Merging directions: (see Handbook Page 18):

1. Accident data: accident + vehicle + occupant;
2. Accident <-> Roadlog:
    a. (RD_INV, MILEPOST) <-> (ROAD_INV, BEGMP, ENDMP)
3. With other files:
    a. _INV variables <-> _INV variables
    b. MILEPOST <-> (BEGMP, ENDMP)

CURVE and GRADE file (see Handbook Page 14):

1. CURVE file:
   Note that when the curve file is merged with the Roadlog File to put curvature variables on the roadway sections, 70 to 80 percent of the roadway sections will show missing degree of curve and other variables. These "missing sections" actually denote tangent sections where the degree of curve is zero. This should be anticipated and handled by the analyst;

2. GRADE file:
   The Grade File contains approximately 34,200 records. In addition to beginning and ending milepoint, the Grade File contains information on the percent grade, direction ("+" or ""), and length. In addition, the file contains information concerning "Grade Type," which denotes whether the downstream end of the grade is an angle point (i.e., a minor change in grade without a vertical curve) or is connected to the succeeding grade with a vertical curve.

Variable Name	Description	File	Format

FORM_REPT_NO	TRAFFIC COLLISION REPORT FORM NUMBER	Accident	CHA(7)
State_Plane_X	X COORDS IN WA PLANE	Accident	
State_Plane_Y	Y COORDS IN WA PLANE	Accident	
rd_inv	ROADWAY INVENTORY	Accident	CHA(11)
milepost	ACCUM ROUTE MILEPOST (ARM)	Accident	NUM
CASENO	CASE NUMBER	Accident	CHA(10)
ACCYR	ACCIDENT YEAR	Accident	CHA(4)
RTE_NBR	STATE ROUTE NUMBER	Accident	CHA(3)
COUNTY	COUNTY NUMBER	Accident	CHA(2)
CITY	CITY NUM	Accident	CHA(2)
rur_urb	RURAL URBAN INDICATOR	Accident	CHA(1)
FUNC_CLS	FUNCTIONAL CLASS	Accident	CHA(2)
MONTH	ACC MONTH	Accident	CHA(2)
DAYMTH	ACC DAY OF MONTH	Accident	CHA(2)
WEEKDAY	DAY OF WEEK	Accident	CHA(1)
ACCTYPE	ACC TYPE	Accident	CHA(4)
REPORT	ACC SEVERITY	Accident	CHA(1)
SEVERITY	MOST SEVERE INJURY	Accident	CHA(1)
loc_type	ACC LOCATION TYPE	Accident	CHA(1)
RD_CHAR1	ROADWAY CHARACTERISTICS	Accident	CHA(1)
RDSURF	ROADWAY SURFACE	Accident	CHA(1)
RD_REL	ON/OFF ROAD	Accident	CHA(1)
LIGHT	LIGHT CONDITION	Accident	CHA(1)
intent	INTENTIONAL ACTION	Accident	CHA(1)
loc_char	LOCATION CHARACTERISTICS	Accident	CHA(1)
weather	WEATHER CONDITION	Accident	CHA(1)

curv_inv	STATE RTE TYPE ID	Curve	CHA(11)
DIR_CURV	HORIZ CURVE DIRN	Curve	CHA(1)
rte_nbr	ROUTE NUMBER	Curve	CHA(3)
begmp	HORIZ CURVE BEGIN MLPOST	Curve	NUM
endmp	HORIZ CURVE END MLPOST	Curve	NUM
deg_curv	DEGREE OF CURVATURE	Curve	NUM
rte_nbr	ROUTE NUMBER	Grade	CHA(3)
grad_inv	STATE RTE TYPE ID	Grade	CHA(11)
dir_grad	DIRECTION OF GRADE	Grade	CHA(1)
pct_grad	PERCENT GRADE	Grade	NUM
begmp	GRADE BEGIN MILEPOST	Grade	NUM
endmp	GRADE END MILEPOST	Grade	NUM
CASENO	ACC RPT NUMBER	Occupant	CHA(6)
SEATPOS	DRV/OCC SEAT POSITION	Occupant	CHA(1)
VEHNO	VEHICLE NUMBER	Occupant	NUM
CASENO	ACC REPORT NUMBER	Vehicle	CHAR(10)
DRV_SEX	DRV SEX	Vehicle	CHA(1)
DRV_AGE	DRV AGE	Vehicle	CHA(2)
drassess	DRUG RECOG EXPERT ASSESS	Vehicle	CHA(1)
spdlimit	VEH POSTED SPEED	Vehicle	CHA(2)
surf_typ	ROADWAY SURFACE TYPE	Vehicle	CHA(2)
contrib1	DRV CONTRIB CIRCUMS 1	Vehicle	CHA(2)
contrib2	DRV CONTRIB CIRCUMS 2	Vehicle	CHA(2)
Intox	DRV SOBRIETY	Vehicle	CHA(1)
Stolen	VEH STOLEN	Vehicle	CHA(1)

