WISCONSIN TRAFFIC OPERATIONS
& SAFETY LABORATORY
UNIVERSITY OF WISCONSIN-MADISON   Department of Civil and Environmental Engineering

Crash Data User Guide

March 23, 2014

The Traffic Operations and Safety (TOPS) Laboratory at the University of Wisconsin-Madison provides crash summary reports as a service to the Wisconsin Department of Transportation (WisDOT) Bureau of Traffic Operations (BTO). The crash database, provided by WisDOT, Division of Motor Vehicles, contains information on all police reported crashes in Wisconsin from 1994 to the current year. Information on the location of the crash, vehicles involved, and general crash attributes are available. Personal data have been removed.

A reportable crash is defined as a crash resulting in injury or death of any person, any damage to government-owned non-vehicle property to an apparent extent of $200 or more or total damage to property owned by any one person to an apparent extent of $1000 or more. (This definition went into effect 1/1/96). It is important to note, however, that not all reportable crashes are reported. In order for a crash to be in the database, an MV4000 crash report must have been completed by a police officer.

A legend for the abbreviations and data fields contained in the crash data summary is attached. Note that some data fields listed in the attachment may not be included in all summary reports. Additional information may also be obtained by consulting the narrative and diagram in the actual crash report. The TOPS Lab provides copies of crash reports on behalf of WisDOT BTO to government agencies and consultants working on WisDOT projects.

For general inquiries regarding TOPS Lab crash data, or to request copies of specific crash reports, email: crash-data@topslab.wisc.edu. A Crash Data Resources FAQ is also available at this address: http://transportal.cee.wisc.edu/services/.

For additional information, or if you need assistance in analyzing the crash data obtained, please contact Ms. Andrea Bill, Traffic Safety Research Program Manager: bill@wisc.edu or 608-890-3425.

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Section I. General Purpose Crash Data Elements

The following elements are included in the TOPS Lab general purpose crash data file.

ACCDDATE – Calendar date on which the crash occurred.

ACCDLOC – The type of location at which a crash occurred. Types **I** and **N** are public roadway crashes.

- **I** = Intersection related
- **N** = Non intersection related
- **PL** = Parking lot
- **PP** = Private property

ACCDSVR – Accident severity will list the worst level of the crash severity to life and property.

- **FAT** = Fatal accident
- **INJ** = Injury occurred
- **PD** = Property damage only

ACCDTYPE – Description of type of crash based on the first harmful event.

- **ATTEN** = Impact attenuator
- **BIKE** = Bicycle
- **BRPAR** = Bridge parapet
- **BRPIER** = Bridge/pier/abutment
- **BRRAIL** = Bridge rail
- **CULVRT** = Culvert
- **CURB** = Curb
- **DEER** = Deer
- **DITCH** = Ditch
- **EMBKMT** = Embankment
- **FENCE** = Fence
- **FIRE** = Fire / Explosion
- **GR END** = Guardrail end
- **GR FAC** = Guardrail face
- **IMMER** = Immersion
- **JKNIF** = Jackknife
- **LTPOLE** = Lum light support
- **MAILBOX** = Mailbox

- **MED B** = Median barrier
- **MVIT*** = Vehicle in transit
- **OBNFX** = Object not fixed
- **SIGN** = Overhead sign post
- **OTH FX** = Other object fixed
- **OTH NC** = Other non-collision
- **OT ANL** = Other animal
- **OT RDY** = Veh trans other rdwy
- **OT PST** = Other post
- **OVRTRN** = Overturned vehicle
- **PED** = Pedestrian
- **PKVEH** = Parked vehicle
- **TFSIGN** = Traffic sign
- **TF SIG** = Traffic signal
- **TRAIN** = Train
- **TREE** = Tree
- **UNKN** = Unknown
- **UT PL** = Utility Pole

*__MVIT__ = Motor Vehicle in Transit involves moving vehicles. This field appears blank.

AGE[1,2] – The age of a driver, bicyclist or pedestrian at the time of the crash, generated from birthdate (age=0 if birthdate unknown).

ALCFLAG – Flag to indicate whether a driver, bicyclist or pedestrian was listed on the police report as drinking alcohol before the crash.

ATHWY – Name of the intersecting or nearest highway on which the crash took place.

ATNMBR – House, fire, railroad or other number associated with the crash location.

Data elements ending in [1,2] are associated with a vehicle unit number.

ATSTR – Name of street which intersects with the street on which the crash took place.

