Appendix B

Codebook for the Database of Fatal Crash Involvements

Observations: 85,890
Variables: 81

Alphabetic List of Variables

ABS – Antilock brake system (4-wheel)  Type: Numeric8
  0  Not ABS-equipped
  .01-.99  proportion of vehicles with ABS (optional but cannot be identified for an individual vehicle from the 1st 12 digits of its VIN)
  1  ABS-equipped

AWD – All-wheel-drive or 4-wheel-drive  Type: Numeric8
  0  FWD or RWD – i.e., not equipped with AWD or 4-wheel-drive
  .01-.99  proportion of vehicles with AWD or 4-wheel-drive (optional but cannot be identified from 1st 12 digits of VIN)
  1  equipped with AWD or 4-wheel-drive

BLOCKER – Voluntary vehicle-to-vehicle compatibility certification  Type: Numeric8
  0  Not certified (or not a pickup truck or SUV)
  1  Certified, Option 1 (bumper height overlap with passenger cars)
  2  Certified, Option 2 (“blocker beam” or other secondary energy-absorbing structure)

BOD2 – Passenger car body type  Type: Numeric8
  0  Not a passenger car
  1  2-door convertible
  2  2-door coupe or sedan
  3  3-door hatchback
  4  4-door sedan
  5  5-door hatchback
  6  Station wagon

CARS – Number of passenger cars in the crash  Type: Numeric8
  0 – 44  Number of passenger cars in transport involved in the crash

CG – Car group  Type: Numeric8
  1306-65001  Download 10Formats2011.sas, CarGroup2011.docx, or LTVGroup2011.docx for valid codes
CGP – Car group codes for merging with IHS Automotive data  Type: Numeric8
1306-65001 Download 10Formats2011.sas, CarGroup2011.docx, or LTVGroup2011.docx for valid codes

COMBO – Side air bag with torso/head protection (“combination” bag)  Type: Numeric8
0 Not equipped with combo bags
.01-.99 proportion of vehicles with combo bags (optional but cannot be identified from 1st 12 digits of VIN)
.75 Combo bag for driver only
1 Combo bags for driver and RF passenger (Note: a combo bag is a single bag that protects the head and torso; separate curtains and torso bags are coded CURTAIN=1, TORSO=1, COMBO=0)

COUNTY – County FIPS code  Type: Numeric3
1 – 840 3-digit FIPS code for the county (unmodified FARS variable)

CRSH – Crash type  Type: Numeric8
1 1st-event rollover
2 Hit fixed object
3 Hit pedestrian/bike/motorcycle
4 Hit heavy vehicle (i.e., GVWR ≥ 10,000 pounds)
5 Hit passenger car of known mass
6 Hit LTV of known mass and GVWR < 10,000 pounds
11 Other non-collision (fire, immersion, fell from vehicle,…) 
12 Hit train
13 Hit animal, working vehicle, or on-road object
14 Single-vehicle crash, no non-occupants: other/unclear type
15 Single-vehicle crash involving non-occupants: other/unclear type
16 Single vehicle: fatal to multiple or other traffic units
21 Hit car of unknown mass
22 Hit LTV of unknown mass
23 Hit “other” type of vehicle (snowmobile, farm equipment, construction machinery,…)
24 Hit unknown type of vehicle
25 2-vehicle crash: fatal to non-occupants or parked-vehicle-occupants in addition to, possibly, occupants of vehicles in transport
31 3+ vehicle crash: fatal only to occupants of vehicles in transport
32 3+ vehicle crash: fatal to non-occupants or parked-vehicle-occupants in addition to, possibly, occupants of vehicles in transport

CURBWT – Curb weight (pounds)  Type: Numeric8
1807 – 7710 Curb weight in pounds
HIFAT_ST – High-fatality-rate State
Type: Numeric8

0 One of the 26 States with < 160 crash fatalities per million vehicle registration years in 2005-2011
1 One of the 24 States with > 160 crash fatalities per million vehicle registration years in 2005-2011

HOUR – Hour when the crash occurred
Type: Numeric3

0 – 24 Hour when the crash occurred, military time (unmodified FARS variable)

