

HSIS

HIGHWAY SAFETY INFORMATION SYSTEM

Guidebook for Data Files CHARLOTTE, NC

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Table of Contents

Introduction	3
Details of Major Files	3
Crash Data	3
Roadway Data	4
Intersection Data	4
Traffic Volume	5
Issues Related to Merging Files	6
Composite List of Elements.....	7
Roadway Inventory File.....	11
List of Variables.....	11
Variable Coding.....	13
Crash Subfile	23
List of Variables.....	23
Variable Coding.....	26
Occupant Subfile	38
List of Variables.....	38
Variable Coding.....	39
Vehicle Subfile.....	44
List of Variables.....	44
Variable Coding.....	46

Introduction

The Highway Safety Information System (HSIS) has partnered with Charlotte, NC, to obtain roadway, traffic, and crash data and make these data available in the HSIS database. Each year, Charlotte DOT provides the current files of the roadway network, traffic count locations, crash data, and other transportation network related inventories (e.g., sidewalks, transit locations, etc.).

The addition of Charlotte as a contributing agency for HSIS provides the opportunity to study safety issues specific to an urban setting. Charlotte has a population of approximately 800,000 and covers a 300 square mile area. The city is generally laid out in a hub-and-spokes configuration, with the downtown central business district serving as a focal point for business and commuting traffic and major arterials radiating out. Pedestrian activity is moderately high in the downtown district but much less so in most other areas of the city. Charlotte is bisected by two major interstates, Interstates 77 and 85, and encircled by Interstate 485. The University of North Carolina at Charlotte lies to the northeast side of the city and serves as a major source of activity for that area.

Details of Major Files

Crash Data

Charlotte provides data on crashes that occurred on all public roads in the city, regardless of road ownership - the crash data cover city-owned and state-owned roads. However, it is important to note that Charlotte does not maintain crash data for crashes occurring on interstates. Thus, crashes occurring on Interstates 77, 85, and 485 will not be contained in the HSIS Charlotte data. They will however be available in the NC HSIS data.

Crash data are provided by year beginning in 2004. Each year of crash data has a shapefile of the crashes (to be used in placing the crashes on the GIS map spatially) and an accompanying set of Excel files (Crashes, Units, and Parties) which contain the attribute data for the crashes. In earlier years (2004-2007) the attribute data for the crashes were kept in the shapefiles. Because this made for very large file sizes for the shapefiles, the later years (2008-2013) maintain only a skeleton list of attributes in the shapefile. If a user wishes to add attributes, such as crash type or time of day, to the crashes for these years in GIS, they will need to join the Excel file to the shapefile.

If the user desires to analyze crashes by spatial position, they must use the shapefiles. If the user is not interested in spatial position, they can forgo using the shapefiles and work only with the Excel files, for analysis such as crash type distribution or time of day.

The issue of intersection relation is important to many researchers. Charlotte does not have a reliable attribute in the crash data to indicate which crashes are intersection related. The determination of intersection relation can be done two ways:

1. Spatial position. The user can use a GIS platform, such as ArcGIS, to designate a spatial distance from intersections to use as the intersection influence area and select a subset of crashes in that manner. A suggested distance is 150 feet, which is the distance used by Charlotte DOT. In earlier years, most crashes were “snapped” to the intersection location if they occurred within 150 feet. In later years, crashes began to be placed more precisely.

2. Major and minor road designations. The HSIS processing of Charlotte data includes a step wherein the crash is assigned the location ID of the nearest road segment. For crashes that occur near intersections (within 110 feet), there is also an assignment of a minor road segment ID to the crash. Thus, crashes with non-blank values for both major and minor road assigned IDs could be considered to be intersection related. By looking at the two road segment identifiers, an analyst can determine which intersection the crash belongs to.

Special note about geocoding errors: Charlotte conducts their own geocoding process by mapping each crash spatially through a manual process. During some of the earlier years, there was an error in this process and many crashes were slightly mislocated. Users who look closely at the GIS data will see that some crashes lie off the road by a distance of 25 to 50 feet. Any spatial analysis must be done using buffer distances or snapping operations that account for this misplacement.

Roadway Data

The roadway data is provided as yearly shapefiles, with each shapefile representing a snapshot of the network during that year. The roadway shapefiles contain some road attributes, like number of lanes and divided vs. undivided, as provided by Charlotte DOT. It also contains traffic volume as provided by the HSIS process. More on the traffic volume distribution process can be read in the Word document entitled “Charlotte HSIS Annual GIS Processes”.

Each shapefile is named by the year of the roadway network lines and the year of the traffic volume. For instance, “roadway_2013_with2013DistrVols” means that it is the 2013 road network with 2013 traffic volume assigned to the road segments. The only special consideration is for 2005, 2006, and 2007. There was not a road network available for these years. Thus, HSIS uses the road network (i.e., line layer) from 2004 but uses the appropriate traffic volumes for the respective years.

There is no mileposting or linear referencing used by Charlotte DOT. For HSIS purposes, a field was created, called “UNITIDComb”, as a unique identifier for each road segment. It is named as such because it is the combination of UNITID (the number Charlotte uses for an entire route) and UNITID2 (the number Charlotte uses for each segment along that route). Combined together, they serve as a unique identifier for each segment. This UNITIDComb is also added to each crash record to denote which roadway segment it belongs to. NOTE: Although UNITIDComb is intended to be a unique identifier for each road segment, there are a few instances of two road segments having the same UNITIDComb. This is typically due to one road segment being split but retaining the same UNITID and UNITID2. These cases must be handled manually through examination on the spatial data.

Intersection Data

Charlotte provides an inventory file of all public road intersections. Like the roadway network, the intersection point data is provided as annual shapefiles, representing the “snapshot” of the intersections in that particular year. There has been no HSIS reprocessing of the intersection files. The data is provided as it was obtained from Charlotte DOT. Charlotte uses a field called UNITID as the unique identifier for each intersection (this is different from the UNITID used on the roadway file). Although this is a number, it is stored as text.

Traffic Volume

Charlotte does not provide annual average daily traffic volume (AADT) as an attribute of the road segment file. Instead, they provide the original point-based count locations with dates and count values. HSIS staff conduct a process to assign and distribute traffic volumes on the network according to this point count data.

In this process, any segment of road on which traffic was counted is assigned the traffic volume according to that count. There are only a limited number of these segments with actual count points. Other segments of road must be assigned a traffic volume value by distributing the traffic volume from the count points. The HSIS process for distributing traffic volumes in Charlotte carries the volume value from the actual count point forward and backward down the road on either side of the counted segment to the extent of the existing road limits (i.e., count values do not “turn corners” in this distribution process). The distribution of volumes on a road stops when the road begins a new identifier (UNITID).

If there are more than one count points on the same road, the HSIS process assigns traffic volumes to the road segments between the count points according to a stepping-up/stepping-down logic. Volume values step up or step down only at major intersections (i.e., intersections with non-local roads). The process determines how many change points (non-local intersections) there are between the current point and the upcoming one, which indicates how many steps to use. For example, if the current count point is 1000 and the upcoming one is 1200 and there are two change points (intersections with non-local roads) in between, then the step value will be 100. This process is illustrated in Figure 1.

