceeds the reportable quantity (RQ). For details, refer to Sec. 171.8 and Sec. 172.101 (Hazardous Materials Table).
HAZARDOUS WASTE		Any material that is subject to the hazardous waste manifest requirements of the Environmental Protection Agency specified in the CFR, Title 40, Part 262 or would be subject to these requirements in the absence of an interim authorization to a State under Title 40, CFR, Part 123, Subpart F. (Sec. 171.8). Questions regarding EPA hazardous waste regulations, call Toll Free. (800) 424-9065 or in Washington: 554-1404.
LIMITED QUANTITY		The maximum amount of a hazardous material as specified in those sections applicable to the particular hazard class for which there is a specific labeling and packaging exceptions from the requirements. See Sec 173.118, 173.118(a), 173.153, 173.224, 173.306, 173.345, 173.364 and 173.391.
REPORTABLE QUANTITY		The quantity of hazardous substance specified in the Hazardous Materials Table (Sec. 172.101) and identified by the letter "E" in Column (1). (Sec. 171.8)

Variable Name: Hazardous Cargo (cont'd.)

This variable measures the association between the vehicle under consideration and the presence of hazardous cargo. It does not measure the type of hazardous cargo.

Code "0" (No hazardous cargo) if the vehicle was not transporting any cargo which is defined as hazardous above. Use this code if (1) neither a truck (light, medium, or heavy) nor a van (i.e., V17 = 40-79) was involved and (2) the police report does not state whether the vehicle was carrying hazardous cargo and (3) no additional information is available (i.e., no vehicle inspection and no interview).

Code "1" (Load of hazardous materials only) or "2" (Load of hazardous and nonhazardous materials) if the vehicle was transporting any cargo defined above as hazardous. The existence of a DOT Hazardous Materials Warning Placard or Label is a good indicator of the presence of a hazardous materials. However, caution should be exercised to be sure that the vehicle was transporting the hazardous cargo at the time of the accident. Also, be sure to write down on page 2 of the Driver Form (Specific Questions block) a note to ask the driver if the cargo was only hazardous material or a mixture.

Code "1" (Load of hazardous materials only) should be used if all of the cargo transported was hazardous. It does not matter whether or not all of the cargo was composed of the same type of hazardous material.

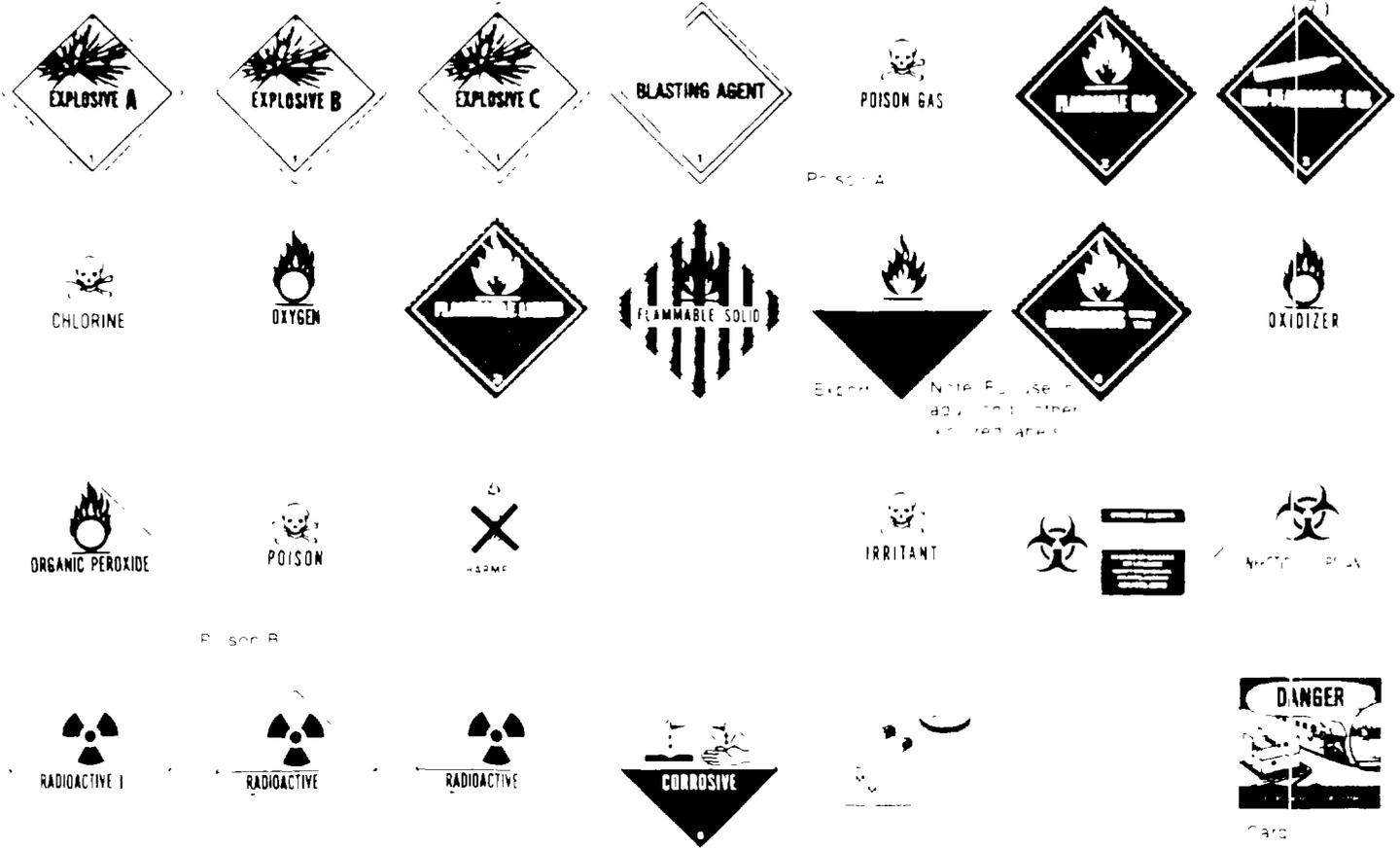
Code "2" (Load of hazardous and nonhazardous materials) is used if any part (but not all) of the cargo transported was nonhazardous.

If codes "1" or "2" are used, specify the type of hazardous cargo being transported.

Transported means that the cargo was moved by the vehicle (V17, Body Type) or any trailing units associated with the vehicle.

Code "9" (Unknown) should be used when no information is available on hazardous cargo. For example, a transient truck is involved in an accident with minor damage; the police report does not address hazardous cargo, and an interview is not available. This circumstance should be coded "9". For unknown hazardous cargo in passenger cars, motorcycles, buses, and other vehicles (i.e., V14 = 01-39, 80-89), use code "0" (No hazardous cargo).

# DOT Hazardous Materials Warning Labels



## General Guidelines on Use of Labels

- The Hazardous Materials Tables, Sec. 172.101 and 172.102 identify the proper labels for the hazardous materials listed.
- Any person who offers a hazardous material for shipment must affix the package, if required [Sec. 172.400(a)]. Labels may be affixed to packages even though not required by the regulations, provided each label represents a hazard of the material in the package [Sec. 172.401].
- Labels, when required, must be printed on or affixed to the surface of the package near the proper shipping name [Sec. 172.406(a)].
- When two or more different labels are required, display them next to each other [Sec. 172.406(c)].
- When two or more packages containing compatible hazardous materials are packaged within the same overpack, the outside container must be labeled as required for each class of material contained therein [Sec. 172.404(b)].
- Material classed as an **Explosive A**, **Poison A**, or **Radioactive Material** also meeting the definition of another hazard class must be labeled for each class [Sec. 172.402(a)].
- Material classed as an **Oxidizer**, **Corrosive**, **Flammable Solid**, or **Flammable Liquid** that also meets the definition of a **Poison B** must be labeled **POISON** in addition to the hazard class label [Sec. 172.402(a)(3) and (5)].
- Material classed as a **Flammable Solid** that also meets the definition of a water-reactive material must be labeled with **FLAMMABLE SOLID** and **DANGEROUS WHEN WET** labels [Sec. 172.402(a)(4)].
- Material classed as a **Poison B**, **Flammable Liquid**, **Flammable Solid**, or **Oxidizer** that also meets the definition of a **Corrosive material** must be labeled **CORROSIVE** in addition to the class label [Sec. 172.402(a)(6) through (9)].

## Hazardous Materials Class Numbers

Hazardous materials class numbers associated with the hazard classes:

- Class 1 Explosives
- Class 2 Gases, Compressed, liquefied, dissolved, under pressure
- Class 3 Flammable liquids
- Class 4 Flammable solids or Substances
- Class 5 Oxidizing Substances
- Class 6 Poisonous and Infectious Substances
- Class 7 Radioactive Substances
- Class 8 Corrosives
- Class 9 Miscellaneous dangerous Substances

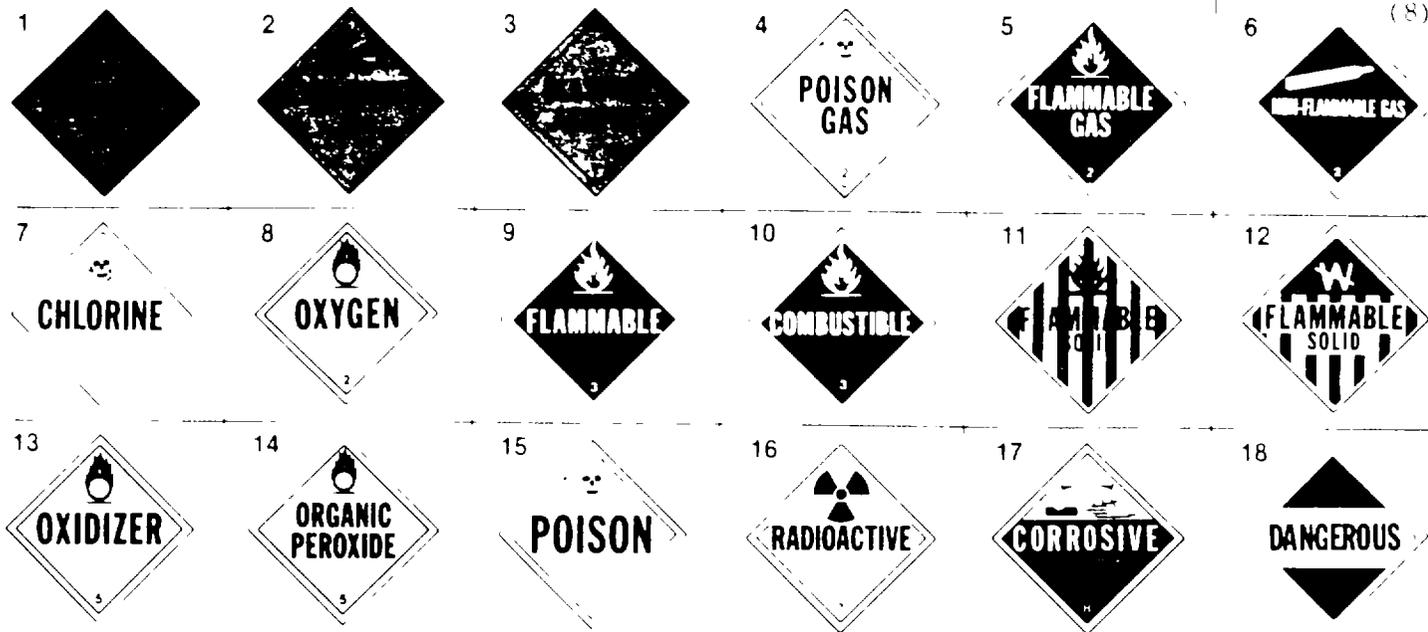
NOTE: For requirements, see Sec. 172.102(b), 172.102(b)(3), and 172.400.

designed as a reference. For complete details, refer to the Code of Regulations, Title 49, Parts

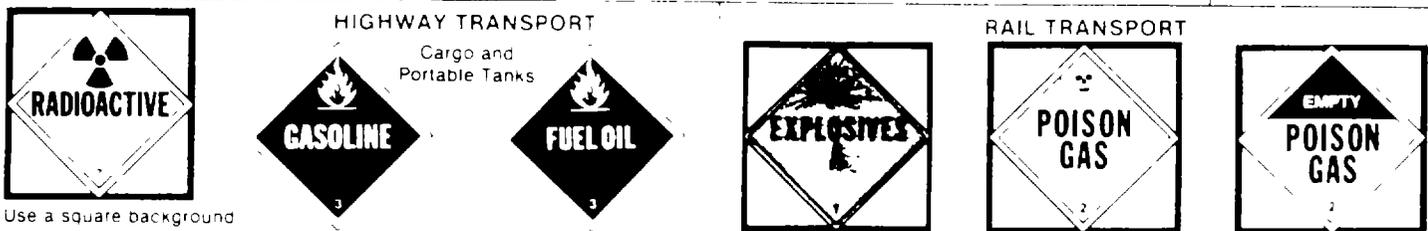


Research and Special Programs Administration

# DOT Hazardous Materials Warning Placards



★ Numbers in each square (illustration numbers) refer to TABLES 1 and 2



Use a square background on shipments requiring special routing

HIGHWAY TRANSPORT  
Cargo and Portable Tanks  
May be substituted for Flammable and/or Combustible placard. See Sec. 172.542 and 172.544

RAIL TRANSPORT  
Use a square background for the above placards

TABLE 1

Hazard Classes	★ No
Class A explosives	1
Class B explosives	2
Poison A	4
Flammable solid (DANGEROUS WHEN WET label only)	12
Radioactive material (YELLOW III label)	16
Radioactive material	
Uranium hexafluoride fissile (containing more than 0.7% U <sup>235</sup> )	16 & 17
Uranium hexafluoride low specific activity (containing 0.7% or less U <sup>235</sup> )	16 & 17

## Guidelines

- Placard motor vehicles, freight containers, and rail cars containing any quantity of hazardous materials listed in TABLE 1
- Placard motor vehicles and freight containers containing 1 000 pounds or more gross weight of hazardous materials classes listed in TABLE 2
- Placard freight containers 640 cubic feet or more containing any quantity of hazardous materials classes listed in TABLES 1 and/or 2 when offered for transportation by air or water. Under 640 cubic feet see Sec. 172.512(b)
- Placard rail cars containing any quantity of hazardous materials classes listed in TABLE 2 except when less than 1 000 pounds gross weight of hazardous materials are transported in TOFC (Trailer on Flat Car) or COFC (Container on Flat Car) service

TABLE 2

Hazard Classes	★ No
Class C explosives	18
Blasting agent	3
Nonflammable gas	6
Nonflammable gas (Chlorine)	7
Nonflammable gas (Fluorine)	15
Nonflammable gas (Oxygen pressurized liquid)	8
Flammable gas	5
Combustible liquid	10
Flammable liquid	9
Flammable solid	11
Oxidizer	13
Organic peroxide	14
Poison B	15
Corrosive material	17
Irritating material	18

## UN and NA Identification Numbers

- UN (United Nations) or NA (North American) numbers are found in Sec. 172.101, 172.102 and the Emergency Response Guidebook
- The four digit UN or NA numbers are used to identify the hazardous materials involved
- NA numbers are used only in the USA and Canada
- UN or NA numbers must be displayed on Tank Cars, Cargo Tanks and Portable Tanks

5. When ID numbers are displayed on placards, ORANGE PANELS are not required



6. When ID numbers are displayed on ORANGE PANELS appropriate placards are also required



7. EUROPEAN NUMBERING SYSTEM  
Top numbers represent the Hazard Index. The bottom numbers are the required UN identification numbers



For more complete details on Identification Numbers see Sec. 172.300 through 172.338

Variable Name: Vehicle Curb Weight

Format. 3 columns - numeric

Beginning  
Column 181

Element Values:

Range. 001 through 500

Code recorded weight to the nearest 100 pounds

001 Less than 150 Pounds

997 99,650 Pounds or More

999 Unknown

Source Primary and secondary sources are listed below; occasional tertiary sources [for heavy trucks only (i.e., over 10,000 lbs. GVWR)] are the vehicle inspection and driver interview.

Remarks.

"Vehicle" is defined on this variable to mean one and the same as that which is coded on V17, Body Type.

Code to nearest 100 pounds as in the examples:

Weight: 180 lbs.	Weight: 3,230 lbs.	Weight: 16,500 lbs.
Code: 002	Code: 032	Code: 165

Code "001" if the weight is less than 150 pounds.

Do not confuse the rated Gross Vehicle Weight Rating (GVWR) with the curb weight since it is likely to be significantly greater than the curb weight.

For heavy trucks an inspection is only a source where some document (e.g., bill of lading) is found which reveals the weight. Further, the interview is only a source where the driver knew the weight because of having had the vehicle weighed.

The weight of the trailer (exclusive of cargo) is counted with the vehicle curb weight if variable V17 (Body Type) is coded "75" (Truck tractor pulling one or more trailers). The weight of the cargo contained within or on the trailer(s) as well as in the tractor is coded under variable V85 (Vehicle Cargo Weight).

If variable V18 (Towed Trailing Unit) is coded "1" (Yes) and variable V17 (Body Type) is not coded as "75" (Truck tractor pulling one or more trailers), the weight of the trailer and its cargo is not coded here.

Variable Name: Vehicle Curb Weight (cont'd.)

Instead, it is coded under variable V85 (Vehicle Cargo Weight). For example, the weight of a boat trailer and its cargo are coded as Vehicle Cargo Weight (V85), distinct from the weight of the vehicle.

When coding a pickup (V17, Body Type, equal 50 or 51) or car [e.g., El Camino (V17 - 10)] with an add-on type camper (i.e., shell or self-contained), do not consider the add-on type camper as part of the curb weight. Add-on type campers should be coded under Variable V85, Vehicle Cargo Weight. However, chassis-mounted campers are to be included in this variable.

If the vehicle model (V14) is known, but the engine size is unknown (e.g., 6 or 8 cylinders), code the average between the high and low curb weights for the model and annotate that the "average" was reported.

When the vehicle specifications do not report the vehicle weight with the proper engine size then adjustments must be made. First, try to determine the weight differences from the vehicle specifications. If the weight difference cannot be determined from the specifications then adjust as follows: 8 cyl. to 6 cyl. - subtract 100 lbs.; 6 cyl. to 4 cyl. - subtract 75 lbs.

Add 100 lbs. to the shipping weight to obtain a curb weight on all light duty vehicles. Code dry weight for motored cycles, snowmobiles and other unusual vehicle types).

The primary source is the first source of reference material listed below; the next three sources are secondary.

Passenger Vehicle Specifications  
Motor Vehicle Manufacturers Association  
of the U.S., Inc.  
300 New Center Building  
Detroit, Michigan 48202

Automotive News  
Crain Automotive Group, Inc.  
965 East Jefferson Avenue  
Detroit, Michigan 48207

Branham Automobile Reference Book  
Branham Publishing Company  
Post Office Box 1948  
Santa Monica, California 90406

Variable Name. Vehicle Curb Weight (cont'd.)

Gasoline Truck Index and  
Diesel Truck Index  
Truck Index, Inc.  
Post Office Box 4221  
Anaheim, California 92803

Annotate the source used in the space provided on the Vehicle Form under  
this variable.

Variable Name: Vehicle Cargo Weight

Format: 3 columns - numeric

Beginning  
Column 184

Element Values:

Range: 000 through 500

Code recorded weight to the nearest 100 pounds.

000 Less than 050 Pounds

997 99,650 Pounds or More

999 Unknown

Source: Researcher determined -- inputs include vehicle inspection (e.g., GVWR, shipping invoice, bill of lading), driver interview, and other interviewees.

Remarks:

Code to the nearest 100 pounds as in the examples:

Weight: 180 lbs.

Code: 002

Weight: 3,230 lbs.

Code: 032

Weight: 16,500 lbs.

Code: 165

Code "000" if the weight is less than 050 pounds.

Do not include the weight of the occupants in the cargo weight. The weight represented by the occupants will be included as a component (along with cargo and vehicle curb weight) of the single value which represents the vehicles combined weight on the CRASH Program Summary Form, if used.

The weight of the cargo (including animals) contained within or on the trailer(s) as well as in the tractor for vehicles coded "75" (Truck tractor pulling one or more trailers) on variable V17 (Body Type) is coded here. This is exclusive of the weight of the trailer(s) by themselves.

If variable V18 (Towed Trailing Unit) is coded "1" (Yes) and variable V17 (Body Type) is not coded as "75" (Truck tractor pulling one or more trailers) [prohibited combination--see Remarks section for V18, Towed Trailing Unit], the weight of the trailer and its cargo (if known) is coded here.

Variable Name: Vehicle Cargo Weight (cont'd.)

The weight of add-on type campers (i.e., shell or self-contained) should be coded here. See remarks section for V84, Vehicle Curb Weight.

Code "997" (99,650 pounds or more) if the cargo weight is 99,650 lbs or more.

Code "999" (Unknown) if cargo weight is unknown.

Variable Name: Investigator Reported Source of Cargo Weight

Format: 1 column - numeric

Beginning  
Column 187

Element Values:

0 No cargo  
1 Measured  
2 Estimated  
3 Rated capacity  
9 Unknown

Source: Researcher determined -- inputs include vehicle inspection,  
driver interview, and other interviewees.

Remarks:

Code "0" (No cargo) only if there was no cargo. If cargo is present and the total cargo weight of V85 (Vehicle Cargo Weight) is less than 50 pounds (i.e., if V85 equals "000"), then V77 can equal "1" (Measured) or "2" (Estimated).

If the cargo weight (V85) is coded greater than or equal to 50 pounds, then code this variable as "1" (Measured), "2" (Estimated), or "3" (Rated capacity) respectively.

Annotate the source used in the space provided on the Vehicle Form under this variable.

Variable Name: Driver License Status (Irrespective of Vehicle Being Driven)  
[cont'd.]

In distinguishing license requirements from restrictions focus upon whether or not all drivers possessing the type of license are mandated to obey the requirement. If they are, then the requirement is not a restriction, but rather part of the definition of the license. Restrictions, on the other hand, are requirements specific to individual drivers.

Possible sources of error include:

Vehicle damage: Review the crush measurements and ensure they are consistent with the damage photos. Review the wheel and tire conditions to ensure they reflect the best estimates of their contribution to steering and drag.

Scene Evidence: Review the impact and rest positions and the trajectory path. Review the surface coefficient of friction. Make sure directions of rotation, points on the paths, and end-of-rotation points are specified correctly.

After reviewing these sources, subsequent runs should be made if adjustments to the input are rational. ADJUSTMENTS SHOULD NOT BE MADE WITHOUT BASIS FOR UNCERTAINTY IN THE ADJUSTED VARIABLES. If agreement cannot be reached between the two methods, the case should be flagged for special review by the Zone Center, who will then complete variables V87 through V91.

Researchers will find it convenient when uncertainty exists in some variable such as friction coefficient and other scene evidence, to identify the range of rational error that may exist before initiating a reconstruction run.

If agreement does not occur, the RERUN execution on the reconstruction program can then be initiated at a considerable savings in time devoted to changing the input variables.

In any case, when both options--DAMAGE and TRAJECTORY--have been executed and agreement has been obtained, the two results for Delta V should be averaged after making the force direction collinear and this averaged value entered in V88 through V91.

For known occupants with unknown weights, use the occupant's age or age group in the table below to determine the appropriate weight to add.\*

Age	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Male	17	25	30	35	39	43	48	53	59	66	73	83	93	105
Female	16	24	29	33	37	41	45	51	59	67	77	86	97	106
Age	14	15	16	17	18-24	25-34	35-44	45-54	55-64	65-97				
Male	119	131	142	149	161	172	176	175	170	163				
Female	115	121	124	125	128	132	139	145	144	142				
Age Group	Child (0-12)				Adolescent (13-17)				Adult (18-97)					
Male	50**				130***				170					
Female					120***				137					

\* Sources of Information:

- Weight and Heights of Adults 18-74 Years of Age: United States, 1971-1974. Vital and Health Statistics: Series 11, Data from the National Health Survey; Number 211. DHEW publication (PHS) 79-1659. Table 4, page 17; data based on 50th percentile.
- NCHS Growth Curves for Children Birth-18 years United States. Vital and Health Statistics: Series 11, Data from the National Health Survey; Number 165. DHEW publication (PHS) 79-1650. Tables 10, page 34, and 14, page 38; data based on 50th percentile at half year age to the nearest pound.

\*\* Based on 6 and 7 year olds rounded to the nearest 5 pounds.

\*\*\* Based on 15 year olds rounded to the nearest 5 pounds.

MISSING VEHICLE ALGORITHM

The data for the Missing Vehicle Algorithm is entered in the same manner as the data is entered for CRASH 3 "Damage Only" Algorithm.

The minimum information required on the missing, or not inspected vehicle, is:

- \* Vehicle make/model/year or size category  
(Table 8-1 in CRASH 3 Manual)
- \* Mass [curb weight + occupant(s) weight + cargo weight], if available.
- \* Area of damage (at least third character of CDC - "Area of deformation").

The information required on the inspected vehicle is the same as that information needed to run CRASH 3.

YIELDING OBJECT ALGORITHM (POLES)

The data for the Yielding Object Algorithm is entered in the same manner as the data is entered for CRASH 3 "Damage Only" Algorithm.

Certain characteristics of the struck object are required data in order to reconstruct a Delta V. These characteristics depend on the type or category of the object that is struck. Record the following data for each category of object listed below:

1. Wood Utility Pole
  - a. pole diameter
  - b. degree of fracture: partial, complete shear
  - c. degree of shift in ground: inches or degrees
  
2. Non-movable (fixed) deformable objects
  - a. type of structure and material
  - b. size of structure (barrier post size)
  - c. degree of damage to structure (rough crush profile or max crush)
  
3. Movable objects (e.g., mailbox, fence post, objects not rigidly attached to ground)
  - a. description of object
  - b. approximate mass/weight of the object
  - c. distance object was thrown from POI to FRP

The following is a non-exclusive list of objects which should have the Yielding Object Algorithm (POLES) used when struck:

- \* timber utility poles
- \* mailboxes
- \* small signs
- \* light poles
- \* light movable objects ( $\leq$  100 lbs.)
- \* wooden fence posts

Note: DO NOT use POLES for pedestrian impacts.

Struck objects which do not yield should not have the Yielding Object Algorithm used. If a CRASH 3 algorithm can be used the "POLES" program should not be used.

Variable Name: Basis for Total Delta V (highest)

Format: 1 column - numeric

Beginning  
Column 188

Element Values:

Delta V calculated

- 1 CRASH program damage-only routine
- 2 CRASH program damaged and trajectory routine
- 3 Missing vehicle algorithm
- 4 Yielding object algorithm
- 5 Other technique used

Delta V not calculated

- 6 At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program: regardless of collision conditions.
- 7 All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction techniques: regardless of the adequacy of damage data.
- 8 All vehicles and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

Source: Researcher determined -- inputs include CRASH output (if applicable), vehicle inspection, scene inspection, police report, and photographs.

Remarks:

This variable is used to indicate what reconstruction algorithm or technique was used to compute this vehicle's highest Delta V (results coded in variable V88-V91), or the reason a reconstruction program was not applied to the most severe impact.

Code "1" (CRASH program damage-only routine) means that the CRASH 3 output (coded in variables V88-V91) is based upon vehicle damage only.

Code "2" (CRASH program damage and trajectory routine) means that the CRASH 3 output (coded in variables V88 - V91) is based on trajectory evidence documented at the scene, in addition to vehicle damage.

Code "3" (Missing Vehicle algorithm) means that in a two vehicle impact that one vehicle is inspected (damage measurements and CDC are obtained) but for the other vehicle the damage measurements (including CDC) are missing but enough data is available to use the missing vehicle algorithm.

Variable Name Basis for Total Delta V (highest) (cont'd )

Code "4" (Yielding object algorithm) means that in a vehicle/object impact that the object yielded but adequate data is available to use the yielding object algorithm (POLES)

Code "5" (Other technique used) means that a technique other than CRASH, missing vehicle algorithm, and yielding object algorithm was used to determine Delta V. Identify the technique in the space provided

Code "6" (At least one vehicle ) means that one of the vehicles (including this vehicle) involved in this vehicle's most severe collision cannot be adequately represented by the parameters in an acceptable reconstruction size/stiffness categories (e.g., large truck, motorcycle, bus, etc.) As a general rule in NASS, any vehicle that is not applicable for CDC is not applicable for an acceptable reconstruction program

Code "7" (All vehicles within scope ) means that the involved vehicles fit the vehicle parameters for an acceptable reconstruction program, however, the collision type is beyond the scope of the program (e.g., rollover, sideswipe, etc.)

Code "8" (All vehicles and collision ) means that the involved vehicles and the collision type are applicable for an acceptable reconstruction program (1 through 5 above), but due to insufficient data on one (or both) of the vehicles (or object), an acceptable reconstruction program (1 through 5 above) cannot be used

The table below indicates the proper coding conventions for variables V87-V91. See remarks for V88-V91 for further details

V87	V88	V89-V90	V91
1 - 5	00 - 97	-97 - +97	0000 - 9997
6, 7, or 8	99	_99	9999

The character "\_" means leave the first space "blank "

Variable Name: Total Delta V

Format: 2 columns - numeric

Beginning  
Column 189

Element Values:

Range: 00 through 97, 99

Nearest m.p.h.

00 Less than 0.5 m.p.h.

97 96.5 m.p.h. and above

99 Unknown

Source: Reconstruction Program.

Remarks:

Complete an acceptable reconstruction program (where applicable) for all impacts in the accident. The results may then be used to classify the corresponding CDCs by severity, for variables V40-V57 of the Vehicle Form. If a CDC is entered in row variables V42-V47 and it was used in exercising the reconstruction program, code the Total Delta V as shown in the results.

Code this variable as "99" (Unknown), if results for the most severe impact are unobtainable. If the CDC associated with the reconstruction program was only entered in row variables V51-V56 (secondary), enter the Total Delta V as shown in the results on the space available in the secondary (noncoded) column of this variable.

Variable Name: Longitudinal Component of Delta V

Format: 3 columns - numeric

Beginning  
Column 191

Element Values:

Range: -97 m.p.h. through +97 m.p.h., \_99

Nearest m.p.h.

±00 Greater than -0.5 and less than 0.5 m.p.h.

±97 96.5 m.p.h. and above

\_99 Unknown

Source: Reconstruction Program.

Remarks:

Complete an acceptable reconstruction program (where applicable) for all impacts in the accident. The results may then be used to classify the corresponding CDCs by severity for variables V40-V57 of the Vehicle Form. If a CDC is entered in row variables V42-V47 (highest) and it was used in exercising the reconstruction program, code the Longitudinal Component of Delta V as shown in the results.

Code this variable as "99" (Unknown), if the results for the most severe impact are unobtainable. If the CDC associated with the reconstruction program was only entered in row variables V51-V56 (secondary), enter the Longitudinal Component of Delta V as shown in the results on the space available in the secondary (noncoded) column of this variable.

The character "\_" means leave the first space "blank."

Variable Name: Lateral Component of Delta V

Format: 3 columns - numeric

Beginning  
Column 194

Element Values:

Range: -97 m.p.h. through +97 m.p.h., \_99

Nearest m.p.h.

+00 Greater than -0.5 and less than 0.5 m.p.h.

+97 96.5 m.p.h. and above

\_99 Unknown

Source: Reconstruction Program.

Remarks:

Complete an acceptable reconstruction program (where applicable) for all impacts in the accident. The results may then be used to classify the corresponding CDCs by severity for variables V40-V57 of the Vehicle Form. If a CDC is entered in row variables V42-V47 (highest) and it was used in exercising the reconstruction program, code the Lateral Component of Delta V as shown in the results.

Code this variable as "99" (Unknown), if the results for the most severe impact are unobtainable. If the CDC associated with the reconstruction program was only entered in row variables V51-V56 (secondary), enter the Lateral Component of Delta V as shown in the results on the space available in the secondary (noncoded) column of this variable.

The character "\_" means leave the first space "blank."

Variable Name: Energy Absorption

Format: 4 columns - numeric

Beginning  
Column 197

Element Values:

Range: 0000 through 9997, 9999 foot pounds

Nearest 100 foot pounds

0000	Less than 50 foot pounds
9997	999,650 foot pounds or more
9999	Unknown

Source: Reconstruction Program.

Remarks:

Complete an acceptable reconstruction program (where applicable) for all impacts in the accident. The results may then be used to classify the corresponding CDCs by severity for variables V40-V57 of the Vehicle Form. If a CDC is entered in row variables V42-V47 (highest) and it was used in exercising the reconstruction program, code the Energy Absorption as shown in the results.

Code this variable as "9999" (Unknown), if the results for the most severe impact are unobtainable. If the CDC associated with the reconstruction program was only entered in row variables V51-V56 (secondary), enter the Energy Absorption as shown in the results on the space available in the secondary (noncoded) column of this variable.

If the reconstruction program is exercised and the amount of energy absorbed exceeds 999,650 ft-lbs., code "9997"

Variable Name: Police Reported Travel Speed

Format: 2 columns - numeric

Beginning  
Column 201

Element Values:

Range: 00 through 97, 99

Nearest m.p.h.

00 Stopped or less than 0.5 m.p.h.

97 96.5 m.p.h. or higher

99 Unknown

Source: Police report only.

Remarks:

Code the travel speed for this vehicle if indicated on the police report by the investigating officer. Do not use estimates by drivers or witnesses.

Code to the nearest m.p.h. as in the examples:

Reported Speed: 40 m.p.h.  
Code: 40

Reported Speed: 40.2 m.p.h.  
Code: 40

Reported Speed: 40.5 m.p.h.  
Code: 41

Code "00" if stopped or less than 0.5 m.p.h.

Code "97" if 96.5 m.p.h. or greater.

Code "99" if the estimated travel speed is unknown.

If the travel speed is reported as a range, code the average. For example, if reported as 55-60 m.p.h., code "58".



**Driver Data**

1 Primary Sampling Unit Number	1	2
2 Case Number-Stratification	3	4 5 6
3 Record Number		4
4 Transaction Code		7
5 Version Number		8
6 Investigator I D Number		9
		10

**IDENTIFICATION**

7 Vehicle Number 11 12

8 Number of Occupants This Vehicle

\_\_\_\_\_ occupant(s) - Code the actual number of persons (including the driver if present) that were occupants of this vehicle. The number of OCCUPANT FORMS does not have to equal this value.

\_\_\_ (97) 97 or more

\_\_\_ (99) Unknown 13 14

9 Driver Presence In Vehicle

\_\_\_ (1) Driver present

\_\_\_ (2) Driver not present 15

(NOTE: If no driver was present in this vehicle, indicate and subsequently leave blank the remaining nonenvironmental questions (variables D10-D33) on this form. Do code the environmental elements. No OCCUPANT FORM for the driver is required. Remember, if the person who had been driving this motor vehicle prior to the accident was injured outside of this vehicle, that person is handled on the PEDESTRIAN & NON-MOTORIST FORM.)

**DRIVER INTERVIEW**

10 Months Driving Experience This Class of Vehicle (e.g., passenger car, light truck, motorcycle, etc.)

\_\_\_\_\_ months - Code actual months of previous driving experience up to 60 (NOTE: 44 days or less equals 1 month, a month and a half equals 2 months)

\_\_\_ (61) Greater than five years

\_\_\_ (99) Unknown 16 17

11 Estimated Mileage This Vehicle  
(Estimated total mileage that driver has driven in this specific accident involved vehicle)

\_\_\_\_\_ miles to the nearest 100

\_\_\_ (001) Less than 150 miles

\_\_\_ (997) 99,650 miles or more

\_\_\_ (999) Unknown 18 19 20 0 0

12 Total Mileage All Vehicles  
(Past Twelve Months)

\_\_\_\_\_ miles to the nearest 100

\_\_\_ (001) Less than 150 miles

\_\_\_ (997) 99,650 miles or more

\_\_\_ (999) Unknown 21 22 23 0 0

13 Driver Education

Automobile or Light Truck Driver Training

\_\_\_ (0) No formal driver training

\_\_\_ (1) High school driver training

\_\_\_ (2) Commercial driver training

\_\_\_ (8) Other formal driver training (e.g., college, military, etc.) (specify) \_\_\_\_\_

\_\_\_ (9) Unknown

Motorcycle Driver Training

\_\_\_ (0) No formal driver training

\_\_\_ (5) Motorcycle driver training

\_\_\_ (8) Other formal driver training (e.g., college, military, etc.) (specify) \_\_\_\_\_

\_\_\_ (9) Unknown

Medium/Heavy Vehicle Driver Training (>10,000 lbs GVWR)

\_\_\_ (0) No formal driver training

\_\_\_ (1) High school driver training

\_\_\_ (2) Commercial driver training

\_\_\_ (3) Motor carrier program - On-the-Job-Training

\_\_\_ (4) Vocational training (CETA, Job Corps, other government sponsored training, etc.)

\_\_\_ (8) Other formal driver training (e.g., college, military, etc.) (specify) \_\_\_\_\_

\_\_\_ (9) Unknown 24

**ACCIDENT DESCRIPTION INSTRUCTIONS**

Do not interrupt person during general description (narrative), unless he/she requests your assistance. Attempt to summarize the narrative while minimizing any disruptions of the person's internal logic. Specific questions may be asked later. Write these questions down in the space below or on the other side of the paper, prior to the interview.

SPECIFIC QUESTION \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

GENERAL DESCRIPTION OF ACCIDENT SEQUENCE

(This represents a synopsis of an uninterrupted narrative by the driver.)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Estimated Travel Speed**  
(NOTE: Record as obtained from interviewee in increments of 5 m p h , note information source e.g . speedometer, estimate, etc )

\_\_\_ Stopped                      \_\_\_ Less than 5 m p h  
\_\_\_ Actual speed (in increments)  
\_\_\_ Not applicable              \_\_\_ Unknown

**Estimated Impact Speed**  
(NOTE: Record as obtained from interviewee in increments of 5 m p h , note information source e.g . speedometer, estimate, etc )

\_\_\_ Stopped                      \_\_\_ Less than 5 m p h  
\_\_\_ Actual speed (in increments)  
\_\_\_ Not applicable              \_\_\_ Unknown

**INFORMATION SOURCE**

Delete After Case Review

National Accident Sampling System – Continuous Sampling Subsystem: Driver Data

<p><b>PRE-CRASH</b></p> <p>Direction of Travel</p> <p> <input type="checkbox"/> North                      <input type="checkbox"/> Southeast  <input type="checkbox"/> East                         <input type="checkbox"/> Northwest  <input type="checkbox"/> South                        <input type="checkbox"/> Southwest  <input type="checkbox"/> West                         <input type="checkbox"/> Not applicable  <input type="checkbox"/> Northeast                 <input type="checkbox"/> Unknown         </p>	<p>Travel Lane</p> <p>(NOTE Lane one is the curb or shoulder lane, lane two is the next lane, etc to the median or centerline Opposing lanes are numbered similarly and distinguished by direction of travel )</p> <p> <input type="checkbox"/> 1st lane                      <input type="checkbox"/> On shoulder  <input type="checkbox"/> 2nd lane                      <input type="checkbox"/> On trafficway  <input type="checkbox"/> 3rd lane                      <input type="checkbox"/> Off road  <input type="checkbox"/> 4th lane                      <input type="checkbox"/> Outside trafficway  <input type="checkbox"/> 5th or additional lane      <input type="checkbox"/> Not applicable  <input type="checkbox"/> Unknown         </p>
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<p><sup>1</sup> Object Contacted</p> <p> <input checked="" type="checkbox"/> Motor vehicle  <input type="checkbox"/> Guardrail  <input type="checkbox"/> Ditch  <input type="checkbox"/> Ground  <input type="checkbox"/> Tree  <input type="checkbox"/> Pole  <input type="checkbox"/> Sign  <input type="checkbox"/> Pedacyclist  <input type="checkbox"/> Pedestrian  <input type="checkbox"/> Other _____  <input type="checkbox"/> Unknown         </p>	<p><sup>2</sup>Vehicle Impact Location</p> <p> <input type="checkbox"/> Front  <input type="checkbox"/> Right side  <input type="checkbox"/> Rear  <input type="checkbox"/> Left side  <input type="checkbox"/> Top  <input type="checkbox"/> Undercarriage  <input type="checkbox"/> Other _____  <input type="checkbox"/> Not applicable  <input type="checkbox"/> Unknown         </p>	<p><sup>3</sup>Vehicle Orientation</p> <p> <input type="checkbox"/> Tracking, no skidding (includes controlled turn)  <input type="checkbox"/> Tracking, skidding  <input type="checkbox"/> Rotated clockwise to path of travel  <input type="checkbox"/> Rotated counterclockwise to path of travel  <input type="checkbox"/> Rolling over  <input type="checkbox"/> Jackknifed  <input type="checkbox"/> Other _____  <input type="checkbox"/> Not applicable  <input type="checkbox"/> Unknown         </p>
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**DRIVER VIEW of TOTAL ACCIDENT CONTACT SEQUENCE**

Did More Than Six Impacts Occur?  Unknown,  No,  Yes code the six severest impacts

Event Number (Driver)	Final Event Number (Investigator)	Object Contacted <sup>1</sup>	One Vehicle			Other Vehicle—if applicable		
			Vehicle Number	Event Location <sup>2</sup>	Vehicle Orientation <sup>3</sup>	Vehicle Number	Event Location <sup>2</sup>	Vehicle Orientation <sup>3</sup>
1	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—	—
3	—	—	—	—	—	—	—	—
4	—	—	—	—	—	—	—	—
5	—	—	—	—	—	—	—	—
6	—	—	—	—	—	—	—	—

<p><b>POST-CRASH</b></p> <p>Final Rest Position</p> <p> <input type="checkbox"/> On roadway  <input type="checkbox"/> On shoulder  <input type="checkbox"/> In parking lane  <input type="checkbox"/> In median  <input type="checkbox"/> Off road (beyond shoulder area)  <input type="checkbox"/> Other _____  <input type="checkbox"/> Not applicable  <input type="checkbox"/> Unknown         </p>	<p>Driver Inputs Between Last Point-of-Impact and Final Rest Position</p> <p> <input type="checkbox"/> None                                      <input type="checkbox"/> Braking  <input type="checkbox"/> Steering left                              <input type="checkbox"/> Steering right  <input type="checkbox"/> Braking and steering left  <input type="checkbox"/> Braking and steering right  <input type="checkbox"/> Acceleration followed by braking  <input type="checkbox"/> Acceleration followed by braking and steering  <input type="checkbox"/> Releasing brake  <input type="checkbox"/> Other _____  <input type="checkbox"/> Not applicable                              <input type="checkbox"/> Unknown         </p>
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If multiple impacts occurred, describe driver inputs between initial and last point-of-impact

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NCI

### ACCIDENT DIAGRAM

Draw a rough sketch of the accident sequence as described by the driver. Note impact and final rest positions carefully. If possible, relate these to some identifiable object in the area, and record vehicle and pedestrian or nonmotorist headings relative to an object, as well.