HVYTRKS – Number of heavy vehicles in the crash
Type: Numeric8

0 – 13 Number of heavy vehicles in transport involved in the crash

LTVS – Number of LTVs in the crash
Type: Numeric8

0 – 51 Number of LTVs in transport involved in the crash

MAK2 – Vehicle Make
Type: Numeric8

2 Jeep
3 Hummer
6 Chrysler
7 Dodge
11 Sprinter
12 Ford
13 Lincoln
14 Mercury
18 Buick
19 Cadillac
20 Chevrolet
21 Oldsmobile
22 Pontiac
23 GMC
24 Saturn
30 Volkswagen
32 Audi
33 Mini-Cooper
34 BMW
35 Nissan
37 Honda
38 Isuzu
39 Jaguar
41 Mazda
42 Mercedes-Benz
45 Porsche
47 Saab
48 Subaru
49 Toyota (including Scion)
51 Volvo
52  Mitsubishi
53  Suzuki
54  Acura
55  Hyundai
58  Infiniti
59  Lexus
62  Land-Rover
63  Kia
65  Smart

MAXVEHNO – Highest VEH_NO of vehicles hitting non-occupants  Type: Numeric8
1 – 99  Highest VEH_NO of the vehicles that struck and fatally injured a non-occupant

MCYCLES – number of motorcycles in the crash  Type: Numeric8
0 – 25  Number of motorcycles in transport involved in the crash

MINVEHNO – Lowest VEH_NO of vehicles hitting non-occupants  Type: Numeric8
1 – 99  Lowest VEH_NO of the vehicles that struck and fatally injured a non-occupant

MM2 – Make-model  Type: Numeric8
2001-65031  Download 10Formats2011.sas, CarGroup2011.docx, or LTVGroup2011.docx for valid codes

MMP – Make-model codes for merging with IHS Automotive data Type: Numeric8
2001-65031  Download 10Formats2011.sas, CarGroup2011.docx, or LTVGroup2011.docx for valid codes

MY – Model year  Type: Numeric8
2003 – 2010  Model year of the case vehicle

M_HARM – Most harmful event  Type: Numeric3
1 – 99  Most harmful event for the case vehicle (unmodified FARS variable)

NITE – Time of day when the crash occurred  Type: Numeric8
0  6:00 a.m. to 6:59 p.m.
1  7:00 p.m. to 5:59 a.m.

NONOCC – Number of non-occupant fatalities in the crash  Type: Numeric8
0 – 5  Number of non-occupant fatalities in the crash

OBODY – Body type of the other vehicle  Type: Numeric8
1 – 99  Body type of the other vehicle in a 2-vehicle crash (unmodified FARS variable BODY_TYP for the other vehicle)

OCC – Number of occupant fatalities in the crash  Type: Numeric8
Number of occupant fatalities in the crash (including occupants of other vehicles in transport)

OCG2 – Car group (or LTV group) of the other vehicle
   Type: Numeric8
   1203-99999 5-digit VIN-derived vehicle group (CG) of the other vehicle in a 2-vehicle crash
   (Download 10Formats2011.sas, CarGroup2011.docx, or LTVGroup2011.docx for valid codes)

OCURBW T – Curb weight (pounds) of the other vehicle
   Type: Numeric8
   190 – 7710 Curb weight in pounds of the other vehicle in a 2-vehicle crash

OMAKMOD – FARS make and model of the other vehicle
   Type: Numeric8
   2001-99999 Make and model of the other vehicle in a 2-vehicle crash (unmodified FARS variable MAK.MOD for the other vehicle)

OMM2 – Make and model of the other vehicle
   Type: Numeric8
   2001-99999 5-digit VIN-derived make-model (MM2) of the other vehicle in a 2-vehicle crash
   (Download 10Formats2011.sas, CarGroup2011.docx, or LTVGroup2011.docx for valid codes)

OMOD_YR – Model year of the other vehicle
   Type: Numeric8
   1924 – 9999 Model year of the other vehicle in a 2-vehicle crash (unmodified FARS variable MOD.YEAR for the other vehicle)

OTHVEH – Number of other-type vehicles in the crash
   Type: Numeric8
   0 – 1 Number of other-type vehicles (snowmobiles, farm equipment, …) in transport involved in the crash

OVIN – VIN of the other vehicle
   Type: Character12
   12-character VIN of the other vehicle in a 2-vehicle crash (unmodified FARS variable VIN for the other vehicle)

OVINA – VINA_MOD of the other vehicle
   Type: Character3
   VINA_MOD of the other vehicle in a 2-vehicle crash (unmodified FARS variable VINA_MOD for the other vehicle)