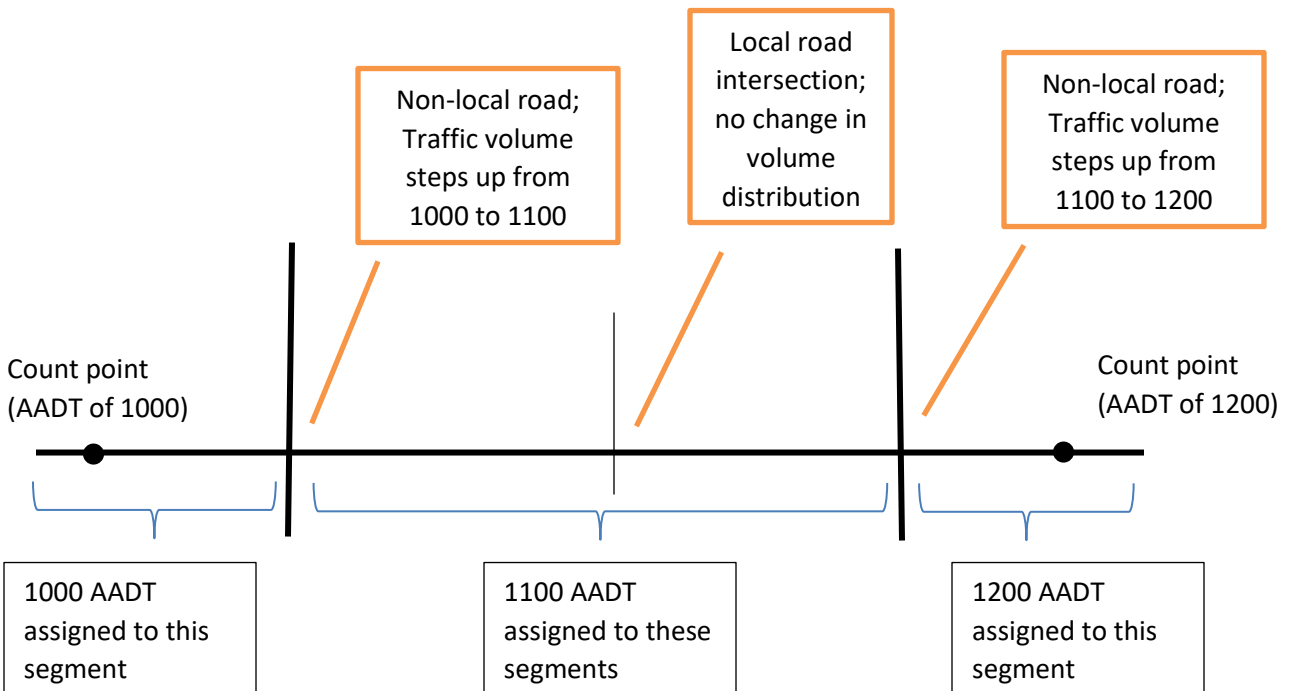


FIGURE 1. ILLUSTRATION OF TRAFFIC VOLUME DISTRIBUTION

Issues Related to Merging Files

The City of Charlotte maintains a geospatial data center that contains data from many different city departments. Under this system, crash data in Charlotte are primarily located to the road network through geospatial positioning. Charlotte does not use a linear referencing system on its spatial road network. Given that HSIS has traditionally provided a linear reference for each crash (e.g. route and milepost), the HSIS staff developed a method for assigning an “address” to each Charlotte crash. The crash location is indicated by assigning it to a specific roadway section, as defined by the combination of UNITID (the route level ID) and UNITID2 (the section level ID). While this only provides a rough crash location (specific only to a segment of road), the roughness is mitigated by the fact that Charlotte breaks their roadway into many small sections (average of 550 ft), so a moderate level of precision is maintained. Any more precision than that will have to be based on spatial coordinates.

The HSIS crash assignment process assigns crashes to specific roadway segments based on spatial proximity. The process assigns a crash to whichever roadway segment is closest to it, within a 110 foot radius. This radius is imposed to prevent situations where a crash could get assigned to a road that is very far away. The reason the radius is so large is that Charlotte has had a problem with some crashes (typically intersection crashes) being geolocated improperly (see image below), usually no more than 100 feet from the roadway. This large search radius enables the process to find the actual roadway segment to which the crash belongs. Intersection crashes, being placed at two roads, are assigned to the highest order route of the intersection.

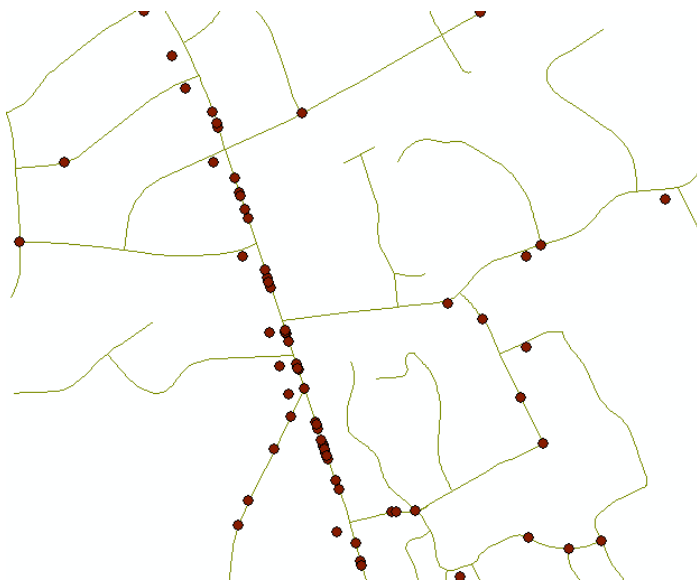


FIGURE 2. ILLUSTRATION OF ERROR IN CRASH GEOLOCATION

Composite List of Elements

Variable Name	Variable Description	File
ALIGN	Align	Crash
ALIGN_CD	Align Code	Crash
BARRIER	Barrier	Roadway
CASE_NUM	Case Number	Crash
CASE_NUM	Case Number	Party/Occupant
CASE_NUM	Case Number	Unit/Vehicle
CNST_ACT	Construction Related	Crash
CNST_LANE_CLSD_IND	Lane closed	Crash
CNST_TYPE	Construction Type	Crash
CNST_TYPE_CD	Construction Type Code	Crash
CNTY	County	Crash
CNTY_CD	County Code	Crash
CONTRIB_FACTOR_CD	Contributing Factor Code	Unit/Vehicle
CONTRIB_FACTOR_CD2	Contributing Factor Code 2	Unit/Vehicle
CONTRIB_FACTOR_CD3	Contributing Factor Code 3	Unit/Vehicle
CONTRIB_FACTOR1	Contributing Factor 1	Unit/Vehicle
CONTRIB_FACTOR2	Contributing Factor 2	Unit/Vehicle
CONTRIB_FACTOR3	Contributing Factor 3	Unit/Vehicle
CRASH_TYPE	Crash Type	Crash
CREATE_TIMESTAMP	Create Timestamp	Crash
CRSH_ID	CRASH ID	Crash
CRSH_ID	Crash Id	Party/Occupant
CRSH_ID	Crash ID	Unit/Vehicle
CRSH_LEVL	Crash Level	Crash
CRSH_TYPE_CD	Crash Type Code	Crash
DATE_VAL	Date Time	Crash
DATE_VAL_DAY	Date Value Day	Crash
DATE_VAL_MONTH	Date Value Month	Crash
DATE_VAL_MONTH_DESC	Date Value Description	Crash
DATE_VAL_YEAR	Year	Crash
DAY_OF_WEEK	Day of Week	Crash
DAY_OF_WEEK_DESC	Day of Week Description	Crash
DIVIDED	Divided	Roadway
DRTN	Direction	Unit/Vehicle
DRTN_CD	Direction Code	Unit/Vehicle
GNDR_CD	Gender Code	Party/Occupant
HARM_EVNT1	Harmful Event 1	Unit/Vehicle
HARM_EVNT2	Harmful Event 2	Unit/Vehicle
HARM_EVNT3	Harmful Event 3	Unit/Vehicle