vehcond1	VEH DEFECT 1	Vehicle	CHA(2)
vehcond2	VEH DEFECT 2	Vehicle	CHA(2)
vehcond3	VEH DEFECT 3	Vehicle	CHA(2)
com_body	COMM CARRIER CARGO BODY	Vehicle	CHA(1)
cdplaccd	COMM CARRIER PLACARD	Vehicle	CHA(1)
vehno	VEH NUMBER	Vehicle	NUM
LSHL_TYP	LEFT SHOULDER TYPE RD1	Roadlog	CHA(1)
MED_TYPE	MEDIAN TYPE	Roadlog	CHA(1)
RD_LIGHT	INTERSECTION ILLUM-ND	Roadlog	CHA(1)
RSHL_TYP	RIGHT SHOULDER TYPE RD1	Roadlog	CHA(1)
RURURB	RURAL URBAN	Roadlog	CHA(1)
SURF_TYP	SURFACE TYPE RD1	Roadlog	CHA(1)
EW_IND	EAST WEST IND	Roadlog	CHA(1)
COUNTY	COUNTY NUMBER	Roadlog	CHA(2)
FUNC_CLS	FEDERAL FUNC CLASS	Roadlog	CHA(2)
RTE_NBR	ROUTE NUMBER	Roadlog	CHA(3)
CITY	CITY NUMBER	Roadlog	CHA(4)
ROAD_INV	ROUTE TYPE ID	Roadlog	CHA(11)
SPD_LIMT	LEGAL SPEED LIMIT	Roadlog	NUM
BEGMP	BEGIN MILEPOST	Roadlog	NUM
ENDMP	CALCULATED ENDING MILEPOST	Roadlog	NUM
ACSEQ_NB	ACC SEQ NUM	Roadlog	NUM
LSHLDWID	LEFT SHOULDER WIDTH RD1	Roadlog	NUM
MEDWID	MEDIAN WIDTH	Roadlog	NUM
NO_LANES	TOTAL NUMBER OF LANES	Roadlog	NUM
RSHLDWID	RIGHT RD1 SHOULDER WIDTH	Roadlog	NUM
Lanewid	CALCULATED LANE WIDTH	Roadlog	NUM

rdwy_wid	TOTAL ROADWAY WIDTH	Roadlog	NUM
AADT	AVER ANNUAL DAILY TRAFFIC	Roadlog	NUM
mvmt	MILLION VEH MILES TRAVELLED	Roadlog	NUM

Accident variables:

1. Weather

Weather Condition **SAS Name: WEATHER**

Definition: Weather conditions when the crash occurred.

'00'	Unknown
'01'	Clear or Partly Cloudy
'02'	Overcast
'03'	Raining
'04'	Snowing
'05'	Fog/Smog/Smoke
'06'	Sleet/Hail/Freezing Rain
'07'	Severe Crosswind
'08'	Blowing Sand or Dirt or Snow
'09'	Other
'10'	Foggy

2. Light

Light Condition **SAS Name: LIGHT**

Definition: The type/level of light that existed at the time of the crash.

'1'	Daylight
'2'	Dawn
'3'	Dusk
'4'	Dark, Street Lights On
'5'	Dark, Street Lights Off
'6'	Dark, No Street Lights
'7'	Other
*'9'	Unknown

* Category added in 1999.

3. SEVERITY

Most Severe Injury **SAS Name: SEVERITY**

Definition: The most severe injury in the crash.