BIKEFLAG – Flag which indicates if a bicycle was involved in a crash.

CONSZONE – Indicates the crash resulted from an activity, behavior or traffic control related to a construction zone, but not necessarily within it.

COUNTY – The name of the county in which a crash occurred.

CYCLFLAG – Flag which indicates if a motorcycle was involved in a crash.

DOCTNMBR – The preprinted number on an MV4000 form.

DRVRDO[1,2] – What the driver of unit was doing at the time of the crash.

- **BACKING =** Backing up
- **BLNK** = Blank
- **CHG LN** = Changing lanes
- **GO STR** = Going straight
- **IL PRK** = Illegally parked
- **LG PRK** = Legally parked
- **LT TRN** = Making left turn
- **MERGING** = Merging into traffic
- **NEGCRV** = Negotiating curve
- **NPASZN** = Violate no pass zone
- **OTHER** = Other
- **OVT LT** = Overtaking on the left
- **OVT RT** = Overtaking on right
- **PARKNG** = Parking maneuver
- **RT TRN** = Right turn
- **RTOR** = Right turn on red
- **SL/ST** = Slowing or stopped
- **STOPED** = Stopped in traffic
- **UTURN** = U turn

DRVRPC[1,2] – Lists the possible driver contributing circumstances (Driver Factors) in a collision. These flags are generated by TOPS Lab.

- **DC** = Driver condition
- **DIS** = Physically disabled
- **DTC** = Disrgd traffic cntl
- **FTC** = Following too close
- **FTY** = Failure to yield
- **FVC** = Failure to keep vehicle under control
- **IC** = In conflict
- **ID** = Inattentive driving
- **IO** = Improper overtake
- **IT** = Improper turn
- **LOC** = Left of center
- **OTR** = Other
- **SPD** = Exceed speed limit
- **TFC** = Too fast for conditions
- **UB** = Unsafe backing

DRVRPC[1,2]A - Corresponds to the first item checked on the MV4000 list of Driver Factors. This element has been deprecated in favor of DRVRPC[1,2].

HWYCLASS – A code which describes the type of road the crash took place on.

- **BLNK** = Blank
- **R CITY** = City street rural
- **R CTH** = County trunk rural
- **R IH** = Interstate highway rural
- **R STH** = State highway rural
- **R TOWN** = Town road rural
- **U CITY** = City street urban
- **U CTH** = County trunk urban
- **U IH** = Interstate highway urban
- **U STH** = State highway urban
- **OTHR** = Parking lot / other

INJSVR – Highest level injury severity for a crash, taken over all persons involved in a crash.

- **K** = Killed
- **A** = Incapacitating
- **B** = Non-incapacitating
- **C** = Possible
- **Blank** = Unreported

INJSVR[1,2] – Text describing the most severe injury to a driver, bicyclist or pedestrian involved in a crash. Same format as INJSVR.

INJTRNS – Indicator describing whether any injured persons were transported to a medical facility or not. Generated by TOPS Lab.

INTDIR – Cardinal direction of the distance of the intersecting highway which is used to identify the location of the crash.

INTDIS – Intersection Distance in hundredths of a mile from intersection location listed (1 = approx. 50 feet). If the crash occurred at the intersection, the INTDIR would be blank and INTDIS would be zero.

LGTCOND – Light condition at time of crash. If blank the light condition is **DAY**.

- **DARK =** Nighttime -- unlit
- **LIGT** = Nighttime -- street lights

MNRCOLL – Manner (first harmful event) in which participants collided in the crash.

- **ANGL =** Angle
- **HEAD** = Head On Collision
- **NO C** = No collision with another vehicle
- **REAR** = Rear End
- **RTR** = Rear to rear
- **SSO** = Sideswipe/Opposite Direction
- **SSS** = Sideswipe/Same Direction
- **UNKN** = Unknown

MUNICIPALITY – The name of the municipality in which a crash occurred.

MUNITYPE – The code which describes the municipality type

- **C** = City
- **T** = Town
- **V** = Village

NTFYHOUR – The one hour range in which the enforcement agency was notified of the crash; listed in military time.

ONHWY – The name of the highway on which the crash took place.

ONHWYDIR – The primary direction of travel on the "on" highway, used in conjunction with RPNMBR and RPDIS for the total reference point number for a State Trunk Numbered (STN) highway. If the highway is divided, the side of the highway where the crash occurred will be listed. This will always be the cardinal direction unless the highway is divided.

