Evaluation study on Speed Limitation Devices

Scenarios and methodology

Stakeholder conference 10 June 2013
Scenarios for the ex-ante evaluations for HCVs and LCVs

• What would be options for amending the Directive?
  • Feasible, realistic and distinctive scenarios

• Eight scenarios:
  • Four scenarios for HCVs
  • Four scenarios for LCVs
  • Both for HCVs and LCVs: two speed limiter scenarios, two ISA scenarios
ISA systems

- ISA: Intelligent Speed Assistance / Adaptation
- Characteristics
  - System type (Advisory, driver select, mandatory)
  - Information (Fixed, variable, dynamic)
- Could be complementary to speed limiters for HCVs
- Also affecting speeds on urban roads
- May serve as an alternative to speed limiters for LCVs
Argumentation for HCV scenarios

- **Scenario 1:** A maximum speed of 80 km/h for HGVs, 90 km/h for buses is reasonable
  - Many countries have this speed limit on motorways
  - Compatible with minimum speed of 70 km/h

- **Scenario 2:** A maximum speed for HGVs and buses of 100 km/h
  - Decreases differences in vehicle speed between vehicle types
  - Feasible for the HCV’s of today

- **Different maximum speeds for M2 and M3 or between N2 and N3 vehicles**
  - Lack of sufficient data for carrying out such an analysis
  - Will be included in the discussion on policy strategies
Argumentation for HCV scenarios (2)

- ISA scenario 3: “Advisory/informing” with variable posted speed limit information and no changes in current speed limits
  - The technology is already introduced to a sufficiently high level
  - Informative: No invasive actions are taken by the ISA system (liability perspective)

- ISA scenario 4: “Half-open” driver feedback. With fixed posted speed limit information and a decrease in maximum speed
  - Technology needed is available, ready for the market within 5 years
  - Databases with speed limit information available at both private and public level
  - Driver acceptance
  - System should be combined with fixed speed limit information (liability perspective)
  - Highest safety impact expected
# Scenario definition for HCVs

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Speed limiter HGVs</th>
<th>Speed limiter buses</th>
<th>ISA system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference</td>
<td>90 km/h</td>
<td>100 km/h</td>
<td>no</td>
</tr>
<tr>
<td>Scenario 1</td>
<td>80 km/h</td>
<td>90 km/h</td>
<td>no</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>100 km/h</td>
<td>100 km/h</td>
<td>no</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>90 km/h</td>
<td>100 km/h</td>
<td>Advisory/open - variable speed limit information</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>80 km/h</td>
<td>90 km/h</td>
<td>Half-open - fixed speed limit information</td>
</tr>
</tbody>
</table>
Argumentation for LCV scenarios

- Maximum speed of 120 km/h will have too small effects
- Scenario 1: a maximum speed of 110 km/h for vans is feasible and realistic
- Scenario 2: a maximum speed of 100 km/h for vans is feasible, realistic and distinctive from scenario 1
- Maximum speed of 90 km/h or lower: high speed differences between N1 and M1 and unrealistic

- ISA scenarios: the same as for HCVs
  - ISA scenario 3: Advisory - variable speed limit information
  - ISA scenario 4: Half-open - fixed speed limit information

- Current maximum speed in Member States is different: different effects
Subcategories LCVs

- Policy options for differentiating between LCVs

- Limiting the obligation for N1 vehicles:
  - Vehicle mass between 2610 and 3500 kilogrammes (subcategories Regulation EU/510/2011).

- Including M1 vehicles
  - Commercially used M1 vehicles to vehicles with 8-9 seats
### Scenario definition for LCVs

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Speed limiter LCVs (type N1)</th>
<th>ISA system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Scenario 1</td>
<td>110 km/h</td>
<td>no</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>100 km/h</td>
<td>no</td>
</tr>
<tr>
<td>Scenario 3</td>
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<td>Advisory/open - variable speed limit information</td>
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<tr>
<td>Scenario 4</td>
<td>no</td>
<td>Half-open - fixed speed limit information</td>
</tr>
</tbody>
</table>
Approach: Ex-ante evaluation

Logic of the evaluation:

- Implementation of Speed Limitation Device
  - Market impacts
  - Potential impact on speeds
    - Potential impacts on safety
    - Potential impacts on emissions
Types of impacts

- Vehicle speeds: average speeds, speed distribution and speed profiles
- Traffic safety: numbers of accidents, injured and fatalities
- Fuel consumption and emissions: CO$_2$, PM and NO$_x$ emissions
- Market impacts:
  - vehicle design
  - shifts between vehicle categories, e.g. between HCVs and LCVs
  - fraud
  - administrative burden
  - costs of compliance/enforcement
  - SMEs
### Methodology

<table>
<thead>
<tr>
<th>Type of impact</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>Literature review of vehicle speeds and data from Member State survey</td>
</tr>
<tr>
<td></td>
<td>Modelling (using speed data from literature)</td>
</tr>
<tr>
<td>Traffic safety</td>
<td>Modelling (using speed data and speed-accidents relationships from literature)</td>
</tr>
<tr>
<td></td>
<td>For ISA: data from literature on the relationship between ISA and traffic safety</td>
</tr>
<tr>
<td>Fuel consumption and emissions</td>
<td>Modelling (using speed data and the VERSIT+ -model for speed-emissions relationships)</td>
</tr>
<tr>
<td></td>
<td>For ISA: modelling data complemented with data from literature on the relationship between ISA and emissions</td>
</tr>
<tr>
<td>Market impacts</td>
<td>Qualitative assessment (based on literature review and survey)</td>
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</tbody>
</table>
Questions

1. Do you agree with the definition of the scenarios for the ex-ante evaluations on HCVs?
2. Do you agree with the definition of the scenarios for the ex-ante evaluations on LCVs?
3. Do you see other elements which could be taken into account to complement the conclusions of the ex-ante evaluation?
4. Can you agree with the application of different speed limits for vehicle categories N2 and N3 (e.g. 100 km/h for N2 and 90 km/h for N3 category)?
5. What should be the definition of light commercial vehicles of M1 category and light commercial vehicle of N1 category (e.g. M1 category with 8 and 9 seats including driver’s seat, N1 category between 2.6 and 3.5 tonnes)?
6. What suggestions do you have with respect to the possible amendments of the Speed Limitation Directive?