Indicate North



Any luggage or other cargo in vehicle when accident occurred? Estimated Weight \_\_\_\_\_ lbs

Describe \_\_\_\_\_

Hazardous cargo in vehicle?  No  Yes. If yes, specify \_\_\_\_\_

Present location of vehicle (if not yet inspected)? \_\_\_\_\_

Did any of the Following Restrictions of the Road Exist Prior to the Accident

- None
- Narrow bridge (as defined)
- Previous accident
- Maintenance, repair, or construction activity on roadway
- Roadway immersion (standing water)
- Unknown

Road Surface Condition

- Dry
- Snow or slush
- Wet
- Ice
- Sand, dirt or oil
- Unknown

Category	Configuration	ACCIDENT TYPES (Includes Intent)					
I Single Driver	A Right Roadside Departure	01 DRIVE OFF ROAD	02 CONTROL/ TRACTION LOSS	03 AVOID COLLISION WITH VEH . PED . ANIM	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN	
	B Left Roadside Departure	06 DRIVE OFF ROAD	07 CONTROL/ TRACTION LOSS	08 AVOID COLLISION WITH VEH . PED . ANIM	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN	
	C Forward Impact	11 PARKED VEH	12 STA OBJECT	13 PEDESTRIAN/ ANIMAL	14 END DEPARTURE	15 SPECIFICS OTHER	16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear End	20 STOPPED 21 22 23	22 SLOWER 23 24 25 26 27	26 DECEL 28 29 30 31	29 SPECIFICS OTHER	30 SPECIFICS UNKNOWN	
	E Forward Impact	34 CONTROL/ TRACTION LOSS	36 CONTROL/ TRACTION LOSS	38 AVOID COLLISION WITH VEH	40 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER	(EACH • 43) SPECIFICS UNKNOWN
	F Sideswipe Angle	44 45	(EACH • 46) SPECIFICS OTHER	(EACH • 47) SPECIFICS UNKNOWN			
III Same Trafficway Opposite Direction	G Head-On	50 LATERAL MOVE	51 (EACH • 52) SPECIFICS OTHER	(EACH • 53) SPECIFICS UNKNOWN			
	H Forward Impact	54 CONTROL/ TRACTION LOSS	56 CONTROL/ TRACTION LOSS	58 AVOID COLLISION WITH VEH	60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER	(EACH • 63) SPECIFICS UNKNOWN
	I Sideswipe Angle	64 LATERAL MOVE	65 (EACH • 66) SPECIFICS OTHER	(EACH • 67) SPECIFICS UNKNOWN			
IV Change Trafficway Vehicle Turning	J Turn Across Path	68 INITIAL OPPOSITE DIRECTIONS	70 INITIAL SAME DIRECTIONS	72	(EACH • 74) SPECIFICS OTHER	(EACH • 75) SPECIFICS UNKNOWN	
	K Turn Into Path	76 TURN INTO SAME DIRECTION	78	80 TURN INTO OPPOSITE DIRECTIONS	82	(EACH • 84) SPECIFICS OTHER	(EACH • 85) SPECIFICS UNKNOWN
V Intersecting Paths (Vehicle Damage)	L Straight Paths	86 87	88 89	(EACH • 90) SPECIFICS OTHER	(EACH • 91) SPECIFICS UNKNOWN		
VI Miscellaneous	M Backing Etc	92 BACKING VEH	93 OTHER VEH OR OBJECT	98 Other Accident Type 99 Unknown Accident Type 00 No Impact			

National Accident Sampling System—Continuous Sampling Subsystem: Driver Data

14 Time Since Last Driver Training  
 \_\_\_ (0) No formal driver training  
 \_\_\_ (1) In training at time of accident  
 \_\_\_ (2) Less than five years  
 \_\_\_ (3) Five to ten years  
 \_\_\_ (4) More than ten years  
 \_\_\_ (9) Unknown 25

15 Frequency Driving Road

Familiar with Road  
 \_\_\_ (1) Daily  
 \_\_\_ (2) Weekly  
 \_\_\_ (3) Monthly  
 \_\_\_ (4) Less than once a month  
 \_\_\_ (5) Unfamiliar with road  
 \_\_\_ (9) Unknown 26

**TRUCK/BUS OPERATIONS**

16 Type of Operation or Carrier  
 \_\_\_ (0) Noncommercial or automobile, motorcycle or other vehicle (V17=01-29, 80-89)  
 \_\_\_ (1) For hire common carrier  
 \_\_\_ (2) For hire contract carrier  
 \_\_\_ (3) Private carrier of property or passengers  
 \_\_\_ (4) Carrier of ICC exempt commodities  
 \_\_\_ (5) U S mail carrier  
 \_\_\_ (8) Other (specify) \_\_\_\_\_  
 \_\_\_ (9) Unknown 27

17 Federal Safety Regulated  
 \_\_\_ (0) Noncommercial or automobile, motorcycle, or other vehicle (V17=01-29, 80-89)  
 \_\_\_ (1) Motor carrier not subject to U S DOT (BMCS) regulations

Motor Carrier Subject to U S DOT (BMCS) regulations  
 \_\_\_ (2) Intercity operations  
 \_\_\_ (3) Local pickup or delivery  
 \_\_\_ (9) Unknown 28

18 Driver's Classification  
 \_\_\_ (0) Noncommercial or automobile, motorcycle, other vehicle (V17=01-29, 80-89)  
 \_\_\_ (1) Full time employee  
 \_\_\_ (2) Part time employee  
 \_\_\_ (3) Owner operator  
 \_\_\_ (4) Leased (from labor contractor)  
 \_\_\_ (8) Other (specify) \_\_\_\_\_  
 \_\_\_ (9) Unknown 29

**ACCIDENT PRE-CRASH INFORMATION**

Inter-viewee	Investigator
19 Accident Type	
___ (00) No impact	___
___ Code the number of the diagram that best describes the accident circumstance (See reverse of preceding page for diagrams)	___
___ (98) Other accident type (specify) _____	___
___ (99) Unknown	___
	30 31
20 Attempted Avoidance Maneuver	
___ (00) No impact	___
___ (01) No avoidance actions	___
___ (02) Braking (no lockup)	___
___ (03) Braking (lockup)	___
___ (04) Braking (lockup unknown)	___
___ (05) Releasing brakes	___
___ (06) Steering left	___
___ (07) Steering right	___
___ (08) Braking and steering left	___
___ (09) Braking and steering right	___
___ (10) Accelerating	___
___ (11) Accelerating and steering left	___
___ (12) Accelerating and steering right	___
___ (98) Other action (specify) _____	___
___ (99) Unknown	___
	32 33

INVESTIGATOR DETERMINED	
21	Driver Related Factors
___	(00) No impact
___	(01) No driver related factors inappropriate
___	(02) Being pursued by police - police chase
___	(03) Over speed limit
___	(04) Too fast for conditions
___	(05) Excessive or erratic acceleration
___	(06) Erratic lane changing - cutting in and out of traffic
___	(07) Following too closely (tailgating)
___	(08) Passing in no-passing zone
___	(09) Not yielding right-of-way
___	(10) Failure to yield to an emergency vehicle
___	(11) Disobeying stop sign
___	(12) Disobeying traffic signal
___	(13) Failure to obey other traffic sign or signal (specify) _____
___	(14) Driving over or on the centerline
___	(15) Driving over or on the median
___	(16) Driving on road shoulder
___	(17) Driving wrong way on 1-way street or entrance/exit ramp
___	(18) Driving in parking lane
___	(19) Pulling in front of traffic from a roadway or driveway
___	(20) Turning left or U-turning in front of oncoming traffic
___	(21) Improper lane change - cutting into another vehicle's path
___	(22) Making right turn from left lane, or left turn from right lane
___	(23) Making other improper turn (specify) _____
___	(24) Passing with close oncoming traffic
___	(25) Proceeding despite view obstruction
___	(26) Passing on blind curve or hill
___	(27) Passing on wrong side of vehicle being overtaken
___	(28) Illegally parked
___	(29) Driving too slow or less than minimum speed
___	(30) Braking rapidly and unnecessarily (slowing but not to stop)
___	(31) An abrupt stop without warning
___	(32) Wrong signal given for maneuver executed
___	(33) Turning without giving a turn signal
___	(34) Headlights not used when required
___	(35) Hazard lights not used when appropriate or required
___	(36) Failure to dim lights for oncoming traffic
___	(37) Operator inexperience with vehicle
___	(38) Operator unfamiliar with roadway
___	(39) Overloading or improper loading of passengers and/or cargo
___	(98) Other driver related factor (specify) _____
___	(99) Unknown
	34 36

OFFICIAL RECORDS	
22	23 Traffic Violation Charged Against This Driver
1st	2nd
___	___ (00) No violation charged
___	___ (01) Speeding
___	___ (02) Driving while intoxicated (or DUIL)
___	___ (03) Reckless driving
___	___ (04) Driving with suspended or revoked license
___	___ (05) Failure to yield right-of-way
___	___ (06) Following too closely
___	___ (07) Running a traffic signal or stop sign
___	___ (08) License restriction not complied with
___	___ (98) Other violation charged (specify) _____
___	___ (99) Unknown
	(1st) 36 37
	(2nd) 38 39
24	Police Reported Alcohol Presence
___	(0) No (alcohol not present)
___	(1) Yes (alcohol present)
___	(8) Not reported
___	(9) Unknown
	40
25	Alcohol Test Result
___	Actual value (decimal implied before first digital - 0.xx)
___	(95) Test refused
___	(96) None given
___	(97) AC test performed, results unknown
___	(99) Unknown
	41 42
26	Driver License Status (Irrespective of Vehicle being Driven)
No Valid License	
___	(0) Not licensed
___	(1) Suspended
___	(2) Revoked
___	(3) Expired
___	(4) Canceled or denied
Valid License	
___	(5) Single class license (specify) _____
___	(6) Multiple class license (specify) _____
___	(7) Learner's permit
___	(8) Temporary
___	(9) Unknown
	43

**National Accident Sampling System—Continuous Sampling Subsystem: Driver Data**

27 Driver License Type Compliance (For This Class Vehicle)

- (0) Not licensed
- (1) No license required for this class vehicle
- (2) No valid license for this class vehicle
- (3) Valid license for this class vehicle
- (9) Unknown

44

28 Driver License Restriction

- (0) No license restrictions
- (1) Corrective (or contact) lenses only
- (2) Corrective lenses and outside mirror
- (3) Corrective lenses and limited to daylight
- (4) Corrective lenses and other (specify) \_\_\_\_\_
- (5) Outside mirror only
- (6) Limited to daylight only
- (7) Limited to employment only
- (8) Other (specify) \_\_\_\_\_
- (9) Unknown

45

Code in the space provided the actual number of recorded convictions/suspensions/accidents that occurred within the last three (3) years (as measured from the date of the accident). If 8 or more convictions/suspensions or accidents, then code 8. Be sure that the actual value is recorded in the space provided near the question number. If unknown, code 9 for each of questions 29 through 33.

29  Previous Speeding Convictions

46

30  Previous Other Harmful Moving Violations or Convictions (specify) \_\_\_\_\_

47

31  Previous Driving While Intoxicated Convictions (or DUIL)

48

32  Previous Recorded Suspensions and Revocations

49

33  Previous Recorded Accidents

50

**ADMINISTRATIVE ITEMS**

34 Federal Aid System

- (1) Interstate
- (2) Federal-aid primary (other than interstate)
- (3) Federal-aid urban
- (4) Federal-aid secondary (rural only)
- (5) Nonfederal-aid
- (9) Unknown

51

35 Class Trafficway

- (1) Interstate
- (2) U S Highway
- (3) State Highway
- (4) County road

Local Street

- (5) Township
- (6) Municipality
- (8) Other (specify) \_\_\_\_\_
- (9) Unknown

52

36 Roadway Function Class

Rural

- (01) Principal arterial-interstate
- (02) Principal arterial-other
- (03) Minor arterial
- (04) Major collector
- (05) Minor collector
- (06) Local road or street
- (09) Unknown rural

Urban

- (11) Principal arterial-interstate
- (12) Principal arterial-other freeways or expressways
- (13) Other principal arterial
- (14) Minor arterial
- (15) Collector
- (16) Local road or street
- (19) Unknown urban
- (99) Unknown

53 54

**WAS THE DRIVER'S VEHICLE IN A SCHOOL ZONE?  
(FOR USE IN CODING A20)**

Yes \_\_\_\_\_

No \_\_\_\_\_

**ENVIRONMENTAL DATA**

37. Number of Travel Lanes

- \_\_\_ (1) One
- \_\_\_ (2) Two
- \_\_\_ (3) Three
- \_\_\_ (4) Four
- \_\_\_ (5) Five
- \_\_\_ (6) Six
- \_\_\_ (7) Seven or more
- \_\_\_ (9) Unknown

52

38. Lane Width

- \_\_\_ Code actual measured value in tenths of a foot
- \_\_\_ (999) Unknown

53 54 55

39. Median Type

- \_\_\_ (0) No median
- \_\_\_ (1) Curbed with positive barrier
- \_\_\_ (2) Positive barrier
- \_\_\_ (3) Curbed
- \_\_\_ (4) Unprotected
- \_\_\_ (9) Unknown

56

40. Median Width

- \_\_\_ (00) No median
- \_\_\_ Code actual measured value in feet
- \_\_\_ (97) 96.5 feet or above
- \_\_\_ (99) Unknown

57 58

41. Access Control

- \_\_\_ (1) Full
- \_\_\_ (2) Partial
- \_\_\_ (3) Uncontrolled
- \_\_\_ (9) Unknown

59

42. Trafficway Flow

- \_\_\_ (0) Not physically divided (two way traffic)
- \_\_\_ (1) Divided trafficway - median strip without positive barrier
- \_\_\_ (2) Divided trafficway - median strip with positive barrier
- \_\_\_ (3) One way trafficway
- \_\_\_ (9) Unknown

60

43. 44. Shoulder Type

- L R
- \_\_\_ (0) No shoulder
- \_\_\_ (1) Surfaced 2-6 feet
- \_\_\_ (2) Surfaced > 6 feet
- \_\_\_ (3) Gravel or other granular material 2-6 feet
- \_\_\_ (4) Gravel or other granular material > 6 feet
- \_\_\_ (5) Natural earth, with or without turf 2-6 feet
- \_\_\_ (6) Natural earth, with or without turf > 6 feet
- \_\_\_ (9) Unknown

L R

64 65

45. Roadway Alignment

- \_\_\_ (1) Straight
- \_\_\_ (2) Curve right
- \_\_\_ (3) Curve left
- \_\_\_ (9) Unknown

66

46. Cross Slope

- \_\_\_ (1) Flat
- \_\_\_ (2) Normal crown
- \_\_\_ (3) Superelevation
- \_\_\_ (4) Negative superelevation
- \_\_\_ (8) Other (specify) \_\_\_\_\_
- \_\_\_ (9) Unknown

67

47. Superelevation

- \_\_\_ (+00) Normal crown/flat
- \_\_\_ Code actual value to the nearest hundredth
- \_\_\_ ( \_ 98) Not a curve
- \_\_\_ ( \_ 99) Unknown

68 69 70

48. Degree of Curvature

- \_\_\_ (000) Not curved - straight
- \_\_\_ Code calculated value to nearest tenth of a degree (See coding manual for formula)
- \_\_\_ (997) 99.65 degrees or more
- \_\_\_ (999) Unknown

71 72 73

Length of chord \_\_\_\_\_ ft

Middle ordinate \_\_\_\_\_ inches

National Accident Sampling System - Continuous Sampling Subsystem: Driver Data

49 Grade Measurement  
 \_\_\_\_ (+00) No grade - level  
 \_\_\_\_ Code actual value to the nearest hundredth +  
 \_\_\_\_ (-99) Unknown \_\_\_\_  
74 75 76

slope  
 measurement (v = \_\_\_\_)/(h = \_\_\_\_)

50 Roadway Profile  
 \_\_\_\_ (1) Level  
 \_\_\_\_ (2) Grade ( $\geq 2\%$ )  
 \_\_\_\_ (3) Hillcrest  
 \_\_\_\_ (4) Sag  
 \_\_\_\_ (9) Unknown \_\_\_\_  
77

51 Roadway Surface Type  
 \_\_\_\_ (1) Concrete  
 \_\_\_\_ (2) Bituminous  
 \_\_\_\_ (3) Brick or block  
 \_\_\_\_ (4) Slag gravel or stone  
 \_\_\_\_ (5) Dirt  
 \_\_\_\_ (8) Other (specify) \_\_\_\_\_  
 \_\_\_\_ (9) Unknown \_\_\_\_  
78

52 Roadway Surface Condition  
 \_\_\_\_ (1) Dry  
 \_\_\_\_ (2) Wet  
 \_\_\_\_ (3) Snow or slush  
 \_\_\_\_ (4) Ice  
 \_\_\_\_ (5) Sand, dirt or oil  
 \_\_\_\_ (8) Other (specify) \_\_\_\_\_  
 \_\_\_\_ (9) Unknown \_\_\_\_  
79

53 Speed Limit  
 \_\_\_\_ (00) No statutory limit  
 \_\_\_\_ m.p.h. - Code actual posted or  
 statutory speed limit  
 \_\_\_\_ (99) Unknown \_\_\_\_  
80 81

54 Restriction of Roadway at Scene (NOTE The  
 restriction must have existed prior to this acci-  
 dent.)  
 \_\_\_\_ (0) No restrictions  
 \_\_\_\_ (1) Narrow bridge (as defined)  
 \_\_\_\_ (2) Previous accident on roadway  
 \_\_\_\_ (3) Maintenance, repair or construction ac-  
 tivity on roadway  
 \_\_\_\_ (4) Roadway immersion (e.g., standing  
 water)  
 \_\_\_\_ (5) Vehicle stopped on roadway  
 \_\_\_\_ (6) Snow  
 \_\_\_\_ (8) Other roadway obstruction (specify)  
 \_\_\_\_\_  
 \_\_\_\_ (9) Unknown \_\_\_\_  
82

(NOTE If more than one restriction exists, choose  
 the restriction in the order in which they are  
 numbered )

55. Traffic Control Device

\_\_\_\_ (00) No controls

Not at railroad grade crossing

Highway traffic signals (Active)

- \_\_\_\_ (01) Traffic control signal (on colors) without pedestrian signal
- \_\_\_\_ (02) Traffic control signal (on colors) with pedestrian signal
- \_\_\_\_ (03) Traffic control signal (on colors) not known whether or not pedestrian signal
- \_\_\_\_ (04) Flashing traffic control signal
- \_\_\_\_ (05) Flashing beacon
- \_\_\_\_ (06) Flashing highway traffic signal, type unknown or other than traffic control or beacon
- \_\_\_\_ (07) Lane use control signal
- \_\_\_\_ (08) Other highway traffic signal (specify):

Regulatory signs (Passive)

- \_\_\_\_ (20) Stop sign
- \_\_\_\_ (21) Yield sign
- \_\_\_\_ (28) Other regulatory sign (specify):
- \_\_\_\_ (29) Unknown type regulatory sign

School zone signs (Passive)

- \_\_\_\_ (30) School speed limit sign
- \_\_\_\_ (31) School advance or crossing sign
- \_\_\_\_ (38) Other school related sign (specify):
- \_\_\_\_ (39) Unknown type school zone sign

Warning signs (Passive)

- \_\_\_\_ (40) Construction warning sign
- \_\_\_\_ (41) Other warning sign (specify):

Miscellaneous (Active)

- \_\_\_\_ (50) Officer, crossing guard, flagman, etc.

At railroad grade crossing

Active Devices

- \_\_\_\_ (60) Gates
- \_\_\_\_ (61) Flashing lights
- \_\_\_\_ (62) Traffic control signal
- \_\_\_\_ (63) Wigwags
- \_\_\_\_ (64) Bells
- \_\_\_\_ (65) Special warning device - watchman, flagged by crew
- \_\_\_\_ (68) Other active device (specify):
- \_\_\_\_ (69) Active device, type unknown

Passive Devices

- \_\_\_\_ (70) Crossbucks
- \_\_\_\_ (71) Stop sign
- \_\_\_\_ (72) Other railroad crossing sign (specify):
- \_\_\_\_ (78) Other passive device (specify):
- \_\_\_\_ (79) Passive device, type unknown

Miscellaneous controls

- \_\_\_\_ (80) Grade crossing control type unknown

Whether or Not at Railroad Grade Crossing

Pavement marking (Passive)

- \_\_\_\_ (90) Lane line
- \_\_\_\_ (91) Center line
- \_\_\_\_ (92) No passing line
- \_\_\_\_ (93) Edge line
- \_\_\_\_ (94) Other pavement marking (specify):
- \_\_\_\_ (95) Unknown pavement marking type
- \_\_\_\_ (98) Other
- \_\_\_\_ (99) Unknown

56. Traffic Control Device Functioning

Active Device (D55 = 01-08, 50-69)

- \_\_\_\_ (0) No traffic control
- \_\_\_\_ (1) Traffic control not functioning
- \_\_\_\_ (2) Traffic control functioning - functioning improperly
- \_\_\_\_ (3) Traffic control functioning properly

Passive Device (D55 = 20-41, 70-95)

- \_\_\_\_ (4) Traffic control device defaced, badly worn, etc.
- \_\_\_\_ (5) Traffic control device obscured (e.g., covered with snow)
- \_\_\_\_ (6) No abnormal condition of traffic control device
- \_\_\_\_ (9) Unknown

57. Designated Truck System

- \_\_\_\_ (0) No
- \_\_\_\_ (1) Yes
- \_\_\_\_ (9) Unknown

**INVESTIGATOR DETERMINED**

58 Environmental Related Factors

\_\_\_ (00) No environmental related factors

Vision Obscured By

\_\_\_ (01) Rain, snow, fog, smoke, sand, dust

\_\_\_ (02) Reflected glare, bright sunlight, headlights

\_\_\_ (03) Curve, hill or other design features (including traffic signs, embankment)

\_\_\_ (04) Building, billboard, etc

\_\_\_ (05) Trees, crops, vegetation

\_\_\_ (06) Moving vehicle (including load)

\_\_\_ (07) Splash or spray of passing vehicle

\_\_\_ (08) Parked vehicle

\_\_\_ (09) Other object not classifiable above (specify) \_\_\_\_\_

Swerving or Loss of Control Due to

\_\_\_ (20) Severe crosswind

\_\_\_ (21) Wind from passing truck

\_\_\_ (22) Slippery surface

\_\_\_ (23) Avoiding debris or objects in roadway

\_\_\_ (24) Ruts, holes, bumps in roadway

\_\_\_ (25) Avoiding animal(s) in roadway

\_\_\_ (26) Avoiding vehicle in roadway

\_\_\_ (27) Avoiding pedestrian, pedalcyclist, or other nonmotorist in roadway

\_\_\_ (28) Avoiding standing water, snow, oilslick or ice patch on roadway

Roadway Features

\_\_\_ (30) Inadequate warning of exits, lanes narrowing, traffic controls, etc.

\_\_\_ (31) Pavement marking obscured or absent

\_\_\_ (32) Surface washed out (caved in, road slippage)

\_\_\_ (33) Shoulder too low or high

\_\_\_ (34) Inadequate construction or poor design of roadway, bridge, etc

\_\_\_ (35) Vehicle unattended in roadway

\_\_\_ (98) Other (specify). \_\_\_\_\_

\_\_\_ (99) Unknown

COMPLETED BY TEAM

1 Primary Sampling Unit Number 1 2

2 Case Number-Stratification 3 4 5 6

3 Record Number 4 7

4 Transaction Code 8

5 Version Number 9 9

6 Investigator I.D. Number 10

DRIVER INTERVIEW

7 Vehicle Number 11 12

8 Driver's Occupant Number  
(NOTE If no driver was present, code "00") 13 14

9 Type of Driver Interview Data Obtained

- (0) Driver not present
- (1) No data obtained
- (2) Driver history only
- (3) Accident circumstances only
- (4) Driver history and accident circumstances 15

10 Source of Driver Data

- (0) Driver not present
- (1) No data obtained
- (2) Driver
- (3) Other occupant
- (4) Relative or friend
- (5) Eyewitness
- (6) Combination of 3, 4 or 5
- (7) Other (specify): \_\_\_\_\_ 16

11. Result

- (00) Driver not present
- (01) Unable to contact or locate
- (02) Hit and run
- (03) Fatal - surrogate not available
- (04) In intensive care - surrogate not available
- (05) Out-of-state resident
- (06) Refused interview for other than on advice of attorney or insurance company (specify): \_\_\_\_\_
- (07) Insurance company refusal
- (08) Attorney refusal or litigation
- (09) Other (specify): \_\_\_\_\_
- (10) No return of letter questionnaire
- (11) Return of letter questionnaire (completed)
- (12) Partial or complete interview 17 18

12. Date Interview Completed 19 20 21 22 23 24

13. Completing person 25

14. Reason Official Driver Records are Not Obtainable

- (0) Driver not present
- (1) Record obtained
- (2) Hit and run driver
- (3) Records not found
- (4) Driver not licensed
- (5) License number incorrect
- (6) No information on driver
- (7) Out-of-state or foreign driver
- (8) To be updated
- (9) Record not received before file closed 26

COMPLETED BY ZONE CENTER

15. Date Official Driver Record Update Received 27 28 29 30 31 32

16. Reviewed By 33 34

**ERROR TALLY**  
(Completed By Zone Center)

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Blank - Not in error and not missing	Response	35	36	37	38	38	40	41	42	43	44	46	46	47	48	48	50	51
	Variable	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
0 - RDE system error	Response	52	53	54	55	56	57	58	59	60	61	62	63	64	66	66	67	68
2 - Error (not correctable)		Variable	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
3 - Error (correctable)	Response	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
6 - Sequencing errors in CDC's or injury data		Variable	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67
8 - Data entry error	Response	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102
9 - Unknown coded on field form		Variable	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67
A - Hardcopy change with no error - not automated	Response	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102



### DRIVER UPDATE RECORD

**This section must be completed prior to initial case submission**

<p>1 Primary Sampling Unit Number <span style="float: right;">1 2</span></p> <p>2 Case Number-Stratification <span style="float: right;">3 4 5 6</span></p> <p>3 Record Number <span style="float: right;">4 7</span></p> <p>4 Transaction Code <span style="float: right;">2 8</span></p> <p>5 Version Number <span style="float: right;">9 9</span></p> <p>6 Investigator I D Number <span style="float: right;">10</span></p> <p>7 Vehicle Number <span style="float: right;">11 12</span></p>	<p>DRIVER'S NAME _____</p> <p>ADDRESS _____</p> <p>State Driver License No _____</p> <p>Date of Birth. <u>  </u>/<u>  </u>/<u>  </u> (Delete before submission)</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Circle the number of each variable to be updated and complete upon receipt of this data**  
[or reason data not obtained (see response for log variable 14)\_\_\_\_\_]

25 Alcohol Test Results	41 42
26 Driver License Status (Irrespective of Vehicle being Driven)	43
27 Driver License Type Compliance (For this Class Vehicle)	44
28 Driver License Restrictions	45
29 Previous Speeding Convictions	46
30 Previous Other Harmful Moving Violations or Convictions (specify) _____	47
31 Previous <u>D</u> ri <u>v</u> ing <u>W</u> hile <u>I</u> ntoxicated Convictions (or DUIL)	48
32 Previous Recorded Suspensions and Revocations	49
33 Previous Recorded Accidents	50

SOURCE OF DATA ON WHICH UPDATE IS BASED

\_\_\_\_\_

**ATTACH TO THIS FORM ANY SUPPORTING OFFICIAL RECORDS FOR THIS DRIVER**

Variable Name: Investigator I.D Number

Format: 1 column - numeric

Beginning  
Column 10

Element Values:

Range: 1 through 9

Source: Zone center.

Remarks:

The person who was primarily responsible for the completion of the Driver Form shall enter his/her unique number.

Each researcher's unique number is assigned by the PSU's Zone Center.

This variable is a mandatory variable and cannot be changed.

Variable Name: Vehicle Number

Format 2 columns - numeric

Beginning  
Column 11

Element Values:

Range 01 through 30

Source Researcher determined--inputs include police report and driver interview.

Remarks:

For each and every Vehicle Form, there must be an accompanying Driver Form.

The value coded here must be the same as that coded for the vehicle in which this driver is associated.

This variable is a mandatory variable and cannot be changed.

Variable Name: Number of Occupants This Motor Vehicle

Format: 2 columns - numeric

Beginning  
Column 13

Element Values:

Range: 00 through 97  
97 97 or more  
99 Unknown

Source: Primary source is driver interview, secondary sources include the police report and an occupant interviewee, witnesses other than any occupant interviewee.

Remarks:

This variable tells the system how many occupants (including the driver) were present in this driver's vehicle. Code the actual number of persons (including the driver, if present) that were occupants of this vehicle. The number of OCCUPANT FORMS does not have to equal this value (See Remarks section V08, Number of Occupant Forms Submitted.)

Code "99" (Unknown) if the Actual Number of occupants present is unknown.

Code "99" (Unknown) is used in the case of a hit-and-run vehicle--unless reliable evidence clearly establishes the number of occupants present.

Code "99" (Unknown) is also used in the case of a bus accident--unless reliable evidence clearly establishes the number of occupants present.

Variable Name: Driver Presence in Vehicle

Format: 1 column - numeric

Beginning  
Column 15

Element Values

- 1 Driver present
- 2 Driver not present

Source Researcher determined--inputs include the police report and any driver interviews or person interviews.

Remarks

This variable serves as a flag to identify driverless motor vehicles in transport. If no driver was physically in the vehicle at the time it was struck, then code "2" (Driver not present) should be coded. In addition, variables D10 through D33 should be left "blank". If no driver was present, then no Occupant Form for this driver is required. On the other hand, a code of "1" implies that an Occupant Form will be present for this driver.

If this motor vehicle was a "hit-and-run" vehicle, as defined on the Vehicle Form (V11), then the driver was present ("1").

This variable is a mandatory variable and cannot be changed.

Variable Name: Months Driving Experience This Class of Vehicle

Format 2 columns - numeric

Beginning  
Column 16

Element Values

Range: 01 through 61, 99

Code actual months of previous driving experience up to 60.

Blank - Driver not present (D09)

61 Greater than five years

99 Unknown

Source Driver interview.

Remarks.

"Blank" indicates that no driver was present.

This variable is used to report the driver's previous driving experience in the class of vehicle the driver was operating at the time of the accident. Class of vehicle refers to general vehicle types (i.e., passenger car, light truck, straight truck, truck-tractor, bus, motorcycle, or special vehicle). These categorizations are not necessarily mutually exclusive. For example, a driver employed to operate a large limousine (special vehicle: V17 - 13, Body Type) is involved in an accident. This driver normally operates a standard size passenger car. In this instance, the researcher must not consider the special vehicle as a class differing from the driver's other driving experience. A professional truck driver, on the other hand, involved in an accident while operating the family's personal passenger car would certainly require the researcher to separate this driver's professional and personal driving experience.

The class "passenger car" includes vehicles ranging from mini-cars through full-size luxury cars.

The class of the vehicle is the sole criterion for this variable; attached trailers, additional cargo, etc., have no affect in the assessment

The driver driving experience reported is "on-road" driving experience. For example, the driver has 5 years of off-road motorcycle riding experience, but has only been operating an on-road motorcycle for one month. One month (code "01") should be reported. Similarly, the driver has driven a tractor on the farm for 4 years; however, only in the last six months has he/she been allowed to drive on the highway. Code "06" should be used

Variable Name Estimated Mileage This Vehicle

Format: 3 columns - numeric

Beginning  
Column 18

Element Values

Range 001 through 997, 999  
Miles to the nearest 100  
Blank - Driver not present (D09)  
001 Less than 150 miles  
997 99,650 miles or more  
999 Unknown

Source Driver interview

Remarks

"Blank" indicates that no driver was present.

"This vehicle" refers to the vehicle in the accident. The intent is to measure the driver's cumulative driving experience for the specific vehicle being driven at the time of the accident. For example, if a person drove various standard passenger vehicles over a period of five years so as to accumulate approximately 60,000 total miles, but was involved in an accident while driving another standard passenger vehicle for the first time, the total estimated mileage this vehicle would equal only that mileage accumulated during the trip in which the accident occurred. Specifically excluded is any subsequent mileage accumulated in "this vehicle" post-accident.

Variable Name: Total Mileage All Vehicles (Past Twelve Months)

Format: 3 columns - numeric

Beginning  
Column 21

Element Values:

Range: 001 through 997, 999  
Miles to the nearest 100  
Blank - Driver not present (D09)  
001 Less than 150 miles  
997 99,650 miles or more  
999 Unknown

Source: Driver interview.

Remarks:

"Blank" indicates that no driver was present.

The mileage recorded should include the cumulative mileage driven, during the twelve months prior to the accident date, of all motor vehicles driven by this driver.

For new drivers who have not driven for twelve months, determine their miles per month average and multiply by twelve.

Variable Name: Driver Education

Format 1 column - numeric

Beginning  
Column 24

Element Values.

Blank - Driver not present (D09)

Automobile or Light Truck Driver Training

0 No formal driver training

1 High school driver training

2 Commercial driving training

8 Other formal driver training (e.g., college, military, etc.)

9 Unknown

Motorcycle Driver Training

0 No formal driver training

5 Motorcycle driver training

9 Unknown

Heavy and Medium] Vehicle Driver Training (> 10,000 lbs GVWR)

0 No formal driver training

1 High school driver training

2 Commercial driver training

3 Motor carrier program - On-the-Job-Training

4 Vocational training (CETA, Job Corp, other government sponsored training, etc.)

8 Other formal driver training (e.g., college, military, etc.)

9 Unknown

Source: Driver interview

Remarks

"Blank" indicates that no driver was present.

Only basic driver training is considered for this variable--refresher courses (i.e., basic skills) are included. Specifically excluded from consideration are special or advanced training type courses [e.g., special training for elderly, accident avoidance type training (including traffic schools), or any other advanced type of training]. Advanced means that the training was beyond the basic training provided for the class of driver under consideration.

What type of vehicle the driver was operating in this accident determines how his/her Driver Education (D13) is coded.

Variable Name: Driver Education (cont'd.)

There are three specific classes of drivers considered. These are: passenger vehicle drivers (including light trucks and vans), motorcycle drivers, and heavy truck drivers (GVWR over 10,000 lbs).

The table below shows which attributes of this variable apply to the different driver classes.

Type	V17	D09	D13
Driver Not Present	Any	2	Blank
Automobile or Light Truck Driver Training	01-13,40-42,48-56,58,59,69,80-82,88	1	0-2,8,9
Motorcycle Driver Training	20,21,28,29	1	0,5,8,9
Heavy [and Medium] Vehicle Driver Training	30-32,38,39,70-75,77-79,81,83	1	0,1-4,8,9
Unknown	89,99	1	9

The type of driver training that heavy vehicle and motorcycle drivers receive is of particular interest. If the driver is driving a heavy vehicle then this variable measures the type of training the driver has received in vehicles over 10,000 lbs. GVWR. Since codes "3" (Motor carrier program - On-the-Job-Training), and "4" [Vocational training (CETA, Job Corp, other government sponsored training, etc.)] are assumed to use heavy vehicles, these codes are not applicable for motorcycle drivers or automobile or light truck drivers. Codes "1" (high school driver training) and "2" (Commercial driver training) apply to automobile, light and medium/heavy truck drivers, and code "6" (Motorcycle driver training) applies only to motorcycle drivers. Code "8" (Other formal driver training (e.g., college, military, etc.) applies only to automobile or light truck drivers and heavy vehicle drivers. Code "0" (No formal driver training) must be applied within the context of the driver's status.

Code "0" (No formal driver training) should be used if a driver received no driver training for the class vehicle he/she was driving at the time of the accident.

Code "2" (Commercial driver training) refers to organizations that provide driver training for a profit. It excludes nonprofit organizations, employee training programs, and rehabilitative programs which use passenger type vehicles. These should be coded as "8" (Other formal driver training).

Variable Name: Driver Education (cont'd.)

Code "2" (Commercial driver training) is also used if the heavy [and medium] vehicle driver received training at a "school" (e.g., American Truck Driving School) established for the purpose of training drivers in the use of vehicles over 10,000 lbs. GVWR. The drivers in this school must not all work for the same employer.

Code "3" (Motor carrier program--On-the-Job-Training) is used when the heavy [and medium] vehicle driver is provided with on-th-job type training [whether formal (e.g., classroom) or informal] by the motor carrier that employs him/her.

If a heavy [and medium] vehicle driver attended a commercial driver training school and received on-the-job-training from his/her employer, then code the type of training that occurred most recently. Similar coding would take place for an automobile driver who took both high school and college driver training courses.

Code "5" (Motorcycle driver training) refers to any formal training for driving a motorcycle.

DRIVER VIEW OF TOTAL ACCIDENT CONTACT SEQUENCE

Record all impacts in the sequence that they occurred. For each impact, record: [a] its number, [b] the object contacted (from above codes), [c] the number of the impacting vehicle, [d] the location of the impact on that vehicle (from above codes), and [e] the vehicle's orientation (from above codes). If the impact involved another vehicle, list [f] its number, [g] location of the impact on the vehicle and [h] the vehicle's orientation. List up to six impacts. Place a check mark in the box for "object contacted" for that impact to indicate it was with another motor vehicle. If a vehicle is stopped at impact, use code 7 for Vehicle Orientation and write in "stopped", "parked", etc.

Have the driver sketch the accident sequence. For telephone interviews the researcher must sketch the accident sequence as described by the driver. It is not necessary that all the drivers involved in a multicar/multi-impact accident know the actual sequence of impacts. It is important to get each driver to describe how the accident occurred; each driver could provide a new insight into the dynamics of the collision. Hence, the sketch drawn in each Driver Form should reflect the perceptions of that particular driver, and not the researcher's overall determination, of the actual accident configuration.

Very few accidents will involve more than six impacts, but for those that do, the researcher must select the six most severe impacts from the total number of impacts and then list them in sequence. (Example: If there are a total of nine (9) impacts out of which the 3rd, 6th, and 7th impacts are minor compared to the rest, the researcher would list impacts 1, 2, 4, 5, 8, and 9 as per the driver's narration of sequence.) In these cases it is recommended that the researcher record the additional impacts on the reverse side of page 3 of the Driver Form and annotate as to his/her basis for selecting the six (6) most severe impacts. Although in the above example there will be nine (9) common impacts, each involved driver may not have knowledge of all nine (9) separate and distinct impacts.

Also, it should always be kept in mind that the common impact number is unique to an accident and not to a driver/vehicle.

Example: An accident involving four vehicles

Sketches and information of the accident sequence as recorded from each driver interview are shown in the next six pages. These sketches and impacts are recorded based on information given by each driver. A final accident sequence diagram is then reconstructed, based on scene inspection, vehicle inspections, police report and interviews. Then using this information the researcher determines the overall accident sequence (common impact numbers) and records the correct impact number on each Driver Form.

DRIVER FORM

Sub/D13

(2)

Form Pages 3 & 4

Assume you got the following information from each driver's interview.

Driver #1 The driver tells you that he hit two trees before his vehicle was hit by another vehicle (vehicle #2) which made him spin around into the path of vehicle #3 and was hit in the left side by vehicle #3. The other vehicle (vehicle #2) then hit vehicle #4 head-on.

Driver #2 This driver tells you that vehicle #1 skidded into his path and caused his vehicle to hit vehicle #1 in the right side. Then his vehicle (#2) skidded into impact with vehicle #4 head-on. He then tells you that he heard vehicle #1 impacting vehicle #3.

Driver #3 This driver gives you a similar type of description as driver #2 except she feels that vehicle #1 hit her vehicle before vehicle #2 impacted vehicle #4.

Driver #4 This driver tells you that all he knows about the accident is that vehicle #2 hit his vehicle head-on.

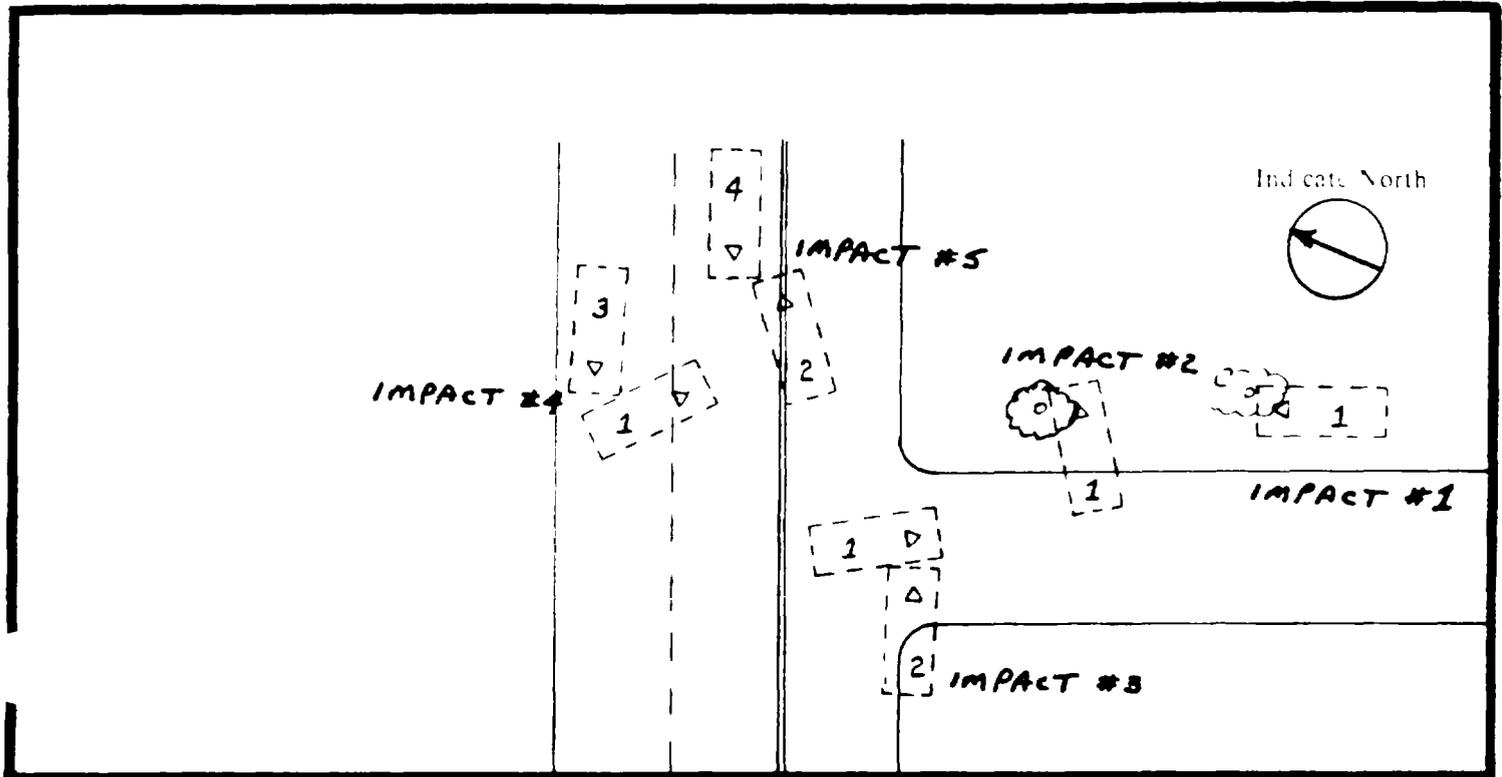








FINAL DIAGRAM BASED ON ALL INTERVIEWS, POLICE  
AND SCENE INSPECTION



Based upon the final accident dynamics as determined by the researcher; drawing on his/her knowledge of scene inspection, vehicle inspection, police report, and interviews; the actual impact sequence [Final Event Number (Investigator)] is determined as shown above and entered in the corresponding Driver Forms. (See next page.)



Variable Name    Time Since Last Driver Training

Format:    1 column - numeric

Beginning  
Column            25

Element Values:

Blank - Driver no present (D09)  
0    No formal driver training  
1    In training at time of accident  
2    Less than five years  
3    Five to ten years  
4    More than ten years  
9    Unknown

Source:    Driver interview

Remarks:

"Blank" indicates that no driver was present.

Code "0" (No formal driver training) when a driver received no driver training for the class vehicle he/she was driving at the time of the accident.

Code "1" (In training at time of accident) when the driver was enrolled in a formal driver training class for the type of vehicle he/she was driving when the accident occurred.

Variable Name Frequency Driving Road

Format 1 column numeric

Beginning  
Column 26

Element Values

Blank - Driver not present (D09)  
Familiar with Road  
1 Daily  
2 Weekly  
3 Monthly  
4 Less than once a month  
  
5 Unfamiliar with road  
9 Unknown

Source Driver interview

Remarks

"Blank" indicates that no driver was present.

The following decision rules apply if the driver's response is given in units different than those listed

Daily =  $\geq 3$  times each week

Weekly =  $< 3$  times each week but  $\geq 3$  times a month

Monthly = 1 or 2 times each month

Less than once a month

Unfamiliar with road should be used when this is the driver's first time on the road or when encountering drivers who are transient or temporarily in the area as a matter of business, relatives, etc. This code should not be used when this temporary status occurs more than once a year on this roadway.

Variable Name: Type of Operation or Carrier

Format: 1 column - numeric

Beginning  
Column 27

Element Values:

- Blank - Driver not present (D09)
- 0 Noncommercial or automobile, motorcycle, or other vehicle (V17 - 01-29, 80-89)
- 1 For hire/common carrier
- 2 For hire/contract carrier
- 3 Private carrier of property or passengers
- 4 Carrier of ICC exempt commodities
- 5 U.S. mail carrier
- 8 Other (specify)
- 9 Unknown

Source: Primary source is driver interview; secondary sources include the police report or an employer [Reference: Public Law 95-473, October 17, 1978].

Remarks:

"Blank" indicates that no driver was present.

The type of carrier for which a driver drives inferentially indicates the degree of preemployment screening and training he is likely to have undergone--hence the interest in this question. This is especially true of carriers subject to BMCS regulations.

Code "0" (Noncommercial. . .) for any operation being conducted for private nonbusiness purposes; that is, the driver and vehicle under consideration were not being operated for hire or in furtherance of a business enterprise.

Examples are:

- a municipally owned and operated bus system
- a municipal, county, or school district bus system that owns and operates its own buses
- a municipally owned and operated garbage/trash pickup department
- an individual who has rented a truck (e.g., U-Haul, Ryder) to move his own personal property

Variable Name: Type of Operation or Carrier (cont'd )

Is the operator (the firm for which the driver works or the driver if self-employed) engaged in a commercial enterprise? If no, code "0" if yes, code "1"- "5" or "8"

NOTE If the vehicle is leased, ignore the firm which leased the vehicle, focus on who (firm, individual) is operating the truck/bus

Code "1" (For hire/common carrier) is a carrier presenting himself/herself to the general public as a provider of motor vehicle transportation for compensation over regular or irregular routes or both.

Examples are

- a privately owned bus system for which you purchase a ticket to ride (excludes charters)
- a privately owned garbage/trash pickup service
- general freight haulers (e.g., United Parcel Service--UPS, Yellow Freight; Consolidated Freightways, etc )
- household goods haulers (e.g., Mayflower)
- any trucking company which hauls at published rates for any and all persons who want things hauled

Is the operator (the firm for which the driver works or the driver if self-employed) providing the same service to everyone? If yes, code "1"

NOTE If the hauler operates on fixed schedules and for fixed fees, then the hauler is a common carrier.

Code "2" (For hire/contract carrier) is the same as a common carrier except that the carrier provides motor vehicle transportation for compensation under continuing agreements with a person or a limited number of persons. These definitions apply to carriers of property and carriers of passengers

Examples are

- a privately owned school bus system that contracts with a municipality, county, school district, etc for bus transportation services
- a privately owned bus system which has been chartered for the trip
- any trucking company, that has a special contract with a shipper to haul his (the shipper's) goods when and where he specifies (e.g., Signal Delivery Services, Inc. is the contract carrier for Sears Roebuck & Co )

Variable Name: Type of Operation or Carrier (cont'd.)