OVTyp – Type of the other vehicle in a 2-vehicle crash
   Type: Numeric8
   1 Passenger car
   2 LTV
   3 Heavy vehicle
   4 Motorcycle
   5 Other (snowmobile, farm equipment, construction machinery, …)
   9 Unknown
OVYP2 – Type (detailed) of the other vehicle in a 2-vehicle crash  
1 Passenger car  
2.1 CUV  
2.2 Minivan  
2.3 Astro/Safari/Aerostar  
2.4 Truck-based LTV  
3 Heavy vehicle  
4 Motorcycle  
5 Other (snowmobile, farm equipment, construction machinery,…)  
9 Unknown  

OWTFLAG – Source of curb weight for the other vehicle  
0 Good VIN, MY 1985-2007, weight in database  
1 Good VIN, filled in some gaps in MY 1985-1999 database  
2 MM2 not defined, but FARS supplies a VIN_WGT  
3 MY 1981-1984 car with MM2 decoded, use FARS VIN_WGT  
4 Weights in database for RV cutaways, etc. excluded body; reset to 5000  
5 Good VIN, MY 1981-1984 or 2008-2009, use 1985 or 2007 weights  
6 Filled in approximate weight based on MAK_MOD  
7 Car or LTV, could not define a weight  
9 Not a car or LTV  

PARK – Number of non-transport-vehicle-occupant fatalities  
0 – 4 Number of non-transport-vehicle-occupant fatalities in the crash  

PASSIVE – Frontal air bags  
0 Not equipped with frontal air bags  
2 Dual frontal air bags  
3 Dual frontal air bags with a manual on-off switch for the RF passenger  
9 Unknown if equipped and/or what type  

RDSUR – Road surface condition  
0 Dry  
1 Wet, muddy, or oily  
2 Snow, ice, or slush  
9 Unknown  

ROAD_FNC – Roadway function class  
1 –99 Roadway function class (unmodified FARS variable)  

ROLLCURT – Head curtain air bags designed to deploy in rollovers  
0 Not equipped with rollover curtain bags  
.01-.99 proportion of vehicles with rollover curtain bags (optional but cannot be identified from 1st 12 digits of VIN)  
1 Rollover curtains for driver and RF passenger (Note: CURTAIN should also be coded 1)
RURAL – County population density Type: Numeric8
  0 Crash occurred in a county with ≥ 250 inhabitants per square mile in the 2000 census
  1 Crash occurred in a county with < 250 inhabitants per square mile

SPDLIM55 – Speed limit 55+ Type: Numeric8
  0 Speed limit < 55 mph or not reported, for all roadways involved in the crash
  1 Speed limit ≥ 55 mph for at least one roadway involved in the crash

SP_LIMIT – Speed limit Type: Numeric3
  0 – 99 Highest speed limit of roadways involved in the crash (unmodified FARS variable)

SQUADCAR – Police model Type: Numeric8
  0 Not a Ford Crown Victoria or Chevrolet Impala “police” model and not a 2004-2005 Chevrolet Impala SS
  1 Ford Crown Victoria or Chevrolet Impala “police” model or 2004-2005 Chevrolet Impala SS

STATE – State FIPS code Type: Numeric3
  1 – 56 2-digit FIPS code for the State (unmodified FARS variable)

ST_CASE – State-case ID number Type: Numeric4
  10001–560168 State-case ID number (unmodified FARS variable)

SUR_COND – Roadway surface condition Type: Numeric3
  1 –9 Roadway surface condition (unmodified FARS variable)

TORSO – Side air bag with torso protection Type: Numeric8
  0 Not equipped with torso bags
     .01-.99 proportion of vehicles with torso bags (optional but cannot be identified from 1st 12 digits of VIN)
     .25 Torso bag for RF passenger only
  1 Torso bags for driver and RF passenger

TRAKWDTH – Track width (inches, average of front and rear wheels) Type: Numeric8
  45.2 – 72.65 Average of front and rear track width, in inches
**TRKYP – LTV type (case vehicle)**

