# Data Set Description and Dictionary

# WIM Data

Schema: wim

November 21, 2013

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# 1 Data Description

The schema wim in the class database contains data from 1 month period (August 2009) from the 22 reporting weight-in-motion stations around the state of Oregon. At each of the Green Light stations, approaching trucks are directed into the appropriate lane on the mainline highway. At a location upstream from the static weigh station, if a truck is equipped with a transponder, it is identified by the reader. The unique aspect of Oregon's system is that this unique transponder identification and subsequent data are recoded together. At this same location, the vehicles are weighed in motion by load cells in the pavement. The observation consists of left and right axle weights as well as the spacing of these axles. The data also include speed, a timestamp and the lane of observation (some stations are multilane), length, gross vehicle weight, and a count of the number of axles. As part of the proprietary control program by International Road Dynamics (IRD), a sieved-based classification algorithm uses the axle spacing parameters to classify vehicles.

## 1.1 WIM Table

**Table 1 Data Dictionary for WIM**

| Name | Data type | Comment |
|---|---|---|
| timestamp | timestamp with time zone | time of vehicle record |
| year | integer | |
| month | integer | |
| day | integer | |
| hour | integer | |
| minute | integer | |
| seconds | integer | |
| lane | integer | Lane of scale, 1=right most lane, 2=adjacent lane |
| speed | integer | Measured speed in mph |
| type | integer | odot wim vehicle class type (not FHWA class) |
| length | integer | |
| gvw | real | gross vehicle weight (kips) |
| esal | real | Calculated equivalent single axle loads |
| sumlen | real | Sum of the length columns |
| numaxles | integer | total number of axles |
| axl1 | real | weight of the first axle (kips) |
| axl2 | real | weight of the second axle (kips) |
| axl3 | real | " |
| axl4 | real | " |
| axl5 | real | " |
| axl6 | real | " |
| axl7 | real | " |
| axl8 | real | " |
| axl9 | real | " |
| axl10 | real | " |

| | | |
|---|---|---|
| axl11 | real | " |
| axl12 | real | " |
| axl13 | real | " |
| axl14 | real | " |
| spc1 | real | space (ft) between axle 1 and axle 2 |
| spc2 | real | space (ft) between axle 2 and axle 3 |
| spc3 | real | " |
| spc4 | real | " |
| spc5 | real | " |
| spc6 | real | " |
| spc7 | real | " |
| spc8 | real | " |
| spc9 | real | " |
| spc10 | real | " |
| spc11 | real | " |
| spc12 | real | " |
| spc13 | real | " |
| spc14 | real | " |
| tag | text | Identifaction value for trucks with RFID tag |
| stationnum | integer | id, see table stations |
| gvw_zero | boolean | error checking; 1 ,is gvw=0 zero otherwise |
| gvw_50 | boolean | |
| mph_10 | boolean | |
| mph_99 | boolean | |
| length_200 | boolean | |
| axle_sum_length | boolean | |
| axle_sum_7 | boolean | |
| axle_first_5 | boolean | |
| num_axle_13 | boolean | |
| gvw_280 | boolean | |
| axle_spc_34 | boolean | |
| gvw_diff_7 | boolean | |
| truck_table | integer | lookup value for odot truck table |
| id | integer | |

## 1.2 Stations Table

**Table 2 Data Dictionary for station**

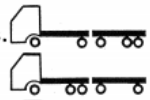
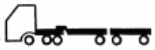
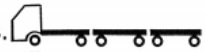
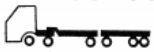
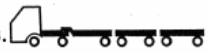
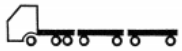
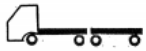
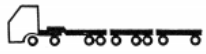
| Name | Data type | Comment |
|---|---|---|
| stationnum | integer | number of station, created by PSU for WIM archive |
| station_code | character(3) | code, see below |
| longname | text | Long name of station |
| name | text | Long name of station |

| | | |
|---|---|---|
| route | character(5) | Route of station location |
| direction | character(2) | Direction of travel |
| hwy_no | integer | Internal ODOT Highway Number |
| roadbed | integer | Roadbed |
| mp | double precision | Milepost |
| lrs | character varying(15) | LRS for GIS (not needed) |
| lat | double precision | Latitude |
| long | double precision | Longitude |
| filenameprefix | text | Not needed |
| fnprefix2 | text | Not needed |

**Table 1.3: List of Stations**

| Number | Code | Name | Route | Direction | MP |
|---|---|---|---|---|---|
| 1 | FWB | Farewell Bend POE | I-84 | WB | 353.31 |
| 2 | EMH | Emigrant Hill | I-84 | WB | 226.95 |
| 3 | WYT | Wyeth | I-84 | WB | 54.3 |
| 4 | CSL | Cascade Locks POE | I-84 | EB | 44.93 |
| 5 | LGR | LaGrande | I-84 | EB | 258.52 |
| 6 | ODF | Olds Ferry | I-84 | EB | 354.38 |
| 7 | ASP | Ashland POE | I-5 | NB | 18.08 |
| 8 | BOR | Booth Ranch | I-5 | NB | 111.07 |
| 9 | WDN | Woodburn, NB | I-5 | NB | 274.15 |
| 10 | WDS | Woodburn, SB | I-5 | SB | 274.18 |
| 11 | BRE | Brightwood, EB | US-26 | EB | 36.51 |
| 12 | BRW | Brightwood, WB | US-26 | WB | 36.31 |
| 13 | JBS | Juniper Butte | US-97 | SB | 108.2 |
| 14 | LWL | Lowell | US-58 | WB | 17.17 |
| 15 | WLB | Wilbur | I-5 | SB | 130 |
| 16 | ASH | Ashland, SB | I-5 | SB | 18.08 |
| 17 | KFP | Klamath Falls POE | US-97 | NB | 271.73 |
| 18 | BND | Bend | US-97 | NB | 145.5 |
| 19 | JBN | Juniper Butte | US-97 | NB | 106.9 |
| 20 | KFS | Klamath Falls, SB | US-97 | SB | 271.41 |
| 21 | UMT | Umatilla POE | I-82 | EB | 183.8 |
| 22 | RPT | Rocky Point | US-30 | WB | 16.53 |

## CLASSIFICATIONS USED IN OREGON'S WEIGH – IN – MOTION STUDY

| Vehicle Type | | Vehicle Type | |
|---|---|---|---|
| 1.  | Cars<br>Panels<br>Pickups | 13.  | (2-3) Other 5 Axle Combinations<br>(3-2) |
| 2.  | Light Vehicles w/ trailers | 14.  | (3-S1-2) 6 axle Combinations |
| 3.  | 2 axle, Single Units | 15.  | (2-2-2) |
| 4.  | 2 axle Buses |  | (2-S1-3) |
| 5.  | 3 axle Single Units | 16.  | (2-S1-2-2) Triples |
| 6.  | (2-S1) 3 axle Combinations | 17.  | (3-S2-2) Other 7 Axle Combinations |
| 7.  | 3 axle Buses |  | (2-2-3) |
| 8.  | (2-S2) 4 axle Combinations |  | (3-2-2) |
|  | (2-2) | 18.  | (3-S2-3) 8 axle Combinations |
| 9.  | (3-S1) |  | (3-S1-2-2) |
| 10.  | 4 axle Single Units | 19.  | (3-S2-4) 9 axle or more Combinations |
| 11.  | (3-S2) 5 axle Semis |  | (3-S1-2-3) |
| 12.  | (2-S1-2) 5 axle Twins |  | (2-S2-3-2) |

*These are examples of configurations; there are other possible combinations not illustrated.*