HARM_EVNT4	Harmful Event 4	Unit/Vehicle
HARM_EVNT5	Harmful Event 5	Unit/Vehicle
HOVLANE	HOV Lane	Roadway
HZRD_ACTN	Hazardous Action	Party/Occupant
HZRD_ACTN_CD	Hazardous Action Code	Party/Occupant
INJY_SVTY	Injury Severity	Party/Occupant
INJY_SVTY_CD	Injury Severity Code	Party/Occupant
INTR_SRET	Intersecting Street	Crash
L_JURIS	Left Jurisdiction	Roadway
L_ZIPCODE	Left Zip Code	Roadway
LATITUDE	Latitude	Crash
LBLOCKMAX	Left Block Max	Roadway
LBLOCKMIN	Left Block Min	Roadway
LCOUNTY	Left County	Roadway
LIT	Light Condition	Crash
LIT_CD	Light Condition Code	Crash
LL_ADD	Lower Left Address	Roadway
LONGITUDE	Longitude	Crash
LR_ADD	Lower Right Address	Roadway
LSTREETCOD	Left Street Code	Roadway
MEDIAN	Median	Roadway
MILT_TIME	Military Time	Crash
NARRATIVE	Narrative	Crash
NUM_FATL	Number of Fatalities	Crash
NUM_INJY	Number of Injuries	Crash
NUM_INJY_A	Number of A Injuries	Crash
NUM_INJY_B	Number of B Injuries	Crash
NUM_INJY_C	Number of C Injuries	Crash
NUM_LNS	Number of Lanes	Crash
NUMBEROFLA	Number of Lanes	Roadway
ONEWAY	One Way	Roadway
ORIG_DRTN_CD	Original Direction Code	Crash
PAVEMENTWI	Pavement Width	Roadway
PREFIXDIRE	Prefix Direction	Roadway
PRIMARY_CAUSE	Primary Cause	Crash
PRIMARY_CAUSE_CD	Primary Cause Code	Crash
PRMY_VEHC_USE	Primary Vehicle Use	Unit/Vehicle
PRMY_VEHC_USE_CD	Primary Vehicle Use Code	Unit/Vehicle
PRR_ACTN	Primary Action	Unit/Vehicle
PRR_ACTN_CD	Primary Action Code	Unit/Vehicle
PRTY_AGE	Party Age	Party/Occupant
PRTY_TYPE	Party Type	Party/Occupant
PRTY_TYPE_DESC	Party Type Description	Party/Occupant

R_JURIS	Right Jurisdiction	Roadway
R_ZIPCODE	Right Zip Code	Roadway
RBLOCKMAX	Right Block Max	Roadway
RBLOCKMIN	Right Block Min	Roadway
RCOUNTY	Right County	Roadway
RD_COND	Road Condition	Crash
RD_COND_CD	Road Condition Code	Crash
RD_RLTN	Road Relation	Crash
RD_SURF	Road Surface	Crash
RD_SURF_CD	Road Surface Code	Crash
RDWY_AREA	Roadway Area	Crash
RDWY_AREA_CD	Roadway Area Cd	Crash
ROADTYPE	Road Type (road or driveway)	Roadway
RSTR_USE		Party/Occupant
RSTR_USE_CD		Party/Occupant
RSTREETCOD	Right Street Code	Roadway
SECONDARY_CAUSE	Secondary Cause	Crash
SECONDARY_CAUSE_CD	Secondary Cause Code	Crash
	Speed Limit	Unit/Vehicle
SPEEDHUMP	Speed Hump	Roadway
SPEEDLIMIT	Speed Limit	Roadway
STANDTYPE	Road Type	Roadway
STNAMECHANGE	Street Name Change	Roadway
STREETCLAS	Street Classification	Roadway
STREETNAME	Street Name	Roadway
STREETTYPE	Road Type (2 characters)	Roadway
STUDY_LOCATION_ID	Study Location Id	Crash
SUBDIVIS_1	Subdivision	Roadway
SUBDIVISIO	Subdivision	Roadway
SUFFIX	Suffix Direction	Roadway
SURFACETYP	Surface Type	Roadway
THOROUGHFA	Thoroughfare	Roadway
TRFC_CTRL	Traffic Control	Crash
TRFC_CTRL	Type of Traffic Control	Unit/Vehicle
TRFC_CTRL_CD	Traffic Control Code	Crash
UL_ADD	Upper Left Address	Roadway
UNIT_NUM	Unit Number	Party/Occupant
UNIT_NUM	Unit Number	Unit/Vehicle
UNIT_TYPE	Unit Type	Unit/Vehicle
UNIT_TYPE_CD	Unit Type Code	Unit/Vehicle
UR_ADD	Upper Right Address	Roadway
URBAN_RURAL	Urban Rural	Crash
URBAN_RURAL_DESC	Urban Rural Description	Crash

VEHC_DFCT	Vehicle Defect	Unit/Vehicle
VEHC_DFCT_CD	Vehicle Defect Code	Unit/Vehicle
VEHC_TYPE	Vehicle Type	Unit/Vehicle
VEHC_TYPE_CD	Vehicle Type Code	Unit/Vehicle
VEHC_YR	Vehicle Year	Unit/Vehicle
WHOLESTNAM	STREETNAME+ STREETTYPE	Roadway
WTHR	Weather	Crash
WTHR_CD	Weather Code	Crash

Roadway Inventory File

List of Variables

Variable Name	Variable Description
BARRIER	Barrier
DIVIDED	Divided
HOVLANE	HOV Lane
L_JURIS	Left Jurisdiction
L_ZIPCODE	Left Zip Code
LBLOCKMAX	Left Block Max
LBLOCKMIN	Left Block Min
LCOUNTY	Left County
LL_ADD	Lower Left Address
LR_ADD	Lower Right Address
LSTREETCOD	Left Street Code
MEDIAN	Median
NUMBEROFLA	Number of Lanes
ONEWAY	One Way
PAVEMENTWI	Pavement Width
PREFIXDIRE	Prefix Direction
R_JURIS	Right Jurisdiction
R_ZIPCODE	Right Zip Code
RBLOCKMAX	Right Block Max
RBLOCKMIN	Right Block Min
RCOUNTY	Right County
ROADTYPE	Road Type (road or driveway)
RSTREETCOD	Right Street Code