'0'	Not Stated
'1'	No Injury
'2'	Dead At Scene
'3'	Dead On Arrival
'4'	Died At Hospital
'5'	Disabling Injury
'6'	Non-Disabling/Inj
'7'	Possible Injury
*'8'	Non-Traffic Injury
*'9'	Non-Traffic Fatality

* Categories added in 1999.

4. REPORT

Accident Severity **SAS Name: REPORT**

Definition: Severity of the crash

'1'	Property Damage Only
'2'	Injury Accident
'3'	Fatal Accident

5. LOC_CHAR

Location Characteristics SAS Name: LOC_CHAR

Definition: Type of location where the crash occurred

'00'	Railroad Crossing
'01'	Parking Lot
'02'	Bridge Or Overpass
'03'	Underpass Or Tunnel
'04'	Rest Area Or Turn Out
'05'	Shopping Mall Or Plaza
'06'	Park And Ride Lot
'07'	Ferry Dock
'08'	School Zone
'09'	Playground Zone
'10'	Street Intersection
'11'	Alley Intersection
'12'	Driveway Access
'13'	Bridge, Overpass Or Ferry Dock
'14' Or 'A'	Other

6. MILEPOST

ACCUM Route Milepost (Arm) SAS Name: MILEPOST

Definition: Reference point where the crash occurred.

Additional Information: This is the element used to link the roadway inventory and other files.

7. RUR_URB

Rural Urban SAS Name: RUR_URB

Definition: Rural-Urban identification.

'R'	Rural
'U'	Urban

8. RTE_NBR

State Route Number SAS Name: RTE_NBR

Definition: The number of the route where the crash occurred.

9. RDSURF

Roadway Surface

SAS Name: RDSURF

Definition: The condition of the road surface where the crash occurred.

'1'	Dry
'2'	Wet
'3'	Snow/Slush
'4'	Ice
*'5'	Sand/Mud/Dirt
*'6'	Oil
*'7'	Standing Water
*'8'	Other
*'9'	Unknown

* Categories added in 1999.

CURV variables:

1. CURV_INV

State Route Type ID — **SAS Name: CURV_INV**

Definition: Roadway segment location information used in linkage to other files.

2. RTE_NBR

Route Number — **SAS Name: RTE_NBR**

Definition: Route number for the horizontal curve.

3. DEG_CURV

Degree of Curvature — **SAS Name: DEG_CURV**

Definition: Degree of curvature for the curve

Additional Information: Calculated (xxx.xx) from curve radius.

GRADE variables:

1. RTE_NBR

Route Number — **SAS Name: RTE_NBR**

Definition: Route number for this grade.

2. GRAD_INV

State Route Type ID — **SAS Name: GRAD_INV**

Definition: Roadway segment location information used in linkage to other files

3. DIR_GRAD

Direction of Grade — **SAS Name: DIR_GRAD**

Definition: Whether the grade is an upgrade (+) or downgrade (-).

4. PCT_GRAD

Percent Grade — **SAS Name: PCT_GRAD**

Definition: Percent grade for this roadway segment

Additional Information: Percent grade (x.xx%), preceded by a "+" for an upgrade, a "-" for a downgrade and a blank where direction of grade is non stated.

OCCUPANT variables:

1. SEATPOS

Driver/Occupant Seat Position **SAS Name: SEATPOS**

Definition: Occupant position in vehicle when the crash occurred.

Additional Information: This element is almost 100 percent missing from 1999 to 2001. See discussion. From 2002 onwards, this element is again coded, but no seat position information beyond 2 recorded.

'01'	Front Row - Left (Driver)
'02'	Front Row - Center
'03'	Front Row - Right
'04	'Second Row - Left
'05'	Second Row - Center
'06'	Second Row - Right
'07'	Third Row - Left
'08'	Third Row - Center
'09'	Third Row - Right
'10'	Other Position
'11'	Position Unknown
'12'	Motorcycle
'13'	Outside Of Vehicle

ROAD variables:

1. LSHL_TYP

Left Shoulder Type Road 1 **SAS Name: LSHL_TYP**

Definition: Left shoulder type

Additional Information: The surface composition of the inside (left) shoulder in the increasing direction of the roadway. This variable refers to both divided and undivided roadways.