Is the operator (the firm for which the driver works or the driver if self-employed) providing a unique service or working under a special contract with the shipper? If yes, code "2".

NOTE: Many trucks which carry a company name on the vehicle are in fact working on a contractual basis for that company. If the truck cab or tractor carries the phrase "this truck owned and operated by \_\_\_\_\_", then the relationship between the named company whose goods are being transported and the hauler is a contractual one. Many contracts require that the hauler paint the company name, etc., on the vehicle.

Code "3" (Private carrier of property or passengers) means a person other than a common or contract carrier that is transporting property by motor vehicle and:

- (1) the person is the owner, lessee, or bailee of the property being transported; and,
- (2) the property is being transported for sale, lease, rent, or bailment, or to further a commercial enterprise.

Examples are:

- a privately owned bus system that transports company employees
- a commercial enterprise which operates a vehicle that transports that property owned or manufactured by that commercial enterprise (e.g., Safeway Foods, Frito-Lay, Coca Cola Bottlers and Burlington Industries)
- any leased vehicle operated by the owner of the property transported (e.g., a florist rents a U-Haul to help make deliveries during the Christmas season)

Is the operator (the firm for which the driver works or the driver if self-employed) a commercial enterprise and the "owner" of the property being transported? If yes, code "3".

NOTE: The word "owner" for NASS purposes includes all goods which have been purchased from a manufacturer/retailer and for which the manufacturer/retailer is obligated to deliver. Trash/refuse belongs to the person requesting its removal until such time that the transportation trip has been completed. For example, a hauler who transports trash to a dump or recycling facility is not the owner of this trash once it has been picked up. This hauler is a common carrier or possibly a contract carrier, if some special contract exists, rather than a private carrier.

Variable Name: Type of Operation or Carrier (cont'd.)

Code "4" (Carrier of ICC exempt commodities) is used when the carrier would ordinarily be considered a common or contract carrier if it were not for the commodities being hauled. These commodities are exempted from ICC (Interstate Commerce Commission) economic regulation, hence the term exempt hauler. The list of commodities is exhaustive and is not printed here. They tend to fit into one of the following categories:

- (1) ordinary livestock
- (2) agricultural or horticultural commodities
- (3) cooked or uncooked fish, fresh or frozen (unprocessed) shellfish, and other unprocessed food products
- (4) newspapers

Code "5" (U.S. mail carrier) is used for any contract carriers who work for the United States Postal Service

Code "8" (Other) includes any other type of operation not included in one of the definitions above.

General Note: If the vehicle was empty at the time of collision, an investigator must determine if the emptiness is part of a scheduled trip. Vehicles which haul goods or persons from point A to point B most likely will eventually return to point A. The operation of the carrier is classified in terms of the whole trip. A hauler may be on the way to get a load of goods or persons just as well as returning from a delivery. If the emptiness is not part of a scheduled trip, then classify the operator in terms of the operator's general hauling operations.

The following definitions are provided to assist your understanding.

agricultural: pertaining to the production of crops, livestock, or poultry.

bailee: the person to whom a bailment is made.

bailment: a delivery of personal property by one person to another in trust for a specific purpose, with a contract, expressed or implied, that the trust shall be faithfully executed and the property returned or duly accounted for when the special purpose is accomplished, or kept until the bailor reclaims it.

bailor: the maker of a bailment; one who delivers personal property to another to be held in bailment.

horticultural: pertaining to the cultivation of flowers, fruits, vegetables or ornamental plants in relation to a garden, orchard, or nursery

Variable Name Federal Safety Regulated

Mode 1 column - numeric

Beginning  
Column 28

Element Values:

- Blank - Driver not present (D09)
- 0 Noncommercial or automobile, motorcycle, or other vehicle (V17=01-29, 80-89)
- 1 Motor carrier not subject to U.S. DOT (BMCS) regulations
- Motor carrier subject to U.S. DOT (BMCS) regulations
- 2 Intercity operation
- 3 Local pickup or delivery
- 9 Unknown

Source: Primary source is driver interview; secondary sources include the police report or an employer.

Remarks

"Blank" indicates that no driver was present.

The term "federal safety" refers to any agency of the federal government that issues regulations which promote traffic safety. The primary agency of concern, at this time, is the Bureau of Motor Carrier Safety (BMCS). In general, BMCS regulates the operation of carriers who are engaged in interstate or foreign commerce. It should be emphasized that this variable measures whether or not the carrier is regulated, rather than the driver, although, the driver is the primary source of information regarding the carrier.

Interstate commerce is the movement of goods from one state to another. In general, this means that a shipment of goods originates in one state and terminates in another. Any movement of those goods that is a part of a principal shipment is interstate commerce and subject to BMCS regulation. The carrier involved in the accident you are investigating, need not have crossed a state line so long as the carrier is a component part of the principal movement of the goods. For example, if a carrier moves goods from a railroad facility to a trucking facility, from which they are subsequently shipped, then this carrier is involved in interstate commerce even if the carrier never leaves the city limits. This carrier's trip was a part of a principal movement of goods from one state to another. On the other hand, a carrier who picks up goods from a facility which was the destination for the principal trip of those goods, and delivers them for use or sale is not involved in interstate commerce. Rather, this carrier is involved in local pickup and delivery.

Variable Name Federal Safety Regulated (cont'd )

In summary, if a carrier is transporting goods as a part of a continuous move from one state to another, then the carrier is engaged in interstate commerce. Carriers who operate solely within the commercial zone of a municipality or large city (generally pickup and delivery drivers) are exempt from BMCS regulations.

The researcher should first determine if the driver's vehicle was not an automobile, motorcycle, or other motor vehicle. Second, determine if the driver was engaged in a commercial enterprise (D16, Type of Operation or Carrier, equals "1"- "5" or "8") If the answer to either of these questions is "no", then code "0" (Noncommercial or automobile, motorcycle, or other vehicle)

If the answer to both preceding questions is "yes", next determine if the motor carrier is DOT (BMCS) regulated. Researchers should ask the driver if he/she is DOT (BMCS) regulated. If the driver indicates that he/she knows the answer, then proceed accordingly. If the driver is unsure, ask the driver these questions.

- (1) Do you have to have a DOT (ICC) physical?
- (2) Do you have a DOT card?
- (3) Do you keep driver logs?
- (4) Do you have a bill of lading?

If the answer is "yes" to any of these questions, presume that the carrier is DOT (BMCS) regulated. In addition to the driver, the vehicle may give you some clues. If during your inspection you see the following ICC ##. .# or MC ##. .#, then you have evidence that the carrier is DOT (BMCS) regulated.

If you determine that the carrier is not DOT (BMCS) regulated, code "1" [Motor carrier not subject to U.S. DOT (BMCS) regulations]. If you determine the carrier is regulated, next inquire as to whether this particular trip was part of an intercity operation. That is, ask the driver if he/she was moving goods from city-to-city, or making a local pickup or delivery. Apply the principals given above, and make the best fit. If the goods are being transported between cities or towns, code "2" (Intercity operation). If making local pickups or deliveries best describes this driver's trip, code "3" (Local pickup or delivery)

Use code "9" (Unknown) if (1) the GVWR of the vehicle is unknown, (2) it is unknown whether or not this driver/vehicle was engaged in a commercial enterprise, or (3) you cannot determine if the carrier is DOT (BMCS) regulated. If you determine the carrier was regulated, make every attempt to choose from codes "2" (Intercity operation) and "3" (Local pickup or delivery).

The flowchart which follows depicts this questioning process.

FEDERAL SAFETY REGULATED  
AUTOMOBILE, MOTORCYCLE OR OTHER VEHICLE  
V17 - 01-29, 80-89

Code 9	UNKNOWN	YES	Code 0
	NO		
	COMMERCIAL ENTERPRISE?		
Code 9	UNKNOWN	NO	Code 0
	YES		
	DOT (BMCS) REGULATED		
	UNKNOWN	NO	Code 1
	(1) DOT (ICC) (2) DOT Card? (3) Driver Logs? (4) Bill of Lading?	YES	
Code 1	NO TO ALL	YES TO ANY	
Code 9	STILL UNKNOWN		
	INTER-CITY OPERATION?		
Code 9	UNKNOWN	YES	Code 2
	NO		
	LOCAL PICK-UP OR DELIVERY		
		YES	Code 3

Variable Name: Driver's Classification

Format: 1 column - numeric

Beginning  
Column 29

Element Values:

Blank - Driver not present (D09)

0 Noncommercial or automobile, motorcycle, or other vehicle (V17-01-29,  
80-89)

[Commercial]

1 Full time employee

2 Part time employee

3 Owner operator

4 Leased (from labor contractor)

8 Other (specify)

9 Unknown

Source: Primary source is driver interview; secondary sources include the police report or an employer.

Remarks:

"Blank" indicates that no driver was present.

Code "0" (noncommercial or automobile, motorcycle or other vehicle) if the driver is in a motor vehicle not being operated on this trip for hire or in furtherance of a commercial enterprise, or if the vehicle is an automobile, motorcycle, or other vehicle.

The key distinction between commercial and noncommercial is whether the vehicle (or its most immediate operator) is being operated for gain. Therefore, a county truck would not be commercial, but a telephone company truck would be; or a school bus operated by the public school system would not be commercial, but a bus operated by a contractor to the school system while supplying the same service would be. Also, busses operated by private schools would be considered commercial because the service is included in the educational contract (for gain).

Code "1" (Full time employee) if the driver in any period of seven (7) consecutive days is employed or used as a driver solely by a single employer. If a person works less than a full work week but has no other job and does not work for another employer, the driver is considered full-time. Excluded, however, are seasonal employees.

Variable Name: Driver's Classification (cont'd.)

Code "2" (Part time employee) if the driver drives for a motor carrier on a temporary (short term) or seasonal basis; works for a multiple number of carriers, but is not an employee of a labor contractor (typically this might include drivers working out of a union hiring hall or drivers "off the street"), or if the driver works part of a work week for the carrier but also has another job with another employer.

Code "3" (Owner operator) if the driver owns the truck and/or trailer that was involved and either is acting as an independent motor carrier himself/herself or has leased himself/herself and the vehicle to a motor carrier.

Code "4" [leased (from labor contractor)] if the driver is the employee of a labor contractor, who in turn, leases the services of the driver to a motor carrier. Under these arrangements, the carrier usually exercises dispatch control over the driver, but the driver's pay, vacation, sick leave and other fringe benefits are the responsibility of the labor contractor that employs him.

Code "8" (Other) includes any other category of commercial driver not covered above.

Variable Name: Accident Type

Format: 2 columns - numeric

Beginning  
Column

Element Values:

Blank	- Driver not present (D09)
00	No impact
01-93	Code the number of the diagram that best describes the accident circumstance
98	Other accident type (specify)
99	Unknown

Diagrams (see next page)

Source: Researcher determined - inputs include police report, scene inspection, vehicle inspection and interview

Remarks:

"Blank" indicates that no driver was present.

This variable is used for categorizing the collisions of drivers involved in accidents. A collision is defined here as the first harmful event between the 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 collision.

To insure accurate coding, determine the collision code in the following three-step sequence. (Refer to Figure 1.)

Step 1 Determine the appropriate category

Step 2 Determine the appropriate configuration.

A-B) Roadside departure - single driver, vehicle departed either right or left side of road with impact occurring off the road. Right versus left is based on the side of the road departed immediately prior to the first harmful event.

Category	Configuration	ACCIDENT TYPES (Includes Intent)						
I Single Driver	A Right Roadside Departure	01 DRIVE OFF ROAD	02 CONTROL/TRACTION LOSS	03 AVOID COLLISION WITH VEH. PED. ANIM	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN		
	B Left Roadside Departure	06 DRIVE OFF ROAD	07 CONTROL/TRACTION LOSS	08 AVOID COLLISION WITH VEH. PED. ANIM	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN		
	C Forward Impact	11 PARKED VEH	12 STA OBJECT	13 PEDESTRIAN ANIMAL	14 END DEPARTURE	15 SPECIFICS OTHER	16 SPECIFICS UNKNOWN	
II Same Trafficway Same Direction	D Rear End	20 STOPPED 21 22 23	22 SLOWER 25 26 27	24 DECEL 28 29 30 31	26 AVOID COLLISION WITH VEH	28 AVOID COLLISION WITH OBJECT	(EACH • 32) SPECIFICS OTHER	(EACH • 33) SPECIFICS UNKNOWN
	E Forward Impact	34 CONTROL/TRACTION LOSS	36 CONTROL/TRACTION LOSS	38 AVOID COLLISION WITH VEH	40 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER	(EACH • 43) SPECIFICS UNKNOWN	
	F Sideswipe Angle	44 LATERAL MOVE	45 LATERAL MOVE	(EACH • 46) SPECIFICS OTHER	(EACH • 47) SPECIFICS UNKNOWN			
III Same Ex-Hwy Opposite Direction	G Head-On	50 LATERAL MOVE	51 LATERAL MOVE	(EACH • 52) SPECIFICS OTHER	(EACH • 53) SPECIFICS UNKNOWN			
	H Forward Impact	54 CONTROL/TRACTION LOSS	56 CONTROL/TRACTION LOSS	58 AVOID COLLISION WITH VEH	60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER	(EACH • 63) SPECIFICS UNKNOWN	
	I Sideswipe Angle	64 LATERAL MOVE	65 LATERAL MOVE	(EACH • 66) SPECIFICS OTHER	(EACH • 67) SPECIFICS UNKNOWN			
IV Change Trafficway Vehicle Turning	J Turn Across Path	68 INITIAL OPPOSITE DIRECTIONS	71 INITIAL SAME DIRECTIONS	73 TURN INTO SAME DIRECTION	72 TURN INTO OPPOSITE DIRECTIONS	(EACH • 74) SPECIFICS OTHER	(EACH • 75) SPECIFICS UNKNOWN	
	K Turn Into Path	77 TURN INTO SAME DIRECTION	79 TURN INTO OPPOSITE DIRECTIONS	80 TURN INTO SAME DIRECTION	83 TURN INTO OPPOSITE DIRECTIONS	(EACH • 84) SPECIFICS OTHER	(EACH • 85) SPECIFICS UNKNOWN	
V Intersecting Paths (Vehicle Damage)	L Straight Paths	87 INTERSECTING PATHS	88 INTERSECTING PATHS	(EACH • 90) SPECIFICS OTHER	(EACH • 91) SPECIFICS UNKNOWN			
VI Miscellaneous	M Backing Etc	82 BACKING VEH	83 OTHER VEH. OR OBJECT	98 Other Accident Type 99 Unknown Accident Type 00 No Impact				

Variable Name. Accident Type (cont'd.)

- C) Forward impact - single driver, vehicle impacted object on road or off end of trafficway.

NOTE: First, the phrase "Single Driver" in category I means Single In Transport Motor Vehicle (involved in the first harmful event). Second, in categories II-VI the specific combinations must occur together as pairs (i.e., the pair code defines the Accident Type). Thus, the combination "20", "32" is not valid. Further, the combination "20", Blank is similarly not valid since "20" only has meaning if it is linked to codes "21"- "23". When an accident occurs that involves a vehicle impacting (striking or struck) a "driverless in transport vehicle" the best fit will be the appropriate configuration-category "Specifics other" code and "blank". For example, for a vehicle which impacts the rear of a driverless in transport vehicle the code would be. "32", "Blank". Third, code all category I without regard to the location of the impact on the vehicle.

- D) Rear-end - front of overtaking vehicle impacted rear of other

NOTE. Even if the forward vehicle had started to make a turn, code here (not in category IV)

- E) Forward impact - front of overtaking vehicle impacted rear of other, following a steering maneuver around an object or non-involved vehicle.

- F) Same-direction sideswipe/angle - a sideswipe is a shallow, glancing impact involving the side of one or both vehicles

Note. In some situations, a sideswipe CDC/TDC cannot be assigned as some of the CDC/TDC rules prohibit a sideswipe to be coded (i.e., snagging, etc.). For the purpose of this variable, sideswipe should be encoded here

- G) Head-on - frontal area of one vehicle impacted frontal area of other.

- H) Forward impact - frontal area of one vehicle impacted frontal area of other, following a steering maneuver around an object or noninvolved vehicle.

Variable Name Accident Type (cont'd )

I) Opposite-direction sideswipe/angle - see definition in Configuration F.

J) Turn across path - two vehicles initially on same trafficway. One tried to turn onto another trafficway and pulled in front of second vehicle.

Note Even if the turning vehicle was hit in the rear by the second vehicle, code here.

K) Turn into path - two vehicles initially on different trafficways. One attempted to turn onto the same trafficway as the other.

Step 3 Determine the specific two-digit code.

The specific role of the driver's vehicle is determined by reference to the accident type diagrams (Figure 1). Only types requiring classification are discussed here.

Code "01" (Drive off road) when the vehicle departed the road as a result of driver's situation (i.e., the driver was distracted, fell inattentive, or departed, etc.)

Code "07" (Control loss) if there is some evidence that the vehicle lost traction or in some other manner "got away" from the driver (e.g., vehicle spun off the road as a result of surface conditions, weather phenomena, or mechanical malfunctions). If in doubt, this code should be coded "01" or "06" (Drive off road).

Code "03" or "08" (Avoid collision with vehicle, pedestrian, animal) when the vehicle departed the road as a result of avoiding something in the road. "Phantom" situations should be included here.

Codes "03", "08" and "13" include the P08 - "1", "2", "3" and "8" element value items: pedestrians, bicyclists, other cyclists, and other nonmotorists. Use codes "04" or "09" for any other stationary or nonstationary objects if the avoidance characteristics of codes "03" or "08" are present.

In codes "11", "12", and "13" the objects may be on either side of the road.

Code "12" (Stationary object) includes a hole in the road, an overhead object (e.g., overpass) or an object projecting over road edge (e.g., support column of elevated railway).

Variable Name: Accident Type (cont'd.)

Code "13" for pedestrian or nonmotorist accidents when the pedestrian or nonmotorist is impacted during a turning maneuver of the vehicle

Code "15" for impacted (striking or struck) trains and other nonstationary objects on the road.

Distinguish codes "44" and "45" based on the relative vehicle position. Code "44" refers to a vehicle to the left of the other vehicle involved in a sideswipe or angle collision, configuration F. Likewise, code "45" refers to a vehicle to the right of the other vehicle involved in a collision of the configuration F type. Finally, use codes "44" and "45" when (1) the right sides of two vehicles impact following a 180 degree rotation of the vehicle on the right, or (2) the left sides of the vehicles impact following a 180 degree rotation of the vehicle on the left.

Code "46" describes sideswipe and angle collisions. Use code "46" if one vehicle was behind the other prior to their category II, configuration F collision. For example, code "46" (Specifics other) when two vehicles are on the same trafficway/same direction and one loses control and is struck in the side by the front of the other vehicle. However, should one vehicle rotate such that the impact is front to front, use code "98"

Code "64" refers to the infringing vehicle in a category III, configuration I collision.

NOTE. Vehicle action is the controlling factor in configurations J and K, the plane of contact is irrelevant.

Codes "68"- "73" (Turn across path) may include rear-end collisions, which do not belong in Configuration D or E

Codes "76"- "79" (Turn into same direction), in rare cases, may involve the turning vehicle running into the rear of the other. These are coded as "76"- "79", unless the act of turning had been completed when the impact occurred, in which case Configurations D or E would apply

Code "82" (Left turn into opposite direction) applies to the driver's vehicle which was in the act of making a left turn (e.g., from a driveway, parking lot or intersection). Do not confuse this situation with Configuration L. The driver's intended path is the prime concern.

Codes "86"- "89" [Straight (intersecting) paths] should not be confused with any types in Configuration K. In all cases the vehicles are proceeding (or attempting to proceed) straight ahead, usually at a junction

Code "98" (Other accident type) is used for those collisions which do not reasonably fit any of the specified types. Code "98" for rollovers (including overturned motorcycles) on the road.

Table Name Accident Type (cont'd.)

In multiple vehicle accidents (involving more than two vehicles) or in collision sequences involving a combination of vehicle-to-object-to-vehicle impacts, code the Accident Type for the vehicle(s) involved in the first harmful event. All other vehicles are coded "98"

The investigator should keep in mind that intended actions may play a role in the coding scheme. For example, accident type 26 (slower, turning left) would be selected over type 25 (slower, straight ahead) if the subject vehicle was traveling slower with the intention of turning left. Note the turning action may not have been initiated prior to the collision.

The only configurations where control/traction loss or an avoidance maneuver is to be considered are A, B, F and H.

Adopt codes that best fit the collision situation when one vehicle is making a U-turn.

Variable Name Attempted Avoidance Maneuver

Format 2 columns - numeric

Beginning  
Column 3'

Element Values

Blank - Driver not present (D09)  
 00 No impact  
 01 No avoidance actions  
 02 Braking (no lockup)  
 03 Braking (lockup)  
 04 Braking (lockup unknown)  
 05 Releasing brakes  
 06 Steering left  
 07 Steering right  
 08 Braking and steering left  
 09 Braking and steering right  
 10 Accelerating  
 11 Accelerating and steering left  
 12 Accelerating and steering right  
 98 Other action (specify)  
 99 Unknown

Source Researcher determined--inputs include the driver interview, police report, and the scene inspection

Remarks

"Blank" indicates that no driver was present

Attempted avoidance maneuvers (pre-crash) are movements/actions taken by the driver to avoid the impending crash after realization of an impending danger but before the actual crash (impact)

Code the attribute which best describes the actions taken by the driver

Code "01" (No avoidance action) is used whenever the driver did not attempt any evasive (Pre-Crash) maneuvers

Variable Name Driver Related Factors

Format 2 columns - numeric

Beginning  
Column 34

Element Values

Blank - Driver not present (D09)

- 00 No impact
- 01 No driver related factors - inappropriate
- 02 Being pursued by police - police chase
- 03 Over speed limit
- 04 Too fast for conditions
- 05 Excessive or erratic acceleration
- 06 Erratic lane changing - cutting in and out of traffic
- 07 Following too closely (tailgating)
- 08 Passing in no-passing zone
- 09 Not yielding right-of-way
- 10 Failure to yield to an emergency vehicle
- 11 Disobeying stop sign
- 12 Disobeying traffic signal
- 13 Failure to obey other traffic sign or signal (specify)
- 14 Driving over or on the centerline
- 15 Driving over or on the median
- 16 Driving on road shoulder
- 17 Driving wrong way on 1-way street or entrance/exit ramp
- 18 Driving in parking lane
- 19 Pulling in front of traffic from a roadway or driveway
- 20 Turning left or U-turning in front of oncoming traffic
- 21 Improper lane change - cutting into another vehicle's path
- 22 Making right turn from left lane, or left turn from right lane
- 23 Making other improper turn (specify)
- 24 Passing with close oncoming traffic
- 25 Proceeding despite view obstruction
- 26 Passing on blind curve or hill
- 27 Passing on wrong side of vehicle being overtaken
- 28 Illegally parked
- 29 Driving too slow or less than minimum speed
- 30 Braking rapidly and unnecessarily (slowing but not to stop)
- 31 An abrupt stop without warning
- 32 Wrong signal given for maneuver executed
- 33 Turning without giving a turn signal
- 34 Headlights not used when required
- 35 Hazard lights not used when appropriate or required
- 36 Failure to dim lights for oncoming traffic

Variable Name Driver Related Factors (cont'd )

- 37 Operator inexperience with vehicle
- 38 Operator unfamiliar with roadway
- 39 Overloading or improper loading of passengers and/or cargo
- 98 Other driver related factor (specify)
- 99 Unknown

Source Researcher Determined - inputs include the police report interviews and the scene inspection

#### Remarks

"Blank" indicates that no driver was present

The purpose of this variable is to provide guidance to safety research on the involvement of these factors in accidents

Related Factors are circumstances that may have contributed to the cause of an accident. In determining Driver Related Factors the researcher should use police reports, interviews, and scene observations

Only the driver related factors that apply to that particular driver should be coded. If more than one code apply, choose the most significant

Do not include any factor coded as a violation in D22 or D23

Code "01" (No driver related factors - inappropriate) is used when there is no evidence from any source to indicate any related factors for the driver in the accident. Code "01" for hit-and-run vehicles unless the presence of a driver related factor is determined

Code "04" (Too fast for conditions) refers to those situations where a hazard exists that requires a lower speed. Included are highway conditions, weather accidents, etc. which create a temporary hazard to the safety of traffic on a portion of a highway

Codes "17" (Driving over or on the median) and "16" (Driving on road shoulder) presumes that the driver was in control of his vehicle on the median or shoulder prior to the first harmful event

Code "22" (Making right turn from left lane, or making left turn from right lane) refers to any turn made from the wrong lane. It includes turning into a driveway, turning at an intersection, etc.

Code "23" (Making other improper turn) includes all of the turns that do not apply above, e.g. turning at an intersection when it is not allowed, turning into the wrong lane, etc.

Variable Name    Driver Related Factors (cont'd )

Use code "98" (Other driver related factor) for any human condition or state (e.g., inattention, sleepv). Drug and/or alcohol involvement can also be coded. However, no human condition or state can be coded in this variable that is also coded in variables D22 through D24.

D22

D23

Variable Name Traffic Violation Charged Against This Driver

Format 2 columns - numeric

Beginning

Column 36

38

#### Element Values

Blank - Driver not present (D09)  
 00 No violation charged  
 01 Speeding  
 02 Driving while intoxicated (or DWI)  
 03 Reckless driving  
 04 Driving with suspended or revoked license  
 05 Failure to yield right-of-way  
 06 Following too closely  
 07 Running a traffic signal or stop sign  
 08 License restriction not complied with  
 98 Other violation charged (specify)  
 99 Unknown

Source Police report

#### Remarks

"Blank" indicates that no driver was present

Code "00" (No violations charged) when there are no charges, the applicable section is blank or crossed out on the PAR. or charges are "pending"

Code "03" (Reckless Driving) if the driver is charged with reckless driving or driving to endanger. Caution must be exercised when coding "careless driving". Careless driving may or may not be the same as "reckless driving". Be sure to check with your State license agency regarding their similarity.

Code "06" (Following too closely) if this driver was charged with following too closely or for failure to keep proper distance.

Codes "01"- "08", "98"- "99" are prioritized in decreasing numerical value (i.e., "01" takes precedence over "02", etc.). In situations where the driver is charged with more than two violations, code the lowest numerical value which applies for D22 and the second lowest for D23. If only one violation is charged, code it for D22 and code D23 as "00" (No violation charged).

Variable Name Police Reported Alcohol Presence

Format. 1 column - numeric

Beginning  
Column 40

Element Values

Blank - Driver not present (D09)  
0 No (alcohol not present)  
1 Yes (alcohol present)  
8 Not reported  
9 Unknown

Source. Police report

Remarks

"Blank" indicates that no driver was present

Find the location on the police report that indicates the investigating officer's assessment with respect to whether or not alcohol was present in the driver in this accident. If the police report explicitly states or implies that alcohol was present or used by the driver prior to the accident, then code "1" [Yes (alcohol present)]. If there is no specific variable concerning alcohol presence, see if it is addressed in the narrative description of the accident.

The phrase "alcohol present" means that the driver had consumed an alcoholic beverage. Presence is not an indication that alcohol was in any way a cause of the accident, even though it may have been. Finding opened or unopened alcoholic beverages in the vehicle does not by itself constitute presence.

Code "1" [Yes (alcohol present)] if the police indicate alcohol presence in the driver via a specific data element on the police report form and/or if the police charges the driver with DWI or DUIL and/or if the police mention in the narrative section of the report that the driver had been drinking (or alcohol was present or involved) and/or the police report has a positive BAC test result (BAC > .00)

Code "0" [No (alcohol not present)] if the investigating officer's assessment (as reported on the police report) is that no alcohol was present in the driver.

Code "8" (Not reported) if there is a specific location on the police report for assessment of alcohol presence but the investigating officer fails to make either a positive or negative assessment of alcohol presence

Variable Name    Police Reported Alcohol Presence (cont'd )

Code "9" (Unknown) if the alcohol presence is unknown. In general police reports have blocks to check either positive or negative alcohol presence, hence one of the codes "0", "1", or "8" is the appropriate response. But if a police report has provision for the investigating officer to respond "unknown alcohol presence", then code "9" (Unknown)

If the PAR has a block which is labeled "Alcohol/Drugs", then use any other information on the PAR to determine what was present, alcohol or some other type of drug. If no other information is available, then code "9" (Unknown) should be used.

Hit-and-run drivers should be coded "9" (Unknown) for this variable unless clear evidence to the contrary exists.

Variable Name Alcohol Test Results

Format 2 columns - numeric

Beginning  
Column 41

Element Values

Range. 00-49, 95-97, 99

Code actual reported number representing fraction of alcohol present  
(decimal implied before first digit 0 xx)

Blank Driver not present (D09)

95 Test refused

96 None given

97 AC test performed, results unknown

99 Unknown

Source. Police report medical reports, or other official sources.

Remarks

"Blank" indicates that no driver was present.

A blood alcohol concentration (BAC) test could be a blood, breath, or urine test. No psychomotor (police observation of driver actions) test results are to be coded here. These preliminary tests include instrumented field screening tests which indicate the presence of alcohol, but not necessarily the particular content level. These devices are designed to segregate candidates for further testing from those persons where the suspected presence of alcohol is either nonexistent or too low for additional tests

Code "95" (Test refused) when the person refuses to voluntarily take a BAC test and no subsequent test is given. If the person refuses, but a test is performed, code the reported BAC or "97" (AC test performed, results unknown)

Code "96" (None given) includes those instances when an instrumented field screening test was given and it determined that no BAC test was required

If an instrumented field screening test was given and it was determined that a BAC test was required, code either the reported BAC from the subsequent test or "97" (AC test performed, results unknown) if the precise level was not obtained. Researchers should obtain BAC test results whenever possible. Code "97" should be used only after all available sources have been exhausted. Verbal BACs obtained from official sources are acceptable if written approval (or approval via the message system) has been obtained from the Zone Center

## Variable Name    Alcohol Test Results (cont'd )

If the results are not available at the time the NASS case is initially submitted, code "97" (AC test performed, results unknown). circle the variable number and update this variable when the results are obtained.

If the BAC was given on the police report or subsequently added after the case was initiated, code the reported value. If the BAC was obtained from a medical report or any other official record, code the reported value. In essence, if any BAC is obtained, code the reported value.

Blood Alcohol Content (BAC) measures the percentage (expressed as a decimal) of the number of grams of alcohol in a liter of blood. The standard measure is expressed as the number of milligrams per deciliter (tenth of a liter) (e.g. .05 = 50 mg/100 ml, .15 = 150 mg/100 ml).

Variable Name Driver License Status (Irrespective of Vehicle Being Driven)

Format 1 column - numeric

Beginning  
Column 43

Element Values:

Blank - Driver not present (D09)

No valid license

0 Not licensed

1 Suspended

2 Revoked

3 Expired

4 Canceled or denied

Valid license

5 Single class license (specify)

6 Multiple class license (specify)

7 Learner's permit

8 Temporary

9 Unknown

Source Official driver record and police report. Official driver records take precedence over police reported information.

Remarks:

"Blank" indicates that no driver was present.

Code "0" (Not licensed) should be used only when it has been reasonably established that the driver is not registered (anywhere). Drivers who have a license but fail to have their license with them at the time of the accident should be coded according to the type(class) of license they possess and the validity of the license. If the police report indicates that the driver has "no license", the investigator should first determine whether this means that the person was not in possession of his/her license at the time of the accident, or that the driver is not a registered motor vehicle operator. A review of the violations cited section of the police report may yield some clues in this matter. If the person is cited for not possessing his/her license or for not having one, then code this information in variables D22 or D23, Traffic Violation Charged--Other Violation Charged. If the investigator is uncertain as to whether or not the person possesses a license, then code "9" (Unknown) should be used.

Variable Name Driver License Status (Irrespective of Vehicle Being Driven)  
(cont'd )

Codes "1" (Suspended), "2" (Revoked), or "3" (Expired) are used if the driver's license is suspended, revoked, or expired

Code "4" (Canceled or denied) is used whenever the driver's official driver record indicates the driver's license (1) was canceled or (2) the driver's request for a license, or an extension of one, was denied

Code "5" (Single class license) refers to any valid license held by the driver that is valid for a class of vehicle. If the driver is in violation of some aspect of his/her license (e.g. one of the restrictions) do not consider the license as being not valid. Record the restriction on variable D28 (Driver license restrictions) if applicable. If the police cite the driver for the violation, then the information would be recorded under variables D22 and D23 (Traffic Violation Charged--Other Violation Charged)

Code "6" (Multiple class license) means that the State which issued the driver's license (the one reported on the PAR) indicates that the driver is qualified to operate more than one class of vehicle. Having licenses from more than one state, territory, etc., does not constitute a multiple class license

Code "7" (learner's permit) includes any type of preliminary license the driver obtained. It is defined as the state-sanctioned authority to operate a motor vehicle for a specified period with the requirement that the operator be accompanied by a person who holds a valid driver's license for the vehicle type being operated. There may be additional requirements (e.g. driving limited to a certain time period) which are also considered within the definition of a learner's permit

Code "8" (Temporary) includes any type of nonpermanent license issued for a period of time less than that for a permanent license (e.g. temporary license to drive within a resort area, temporary license issued to foreign nationals). Short term permanent licenses are not temporary (e.g. license issued to elderly drivers requiring frequent retesting). Interim licenses held by new drivers awaiting a permanent driver license identification from the state are not temporary

Code "9" (Unknown) should be used when it is unknown whether the driver had a license or not (e.g. hit-and-run). Code "9" is also used when the status of the license is unknown

See reference table for coding variables D26 and D27, following the remarks section of variable D27 (Driver license type compliance)

Variable Name: Driver License Status (Irrespective of Vehicle Being Driven)  
[cont'd.]

In distinguishing license requirements from restrictions focus upon whether or not all drivers possessing the type of license are mandated to obey the requirement. If they are, then the requirement is not a restriction, but rather part of the definition of the license. Restrictions, on the other hand, are requirements specific to individual drivers.



STATES WITH NASS PSU TEAMS

<u>STATE</u>	<u>NASS PSU NO.</u>	<u>STATE</u>	<u>NASS PSU NO.</u>
Alabama	P52, P55	Nebraska	P78
Alaska	*	Nevada	*
Arizona	P81, P87	New Hampshire	*
Arkansas	P53	New Jersey	P29
California	P79	New Mexico	P82
Colorado	P80	New York	P26, P33, P34, P36
Connecticut	*	North Carolina	P54, P58
Delaware	*	North Dakota	*
Florida	P51, P56	Ohio	*
Georgia	*	Oklahoma	*
Hawaii	*	Oregon	*
Idaho	*	Pennsylvania	P27, P28, P30, P31, P32, P37
Illinois	P01, P07, P08	Puerto Rico	*
Indiana	P06, P13	Rhode Island	P39
Iowa	P14	South Carolina	*
Kansas	*	South Dakota	P83
Kentucky	*	Tennessee	P57
Louisiana	P60	Texas	P61, P62, P63
Maine	*	Utah	*
Maryland	P38	Vermont	*
Massachusetts	P35	Virginia	*
Michigan	P02, P04, P05, P09, P11	Washington	P76, P85
Minnesota	*	Washington, D.C.	*
Mississippi	P59	West Virginia	*
Missouri	P03	Wisconsin	P10, P12
Montana	*	Wyoming	*

\* Driver/vehicle records are to be requested through the NHTSA FARS State Analysts only for those states identified with an asterisk (\*).

Names, addresses, and phone numbers for these analysts follows.

FARS CONTACT

ALASKA

Nancy Milner  
Department of Public Safety  
Information System Section  
3700 Tudor Road  
Anchorage, AK 99507

907-269-5792

CONNECTICUT

Nancy Woronick  
Department of Motor Vehicles  
60 State Street  
Wethersfield, CT 06109

203-566-2390

DELAWARE

Bette Klemko  
Delaware State Police Headquarters  
Traffic Statistical Unit  
P O Box 430  
Dover, DE 19903

302-674-1091

GEORGIA

Brenda Raines  
Accident Reporting Section  
Department of Public Safety  
P.O Box 1456  
Atlanta, GA 30371-2303

404-656-5898

FARS CONTACT

HAWAII

Rochelle Tsutsui  
Motor Vehicle Safety Office  
Department of Transportation  
79 South Nimitz Highway  
Honolulu, HI 96813

808-548-5755

IDAHO

Grace Foster  
Traffic Section  
Idaho Transportation Department  
Boise, ID 83707

208-334-2591

KANSAS

Ms. Sydney Beach  
Accident Research and Stat/BRUD  
Kansas Department of Transportation  
State Office Bldg., 8th floor  
Topeka, KS 66612

913-296-3756

KENTUCKY

Connie Concanougher  
Department of State Police  
Information Systems Section  
1250 Louisville Road  
Frankfort, KY 40601

502-227-8717

FARS CONTACT

MAINE

Bob Farris  
Bureau of Safety  
Maine Dept. of Public Safety  
Augusta, ME 04333

207-289-2581

MINNESOTA

Julian Draper  
Department of Public Safety  
207 Transportation Building  
St. Paul, MN 55155

612-296-3805

MONTANA

Mary Carparelli, FARS Analyst  
Department of Justice  
Highway Traffic Safety  
303 North Roberts  
Helena, MT 59620

406-444-3296

NEVADA

Mary Lynne Evans  
Department of Motor Vehicles  
Traffic Safety Division  
555 Wright Way  
Carson City, NV 89711

702-885-5720

FARS CONTACT

NEW HAMPSHIRE

Alan L. McRae  
Traffic Accident Analyst  
N.H. Dept. of Safety  
James Haynes Safety Bldg., Rm. 234  
Hazen Drive  
Concord, NH 03302

603-271-2554/3

NORTH DAKOTA

Jerry Schneider  
Planning Division  
North Dakota State Highway Dept.  
600 East Boulevard Avenue  
Bismarck, ND 58505-0178

701-224-2537

OHIO

Rosalynne Majors  
Department of Highway Safety  
Accident Records Sections  
4795 Evanswood Drive  
Columbus, OH 43229

614-431-8580

OKLAHOMA

Sue Rooks  
Highway Safety Office  
200 N.E. 21st Street  
ODOT Building, Rm. D-4  
Oklahoma City, OK 73105

405-521-3314

FARS CONTACT

OREGON

Anita Jungling  
FARS Analyst  
Motor Vehicle Division  
1905 Lana Avenue, NE  
Salem, OR 97314

503-378-6110

PUERTO RICO

Sylvia Roman  
P. R. Traffic Safety Commission  
41289 Manillas Station  
Santurce, PR 00913

809-727-0122

SOUTH CAROLINA

Judith Hall  
Highway Safety Office  
South Carolina Dept. of Highways  
and Public Transportation  
P O. Box 191  
Columbia, SC 29216

803-758-3685

UTAH

Arlene Cox  
Department of Public Safety  
Utah Highway Safety Division  
4501 South, 2700 West  
3rd Floor South  
Salt Lake City, UT 84119

801-965-4460

VERMONT

Nancy J. Bailey  
Governor's Highway Safety Program  
Agency of Transportation  
State Street  
Montpelier, VT 05602  
802-828-2665

FARS CONTACT

VIRGINIA

Shiela Taylor  
Department of State Police  
Records and Statistics  
7700 Midlothian Turnpike, Rm 200  
P.O. Box 27472  
Richmond, VA 23261

804-323-2102

WASHINGTON, D.C.

Detective John D. Killian  
Metropolitan Police Department  
Traffic Division  
Hit and Run Unit  
501 New York Avenue, NW  
Washington, D.C. 20001

202-727-4443

WEST VIRGINIA

Robin Turley  
West Virginia State Police  
Traffic Records & Safety Division  
725 Jefferson Road  
S. Charleston, WV 25309

304-746-2127/2124

WYOMING

Herman L. Stumpf  
Wyoming Highway Department  
Highway Safety Branch  
P.O. Box 1708  
Cheyenne, WY 82001

307-777-4194

NASS DATA REQUEST FROM THE FATAL ACCIDENT REPORTING SYSTEM

TO: \_\_\_\_\_ NASS ACCIDENT CASE NO: \_\_\_\_\_  
Appropriate FARS State Analyst

FROM: \_\_\_\_\_ REQUEST DATE: \_\_\_\_\_  
PSU Team Leader

\_\_\_\_\_  
Address  
\_\_\_\_\_  
City State Zip

This is a request for data for a (vehicle/driver -- circle appropriate choice) involved in an accident in the State of \_\_\_\_\_. Below and on the back of this form are some descriptive data for the vehicle and/or driver. Please obtain the required data (covering the three year period prior to the date of the accident: \_\_\_\_\_ 198\_ to \_\_\_\_\_ 198\_) from the State vehicle and/or driver files and complete the appropriate items. If information is not available, please check the box below. Thank you.

=====

\_\_\_ SORRY, NO (VEHICLE/DRIVER--circle appropriate choice) RECORD IN THIS STATE

=====

VEHICLE DESCRIPTION - filled out by NASS Team Leader

OWNER'S NAME: \_\_\_\_\_ VEH. BODY TYPE: \_\_\_\_\_  
OWNER'S ADDRESS: \_\_\_\_\_ MODEL YEAR: \_\_\_\_\_  
REGISTERED IN STATE OF: \_\_\_\_\_  
LICENSE NO.: \_\_\_\_\_  
VEHICLE MAKE: \_\_\_\_\_ PLATE YEAR: \_\_\_\_\_  
VEHICLE MODEL: \_\_\_\_\_ VIN: \_\_\_\_\_

=====

VEHICLE DESCRIPTION - filled out by FARS State Analyst

Note: Do not enter codes, use verbal description

OWNER'S NAME: \_\_\_\_\_ VEH. BODY TYPE: \_\_\_\_\_  
OWNER'S ADDRESS: \_\_\_\_\_ MODEL YEAR: \_\_\_\_\_  
LICENSE NO. \_\_\_\_\_  
PLATE YEAR: \_\_\_\_\_  
VEHICLE MAKE: \_\_\_\_\_ VIN: \_\_\_\_\_  
VEHICLE MODEL: \_\_\_\_\_

Attachment 4  
84-D08  
DRIVER INFORMATION

4/84  
Sub/D26  
(7)

Driver's Name: \_\_\_\_\_ Driver's License No. \_\_\_\_\_  
Driver's Address: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

=====VEHICLE BODY TYPE BEING DRIVEN (to be filled out by  
FARS VARIABLE D17 NASS investigator,  
LICENSE/CLASS VEHICLE Circle 0 - Passenger car, light truck, van, pickup  
COMPLIANCE correct 1 - Motorcycle  
0 - No License Required choice: 2 - Moped  
1 - No license, License 3 - Heavy Truck -- indicate GVWR \_\_\_\_\_  
Required

FARS VARIABLE D17 LICENSE/CLASS VEHICLE COMPLIANCE	FARS VARIABLE D18 LICENSE STATUS	FARS VARIABLE D20 DRIVER TRAINING
2 - Valid License for this Class Vehicle Only	0 - None Required	0 - None
3 - One Valid License but Not for This Class Vehicle	1 - None	1 - High School
4 - Multiple Class Licenses, Valid License for This Class Vehicle	2 - Valid	2 - Commercial
5 - Multiple Class License, No Valid License for This Class Vehicle	3 - Suspended	3 - School Bus
9 - Unknown	4 - Revoked	4 - Traffic School
	5 - Expired	5 - Two or more Types
	6 - Cancelled or Denied	6 - Training Type Unknown
	7 - Learner's Permit	9 - Unknown
	8 - Temporary	
	9 - Unknown	

FARS VARIABLE D22 PREVIOUS RECORDED ACCIDENTS	FARS VARIABLE D24 PREVIOUS RECORDED SUSPENSIONS AND REVOICATIONS	FARS VARIABLE D26 PREVIOUS DWI CONVICTIONS
Actual Value Except	Actual Value Except:	Actual Value Except:
00 - None	00 - No	00 - None
99 - Unknown	99 - Unknown	99 - Unknown

DRIVER LICENSE * RESTRICTIONS	FARS VARIABLE D28 PREVIOUS SPEEDING CONVICTIONS	FARS VARIABLE D30 PREVIOUS OTHER HARMFUL HV VIOLATIONS
Circle as many as apply.	Actual Value Except:	Actual Value Except
0 - No restrictions	00 - None	00 - None
1 - Corrective or contact lenses	99 - Unknown	99 - Unknown
2 - Mechanical aid	* If there are restrictions from driver records that cannot be matched with codes "1" through "7", write these restrictions in the space provided for code "8"	
3 - Limited to daylight only		
4 - Automatic transmission (Other restrictions)		
5 - Outside mirror		
6 - Prosthetic aid		
7 - Limited to employment		
8 - Other restrictions		
9 - Unknown		

Acquiring Canadian Driver Records for NASS

Cooperative arrangements between NHTSA and Transport Canada for obtaining driver/vehicle information concerning Canadians involved in motor vehicle accidents occurring within the U.S. have been finalized.

In the event that a Canadian driver or vehicle is involved in a NASS accident, please call the appropriate individual (based on Canadian province) for the required information (see attachment).

