

2014 TRB Data Contest: Data Definition

Deadline for submission of results and short paper: November 30th, 2013

Please check the website regularly to see if there are any updates or comments/clarification on the dataset. Please direct all questions to Linda Ng Boyle (linda@uw.edu), Susan Chrysler (susan-chrysler@uiowa.edu), or Matthew Karlaftis (mgk@mail.ntua.gr). We will post responses to all questions on the website (we will NOT provide individual responses). Please note that we WILL NOT answer any questions on what the best model is, what is the right goodness of fit test, what are the model assumptions, how to compute X, Y or Z, etc.

The datafile for the contest (WUA_yldata for TRB contest.xls) contains 1157 rows of data and 17 variables (columns A to Q). Each row represents data for one yellow event. Each participant should have up to 6 rows for each drive/visit. If the participant did complete all the runs, there will be less rows. The 6 rows of familiarization (noted as FAMILIAR) data should be ignored for this contest.

- A. Subject: <Unique Id><Age Group><Gender>_
<Unique id> ranges from 001 to 104 and skips values in between
<Age Group> includes Y for young (18-25), M for middle-aged (30-45), and O for older (50-60).
<Gender> includes M for male, and F for female.

Example: Subj_001YM_ indicates that subject 001 is a young male.

- B. Run Name: <Subject Id><Drive #><Cell Phone Interface>_<Treatment #><Segment Order>

<Drive #> “D1” indicates first drive (D2 is second drive and so forth). If the designation has an “R” rather than a “D”, then that drive had to be restarted, but the data will be the same.

<Cell Phone Interface> The secondary (or non-driving) task condition could be one of three conditions: *HH: Handheld, HF, HandsFree, and HS: HeadSet.*

Handheld: Using handheld wireless for dialing and conversing

HeadSet: Using the phone for voice dialing using digits, and the headset for hands-free conversing

HandsFree: Using hands free wireless for voice dialing using digits, and hands free using external speaker kit for conversing.

<Treatment ##><Segment Order>

‘T1BOI’ indicates treatment 1: Baseline (no call), Outgoing call, Incoming call

‘T2OBI’ indicates treatment 2: Outgoing call, Baseline (no call), Incoming call

‘T3IOB’ indicates treatment 3: Incoming call, Outgoing call, Baseline (no call)

Example1: Run_001YM_D1HH_T1BOI.

“001YM” indicates that that subject “001” was a Young Male (always same as subject). *Drive 1 (D1) was the hand held (HH) phone condition, and Treatment 1 (T1) was in the order BOI: Baseline [no phone call], Outgoing call, Incoming call).*

There should be 6 rows of data for each run condition as there were two signal changes per condition (2 in the baseline, 2 in outgoing, and 2 in incoming). See column Q for the event ID information, which provides mapping back to B, O, and I.

Example2: Run_027MM_FAMILIAR.

“027MM” indicates that that subject “027” was a Middle-Aged Male (always same as subject). And FAMILIAR means this was a practice drive only.

- C. Green to Yellow (frame #): The frame number when the traffic signal changed from green to yellow. *Example: Frame #1185302 indicates that the green to yellow change occurred 4938.8 seconds (=1185302/240) into the drive.* “-1” indicates the run was incomplete.
- D. Yellow to Red (frame #): The frame number when the traffic signal changed from yellow to red. *Example: Frame # 1186278 indicates that the yellow to red change occurred at 4942.8 seconds. That is, for row 1, there was a 4 second yellow (=4942.8-4938.8).* “-1” indicates the run was incomplete.
- E. Red To Green (frame #): The frame number when the traffic signal changed from red to green. “-1” indicates the run was incomplete. **It is important to note that once the participant has passed through the intersection, the signal state is longer recorded.**
- F. Accel Pedal Changed 10% (frame #): The frame number for when the participant had an accelerator pedal change of greater than 10% percent.
- G. Accel Pedal Change Direction: (-1=released, 1=depressed)
- H. First Stop Frame (frame #): Frame number when vehicle first stops, or -1 if the vehicle doesn't. That is, this is the frame number when the vehicle's velocity first goes to zero.
- I. Dist From Stop Line (feet): Distance from stop line (“+” is before line and “-” is beyond line) when velocity=0. (“9999” if driver didn't stop).
- J. Min Accel After Accel Pedal Change (ft/s²): Max deceleration between (Col F) and when driver goes past intersection.
- K. Max Accel After Accel Pedal Change (ft/s²): Max acceleration between (Col F: 10% increase in Accel Pedal) and when driver goes past intersection.
- L. Ov Vel at Green To Yellow (mph): Participant's velocity when the light first turns from green to yellow.
- M. Ov Dist at Green to Yellow (feet): Participant's distance from stop line when the light first turns from green to yellow.
- N. Ov Vel at Stop Line (mph): Participant's velocity when they reached stop line
- O. Frame at Stop Line (frame #): Frame # when participant reached stop line.
- P. Vel at Yellow to Red (mph): Participant's velocity when the light goes from yellow to red.
- Q. Event ID: This is a number between 300 to 317 and is used to identify which run is B (baseline), O (outgoing), and I (incoming).

Event IDs from 300 to 305 would be events in the 1st segment; 306 to 311 would be events in the 2nd segment, and 312 to 317 would be events in the 3rd segment. So if the

order of runs were BOI, then events between 300 and 305 would include the baseline case, between 306 to 311 would include the outgoing phone case, and between 312 to 317 would be the incoming case. For simplicity, this code is added as a last column and is now updated in the datafile and data description.