SPEEDHUMP	Speed Hump
SPEEDLIMIT	Speed Limit
STANDTYPE	Road Type
STNAMECHANGE	Street Name Change
STREETCLAS	Street Classification
STREETNAME	Street Name
STREETTYPE	Road Type (2 characters)
SUBDIVIS_1	Subdivision
SUBDIVISIO	Subdivision
SUFFIX	Suffix Direction
SURFACETYP	Surface Type
THOROUGHFA	Thoroughfare
UL_ADD	Upper Left Address
UR_ADD	Upper Right Address
WHOLESTNAM	STREETNAME+ STREETTYPE

Variable Coding

BARRIER	Barrier	
	0	No barrier
	1	Barrier
DIVIDED	Divided (not always the same as “Median” (e.g. Independence Blvd, high barriers classify the road as divided but not as having a median)	
	0	Undivided
	1	Divided
HOVLANE	HOV Lane	
	0	Non-HOV lane
	1	HOV lane
L_JURIS	Jurisdiction on Left Side of Road	
	CHAR	Charlotte
	CORN	Cornelius
	DAVI	Davidson
	HUNT	Huntersville
	MATT	Matthews
	MECK	Mecklenburg – unincorporated area
	MINT	Mint Hill
	OTHER	Other
	PINE	Pineville
	STAL	Stallings

L_ZIPCODE	Zip Code on Left Side of Road	
	Non-labeled variable	
LBLOCKMAX	Block Address Max on Left Side of Road	
	Non-labeled variable	
LBLOCKMIN	Block Address Min on Left Side of Road	
	Non-labeled variable	
LCOUNTY	County on Left Side of Road	
	CABA	Cabarrus
	IRED	Iredell
	LANC	Lancaster, SC
	MECK	Mecklenburg
	UNIO	Union
	YORK	York, SC
LL_ADD	Lower Address on Left Side of Road	
	Non-labeled variable	
LR_ADD	Lower Address on Right Side of Road	
	Non-labeled variable	
LSTREETCOD	Street Code on Left Side of Road	

Non-labeled variable

MEDIAN

Median (not always the same as “Divided” (e.g. Independence Blvd, high barriers classify the road as divided but not as having a median)

0	No median
1	Median

NUMBEROFLA

Number of Lanes

0	0 lanes
1	1 lane
2	2 lanes
3	3 lanes
4	4 lanes
5	5 lanes
6	6 lanes
7	7 lanes
8	8 lanes
9	9 or more lanes

ONEWAY

One Way

0	Two-way
1	One-way toward uptown
2	One-way away from uptown

PAVEMENTWI

Pavement Width

Non-labeled variable

PREFIXDIRE

Prefix Direction

N	North
E	East
S	South
W	West

R_JURIS

Jurisdiction on Right Side of Road

CHAR	Charlotte
CORN	Cornelius
DAVI	Davidson
HUNT	Huntersville
MATT	Matthews
MECK	Mecklenburg – unincorporated area
MINT	Mint Hill
OTHER	Other
PINE	Pineville
STAL	Stallings

R_ZIPCODE

Zip Code on Right Side of Road

Non-labeled variable

RBLOCKMAX

Block Address Max on Right Side of Road

Non-labeled variable

RBLOCKMIN

Block Address Min on Right Side of Road

	Non-labeled variable	
RCOUNTY	County on Right Side of Road	
	CABA	Cabarrus
	IRED	Iredell
	LANC	Lancaster, SC
	MECK	Mecklenburg
	UNIO	Union
	YORK	York, SC
ROADTYPE	Road Type	
	1	Road
	2	Named driveway (e.g. shopping center)
RSTREETCOD	Street Code on Right Side of Road	
	Non-labeled variable	
SPEEDHUMP	Speed Hump	
	0	No speed hump present
	1	Speed hump present
SPEEDLIMIT	Speed Limit	
	10	10 mph
	15	15 mph
	20	20 mph
	25	25 mph

30	30 mph
35	35 mph
40	40 mph
45	45 mph
50	50 mph
55	55 mph
60	60 mph
65	65 mph
70	70 mph

STANDTYPE

Road Type

ALY	Alley
AVE	Avenue
BLVD	Boulevard
BYWY	Byway
CIR	Circle
CT	Court
CV	Cove
DR	Drive
FWY	Freeway
HWY	Highway
LN	Lane
LOOP	Loop
PKWY	Parkway
PL	Place
RAMP	Ramp
RD	Road
ROW	Row

	RUN	Run
	ST	Street
	TER	Terrace
	TRCE	Trace
	TRL	Trail
	WAY	Way
STNAMECHANGE	Street Name Change	
	0	No
	1	Yes
STREETCLAS	Street Classification	
	PUB	Public
	PVT	Private
STREETNAME	Street Name	
	Non-labeled variable	
STREETTYPE	Road Type (2 characters)	
	AL	Alley
	AV	Avenue
	BV	Boulevard
	BY	Byway
	CR	Circle
	CT	Court
	CV	Cove
	DR	Drive
	FR	Freeway

HY	Highway
LN	Lane
LP	Loop
PL	Place
PY	Parkway
RA	Ramp
RD	Road
RN	Run
RW	Row
ST	Street
TC	Trace
TL	Trail
TR	Terrace
WY	Way

SUBDIVIS_1 Phase of the Subdivision (numerical)
Non-labeled variable

SUBDIVISIO Name of the Subdivision
Non-labeled variable

SUFFIX Suffix Direction

E	East
EAST	East
EXT	Extension
N	North
NB	Northbound

NORTH	North
S	South
SB	Southbound
SOUTH	South
W	West
WEST	West

SURFACETYP

Surface Type (NOTE: Accuracy of this variable is questionable)

1	Gravel
2	Asphalt
3	Concrete
4	Dirt
5	Other

THOROUGHFA

Thoroughfare classification

C2EX	Class 2 Expressway – access controlled but right in/right out driveways allowed
EXCOLLMJ	Existing Major Collector
EXCOLLMN	Existing Minor Collector
EXFRY	Existing Freeway
EXMINTH	Existing Minor Thoroughfare
EXMJTH	Existing Major Thoroughfare
EXMJTHC3C	Class 3 Commercial Arterial
LOCAL	Local
PROPFY	Proposed Freeway

	PROPMINTH	Proposed Minor Thoroughfare
	PROPMJTH	Proposed Major Thoroughfare
	RAMP	Ramp
UL_ADD	Upper Address on Left Side of Road Non-labeled variable	
UR_ADD	Upper Address on Right Side of Road Non-labeled variable	
WHOLESTNAM	STREETNAME+ STREETTYPE Non-labeled variable	

Crash Subfile

List of Variables

VARIABLES	DESCRIPTION	FILE	FORMAT
ALIGN	Align	Crash	Char(255)
ALIGN_CD	Align Code	Crash	Num
CASE_NUM	Case Number	Crash	Num
CNST_ACT	Construction Related	Crash	Char(255)
CNST_LANE_CLSD_IND	Lane closed	Crash	Num
CNST_TYPE	Construction Type	Crash	Char(255)
CNST_TYPE_CD	Construction Type Code	Crash	Num
CNTY	County	Crash	Char(255)
CNTY_CD	County Code	Crash	Num
CRASH_TYPE	Crash Type	Crash	Char(255)
CREATE_TIMESTAMP	Create Timestamp	Crash	Date
CRSH_ID	CRASH ID	Crash	Char(255)
CRSH_LEVEL	Crash Level	Crash	Num
CRSH_TYPE_CD	Crash Type Code	Crash	Num
DATE_VAL	Date Time	Crash	Date
DATE_VAL_DAY	Date Value Day	Crash	Date
DATE_VAL_MONTH	Date Value Month	Crash	Date
DATE_VAL_MONTH_DESC	Date Value Description	Crash	Date
DATE_VAL_YEAR	Year	Crash	Num
DAY_OF_WEEK	Day of Week	Crash	Num
DAY_OF_WEEK_DESC	Day of Week Description	Crash	Char(255)
INTR_SRET	Intersecting Street	Crash	Char(255)
LATITUDE	Latitude	Crash	Num