Also, please realize that this is a cooperative arrangement and that it is possible that these individuals may contact you for similar information on U.S. drivers involved in accidents which occurred in Canada. Should you receive such a request, please obtain and send them the necessary information.

CONTACTS FOR INFORMATION ON ACCIDENT INVOLVED MOTOR VEHICLE DRIVERS AND VEHICLE

PROVINCE	AGENCY	CONTACT	AREA CODE	TELEPHONE NUMBERS
Nova Scotia	Technical University of Nova Scotia	Dr. Charles Miller Dr. Robert Baird Vince Doiron	902	423 1526 (ext. 224) 429 8300 (ext. 161)
New Brunswick	HALIFAX, Nova Scotia University of New Brunswick	Carol Price Prof. J.D. Innes Gary Smith	506	454 9099
Quebec	FREDERICTON, N.B. McGill University MONTREAL, Quebec Ecole Polytechnique MONTREAL, Quebec	Gordon Tuff Prof. A. Thompson Mrs. D. Steiner Johnathan Shanks Prof. Michael Gou Alexander Cazin Francois Korlin Jacelyne Chretien	514	392-4200 392-4796 392-4673 344-4669 344-4769 344-4721 344-4720
Ontario	University of Toronto TORONTO, Ontario University of Western Ontario LONDON, Ontario	Prof. M. Davis Mr. L. Black D. Keen Prof. E. Novak Alan German Zygmund Gorski	416	978-5054 679-3323 679-6565 679-6565
Manitoba	University of Manitoba WINNEPEG, Manitoba	Dr. G. W. Mulligan Carol Sobie Peter Male	204	786 3528
Saskatchewan	University of Saskatchewan SASKATOON, Saskatchewan	Miss. Pat Hamilton	306	343-3171 343-3795
Alberta	Alberta Transportation Motor Vehicle Branch 15220 114th Avenue T5M232 EDMONTON, Alberta		403	427-0936
British Columbia	University of British Columbia VANCOUVER, British Columbia	Dr. Dave Erickson Shirley McGuire	604	228 4753 or 228-6851
Prince Edward Island	Transport Canada OTTAWA, Ontario	Brian Hendrick Ted Richards Mike Bertrand	603	993-9851
Yukon				
Northwest Territories				

Variable Name: Driver License Type Compliance (for this class vehicle)

Format: 1 column - numeric

Beginning  
Column 44

Element Values:

Blank - Driver not present (D09)  
0 Not licensed  
1 No license required for this class vehicle  
2 No valid license for this class vehicle  
3 Valid license for this class vehicle  
9 Unknown

Source: Official driver record and police report. Official driver records take precedence over police reported information.

Remarks.

"Blank" indicates that no driver was present.

Code "0" (Not licensed) should be used only when it has been reasonably established that the driver is not registered (anywhere) and where D26 equals "0". Drivers who have a license but fail to have their license with them at the time of the accident should be coded according to the type of license they possess and the class of vehicle they were driving. Code "0" should not be used in this instance. If the police report indicates that the driver has "no license", the investigator should first determine whether this means that the person was not in possession of his/her license at the time of the accident, or that the driver is not a registered motor vehicle operator. A review of the violations cited section of the police report may yield some clues in this matter. If the person is cited for not possessing his/her license or for not having one, then code this information in variables D22 or D23 (Traffic Violation Charged--Other Violation Charged). If the investigator is uncertain as to whether or not the person possesses a license, then code "9" (Unknown) should be used.

Code "1" (No license required for this class vehicle) means that a license was not required for the vehicle being driven (e.g., mopeds in some states).

D27  
(2)

Variable Name: Driver License Type Compliance (for this class vehicle)  
[Cont'd.]

Code "2" (No valid license for this class vehicle) refers to drivers with a valid license but not for the class of vehicle driven at the time of the accident. As an example, the driver has an "operator's license" when a "public passenger" type license is required. For this driver, "2" should be coded. Another common situation occurs when a separate license is required for a motorcycle. If the driver possesses a valid license for a passenger car but not for the motorcycle, then code "2" should be used if the driver was involved in this accident while driving a motorcycle.

Code "3" (Valid license for this class vehicle) refers to the class of vehicle being driven. Class here is similar to the notion of class D10 (Months driving experience this class of vehicle), except for light trucks and passenger cars which are considered distinct classes in D10, but are considered in the same class of this variable (i.e., a standard operator's license is for a single class of vehicle). As an example, the driver has a "motorcycle" driver's license only and was driving a motorcycle at the time of the accident; code "3" should be used.

Code "9" (Unknown) should be used when the driver has a license but the type or validity are uncertain or if it is unknown whether the driver had a license or not (e.g., hit-and-run).

A cross reference table for coding variables D26 and D27 follows:

Cross Reference Tables for D26 and D27

D26	D27	0	1	2	3	9
0		Y	Y	N	N	N
1		N	Y	Y	N	N
2		N	Y	Y	N	N
3		N	Y	Y	N	N
4		N	Y	Y	N	N
5		N	Y	Y	Y	Y
6		N	Y	Y	Y	Y
7		N	Y	Y	Y	Y
8		N	Y	Y	Y	Y
9		N	Y	N	N	Y

Y - Valid Combination  
N - Invalid Combination

REMINDER D26 - Applies to any license entry in the driver's record  
D27 - Applies to this vehicle only

Variable Name: Driver License Restrictions

Format: 1 column - numeric

Beginning  
Column 45

Element Values

Blank - Driver not present (D09)  
0 No license restrictions  
1 Corrective (or contact) lenses only  
2 Corrective lenses and outside mirror  
3 Corrective lenses and limited to daylight  
4 Corrective lenses and other (specify)  
5 Outside mirror only  
6 Limited to daylight only  
7 Limited to employment only  
8 Other (specify)  
9 Unknown

Source Official driver record and police report (if applicable). Official driver records take precedence over police reported information.

Remarks

"Blank" indicates that no driver was present.

These restrictions which are relevant for any license are ascendingly ordered. If more than one element is applicable, code the lowest numerically-valued restriction on this variable.

Code "0" (No license restrictions) must be coded if D26 (Driver license status) equals "0" (Not licensed).

If a driver had a "learner's permit" [D26 (Driver license status) equals "7"] and was caught driving unaccompanied by a person who holds a valid driver's license for the vehicle type being operated, then do not consider this "failure to be accompanied" as a restriction since it is implied in the definition of a learner's permit. This also applies to any other requirements which are associated with a learner's permit in a particular state (e.g., driving limited to certain time periods)

In distinguishing license requirements from restrictions focus upon whether or not all drivers possessing the type of license are mandated to obey the requirement. If they are, then the requirement is not a restriction, but rather a part of the definition of the license. Restrictions, on the other hand, are requirements specific to individual drivers.

Codes "2" (Corrective lenses and outside mirror) and "3" (Corrective lenses and limited to daylight) are restricted to elements listed. If different or additional restrictions apply, code "8" (Other).

Variable Name. Previous Speeding Convictions

Format 1 column - numeric

Beginning  
Column 46

Element Values

Range 0 through 9

Blank - Driver not present (D09)

8 Eight or more

9 Unknown

Source Official driver record.

Remarks

"Blank" indicates that no driver was present.

Code "9" (Unknown) means that no official records were obtainable, independent of the reason for the record being unobtainable (i.e., record never existed, person never licensed, record not found, or record denied by cognizant state agency)

If the state record does not include the number of previous speeding convictions, then this variable should be coded as "9" (Unknown).

Record the number of speeding convictions (points assessed, license suspensions, etc ) listed on the driver's record for the "previous three years" inclusive from the date of the accident

Variable Name: Previous Other Harmful Moving Violation Convictions

Format 1 column - numeric

Beginning  
Column 47

Element Values:

Range: 0 through 9

Blank - Driver not present (D09)

8 Eight or more

9 Unknown

Source Official driver record

Remarks:

"Blank" indicates that no driver was present.

Code "9" (Unknown) means that no official records were obtainable, independent of the reason for the record being unobtainable (i.e., record never existed, person never licensed, record not found, or record denied by cognizant state agency).

If the state record does not include the number of previous moving violation convictions, then the variable should be coded as "9" (Unknown).

Record the number of moving violation convictions (points assessed, license suspensions, etc.) listed on the driver's record for the "previous three years" inclusive from the date of the accident.

Each team should consult with their state driver records personnel so as to distinguish other moving violations from nonmoving violations (e.g., driving without a license)

All moving violations cited are assumed to be harmful. In other words, disregard the term "harmful".

Variable Name Previous Driving While Intoxicated Convictions (or DUIL)

Format 1 column - numeric

Beginning  
Column +8

Element Values

Range. 0 through 9

Blank - Driver not present (D09)

8 Eight or more

9 Unknown

Source: Official driver record

Remarks

"Blank" indicates that no driver was present.

Code "9" (Unknown) means that no official records were obtainable, independent of the reason for the record being unobtainable (i e., record never existed, person never licensed, record not found, or record denied by cognizant state agency)

If the state record does not include the number of previous driving while intoxicated convictions (or DUIL), then this variable should be coded as "9" (Unknown)

Record the number of driving while intoxicated (or driving under the influence) convictions (points assessed, license suspensions, etc.) listed on the driver's record for the "previous three years" inclusive from the date of the accident.

Variable Name: Previous Recorded Suspensions and Revocations

Format: 1 column - numeric

Beginning  
Column 49

Element Values:

Range: 0 through 9

Blank - Driver not present (D09)

8 Eight or more

9 Unknown

Source: Official driver record.

Remarks:

"Blank" indicates that no driver was present.

Code "9" (Unknown) means that no official records were obtainable, independent of the reason for the record being unobtainable (i.e., record never existed, person never licensed, record not found, or record denied by cognizant state agency).

If the state record does not include the number of previous recorded suspensions and revocations, then this variable should be coded as "9" (Unknown).

Record the number of previous suspensions or revocations of the driver's license the state has listed on the record. The suspension or revocation need not be for a traffic violation (e.g., failure to appear at an accident hearing or failure to provide proof of financial responsibility could be grounds for suspension). Record the number listed for the "previous three years" inclusive from the date of the accident.

Previous is to be distinguished from current suspensions and revocations by the fact that for each previous suspension or revocation the driver's license must have been reinstated. Code each listing of suspension or revocation as a unique occurrence unless evidence to the contrary is clearly indicated. If the state record does not date reinstatements, it should provide an indication of current status. If the current status is "suspended" or "revoked" (or words to that effect) then do not include the last listed suspension or revocation unless it is clearly apparent that the current status is a consequence of the accident and was changed following it.

Variable Name Previous Recorded Suspensions and Revocations

If the state record lists a suspension or revocation which, at the time of the accident, is considered to have been in effect (because evidence to the contrary is not present), and the police report lists the license as suspended or revoked, and the current status is listed as "clear" (or words to that effect), then assume the suspension or revocation was current at the time of the accident and do not count it

Variable Name: Previous Recorded Accidents

Format: 1 column - numeric

Beginning  
Column 50

Element Values:

Range: 0 through 9

Blank - Driver not present (D09)

8 Eight or more

9 Unknown

Source: Official driver record.

Remarks:

"Blank" indicates that no driver was present.

Code "9" (Unknown) means that no official records were obtainable, independent of the reason for the record being unobtainable (i.e., record never existed, person never licensed, record not found, or record denied by cognizant state agency).

If the state record does not include the number of previous recorded accidents, then this variable should be coded as "9" (Unknown).

Record the number of previous accidents listed on the driver's record for the "previous three years" inclusive from the date of the accident.

If the state's driver records do not list previous accidents, then code "9" (Unknown).

Variable Name: Federal Aid System

Format: 1 column - numeric

Beginning  
Column 51

Element Values

- 1 Interstate
- 2 Federal aid primary (other than interstate)
- 3 Federal aid urban
- 4 Federal aid secondary (rural only)
- 5 Nonfederal aid
- 9 Unknown

Source: FHWA required state maps.

Remarks:

The Federal Highway Administration classification obtainable from the State Highway Department must be used. No other classification source is available.

Do not use the police report for selecting this element value

When the road classification cannot be determined from the Federal Aid Classification and Functional Classification maps, contact the nearest FHWA office for their assistance. If FHWA is unable to assist, contact the nearest FARS representative, since NASS is designed to be compatible with FARS on this issue. Refer problems in obtaining the FHWA classification to your Contracting Officer's Technical Representative

Code "1" (Interstate) for on/off ramps that serve an interstate.

A ramp is defined in variable A18, Relation to Junction. Ramps which do not serve an interstate should be classified according to the highest level (lowest numerical) roadway which they connect.

Frontage roads and collector-distributor roads (see ANSI D16.1-1983, sections 2.5.18 and 2.5.19, page 21) are coded as classified on the maps. Frontage roads not classified on the maps should be coded "5" (Nonfederal aid).

Code "5" (Nonfederal aid) includes driveways or alleys when the roadway chosen to be associated with the first harmful event is a driveway or alley

Roadway Type

Federal Aid System (D34), Roadway Function Class (D36)

The contacts for determining roadway types have been established and are listed on the following pages. The procedure used to determine these contacts follows, for information purposes only.

Researchers should write or call the respective State contact to obtain copies of their Federal Aid Classification and Functional Classification maps or information in this regard.

WHERE: To determine the roadway type, the contractor must obtain copies of the Federal Aid Classification and Functional Classification maps which are located in the State Highway Departments--usually in their planning section.

HOW: The easiest, and quickest, way to determine the exact location of these maps is to contact the Federal Highway Administration's Division Planning and Research Engineer located in each State. These individuals would know who in the State Highway Departments to contact in order to obtain copies of the Federal Aid Classification and Functional Classification maps or information.

CAUTION This highway classification is available from individual States only. The coder should not, under any circumstances, attempt to classify a roadway without examining the Federal Aid Classification and Functional Classification maps.

Contacts for Determining Roadway Type  
Federal Aid System (D34), Roadway Function Class (D36)

U.S. DOT

Federal Highway Administration  
Planning & Research Engineer

State Contact

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Federal Highway Administration  
Planning & Research Engineer

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## U.S. DOT

Sub/D34

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Variable Name: Class Trafficway

Format: 1 column - numeric

Beginning  
Column

Element Values:

- 1 Interstate
- 2 U.S. highway
- 3 State highway
- 4 County road
- Local street
- 5 Township
- 6 Municipality
- 8 Other
- 9 Unknown

Source: Researcher determined--based on definitions and scene inspection. Road signage is one of the primary inputs in the assignment of the correct attribute.

Remarks:

For a roadway to qualify as a NASS roadway in addition to meeting the definitions spelled out in Figure 2-5, page 14 (transport way, land way, trafficway, roadway--ANSI D16.1-1983, sections 2.1.5, 2.1.11, 2.2.1, and 2.2.17 respectively), the Agency (city, county, or state) responsible for maintaining the roadway must designate it at least as "open to local or through traffic". This means that accidents which occur in association with a roadway (or one of its lanes) that is unopen are not NASS accidents unless they occur in the junction of a roadway that is open and upon which an involved vehicle was travelling. If the roadway is being built or under construction (repair or maintenance) then the first harmful event must have been associated with that portion of the roadway designated as open. If the maintenance agency has designated the roadway as open then the condition (paved, gravel, etc.) of the road surface is not considered. If the roadway is being built, code the roadway according to its eventual classification.

Variable Name: Class Trafficway (cont'd.)

If the road is serving as a DETOUR, then disregard temporary signage and code the roadway according to its permanent classification. In urban areas, even interstate roads most closely resemble local streets. If a roadway is permanently signed (at the time of the accident) as an interstate, U.S. highway or State highway, then code it accordingly. When a roadway is part of more than one class (e.g., section contains both state and U.S. signage), code its higher (lower numerically) class. Regarding interstates, white-on-green interstate business loop signs and informational signs and are to be ignored for classification purposes.

Definitions.

Interstate system ("1") is any trafficway within the national system for interstate and defense trafficways.

U.S. highway ("2") is any numbered trafficway within the U.S. trafficway system, excluding interstate trafficways.

State highway ("3") is any numbered trafficway within the state trafficway system.

County road ("4") is any trafficway within a county trafficway system that does not fall within the interstate, U.S. highway, or state highway systems.

Township ("5") is any trafficway within a township trafficway system that does not fall within the interstate, U.S. highway, state highway, or county road system.

Municipality ("6") is any trafficway within a city trafficway system that does not fall within the interstate, U.S. highway, state highway, or county road system.

Other road ("8") includes any alley or driveway.

Township and municipality as used above is defined or designated by state and/or local authorities.

Variable Name: Roadway Function Class

Format: 2 column - numeric

Beginning  
Column 53

Element Values:

Rural

- 01 Principal arterial-interstate
- 02 Principal arterial-other
- 03 Minor arterial
- 04 Major arterial
- 05 Minor collector
- 06 Local road or street
- 09 Unknown rural

Urban

- 11 Principal arterial-interstate
- 12 Principal arterial-other freeways or expressways
- 13 Other principal arterial
- 14 Minor arterial
- 15 Collector
- 16 Local road or street
- 19 Unknown urban

99 Unknown

Source: FHWA required state maps. Do not use the police report for selecting this element value.

Remarks:

The Federal Highway Administration has established a roadway functional system classification scheme. The Functional Classification maps are obtainable only from the State Highway Department. Use the same contact that was used in obtaining your Federal Aid Classification maps.

FHWA has established a hierarchy of roadway functional systems. The basic functional systems are: (1) rural areas, (2) urbanized areas, and small urban areas (under 50,000 in population).

## Variable Name: Roadway Function Class (cont'd.)

When the road classification cannot be determined from the functional classification map(s), contact the nearest FHWA office for their assistance. The nearest FARS representative may also be able to assist with problems. Refer problems in obtaining the FHWA classification to your Contracting Officer's Technical Representative.

Code "01" or "11" (Principal arterial-interstate) for on/off ramps that serve an interstate.

A ramp is defined in variable A18, Relation to Junction. Ramps which do not serve an interstate should be classified according to the highest categorial level (lowest numerical) roadway, within the functional system, which they connect. For example, a ramp which connects a local road to a minor arterial road (rural area) would be coded as "03" (Minor arterial).

Frontage roads and collector-distributor roads (see ANSI D16.1-1983, sections 2.5.18 and 2.5.19, page 21) are coded as classified on the maps. Frontage roads not classified on the maps should be coded "06" or "16" (Local road or street).

Codes "06" and "16" (Local road or street) includes driveways or alley when the roadway chosen to be associated with the first harmful event is a driveway or alley.

Code "09" (Unknown rural) when the roadway is known to be in a rural area but the classification is unknown.

Code "19" (Unknown urban) when the roadway is known to be in an urban area but the classification is unknown.

Variable Name: Number of Travel Lanes

Format: 1 column - numeric

Beginning  
Column 55

Element Values:

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

Source: Primary source is scene inspection; secondary sources include the police report and the driver interview.

Remarks:

If the collision occurred other than in a junction, code the value on the basis of the most representative description of this driver's roadway leading to the location of this vehicle's first harmful event.

If the first harmful event occurs off the roadway, code the value on the basis of the most representative description of the roadway leading to the point of departure.

If the first harmful event is located in the junction of two or more roadways, code the number of lanes 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.

If traffic flows in both directions and is undivided, code the number of lanes in both directions. If the trafficway is divided into two or more roadways, code only the number of lanes for the roadway on which the vehicle under consideration was traveling.

If turn bays, acceleration, deceleration, or two-way left turn lanes exist and are physically located within the cross section of the roadway where the first harmful event occurred, and these lanes are the most representative of the driver's environment just prior to the impact, then they are to be included in the number of lanes. Channelized lanes, by their definition (see ANSI D16.1-1983, section 2.5.13), are separated from the through or turn related lanes. (NOTE: This separation

Variable Name: Number of Travel Lanes (cont'd.)

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 includes any of which are narrowed or rendered unusable by restriction of the right-of-way cited in variable D54 (Restriction of Roadway at Scene).

Only those lanes ordinarily used for motor vehicle travel should be considered when coding 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 coded 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, widemouth parking lots, etc. should be coded as follows: If it is possible to determine the number of lanes through either lane markings or observed or customary use, code the actual number of lanes present. If the number of lanes cannot be accurately established, use code "9" (unknown).

If the vehicle was on a channel or an entrance or exit ramp (A18, Relation to Junction, codes "07", "10" and "11" respectively), code the number of lanes for that roadway section (also see D39, Median type, remarks).

If the vehicle was on a driveway or in a crossover (see A18, Relation to Junction, definitions for codes "12" and "14") which is in essence a private way (ANSI D16.1-1983, section 2.2.2, page 6), code the number of lanes for that vehicle.

Variable Name: Lane Width

Format: 3 columns - numeric

Beginning  
Column 56

Element Values.

Range 03.0 - 30.0; 99.9

Code actual measured value to nearest tenth of a foot  
300 Thirty feet or greater  
999 Unknown

Source: Scene inspection.

Remarks:

The attribute is determined from the same roadway which was used to determine the number of travel lanes.

The lane that the driver was in just prior to the first harmful event should be measured. If this lane was in transition (varying width) then code the width of the last full lane the driver was in.

Lanes are measured from the center of the edgeline (lane line) to the center of the center line (lane line) or from the edge of the roadway to the center of the roadway if lines are not present.

When measuring lane widths which require allowing for unknown parking lane width, use the following procedure:

- a) With no delineation on the roadway, measure the road width, deduct 7 feet for each unknown parking lane width, and divide the result by the number of through lanes.
- b) Where lane/center lines exist, measure from the road edge to the first delineation line, deduct 7 feet for the unknown parking lane width, and divide the result by the number of through lanes up to the delineation.

Code "300" (30.0 feet) is used whenever the actual lane width is equal to or greater than thirty feet.

Lane widths for wide driveways are derived from the total width divided by the known number of lanes. If the number of lanes is unknown, code "999" (Unknown)

Variable Name Median Type

Format 1 column - numeric

Beginning  
Column 59

#### Element Values

- 0 No median
- 1 Curbed with positive barrier
- 2 Positive barrier
- 3 Curbed
- 4 Unprotected
- 9 Unknown

Source Primary source is scene inspection secondary sources include the police report and the driver interview

#### Remarks

The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

Two-way left turn lanes do not divide a trafficway.

Physical division of roadways (e.g., concrete traffic barrier) overrides simple lateral division (e.g., grass median). Codes are prioritized in decreasing numerical values. Code "1" takes precedence over "2", "2" over "3", and "3" over "4".

In order to code this variable the researcher must first determine if the trafficway was divided at the point of assessment. A trafficway may be divided into two or more roadways. Any intentional separation (see exception below) of travel lanes, either opposing or lanes in the same direction, constitutes a division of a trafficway. Separations can be composed of physical barriers in addition to lateral distance. Further definitions help to describe medians.

Variable Name: Median Type (cont'd )

1. Medians provide an insulating area between streams of moving traffic
2. Medians provide protection and control of cross and turning traffic
3. Medians provide a refuge for pedestrians

Medians and gores (see Remarks section for A14, Relation to Roadway, for definitions) separate roadways. A traffic island (associated with a channel) separates travel lanes but does not constitute a division of a trafficway because the associated channelized lane(s) is (are) not considered to be a separate roadway.

Entrance and exit ramps (see remarks section for A18, Relation to Junction, codes "10" and "11" for definition) are considered separate (unique) roadways. Therefore, even though they are divided from their primary roadway [i.e. the one used for Federal Aid System (D34) classification purposes], their division is assessed independently. Ramps are not considered divided unless two ramps exist adjacent separated by a median (with or without a physical barrier). A ramp can divide into two ramps. A gore separates the ramps. The gore does not constitute a division.

Multiple medians could be present. If they are not, then this variable reports about the median that is present. If more than one is present and the first harmful event occurred in median (code "3" for A14 Relation to Roadway), then this variable reports about the median involved in the first harmful event. If more than one is present and the first harmful event did not occur in a median, then this variable reports about the first median laterally to the left (with respect to normal traffic flow) from the first harmful event.

Code "0" (No median) if no medians are present independent of the presence of a gore or traffic island. Variable D40 Median Width, must equal "00" (No median), and variable D42 Trafficway Flow, must equal either "0" [Not physically divided (two way traffic)] or "3" (One way trafficway).

Code "2" (Positive barrier) refers to all concrete or other types of longitudinal barriers (i.e., all manufactured barriers). Also, bridge or underpass supporting structures and bridge rails take this code.

Code "4" (Unprotected) includes any vegetation, gravel, or paved flush-painted or unpainted--medians.

Vegetation or gravel median includes trees, water, embankments, and ravines that separate a trafficway (i.e., nonmanufactured barrier).

Variable Name: Median Width

Format: 2 columns - numeric

Beginning  
Column: 60

Element Values:

Code: actual measured value up to 96 feet

00: No median

97: 96.5 feet and above

99: Unknown

Source: Primary source is scene inspection, secondary sources include the police report and the driver interview

Remarks:

The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

Code "00" (No median) if no median (code "0") was coded for D39, Median Type

Medians are measured to the nearest foot from the center of roadway edge line to edge line, where present, or roadway edge (best estimate) to roadway edge, where edge lines are absent. Inside shoulders are thus included since the shoulder (for NASS purposes) may be a variety of surface types and its exact width difficult to determine.

Code "01" (1 foot) includes all distances less than 1.5 feet

In some instances estimation may be required because of physical difficulties in taking the measurement at the appropriate location. The investigator should always attempt to obtain as good an approximation as possible. In some cases a point nearby can be used, other times the measurement may have to be made at a substantial distance (e.g., location of first harmful event is on a bridge spanning a river).

If the width varies substantially in the area that fits the most representative description, then multiple measurements and averaging are required.

Variable Name: Median Width (cont'd.)

A painted flush median can be described as solid painted lines spaced apart with the intent to divide a trafficway into two or more roadways. The intent to divide means to purposely create a safety zone between streams of traffic.

Variable Name: Access Control

Format 1 column - numeric

Beginning  
Column 52

Element Values:

- 1 Full
- 2 Partial
- 3 Uncontrolled
- 9 Unknown

Source Primary source is scene inspection; secondary sources include the police report and the driver interview

Remarks

The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event. If the roadway is an entrance or exit ramp, ANSI (D16.1-1983, section 3.8.3.4, page 35) requires that the ramp be coded (full, partial, or uncontrolled) the same as the roadway of the higher (lower numerically) Federal Aid System classification (D34) which it connects. Determine which of the connected roadways is higher [if they are same (D34), then choose the one that led to the ramp] and determine the value for this variable at the general area where the ramp connects with the roadway.

Code "1" (Full) refers to those situations where the authority to control access is exercised to give preference to through traffic by providing access connections with selected public roads only, by prohibiting crossings at-grade, or by prohibiting direct driveway connections.

Code "2" (Partial) refers to those situations where the authority to control access is exercised to give preference to through traffic to a degree that, in addition to access connections with selected public roads, there may be some crossings at-grade and some private driveway connections.

Code "3" (Uncontrolled) refers to those situations where the authority having jurisdiction over a highway, street, or road, does not limit the number of points of ingress or egress except through the exercise of control over the placement and geometrics of connections as necessary for the safety of the traveling public.

Variable Name: Access Control (cont'd.)

In summary, consider the roadway section which was chosen for the reporting of the Number of Travel Lanes, D34. If there are no at-grade crossings, then code "1". If at-grade crossings exist but there is an indication that a limiting of access is taking place, then code "2". If no indication of access limiting can be found, then code "3". If a decision cannot be made, code "9".

Variable Name: Trafficway Flow

Format: 1 column - numeric

Beginning  
Column 63

Element Values

- 0 Not physically divided (two way traffic)
- 1 Divided trafficway - median strip without positive barrier
- 2 Divided trafficway - median strip with positive barrier
- 3 One way trafficway
- 9 Unknown

Source Primary source is scene inspection, secondary sources include the police report and the driver interview.

Remarks:

The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

Code "0" [Not physically divided (two way traffic)] can only be used whenever D39, Median Type, is coded "0" (No median). Remember, although gores separate roadways and traffic islands (associated with channels) separate travel lanes, neither is involved in the determination of trafficway division (see remarks section for D39, Median Type).

Code "1" (Divided trafficway - median strip without positive barrier) and "2" (Divided trafficway - median strip with positive barrier) most likely will be used whenever a trafficway division is reported [i.e., D39 (Median type), equal "1" (Curbed with positive barrier), "2" (Positive barrier), "3" (Curbed), or "4" (Unprotected)]. It is presumed that the traffic travels in but one direction on the roadway associated with the location of the first harmful event. If multiple medians are present, choose the first median encountered laterally to the left (with respect to the normal traffic flow) from the first harmful event. A traffic barrier is any positive barrier (see codes "1" and "2" for D39, Median type). If the median has a barrier code "2"; otherwise, code "1" should be used.

Variable Name: Trafficway Flow (cont'd.)

Code "3" (One way trafficway) is used primarily whenever the trafficway is undivided [code "0" (No median) for D39, Median Type] and traffic flows in but one direction (e.g., one-way streets). However, this code can also be used 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 code "3" (One way trafficway) should be used.

D43

D44

Variable Name: Shoulder Type - Left  
Shoulder Type - Right

Format: 1 column - numeric

Beginning

Column €4

€5

#### Element Values.

- 0 No shoulder
- 1 Surfaced 2-6 ft.
- 2 Surfaced > 6 ft.
- 3 Gravel or other granular material 2-6 ft
- 4 Gravel or other granular material > 6 ft
- 5 Natural earth, with or without turf 2-6 ft
- 6 Natural earth, with or without turf > 6 ft
- 9 Unknown

Source Primary source is scene inspection; secondary sources include the police report and the driver interview.

#### Remarks

The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

Consider the same lanes which were used to determine the Number of Travel Lanes (D37) and report the presence of shoulders for those same lanes at, and lateral to, the location of this vehicle's first harmful event, unless at a junction. In the case of a first harmful event located within a junction, select the element value based on the leg of the roadway that this vehicle was traveling on prior to its entrance into the junction.

A shoulder is defined as that part of a trafficway (1) contiguous with the roadway for emergency use, (2) for accommodation of stopped road vehicles, and (3) for lateral support of the roadway structure (see ANSI D16 1-1983, section 2.2.18, page 9)

Shoulders are not measured (i.e., code "no shoulders") where curbs are present except where (1) the curb was designed as a mountable curb (examples "c" through "h" in the Special Studies manual) and (2) the surface outside the curb has been paved (concrete or bituminous), and (3) the paved surface outside was not intended for pedestrian travel. The shoulder can extend no further than the paved surface extends.

D43  
D44  
(2)

Variable Name: Shoulder Type - Left (cont'd.)  
Shoulder Type - Right (cont'd.)

Contiguous surfaces fall into two categories--stabilized and unstabilized. Stabilized means that: (1) the surface was paved with a portland cement concrete or bituminous coarse surface on a granular or improved base, or (2) the earth has been covered with a gravel or other granular material. Unstabilized means that the surface is composed of natural earth, with or without turf.

Accommodation means that at least a minimum of two (2) feet of area contiguous to the roadway is provided. In other words, the entire width of the vehicle under consideration does not have to fit on the contiguous area to qualify the area as a shoulder. If edge lines are present when you measure the lateral distance, measure from the center of the edge line.

In order to provide lateral support to the roadway, the shoulder's surface condition does not have to be stabilized. If the shoulder surface has separated (i.e., eroded away) to expose the base of the roadway, creating an unsafe departure for vehicles, then the lateral support criterion is not met. However, it must be emphasized that the "base" must be exposed. Pavement lips or cracking along the edge of the roadway surface do not by themselves constitute a lacking of lateral support.

The area is a shoulder if it is contiguous to the roadway, provides lateral support to the roadway, and is two feet or greater in width. A raised traffic island at the mouth of a roadway should be considered like a barrier curb on the road edge and thus not a shoulder. A designated parking lane should not be considered a shoulder for NASS purposes. On the other hand, a painted flush island or a paved median between two edgelines should be considered a shoulder. If the traffic island is the most representative description of the driver's environment just prior to impact, then select the appropriate response.

On these variables, the investigator should identify not only the presence (codes "1" through "6") of a shoulder, but also its type. Using the definitions above, code the attribute which best describes the shoulder type. Surfaced stabilized areas (codes "1" and "2") take precedence over gravel or granular stabilized areas (codes "3" and "4") and over unstabilized areas (codes "5" and "6"). For areas of the same type, but different surfaces within that type, add the widths of the surfaces together [e.g., 3 ft. turf and 5 ft ground equals 8 ft. of "Natural earth, with or without turf" (code "6")]. For example, an area composed of a 3 foot wide gravel stabilized area followed by an additional 5 feet of unstabilized area, would be coded "3" (Gravel or other granular material 2-6 ft.). On the other hand, an area composed of 3 feet of bituminous coarse surface followed by an additional 5 feet of gravel would be coded as "1" (Surfaced 2-6 ft.) Likewise, 3 feet of concrete followed by 2 feet of gravel and 4 feet of grass is coded as "1" (Surfaced

D47  
D46  
(3)

Variable Name. Shoulder Type - Left (cont'd.)  
Shoulder Type - Right (cont'd.)

2-6 ft.) Further, a 1 foot wide granular area adjacent to 7 feet of grass-covered earth is coded "6" (Natural earth, with or without turf > 6 ft) since a minimum of two feet of granular area was not present. Finally, 1 and 1/2 feet of concrete between the roadway and a guardrail would be coded as "0" (No shoulder) since the accommodation criterion is not satisfied.

Designated parking is any parking defined and/or implied by parking meters, lane lines, and/or parking signs. No shoulder is coded ("0") adjacent to a designated parking lane. Shoulders are eligible for coding adjacent to implicit parking areas.

Code "0" (No shoulder) for any private way (ANSI D16 1-1983, section 2 2 2, page 6) that only becomes a NASS roadway because the accident is coded as driveway, alley access related (code "12") on A18, Relation to Junction [see Remarks A18, continuation page (13)]

Shoulders are still present even if not usable at the time of the accident due to ambient conditions such as plowed snow, parked vehicles, etc.

Pedestrian/bicycle lanes which exist between the roadway and improved shoulder, or outside but contiguous with the improved shoulder should be considered as extra shoulder width. Pedestrian/bicycle lanes which exist contiguous with the roadway and bounded on the outside edge (i.e., curb, ditch, etc.) should not be considered a shoulder.

Variable Name    Roadway Alignment

Format:    1 column - numeric

Beginning  
Column        66

Element Values.

- 1    Straight
- 2    Curve right
- 3    Curve left
- 9    Unknown

Source:    Primary source is scene inspection; secondary sources include the police report and the driver interview.

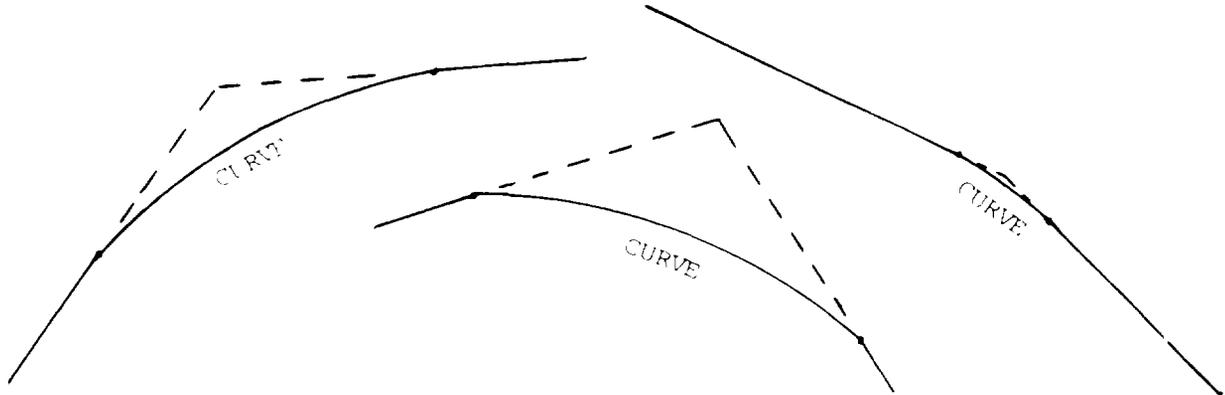
Remarks:

The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

Variable Name Roadway Alignment (cont'd )

Code "1" (Straight) refers to a horizontal surface which is tangent

Code "2" (Curve right) and "3" (Curve left) refer to a horizontal surface in transition between two points of tangency as in the examples below. The vehicle's direction of travel determines whether the curvature is right or left.



Any perceptually-determined curvature between two tangent sections of a roadway constitutes a curve.

Variable Name Cross Slope

Format: 1 column - numeric

Beginning  
Column 67

Element Values

- 1 Flat
- 2 Normal crown
- 3 Superelevation
- 4 Negative superelevation
- 8 Other (specify)
- 9 Unknown

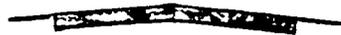
Source Scene inspection

Remarks

Identify and record the roadway cross slope at the same location used to identify number of travel lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

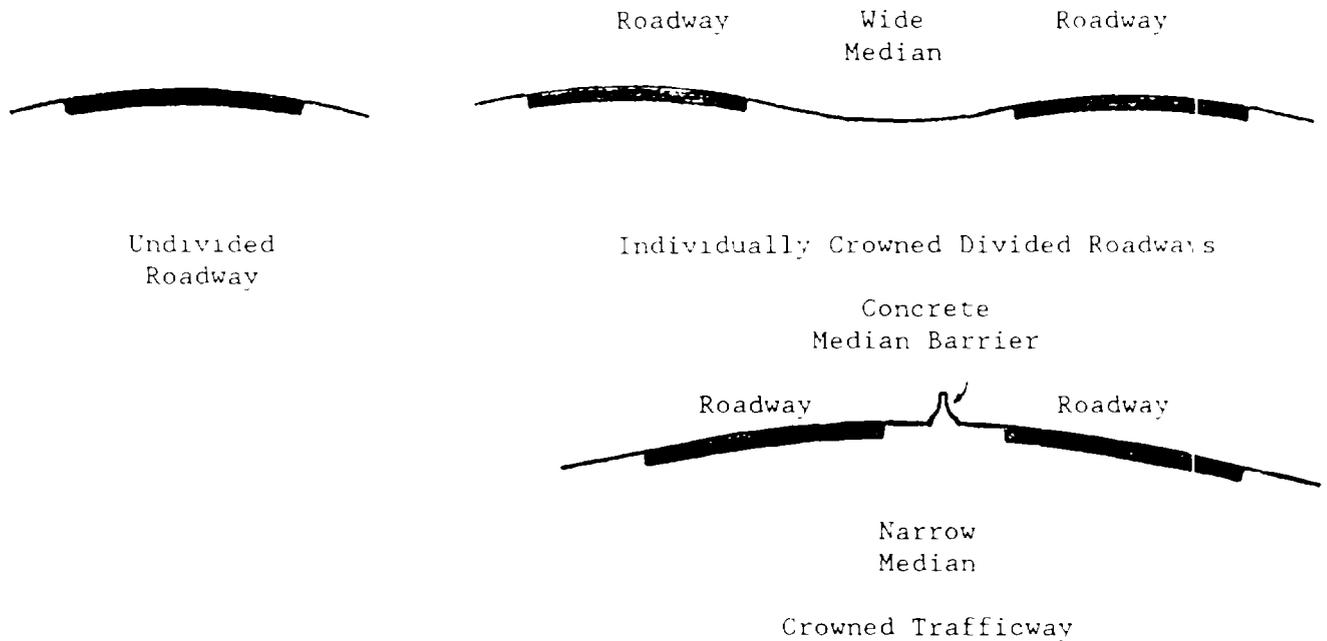


Code 1 (Flat) for roadway with a flat (level) cross-section. A flat cross-section is generally undesirable since water would not be drained from the pavement surface resulting in standing water which may cause the hazardous condition of hydroplaning.



Roadway cross-section on tangent (straight) sections is normally crowned (Code 2) so that the centerline of the roadway is raised above its edges to facilitate drainage of water away from the pavement surface to avoid any standing water. On divided roadways with wide medians, each roadway is usually individually crowned. However, on divided roadways with narrow flat medians or with concrete median barriers, the entire traffic-way is crowned so that water will be drained away from the center of the median. The three situations discussed above are illustrated in the following diagrams.

Variable Name Cross Slope (cont'd )



When a normal crown is provided in a curve, code "2" (Normal crown)



Roadway cross-section on curve sections is normally superelevated or banked (code 3) so that the elevation of the outside of the curve is higher than that of the inside. A vehicle traversing a curve is subjected to centrifugal force which tends to cause the vehicle to skid outward away from the center of the curve. By raising the edge of the roadway on the outside of the curve to an elevation higher than that on the inside of the curve, the gravitational force acting on the vehicle tends to pull the vehicle toward the center of the curve and thus counteracts the centrifugal force. A tangent (straight) section of a roadway which is superelevated must be coded 8.

A right-hand curve should be banked to the right so that the elevation of the left roadway edge (outside of curve) is higher than that of the right edge (inside of curve). Similarly, a left-hand curve should be banked to the left so that the elevation of the right roadway edge (outside of curve) is higher than that of the left edge (inside of the curve).

Variable Name: Cross Slope (cont'd.)



Outside of  
Curve

Negative superelevation (the elevation on the outside of the curve is lower than that on the inside of the curve) should be coded "4". Straight sections of roadway which are superelevated must be coded "8" and never coded "4".

Variable Name    Superlevation

Format    3 columns    numeric

Beginning  
Column    68

Element Values

+00    Normal crown/flat  
 ±    Code actual value to the nearest hundredth  
 \_98    Not a curve  
 \_99    Unknown

Source    Scene inspection

Remarks

Compute the superlevation of the roadway at the same location used to identify number of travel lanes (D37) (See variable D49 for measurement procedure). The investigator selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event. Only superlevation for curved sections of roadway will be calculated for this variable. Take the measurement at the outside edge of the curve. Code the calculated value to the nearest hundredth. A positive value should be coded for a superlevation while a negative value should be coded for a negative superlevation.

Code "00" (Normal crown/flat) should be coded for a curve section when this section is not superelevated or negative superelevated. Also, use this code for any calculated value that does not round up to at least .01.

Code "98" (Not a curve) should be coded for all straight sections of the roadway regardless of cross-slope.

Variable Name: Degree of Curvature

Format: 3 columns - numeric

Beginning  
Column 71

Element Values:

Range 000-999

000 Not curved - straight

\_\_\_ Code calculated value to nearest degree

997 99.65 degrees or more

999 Unknown

Length of Chord: \_\_\_\_\_ ft.  
Middle Ordinate: \_\_\_\_\_ in.

Source: Scene inspection.

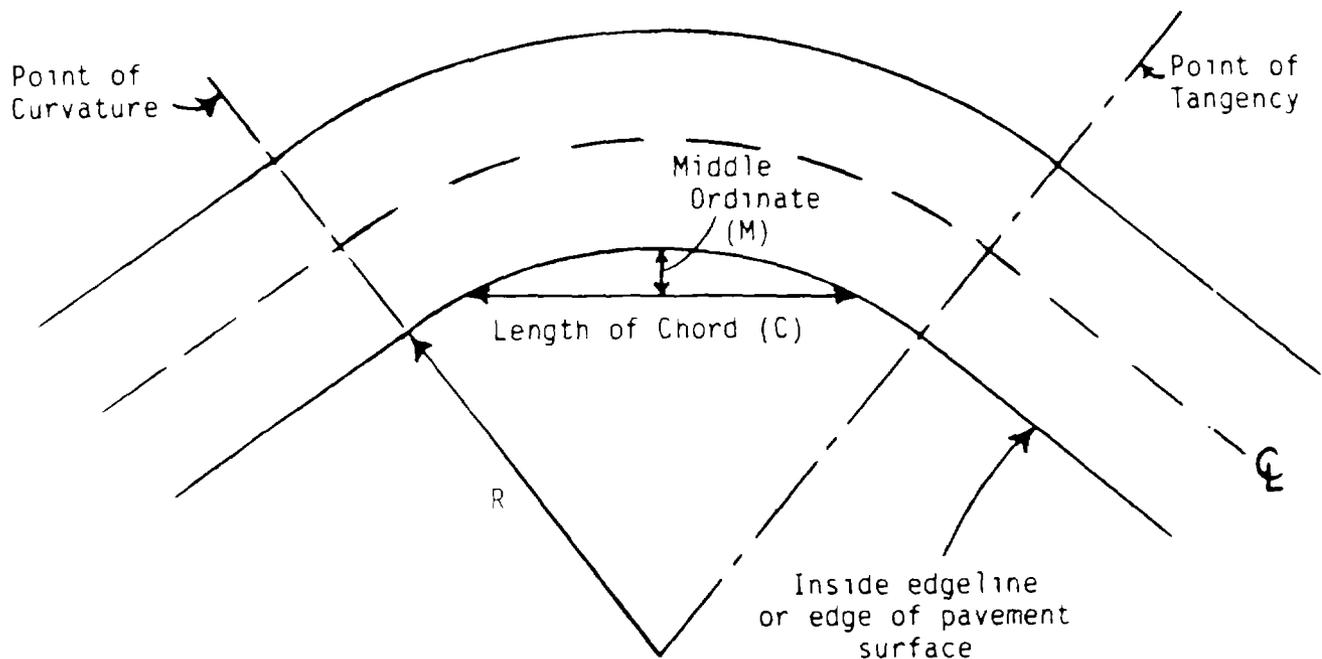
Remarks:

The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

For field determination of the degree of curvature, a chord middle-ordinate approach is used. First stretch a 50 ft. or 100 ft. tape measure on the center of the inside edgeline, or the inside edge of the pavement surface if no edgeline is present, as illustrated in the following diagram. The inside of the curve is used for obvious safety reasons although this would introduce a slight error since the degree of curvature applies to the centerline or the center of the through lanes. However, the error is generally small compared to the radius of the curve and the approximation is considered sufficient. Record the length of the chord (C) in feet onto the field form. The chord length must either be 50 ft. or 100 ft. to be compatible with the following equations.

