WLTP - Development of the Harmonized driving Cycle

A few considerations on the current approach for deriving the WLTC

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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

<table>
<thead>
<tr>
<th>Urban/rural/motorway</th>
<th>Low/medium/high speed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>advantage</strong></td>
<td><strong>disadvantage</strong></td>
</tr>
<tr>
<td>Allows use of weighing factors from national traffic data</td>
<td>Differences in the definitions (ref. strawman proposal from USEPA) and in the level of data collection accuracy</td>
</tr>
<tr>
<td></td>
<td>Might lead to disregard a potential big portion of the collected data</td>
</tr>
</tbody>
</table>
Geneva, June 2010

Max. speed versus average speed

Figure 15a
## On/off peak, weekend

<table>
<thead>
<tr>
<th>Keep the distinction</th>
<th>Skip the distinction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>advantage</strong></td>
<td><strong>disadvantage</strong></td>
</tr>
<tr>
<td>In principle would allow a better representativeness of the new driving cycle</td>
<td>Collected data have shown a high overlap, i.e. no clear distinction</td>
</tr>
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<td></td>
<td>Might not be compatible with the 1/3-1/3-1/3 scheme</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>
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