<table>
<thead>
<tr>
<th>TRKYP</th>
<th>Type: Numeric8</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Passenger car</td>
</tr>
<tr>
<td>1</td>
<td>Compact pickup truck (download LTVGroup2011.docx for more information)</td>
</tr>
<tr>
<td>2</td>
<td>Full-sized pickup truck with GVWR &lt; 10,000 pounds</td>
</tr>
<tr>
<td>3</td>
<td>Compact SUV</td>
</tr>
<tr>
<td>4</td>
<td>Full-sized SUV</td>
</tr>
<tr>
<td>5</td>
<td>Minivan</td>
</tr>
<tr>
<td>6</td>
<td>Full-sized van with GVWR &lt; 10,000 pounds</td>
</tr>
<tr>
<td>7</td>
<td>Pickup-car (e.g., Subaru Baja)</td>
</tr>
<tr>
<td>12</td>
<td>300-series pickup truck with GVWR ≥ 10,000 pounds</td>
</tr>
<tr>
<td>16</td>
<td>300-series van with GVWR ≥ 10,000 pounds</td>
</tr>
</tbody>
</table>

**UNKVEH – Number of unknown-type vehicles in the crash**

<table>
<thead>
<tr>
<th>UNKVEH</th>
<th>Type: Numeric8</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 5</td>
<td>Number of unknown-type vehicles in transport involved in the crash</td>
</tr>
</tbody>
</table>

**V1 – 1st character of the VIN**

<table>
<thead>
<tr>
<th>V1</th>
<th>Type: Character1</th>
</tr>
</thead>
</table>

**V2 – 2nd character of the VIN**

<table>
<thead>
<tr>
<th>V2</th>
<th>Type: Character1</th>
</tr>
</thead>
</table>

**V3 – 3rd character of the VIN**

<table>
<thead>
<tr>
<th>V3</th>
<th>Type: Character1</th>
</tr>
</thead>
</table>

**V4 – 4th character of the VIN**

<table>
<thead>
<tr>
<th>V4</th>
<th>Type: Character1</th>
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</thead>
</table>

**V5 – 5th character of the VIN**

<table>
<thead>
<tr>
<th>V5</th>
<th>Type: Character1</th>
</tr>
</thead>
</table>

**V6 – 6th character of the VIN**

<table>
<thead>
<tr>
<th>V6</th>
<th>Type: Character1</th>
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</thead>
</table>

**V7 – 7th character of the VIN**

<table>
<thead>
<tr>
<th>V7</th>
<th>Type: Character1</th>
</tr>
</thead>
</table>

**V8 – 8th character of the VIN**

<table>
<thead>
<tr>
<th>V8</th>
<th>Type: Character1</th>
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</thead>
</table>

**V11 – 11th character of the VIN**

<table>
<thead>
<tr>
<th>V11</th>
<th>Type: Character1</th>
</tr>
</thead>
</table>

**V12 – 12th character of the VIN**

<table>
<thead>
<tr>
<th>V12</th>
<th>Type: Character1</th>
</tr>
</thead>
</table>

**VEHAGE – Vehicle age in years (CY – MY)**

<table>
<thead>
<tr>
<th>VEHAGE</th>
<th>Type: Numeric8</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 8</td>
<td>Age of the case vehicle (years)</td>
</tr>
</tbody>
</table>

**VEH_NO – Vehicle ID number**

<table>
<thead>
<tr>
<th>VEH_NO</th>
<th>Type: Numeric3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 89</td>
<td>Vehicle ID number (unmodified FARS variable)</td>
</tr>
</tbody>
</table>

**VE_FORMS – Number of vehicle forms submitted**

<table>
<thead>
<tr>
<th>VE_FORMS</th>
<th>Type: Numeric3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 92</td>
<td>Number of vehicle-in-transport forms submitted for this crash (unmodified FARS variable)</td>
</tr>
</tbody>
</table>

**VINA_MOD**

<table>
<thead>
<tr>
<th>VINA_MOD</th>
<th>Type: Character3</th>
</tr>
</thead>
</table>

**VTYP – Case vehicle type**

<table>
<thead>
<tr>
<th>VTYP</th>
<th>Type: Numeric8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Passenger car, 2 doors</td>
</tr>
<tr>
<td>2</td>
<td>Passenger car, 4 doors</td>
</tr>
<tr>
<td>3</td>
<td>Pickup truck, light duty (compact or 150-series)</td>
</tr>
<tr>
<td>4</td>
<td>Pickup truck, heavy duty (250- or 350-series)</td>
</tr>
<tr>
<td>5</td>
<td>SUV, truck-based</td>
</tr>
<tr>
<td>6</td>
<td>CUV (crossover SUV)</td>
</tr>
</tbody>
</table>
7 Minivan, except Chevrolet Astro or GMC Safari
7.1 Chevrolet Astro or GMC Safari
8 Full-sized van

WHEELB – Wheelbase (inches) Type: Numeric
73.0 – 170.3 Wheelbase