LIT	Light Condition	Crash	Char(255)
LIT_CD	Light Condition Code	Crash	Num
LONGITUDE	Longitude	Crash	Num
MILT_TIME	Military Time	Crash	Num
NARRATIVE	Narrative	Crash	Char(2014)
NUM_FATL	Number of Fatalities	Crash	Num
NUM_INJY	Number of Injuries	Crash	Num
NUM_INJY_A	Number of A Injuries	Crash	Num
NUM_INJY_B	Number of B Injuries	Crash	Num
NUM_INJY_C	Number of C Injuries	Crash	Num
NUM_LNS	Number of Lanes	Crash	Num
ORIG_DRTN_CD	Original Direction Code	Crash	Char(255)
PRIMARY_CAUSE	Primary Cause	Crash	Char(255)
PRIMARY_CAUSE_CD	Primary Cause Code	Crash	Num
RD_COND	Road Condition	Crash	Num
RD_COND_CD	Road Condition Code	Crash	Num
RD_RLTN	Road Relation	Crash	Char(255)
RD_SURF	Road Surface	Crash	Char(255)
RD_SURF_CD	Road Surface Code	Crash	Num
RDWY_AREA	Roadway Area	Crash	Char(255)
RDWY_AREA_CD	Roadway Area Cd	Crash	Num
SECONDARY_CAUSE	Secondary Cause	Crash	Char(255)
SECONDARY_CAUSE_CD	Secondary Cause Code	Crash	Num
STUDY_LOCATION_ID	Study Location Id	Crash	Num
TRFC_CTRL	Traffic Control	Crash	Char(255)
TRFC_CTRL_CD	Traffic Control Code	Crash	Num
URBAN_RURAL	Urban Rural	Crash	Num
URBAN_RURAL_DESC	Urban Rural Description	Crash	Char(255)

WTHR	Weather	Crash	Num
WTHR_CD	Weather Code	Crash	Char(255)

Variable Coding

VARIABLES	Values
ALIGN	Straight, level Straight, hillcrest Straight, grade Straight, bottom (sag) Curve, level Curve, hillcrest Curve, grade Curve, bottom (sag) Other* (write in the narrative)
ALIGN_CD	1-9
CASE_NUM	Case Number
CNST_ACT	On going No apparent activity
CNST_LANE_CLSD_IND	False, True
CNST_TYPE	Construction work area Maintenance work area Utility work area Intermittent/moving work e.g., patching pothole No
CNST_TYPE_CD	1-5
CNTY	Mecklenburg

CNTY_CD

59

CRASH_TYPE

Abutment of Underpass

Angle

Animal

Backing Up

Bridge Rail End

Bridge Rail Face

Cargo/Equipment Loss or Shift

Catch Basin or Culvert on Median

Catch Basin or Culvert on Shoulder

Commercial Sign

Construction Barrier

Crash Cushion

Crossed Centerline/Median

Ditch

Downhill Runaway

Embankment

Equipment Failure

Fence or Fence Post

Fire/Explosion

Guardrail End on Median

Guardrail End on Shoulder

Guardrail Face on Median

Guardrail Face on Shoulder

Head On

Immersion

Jackknife

Left Turn, Different Roadways

Left Turn, Same Roadways
Luminaire Pole Breakaway
Luminaire Pole Non-Breakaway
Mailbox
Median Barrier End
Median Barrier Face
Military Route
Movable Object
Official Highway Sign Breakaway
Official Highway Sign Non-Breakaway
Other Collision with Vehicle
Other Fixed Object
Other Non-Collision
Overhead Part Underpass
Overhead Sign Support
Overturn/Rollover
Parked Motor Vehicle
Pedalcyclist
Pedestrian
Pier in Median of Underpass
Pier on Shoulder of Underpass
Ran Off Road Left
Ran off Road Right
Ran Off Road Straight Ahead
Rear End, Slow or Stop
Rear End, Turn
Right Turn, Different Roadways
Right Turn, Same Roadways

	RR Train, Engine
	Separation of Units
	Shoulder Barrier End
	Shoulder Barrier Face
	Sideswipe, Opposite Direction
	Sideswipe, Same Direction
	Traffic Island Curb or Median
	Tree
	Unknown
CREATE_TIMESTAMP	Non-labeled variable
CRSH_ID	Non-labeled variable
CRSH_LEVL	1-5
CRSH_TYPE_CD	1-64
DATE_VAL	Date, Time
DATE_VAL_DAY	1-31
DATE_VAL_MONTH	1-12
DATE_VAL_MONTH_DESC	January
	February
	March
	April
	May
	June
	July

	August
	September
	October
	November
	December
DATE_VAL_YEAR	Year
DAY_OF_WEEK	1-7
DAY_OF_WEEK_DESC	Sunday
	Monday
	Tuesday
	Wednesday
	Thursday
	Friday
	Saturday
INTR_SRET	Non-labeled variable
LATITUDE	Non-labeled variable
LIT	Dark - lighted roadway
	Dark - roadway not lighted
	Dark - unknown lighting
	Dawn
	Daylight
	Dusk
	Other

	Unknown
LIT_CD	1-8
LONGITUDE	Non-labeled variable
MILT_TIME	Military Time
NARRATIVE	Narrative
NUM_FATL	0-3
NUM_INJY	Numeric
NUM_INJY_A	Numeric
NUM_INJY_B	Numeric
NUM_INJY_C	Numeric
NUM_LNS	Numeric
ORIG_DRTN_CD	E N NE NW S SE SW W

PRIMARY_CAUSE

No Contributing Factors
Disregarded Yield Sign
Disregarded Stop Sign
Disregarded Other Traffic Signs
Disregarded Traffic Signals
Disregarded Road Signals
Exceeded Authorized Speed Limit
Exceeded Safe Speed for Conditions
Failure to Reduce Speed
Improper Turn
Right Turn on Red
Crossed Center Line/Going Wrong Way
Improper Lane Change
Use of Improper Lane
Overcorrected/Oversteered
Passed Stopped School Bus
Passed on Hill
Passed on Curve
Other Improper Passing
Failed to Yield Right of Way
Inattention
Improper Backing
Improper Parking
Driver Distracted
Improper or No Signal
Followed Too Closely
Operated Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner
Swerved or Avoided Due to Wind, Slippery Surface, Vehicle, Object, Non-Motorist

Visibility Obstructed
Operated Defective Equipment
Alcohol Use
Drug Use
Other
Unable to Determine
Unknown
Not Stated (Pre 2000)
Minimum Speed Law (Pre 2000)
Safe Movement Violation (Pre 2000)

