

## WLTP - Development of the Harmonized driving Cycle

A few considerations on the current approach for deriving the WLTC

[alessandro.marotta@jrc.ec.europa.eu](mailto:alessandro.marotta@jrc.ec.europa.eu)



**The work carried out by Heinz Steven on the application of the proposed approach to derive the new driving cycle from the in-use data, has evidenced some problems:**

- Road categorization
- On/off peak, weekend

**In addition, some other elements cannot be fully planned and controlled when collecting in-use driving data**

- Driving behavior (private drivers vs. instructed drivers)
- Technical design of the vehicle
- Cold-start related short trips

## Road categorization

Urban/rural/motorway		Low/medium/high speed	
advantage	disadvantage	advantage	disadvantage
Allows use of weighing factors from national traffic data	<p>Differences in the definitions (ref. strawman proposal from USEPA) and in the level of data collection accuracy</p> <p>Might lead to disregard a potential big portion of the collected data</p>	<p>Makes possible a unified treatment of all collected data</p> <p>Would allow a more clear distinction of the 3 phases of the new driving cycle</p>	No direct link between the 3 driving phases and the national traffic data (how to weigh the 3 phases?)

## Max. speed versus average speed

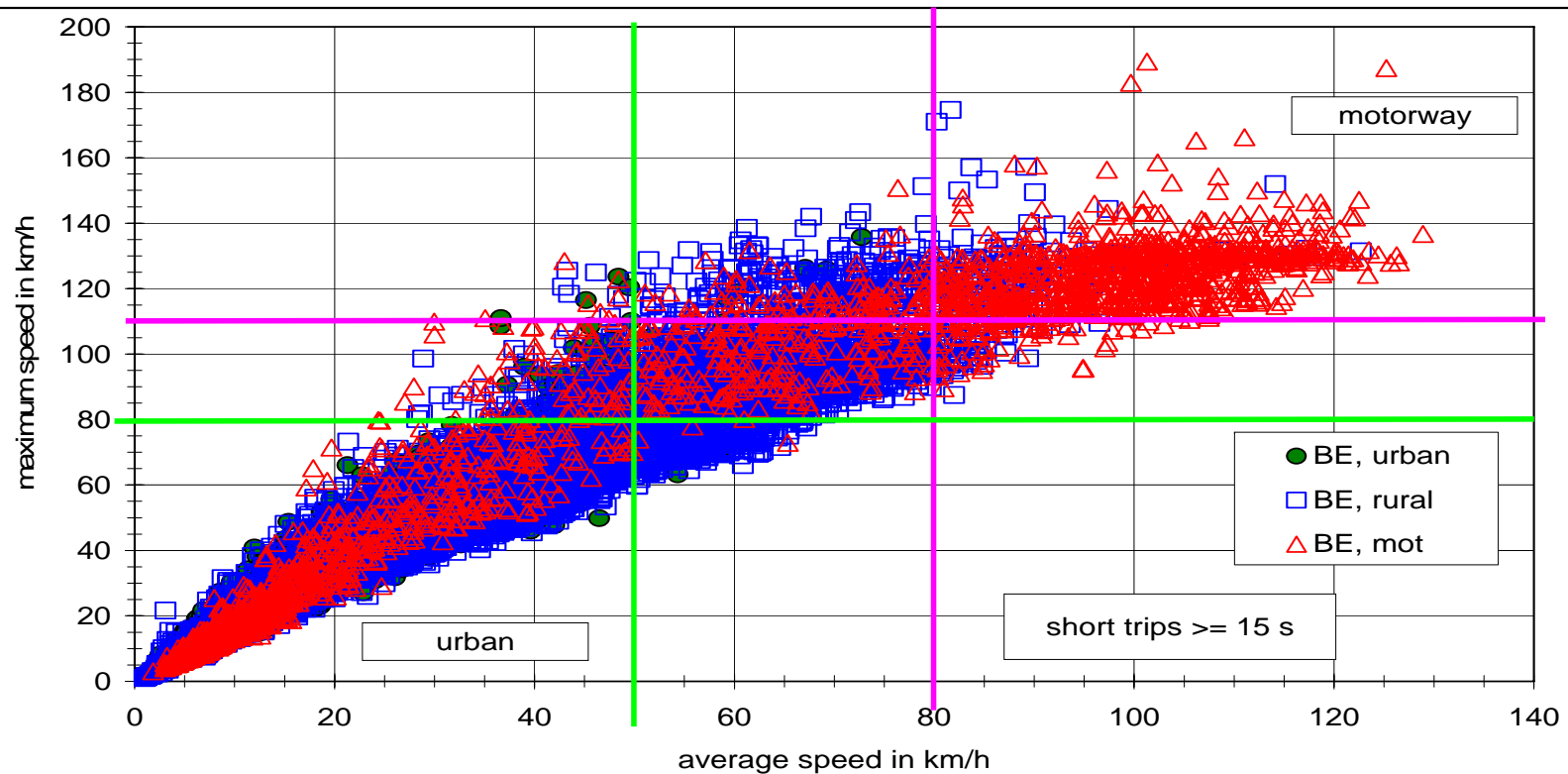


Figure 15a

## On/off peak, weekend

Keep the distinction		Skip the distinction	
advantage	disadvantage	advantage	disadvantage
In principle would allow a better representativeness of the new driving cycle	<p>Collected data have shown a high overlap, i.e. no clear distinction</p> <p>Might not be compatible with the 1/3-1/3-1/3 scheme</p> <p>Might lead to disregarding a big portion of the collected data</p>	<p>Makes possible a unified treatment of all collected data</p> <p>Compatible with the 1/3-1/3-1/3 scheme</p>	Less representative of real-world driving conditions (?)

## Driving behavior (ordinary drivers vs. instructed drivers)

- Predominance of in-use driving data collected from private owned vehicles and business fleets should insure a broad coverage of driving behaviors

## Technical design of the vehicle

- RPA (Relative Positive Acceleration) covers power-to-mass ratio of the vehicle; in addition, OCE could be designed to be vehicle specific (ex. % of max vehicle speed instead of a fixed max speed)

## Cold-start related short trips

- First short trips (duration and dynamicity) are crucial for cold start emissions; collected data might not allow the identification of the true statistical mean values

# PROPOSAL

Road categorization: use low/medium/high speed approach

On/off peak, weekend: disregard

Driving behavior: covered by new and existing in-use driving data

Technical design of the vehicle: care of OCE (if needed)

Cold-start related short trips: consider as valid those derived from collected data