This variable is coded to the nearest degree. These instructions supersede instructions on the data forms.

Variable Name Degree of Curvature (cont'd )



Measure the distance  $(M)$  to the nearest tenth of an inch from the midpoint of the 50 ft (i.e., at 25 feet) or 100 ft. (i.e., at 50 feet) tape to the inside edgeline or the inside edge of the pavement surface. Record the middle ordinate  $(M)$  measurement onto the field form.

To calculate the degree of curvature multiply the Middle Ordinate by one of the following equations:

For a 100 ft chord

$$D = 0.382M$$

For a 50 ft chord

$$D = 1.528M$$

$M$  = Middle Ordinate in inches

$D$  = the degree of curvature

Since 50 and 100 foot chords cannot always be used, use the modified version of the 100 foot Formula below for all other chord lengths:

For a chord of " $x$ " feet

$$D = 0.382 * M * \left[ \frac{100}{x} \right]^2$$

The additional factor is computed by taking 100 feet and dividing it by the length of the chord used (" $x$ " in feet) and then squaring this product.

Variable Name: Grade Measurement

Format: 3 columns - numeric

Beginning  
Column 74

Element Values:

+00 No grade - level  
+ \_\_\_ Code actual value to the nearest hundredth  
\_99 Unknown

Grade  
Measurement: (please write the resultant  
percentage in this space on  
the driver form.)

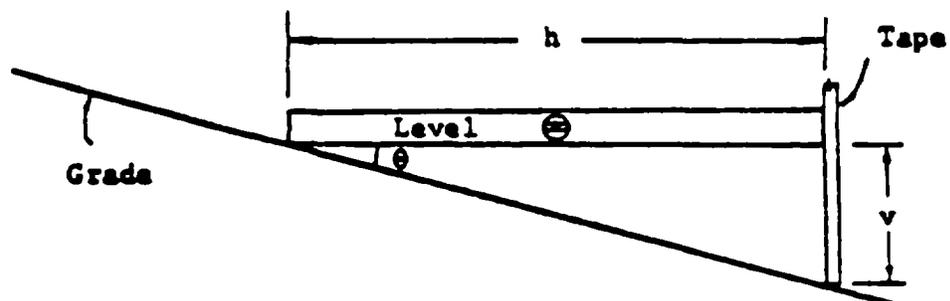
(V = \_\_\_\_\_)/(h = \_\_\_\_\_)

Source: Scene inspection.

Remarks:

The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

The grade measurement, horizontal (level) distance and vertical (perpendicular) distance must be measured and recorded in the spaces provided on the CSS forms.



If a sag is encoded for variable D50, the maximum percent downgrade should be recorded to the nearest hundredth in this variable. Conversely for a hillcrest, the maximum percent upgrade should be encoded.

Variable Name Roadway Profile

Format 1 column numeric

Beginning

Element Values

- 1 Level  
(Grade  $\pm$  2%)
- 3 Hillcrest
- 4 Sag
- 6 Unknown

Source Primary source is scene inspection secondary sources include police report and driver interviews

Remarks

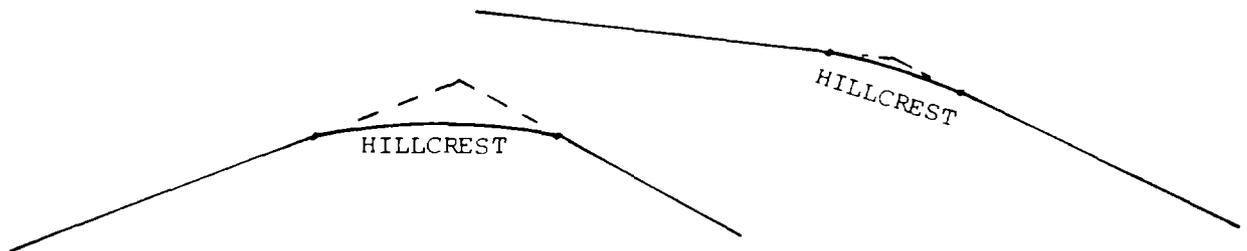
The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

Variable Name: Roadway Profile (cont'd.)

Code "1" (Level) refers to a tangent surface whose gradient is  $< 2\%$ .

Code "2" [Grade ( $\geq 2\%$ )] refers to a tangent surface whose gradient is  $\geq 2$  percent.

Code "3" (Hillcrest) refers to a surface in vertical transition between two points of tangency as in the following examples:



Code "4" (Sag) refers to a surface in vertical transition between two points of tangency as in the following examples:

Variable Name Roadway Surface Type

Format 1 column - numeric

Beginning  
Column

Element Values

- 1 Concrete
- 2 Bituminous (asphalt)
- 3 Brick or block
- 4 Slag, gravel or stone
- 5 Dirt
- 8 Other (specify)
- 9 Unknown

Source Primary source is scene inspection; secondary sources include the police report and driver interview.

Remarks

The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

If the lateral cross section contains lanes of more than one surface type, code the surface type of the lane the driver's vehicle was traveling on prior to impact.

Variable Name: Roadway Surface Condition

Format: 1 column - numeric

Beginning  
Column 79

Element Values:

- 1 Dry
- 2 Wet
- 3 Snow or slush
- 4 Ice
- 5 Sand, dirt or oil
- 8 Other (specify)
- 9 Unknown

Source: Primary sources are the police report and the driver interview, a secondary source is the scene inspection.

Remarks:

The element value selected is based on the location which the researcher determines best represents the driver's pre-crash environment. In determining the surface condition, the researcher should use police reports, interviews and observation of the site; do not report the conditions which are observed several days following the accident unless they are felt to be the same as those at the time of the accident.

Consider the same lanes which were used to determine the Number of Travel Lanes (D37) and report the surface condition for those lanes.

It is possible for different surface conditions to exist on the same roadway (e.g., intermittent wet and dry sections). The researcher should consider, but not necessarily be restricted by, the information on the police report for making this assessment. The Driver Form (for the vehicle which was on the above travel lanes) should also be consulted. Although it may be difficult to ascertain the surface condition for a particular section, the researcher should attempt to obtain a value which is most representative of the condition for those lanes.

If sand, dirt or oil (code "5") occurs in combination with moisture (codes "2", "3", or "4"), code the moisture condition. Code "5" only if the road was otherwise dry.

Asphalt will "bleed". If, in the opinion of the researcher, the bleeding was such as to constitute a road surface detriment, then code "8" (Other). On the other hand, bleeding which is intermittent and insignificant, in terms of area, should be coded as "1" (Dry). If moisture occurs with the bleeding, code "2" (Wet) should be used.

Variable Name Speed Limit

Format 2 columns - numeric

Beginning  
Column 80

#### Element Values

Range 00 through 95

00 No statutory limit

Code actual posted or statutory speed limit in m p h

99 Unknown

Source Primary sources are scene inspection or statutory law Do not use  
the police report for selecting this variable's value

#### Remarks

The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

Disregard advisory or other speed signs which do not indicate the legal speed limit. Furthermore, do not confuse advisory signs on entrance/exit ramps or near intersections with the actual legal maximum speed limit.

If no speed limit sign is posted within a "reasonable" distance from the location of the first harmful event along the approach leg of the vehicle for which D37 (Number of Travel Lanes) was selected, the investigator should reference state statutes to obtain the applicable statutory maximum for the scene (local or state).

If a state has a statute that uniformly reduces the maximum allowable speed within or near a construction zone, then code the indicated reduced limit.

Code "00" (No statutory limit) should be used on roadways which are neither posted nor which have a statutory limit (e.g., parking lot roadways or entrance/exits, service station entrance/exits, or driveways, etc.).

Variable Name Restriction of Roadway at Scene  
(The restriction must have existed prior to this accident.)

Format: 1 column - numeric

Beginning  
Column 82

#### Element Values

- 0 No restrictions
- 1 Narrow bridge (as defined)
- 2 Previous accident on roadway
- 3 Maintenance, repair or construction activity on roadway
- 4 Roadway immersion (e g , standing water)
- 5 Vehicle stopped on roadway
- 6 Snow
- 8 Other roadway obstruction (specify)
- 9 Unknown

Source Primary source is scene inspection; secondary sources include the police report and driver interviews

#### Remarks

The element value selected is not restricted to the location of the first harmful event. The intent of this variable is to identify pre-crash conditions which abnormally reduce the width of the travel lanes available to this driver in the accident from the width ordinarily expected.

Element values "1" through "6", and "8" may be coded if the researcher feels any of them are in some way related to the accident as determined from the police report, driver interviews, witnesses, or scene inspection. The researcher should proceed through the list in numerically descending order and code the first element felt to have existed. For example, if both "1" (Narrow bridge) and "2" (Previous accident on roadway) existed, code "1".

Code "1" (Narrow bridge) refers to a bridge which satisfies any part of the criteria as follows:

- (1) has only one lane which is 18 feet or less in width,
- (2) has two lanes which, together, are 24 feet or less in width, or
- (3) the total approach width, as measured from the outside edge of the shoulders, is greater than the total bridge width, as measured from curb-to-curb or parapet-to-parapet.

Code "3" (Maintenance, repair or construction activity on roadway) includes those segments of a divided trafficway where the traffic in one direction is diverted onto the roadway of the opposing direction due to

## Variable Name    Restriction of Roadway at Scene (cont'd)

maintenance, repair, or construction activity that has temporarily closed one of the roadways. The segment begins where the roadway associated with the first harmful event is first narrowed due to physical barriers and ends when the same roadway resumes normal travel condition.

Code "4" (Roadway immersion) refers to standing or flowing water which reduces the normal width of travel lanes. It is not necessary for the complete width of the lanes to be immersed.

Code "5" (Vehicle stopped on roadway) refers to police or repair vehicles stopped in travel lanes, waiting taxi vehicles parked in roadway, etc. It excludes vehicles in the routine process of pulling into or out of parking lanes which temporarily narrow or restrict the roadway.

Code "6" (Snow) refers to any amount of snow which reduces the width of the travel lane. Includes deep snow, snowdrifts, snowbanks, and instances when a motorist refuses to drive through portions of a lane with smaller amounts of snow which consequently reduces the width.

Code "8" (Other roadway obstruction) refers to other restrictions such as fallen rocks, objects, cargo, mud slides, etc.

Code "8" (other roadway obstruction) when an abutment results in a reduction of the width of the travel lanes and the existence of the narrow underpass is related to the accident.

This variable (D54) is oriented toward permanent or transitory fixed objects. Therefore, it excludes temporary restrictions to specific sections of the road (e.g., extra-wide load pulled by tractor in motion). Should the above mentioned vehicle be stopped on the roadway, it would then be considered a restriction of the right-of-way.

Variable Name: Traffic Control Device

Format: 2 columns - numeric

Beginning  
Column 83

Element Values:

00 No controls

Not at railroad grade crossing

Highway traffic signals (ACTIVE)

01 Traffic control signal (On colors) without pedestrian signal

02 Traffic control signal (on colors) with pedestrian signal

03 Traffic control signal (on colors) not known whether or not  
pedestrian signal

04 Flashing traffic control signal

05 Flashing beacon

06 Flashing highway traffic signal, type unknown or other than traffic  
control or beacon

07 Lane use control signal

08 Other highway traffic signal (specify)

Regulatory signs (passive)

20 Stop sign

21 Yield sign

28 Other regulatory sign (specify)

29 Unknown type regulatory sign

School zone signs (passive)

30 School speed limit sign

31 School advance or crossing sign

38 Other school related sign (specify)

39 Unknown type school zone sign

Warning signs (passive)

40 Construction warning sign

41 Other warning sign (specify)

Miscellaneous (active)

50 Officer, crossing guard, flagman, etc.

At railroad grade crossing

Active devices

60 Gates

61 Flashing lights

62 Traffic control signal

63 Wigwags

64 Bells

65 Special warning device -- watchman, flagged by crew

68 Other activated device (specify)

69 Active device, type unknown

Variable Name: Traffic Control Device (cont'd.)

Passive devices

- 70 Crossbucks
- 71 Stop sign
- 72 Other railroad crossing sign (specify)
- 78 Other passive device (specify)
- 79 Passive device, type unknown

Miscellaneous controls

- 80 Grade crossing controlled, type unknown

Whether or not at railroad grade crossing

Pavement marking (passive)

- 90 Lane line
- 91 Centerline
- 92 No passing line
- 93 Edge line
- 94 Other pavement marking (specify)
- 95 Unknown pavement marking type
  
- 98 Other specify
- 99 Unknown

Source: Primary source is scene inspection; secondary sources include the police report and driver interviews.

Remarks:

The attribute is determined from the same roadway which was used to determine the Number of Travel Lanes (D37). The researcher selects the descriptor that best represents the vehicle's environment just prior to this vehicle's first harmful event.

This variable measures controls which regulate vehicular traffic. Excluded are any controls which solely regulate pedestrians (e.g., Walk/Wait signals).

According to ANSI D6.1-1978, section 2A-7, pages 2A-3,4 (Manual on Uniform Traffic Control Devices), signs are classified functionally as follows: Regulator 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, and Guide signs show route designations, destinations, directions, distances, services, points of interest, and other geographical recreational, or cultural information.

Variable Name: Traffic Control Device (cont'd.)

According to ANSI D6.1-1978, section 2A-10, pages 2A-4,5 signs come in standard shapes. The octagon shall be reserved exclusively for the STOP sign. The equilateral triangle, with one point downward, shall be reserved exclusively for the YIELD sign. The round shape shall be 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, shall be used to warn of no passing zones. The diamond shape shall be used only to warn of existing or possible hazards either on the roadway or adjacent thereto. The (vertical) rectangle, ordinarily with the longer dimension vertical, shall be used for regulatory signs, with the exception of STOP signs and YIELD signs. The (horizontal) rectangle, ordinarily with the longer dimension horizontal, shall be used for guide signs, with the exception of certain route markers and recreational area guide signs. The pentagon, point up, shall be 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.

According to ANSI D6.1-1978, section 2A-11, page 2A-5, 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 on 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.

Pavement markings are used to supplement the regulations or warnings of other devices such as traffic signs or signals. In other instances, they are used alone and produce results that cannot be obtained by the use of any other device. Pavement markings can convey warnings or information to the driver without diverting his attention from the roadway.

The most common method of placing pavement, curb, and object markings is by means of paint; however, a wide variety of other suitable marking materials is available. Individual unit markers, generally less than 1" in height, may be used for pavement marking purposes. They may be placed in continuous contact or separated by space. Raised markers of over 1" in height are sometimes used to form curbs and islands and should not be considered here.

Variable Name: Traffic Control Device (cont'd.)

Pavement markings shall be yellow, white, or red in color. Black may also be used as a background where the pavement itself does not provide sufficient color contrast.

Guide signs do not constitute traffic controls.

The researcher should consider the intent of this question. If at the time of the accident there was no intent to control (regulate or warn) vehicle traffic, then code "00" (No controls); otherwise, code the appropriate value. Statutory controls (e.g., state law requires that when two drivers met at an uncontrolled intersection, the one on the right has the right-of-way) should be coded as "00" (No controls).

Focus on the road segment just prior to the location of the first harmful event and select the traffic control device(s) which is (are) most related to the accident. In - junction accidents should be based on the presence of a traffic control device for the roadway on which the vehicle is traveling. Non-junction accidents, traffic control devices should be coded based on their relationship to the accident circumstances and not be based merely on presence.

For example, if the intersection is channelized and controlled differently on the channel than on the through lanes (e.g., signal and yield sign), report the traffic controls depending on whether the roadway (D37, Number of Travel Lanes) was chosen based on its through lanes or its channelized lanes.

The codes are prioritized in decreasing numerical value (i.e., "01" takes precedence over "02", "02" over "03", etc.--see exception associated with code "50") Codes are grouped generally into those not at a railroad crossing ("01" through "50") and those at a railroad grade crossing ("60" through "80") This means that highway traffic signals take precedence over regulatory signs, school zone signs, and warning signs. Regulatory signs take precedence over school and warning signs. School signs take precedence over warning signs. Likewise, active (railroad crossing) devices take precedence over passive devices. If a school guard, police officer, or other officially-designated person controls both pedestrian and vehicular traffic, code "50" (Officer, crossing guard, flagman, etc.) should be used. Any Officially-designated person (code "50") takes precedence over values "00" through "41".

Codes "60" through "80" should only be used when the first harmful event occurs in the area of a roadway and a railroad bed [i.e., A18, Relation to Junction, equals "13" (Railroad grade crossing related)] If A18 equals "13" then codes "00" or "60" through "80" should be used. Code "01" through "50" should be used when the location of the first harmful event occurs anywhere else (i.e., A18 equals "01" through "11" or "13").

## Variable Name: Traffic Control Device (cont'd.)

Codes "01", "02", or "03" [Traffic control signal (on colors)...] is used for any signal which processes through the green, amber, and red cycles. The source of actuation is of no concern. If the amber phase is missing, an on-colors control device should still be coded.

If the signal has green, amber, and red cycle capability but is being used to flash amber/red only, then code "04" (Flashing traffic control signal) is used.

Code "05" (Flashing beacon) is used for any device capable of only flashing amber/red signals.

Code "07" (Lane use control signal) includes turn arrows and controls which govern the direction of traffic flow in the lane (i.e., traffic flows differently depending on time of day).

Regulatory devices which are enhanced by flashing lights should be coded to its regulatory design, i.e., A stop sign with a flashing light should be coded as a stop sign-disregard the flashing light.

Code "28" (Other regulatory sign) includes speed limit signs, movement signs (e.g., NO TURN, LEFT TURN ONLY, DO NOT PASS, PASS WITH CARE, KEEP RIGHT, DO NOT ENTER, WRONG WAY, ONE WAY), parking signs (e.g., NO PARKING, EMERGENCY PARKING ONLY), and other miscellaneous signs (e.g., STOP HERE ON RED, NO TURN ON RED, ROAD CLOSED TO THRU TRAFFIC, WEIGHT LIMIT..., TRUCK ROUTE) --- see ANSI D6.1-1978, sections 2B-10 through 2B-44, pages 2B-6 through 2B-36.

Codes "30" through "39" (School zone signs) should only be used if the first harmful event occurred during the time the sign was in effect. If the sign was in effect, it does not matter whether or not children were present. (NOTE: Time should be ascertained not only with respect to hour of day, but day of week and the effect of holidays, vacations, etc., as well. Each team should report the particulars regarding their state or local ordinances to their Zone Center.) See ANSI D6.1-1978, sections 7B-9 through 7B-13, pages 7B-2 through 7B-6, for examples of school zone signs.

Code "40" (Construction warning sign) is used for any black on orange diamond shaped sign. See ANSI D6.1-1978, part IV, pages 6B-3 through 6B-13 for examples of construction warning signs.

Code "41" (Other warning signs) is used for any black on yellow diamond shaped sign. Some black on yellow horizontal rectangular or vertical rectangular (speed advisory) signs are also included. See ANSI D6.1-1978, section 2C-1 through 2C-41, pages 2C-1 through 2C-22 for examples of signs.

## Variable Name: Traffic Control Device (cont'd.)

Code "60" (Gates) is used if the railroad crossing is guarded by a combination of gates, flashing lights, and bells. See ANSI D6.1-1978, section 8C-2 through 8C-4, pages 8C-1 through 8C-5, for examples of flashing lights with and without gates.

Code "70" (Crossbucks) is coded if no train activated devices are present and a large "X", with the words RAILROAD CROSSING spelled out on the "X", is present--see ANSI D6.1-1978, section 8B-2, pages 8B-1 and 8B-2.

Code "72" (Other railroad crossing sign) includes the railroad advance warning sign (circle with black "X" on yellow background)--see ANSI D6.1-1978, section 8B-3, page 8B-3.

Code "90" (Lane lines) is used to separate lanes of traffic traveling in the same direction. They are usually normal broken white lines, but they may be solid white in critical areas where it is advisable to discourage lane changing. A double solid white line is used to delineate a travel path where travel in the same direction is permitted on both sides of the line, but crossing the line is prohibited. It is frequently used as a channelizing line in advance of obstructions which may be passed on either side but not encroached upon.

Code "91" (Center lines) is used to separate traffic traveling in opposite directions. They need not be at the geometrical center of the pavement. On roads where a continuous centerline is not used, short sections may be used to control the position of traffic at specific locations, such as around curves, over hills, and on approaches to intersections, railroad crossings, and bridges. The lines may be a single broken yellow line, a double line consisting of a single broken yellow line and a solid yellow line, a double line consisting of two solid yellow lines, and there may be just a single yellow line. You may find double broken yellow lines with reversible lane use and may find a center lane bound by two solid yellow lines each with an inner broken yellow line for two-way left turn channelization.

Code "92" (No passing line) is used when a double line consisting of a normal broken yellow line and a normal solid yellow line delineates a separation between travel paths in opposite directions where overtaking and passing is permitted with care for traffic adjacent to the broken line and is prohibited for traffic adjacent to the solid line. This is a one direction no-passing marking. Where two normal solid yellow lines are present, overtaking and passing is prohibited in both directions, and this is a two direction no-passing marking. Occasionally, you may also see a single yellow line which indicates that overtaking and passing is prohibited in both directions.

## Variable Name: Traffic Control Device (cont'd.)

If for the direction of travel the motor vehicle is traveling in, no-passing is permitted, as indicated above, then code "92" (No passing line). If passing is permitted, then code "91" (Centerline).

Code "93" (Pavement edge line) is used when markings provide an edge of pavement guide for drivers. Edge lines are not continued through intersections and are not broken for driveways. The lines shall be white except that on the left edge of each roadway of divided trafficways, and one-way roadways in the direction of travel, they shall be yellow.

Pavement marking extensions through intersections or interchanges should be coded under "94" (Other pavement marking). Words on the pavement can be coded here; however, signs take priority over words.

In the situation where some type of lane marking is the only type of control which could possibly be coded, that lane marking is to be considered related only for the vehicle which violates its instruction. For example, consider two vehicles traveling in opposite directions involved in a collision when one vehicle crosses into the oncoming lane. The lane markings should be coded only for the vehicle which crossed over the lane marking (in this case, the centerline).

Code "98" (Other) includes a school bus with flashers activated where vehicles are required to stop. Any device which (1) functions as a traffic control device which is not listed as an element of this variable and (2) is not excluded by the manual and (3) is related to the accident should be coded "98" and be annotated accordingly. Examples of these over devices can be found in ANSI D6.1-1978 (Manual on Uniform Traffic Control Devices). Some examples are (page location follows device): barricades (6C-1), cones (6C-3), drums (6C-4), and object markers (3C-1, especially type 3).

A traffic control that has been deactivated (e.g., traffic signal that emits no signals) during certain times of the day and was deactivated at the time of the accident should be coded "00" (No controls). A traffic control that has just been installed and not yet activated should also be coded "00". However, a traffic control that is out (e.g., due to a power failure) and was related should be coded, unless a temporary control [e.g., stop sign ("20"), police officer ("50"), etc.] has been inserted, in which case the temporary control should be coded.

Variable Name: Traffic Control Device Functioning

Format: 1 column - numeric

Beginning  
Column 85

Element Values:

0 No traffic control

Active device (D55 = 01-08, 50-69)

1 Traffic control not functioning

2 Traffic control functioning - functioning improperly

3 Traffic control functioning properly

Passive device (D55 = 20-41, 70-95)

4 Traffic control device defaced, badly worn, etc.

5 Traffic control device obscured (i.e., covered with snow)

6 No abnormal condition of traffic control device

9 Unknown

Source: Sources are scene inspection, police report, and the driver interview.

Remarks:

Code "0" (No traffic control) must only be used when D55 (Traffic control device) is coded "00" (No controls).

Codes "1" (Traffic control not functioning), "2" (Traffic control functioning - functioning improperly), and "3" (Traffic control functioning properly) are used with respect to the traffic control device cited in D55 (Traffic control device). Code "3" if the device reported was okay, code "1" if the device did not function at all (e.g., signal out). Code "2" is used when the device had some function but the function was improper or inadequate (e.g., signal works but cycles are short, long, or irregular. When this code ("2") is used PHOTOGRAPHS are to be taken of the traffic control device. It is a judgment as to whether function was merely improper versus nonexistent. Your decision will be judged on its reasonableness; annotate where necessary.

Codes "4" (Traffic control device defaced, badly worn, etc.), "5" (Traffic control device obscured), "6" (No abnormal condition of traffic control device) are used when any passive device is coded in variable "D55" (Traffic control device).

Code "9" (Unknown) is only used when D55 (Traffic control device) is coded "99" (Unknown).

Variable Name: Designated Truck System

Format: 1 column - numeric

Beginning  
Column 86

Element Values:

0 No  
1 Yes  
9 Unknown  
\_ (Blank) Truck system data not available

Source: FHWA national network maps

Remarks:

Code "1" (Yes) when the accident occurred on a roadway where FHMA maps or listings indicates the roadway as a designated truck route. This variable is coded independent of the involved vehicle's type.

Code only the national network designated routes. These are usually only the interstate and U.S. routes.

Do not code for accident on local truck traffic access routes.

Variable Name: Environmental Related Factors

Format: 2 columns - numeric

Beginning  
Column 87

Element Values:

00 No environmental related factors

Vision Obscured By

01 Rain, snow, fog, smoke, sand, dust

02 Reflected glare, bright sunlight, headlights

03 Curve, hill or other design features (including traffic signs, embankment)

04 Building, billboard, etc.

05 Trees, crops, vegetation

06 Moving vehicle (including load)

07 Splash or spray of passing vehicle

08 Parked vehicle

09 Other object not classifiable above

Swerving or Loss of Control Due to

20 Severe crosswind

21 Wind from passing truck

22 Slippery surface

23 Avoiding debris or objects in roadway

24 Ruts, holes, bumps in roadway

25 Avoiding animal(s) in roadway

26 Avoiding vehicle in roadway

27 Avoiding pedestrian, pedalcyclist, other nonmotorist in roadway

28 Avoiding standing water, snow, oilslick or ice patch on roadway

Roadway Features

30 Inadequate warning of exits, lanes narrowing, traffic controls etc.

31 Pavement marking obscured or absent

32 Surface washed out (caved in, road slippage)

33 Shoulder too low or high

34 Inadequate construction or poor design of roadway, bridge, etc

35 Vehicle unattended in roadway

98 Other (specify)

99 Unknown

Source: Researcher determined - inputs include the Police report, interviews and the scene inspection

Variable Name: Automatic (Passive) Restraint Function

Format: 1 column - numeric

Beginning  
Column 44

Element Values:

- 0 Not equipped
- 1 Automatic belt in use
- 2 Automatic belt not in use
- 3 Deployed airbag
- 4 Nondeployed airbag
- 9 Unknown

Source: Researcher determined--inputs include vehicle inspection, interviewee, and police report (if listed).

Remarks:

Automatic (passive) restraints are for front seat positions in post-1971 passenger cars. Thus, if the vehicle is not a post-1971 passenger car or the occupant is not in a front seat position, this variable should be coded with element value "0" (Not equipped).

Code "2" (Automatic belt not in use) if the seat belt is disconnected or placed behind the person's back.

Code "3" (Deployed airbag) or "4" (Nondeployed airbag) solely on whether or not the airbag deployed. No consideration is to be made regarding whether or not it should have deployed. Final determination will be made by your Zone Center or NCSA. Note: An occupant seat designed to deploy in every collision.)

If the vehicle was not inspected and no interview was obtained, code "9" (Unknown) for occupants of post-1971 passenger cars, and code "0" (Not equipped) for occupants of all other vehicles.

The margin indicator, which references the Vehicle Form, should be filled in with the response from the Vehicle Form to aid in the actual crosscheck prior to coding the researcher's final opinion.



Occupant Data

1 Primary Sampling Unit Number	<u>    </u> <u>    </u>	<u>  1  </u> <u>  2  </u>
2 Case Number-Stratification	<u>    </u> <u>    </u> <u>    </u> <u>    </u>	<u>  3  </u> <u>  4  </u> <u>  5  </u> <u>  6  </u>
3 Record Number	<u>    </u>	<u>  5  </u> <u>  7  </u>
4 Transaction Code	<u>    </u>	<u>  8  </u>
5 Version Number	<u>    </u>	<u>  9  </u> <u>  9  </u>
6 Investigator I D Number	<u>    </u>	<u> 10  </u>

IDENTIFICATION

7 Vehicle Number	<u>    </u> <u>    </u>	<u> 11  </u> <u> 12  </u>
8 Occupant Number	<u>    </u> <u>    </u>	<u> 13  </u> <u> 14  </u>

OCCUPANT INTERVIEW

9 Occupant's Age ____ years(s) - Code actual age at time of accident ____ (00) Less than one year old ____ (97) 97 years and older ____ (99) Unknown	<u>    </u>	<u> 17  </u>
10 Occupant's Sex ____ (1) Male ____ (2) Female ____ (9) Unknown	<u>    </u>	<u> 17  </u>
11 Occupant's Height ____ inches - Code actual height to the nearest inch ____ (99) Unknown	<u>    </u>	<u> 18  </u> <u> 19  </u>
12 Occupant's Weight ____ pounds - Code actual weight to the nearest pound ____ (999) Unknown	<u>    </u>	<u> 20  </u> <u> 21  </u> <u> 22  </u>
13 Occupant's Role ____ (1) Driver ____ (2) Passenger ____ (9) Unknown	<u>    </u>	<u> 23  </u>

14. Occupant's Seat Position ____ (01) Front seat - left side ____ (02) Front seat - middle ____ (03) Front seat - right side ____ (04) Second seat - left side ____ (05) Second seat - middle ____ (06) Second seat - right side ____ (07) Third seat - left side ____ (08) Third seat - middle ____ (09) Third seat - right side ____ (10) Front seat - additional passenger ____ (11) Second seat or beyond - additional passenger ____ (12) Truck-tractor sleeping section ____ (13) Other enclosed area (specify) _____ ____ (14) In or on unenclosed area (specify area type) _____ ____ (15) In or on trailing unit (specify unit type) _____ ____ (99) Unknown	<u>    </u>	<u> 24  </u> <u> 25  </u>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------	---------------------------

INVESTIGATOR DETERMINED

(NOTE INVESTIGATOR as used below refers to the product of individual observation, police reports, and any other sources used that culminated in the assessment which represents the final opinion of the investigator )

Inter- viewee	Investigator
15 Entrapment  (NOTE Entrapped means that part of the occupant was in the vehicle and mechanically restrained, jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment )	<u>    </u>
____ (0) Not entrapped	<u>    </u>
____ (1) Entrapped	<u>    </u>
____ (9) Unknown	<u> 26  </u>

National Accident Sampling System - Continuous Sampling Subsystem: Occupant Data

Inter-viewee	Investigator
<b>16. Ejection</b>	
___ (0) None	___
___ (1) Complete ejection	___
___ (2) Partial ejection	___
___ (3) Ejection, unknown degree	___
___ (9) Unknown	___
	27
<b>17 Ejection Area</b>	
___ (0) No ejection	___
___ (1) Windshield	___
___ (2) Left front	___
___ (3) Right front	___
___ (4) Left rear	___
___ (5) Right rear	___
___ (6) Rear	___
___ (7) Roof	___
___ (8) Other area (e.g., sidecar, back pickup, etc.) (specify)	___
___ (9) Unknown	___
	28
<b>18 Ejection Medium</b>	
___ (0) No ejection	___
___ (1) Door	___
___ (2) Open roof structure	___
___ (3) Fixed windows	___
Operable windows	
___ (4) Roll down type	___
___ (5) Hinged type	___
___ (6) Sliding type	___
___ (7) Other type (specify)	___
___ (8) Other medium (specify)	___
___ (9) Unknown	___
	29
<b>19 Medium Status</b>	
___ (0) No ejection	___
___ (1) Open	___
___ (2) Separation	___
___ (3) Closed, closed when damaged	___
___ (4) Integral structure ripped open	___
___ (9) Unknown	___

INTERVIEW AND OFFICIAL SOURCES	
Inter-viewee	Official Sources
<b>20. Treatment - Mortality</b>	
___ (0) No treatment	___
___ (1) Fatal	___
___ (2) Fatal - ruled disease	___
Nonfatal	
___ (3) Hospitalization	___
___ (4) Transported and released	___
___ (5) Treatment at scene - non-transported	___
___ (6) Treatment later	___
___ (8) Treatment - other (specify)	___
___ (9) Unknown	___
	31
<b>21. Hospital Stay</b>	
___ (00) Not hospitalized	___
___ day(s) - Code the number of days (up through 60) that the occupant stayed in hospital	___
___ (61) 61 days or more	___
___ (99) Unknown	___
	32 33
<b>22. Working Days Lost</b>	
___ (00) No working days lost	___
___ day(s) - Code the number of days (up through 60) that the occupant lost from work due to the accident	___
___ (61) 61 days or more	___
___ (62) Fatally injured	___
___ (97) Not working prior to accident	___
___ (99) Unknown	___

INVESTIGATOR DETERMINED	
Inter-viewee	Investigator
<b>23 Infant or Child Restraint Make/Model</b>	
___ (00) No infant or child restraint	___
Applicable codes are found in your NASS Data Collection, Coding and Editing Manual	
___ (97) Other make/model (specify)	___
___ (98) Unknown make/model	___
___ (99) Unknown if restraint available	___

National Accident Sampling System - Continuous Sampling Subsystem: Occupant Data

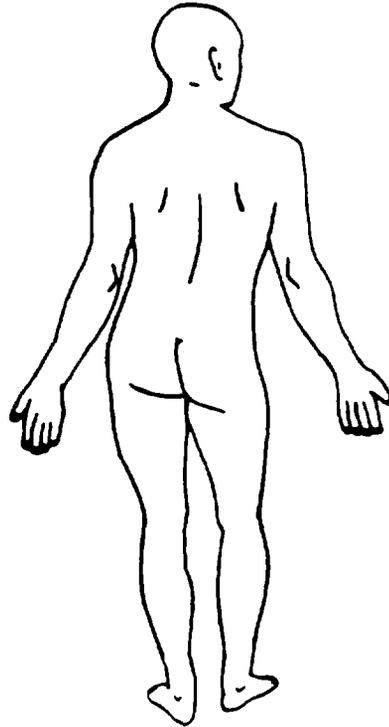
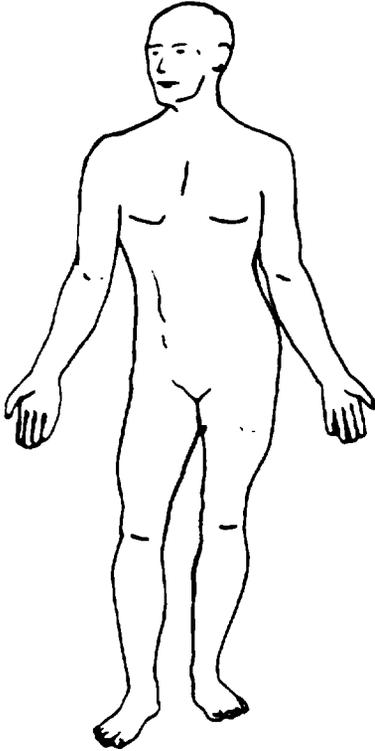
	Inter- viewee	Investigator	Inter- viewee	Police Investigator
V10	24 Type of Infant or Child Restraint		28. Manual (Active) Restraint System Use	
	___ (0) No infant or child restraint	___	___ (0) None used	___
	___ (1) Infant seat	___	___ (1) Shoulder belt	___
	___ (2) Child seat	___	___ (2) Lap belt	___
	___ (3) Convertible seat	___	___ (3) Lap and shoulder belt	___
	___ (4) Booster seat	___	___ (4) Motorcycle helmet	___
	___ (7) Other type seat (specify)	___	___ (5) Child safety seat - car lap belt used properly	___
	___ (8) Unknown type restraint	___	___ (6) Child safety seat - car lap belt used improperly (specify how used improperly)	___
	___ (9) Unknown if restraint available	___	___ (7) Child safety seat - unknown if car lap belt used properly	___
		38		
V10	25 Infant or Child Seat Orientation		___ (8) Restraint used - type unknown or other (specify)	___
	___ (0) No infant or child seat	___	___ (9) Unknown	___
	___ (1) Rear facing	___		42
	___ (2) Forward facing	___		
	___ (7) Other orientation (specify)	___		
		39		
---	26 Infant or Child Restraint Harness/Shield Usage		29 Automatic (Passive) Restraint System Availability	
	___ (0) No infant or child restraint	___	___ (0) Not equipped	___
	___ (1) Harness/shield used	___	___ (1) Airbag	___
	___ (2) Harness/shield not used	___	___ (2) Airbag disconnected	___
	___ (8) Unknown harness/shield usage	___	___ (3) Airbag not reinstalled	___
___ (9) Unknown if restraint available	___	___ (4) 2 point automatic belts	___	
		40	___ (5) 3 point automatic belts	___
V10	27 Manual (Active) Restraint System Availability		___ (6) Automatic belts destroyed or rendered inoperable	___
	___ (0) None available	___	___ (9) Unknown	___
	___ (1) Shoulder belt	___		
	___ (2) Lap belt	___	30 Automatic (Passive) Restraint Function	
	___ (3) Lap and shoulder belt	___	___ (0) Not equipped	___
	___ (4) Motorcycle helmet	___	___ (1) Automatic belt in use	___
	___ (5) Child safety seat (designed without tether or unknown design)	___	___ (2) Automatic belt not in use	___
	___ (6) Child safety seat (designed with tether - tether not used) (specify reason not used - i.e., defeated or destroyed)	___	___ (3) Deployed airbag	___
	___ (7) Child safety seat (designed with tether - tether used)	___	___ (4) Nondeployed airbag	___
___ (8) Restraint available - type unknown or other (specify)	___	___ (9) Unknown	___	
___ (9) Unknown	___		44	
		41		

**INJURY DATA FROM INTERVIEWEE OR UNOFFICIAL SOURCE**

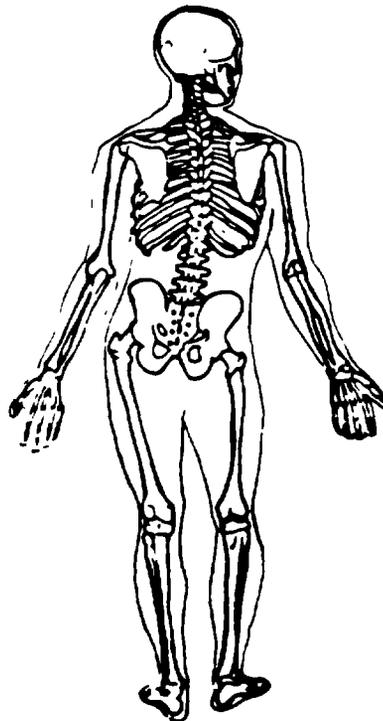
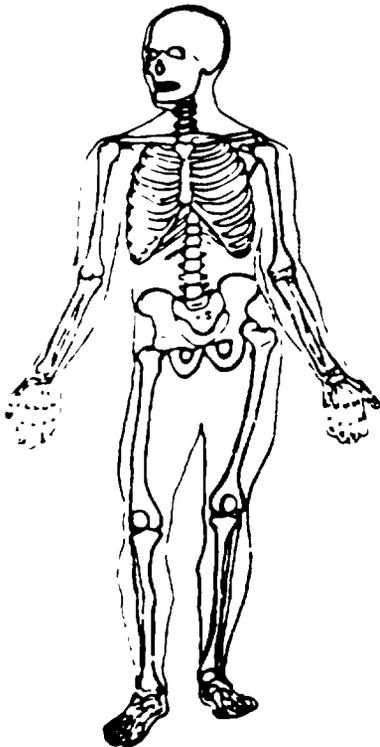
State the *Nature*, *Location*, and *injury Source* of all injuries

Specify Source \_\_\_\_\_

**Soft Tissue Injuries**



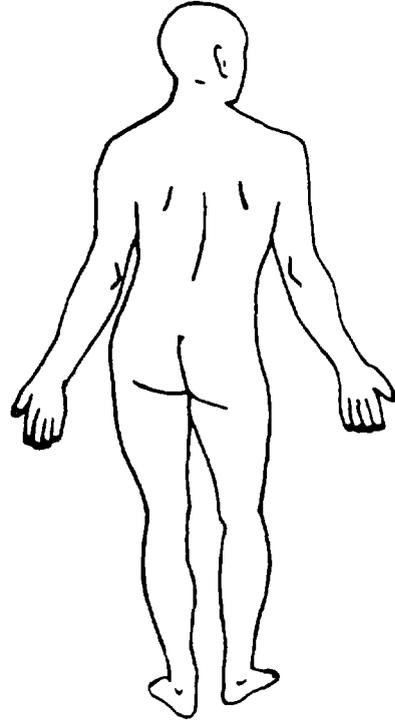
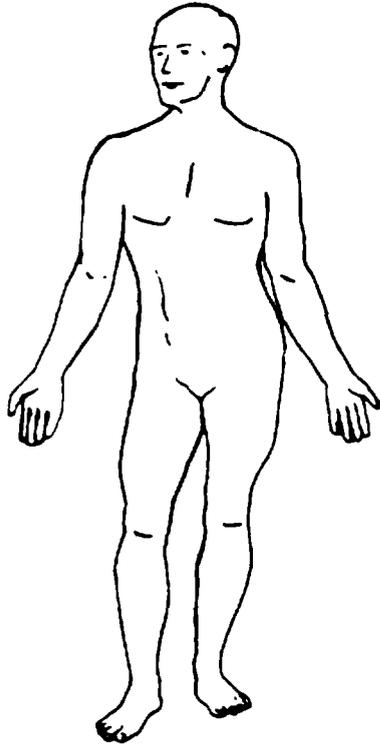
**Skeletal Injuries**



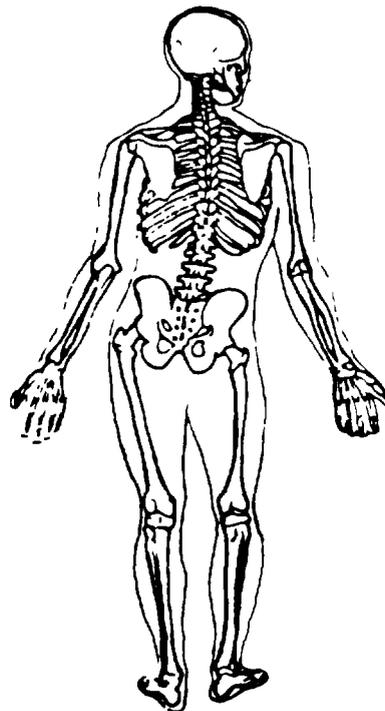
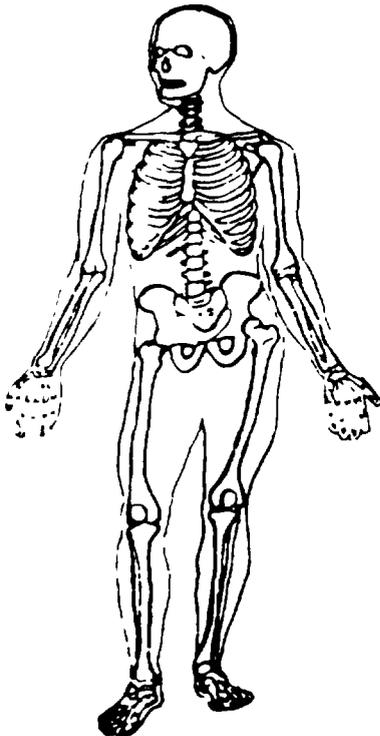
**OFFICIAL INJURY DATA**

Indicate the *Nature, Location, and injury Source* of all injuries

**Soft Tissue Injuries**



**Skeletal Injuries**



Write additional medical record injury data on reverse of this page



**National Accident Sampling System - Continuous Sampling Subsystem: Occupant Data**

**OCCUPANT INJURY CLASSIFICATION**

Consider all injuries which are reported from both unofficial and official sources. The information from official sources takes precedence over similar injuries reported by any other source. In other words, do not list the same injury twice, supersede the interview data with official data in the case of similar injuries. List all injuries by official medical sources first. Police reported injuries may be used, but only when no other source of injury information is available.

Were more than ten (10) injuries sustained? \_\_\_ Unknown, \_\_\_ No, \_\_\_ Yes - If more than ten dissimilar injuries were identified during the interview, from collection of official data, and from other unofficial sources (excluding police), list those from the official records first, exhausting that level of data before listing those from the interviewee or other sources.