'A'	Asphalt
'G'	Gravel
'S'	Soil
'B'	Bituminous
'O'	Other
'W'	Wall
'C'	Curb
'P'	Portland Concrete

2. MED_TYPE

Median Type **SAS Name: MED_TYPE**

Definition: Type of median on the roadway segment.

'A'	Asphalt
'G'	Gravel
'S'	Soil
'B'	Bituminous
'O'	Other
'W'	Wall
'C'	Curb
'P'	Portland Concrete

3. RSHL_TYP

Right Shoulder Type Road 1 SAS Name: RSHL_TYP
Right Shoulder Type Road 2 SAS Name: RSHL_TY2

Definition: Right shoulder type.

Additional Information: The surface composition of the outside (right) shoulder in the decreasing direction of the roadway.

'A'	Asphalt
'G'	Gravel
'S'	Soil
'B'	Bituminous
'O'	Other
'W'	Wall
'C'	Curb
'P'	Portland Concrete

4. RURURB

Rural Urban SAS Name: RURURB

Definition: Rural-Urban identification.

'R'	Rural
'U'	Urban

5. FUNC_CLS

Federal Function Class SAS Name: FUNC_CLS

Definition: Functional class.

Additional Information: * Codes from 41 to 57 were new in 2012 and codes 07 and 17 contained both major and minor collectors before 2012.

'01','41'*	Rural Interstate
'02','43'*	Rural Principal Arterial
'05', '42'*	Rural Other Freeway/Expressway
'06','44'*	Rural-Minor-Arterial
'07'	Rural Collector
'08','46'*	Rural Minor Collector
'45'*	Rural Major Collector
'09'	Rural Unclassified
'47'*	Rural Local Roads
'11','51'*	Urban-Interstate
'12','52'*	Urban-Principal-Arterial (Freeways & Expressways)
'14','53'*	Urban Other Principal Arterial
'16','54'*	Urban Minor Arterial
'17'	Urban Collector
'18','56'*	Urban Minor Collector
'55'	Urban Major Collector
'19'	Urban-Unclassified
'57'*	Urban Local Roads

6. RTE_NBR

Route Number SAS Name: RTE_NBR

Definition: Route number of the roadway segment.

7. ROAD_INV

Route Type ID SAS Name: ROAD_INV

Definition: Roadway segment location information used in linkage to other files.

8. LSHLDWID

Left Shoulder Width Road 1 — **SAS Name: LSHLDWID**
Left Shoulder Width Road 2 — **SAS Name: LSHL_WD2**

Definition: Left shoulder width.

Additional Information: The width of the inside (left) shoulder of road 1 in feet in the increasing direction of the roadway. This element refers to both divided and undivided roadways. The approximately 14% "no shoulder" category includes both curb sections and, unfortunately, some uncoded sections. The width of the inside (left) shoulder of road 2 in feet in the decreasing direction of the roadway. This is only used for divided roadway.

0	No Shoulder
1-3	01 - 03
4-6	04 - 06
7-9	07 - 09
10-13	10 - 13
14-99	> 13

9. NO_LANES

Number Lanes Inc — **SAS Name: NO_LANE1**
Number Lanes Dec — **SAS Name: NO_LANE2**
Total Number of Lanes — **SAS Name: NO_LANES**

Definition: Number of through lanes toward increasing/decreasing milepoints.

Additional Information: "Increasing" and "decreasing" number of lanes indicated the number of total thru lanes in those directions of travel regardless of whether a roadway is divided or not. Lane counts do not include acceleration lanes or turn lanes. "Total Number of Lanes" is a calculated element, which sums the first two.

0	0
1	1
2	2
3	3
4	4
5-8	5 to 8
9-20	8

10. LANEWID

Calculated Lane Width **SAS Name: LANEWID**

Definition: Calculated lane width.

Additional Information: This element is calculated by dividing the total roadway width by the total number of lanes. There will be some error on sections where the shoulder type is curb or wall. See "Note" under RDWY_WD1.

11. RDWY_WID

Total Roadway Width **SAS Name: RDWY_WID**

Definition: Total roadway width for the roadway segment

00	00
1-9	< 10 Feet
10	10 Feet
11	11 Feet
12	12 Feet
13-13	13 14 Feet
15-16	15 16 Feet
17-999	> 16 Feet

12. AADT

Average Annual Daily Traffic **SAS Name: AADT**

Definition: Average annual daily traffic.