Data elements ending in [1,2] are associated with a vehicle unit number.

ONHWYRP – Three character route number for ONHWY (See: STN Roadway log).

ONSTR – The local street name on which the crash took place.

PEDFLAG – An indicator which describes whether a pedestrian was involved in a crash.

POSTSPD[1,2] – Posted speed for a vehicle unit at the location where a crash occurred.

REGION – The WisDOT region associated with a crash record CNTYCODE.

RLTNRDWY – Location of first harmful event in relation to a roadway.

- **GORE** = Gore
- **LTSH** = Outside should-left
- **MED** = Median
- **OFF** = Off roadway - location unknown
- **ON** = On roadway

- **PLOT** = Private lot or private prop
- **RAMP** = On ramp
- **RTSH** = Outside shoulder-right
- **SHLD** = Shoulder

ROADCOND – Surface condition of the road at the point of origin for the unit apparently most at fault. If blank the road condition is **DRY.**

ROADHOR – The horizontal road terrain at the point of impact. The options for this field are either straight or curve. The field will only be filled in on this summary if curve **C** was indicated.

ROADVERT – The vertical road terrain at the point of impact. The options for this field is either flat or hill. The field will only be filed in on this summary if hill **H** was indicated.

SAFETY[1,2] – The type of safety equipment, if any, that was used by a driver, bicyclist or pedestrian involved in a crash.

- **SH/LP** = Shoulder & lap belt
- **LAP** = Lap belt only
- **SHLD** = Shoulder belt only
- **CHILD** = Child safety seat
- **HLMT** = Helmet

- **HT/EY** = Helmet & eye protection
- **EYE** = No helmet / eye protection only
- **NA** = Not applicable-non-motorist
- **UNKN** = Restraint use unknown
- **NONE** = None used-vehicle occupant

SEX[1,2] – The sex of a driver, bicyclist or pedestrian involved in a crash.

STNM[1,2]1 – The state statute number corresponding to the citation issued at a crash.

STNM[1,2]2 – The state statute number corresponding to the citation issued at a crash.

TOTFATL – Total number of persons killed in a crash.

TOTINJ – Total number of persons injured in a crash.

TOTVEH – Total number of vehicles involved in a crash.

Data elements ending in [1,2] are associated with a vehicle unit number.

TRFCWAY – Text describing areas designed for motor vehicle operation.

- **BLNK** = Blank
- **ND** = Not physically divided
- **D/WO** = Divided highway without traffic barrier
- **D/B** = Divided highway with traffic barrier
- **OW** = One-way traffic
- **OTHR** = Parking lot or private property

TRFCNTL[1,2] – The traffic controls in effect at the time of a crash.

- **NONE** = None
- **OTHR** = Other
- **RRSIG** = RR-xing signal
- **SS** = Stop sign
- **SS FL** = Stop sign with flasher
- **TC PR** = Traffic control person
- **TS OP** = Traffic signal operation
- **TS FL** = Traffic signal flashing
- **WS** = Warning sign
- **WS FL** = Warning sign with flasher
- **YIELD** = Yield sign

TRVLDIR[1,2] – The direction of travel of a unit prior to the crash (based on primary road direction).

VEHDMG[1,2] – The extent of vehicle damage

- **BLNK** = BLANK
- **V MNR** = VERY MINOR
- **MNR** = MINOR
- **MOD** = MODERATE
- **SVR** = SEVERE
- **V SVR** = VERY SEVERE
- **UNKN** = UNKNOWN
- **NONE** = NONE

VEHTYPE[1,2] – The type of vehicle that was involved in a crash.

- **ATV** = Snowmobile / ATV
- **BIKE** = Bicycle
- **BLNK** = Blank
- **BUS** = Passenger bus
- **CAR** = Passenger car
- **CYCLE** = Motorcycle
- **EM AMB** = Ambulance on emergency
- **EM FIRE** = Fire truck / fire fighter on emergency
- **EM POL** = Police on emergency
- **FARM** = Farm tractor / self propelled
- **HOME** = Motor home
- **HRSDRWN*** = Horse drawn implement (carriage, wagon, buggy)
- **MISC** = Miscellaneous
- **MOPED** = Moped
- **OTHR** = Other working machine
- **PED** = Pedestrian
- **PLOW** = Snow plow
- **SBS** = School bus / pupil transport
- **TRAIN** = Railway train
- **TRK DB** = Truck tractor (double bottom)
- **TRK NA** = Truck tractor (not attached)
- **TRK SA** = Truck tractor (semi attached)
- **TRK ST** = Straight truck (insert truck)
- **TRK UT** = Utility truck

* HRSDRWN attribute available from 2012.