	ISS Body Region	OIC Body Region	Aspect	Lesion	System Organ	AIS Severity	Injury Source	Direct Indirect Injury	Source of Data
1	—	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—	—	—
3	—	—	—	—	—	—	—	—	—
4	—	—	—	—	—	—	—	—	—
5	—	—	—	—	—	—	—	—	—
6	—	—	—	—	—	—	—	—	—
7	—	—	—	—	—	—	—	—	—
8	—	—	—	—	—	—	—	—	—
9	—	—	—	—	—	—	—	—	—
10	—	—	—	—	—	—	—	—	—

Source of Data

Official

- (01) Autopsy records with or without hospital medical records
- (02) Hospital medical records other than emergency room (e.g. discharge summary)
- (03) Emergency room records only (including associated x rays or other lab reports)
- (04) Private physician walk in or emergency clinic

Unofficial

- (05) Lay coroner report
  - (06) E.M.S. personnel
  - (07) Interviewee
  - (08) Other source
- 
- (09) Police
  - (99) Unknown if injured
  - (00) Not injured

ISS Body Region

- (1) Head or neck
- (2) Face
- (3) Chest
- (4) Abdominal or pelvic contents
- (5) Extremities or pelvic girdle
- (6) General (external)
- (0) Not injured
- (9) Unknown

OIC Body Region

- (M) Abdomen
- (Q) Ankle-foot
- (A) Arm (upper)
- (B) Back (thoracolumbar spine)
- (C) Chest
- (E) Elbow
- (F) Face
- (R) Forearm
- (H) Head (skull)
- (U) Injured, unknown region
- (K) Knee
- (L) Leg (lower)
- (Y) Lower limb(s) (whole or unknown part)
- (N) Neck (cervical spine)
- (P) Pelvic hip
- (S) Shoulder
- (T) Thigh
- (X) Upper limb(s) (whole or unknown part)
- (O) Whole body
- (W) Wrist-hand
- (0) Not injured
- (9) Unknown if injured

Aspect of Injury

- (A) Anterior - front
- (C) Central
- (I) Inferior - lower
- (U) Injured, unknown aspect
- (L) Left
- (P) Posterior - back
- (R) Right
- (S) Superior - upper
- (W) Whole region
- (0) Not injured
- (9) Unknown if injured

Lesion

- (A) Abrasion
- (M) Amputation
- (V) Avulsion
- (B) Burn
- (K) Concussion
- (C) Contusion
- (N) Crush
- (G) Detachment, separation
- (D) Dislocation
- (F) Fracture
- (Z) Fracture and dislocation
- (U) Injured, unknown lesion
- (L) Laceration
- (O) Other
- (P) Perforation-puncture
- (R) Rupture
- (S) Sprain
- (T) Strain
- (E) Total severance (transection)
- (0) Not injured
- (9) Unknown if injured

System/Organ

- (W) All systems in region
- (A) Arteries - veins
- (B) Brain
- (D) Digestive
- (E) Ears
- (O) Eye
- (H) Heart
- (U) Injured, unknown system
- (I) Integumentary
- (J) Joints
- (K) Kidneys
- (L) Liver
- (M) Muscles
- (N) Nervous system
- (P) Pulmonary - lungs
- (R) Respiratory
- (S) Skeletal
- (C) Spinal cord
- (Q) Spleen
- (T) Thyroid - other endocrine gland
- (G) Urogenital
- (V) Venebrae
- (0) Not injured
- (9) Unknown if injured

Abbreviated Injury Scale

- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity
- (0) Not injured
- (9) Unknown if injured

**National Accident Sampling System—C ntinuous Sampling Subsystem: Occupant Data**

<p><b>Injury Source</b> (00) No injury</p> <p><b>FRONT</b> (01) Windshield (02) Mirror (03) Sunvisor (04) Steering wheel rim (05) Steering wheel hub/spoke (06) Steering wheel (combination of codes 04 and 05) (07) Steering column, transmission selector lever, other attachment (08) Add on equipment (e.g. CB, tape deck, air conditioner) (09) Left instrument panel and below (10) Center instrument panel and below (11) Right instrument panel and below (12) Other front object (specify) _____</p> <p><b>SIDE</b> (13) Side interior surface, excluding hardware or armrest (14) Side hardware or armrest (15) A pillar (16) B pillar (17) Other pillar (specify) _____</p> <p>(18) Window glass or frame (19) Other side object (specify) _____</p> <p><b>INTERIOR</b> (21) Seat, back support (22) Belt restraint system (23) Head restraint system (24) Air cushion (25) Other occupants (specify) _____</p> <p>(26) Interior loose objects (29) Other interior object (specify) _____</p>	<p><b>ROOF</b> (31) Front header (32) Rear header (33) Roof side rails (34) Roof or convertible top</p> <p><b>FLOOR</b> (41) Floor (42) Floor or console mounted transmission lever, including console (43) Parking brake handle (44) Foot controls including parking brake</p> <p><b>REAR</b> (45) Backlight (rear window) (46) Backlight storage rack, door, etc. (49) Other rear object (specify) _____</p> <p><b>EXTERIOR of NONMOTORIST'S VEHICLE</b> Noncycle (51) Hood (52) Outside hardware (e.g. outside mirror, antenna) (53) Other exterior surface or tires (specify) _____ (59) Unknown exterior objects</p> <p>Cycle (61) Handle bars or attachments (62) Frame or suspension component or fender (63) Seat (64) Foot pedal, foot rest, fenders (65) Wheel or tire (66) Engine or transmission (67) Gas tank, gas tank filler cap or neck (69) Other cycle part (specify) _____</p>	<p><b>EXTERIOR of STRIKING MOTOR VEHICLE</b> (71) Front bumper (72) Hood edge (73) Other front of vehicle (specify) _____</p> <p>(74) Hood (75) Hood ornament (76) Windshield, roof rail, A pillar (77) Side surface (78) Side mirrors (79) Other side protrusions (specify) _____</p> <p>(80) Rear surface (81) Undercarriage (82) Tires and wheels (83) Other exterior of striking motor vehicle (specify) _____</p> <p>(84) Unknown exterior of striking motor vehicle</p> <p><b>OTHER VEHICLE or OBJECT in the ENVIRONMENT</b> (86) Ground (87) Other vehicle or object (specify) _____</p> <p>(89) Unknown vehicle or object</p> <p><b>NONCONTACT INJURY</b> (90) Noncontact injury source (97) Injured, unknown source (99) Unknown if injured</p> <p><b>DIRECT/INDIRECT INJURY</b> (0) No injury (1) Direct contact injury (2) Indirect contact injury (3) Noncontact injury (7) Injured, unknown source (9) Unknown if injured</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**OCCUPANT INJURY CLASSIFICATION**

If there are six or less injuries listed in the O I C reduction section, code all of the injuries ordered by Source of Data (1st autopsy, 2nd hospital medical, 3rd emergency room, 4th private physician, or 5th-unofficial sources) and by A I S severity within source.

If there are more than six injuries, order the injuries by source and by A I S severity within source. Code this ordering, injury by injury. If a group of ordered injuries has the same source, the same A I S, and the group includes at least the sixth and seventh injuries in the ordering, then a choice must be made as to which injury or injuries to code.

Choose the injury or injuries that will enable the maximum number of different I S S body regions to be represented in the coded data. If no new I S S body region can be added, then simply code in accordance with the original ordering.

If the occupant has less than six injuries, then the number of rows required to be completed is equal to the number of injuries plus one (e.g., no injuries requires one row, i.e., columns 45 to 54). In the additional row "No Injury," will be coded for all variables, including A I S severity.

If you cannot increase the number of different I S S body regions or if you can choose between two or more injuries of the same source and A I S severity, any of which would constitute an additional I S S region, then choose the injury that has a known injury source.

Update Candidate  Yes  No

I S S Body Region	O I C Body Region		Aspect	Lesion	System Organ	A I S Severity	Injury Source	Direct Indirect Injury	Source of Data									
	31	45							38	53	54							
1st	31	45	32	46	33	47	34	48	35	49	36	50	51	37	52	38	53	54
2nd	39	55	40	56	41	57	42	58	43	59	44	60	61	45	62	46	63	64
3rd	47	65	48	66	49	67	50	68	51	69	52	70	71	53	72	54	73	74
4th	55	75	56	76	57	77	58	78	59	79	60	80	81	61	82	62	83	84
5th	63	85	64	86	65	87	66	88	67	89	68	90	91	69	92	70	93	94
6th	71	95	72	96	73	97	74	98	75	99	76	100	101	77	102	78	103	104

**OFFICIAL RECORDS**

79 Injury Severity (Police Rating)

- \_\_\_ (0) No injury (O)
- \_\_\_ (1) Possible injury (C)
- \_\_\_ (2) Nonincapacitating injury (B)
- \_\_\_ (3) Incapacitating injury (A)
- \_\_\_ (4) Killed (K)
- \_\_\_ (5) Injury, severity unknown
- \_\_\_ (6) Died prior to accident
- \_\_\_ (9) Unknown

105

80 Time to Death

- \_\_\_ (00) Not fatal

\_\_\_ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days (Note 1 day = 31, 2 days = 32, n days = 30 + n up through 30 days = 60)

- \_\_\_ (96) Fatal - ruled disease
- \_\_\_ (99) Unknown

106 107

Delete Comments After Case Review

**COMPLETED BY TEAM**

1 Primary Sampling Unit Number 1 2  
 2 Case Number-Stratification 3 4 5 6  
 3 Record Number 5 7  
 4 Transaction Code 8  
 5 Version Number 9 9  
 6 Investigator I D Number 10

**OCCUPANT INTERVIEW**

7 Vehicle Number 11 12  
 8 Occupant Number 13 14  
 9 Is This Occupant a Driver?  
 \_\_\_ (0) No  
 \_\_\_ (1) Yes  
 \_\_\_ (9) Unknown 15  
 10 Manner of Last Contact Attempt  
 \_\_\_ (1) Telephone  
 \_\_\_ (2) Personal visit to home, work, etc  
 \_\_\_ (3) Letter (questionnaire)  
 \_\_\_ (4) Other (specify) \_\_\_\_\_ 16  
 11 Results of Last Contact Attempt  
 \_\_\_ (01) Unable to contact or locate  
 \_\_\_ (02) Hit and run  
 \_\_\_ (03) Fatal - surrogate not available  
 \_\_\_ (04) In intensive care - surrogate not available  
 \_\_\_ (05) Out-of-state resident  
 \_\_\_ (06) Refused interview for other than on advice of at  
 torney or insurance company (specify) \_\_\_\_\_  
 \_\_\_ (07) Insurance company refusal  
 \_\_\_ (08) Attorney refusal or litigation  
 \_\_\_ (09) Other (specify) \_\_\_\_\_  
 \_\_\_ (10) No return of letter questionnaire  
 \_\_\_ (11) Return of letter questionnaire (completed)  
 \_\_\_ (12) Partial or complete interview 17 18

**Used in Coding the Interview Contact Record Only**

11a Result of Contact Attempt Other than Last Contact Attempt  
 \_\_\_ (13) No answer (to phone call, no one at home, etc )  
 \_\_\_ (14) Other person at home, work, etc - Interviewee to  
 contact investigator  
 \_\_\_ (15) Other person at home, work, etc - Investigator to  
 repeat call, visit, leave questionnaire, or try  
 elsewhere  
 \_\_\_ (16) Must obtain permission of attorney or insurance  
 company  
 \_\_\_ (17) Attorney or insurance company provided  
 permission  
 \_\_\_ (18) Other (specify) \_\_\_\_\_

12 Date Interview Completed 19 20 21 22 23 24

13 Completing person

14 Source of Interview Data  
 \_\_\_ (1) No data obtained  
 \_\_\_ (2) Same person  
 \_\_\_ (3) Other occupant (or driver)  
 \_\_\_ (4) Relative or friend  
 \_\_\_ (5) Eyewitness  
 \_\_\_ (6) Combination of 3, 4 or 5  
 \_\_\_ (7) Other  
 (specify) \_\_\_\_\_ 26

15 Reasons Medical Data Not Obtainable  
 \_\_\_ (00) Not medically treated  
 \_\_\_ (01) No record of treatment at medical facility  
 \_\_\_ (02) Medical release required - not obtained  
 \_\_\_ (03) Nonaccident related injury  
 \_\_\_ (04) Noncooperative hospital  
 \_\_\_ (05) Hospital out of study area  
 \_\_\_ (06) Private physician would not release information  
 \_\_\_ (07) Unknown if medically treated  
 \_\_\_ (08) To be updated  
 \_\_\_ (09) Record not received before file closed  
 \_\_\_ (10) Complete record obtained (autopsy, hospital  
 discharge summary, other complete medical)  
 \_\_\_ (11) Partial record obtained (i.e., some records exist  
 but was not acquired or released) 27 28

**INTERVIEW CONTACT RECORD**  
 (See Variables 11 and 11a above)

Contact Sequence	Month	Day	Year	Time of Contact	Contacting Person	Manner	Result
1st	---	---	8	---	---	---	---
2nd	---	---	8	---	---	---	---
3rd	---	---	8	---	---	---	---
4th	---	---	8	---	---	---	---
5th	---	---	8	---	---	---	---
6th	---	---	8	---	---	---	---

COMPLETED BY ZONE CENTER

16 Date Medical Record Update Received 8  
29 30 31 32 33 34

17 Reviewed By 35 36

18 Interviewee or Unofficial Injury Documentation

\_\_\_\_ (1) Complete - Injury descriptions are annotated in sufficient detail to enable independent OIC/AIS coding. The protocol for completing the injury diagram has been used and a contact mechanism or "unknown" is indicated

\_\_\_\_ (2) Partial - All coded injuries are described in adequate detail, however, additional annotation would have been helpful for independent OIC/AIS coding. Contact mechanism omitted for some injuries

\_\_\_\_ (3) Incomplete - Generally inadequate description of injuries or the coded injury does not correspond to the annotated injury

\_\_\_\_ (4) Not applicable - No interviewee reported injuries

37

19. Official Injury Documentation

\_\_\_\_ (1) Complete - All injuries reported in the medical data are annotated with sufficient detail to enable independent OIC/AIS coding. The protocol for completing the injury diagram has been used

\_\_\_\_ (2) Partial - All coded injuries are described in adequate detail, however, additional annotation would have been helpful for independent OIC/AIS coding. Some minor injuries described in the medical data may be omitted

\_\_\_\_ (3) Incomplete - Generally inadequate or erroneous description of injuries and/or omitted major injuries described in the medical data

\_\_\_\_ (4) Not applicable - No official medical data

38

ERROR TALLY  
(Completed By Zone Center)

Blank - Not in error and not missing	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Response	38	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
0 - RDE system error	Variable	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
2 - Error (not correctable)	Response	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
3 - Error (correctable)	Variable	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
6 - Sequencing errors in CDC's or injury data	Response	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89
8 - Data entry error	Variable	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
9 - Unknown coded on field form	Response	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106
A - Hardcopy change with no error - not automated	Variable	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
	Response	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123



PSU/Case Number \_\_\_\_\_

Vehicle Number \_\_\_\_\_

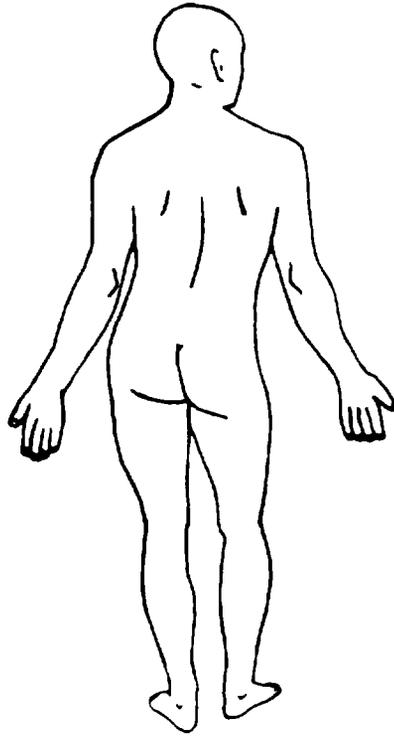
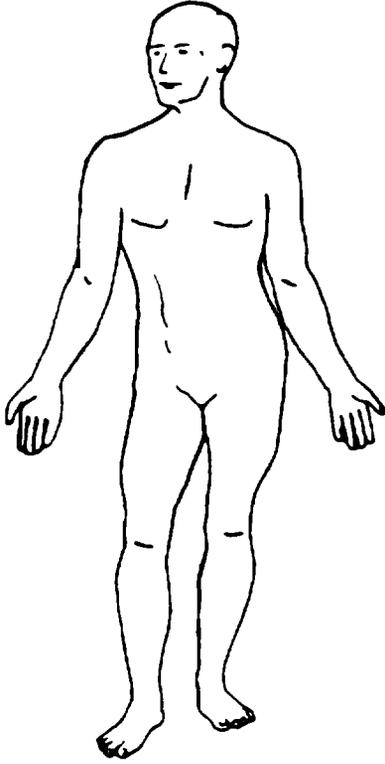
Occupant Number \_\_\_\_\_

National Accident Sampling System – Continuous Sampling Subsystem: Occupant Update

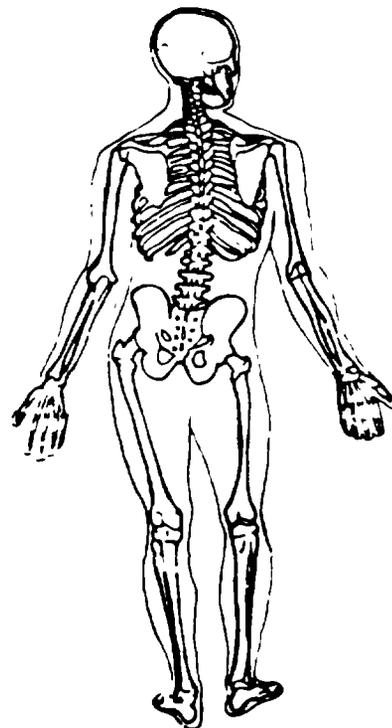
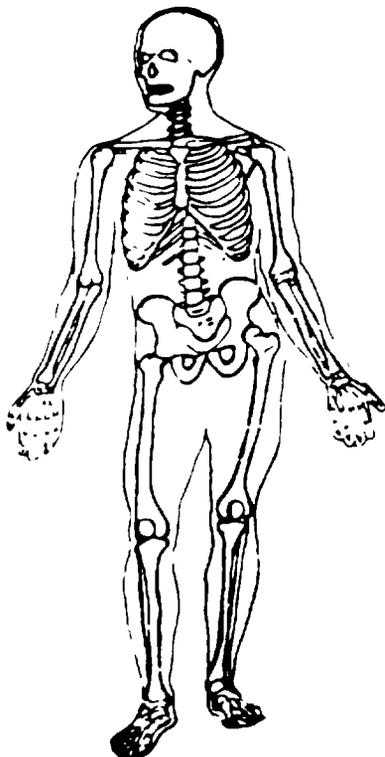
**OFFICIAL INJURY DATA**

Indicate the Nature, Location, and Injury Source of All Injuries

Soft Tissue Injuries



Skeletal Injuries



Variable Name: Investigator I.D. Number

Format: 1 column - numeric

Beginning  
Column 10

Element Values:

Range: 1 through 9

Source: Zone Center.

Remarks:

The person who was primarily responsible for the completion of this Occupant Form shall enter his/her unique number.

Each researcher's unique number is assigned by the PSU's Zone Center.

This variable is a mandatory variable and cannot be changed.

Variable Name: Vehicle Number

Format: 2 columns - numeric

Beginning  
Column 11

Element Values:

Range: 01 through 30

Source: Researcher assigned.

Remarks:

Code the Vehicle Number for the vehicle in which this occupant was riding (i.e., as a driver or as a passenger--in or on the vehicle).

One and only occupant is assumed to be in a hit-and-run vehicle (unless reliable evidence to the contrary exists), and that one person is also assumed to be the driver.

This variable is a mandatory variable and cannot be changed.

Variable Name: Occupant Number

Format: 2 columns - numeric

Beginning  
Column 13

Element Values:

Range: 01 through 50

Source: Researcher assigned.

Remarks:

Occupant numbers must be assigned sequentially, beginning in the enclosed area with "01". No numbers may be skipped. Assign numbers left to right and front to back among occupants.

Assign numbers last to persons on the vehicle or in an unenclosed area. Persons appended to vehicle for motion (e.g., bicyclist holding onto vehicle) are either pedestrians or other nonmotorists.

Persons on a motorcycle are assigned numbers sequentially, starting with "01". Assign numbers from front to back among occupants. If there are occupants in a side car, they are to be coded after the motorcycle occupants by assigning numbers left to right and front to back among the remaining occupants.

Drivers do not have to be coded "01" (e.g., right hand drive vehicles containing left front occupant). However, code the assumed driver of a hit-and-run vehicle as "01".

An occupant on or in the lap of another person should be assigned a number one higher than the person whose lap they were on or in.

Occupants sharing a seating position should be assigned numbers using the guidelines stated in the first paragraph above.

This variable is a mandatory variable and cannot be changed.

Variable Name: Occupant's Age

Format: 2 columns - numeric

Beginning  
Column 15

Element Values:

Range: 00-97, 99  
00 Less than one year old  
97 97 years and older  
99 Unknown

Source: Primary sources are interviewee and driver license records; secondary sources include police reports, other official records (i.e., medical records).

Remarks:

Age is recorded at time of accident with respect to the occupant's last birthday.

For drivers, verify age with data on licensing file. Licensing file data takes precedence over police or interview data.

Variable Name: Occupant's Sex

Format: 1 column - numeric

Beginning  
Column 17

Element Values:

- 1 Male
- 2 Female
- 9 Unknown

Source: Primary source is interviewee; secondary sources include police report and official records (e.g., medical).

Remarks:

Self-explanatory.

Variable name: Occupant's Height

Format: 2 columns - numeric

Beginning  
Column 18

Element Values:

Range: 12 through 85 inches  
99 Unknown

Source: Researcher determined--inputs include interviewee or official records  
(e.g., medical).

Remarks:

Code actual height to nearest inch.

The PAR may be used as a source if it contains this data, but it is  
superceded if other data exists.

Autopsies often include this information; use it when present.

Variable Name: Occupant's Weight

Format: 3 columns - numeric

Beginning  
Column 20

Element Values:

Range: 005 through 300 pounds  
999 Unknown

Source: Researcher determined--inputs include interviewee or official records  
(e.g., medical)

Remarks:

Code actual weight to nearest pound

The PAR may be used as a source if it contains this data, but it is  
superceded if other data exists.

Autopsies often include this information; use it when present.

Variable Name: Occupant's Role

Format: 1 column - numeric

Beginning  
Column 23

Element Values:

- 1 Driver
- 2 Passenger
- 9 Unknown

Source: Primary source is interviewee; secondary source is police report.

Remarks:

Hit-and-run vehicles are assumed to have only one occupant (unless reliable evidence to the contrary exists) and that person is assumed to be the driver.

Variable Name: Occupant's Seat Position

Format: 2 columns - numeric

Beginning  
Column 24

Element Values:

01 Front seat - left side	10 Front seat - additional passenger
02 Front seat - middle	11 Second seat or beyond - additional passenger
03 Front seat - right side	12 Truck-tractor sleeping section
04 Second seat - left side	13 Other enclosed area (specify)
05 Second seat - middle	14 In or on unenclosed area (specify)
06 Second seat - right side	15 In or on trailing unit (specify)
07 Third seat - left side	99 Unknown
08 Third seat - middle	
09 Third seat - right side	

Source: Primary source is interviewee; secondary source is police report.

Remarks:

More than one person may have the same seating position (e.g., child on or in mother's lap).

For motorcycles, code driver "01" (Front seat - left side), all sidecar passengers "02" (Front seat - middle), all passengers behind the driver "04" (Second seat - left side), and all passengers on lap of driver (in front of) "01".

In coupes and other cars designed for only 2 passengers in front or in back, use codes "01", "03", "04", "06", "07", or "09" when coding occupants.

Codes "10" and "11" can be used to record the position of someone sitting on the floor or lying across the seat. In addition, when two or more persons are sitting abreast of one another in the same seating location (as opposed to on or in someone's lap), since only one can be assigned the seat's position, the additional passenger codes "10" and "11" must be used. Assign the seat position to the person using the restraint; if no restraint was used, then assign the seat position to the older person (i.e., codes "01"- "09").

If the only real seat in the front seating area is a driver's seat and the occupant was in the area but not in the seat, code "10" (Front seat - additional passenger) should be used. This situation could occur because of design (e.g., an RV) or if a seat was removed. If a second or additional seating area can be identified and a person is in the area, but not in a designated seat, then code "11" (Second seat or beyond - additional passenger) should be used.

Code "01" should be assigned to the assumed driver of a hit-and-run vehicle unless evidence indicates a different position for the person or persons.

Variable Name: Occupant's Seat Position (cont'd.)

Codes "11" (Second seat or beyond - additional passenger) and "13" [Other enclosed area (specify)] are differentiated as follows:

Use Code "11" - for occupants in designated seating positions beyond the third seat as well as occupants additional to the second and third seats.

Use Code "13" - for occupants located in the enclosed area where no defined seating exists. Use this code for an occupant using a fold-down type seat in its folded down position.

Code "14" [In or on unenclosed area (specify)] includes those occupants riding on a fender, the boot of a convertible, the open cargo box on a truck, etc. Persons appended to the vehicle for motion are either pedestrians or other nonmotorists.

For buses use the following scheme:

BENCH*	ISLE	BENCH*	
DRIVER			
01	02	03	STEPWELL
04	05	06	
07	08	09	
11			

\*Regardless of whether seat is lateral or longitudinal.

## Coding of 015-019 (General Guideline)

Entrapment and Ejection

Using the guidelines given below, 015-019 may be coded based on PAR and accident severity when there is no vehicle inspection and no interview and the answer is obvious. If there is any doubt, annotate accordingly and code "9" (Unknown).

1. For Entrapped cases, in general 015-019 may be coded "0" (Not entrapped/No ejection).
2. For Pedestrian/Nonmotorist cases, in general 015-019 may be coded "0" (Not entrapped/No ejection).
3. For occupants of hit-and-run vehicles (V11 = 1), in general 015-019 may be coded "0" (Not entrapped/No ejection).
4. For other cases: (strata A to D)
  - (a) 015 (Entrapment) may be coded "0" (Not entrapped) if the PAR specifically so states for a given occupant. For all other occupants about whom the PAR is silent, code "9" (Unknown).

Recall, however, that if the PAR states that an occupant is entrapped, this is not sufficient to code Entrapment (because PAR definition of entrapment is different from NASS definition). Unless Entrapment is verified through other sources, 015 must be coded "9" (Unknown).

- (b) 016-019 (ejection) may be coded "0" (No ejection) if the PAR specifically so states for a given occupant. For all other occupants about whom the PAR is silent, code "9" (Unknown).

If the PAR indicates that an occupant is ejected, this is sufficient to code 016 "1" (Complete ejection) or "2" (Partial ejection) if the PAR so states. If complete versus partial ejection is not stated on the PAR, then code 016 equal "3" (Ejection, unknown degree) may be used.

Note, however, that 017-019 can be coded only if the PAR provides sufficient detail.

Variable Name: Entrapment

Format: 1 column - numeric

Beginning  
Column 26

Element Values:

- 0 Not entrapped
- 1 Entrapped
- 9 Unknown

Source: Researcher determined--inputs include the vehicle inspection, interviewee, and the police report.

Remarks:

Code "0" (Not entrapped) for the driver or occupants of a motorcycle. However, this does not include the sidecars.

Code "1" (Entrapped) means that part of the occupant was in the vehicle and mechanically restrained by a damaged vehicle component; jammed doors and immobilizing injuries, by themselves, are not sufficient to constitute entrapment. Entrapment by cargo shift is also not sufficient.

Persons who are completely or partially ejected and subsequently become pinned by their own vehicle and any surface other than their own vehicle are not considered entrapped.

If the vehicle is not inspected and/or the occupant is not interviewed but the police report states that the person was "trapped", the researcher must verify through the officer, emergency personnel, or other witnesses that the person was, in fact, in the vehicle and mechanically restrained. This is because the above definition is more restrictive than common usage of the term. Code "9" (Unknown) if unable to obtain verification in the above situation.

The margin indicator, which references the Vehicle Form, should be filled in with the applicable code or with a checkmark (✓) to indicate that the actual crosscheck back to the Vehicle Form has been made prior to coding the researcher's final opinion.

An occupant is not considered entrapped (015 - 1) when their seat belt buckle release mechanism is jammed as a result of their accident. A vehicle defects bulletin should be submitted, however, in these cases.

Variable Name: Ejection

Format: 1 column - numeric

Beginning  
Column 27

Element Value:

- 0 None
- 1 Complete ejection
- 2 Partial ejection
- 3 Ejection, unknown degree
- 9 Unknown

Source: Researcher determined--inputs include the vehicle inspection, interviewee, and the police report.

Remarks:

Code "0" (None) for the driver or occupants of a motorcycle (not including sidecar) or any persons riding on the exterior of a vehicle, such as the fenders (this does not include pickup beds, flat beds, boot of a convertible, and persons riding on open tailgates).

Ejection refers to persons being completely or partially thrown from the vehicle during the course of the crash.

Code "1" (Complete ejection) refers to a situation where the occupant's body is entirely outside the vehicle but may be in contact with the vehicle.

Code "2" (Partial ejection) refers to a situation where part of the occupant's body remains in the vehicle. This does not apply to occupants who are not initially in the seating compartment of the vehicle [e.g., pickup beds, motorcycle sidecars, flat beds, boot of a convertible, and persons riding on open tailgates, since any ejection for them is coded as "1" (Complete ejection)].

Persons in or on an "other vehicle" (V17, "80" through "89") will have to be handled depending upon the occupant protection provided. If the occupant can be contained (at least from the waist down) inside of the occupant compartment, then ejection is relevant; otherwise, code "0" (None) for those occupants.

Police reported ejections may be coded if there is no vehicle inspection or occupant interview, provided that the ejectee was in the seating compartment of the vehicle and there is no evidence which contradicts the reported ejection.

OCCUPANT FORM

016  
(2)

Variable Name: Ejection (cont'd.)

The margin indicator which references the Vehicle Form, should be filled in with the applicable code or with a checkmark (✓) to indicate that the actual crosscheck back to the Vehicle Form has been made prior to coding the researcher's final opinion.

Variable Name: Ejection Area

Format: 1 column - numeric

Beginning  
Column 28

Element Values:

- 0 No ejection
- 1 Windshield
- 2 Left front
- 3 Right front
- 4 Left rear
- 5 Right rear
- 6 Rear
- 7 Roof
- 8 Other area (e.g., sidecar, back of pickup, etc.) (specify)
- 9 Unknown

Source: Researcher determined--inputs include the vehicle inspection, interviewee, and the police report.

Remarks:

Code "0" (No ejection) applies to persons who are not ejected, to motorcycle occupants in other than a sidecar, or to persons riding on fenders.

Code "6" (Rear) is restricted to persons riding in a passenger compartment, who are ejected through the rear window, open tailgate (e.g., station wagon), hatchback, etc.

Code "1" through "7" are designated for use with areas designed for passenger protection (e.g., passenger cars, vans, truck cabs, self-contained RVs and motor homes). Trailers, add-on campers, haywagons, etc., are to be assigned code "8" (Other area).

Code "7" (Roof) applies to all hardtops, convertibles, sun roofs, t-bar roofs, and detachable hardtops (such as fiberglass tops) that are used to cover areas designed for passenger protection.

Examples of how variables 018 (Ejection Medium) and 019 (Medium Status) should be coded when 017 = 7 follows.

017  
(2)

Variable Name: Ejection Area (cont'd.)

016	Roof Type	Roof Status	017	018	019
No ejection 0	Any roof	Open or closed	0	0	0
Ejection 1-3	Hardtop	Ripped open	7	8	4
Ejection 1-3	Hardtop	Detached	7	2	1
Ejection 1-3	Convertible	In down or open position	7	2	1
Ejection 1-3	Convertible	In closed position	7	8	3
Ejection 1-3	Sun or t-bar	Ripped open	7	8	4
Ejection 1-3	Sun or t-bar	Open/removed	7	2	1
Ejection 1-3	Sun or t-bar	Closed	7	8	3
Unknown 9	Any roof	Open or closed	9	9	9

Code "8" (Other area) also applies to persons riding on open tailgates. Persons ejected from other vehicles with waist down protection but not encapsulated should also be coded here.

Code "9" (Unknown) if the sole source for the ejection is the police report.

The margin indicator, which references the Vehicle Form, should be filled in with the applicable code or with a checkmark (✓) to indicate that the actual crosscheck back to the Vehicle Form has been made prior to coding the researcher's final opinion.

Variable Name: Ejection Medium

Format: 1 column - numeric

Beginning  
Column 29

Element Values:

- 0 No ejection
- 1 Door
- 2 Open roof structure
- 3 Fixed windows
- Operable Windows
- 4 Roll down type
- 5 Hinged type
- 6 Sliding type
- 7 Other type (specify)
- 8 Other medium (specify)
- 9 Unknown

Source: Researcher determined--inputs include the vehicle inspection, interviewee, and the police report.

Remarks:

Code "0" (No ejection) applies to persons who are not ejected, to motorcycle occupants in other than a sidecar, or to persons riding on fenders.

Code "8" (Other medium) applies to persons riding in pickup beds, or flat beds, in sidecars, on open tailgates, and for other situations which cannot be classified in codes "1"- "7", such as standard roofs which are torn open.

In addition, use "8" when someone is ejected from a trailer or from an add-on camper, haywagon, other vehicle with only waist down protection, etc.

Codes "4"- "7" all refer to windows.

Code "2" (Open roof structure) applies only to convertible, sun roofs, and t-bar roofs.

Code "9" (Unknown) if the sole source for the ejection is the police report.

The margin indicator, which references the Vehicle Form, should be filled in with the applicable code or with a checkmark (✓) to indicate that the actual crosscheck back to the Vehicle Form has been made prior to coding the researcher's final opinion.

Variable Name: Medium Status

Format: 1 column - numeric

Beginning  
Column 30

Element Values:

- 0 No ejection
- 1 Open
- 2 Separation
- 3 Closed, closed when damaged
- 4 Integral structure ripped open
- 9 Unknown

Source: Researcher determined--inputs include the vehicle inspection, interviewee, and the police report.

Remarks:

Code "0" (No ejection) applies to persons who are not ejected, to motorcycle occupants in other than a sidecar, or to persons riding on fenders.

Code "1" (Open) applies to convertible roofs, sun roofs, t-bar roofs, windows, doors or tailgates that are open immediately prior to impact, or to other open areas of vehicles such as pickup beds, motorcycle sidecars, other vehicles with only waist down protection and flat bed trucks.

Codes "1" (Open) and "3" (Closed, closed when damaged) refer to the status of the medium immediately prior to the impact.

Code "2" (Separation) is restricted to use only with bonded windows, and it reflects a separation which may be attributable to either the forces of the collision or to internal contact.

Code "3" (Closed, closed when damaged) refers to a window that is closed or partially closed when damaged, or to a convertible, sun, or t-bar roof that is closed when damaged. Sun and t-bar roofs are coded here if the ejection occurred through the designed opening in the sun or t-bar roof. However, if the roof was of a sun or t-bar type but the ejection occurred because a sizeable opening was torn in the roof structure, then code "4" (Integral structure ripped open) should be used.

Code "3" (Closed, closed when damaged) also refers to a door that is closed, but when damaged, experiences latch and/or hinge failure causing the door to open.

Code "4" (Integral structure ripped open) should be used when any vehicle structure, not designed to be opened (e.g., standard roof), is torn open during the accident such as to permit ejection.

Variable Name: Medium Status (cont'd)

Code "9" (Unknown) if the sole source for the ejection is the police report.

The margin indicator, which references the Vehicle Form, should be filled in with the applicable code or with a checkmark (✓) to indicate that the actual crosscheck back to the Vehicle Form has been made prior to coding the researcher's final opinion.

Variable Name: Treatment - Mortality

Format: 1 column - numeric

Beginning  
Column 31

Element Values:

- 0 No treatment
- 1 Fatal
- 2 Fatal - ruled disease
- Nonfatal
- 3 Hospitalization
- 4 Transported and released
- 5 Treatment at scene - nontransported
- 6 Treatment later
- 8 Treatment - other (specify)
- 9 Unknown

Source: Researcher determined--inputs include interviewee, police report, and medical records.

Remarks:

Official sources (if they exist) take precedence over interview data.

Code "0" (No treatment) includes persons transported to a hospital but who refuse treatment. As long as there was transportation directly from the scene, a refusal of treatment will not, on its own, affect the Final Stratification (A09) of the case.

Code "1" (Fatal) when death occurs within 30 days of the accident. Death must have occurred as a consequence of injuries sustained in the traffic accident. Interview information alone should not be sufficient to select this code.

Code "2" (Fatal - ruled disease) is used in two situations. The first is when the effects of a disease can be deemed as a cause of the accident. Cause means that the on-set of the disease occurred prior to the first harmful event. When determining the time of on-set (relative to the first harmful event), the researcher can use any information source available. The researcher makes his/her determination after weighing all the evidence. (NOTE: The use of all available information sources is restricted to the determination of when the on-set occurred.)

Additionally, code "2" (Fatal - ruled disease) is used when a medical examiner (or other official vested by the state to verify the cause of death) or an official medical report verifies that the death resulted from either (1) a diseased condition, or (2) not from accident related injuries.

Variable Name: Treatment - Mortality (cont'd.)

Code "3" (Hospitalization) when hospitalization occurs as a result of injury (need not be taken directly to a hospital). See Hospital Stay (021) for hospitalization criteria. Also use this code if a person is treated and released then subsequently hospitalized as a result of injuries sustained in the accident.

Code "4" (Transported and released) when the person went directly from the accident scene to a treatment facility (hospital, clinic, doctor's office, etc.), and the person is examined for injuries at the facility. The person need not have been injured. The means of transportation is not a consideration.

Code "5" (Treatment at scene - nontransported) includes treatment at scene such as: first aid, self-treatment, EMT treatment, doctor treatment, etc.--and the person is not transported or does not go to a treatment facility (e.g., doctor, clinic, hospital, etc.) as a result of injuries sustained in this accident.

Code "6" (Treatment later) includes only professional treatment (e.g., doctor, clinic, hospital, etc.) where the person (1) did not go directly from the scene to treatment, and (2) was treated and released. If a person is treated at the scene, is not transported from the scene, and subsequently receives later treatment (without being hospitalized), then use this code.

Code "8" (Treatment - other) includes nonprofessional treatment such as first aid, self-treatment, etc., not at the scene of the accident.

If a person survives the injuries and receives treatment at a hospital, but is not admitted for hospitalization, that person's treatment is to be coded as either "4" or "6", depending upon whether the person went directly or indirectly to the hospital. It does not matter if the person is treated for one hour or twelve, only that the person is released following treatment. Nor does it matter if the treatment begins prior to midnight and spans into the following day.

Variable Name: Hospital Stay

Format: 2 columns - numeric

Beginning  
Column 32

Element Values:

Range: 00-61, 99

00 Not hospitalized

Code the number of days (up through 60) that the occupant stayed in hospital

61 61 days or more

99 Unknown

Source: Researcher determined--inputs include interviewee and medical reports.

Remarks:

Official sources (if they exist) take precedence over interview data.

Code "00" (Not hospitalized) if not injured or injured but not admitted.

Code "00" (Not hospitalized) if fatal at scene, pronounced dead on arrival, or survival does not extend beyond the emergency room.

The basis for the number of days coded is an overnight criterion. Every time a person remains past midnight subsequent to admission, it is one day. The only exception is when a person dies on the same day as the admission.

In the event that the person survives the emergency room but dies subsequent to admission, then code at least "01", even if the person expires the same day as admitted.

If a person is admitted, lived four days in the hospital, then expired, code "04".

Variable Name: Working Days Lost

Format: 2 columns - numeric

Beginning  
Column 34

Element Values:

Range: 00-62, 97, 99

00 No working days lost

Code the number of days (up through 60) that the occupant lost from work due to the accident

61 61 days or more

62 Fatally injured

97 Not working prior to accident

99 Unknown

Source: Primary source is the interviewee; a secondary source is the person's employer.

Remarks:

Report the actual number of "work" days lost due to the accident by an employed person or a full-time college student. Children, adolescents, retirees, or unemployed persons are not included (code "97", Not working prior to accident).

Employed is defined to mean that the person was scheduled to work at least four hours on each of the days lost. Each such day is counted as a full day so long as the person was scheduled to work at least four hours on the day lost. Do not accumulate the hours and convert to equivalent full-time days; however, indicate on the form if the person works less than full-time but greater than four hours per day by annotating "part-time" or "PT".

If during the interview a reasonable projection of future days lost can be made, then add those days to those already known to have been lost. If a reasonable projection cannot be made, then code "99" (Unknown).

The days lost need not be due to injury.

Days lost include Saturdays, Sundays, and afternoon and evening shifts if so scheduled. Do not count double shifts or days at time and one-half pay, etc., as more than one day.

If a person is not employed, not a full-time college student, or works less than four hours per day, then code "97" (Not working prior to accident).

Variable Name: Infant or Child Restraint Make/Model

Format: 2 columns - numeric

Beginning  
Column 36

Element Values:

<u>Model</u>	<u>Code</u>	<u>Make/Model</u>	<u>Includes</u>	<u>Manufacturer</u>
	00	No infant or child restraint		
Infant Safety Seats				
	01	Love Seat	GM Love Seat, Ford Infant Carrier, Chrysler Infant Safety Carrier, Deluxe	Century
	02	Dyn-O-Mite		Questor/Kantwet
	03	Trav-L-Ette		Cosco/Peterson
	04	First Ride		Cosco/Peterson
	05	Swinger		Romer/KFS
	06	Cuddle Shuttle		Collier-Keyworth
	07	Rock 'N' Ride		Kolcraft
	08	Snug Seat		Graco
Toddler/Convertible Seats				
	20	Century 100	100 Series	Century
	21	Century 200	200 Series	Century
	22	Century 300	300 Series	Century
	23	Century 400	400 Series, XL	Century
	24	Child Love Seat	GM Child Love Seat	Century
	25	Strolee Wee Care	500 Series	Strolee
	26	Strolee Wee Care	600 Series	Strolee
	27	Safe-T-Seat		Cosco/Peterson
	28	Safe-T-Shield		Cosco/Peterson
	29	Safe-T-Mate		Cosco/Peterson
	30	Safe & Easy		Cosco/Peterson
	31	Safe & Snug		Cosco/Peterson
	32	Peterson Safety Shield		Cosco/Peterson
	33	Bobby Mac	Deluxe II, Champion, Super, Lite	Questor/Kantwet
	34	Kantwet One-Step		Questor/Kantwet
	35	Kantwet Care Seat		Questor/Kantwet
	36	Kantwet Safe Guard		Questor/Kantwet
	37	Hi-Rider XL		Kolcraft
	38	Redi-Rider		Kolcraft
	39	Quikstep		Kolcraft
	40	Teddy Tot Astroseat	9100/9300 Series	International
	41	Welsh Travel Tot		Welsh
	42	Ford Tot Guard		Ford
	43	Nissan Child Safety Seat		Nissan
	44	Safe & Sound	II	Collier-Keyworth

Variable Name: Infant or Child Restraint Make/Model [cont'd.]

<u>Model</u>	<u>Code</u>	<u>Make/Model</u>	<u>Includes</u>	<u>Manufacturer</u>
Toddler/Convertible Seats (cont'd.)				
45		Roundtripper		Collier-Keyworth
46		Little Trav'ler	310,315	Graco
47		Pride Ride	820,830	Pride-Trimble
48		Peggy		Romer/KFS
49		Tip-up		Romer/KFS
50		Commuter		Cosco
51		Fisher-Price		Fisher-Price
52		GT 100		Graco
53		Guardian		Gerry
Booster Safety Seats				
70		Safe-T-Rider	II, Deluxe	Century
71		Travel Hi-Lo	Deluxe High Back	Cosco/Peterson
72		Teddy Tot Astrorider	6000 Series	International
73		Tot Rider	XL, Quikstop	Kolcraft
74		Wee Care Booster Seat	600 Series	Strolee
75		Co-Pilot	II	Collier-Keyworth
76		Wings by Bobby Mac		Questor/Kantwet
77		#812	800 Series	Pride-Trimble
78		Vario		Romer/KFS
79		Britax Handicapped Safety Seat		Questor/Kantwet
80		E-Z-On Vest		Rupert
81		Child Cushion		Volvo
82		Commander		Century
83		Explorer		Cosco
84		Flip 'N Go		Kolcraft
85		Quick Click		Strolee
86		Voyager		Collier-Keyworth
97		Other make/model (specify)		
98		Unknown make/model		
99		Unknown if restraint available		

Source: Researcher determined--inputs include vehicle inspection, interviewee, and police report.

## Remarks:

Code "00" (No infant or child restraint) if (1) this person is not an infant or child (i.e., less than 50 pounds and less than 40 inches), or (2) this person is an infant or child, but no infant or child restraint was available. When trying to determine if this person is an infant or

Variable Name: Infant or Child Restraint Make/Model (cont'd.)

child and height and weight information is absent, then if the person is 6 years of age or older, use this code.

If a qualifying infant or child was in the vehicle and a child restraint device was available [see 027, Manual (Active) Restraint System Availability], then enter on this variable the make/model of the infant or child restraint. Select the name of the make/model from the list provided above and code the make/model's number.

If it can be determined from a reliable source that a hit-and-run vehicle contained an infant or child at the time of its involvement in the accident, then code this variable from available information. If no information is available on the hit-and-run occupants, then this variable is to be coded "00" (No infant or child restraint).

Code "97" (Other make/model) if a qualifying infant or child and a child restraint device are present but the make/model is not listed above.