Additional Information: AADT in 2004 and later files were defined using a new methodology. This will result in some discrepancies between AADT counts for 2004 and prior years for the same roadway segment. See Discussion.

0	0
1-100	1 - 100
101-500	101 - 500
501-1000	501 - 1,000
1001-2000	1,001 - 2,000
2001-5000	2,001 - 5,000
5001-10000	5,001 - 10,000
10001-15000	10,000 - 15,000
15001-20000	15,001 - 20,000
20001-40000	20,001 - 40,000
40001-999999	40,000 +

13. MVMT

Million Vehicle Miles Travelled **SAS Name: MVMT**

Definition: Million vehicle miles traveled on road segment.

VEHICLE variables:

1. DRV_SEX:

Driver Sex **SAS Name: DRV_SEX**

Definition: Sex of the driver of the vehicle involved in crash.

Additional Information: This element is almost 100 percent missing from 1999 to 2001. See discussion. From 2002 onwards, this element is again coded reasonably.

'0'	Not Stated
'1'	Male
'2'	Female

2. DRV_AGE:

Driver Age **SAS Name: DRV_AGE**

Definition: The age of the driver of the vehicle involved in the crash.

Additional Information: Approximately six percent of cases are uncoded.

'00-01'	Infant - 1 YR
'02-04'	02-04 YRS
'05-10'	05-10 YRS
'11-14'	11-14 YRS
'15'	15 YRS
'16'	16 YRS
'17'	17 YRS
'18'	18 YRS
'19'	19 YRS
'20'	20 YRS
'21-25'	21-25 YRS
'26-30'	26-30 YRS
'31-35'	31-35 YRS
'36-45'	36-45 YRS
'46-55'	46-55 YRS
'56-65'	56-65 YRS
'66-89'	66-89 YRS
'90-99'	90-99 YRS

3. DRASSES

Drug Recognition Expert Assess **SAS Name: DRASSESS**

Definition: Drug recognition expert assessment for the driver of the vehicle

Additional Information: Element added in 1999. This element is almost 100 percent missing from 1999 to 2001. See discussion. From 2002 onwards, this element is again coded reasonably.

' '	Not Applicable
'0'	Not Drug Impaired
'1'	CNS Depressants
'2'	CNS Stimulants
'3'	Hallucinogens
'4'	PCP
'5'	Narcotic Analgesics
'6'	Inhalants
'7'	Cannabis
'8'	Drug Combinations
'9'	Drug Impaired, Type Not Determined

4. INTOX:

Driver Sobriety **SAS Name: INTOX**

Definition: Sobriety of the driver in the vehicle

Additional Information: HBD refers to "had been drinking". Element added in 1996.

'1'	HBD, Ability Impaired
'2'	HBD, Ability Not Impaired
'3'	HBD, Sobriety Unknown
'4'	Had Not Been Drinking
'5'	HBD, Ability Impaired(Determined By Toxicologist's Chemical Test)
'6'	HBD, Ability Not Impaired (Determined By Toxicologist's Chemical Test)
'7'	Had Not Been Drinking (Determined By Toxicologist's Chemical Test)
'9'	Unknown

5. VEHCOND1

Vehicle Defect 1 SAS Name: VEHCOND1
Vehicle Defect 2 SAS Name: VEHCOND2
Vehicle Defect 3 SAS Name: VEHCOND3

Definition: Defects present in this vehicle

Additional Information: VEHCOND3 was added in 1999.

'01'	Defective Brakes
'02'	Defective Headlights
'03'	Defective Rear Lights
'04'	Tires Worn or Smooth
'05'	Tires Punctured or Blown
'06'	Lost a Wheel
'07'	Defective Steering Mechanism
'08'	Power Failure
'09'	Headlights Glaring
'10'	Other Lights, Reflectors Insufficient
'11'	Other Defects
'12'	No Defects
'13'	Motorcycle Lights Off
'14'	Equipped With Studded Tires
'15'	Motorcycle Windshield Installed
'16'	Truck/Trailer Safety Inspection