PRIMARY_CAUSE_CD 0-37

RD_COND Dry
Wet
Water (standing, moving)
Ice
Snow
Slush
Sand, Mud, Dirt, Gravel
Fuel, Oil
Other
Unknown

RD_COND_CD 1-10

RD_RLTN No special feature
Bridge

Bridge approach
Underpass
Driveway, public
Driveway, private
Alley intersection
Four-way intersection
T-intersection
Y-intersection
Traffic circle/roundabout
Five-point, or more
Related to intersection
Non-intersection median crossing
End or beginning of divided highway

RD_SURF

Concrete
Grooved concrete
Smooth asphalt
Coarse asphalt
Gravel
Sand
Soil
Other* (write in the narrative)

RD_SURF_CD

1-8

RDWY_AREA

One-way, not divided
Two-way, not divided
Two-way, divided, unprotected median

	Two-way, divided, positive median barrier
	Unknown
RDWY_AREA_CD	1-5
SECONDARY_CAUSE	None (no unusual conditions)
	Road Surface Condition
	Debris
	Rut, Holes, Bumps
	Work Zone (construction, maintenance, utility)
	Worn Travel-Polished Surface
	Obstruction in Roadway
	Traffic Control Device Inoperative, Not Visible or Missing
	Shoulders Low, Soft or High
	No Shoulders
	Non-Highway Work
	Other* (write in the narrative)
SECONDARY_CAUSE_CD	0-12
STUDY_LOCATION_ID	
TRFC_CTRL	No control present
	Stop sign
	Yield sign
	Stop and go signal
	Flashing signal with stop sign
	Flashing signal without stop sign
	RR gate and flasher

	RR flasher
	RR cross bucks only
	Human control
	Warning sign
	School zone signs
	Flashing stop and go signal
	Double yellow line (no passing zone)
	Other* (write in the narrative)
TRFC_CTRL_CD	0-14
URBAN_RURAL	1-3
URBAN_RURAL_DESC	Rural (<30% developed) Mixed (30% to 70% developed) Urban (>70% developed), (blanks)
WTHR	Clear Cloudy Rain Snow Fog, smog, smoke Sleet, hail, freezing rain/drizzle Severe crosswinds Blowing sand, dirt, snow Other
WTHR_CD	1-9

Occupant Subfile

List of Variables

VARIABLE	DESCRIPTION	FILE	FORMAT
CRSH_ID	Crash ID	Party/Occupant	Num
CASE_NUM	Case Number	Party/Occupant	Num
UNIT_NUM	Unit Number	Party/Occupant	Num
PRTY_TYPE	Party Type	Party/Occupant	Char(255)
PRTY_TYPE_DESC	Party Type Description	Party/Occupant	Char(255)
PRTY_AGE	Party Age	Party/Occupant	Num
GNDR_CD	Gender Code	Party/Occupant	Char(255)
RSTR_USE_CD	Restraint Used Code	Party/Occupant	Num
RSTR_USE	Restraint Used	Party/Occupant	Char(255)
INJY_SVTY_CD	Injury Severity Code	Party/Occupant	Num
INJY_SVTY	Injury Severity	Party/Occupant	Char(255)
HZRD_ACTN_CD	Hazardous Action Code	Party/Occupant	Num
HZRD_ACTN	Hazardous Action	Party/Occupant	Char(255)

Variable Coding

VARIABLE	VALUES
CRSH_ID	Non-labeled variable
CASE_NUM	Non-labeled variable
UNIT_NUM	Number assigned to vehicle/person involved
PRTY_TYPE	D 2 3 4 5 6 7
PRTY_TYPE_DESC	Driver Passenger Pedestrian Pedacyclist Roller skater/roller blader Other Unknown
PRTY_AGE	Non-labeled variable
GNDR_CD	M F U

RSTR_USE_CD

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

RSTR_USE

- None used
- Lap belt only
- Shoulder and lap belt
- Shoulder belt only
- Child restraint
- Helmet (motorcyclist or non-motorist)
- Protective pads
- Reflective clothing
- Lighting
- Other
- Unable to determine
- (blanks)

INJY_SVTY_CD

1

2

3

4

5

6

INJY_SVTY

A type injury (disabling)

B type injury (evident)

C type injury (possible)

Killed

No injury

Unknown

HZRD_ACTN_CD

1-38

HZRD_ACTN

Alcohol use

Crossed centerline/going wrong way

Disregarded other traffic signs

Disregarded road markings

Disregarded stop sign

Disregarded traffic signals

Disregarded yield sign

Driver distracted by electronic communication device (cell phone, texting, etc.

Driver distracted by external distraction (outside the vehicle

Driver distracted by other electronic device (navigation device, DVD player, etc.

Driver distracted by other inside the vehicle

Drug use

Exceeded authorized speed limit

Exceeded safe speed for conditions

Failed to yield right of way

Failure to reduce speed

Followed too closely

Improper backing

Improper lane change

Improper or no signal

Improper parking

Improper turn

Inattention

No contributing circumstance indicated

Operated defective equipment

Operated vehicle in erratic, reckless, careless, negligent or aggressive manner

Other

Other improper passing

Overcorrected/oversteered

Passed on curve

Passed on hill

Passed stopped school bus

Right turn on red

Swerved or avoided due to wind, slippery surface, vehicle, object, non-motorist

Unable to determine

Unknown

Use of improper lane

Visibility obstructed

Vehicle Subfile

List of Variables

VARIABLES	DESCRIPTION	FILE	FORMAT
CRSH_ID	Crash ID	Unit/Vehicle	Num
CASE_NUM	Case Number	Unit/Vehicle	Num
UNIT_NUM	Unit Number	Unit/Vehicle	Num
UNIT_TYPE_CD	Unit Type Code	Unit/Vehicle	Num
UNIT_TYPE	Unit Type	Unit/Vehicle	Char(255)
VEHC_TYPE_CD	Vehicle Type Code	Unit/Vehicle	Num
VEHC_TYPE	Vehicle Type	Unit/Vehicle	Char(255)
PRMY_VEHC_USE_CD	Primary Vehicle Use Code	Unit/Vehicle	Char(255)
PRMY_VEHC_USE	Primary Vehicle Use	Unit/Vehicle	Char(255)
PRR_ACTN_CD	Primary Action Code	Unit/Vehicle	Num
PRR_ACTN	Primary Action	Unit/Vehicle	Char(255)
DRTN_CD	Direction Code	Unit/Vehicle	Char(255)
DRTN	Direction	Unit/Vehicle	Char(255)
VEHC_YR	Vehicle Year	Unit/Vehicle	Char(255)
VEHC_DFCT_CD	Vehicle Defect Code	Unit/Vehicle	Char(255)
VEHC_DFCT	Vehicle Defect	Unit/Vehicle	Char(255)
SPD_LIMIT	Speed Limit	Unit/Vehicle	Num
TRFC_CTRL	Type of Traffic Control	Unit/Vehicle	Char(255)
CONTRIB_FACTOR_CD	Contributing Factor Code	Unit/Vehicle	Num
CONTRIB_FACTOR1	Contributing Factor 1	Unit/Vehicle	Char(255)
CONTRIB_FACTOR_CD2	Contributing Factor Code 2	Unit/Vehicle	Num
CONTRIB_FACTOR2	Contributing Factor 2	Unit/Vehicle	Char(255)
CONTRIB_FACTOR_CD3	Contributing Factor Code 3	Unit/Vehicle	Num