Code "98" (Unknown make/model) if a qualifying infant or child and a child restraint device are present but the make/model is not known.

Code "99" (Unknown if restraint available) when it is unknown if the person under consideration is an infant or child or you do not know if an infant or child restraint was available.

Variable Name: Type of Infant or Child Restraint

Format: 1 column - numeric

Beginning  
Column 38

Element Values:

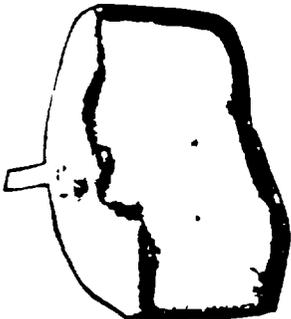
- 0 No infant or child restraint
- 1 Infant seat
- 2 Child seat
- 3 Convertible seat
- 4 Booster seat
- 7 Other type seat (specify)
- 8 Unknown type of restraint
- 9 Unknown if restraint available

Source: Researcher determined--inputs include vehicle inspection, interviewee, and police report.

Remarks:

Code "0" (No infant or child restraint) if (1) this person is not an infant or child (i.e., less than 50 pounds and less than 40 inches), or (2) this person is an infant or child, but no infant or child restraint was available. When trying to determine if this person is an infant or child and height and weight information is absent, then if the person is 6 years of age or older, use this code. Child carriers that are not designed as safety seats are to be classified as "no infant or child restraint." Examples of these child carriers are shown below.

If it can be determined from a reliable source that a hit-and-run vehicle contained an infant or child at the time of its involvement in the accident, then code this variable from available information. If no information is available on the hit-and-run occupants, then this variable is to be coded "0" (No infant or child restraint).



Kolcraft  
"Baby Dri"



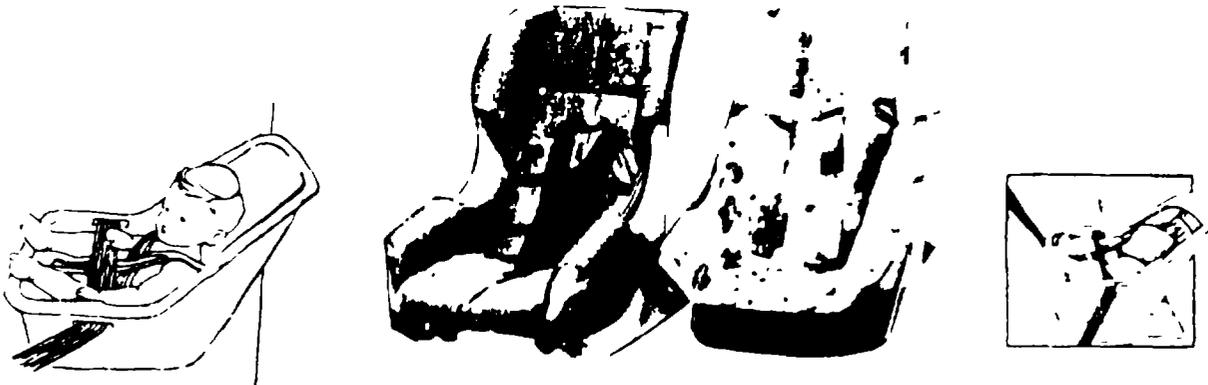
Century  
"Kanga-Rocka-Roo"



Questor  
"Infanseat"

Variable Name: Type of Infant or Child Restraint (cont'd.)

Code "1" (Infant seat) if the seat is designed to only face the rear of the vehicle and the maximum capacity is 17-20 pounds (this information will usually be found of the manufacturer's label). Infant safety seats are equipped with a five-point harness (straps) to secure the infant to the safety seat and use the automobile's safety belt system to secure the seat to the car. The five-point infant seat system includes a pair of straps that go over the infant's shoulders, a crotch strap, and the car's belts as lap belts and to secure the seat to the car. The seat is tub-shaped and cradles the baby in a generally reclined position. Examples are shown below.

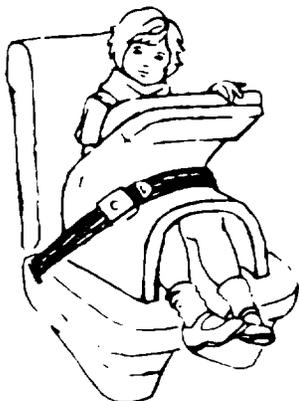


Cosco/Peterson  
"First Ride"

Questor  
"Dyn-o-mite"

Code "2" (Child seat) if the seat is designed to only face the front of the vehicle and to carry a child weighing approximately 20-50 pounds (this information will usually be found on the manufacturer's label). The child seat may also be referred to as a "Toddler seat". Most have a five-point harness system (straps) to secure the child to the seat. All models secure the safety seat to the car with the car's safety belts and, in addition, some models have a tether strap which must be attached to the rear safety belt or deck lid to prevent tipping forward. The child is restrained by a shield, a harness, or a combination of the two in a generally upright sitting position, although some seats have multiple positions. Examples are shown below.

Variable Name: Type of Infant or Child Restraint (cont'd.)



Shield Type



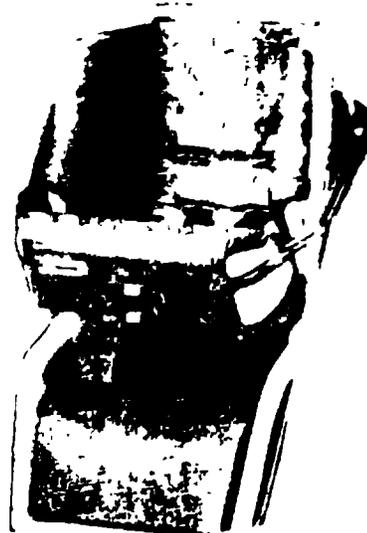
Harness Type



Code "3" (Convertible seat) if the seat is designed to face the front or the rear of the vehicle and to carry a child ranging from birth to approximately 50 pounds (this information will usually be found on the manufacturer's label). Again, most have a five-point harness system (straps) to secure the child to the seat. All models secure the safety seat to the the car with the car's safety belts and, in addition, some models have a tether strap which must be attached to the rear safety belt or deck lid to prevent tipping forward. The child is restrained by a shield, a harness, or a combination of the two in either a generally reclined rearward facing position (for small infants--birth to 20 pounds) or a generally upright forward sitting position (for larger children--20-50 pounds). Examples are shown below:



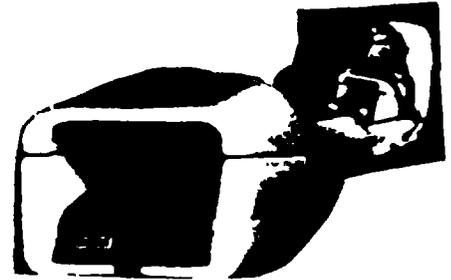
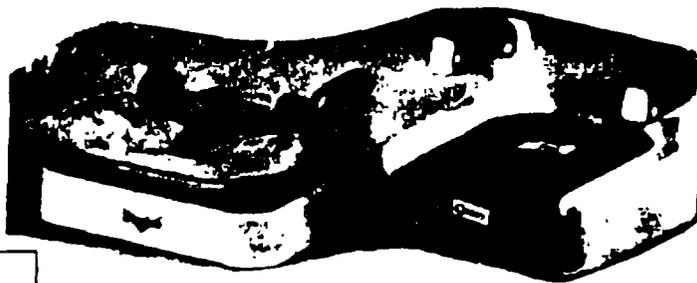
Harness Type  
Century "200"



Combination Harness and Shield  
Type Cosco/Peterson "SAFE & SNUG"

Variable Name: Type of Infant or Child Restraint (cont'd.)

Code "4" (Booster seat) if the seat is designed as a forward facing platform without a back (except for one Cosco/Peterson model which has a back) and adjusts to children up to 60 pounds. The seat restrains the child in a raised upright sitting position with either a harness or shield. Booster seats are designed primarily to fill the gap between when a child outgrows the standard child safety seat and when the child can use the adult belt and still see out the window. Some models can also be used for smaller children, as small as 20 pounds. Examples of booster seats are shown below.



Harness Types

Shield Types

Strolee  
"Wee Care"

Century  
"Safe-T-Rider"

Collier-Keyworth  
"Co-Pilot"

Some of the above infant, child, convertible and booster seats require a tether. For restraint devices placed in the vehicle's front seat, the tether should run over the top of the car seat and attach to a rear seat belt or possibly to one of the anchors for a front seat belt. For restraint devices placed in the vehicle's rear seat the tether should run over the top of the rear seat and attach to an anchor on the rear window shelf or possibly pass through the rear window shelf and attach to one of the anchors for a rear seat belt.

Proper Tether Use



Attached to Rear Seat Belt



Attached to Rear Window Shelf

Code "7" (Other type seat) if the infant or child safety seat does not fall into one of the categories coded 1 through 4. Specify the type.

Code "8" (Unknown type of restraint) if a qualifying infant or child and child restraint device are present but the type of child restraint device is unknown.

Code "9" (Unknown if restraint available) when it is unknown if the person under consideration is an infant or child or you do not know if an infant or child restraint was available.

Variable Name: Infant or Child Seat Orientation

Format: 1 column - numeric

Beginning  
Column 19

Element Values:

- 0 No infant or child seat
- 1 Rear facing
- 2 Forward facing
- 7 Other orientation (specify)
- 8 Unknown orientation
- 9 Unknown if restraint available

Source: Researcher determined--inputs include vehicle inspection, interviewee, and police report.

Remarks:

Code "0" (No infant or child seat) if (1) this person is not an infant or child (i.e., less than 50 pounds and less than 40 inches), or (2) this person is an infant, but no infant or child seat was available. When trying to determine if this person is an infant or child and height and weight information is absent, then if the person is 6 years of age or older, use this code.

If it can be determined from a reliable source that a hit-and-run vehicle contained an infant or child at the time of its involvement in the accident, then code this variable from available information. If no information is available on the hit-and-run occupants, then this variable is to be coded "0" (No infant or child seat).

Code "1" (Rear facing) or "2" (Forward facing) if at the time of the accident the seat was facing the designed rear of the vehicle or the designed front of the vehicle, respectively. Do not code with respect to the vehicle's direction of travel (e.g., backing vehicle).

Code "7" (Other orientation) if the seat was facing other than rear or forward at the time of the accident (e.g., on the floor, sideways, on top or underneath something).

Code "8" (Unknown orientation) if a qualifying child and a child restraint seat are present but the orientation at the time of the accident is unknown (e.g., at the time of vehicle inspection the child seat is not present or is unattached and there is no information from an interview or the PAR).

Code "9" (Unknown if restraint available) when it is unknown if the person under consideration is an infant or child or you do not know if an infant or child restraint was available.

Variable Name: Infant or Child Restraint Harness/Shield Usage.

Format: 1 column - numeric

Beginning  
Column 40

Element Values:

- 0 No infant or child restraint
- 1 Harness/shield used
- 2 Harness/shield not used
- 8 Unknown harness/shield usage
- 9 Unknown if restraint available

Source: Researcher determined--inputs include vehicle inspection, interviewee, and police report.

Remarks:

Code "0" (No infant or child restraint) if (1) this person is not an infant or child (i.e., less than 50 pounds and less than 40 inches), or (2) this person is an infant, but no infant or child seat was available. When trying to determine if this person is an infant or child and height and weight information is absent, then if the person is 6 years of age or older, use this code.

If it can be determined from a reliable source that a hit-and-run vehicle contained an infant or child at the time of its involvement in the accident, then code this variable from available information. If no information is available on the hit-and-run occupants, then this variable is to be coded "0" (No infant or child restraint).

Code "1" (Harness/shield used) or "2" (Harness/shield not used) based on whether or not a harness or shield was used. Some models have one or the other. Some models have both. If your model has both a shield and a harness, report whether or not the harness was used.

Code "8" (Unknown harness/shield usage) if a qualifying child and a child restraint seat are present but the usage of a harness or shield is unknown.

Code "9" (Unknown if restraint available) when it is unknown if the person under consideration is an infant or child or you do not know if an infant or child restraint was available.

Variable Name: Manual (Active) Restraint System Availability

Format: 1 column - numeric

Beginning  
Column 41

Element Values:

- 0 None available
- 1 Shoulder belt
- 2 Lap belt
- 3 Lap belt and shoulder belt
- 4 Motorcycle helmet
- 5 Child safety seat (designed without tether or unknown design)
- 6 Child safety seat (designed with tether - tether not used) [specify]
- 7 Child safety seat (designed with tether - tether used)
- 8 Restraint available - type unknown or other (specify)
- 9 Unknown

Source: Researcher determined--inputs include vehicle inspection, interviewee, and police report.

Remarks:

Select the system which was available for use, if so desired, by the occupant. Restraints which were installed but subsequently removed or cut should not be considered to be available. In other words, availability is determined by presence and functional status; use is not to be considered in making this determination.

Belts which are knotted, buckled at the rear of the seat bench, stored below the bench, etc., should be considered as available if they were otherwise operative.

Persons such as children who are held by another person are not considered to be restrained, nor to have restraints available.

A motorcycle helmet (code "4") is to be considered available to all riders of a motorcycle, even if there are more riders than helmets. However, if it is in use by a person, then it is available only to that person.

Codes "5", "6", and "7" (Child safety seat...) is considered available if located so as to be retrievable by a person while in the passenger compartment (i.e., the safety seat is not in the trunk, trailer, etc.). It should be coded as available for all applicable children (i.e., less than 50 pounds and less than 40 inches) if it exists, even if there are more children than safety seats. However, if it is in use by a child, then it is available only to that person.

Variable Name: Manual (Active) Restraint System Availability [cont'd.]

Code "5" [Child safety seat (designed without tether or unknown design)] should be used when a child safety seat is designed to be restrained by means other (e.g., lap belt) than a tether or when an unknown design is available.

Code "7" [Child safety seat (designed with tether - tether used)] should be used when a child safety seat equipped with a tether--designed to be attached to a rear seat lap belt or to a special attachment mounted on the backlight package shelf--is available and is properly installed in the vehicle.

Code "7" may be used only when the tether-designed child seat is available and the tether is properly installed. If a child safety seat which is designed with a tether is improperly or incompletely installed (i.e., tether not used), then use code "6" [Child safety seat (designed with tether - tether not used)].

If the child seat is designed with tether but the properness of the installment is unknown and available information does not support improper installment, then code the restraint system availability as code "7" [Child safety seat (designed with tether - tether used)].

When assessing child safety seat tethers, seats designed with optional tethers should have the tethers coded according to their use (i.e., either codes "6" or "7").

Identify any "other" restraint if the variable is coded "8" (Restraint available - type unknown or other). If there is no vehicle inspection or interview but the PAR indicates that: (1) belts were used, or (2) belts were not used, then code "8" (Restraint available - type unknown or other) should be used. If the PAR indicates the type of belts available and there was no vehicle inspection or interview, then the appropriate code "1", "2", "3", "4", "5", may be used; however, codes "6" and "7" may not be coded strictly from the PAR since proper installation must be assessed.

The margin indicator, which references the Vehicle Form, should be filled in with the response from the Vehicle Form to aid the actual crosscheck prior to coding the researcher's final option.

Variable Name: Manual (Active) Restraint System Use

Format: 1 column - numeric

Beginning  
Column 42

Element Values:

- 0 None used
- 1 Shoulder belt
- 2 Lap belt
- 3 Lap and shoulder belt
- 4 Motorcycle helmet
- 5 Child safety seat - car lap belt used properly
- 6 Child safety seat - car lap belt used improperly (specify)
- 7 Child safety seat - unknown if car lap belt used properly
- 8 Restraint used - type unknown or other (specify)
- 9 Unknown

Source: Researcher determined--inputs include vehicle inspection, interviewee, and police report.

Remarks:

Code "3" (Lap and shoulder belt) is used when the occupant is "encompassed" both in the lap and upper torso region by a lap and shoulder belt combination. Defeated interlock or buzzer warning system, as well as maladjustment of the belts do not detract from the usage; however, if the inertia reel, retracting mechanism, or latch mechanism malfunctioned, the lap and/or shoulder belt which failed should not be considered as used. If a person has an integral lap and shoulder belt but is only "encompassed" by the lap portion (having the shoulder belt behind his or her back), code "2" (Lap belt).

Codes "1" (Shoulder belt) and "2" (Lap belt) must be similarly considered.

Code "4" (Motorcycle helmet) is to be used if the helmet is worn; it is not necessary for the chin strap to be used.

Code "5" (Child safety seat - car lap belt used properly) is to be indicated only when the safety seat is installed so as to comply with the manufacturer's directions (i.e., seat must be integrated with the vehicle via the seat belts) and it is occupied by the child.

Variable Name: Manual (Active) Restraint System Use [cont'd.]

Code "6" (Child Safety Seat - car lap belt used improperly) is to be indicated when a child safety seat is not installed according to the manufacturer's directions, and it is occupied by the child. Specify how the belt was used improperly.

Code "7" (Child safety seat - unknown if car lap belt used properly) is to be indicated when a child safety seat is occupied by a child, but it is unknown if the seat was installed (using belts) according to the manufacturer's directions.

Code "8" (Restraint used - type unknown or other) if there is no vehicle inspection or interview and the PAR indicates "belts were used." However, code "0" (None used) if the PAR indicates "belts were not used."

The PAR is a legitimate source for belt usage only if no interview was conducted, no vehicle inspection was completed, and the PAR indicates both restraint availability and restraint usage. In most states these code(s) are collapsed and while they may be used for coding of restraint availability, they are too vague to actually indicate restraint usage. The team should consult their Zone Center for proper coding of restraint usage with the PAR as the sole source of data. A field response column is provided on the form for the researcher to indicate the assessment of restraint usage on the PAR.

The margin indicator, which references the Vehicle Form, should be filled in with the response from the Vehicle Form to aid in the actual cross-check prior to coding the researcher's final opinion.

Variable Name: Automatic (Passive) Restraint System Availability

Format: 1 column - numeric

Beginning  
Column 43

Element Values:

- 0 Not equipped
- 1 Airbag
- 2 Airbag disconnected
- 3 Airbag not reinstalled
- 4 2 point automatic belts
- 5 3 point automatic belts
- 6 Automatic belts destroyed or rendered inoperable
- 9 Unknown

Source: Researcher determined--inputs include vehicle inspection, interviewee, and police report (if listed).

Remarks:

Code "0" (Not equipped) if the vehicle did not have any automatic restraints. Automatic (passive) restraints are for front seat positions in post-1971 passenger cars. Thus, if the vehicle is not a post-1971 passenger car or the occupant is not in a front seat seating position, this variable should be coded with element value "0" (Not equipped).

Code "1" (Airbag) if the vehicle was equipped with an airbag. [Note: Deployment of airbag is considered in variable 030, Automatic (Passive) Restraint Function.]

Code "2" (Airbag disconnected) refers to a situation where components of the system are rendered inoperative prior to the collision (e.g., fuse removed).

Code "3" (Airbag not reinstalled) refers to a situation where the bag is not repositioned, the gas container is not charged, etc., following a deployment previous to the present accident.

Code "4" (2 point automatic belts) or "5" (3 point automatic belts) depending on how the vehicle was equipped. (Note: The 3 point system became available with certain 1980 model vehicles.)

Add-on passive restraints are available for pre-1972 model year vehicles. However, if a vehicle is not inspected and no interview is obtained, code

OCCUPANT FORM

029  
(2)

Variable Name: Automatic (Passive) Restraint System Availability [cont'd.]

"9" (Unknown) for occupants of post-1971 passenger cars, and code "0" (Not equipped) for occupants of all other vehicles.

The margin indicator, which references the Vehicle Form, should be filled in with the response from the Vehicle Form to aid in the actual crosscheck prior to coding the researcher's final opinion.

Variable Name: Automatic (Passive) Restraint Function

Format: 1 column - numeric

Beginning  
Column 44

Element Values:

- 0 Not equipped
- 1 Automatic belt in use
- 2 Automatic belt not in use
- 3 Deployed airbag
- 4 Nondeployed airbag
- 9 Unknown

Source: Researcher determined--inputs include vehicle inspection, interviewee, and police report (if listed).

Remarks:

Automatic (passive) restraints are for front seat positions in post-1971 passenger cars. Thus, if the vehicle is not a post-1971 passenger car or the occupant is not in a front seat position, this variable should be coded with element value "0" (Not equipped).

Code "2" (Automatic belt not in use) if the seat belt is disconnected or placed behind the person's back.

Code "3" (Deployed airbag) or "4" (Nondeployed airbag) solely on whether or not the airbag deployed. No consideration is to be made regarding whether or not it should have deployed. Final determination will be made by your Zone Center or NCSA. Note: An occupant seat designed to deploy in every collision.)

If the vehicle was not inspected and no interview was obtained, code "9" (Unknown) for occupants of post-1971 passenger cars, and code "0" (Not equipped) for occupants of all other vehicles.

The margin indicator, which references the Vehicle Form, should be filled in with the response from the Vehicle Form to aid in the actual crosscheck prior to coding the researcher's final opinion.

## Injury Data From Interviewee

This page is separated into four body diagrams: front and back soft tissue injuries and front and back skeletal injuries. These diagrams allow the documentation of all injuries sustained by an occupant in the accident, as stated by the interviewee.

The nature, location, and injury source should be documented as follows:

- Nature - As stated by the interviewee document the lesion sustained (e.g., laceration, fracture, concussion, etc.) and its extent (e.g., size, severity, depth, etc.). The terms used by the interviewee may not necessarily coincide with the terms found in the OIC, but the injury should be documented as stated by the interviewee for ease of completion of this form during the interview. Length of unconsciousness, or state of consciousness on first observation by a medical specialist, and whether unconsciousness was a result of a head contact, should be noted.
- Location - The location of the injury, as stated by the interviewee, should be documented in two ways:
- By arrows, shading, bracketing (for large areas) on the body diagram; and
  - By written description (e.g., left lower arm, right third rib, etc.). The written description may be abbreviated to aid in completion of the page during the interview. Refer to the Injury Coding Manual for standard abbreviations and symbols.
- Source - The interviewee should be queried as to the source of the injury. Information gained from the interviewee may aid in the (1) final coding of injury source in variables 036, 044, 052, 060, 068 and 072, (2) vehicle inspection (if not done previous to interview), and (3) accident reconstruction. The injury source should be written immediately below the nature and written location of the injury and delineated by a horizontal line. If the interviewee does not know the source of the injury, unknown should be documented on the form.

Official Injury Data  
Specific Medical Record Data Used in Coding OIC/AIS

The official injury data page contains the four body diagrams previously seen on page 4 (Injury Data from Interviewee). The same guidelines should be used to document the nature and the locations of all injuries, but medical records will be used as the only source of information. At times, the medical records will also aid in the determination of source of injuries (e.g., glass in wound) and should be documented on this page as stated in the description of source of injury for page 4.

On the official injury data page the injuries should be clearly and precisely located on the diagrams and the medical record classification of the injury and its extent should be completely annotated. All data used to code the OIC/AIS of injuries [e.g., size of lacerations, level of consciousness on first observation by a medical authority, length of unconsciousness, loss of consciousness, size of hematoma or hemothorax (in cc of blood), etc.], should be written with the diagram or, if the description is too long, written on the additional medical record data used in coding OIC/AIS (reverse of page 5).

NASS Injury Coding Procedures

1. The first four rules below are given in the NASS field forms on how to select injuries for coding and are included here for the convenience of the coder.
  - a. If there are six or less injuries listed in the O.I.C. reduction section, code all of the injuries ordered by Source of Data (1st--autopsy, 2nd--hospital/medical, 3rd--emergency room, 4th--private physician, or 5th--unofficial sources) and by AIS severity within source. Order by source
  - b. If there are more than six injuries, order the injuries by source and by AIS severity within source. Code this ordering, injury-by-injury. If a group of ordered injuries has the same source, the same AIS, and the group includes at least the sixth and seventh injuries in the ordering, then a choice must be made as to which injury or injuries to code. Then by severity within source
  - c. Choose the injury or injuries that will enable the maximum number of different ISS body regions to be represented in the coded data. If no new ISS body region can be added, then simply code in accordance with the rule concerning known injury sources below. Maximize ISS within that source
  - d. If you cannot increase the number of different ISS body regions or if you can choose between two or more injuries of the same source and AIS severity any of which constitute the 3rd ISS region, then choose the injury that has a known injury source. Maximize by contact points
  - e. If the occupant has less than six injuries, then the number of rows required to be completed is equal to the number of injuries plus one (e.g., no injuries requires one row). In the additional row "not injured" will be coded for all variables including AIS severity. If < 6 rows, close out next row with zeros
2. An AIS-6 should be used only for injuries specifically coded AIS-6 in the Abbreviated Injury Scale and not because the victim died. Watch your "6"s
3. Try to associate contact points with individual injuries. List individual injured areas (i.e., body regions) if possible, instead of lumping them together into a code of X, Y, or 0. For instance, if there are lacerations to both thigh and shin, code both TLLI-1 and LLLI-1 instead of YLLI-1. Individualize Injuries
4. The coder should take care not to code the same injury twice simply because information concerning it is available from two different sources. For example, if the interview is used in gathering data, only the injuries not already coded based upon medical records should be coded. Don't double count

Sub/030  
(4)

5. Pain, asphyxia, and hemorrhage represent results of injuries and are not injuries, per se; therefore, they are not coded. The AIS-80 revision is designed to code the injury itself (e.g., MIUU-3, retroperitoneum injury involving hemorrhage). Pain, asphyxia and hemorrhage not valid
6. In NASS, "not injured" is defined as AIS=0. Code "0" for all OIC variables, including AIS severity, for cases in which there are no injuries, or as the last injury listing for occupants sustaining less than six injuries. Closeout or no injury = 0
7. Definitions and procedures for the NASS for coding Injury Source for direct, induced, and noncontact injuries are: Injury Sources

direct injury - an injury to a particular body region caused by the traumatic contact of that body region with a vehicle component or other object. The vehicle component or other object is coded as the injury source for that injury.

indirect or induce injury - an injury to a particular body region caused by a blow or a traumatic contact in some other body region (e.g., knee/acetabulum). The injury source for an induce injury would be the vehicle component contacted by the other body region (i.e., the occupant contact that initiates the injury mechanism).

Injury source is, therefore defined as the vehicle component or object that initiated the injury mechanism (induced injury) or directly caused the injury (direct injury)

The noncontact injury source code ("90") is to be used only for the following specific types of injuries:

Non-contact  
Injury Sources

- (1) twisting or stretching of muscles in the arm, leg, back etc. with no associated contact identifiable (most often these injuries will be minor muscle strain injuries);
- (2) head or neck injuries in which the torso is supported (e.g., by seat back or belt) and head or neck experiences traumatic forces due to inertial motion;
- (3) burns and flying glass injuries

The following examples should be helpful in illustrating the above definitions.

Injury	Injury Mechanism Determined from Crash Evidence	Injury Source
Example 1		
Neck dislocation NPDV-3	<ul style="list-style-type: none"> <li>a. head strikes windshield</li> <li>b. forehead hits roof or convertible top</li> <li>c. head strikes steering assembly</li> <li>d. back hits seatback, no head restraint, head rolls back over seat</li> <li>e. neck forced into lateral flexion by impact forces</li> <li>f. torso restrained by belt, head and neck inertia causes neck injury</li> <li>g. back hits seat back, head hits head restraint, neck is injured</li> </ul>	<ul style="list-style-type: none"> <li>a. (01) windshield</li> <li>b. (34) roof or convertible top</li> <li>c. (04-07) steering assembly</li> <li>d. (90) noncontact injury source</li> <li>e. (90) noncontact injury source</li> <li>f. (90) noncontact injury source</li> <li>g. (23) head restraint</li> </ul>
Example 2		
Hip Dislocation P.DJ-3	Knee strikes dash, forces transmitted along femur forcing femoral head out of the acetabulum	(09-11) instrument panel
Example 3		
Shoulder-elbow-wrist fracture/dislocation _.ZJ-2	Occupant braced hands on instrument panel, transmitting forces to wrist, elbow, and shoulder	(09-11) instrument panel
Example 4		
Acute lumbar strain BITM-1	Jackknife over seat belt, rotation about seat belt stretches back muscles	(22) belt restraint

Injury	Injury Mechanism Determined from Crash Evidence	Injury Source	Sub/030 (6)
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Example 5

Muscle strain in arms, back, chest, neck	Strain of muscles from twisting due to impact forces	(90) noncontact injury source	
------------------------------------------------	------------------------------------------------------------	----------------------------------	--

8. When no other injury information is available, data from the PAR is to be coded. If specific injuries are detailed, code accordingly. If only a PAR injury severity rating is assigned, code: "injured, severity unknown". This implies the existence of an unspecified injury of unknown severity. Do not code: "unknown if injured". This denotes lack of knowledge concerning the existence of injury, which is contrary to information documented in the PAR. Consider the five example situations below and code according to the instructions given, for example, in variable 031 et al. (1st O.I.C. - Body Region).
- a. No interview; no medical; PAR injury severity rating: "K", "A", "B", or "C"; code: "injured, severity unknown"--9UUUU797709.
  - b. No interview; no medical; PAR injury severity rating: "U"; code: "Unknown if injured"--9999999999.
  - c. No interview; no medical; PAR injury severity rating: "0"; code: "not injured"--0000000000.
  - d. No interview; no medical; PAR injury severity rating: "C", in addition, "laceration to forehead" is reported; code: 6FSLI1 \_ \_ \_ 09.
  - e. No interview; no medical; no PAR mention of injury; hit & run vehicle/driver reported; code: "unknown if injured"--9999999999.
9. If the PAR is "blank" where the injury severity is accessed and the person was at the scene during the police investigation, code no injury. However, if the person was not present during the police inspection, code unknown if injured. Presumption of "no injury" or "unknown if injured."
10. NASS does not code possible injuries, but injuries whose existence is considered to be probable are coded. If the words "possible" or "probable" are used, code accordingly (i.e., code the probable injuries only). If it is difficult to determine if an injury is probable or possible (i.e., use of other indistinct language such as "suspected," "appears to be," etc.), judge whether "possible" or "probable" based on the specific situation. Code "Probable" injuries

NASS Injury Coding Conventions

1. If an AIS is determined to be one of two consecutive numbers, but a clear indication cannot be made after reviewing all the information provided, assign the lower AIS. Uncertainty Rule #1--code lower
  
2. When there is uncertainty about the location of minor multiple abrasions, contusions and lacerations to the body surface, they should be aggregated, regardless of their location(s), and the code OW \_\_ -1 should be used. Uncertainty Rule #2--whole body
  
3. If the medical or interview information indicates a contused knee, elbow, wrist, ankle, etc., and does not specifically state whether the contusion is to the bone or joint, code the injury as intergumentary, \_\_ CI-1. If the contusion is known to be to the bone, use \_\_ CS-\_; if to the joint, use \_\_ CJ-\_. Example: contused knee, K.CI-1. Uncertainty Rule #3--most superficial system if unknown system/organ
  
4. Cervical spine strain may, in some cases, still be referred to as "whiplash". "Whiplash" is not a medical term and is not used in AIS-80. If an injury is described as "whiplash", it should be coded as cervical spine acute strain, no fracture or dislocation, NPTM-1. "Whiplash"  
NPTM-1
  
5. All internal structures of the mouth, with the exception of the teeth, are coded as part of the digestive system (D). Teeth are coded as skeletal (S). Mouth-teeth=D
  
6. Body region code 0 (whole body) should be used only if 50% or more of the whole body surface (0) is affected. An exception is made for burns affecting more than one body region (see below). Aspect code W (whole region) is used only if 50% or more of the body is affected. 50% rule
  
7. If a lesion involves more than one aspect of an OIC body region:  
  - a. Try to determine if one of the aspects is predominant. If so, code that aspect.
  - b. If not, use the aspect code W (whole).Aspect Whole (W)  
Code
  
8. Burn injuries should be coded using the following guidelines:  
  - a. If only one body region is burned, use that body region code (e.g., ARBI-1, burned right upper arm 1<sup>o</sup>).Burn injuries and the rule of nines

- b. If more than one body region is burned, but a single injury code will adequately describe the regions affected, use the single injury code (e.g., XRBI-2, burned right whole arm 2°). Burn injuries and the rule of nines (cont'd.)
- c. If more than one body region is burned and one injury code cannot be used to specify the body regions involved, the injury is coded OWBI-\_. This will be the most likely case in coding burns.
- d. The Rule of Nines is used in the AIS severity level for (a), (b), and (c) above. See the Rule of Nines diagram
9. The following definitions have been used traditionally to differentiate "sprain" and "strain" injuries: Strain versus sprain
- sprain - a joint injury which causes pain and disability depending on the degree of injury to ligaments and muscle tendons near the joint.
- strain - an injury to a muscle or musculotendinous unit that results from overstretching and may be associated with a sprain or fracture.
- In common medical practice, however, physicians often do not adhere strictly to these definitions, and may use the terms interchangeably. AIS-80 distinguishes sprains from strains. Care should be exercised in selection of the proper code, use \_\_ SJ for sprains and \_\_ TM-1 for strains.
- Neck injuries may sometimes be described as "strains" and sometimes as "sprains". For NASS purposes, neck injuries should be coded as "strains" (see above (definitions)). No sprains to neck
10. Integumentary lesions to the forehead are coded "face superior", or FS\_\_-\_\_ in the NASS Injury Coding Manual. Coding the forehead
- Fractures to the frontal bone are coded Head Anterior (HAFS-\_\_).
11. Coding of substantiated anatomic lesions to the brain: Anatomic Brain Lesions
- a. If there are no substantiated anatomic lesions to the brain, the OIC and AIS will be coded as they appear in the Non-Anatomic injuries section (see HEAD, Part C, Non-Anatomic injuries).

- b. If only one substantiated anatomic lesion to the brain and the length of unconsciousness are known, the OIC will consist of the four letters describing the injury as it is specified in the "Anatomic Injuries" section (see HEAD, Part B, Anatomic Injuries). The AIS assigned will be determined by comparing: (1) the AIS which accompanies the specified injury in the "Anatomic Injuries" section, with (2) the AIS of the comparable injury in the "Non-Anatomic Injuries" section. The higher of two AIS scores will be the one coded. Anatomic Brain Lesions (cont'd.)
- c. If there are two or more substantiated anatomic lesions to the brain, the OIC and the AIS will be coded as they appear in the "Anatomic Injuries" section.
12. "Friction Burns" are to be coded as abrasions. The same criteria for assigning AIS applies (see definitions of abrasion - major and superficial, in the Glossary). If there is information as to the degree (e.g., 1<sup>o</sup>, 2<sup>o</sup> or 3<sup>o</sup>) code: AIS = 1 for 1<sup>o</sup>, 2<sup>o</sup> or unspecified, AIS = 2 for 3<sup>o</sup>. Friction Burns
13. When an injury is described as a "\_\_\_\_\_ type of laceration" (e.g., avulsion type laceration, flap laceration) use the "L" (laceration) lesion code. For all ambiguous situations use "laceration" over puncture, perforation, or avulsion. Laceration Type Injuries
14. A single compression fracture of the spine involving > 1 vertebrae and overlapping adjacent regions of the spine is to be coded as one injury (i.e., one line of code). Choose the more superior of the two regions for the aspect code. Compression Fractures
15. For axilla (armpit) injuries code the Body Region for whatever can be determined to be nearest; A (arm), C (chest) or if in between S (shoulder). If unknown or unspecified use A (arm). Axilla injuries
16. When "closed head injury", "head trauma", or other ambiguous phrase is the only information available, code HUUU-7. Closed Head Injury
17. The AIS codes individual injuries only. Injuries to body parts which are present on both sides of the body (bilateral) are coded as two separate injuries. It should be remembered that within the OIC "Aspect" measures the location of the injury being reported. Therefore, bilateral is not use to code the occurrence of hemo- or pneumothorax (results) present bilaterally. Instead, an upgraded AIS will account for the presence of bilateral results. Bilateral Not Used

18. The distinction in coding individual skull fractures versus subsuming them under the crush classification lies in the displacement of brain tissue. If it can be determined that brain matter is forcibly extracted or moved from the cranium in conjunction with extensive fracturing, then the term "crushed skull" is applicable. Lack of specificity regarding the displacement of brain tissue tells the coder not to use the crush code and to code the fracturing as individual injuries. An HUUU-7 may be added if brain injuries are present but not specifically described. Crushed Skull
19. In the absence of other medical information, code broken neck as cervical spine, fracture, unspecified (NPFS-2), if all neck injuries are believed to be AIS 2 or 3. Otherwise code NPFS-7 (e.g., fatal with only listed injury being broken neck). Broken Neck

031  
039  
047  
055  
063  
071

Variable Name: 1st O.I.C. - Body Region  
2nd O.I.C. - Body Region  
3rd O.I.C. - Body Region  
4th O.I.C. - Body Region  
5th O.I.C. - Body Region  
6th O.I.C. - Body Region

Format: 1 column - alphanumeric

Beginning  
Column 45  
55  
65  
75  
85  
95

Element Values:

M Abdomen	L Leg (lower)
Q Ankle - foot	Y Lower limb(s) (whole or unknown part)
A Arm (upper)	N Neck - cervical spine
B Back - thoracolumbar spine	P Pelvic - hip
C Chest	S Shoulder
E Elbow	T Thigh
F Face	X Upper limb(s) (whole or unknown part)
R Forearm	O Whole body
H Head - skull	W Wrist - hand
U Injured, unknown region	Ø Not injured
K Knee	9 Unknown if injured

Source: Variables 038, 046, 054, 062, 070, and 078 respectively.

Remarks:

The NASS Injury Coding Manual 1985 contains a listing of most injuries. Use the manual to code, for each injury, both its O.I.C. and I.S.S. body region and record them on the form. Ordering instructions are on page 7 of the Occupant Form.



032  
040  
048  
056  
064  
072

Variable Name: 1st O.I.C. - Aspect of Injury  
2nd O.I.C. - Aspect of Injury  
3rd O.I.C. - Aspect of Injury  
4th O.I.C. - Aspect of Injury  
5th O.I.C. - Aspect of Injury  
6th O.I.C. - Aspect of Injury

Format: 1 column - alphanumeric

Beginning  
Column 46  
56  
66  
76  
86  
96

Element Values:

A Anterior - front	P Posterior - back
C Central	R Right
I Inferior - lower	S Superior - upper
U Injured, unknown aspect	W Whole region
L Left	Ø Not injured
	9 Unknown if injured

Source: Variables 038, 046, 054, 062, 070, and 078 respectively.

Remarks:

The NASS Injury Coding Manual 1985 contains a listing of most injuries. Use the manual to code, for each injury, the aspect of the injury and record it on the form.

NOTE: Bilateral (B) was deleted from Aspect of Injury beginning with the 1983 CSS.

## OCCUPANT FORM

033  
041  
049  
057  
065  
073

Variable Name: 1st O.I.C. - Lesion  
2nd O.I.C. - Lesion  
3rd O.I.C. - Lesion  
4th O.I.C. - Lesion  
5th O.I.C. - Lesion  
6th O.I.C. - Lesion

Format: 1 column - alphanumeric

Beginning  
Column 47  
57  
67  
77  
87  
97

## Element Values:

A Abrasion	U Injured, unknown lesion
M Amputation	L Laceration
V Avulsion	O Other
B Burn	P Perforation, puncture
K Concussion	R Rupture
C Contusion	S Sprain
N Crush	T Strain
G Detachment, separation	E Total severance, transection
D Dislocation	Ø Not injured
F Fracture	9 Unknown if injured
Z Fracture and dislocation	

Source: Variables 038, 046, 054, 062, 070, and 078 respectively.

## Remarks:

The NASS Injury Coding Manual 1985 contains a listing of most injuries. Use the manual to code, for each injury, its lesion and record it on the form.

034  
042  
050  
058  
066  
074

Variable Name: 1st O.I.C. - System/Organ  
2nd O.I.C. - System/Organ  
3rd O.I.C. - System/Organ  
4th O.I.C. - System/Organ  
5th O.I.C. - System/Organ  
6th O.I.C. - System/Organ

Format: 1 column - alphanumeric

Beginning  
Column 48  
58  
68  
78  
88  
98

Element Values:

W All systems in region	M Muscles
A Arteries - veins	N Nervous system
B Brain	P Pulmonary - lungs
D Digestive	R Respiratory
E Ears	S Skeletal
O Eye	C Spinal Cord
H Heart	Q Spleen
U Injured, unknown system	T Thyroid, other endocrine gland
I Integumentary	G Urogenital
J Joints	V Vertebrae
K Kidneys	∅ Not injured
L Liver	9 Unknown if injured

Source: Variables 038, 046, 054, 062, 070, and 078 respectively.

Remarks:

The NASS Injury Coding Manual 1985 contains a listing of most injuries. Use the manual to code, for each injury, its system/organ and record it on the form.

## OCCUPANT FORM

035  
043  
051  
059  
067  
075

Variable Name: 1st O.I.C. - Abbreviated Injury Scale  
2nd O.I.C. - Abbreviated Injury Scale  
3rd O.I.C. - Abbreviated Injury Scale  
4th O.I.C. - Abbreviated Injury Scale  
5th O.I.C. - Abbreviated Injury Scale  
6th O.I.C. - Abbreviated Injury Scale

Format: 1 column - numeric

Beginning  
Column 49  
59  
69  
79  
89  
99

## Element Values:

0 Not injured  
1 Minor injury  
2 Moderate injury  
3 Serious injury  
4 Severe injury  
5 Critical injury  
6 Maximum (untreatable)  
7 Injured, unknown severity  
9 Unknown if injured

Source: Variables 038, 046, 054, 062, 070, and 078 respectively.

## Remarks:

The NASS Injury Coding Manual 1985 contains a listing of most injuries. Use the manual to code, for each injury, its A.I.S. value and record it on the form.

036  
044  
052  
060  
068  
076

Variable Name: 1st O.I.C. - Injury Source  
2nd O.I.C. - Injury Source  
3rd O.I.C. - Injury Source  
4th O.I.C. - Injury Source  
5th O.I.C. - Injury Source  
6th O.I.C. - Injury Source

Format: 2 columns - numeric

Beginning  
Column 50  
60  
70  
80  
90  
100

Element Values:

00 Not injured

Front

01 Windshield  
02 Mirror  
03 Sunvisor  
04 Steering wheel rim  
05 Steering wheel hub/spoke  
06 Steering wheel (combination of codes 04 and 05)  
07 Steering column, transmission, selector lever, other attachment  
08 Add on equipment (e.g., CB, tape deck, air conditioner)  
09 Left instrument panel and below  
10 Center instrument panel and below  
11 Right instrument panel and below  
\*12 Other front object (specify)

Side

13 Side interior surface, excluding hardware or armrests  
14 Side hardware or armrests  
15 A pillar  
16 B pillar  
\*17 Other pillar (specify)  
18 Window glass or frame  
\*19 Other side object (specify)

036  
 044  
 052  
 060  
 068  
 076  
 (2)

Variable Name: 1st O.I.C. - Injury Source (cont'd.)  
 2nd O.I.C. - Injury Source (cont'd.)  
 3rd O.I.C. - Injury Source (cont'd.)  
 4th O.I.C. - Injury Source (cont'd.)  
 5th O.I.C. - Injury Source (cont'd.)  
 6th O.I.C. - Injury Source (cont'd.)

#### Interior

21 Seat, back support  
 22 Belt restraint system  
 23 Head restraint  
 24 Air cushion  
 \*25 Other occupants (specify)  
 26 Interior loose objects  
 \*29 Other interior objects (specify)

#### Roof

31 Front header  
 32 Rear header  
 33 Roof side rails  
 34 Roof or convertible top

#### Floor

41 Floor  
 42 Floor or console mounted transmission lever, including console  
 43 Parking brake handle  
 44 Foot controls including parking brake

#### Rear

45 Backlight (rear window)  
 46 Backlight storage rack, door, etc.  
 \*49 Other rear object (specify)

#### Exterior of Occupant's Vehicle

##### Noncycle

51 Hood  
 52 Outside hardware (e.g., outside mirror, antenna)  
 \*53 Other exterior surface or tires (specify)  
 59 Unknown exterior objects

##### Cycle

61 Handle bars or attachments  
 62 Frame or suspension component or fender  
 63 Seat

036  
044  
052  
060  
068  
076  
(3)

Variable Name: 1st O.I.C. - Injury Source (cont'd.)  
2nd O.I.C. - Injury Source (cont'd.)  
3rd O.I.C. - Injury Source (cont'd.)  
4th O.I.C. - Injury Source (cont'd.)  
5th O.I.C. - Injury Source (cont'd.)  
6th O.I.C. - Injury Source (cont'd.)

64 Foot pedal, foot rest, foot pegs  
65 Wheel or tire  
66 Engine or transmission  
67 Gas tank, gas tank filling cap or neck  
\*69 Other cycle part (specify)

Exterior of Striking Motor Vehicle

71 Front bumper  
72 Hood edge  
\*73 Other front of vehicle (specify)  
74 Hood  
75 Hood ornament  
76 Windshield, roof rail, A-pillar  
77 Side surface  
78 Side mirrors  
\*79 Other side protrusions (specify)  
80 Rear surface  
81 Undercarriage  
82 Tires and wheels  
\*83 Other exterior of striking motor vehicle (specify)  
84 Unknown exterior of striking motor vehicle

Other Vehicle or Object in the Environment

86 Ground  
\*87 Other vehicle or object (specify)  
89 Unknown vehicle or object

Noncontact Injury

90 Noncontact injury source  
  
97 Injured, unknown source  
99 Unknown, if injured

Source: Researcher determined--inputs include vehicle inspection, interviewee, and medical records.