WTHRCOND – A code which identifies the weather condition at the time of a crash.

- **BLNK** = Blank
- **CLR** = Clear
- **CLDY** = Cloudy
- **RAIN** = Rain
- **SNOW** = Snow
- **FOG** = Fog / smog / smoke

- **SLET** = Sleet / hail
- **WIND** = Blowing sand / dirt / snow
- **XWIND** = Severe crosswinds
- **OTHR** = Other
- **UNKN** = Unknown

Section II. Additional Crash Data Elements

The following additional elements are available from the TOPS Lab crash database.

ACCDNMBR – Computer system generated number to uniquely identify a crash. This identifier is typically excluded from the standard data file per agreement with WisDOT DMV. DOCTNMBR should be used instead.

ATHWYTYP – Type of highway which intersects with the highway on which the crash occurred.

AUTOFLAG – Flag which indicates if a passenger car was involved in a crash.

BUSFLAG – Flag which indicates if a school bus was involved in a crash.

CITFLAG – Flag which indicates if a citation was issued in connection with a crash.

CMVFLAG – Flag which indicates if a commercial vehicle was involved in a crash.

CNTYCODE – A unique code for the county in which a crash occurred.

DAYNMBR – The day of the week on which the crash occurred.

DRUGFLAG – Flag which indicates whether a driver, bicyclist, or pedestrian was listed on the police report as using drugs before the crash.

HITRUN – Flag which indicates whether a crash involved a hit and run vehicle.

HWYPC[1,2] – Lists the possible highway contributing circumstances (Highway Factors) in a crash. These flags are generated by TOPS Lab.

- **SIW** – Snow / Ice / Wet
- **NSH** = Narrow Shoulder
- **LSH** = Low Shoulder
- **SSH** = Soft Shoulder
- **LG** = Loose Gravel
- **RP** = Rough Pavement
- **PDB** = Debris Prior to Accident

- **ODB** = Other Debris
- **SGN** = Sign Obscured / Missed
- **NB** = Narrow Bridge
- **CZ** = Construction Zone
- **VIS** = Visibility Obscured
- **SPD** = Other

LGTRKFLAG – Flag indicating whether a crash involved a large truck. Large trucks include straight (insert) trucks and truck tractors (not attached, semi attached, double bottom).

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MCFLNMBR – Microfilm / image number for an MV4000 crash report. This identifier is typically excluded from the standard data file per agreement with WisDOT DMV. DOCTNMBR or ACCDNMBR are sufficient to request a copy of a crash report.

MOPFLAG – Flag which indicates if a moped was involved in a crash.

MUNICODE – A unique code for the municipality in which a crash occurred.

ONDUTY[1,2] – An indicator whether the driver of the vehicle was operating on duty.
- **P** = Police officer
- **F** = Fireman
- **E** = EMT
- **H** = Winter highway maintenance

ONHWYTYP – The type of roadway on which the crash occurred (business road, frontage road, ramp, etc.).

ROLE[1,2] – Identifies the role of the occupant: driver, passenger, pedestrian, motorcyclist, bicyclist, or moped user.

RPDIS – Reference Point Distance; Distance in miles in the cardinal direction from the RP number listed.

RPFLAG – Flag indicating whether a crash was coded to a highway reference point.

RPNMBR – Reference Point number where a crash occurred. (See: STN Roadway log)

SPEEDFLAG – Flag indicating that at least one driver involved in the crash received a citation for speeding, or was listed on the crash report as "exceeding speed limit" or "speed too fast/conditions." Generated by TOPS Lab.

TRAINFLAG – Flag indicating whether a train was involved in a crash.

TRKFLAG – Flag which indicates if a truck was involved in a crash.

TRLRFLAG – Flag which indicates if a vehicle unit was towing a trailer.

WISLR_LATDECDG – WISLR crash map crash location latitude in decimal degrees.

WISLR_LONDECDG – WISLR crash map crash location longitude in decimal degrees.

Section III. Document Revision History

The field name abbreviations for HWYCLASS, SFTYEQP, TRFCWAY, VEHDMG, and VEHTYPE changed as of 11/12/2007**.**