CONTRIB_FACTOR3	Contributing Factor 3	Unit/Vehicle	Char(255)
HARM_EVNT1	Harmful Event 1	Unit/Vehicle	Char(255)
HARM_EVNT2	Harmful Event 2	Unit/Vehicle	Char(255)
HARM_EVNT3	Harmful Event 3	Unit/Vehicle	Char(255)
HARM_EVNT4	Harmful Event 4	Unit/Vehicle	Char(255)
HARM_EVNT5	Harmful Event 5	Unit/Vehicle	Char(255)

Variable Coding

VARIABLES	VALUES
CRSH_ID	Non-labeled variable
CASE_NUM	Unique identifier for crash
UNIT_NUM	Number assigned to vehicle/person involved
UNIT_TYPE_CD	1, 4
UNIT_TYPE	Vehicle, Commercial
VEHC_TYPE_CD	1-37
VEHC_TYPE	Passenger Car Pickup Light Truck (Mini-Van, Panel) Sport Utility Van Commercial Bus School Bus Activity Bus Other Bus Single Unit Truck (2-Axle, 6-Tire) Single Unit Truck (3 Axles or More) Truck/Trailer Truck/Tractor Tractor/Semi Trailer Tractor/Doubles

Unknown Heavy Truck
Taxicab
Farm Equipment
Farm Tractor
Motorcycle
Moped
Motor Scooter Or Motor Bike
Pedalcycle
Pedestrian
Motor Home/Recreational Vehicle
Other
All Terrain Vehicle (ATV)
Fire Truck
EMS Vehicle, Ambulance, Rescue Squad
Military
Police
Unknown
Not Stated
2, 4 Door Sedan
Station Wagon (Passenger)
Station Wagon (Truck)
Truck with Four Axles

PRMY_VEHC_USE_CD Non-labeled variable

PRMY_VEHC_USE Non-labeled variable

PRR_ACTN_CD 1-16

PRR_ACTN

- Stopped in Travel Lane
- Parked Out of Travel Lanes
- Parked in Travel Lanes
- Going Straight Ahead
- Changing Lanes or Merging
- Passing
- Making Right Turn
- Making Left Turn
- Making U Turn
- Backing
- Slowing or Stopping
- Starting in Roadway
- Parking
- Leaving Parked Position
- Avoiding Object in Road
- Other
- Not Stated (Pre 2000)

DRTN_CD

- E
- N
- NE
- NW
- S
- SE
- SW
- W

DRTN

- E

N
NE
NW
S
SE
SW
W

VEHC_YR	Non-labeled variable
VEHC_DFCT_CD	Non-labeled variable
VEHC_DFCT	Non-labeled variable
SPD_LIMIT	Numeric
TRFC_CTRL	Non-labeled variable
CONTRIB_FACTOR_CD	0-38
CONTRIB_FACTOR1	No contributing circumstances indicated Disregarded yield sign Disregarded stop sign Disregarded other traffic signs Disregarded traffic signals Disregarded road markings Exceeded authorized speed limit Exceeded safe speed for conditions

Failure to reduce speed
Improper turn
Right turn on red
Crossed centerline/going wrong way
Improper lane change
Use of improper lane
Overcorrected/oversteered
Passed stopped school bus
Passed on hill
Passed on curve
Other improper passing
Failed to yield right of way
Inattention
Improper backing
Improper parking
Driver distracted
Improper or no signal
Followed too closely
Operated vehicle in erratic, reckless, careless, negligent or
Swerved or avoided due to wind, slippery surface, vehicle, obj
Visibility obstructed
Operated defective equipment
Alcohol use
Drug use
Other* (write in the narrative)
Unable to determine
Unknown
Driver distracted by electronic communication device (cell pho

Driver distracted by other electronic device (navigation device)
Driver distracted by other inside the vehicle
Driver distracted by external distraction (outside the vehicle)

CONTRIB_FACTOR_CD2

0-38

CONTRIB_FACTOR2

No contributing circumstances indicated
Disregarded yield sign
Disregarded stop sign
Disregarded other traffic signs
Disregarded traffic signals
Disregarded road markings
Exceeded authorized speed limit
Exceeded safe speed for conditions
Failure to reduce speed
Improper turn
Right turn on red
Crossed centerline/going wrong way
Improper lane change
Use of improper lane
Overcorrected/oversteered
Passed stopped school bus
Passed on hill
Passed on curve
Other improper passing
Failed to yield right of way
Inattention
Improper backing

Improper parking
 Driver distracted
 Improper or no signal
 Followed too closely
 Operated vehicle in erratic, reckless, careless, negligent or
 Swerved or avoided due to wind, slippery surface, vehicle, obj
 Visibility obstructed
 Operated defective equipment
 Alcohol use
 Drug use
 Other* (write in the narrative)
 Unable to determine
 Unknown
 Driver distracted by electronic communication device (cell pho
 Driver distracted by other electronic device (navigation devic
 Driver distracted by other inside the vehicle
 Driver distracted by external distraction (outside the vehicle

CONTRIB_FACTOR_CD3

0-38

CONTRIB_FACTOR3

No contributing circumstances indicated
 Disregarded yield sign
 Disregarded stop sign
 Disregarded other traffic signs
 Disregarded traffic signals
 Disregarded road markings
 Exceeded authorized speed limit
 Exceeded safe speed for conditions

Failure to reduce speed
Improper turn
Right turn on red
Crossed centerline/going wrong way
Improper lane change
Use of improper lane
Overcorrected/oversteered
Passed stopped school bus
Passed on hill
Passed on curve
Other improper passing
Failed to yield right of way
Inattention
Improper backing
Improper parking
Driver distracted
Improper or no signal
Followed too closely
Operated vehicle in erratic, reckless, careless, negligent or
Swerved or avoided due to wind, slippery surface, vehicle, obj
Visibility obstructed
Operated defective equipment
Alcohol use
Drug use
Other* (write in the narrative)
Unable to determine
Unknown
Driver distracted by electronic communication device (cell pho

Driver distracted by other electronic device (navigation device)
Driver distracted by other inside the vehicle
Driver distracted by external distraction (outside the vehicle)

HARM_EVNT1

Unknown
Ran off Road Right
Ran Off Road Left
Ran Off Road Straight Ahead
Jackknife
Overturn/Rollover
Crossed Centerline/Median
Downhill Runaway
Cargo/Equipment Loss or Shift
Fire/Explosion
Immersion
Equipment Failure
Separation of Units
Other Non-Collision
Pedestrian
Pedalcyclist
RR Train, Engine
Animal
Movable Object
Parked Motor Vehicle
Rear End, Slow or Stop
Rear End, Turn
Left Turn, Same Roadways
Left Turn, Different Roadways