## OCCUPANT FORM

036  
044  
052  
060  
068  
076  
(4)

Variable Name: 1st O.I.C. - Injury Source (cont'd.)  
2nd O.I.C. - Injury Source (cont'd.)  
3rd O.I.C. - Injury Source (cont'd.)  
4th O.I.C. - Injury Source (cont'd.)  
5th O.I.C. - Injury Source (cont'd.)  
6th O.I.C. - Injury Source (cont'd.)

## Remarks:

Code "06" (Combination of hub and rim/spokes) when there is an unspecified steering wheel injury source.

Code "90" (Noncontact injury source) is used for injuries which resulted from impact force (no contact), heat or flame from fire, battery acid, interior flying glass, etc. Interior flying glass refers to the person being struck by glass which has already fractured and is airborne. This does not refer to a person causing glass to shatter upon impacting it. For a more detailed discussion see NASS Injury Coding Procedure number 7.

Use page 4 of the Occupant Form to record the interviewee reported injury source evidence, and page 7 of the Vehicle Form to record the physical injury source evidence. The researcher should record only those contact mechanisms which can be documented by some physical evidence (e.g., scuffs, hair, smudges, dents, cracks, etc.).

The element values encoded can be based on physical evidence, occupant kinematics, and interviewee information. Although physical evidence is preferred, it does not have to be present to support a contact mechanism.

If a parked (not in transport) vehicle is impacted by an occupant of a vehicle in transport, use the "87" (other vehicle or object) code.

\*Note: Whenever an "other" code (i.e., "12", "17", "19", "25", "29", "49", "53", "69", "73", "79", "83", or "87") is coded as injury source, clearly identify, in the space provided next to each code on page 7 of the form, a description of the "other" source.

037  
045  
053  
061  
069  
077

Variable Name: 1st O.I.C. - Direct/Indirect Injury  
2nd O.I.C. - Direct/Indirect Injury  
3rd O.I.C. - Direct/Indirect Injury  
4th O.I.C. - Direct/Indirect Injury  
5th O.I.C. - Direct/Indirect Injury  
6th O.I.C. - Direct/Indirect Injury

Format: 1 column - numeric

Beginning  
Column 52  
62  
72  
82  
92  
102

Element Value:

0 No injury  
1 Direct contact injury  
2 Indirect contact injury  
3 Noncontact injury  
7 Injured, unknown source  
9 Unknown if injured

Source: Researcher determined--inputs include vehicle inspection, interviewee, and medical records.

Remarks:

The distinction between direct and induced is covered in greater detail in NASS Injury Coding Procedure number 7.

Code "0" (No injury) is used whenever the respective injury source (036 et al.) is coded "00" (Not injured). Likewise, code "7" (Injured, unknown source) and code "9" (Unknown if injured) are used whenever the injury source is coded "97" (Injured, unknown source) and "99" (Unknown if injured), respectively. Finally, code "3" (Noncontact injury) is used when the respective 036 et al. equals "90" (Noncontact injury source).

OCCUPANT FORM

037  
045  
053  
061  
069  
077  
(2)

Variable Name: 1st O.I.C. - Direct/Indirect Injury (cont'd.)  
2nd O.I.C. - Direct/Indirect Injury (cont'd.)  
3rd O.I.C. - Direct/Indirect Injury (cont'd.)  
4th O.I.C. - Direct/Indirect Injury (cont'd.)  
5th O.I.C. - Direct/Indirect Injury (cont'd.)  
6th O.I.C. - Direct/Indirect Injury (cont'd.)

Code "1" (Direct contact injury) if the coded injury results from a force impacted directly on the injured body region by the component/object coded as the injury source (036 et al.).

Code "2" (Indirect contact injury) if the coded injury results from a force transmitted from the component/object coded as the injury source (036 et al.) through another body region to the injured body region (e.g., knee contacts dash, force transmitted through knee and femur causing a fractured pelvis).

038  
046  
054  
062  
070  
078

Variable Name: 1st O.I.C. - Source of Data  
2nd O.I.C. - Source of Data  
3rd O.I.C. - Source of Data  
4th O.I.C. - Source of Data  
5th O.I.C. - Source of Data  
6th O.I.C. - Source of Data

Format: 1 columns - numeric

Beginning  
Column 53  
63  
73  
83  
93  
103

Element Values:

Official	Unofficial
01 Autopsy records with or without hospital/medical records	05 Lay coroner report
02 Hospital/medical records other than emergency room (e.g., discharge summary)	06 E.M.S. personnel
03 Emergency room records only (including associated x-rays or other lab reports)	07 Interviewee
04 Private physician, walk-in or emergency clinic	08 Other source (specify)
	09 Police
	99 Unknown if injured
	00 Not injured

Source: Element chosen

Remarks:

Code "01" (Autopsy records with or without hospital/medical records) excludes records from lay, nonmedical personnel; they must be the result of an autopsy by a physician or other similarly qualified life scientist. A non-invasive external examination by a physician, though, should be coded either "02" (Hospital medical records other than emergency room) or "04" (Private physician, walk-in or emergency clinic) since it is generally a superficial listing of external injuries and possible internal injuries; therefore, injuries from a non-invasive exam should not be grouped with those from a thorough autopsy report.

Code "02" [Hospital/medical records other than emergency room (e.g., discharge summary)] is used whenever the injury is listed on the official

## OCCUPANT FCRM

C38  
C46  
C54  
C62  
C70  
C78  
(2)

Variable Name: 1st O.I.C. - Source of Data (cont'd.)  
2nd O.I.C. - Source of Data (cont'd.)  
3rd O.I.C. - Source of Data (cont'd.)  
4th O.I.C. - Source of Data (cont'd.)  
5th O.I.C. - Source of Data (cont'd.)  
6th O.I.C. - Source of Data (cont'd.)

post-emergency room records of a hospital or medical facility. If the injury was also listed on a facility's associated emergency room records, then the "02" code takes precedence. If the injury is also contained in an autopsy record--where the autopsy was performed by a physician or similarly qualified life scientist--then, code "01" (Autopsy records with or without hospital/medical records) takes precedence. However, this code includes non-invasive (external) examinations conducted by a physician on a deceased victim and documented as a hospital or medical examiner's record.

Code "03" [Emergency room records only (including associated x-rays or other lab reports)] is used when the injury only appears on a facility's emergency room record or on records that were completed in support of the person's examination in an emergency room. For example, an x-ray report that was completed because the emergency room physician requested it as a part of his/her examination would be included under this code. This code should not be used if the injury is subsequently listed on a post-emergency room record on in a medical autopsy.

If both types of records (emergency room and post-emergency room) refer to the same injury, code "02" [Hospital/medical records other than emergency room (e.g., discharge summary)] is used as the code even if the detail provided on the emergency room records exceeds the detail provided on the post-emergency room records.

Code "04" (Private physician, walk-in or emergency clinic) refers to any physician (in private practice) who saw the injured person and who has records of that treatment (i.e., other than hospital or autopsy records). Also included in this code are non-invasive (external) examinations conducted by a private physician or similarly qualified life scientist on a deceased victim and documented as other than a hospital record (e.g., coroner's report).

In summary, examinations of deceased persons are distinguished first by qualifications of examiner [official (codes "01", "02", and "04") versus unofficial (code "05")], second by the type of examination [autopsy (code

038  
046  
054  
062  
070  
078  
(3)

Variable Name: 1st O.I.C. - Source of Data (cont'd.)  
2nd O.I.C. - Source of Data (cont'd.)  
3rd O.I.C. - Source of Data (cont'd.)  
4th O.I.C. - Source of Data (cont'd.)  
5th O.I.C. - Source of Data (cont'd.)  
6th O.I.C. - Source of Data (cont'd.)

"01") versus non-invasive (codes "02" or "04")], and third by type of examination record [hospital (code "02") versus other than hospital (code "04")].

Code "05" (Lay coroner report) is used if the injury data is contained in a report where a non-invasive examination of the deceased was performed by a non-physician, or lay coroner.

Code "06" (E.M.S. personnel) refers to a person certified by the state as trained in emergency medical service techniques. Code "06" should not be used for ambulance attendants, police, or other personnel not trained in E.M.S. techniques.

Code "07" (Interviewee) refers to the person who was interviewed to get the information on this form (not necessarily the person described on this form). The interviewee is defined in a log variable.

Code "08" (Other) is used when data are obtained from an unofficial source different from those explicitly listed above (e.g., chiropractors).

Code "09" (Police) can be used, but only when no other source of injury information is available. See last sentence of first paragraph on page 6, Occupant Form.

Code "00" (Not injured) is to be used when no injury was reported. In other words, this variable reports only the source of the injury information.

Variable Name: Injury Severity (Police Rating)

Format: 1 column - numeric

Beginning  
Column 105

Element Values:

- 0 No injury (O)
- 1 Possible injury (C)
- 2 Nonincapacitating injury (B)
- 3 Incapacitating injury (A)
- 4 Killed (K)
- 5 Injury, severity unknown
- 6 Died prior to accident
- 9 Unknown

Source: Police report.

Remarks:

Code 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 (A02, Case Number--Stratification) and when it was picked up. For example, a person might have been listed originally with incapacitating injuries ("3"). Later the person dies ("4"), 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" (code "3"), nonincapacitating-evident injuries are classified as "B" (code "2"), and possible injuries are "C" (code "1"). Property damage only is classified as "0" (code "0").

Code "5" (Injury, severity unknown) if the police report indicates a "U" or in any other way communicates the idea that the person was injured but their severity is unknown.

Code "6" (Died prior to accident) should only be coded 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 code "0" (No injury). If the PAR is "blank" and the person was not present during the police investigation, code "9" (Unknown).

Variable Name: Injury Severity (Police Rating) [cont'd.]

Not all states use the KABCOU scheme. Listed below, by state, are alternative schemes; a mapping to the NASS scheme is provided.

State	PAR Code/Definition	NASS Scheme/Code
Alabama	K - Killed	K - 4
	A - Visible or carried from scene	A - 3
	B - Bruise/abrasion/swelling	B - 2
	C - No visibility - has pain/faint	C - 1
	Blank - No documentation of driver or occupant injury	Blank - 0
	- No set unknown code	- 9
Arizona	1 - No injury	0 - 0
	2 - Possible injury	C - 1
	3 - Nonincapacitating injury	B - 2
	4 - Incapacitating injury	A - 3
	5 - Fatal	K - 4
	6 - Unknown	U - 9
California	1 - Fatal	K - 4
	2 - Severe wound/distorted member	A - 3
	3 - Other visible injury	B - 2
	4 - Complaint of pain	C - 1
	Blank - Occupant present	0 - 0
	Blank - Occupant not present	- 9
Colorado*	5 - Fatal	K - 4
	4 - Evident - incapacitating	A - 3
	3 - Evident - nonincapacitating	B - 2
	2 - Possible injury	C - 1
	1 - No injury	0 - 0

\*There is a box at the top of the PAR indicating number of persons injured. If this box is marked 0 and the injury code is left "blank", assume "No injury". If the box is marked 1 (or more) pertaining to the vehicle occupants in question and the injury code is "blank", assume "Injured, severity unknown". If "blanks" are present in both the persons injured box and the injury code box, assume "Unknown".

Florida	1 - No injury	0 - 0
	2 - Fatal "in 90 days" injury	K - 4
	3 - Incapacitating injury	A - 3
	4 - Nonincapacitating injury	B - 2
	5 - Possible injury	C - 1
	6 - Non-traffic fatality	K - 4
	- No set unknown code	- 9

Variable Name: Injury Severity (Police Rating) [cont'd.]

State	PAR Code/Definition			NASS Scheme/Code	
Indiana	Nature of Most Severe Injury	Location of Most Severe Injury	Victim's Injury Status		
	1-11 Any Entry	1-12 Any Entry	6 Dead	K - 4	
	1-11 Any Entry	1-12 Any Entry	2 Semiconscious 3 Incoherent 4 Unconscious	A - 3	
	1 Severed 2 Internal 4 Severe Burn 7 Severe Bleed (Arterial) 8 Fracture/dislocation	1-12 Any Entry	1 Conscious 5 Shock 7 Refused Med	A - 3	
	3 Minor Burn 6 Minor Bleed 10 Complaint of Pain 11 None Visible	3 Eye	1 Conscious 5 Shock 7 Refused Med	A - 3	
	3 Minor Burn 6 Minor Bleed	1-2, 4-12 (Any EXCEPT Eye)	1 Conscious 5 Shock 7 Refused Med	B - 2	
	5 Abrasion 9 Contusion/Bruise	1-12 Any Entry	1 Conscious 5 Shock 7 Refused Med	B - 2	
	10 Complaint of Pain 11 None Visible	1-2, 4-12 (Any EXCEPT Eye)	1 Conscious 5 Shock 7 Refused Med	C - 1	
	11 None Visible	Blank or Slashed	1 Conscious	0 - 0	
	Blank or Slashed	Blank or Slashed	Blank or Slashed	0 - 0	
	Unknown	Unknown	Unknown	U - 9	
	Iowa	1 - Fatal			K - 4
		2 - Major (incapacitating)			A - 3
		3 - Minor (bruises and abrasions)			B - 2
		4 - Possible (complaint of pain)			C - 1
		0 - Unknown			U - 9
		Blank - No documentation of driver or occupants on back of PAR			0 - 0
Louisiana	1 - Fatal			K - 4	
	2 - Severe			A - 3	
	3 - Noticeable			B - 2	
	4 - Complaint of pain or momentary unconsciousness			C - 1	
	5 - None			0 - 0	

Variable Name: Injury Severity (Police Rating) [cont'd.]

State	PAR Code/Definition	NASS Scheme/Code
Maryland	5 - Fatal	K - 4
	4 - Incapacitating	A - 3
	3 - Nonincapacitating	B - 2
	2 - Possible injury	C - 1
	1 - No injury/Damage only	O - 0
	Blank - No documentation of driver or occupants on front of PAR	
Massachusetts	K - Killed	K - 4
	A - Visible signs of injury, as bleeding wound or distorted member; or had to be carried from scene	A - 3
	B - Other visible injury, as bruises, abrasions, swelling, limping, etc.	B - 2
	C - No visible injury but complaint of pain or momentary unconsciousness	C - 1
	Blank - No documentation of driver or occupants on front of PAR	O - 0
	- No set unknown code	- 9
Missouri	1 - Fatal	K - 4
	2 - Disabling	A - 3
	3 - Evident-Not Disabling	B - 2
	4 - Probable-Not Apparent	C - 1
	5 - None Apparent	O - 0
	6 - Unknown	U - 9
Nebraska	4 - Fatal	K - 4
	3 - Incapacitating injury	A - 3
	2 - Nonincapacitating injury	B - 2
	1 - Possible injury	C - 1
	0 - No injury	O - 0
	Blank - Occupant present	O - 0
Blank - Occupant not present	- 9	

Variable Name: Injury Severity (Police Rating) [cont'd.]

State	PAR Code/Definition		NASS Scheme/Code	
New Jersey	Location of Injury	Type of Injury	Victim's Condition	
	Any entry	Any entry	Killed	K - 4
	Any entry	Any entry	Incapacitated	A - 3
	Any entry	amputation, concussion, internal, fracture/dislocation	Moderate injury complaint of pain	A - 3
	Eye	burn, bleeding, complaint of pain	Moderate injury Complaint of pain	A - 3
	Any entry	bleeding, contusion, bruise, abrasion	Moderate injury	B - 2
	Any entry (except eye)	complaint of pain	Complaint of pain	C - 1
	-	-	-	0 - 0
	U	U	U	- 9
	New York	Location of Injury	Type of Injury	Victim's Status
Any entry		Any entry	Apparent death	K - 4
Any entry		Any entry	Unconscious, Semi-conscious, Incoherent	A - 3
Any entry		amputation, concussion, internal, severe bleeding, severe burn, moderate burn, fracture - dislocation	Shock, Normal	A - 3
Eye		minor bleeding, minor burn, complaint of pain	Shock, Normal	A - 3
All but eye		minor bleeding, minor burn	Shock, Normal	B - 2
Any entry		contusions-bruise, abrasion	Shock, Normal	B - 2
All but eye		complaint of pain	Shock, Normal	C - 1
-		-	-	0 - 0
X		X	X	- 9

Variable Name: Injury Severity (Police Rating) [cont'd.]

<u>State</u>	<u>PAR Code/Definition</u>	<u>Scheme/Code</u>
Pennsylvania	0 - No injury	0 - 0
	1 - Death	K - 4
	2 - Major injury	A - 3
	3 - Moderate injury [and] Type of Apparent Injury	A - 3
	- amputation	
	- broken bone(s)	
	3 - Moderate injury [and] Type of Apparent Injury	B - 2
	- abrasions/contusions/bruises	
	- burns	
	- bleeding	
- concussion		
- other		
4 - Minor injury [and] Type of Apparent Injury	C - 1	
- complaint of pain		
- dizziness		
- shock		
Rhode Island	1 - Fatal injury at scene	K - 4
	2 - Visible signs of injury - bleeding or broken bones	A - 3
	3 - Other visible injury - bruises or abrasions	B - 2
	4 - No visible injury, but complaints of pain	C - 1
	Blank - No injury	0 - 0
South Dakota	0 - No injury	0 - 0
	1 - Fatal	K - 4
	2 - Incapacitating injury	A - 3
	3 - Nonincapacitating injury	B - 2
	4 - Possible injury	C - 1
Tennessee	4 - Dead at time of report	K - 4
	3 - Bleeding wound, distorted member	A - 3
	2 - Bruises, abrasions, swelling, limping, etc.	B - 2
	1 - Complaint of pain, no visible injury	C - 1
	Blank - No documentation of driver or occupants on front of PAR or on supplement	0 - 0

## OCCUPANT FORM

079

(7)

Variable Name: Injury Severity (Police Rating) [cont'd.]

<u>State</u>	<u>PAR Code/Definition</u>	<u>Scheme/Code</u>
Washington	1 - No injury	O - 0
	2 - Dead at scene	K - 4
	3 - Dead on arrival	K - 4
	4 - Died in hospital	K - 4
	5 - Disabling injury	A - 3
	6 - Nondisabling injury	B - 2
	7 - Possible injury	C - 1
	Blank - Unknown	- 9

Variable Name: Time to Death

Format: 2 columns - numeric

Beginning  
Column 106

Element Values:

Range: 00 through 24, 31 through 60, 96, 99

00 Not fatal

96 Fatal - ruled disease

99 Unknown

Source: Police report, hospital/medical records, autopsy report, or other official records for actual time of death for fatally injured occupants.

Remarks:

Code "00" should identify (from any source) all occupants who are not fatally injured (i.e., death does not occur, or death does not occur within thirty days of the accident). Occupants of hit-and-run vehicles are assumed not killed.

All occupants who die within thirty days of the accident should have their time-of-death recorded unless their death meets the criteria of the Fatal - ruled disease code "96".

Code "96" (Fatal - ruled disease) is used in two situations. The first is when the effects of a disease can be deemed as a cause of the accident. Cause means that the on-set of the disease occurred prior to the first harmful event. When determining the time of on-set (relative to the first harmful event), the researcher can use any information source available. The researcher makes his/her determination after weighing all the evidence. (NOTE: The use of all available information sources is restricted to the determination of when the on-set occurred.) Additionally, code "96" (Fatal - ruled disease) is used when a medical examiner (or other official vested by the state to verify the cause of death) or an official medical report verifies that the death resulted from either (1) a diseased condition, or (2) not from accident related injuries.

Code "01" should identify occupants who die within (less than) one and a half hours of the time of the accident.

Codes "02" through "24" should identify occupants who die in the period of time between one and a half hours from the time of the accident to twenty-four hours after the accident. The variable should be coded to the nearest hour except for code "24" which is used only for the period between twenty-three and a half hours after the accident and twenty-four hours after the accident.

Variable Name: Time to Death (cont'd.)

Codes "31" through "60" should identify occupants who die in the period of time between greater than twenty-four hours after the accident (24 hours and one minute is coded as "31" while 24 hours is coded as "24") and thirty days after the accident. (NOTE: One day = "31", two days = "32", ..., twenty-nine days = "59", and thirty days = "60.") The number of days should be rounded off to the nearest whole day except for code "60" which is used for the period between twenty-nine days and twelve hours and thirty days after the accident.

The exact time period which applies to each code is shown in the table below.

Code	Time period in hours	Code	Time period in days
01	0 - < 1 1/2	31	> 1 - < 1 1/2
02	1 1/2 - < 2 1/2	32	1 1/2 - < 2 1/2
03	2 1/2 - < 3 1/2	33	2 1/2 - < 3 1/2
04	3 1/2 - < 4 1/2	34	3 1/2 - < 4 1/2
05	4 1/2 - < 5 1/2	35	4 1/2 - < 5 1/2
06	5 1/2 - < 6 1/2	36	5 1/2 - < 6 1/2
07	6 1/2 - < 7 1/2	37	6 1/2 - < 7 1/2
08	7 1/2 - < 8 1/2	38	7 1/2 - < 8 1/2
09	8 1/2 - < 9 1/2	39	8 1/2 - < 9 1/2
10	9 1/2 - < 10 1/2	40	9 1/2 - < 10 1/2
11	10 1/2 - < 11 1/2	41	10 1/2 - < 11 1/2
12	11 1/2 - < 12 1/2	42	11 1/2 - < 12 1/2
13	12 1/2 - < 13 1/2	43	12 1/2 - < 13 1/2
14	13 1/2 - < 14 1/2	44	13 1/2 - < 14 1/2
15	14 1/2 - < 15 1/2	45	14 1/2 - < 15 1/2
16	15 1/2 - < 16 1/2	46	15 1/2 - < 16 1/2
17	16 1/2 - < 17 1/2	47	16 1/2 - < 17 1/2
18	17 1/2 - < 18 1/2	48	17 1/2 - < 18 1/2
19	18 1/2 - < 19 1/2	49	18 1/2 - < 19 1/2
20	19 1/2 - < 20 1/2	50	19 1/2 - < 20 1/2
21	20 1/2 - < 21 1/2	51	20 1/2 - < 21 1/2
22	21 1/2 - < 22 1/2	52	21 1/2 - < 22 1/2
23	22 1/2 - < 23 1/2	53	22 1/2 - < 23 1/2
24	23 1/2 - 24	54	23 1/2 - < 24 1/2
		55	24 1/2 - < 25 1/2
		56	25 1/2 - < 26 1/2
		57	26 1/2 - < 27 1/2
		58	27 1/2 - < 28 1/2
		59	28 1/2 - < 29 1/2
		60	29 1/2 - 30

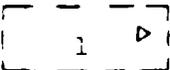
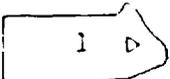
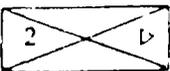
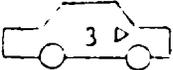
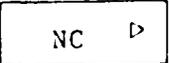
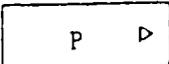
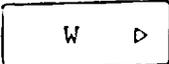
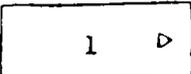
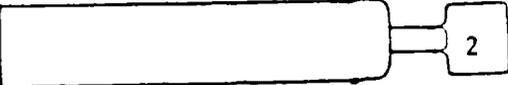
## APPENDICES

- Uniform Symbols for Scene Markings
- Uniform Symbols for Accident Diagramming
- Photography Instructions
- NASS Case Summary Form



## UNIFORM SYMBOLS FOR ACCIDENT DIAGRAMMING

### Vehicle and Pedestrian Symbols

	Automobile (pre-impact or at-impact position) Exception: draw <u>solid</u> outline if stopped at-impact.
	Automobile (final rest position-showing damaged area)
	Automobile (final position on its top)
	Automobile (final position on its right side) (reverse for left side)
	Automobile involved in the accident as a temporary environmental factor, but not physically involved in the collision. (Non-Contact Unit)
	Parked automobile not struck (give it a number if it was struck)
	Vehicle in which a witness was an occupant
	Truck (Panel, Van, Dump, etc.)
	Truck tractor and semi-trailer
	Utility trailer
	Bus or streetcar
	Motorcyclist: bicyclist (handlebars are curved opposite the direction of travel)



Pedestrian [pointer oriented to show direction of movement and dot spacing to show rate of movement (i.e., 3' apart walking and 6' apart running)]



Final position of body



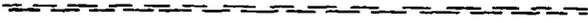
Pedestrian who witnessed accident

All symbols referring to colliding vehicles (plus Non-Contact, Witness and Parked vehicles) are to have a broken outline if they are moving at the point in which they are depicted; the outline should be solid if the vehicle is stopped where depicted, or at final rest. Be careful to insure proper placement (location) or orientation on the diagram.

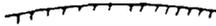
SCENE ROAD MARKING



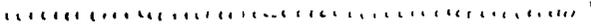
Point of impact



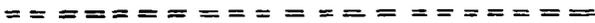
Skidmarks



Centripetal curve scuffs



Tire scuff marks



Rotating tire print



Gouges



Scratches



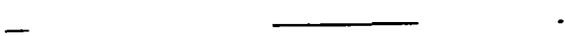
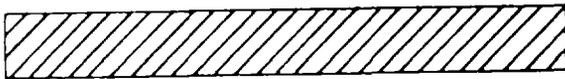
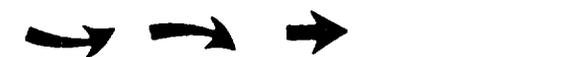
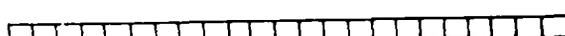
Liquids (puddle and run-off)



Debris (funnel out away from point of impact to show direction of force)

Any other accident-induced markings, components from vehicles, etc. should be shown in their approximate location and a reasonable likeness sketched on the diagram. However, do not clutter diagram; make an additional diagram, if necessary.

# Topographical Highway & Environment Symbols

	Pavement edge
	Shoulder edge line (non-formal)
	Shoulder edge line (formal)
	Broken center or lane lines (15' long - 25' apart)
	Broken center line with No-Passing line
	Double yellow center lines
	Raised island and Grass median
	Painted median
	Curb
	Paved shoulders with diagonal lines
	Turn arrows
	Wall
	Bridge abutment and railing
	Guard rail



Fence



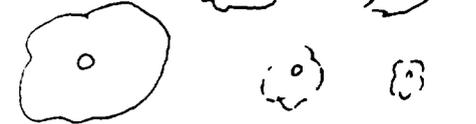
Railroad tracks



Embankment (arrows show "DOWN")



Shrubbery - hedges



Trees (draw trunk and perimeter of foliage to approximate size)



Traffic signal



Flashing light



Traffic signs back to back



Sign (indicate words or symbols)



Street light and pole (arm length may change with scene)



Street light without arm



Public utility pole



Building



Fire Hydrant



Street Sign



Delineator post

All crosswalks, road surface symbols and other relevant markings should be depicted and drawn to approximate scale on the diagram as much as possible.

## PHOTOGRAPHY

Case photographs are an important part of each NASS report for several reasons: (1) they document details which are often difficult to describe, (2) they permit subsequent interpretation of factors which are not otherwise recorded, (3) they are essential in the quality control program to ensure that all teams interpret and record information uniformly, and (4) they provide a verification of encoded data.

### Equipment

Equipment for this type of program is a 35 mm camera with a 50 mm lens or 35 mm wide angle lens and an electronic flash unit. The use of a film such as Kodak Ektachrome-X, ASA 64 is recommended. Processing is simple and the ASA 64 film works well for the type of photography typically performed by accident investigators. In discussing investigation photography, it should be noted that a common error involves the failure to use the flash unit. Even in daylight, under overcast conditions or where background lighting is a problem, the flash should be used for vehicle exterior photography. The flash should be used for all interior photographs.

Relative size of objects in slides is sometimes difficult to determine. To alleviate this problem, a scale should be used in all close-up view photographs. The scale should have alternating solid (dark colored) and blank (white) coloring at one-inch increments, and each foot should be clearly noted by a visible target and foot number given (see Figure 1). A four foot long scale is suggested. The scale should be placed immediately adjacent to the principal item of interest in a given photograph in such a way as to avoid hiding significant features of interest of the object struck. Align the scale so as to minimize distortion of the scale in the resulting photograph (that is: if the camera is aimed near horizontal, place the scale in a vertical

All close-up photographs  
must include this scale.

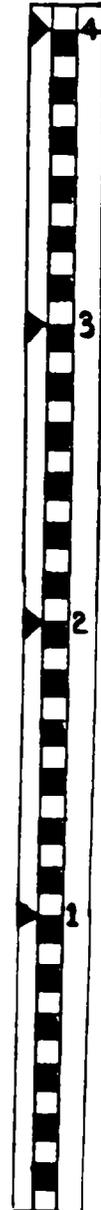


Figure 1

4"

position; if the camera is essentially looking down on top of a structure, place the scale horizontally.

#### Photographic Coverage

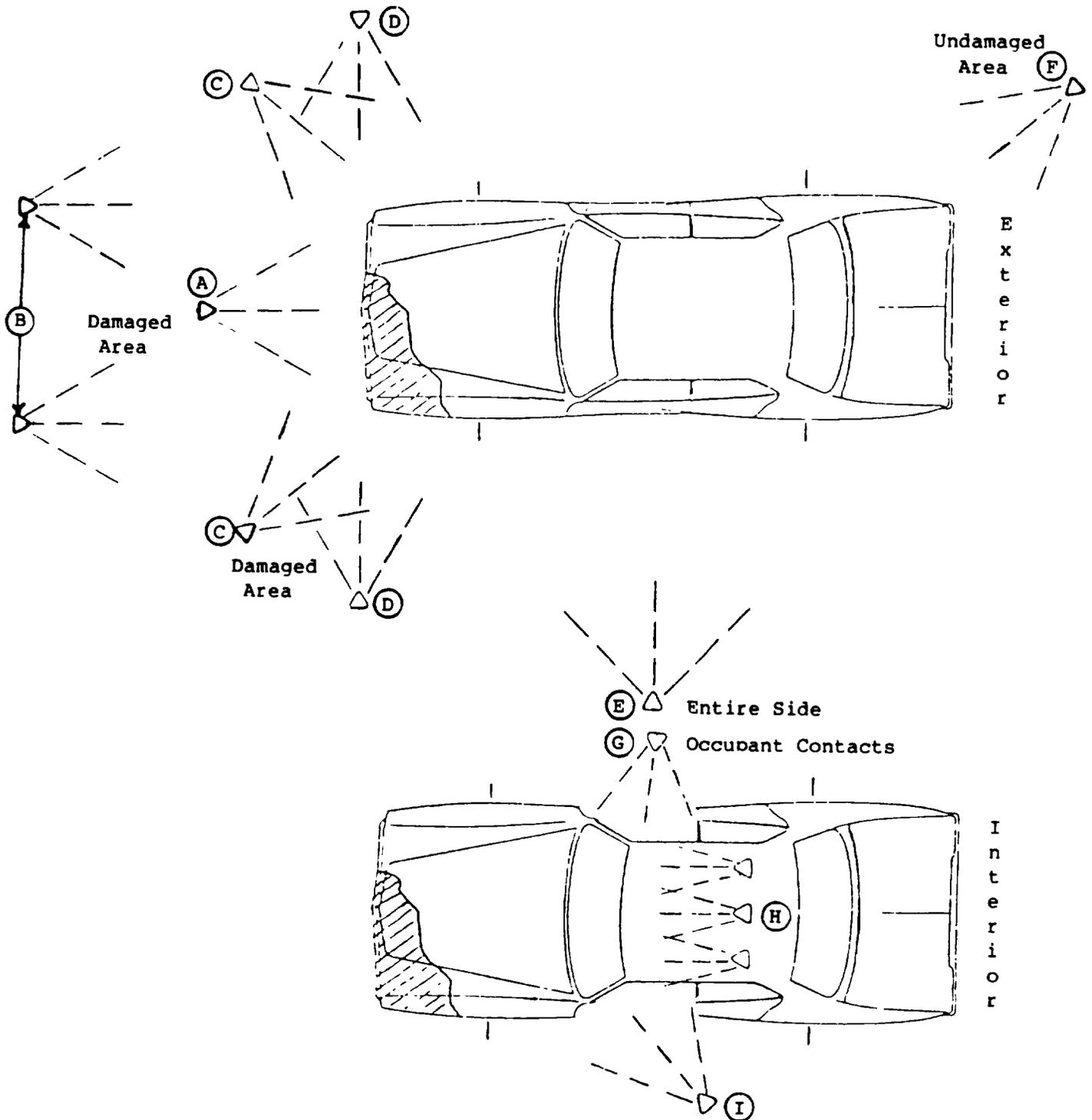
Photographs in this study are taken for the specific purpose of documenting the condition of the vehicle interior and exterior (with emphasis on vehicle damage and occupant contact points) and the accident scene and scene evidence. The coverage indicated in the sketches in this section represents the minimum number of photographs required. At least 9 exterior and 5 interior photographs should be taken for each vehicle. Four scene photographs are also required as a minimum. However, in most cases, it will be clear that additional photographs will be needed to document the damage and occupant contacts properly. The cost of a roll of film is far less than that of the data lost if a sufficient number of photographs is not taken. The slides contained within a case should be considered as photographic verification of all coded and noncoded data.

#### Vehicle

Photographs should be taken from a crouched position at a level slightly above the vehicle belt line. General camera placement for typical accident types is illustrated on the following page. In end impacts, one photograph should be taken directly in front of the damaged end A, one directly along each side of the vehicle B to illustrate any body distortion, and one at 45 degrees to each corner to show the damaged end and sides C.

A sixth and seventh photograph D should be taken at a right angle to the end damage photographs. These photographs should provide right angle views along the foremost part of the car. Photograph E is a centered side view of the entire car, and F is a three-quarter view of the two undamaged sides of the vehicle. Take additional shots as needed.

VEHICLE: FRONT AND REAR IMPACT



**NOTE:** If an impact involves underride or override, photograph damage at the appropriate height to properly document the extent. If additional photographs are needed to provide adequate coverage in certain cases, they should be taken.

Interior photographs should include one from the right front door G (or left front, if necessary or appropriate) and three from the rear seat W to show occupant contacts. The latter should be taken of the left, center, and right front interior, as illustrated. These views should overlap somewhat and include the area from the header to the lower instrument panel (for a normal size vehicle you will need to turn the camera 90 degrees). An additional photograph I is needed to document driver contacts. This should be taken in a crouched position through the open door and should include the lower instrument panel. Close-ups of all other possible interior contact areas are also required.

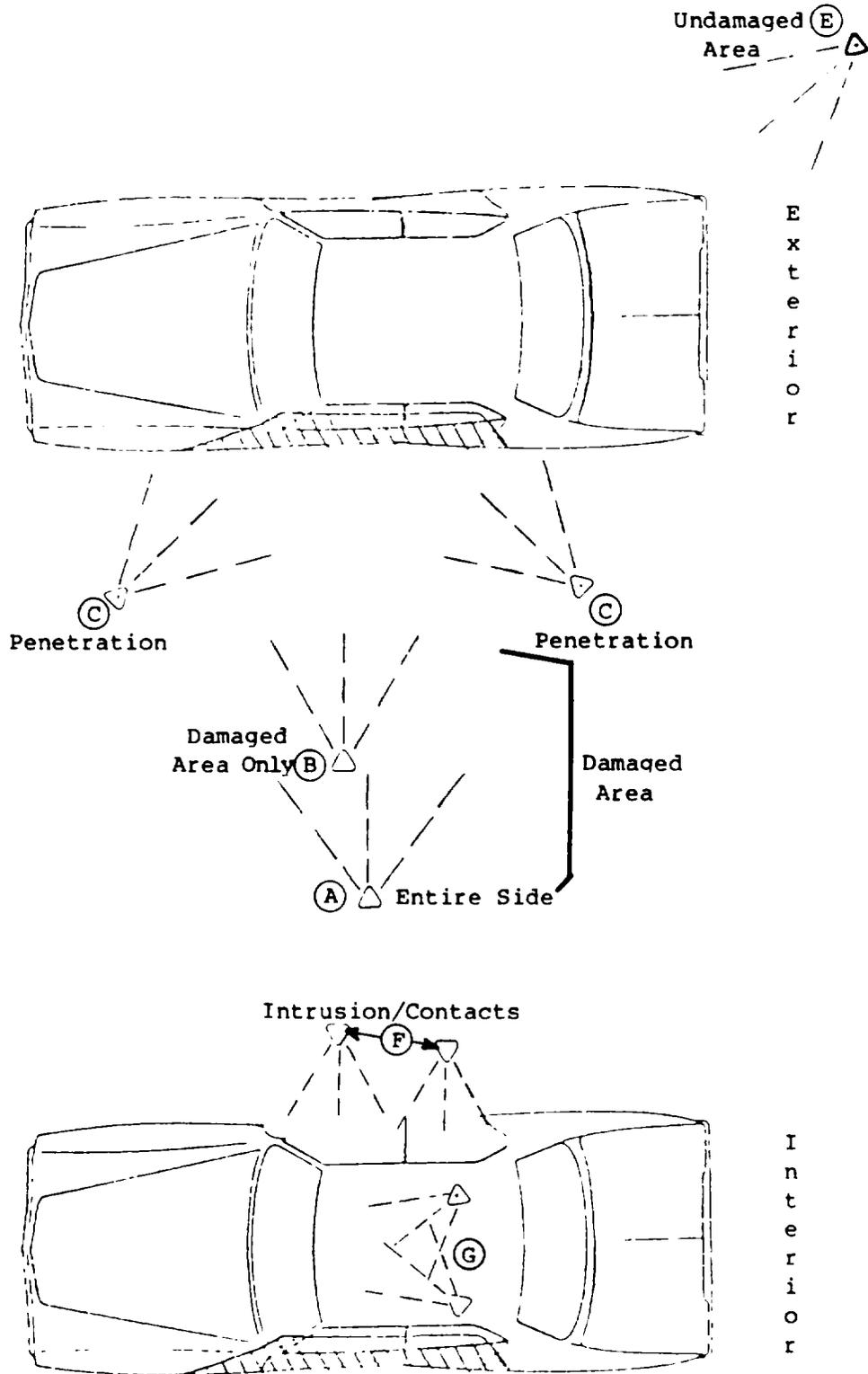
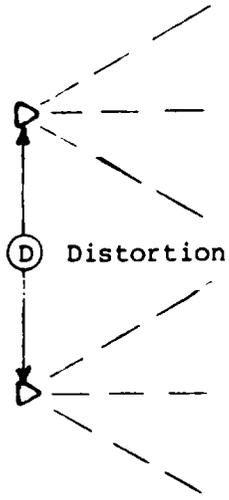
In side impacts a side photograph of the damaged area only B, a centered side view of the entire vehicle A, and two angled photographs to show depth of penetration C -- one taken from forward and the other taken from the rear of the damaged area, are needed. Two photographs should be taken from either front or rear (as best illustrates distortion or bowing of the vehicle) along the body line D. A final three-quarter view should be taken of the undamaged side of the vehicle E (from the rear if the D photographs are from the front, and from the front if D photographs are taken from the rear).

Two photographs should be taken of the front and rear interior from the side of the vehicle which was not damaged F. These photographs are to show intrusion (or lack thereof) as well as occupant contacts. Take two photographs from the rear seat into both A-pillar and door areas G to show occupant contacts. Be sure that photographs document all possible areas of intrusion and occupant contacts (including rear-seated occupants/and restraint system availability and usage).

#### Scene

In general, a photograph should be taken along the path of each vehicle from perhaps ten feet behind the first tire markings (if present) at the point

VEHICLE: SIDE IMPACT



NOTE: If an impact involves underride or override, photograph damage at the appropriate height to properly document the extent. If additional photographs are needed to provide adequate coverage in certain cases, they should be taken.

of the unstabilized event or the first harmful event - whichever occurs first. All photographs should be taken at increments of twenty-five feet. The point of impact should also be shown. Uniform symbols for scene marking, made with yellow lumber crayons or paint, should highlight the available physical evidence. The uniform symbols simplify the communication between the investigator and reviewer regarding interpretation of photographically depicted scene evidence.

Roadway delineation, signs, and markings may have played a role in the accident. In order to provide information on these aspects of the event, photographic documentation of the approach roadway upstream from the accident location is required. Photographs of the road and adjacent terrain beginning at approximately 1000 ft. upstream and approximately 200 ft. intervals should document this need. In general one photograph looking in the direction of the road at each location should suffice. Be sure that the lane lines, edge lines, highway signs and signals are visible in the photographs.

#### Roadside

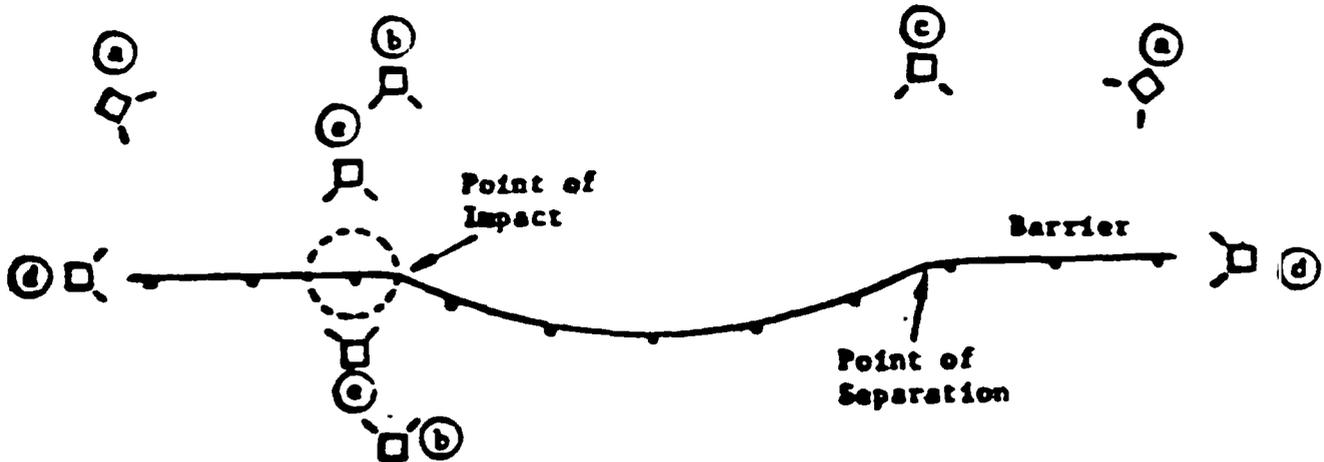
In collisions in which a case vehicle ran-off-the-road, additional photographs of the roadside are required to provide information on the role of the roadside in the event. Photographs of the road and adjacent terrains as requested above will be helpful in this regard. In addition, photographs at approximately 50-100 foot intervals along the likely path of the vehicle(s) after the vehicle(s) left the road will be useful.

For impacts involving a roadside fixed-object, more extensive photographic coverage is required to adequately document the event. It is possible that additional data may be desired at a later date on certain data items and photographs become the only available source of information. In general, the following photographs will be required in fixed-object collisions

in addition to 1) the vehicle and scene photographs requested for all CSS cases and 2) the mentioned vehicle path photographs for all roadside collisions:

1. For each impact, two photographs should be taken showing general views of the accident site in the direction of vehicle travel. These photographs should be taken at different distances (e.g., 50-100 feet apart) from the point of impact.
2. For each impact, two photographs should be taken showing general views of the accident site opposite the direction of vehicle travel. These photographs should be taken at different distances from the point of final rest or separation from the struck object.
3. One or more photographs should be taken along the path of the vehicle travel between impacts so as to provide a complete coverage of the accident sequence from the point of departure from the roadway to the point of final rest.
4. For each roadside structure/object struck, at least two photographs should be taken. One photograph should show a general view of the roadside structure/object contacted while the second photograph should be a close-up view which includes the scale in Figure 1 to illustrate the damage sustained by the roadside structure/object.

Usually the damage sustained by the roadside structure/object cannot reasonably be described in one close-up photograph, thus several close-up photographs of damage and vehicle marks will be required. For example, the following photographs should be taken for guardrail, median barrier and bridge rail collisions:



If the distance between the point of impact and the point of separation is greater than twenty-five (25) feet, additional frontal photographs should be taken.

## NASS Case Summary Form

NASS hardcopy case reports are often used by researchers for clinical evaluations of specific accident characteristics. The NASS Case Summary provides a quick overview for clinical researchers of the accident's circumstances. It is a brief synopsis of the accident events, including circumstances which may be of particular interest such as component failure or the use of child seats. This summary is included with all NASS case reports (including SDO cases). Culpability is not assessed nor unsubstantiated inferences made. Also, personal identifiers are not used in the Summary. An example of the NASS Case Summary Form is attached.

SUMMARY OF CASE

PSU NO./CASE NO. \_\_\_\_\_/\_\_\_\_\_ MONTH/YEAR OF ACCIDENT \_\_\_\_\_

VEHICLE PROFILES

NO.	TYPE	YEAR	MAKE	MODEL	DAMAGE
-----	------	------	------	-------	--------

PERSON PROFILES

ROLE	RESTRAINT USE	VIOLATIONS CHARGED	MAXIMUM INJURY		NATURE
			AIS	BODY AREA	

NARRATIVE DESCRIPTION OF THE ACCIDENT (paths of vehicles, location and nature of collision(s), post-crash trajectories and other factors)