Right Turn, Same Roadways
Right Turn, Different Roadways
Head On
Sideswipe, Same Direction
Sideswipe, Opposite Direction
Angle
Backing Up
Other Collision with Vehicle
Tree
Military Route
Luminaire Pole Non-Breakaway
Luminaire Pole Breakaway
Official Highway Sign Non-Breakaway
Official Highway Sign Breakaway
Overhead Sign Support
Commercial Sign
Guardrail End on Shoulder
Guardrail Face on Shoulder
Guardrail End on Median
Guardrail Face on Median
Shoulder Barrier End
Shoulder Barrier Face
Median Barrier End
Median Barrier Face
Bridge Rail End
Bridge Rail Face
Overhead Part Underpass
Pier on Shoulder of Underpass

Pier in Median of Underpass
Abutment of Underpass
Traffic Island Curb or Median
Catch Basin or Culvert on Shoulder
Catch Basin or Culvert on Median
Ditch
Embankment
Mailbox
Fence or Fence Post
Construction Barrier
Crash Cushion
Other Fixed Object

HARM_EVNT2

Unknown
Ran off Road Right
Ran Off Road Left
Ran Off Road Straight Ahead
Jackknife
Overturn/Rollover
Crossed Centerline/Median
Downhill Runaway
Cargo/Equipment Loss or Shift
Fire/Explosion
Immersion
Equipment Failure
Separation of Units
Other Non-Collision
Pedestrian

Pedalcyclist
RR Train, Engine
Animal
Movable Object
Parked Motor Vehicle
Rear End, Slow or Stop
Rear End, Turn
Left Turn, Same Roadways
Left Turn, Different Roadways
Right Turn, Same Roadways
Right Turn, Different Roadways
Head On
Sideswipe, Same Direction
Sideswipe, Opposite Direction
Angle
Backing Up
Other Collision with Vehicle
Tree
Military Route
Luminaire Pole Non-Breakaway
Luminaire Pole Breakaway
Official Highway Sign Non-Breakaway
Official Highway Sign Breakaway
Overhead Sign Support
Commercial Sign
Guardrail End on Shoulder
Guardrail Face on Shoulder
Guardrail End on Median

Guardrail Face on Median
Shoulder Barrier End
Shoulder Barrier Face
Median Barrier End
Median Barrier Face
Bridge Rail End
Bridge Rail Face
Overhead Part Underpass
Pier on Shoulder of Underpass
Pier in Median of Underpass
Abutment of Underpass
Traffic Island Curb or Median
Catch Basin or Culvert on Shoulder
Catch Basin or Culvert on Median
Ditch
Embankment
Mailbox
Fence or Fence Post
Construction Barrier
Crash Cushion
Other Fixed Object

HARM_EVNT3

Unknown
Ran off Road Right
Ran Off Road Left
Ran Off Road Straight Ahead
Jackknife
Overturn/Rollover

Crossed Centerline/Median
Downhill Runaway
Cargo/Equipment Loss or Shift
Fire/Explosion
Immersion
Equipment Failure
Separation of Units
Other Non-Collision
Pedestrian
Pedalcyclist
RR Train, Engine
Animal
Movable Object
Parked Motor Vehicle
Rear End, Slow or Stop
Rear End, Turn
Left Turn, Same Roadways
Left Turn, Different Roadways
Right Turn, Same Roadways
Right Turn, Different Roadways
Head On
Sideswipe, Same Direction
Sideswipe, Opposite Direction
Angle
Backing Up
Other Collision with Vehicle
Tree
Military Route

Luminaire Pole Non-Breakaway
Luminaire Pole Breakaway
Official Highway Sign Non-Breakaway
Official Highway Sign Breakaway
Overhead Sign Support
Commercial Sign
Guardrail End on Shoulder
Guardrail Face on Shoulder
Guardrail End on Median
Guardrail Face on Median
Shoulder Barrier End
Shoulder Barrier Face
Median Barrier End
Median Barrier Face
Bridge Rail End
Bridge Rail Face
Overhead Part Underpass
Pier on Shoulder of Underpass
Pier in Median of Underpass
Abutment of Underpass
Traffic Island Curb or Median
Catch Basin or Culvert on Shoulder
Catch Basin or Culvert on Median
Ditch
Embankment
Mailbox
Fence or Fence Post
Construction Barrier

HARM_EVNT4

Crash Cushion
Other Fixed Object

Unknown
Ran off Road Right
Ran Off Road Left
Ran Off Road Straight Ahead
Jackknife
Overturn/Rollover
Crossed Centerline/Median
Downhill Runaway
Cargo/Equipment Loss or Shift
Fire/Explosion
Immersion
Equipment Failure
Separation of Units
Other Non-Collision
Pedestrian
Pedalcyclist
RR Train, Engine
Animal
Movable Object
Parked Motor Vehicle
Rear End, Slow or Stop
Rear End, Turn
Left Turn, Same Roadways
Left Turn, Different Roadways
Right Turn, Same Roadways

Right Turn, Different Roadways
Head On
Sideswipe, Same Direction
Sideswipe, Opposite Direction
Angle
Backing Up
Other Collision with Vehicle
Tree
Military Route
Luminaire Pole Non-Breakaway
Luminaire Pole Breakaway
Official Highway Sign Non-Breakaway
Official Highway Sign Breakaway
Overhead Sign Support
Commercial Sign
Guardrail End on Shoulder
Guardrail Face on Shoulder
Guardrail End on Median
Guardrail Face on Median
Shoulder Barrier End
Shoulder Barrier Face
Median Barrier End
Median Barrier Face
Bridge Rail End
Bridge Rail Face
Overhead Part Underpass
Pier on Shoulder of Underpass
Pier in Median of Underpass

Abutment of Underpass
Traffic Island Curb or Median
Catch Basin or Culvert on Shoulder
Catch Basin or Culvert on Median
Ditch
Embankment
Mailbox
Fence or Fence Post
Construction Barrier
Crash Cushion
Other Fixed Object

HARM_EVNT5

Unknown
Ran off Road Right
Ran Off Road Left
Ran Off Road Straight Ahead
Jackknife
Overturn/Rollover
Crossed Centerline/Median
Downhill Runaway
Cargo/Equipment Loss or Shift
Fire/Explosion
Immersion
Equipment Failure
Separation of Units
Other Non-Collision
Pedestrian
Pedalcyclist

RR Train, Engine
Animal
Movable Object
Parked Motor Vehicle
Rear End, Slow or Stop
Rear End, Turn
Left Turn, Same Roadways
Left Turn, Different Roadways
Right Turn, Same Roadways
Right Turn, Different Roadways
Head On
Sideswipe, Same Direction
Sideswipe, Opposite Direction
Angle
Backing Up
Other Collision with Vehicle
Tree
Military Route
Luminaire Pole Non-Breakaway
Luminaire Pole Breakaway
Official Highway Sign Non-Breakaway
Official Highway Sign Breakaway
Overhead Sign Support
Commercial Sign
Guardrail End on Shoulder
Guardrail Face on Shoulder
Guardrail End on Median
Guardrail Face on Median

Shoulder Barrier End
Shoulder Barrier Face
Median Barrier End
Median Barrier Face
Bridge Rail End
Bridge Rail Face
Overhead Part Underpass
Pier on Shoulder of Underpass
Pier in Median of Underpass
Abutment of Underpass
Traffic Island Curb or Median
Catch Basin or Culvert on Shoulder
Catch Basin or Culvert on Median
Ditch
Embankment
Mailbox
Fence or Fence Post
Construction Barrier
Crash Cushion
Other Fixed Object