DIRECT VISION
Division N3 Vehicles – Follow up

VRU-PROXI 14TH SESSION FOLLOW-UP
WebEx meeting

ACEA WORKING GROUP TRUCK SAFETY
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VRU-Proxi-14-16
At the 14th VRU-Proxi on May 24, 2020, OICA presented a proposal on a division of the direct vision requirement between Urban vehicles that are more likely to run in cities and Rural that very seldomly or never enter a city.

Different thresholds should apply for the different vehicle groups.

The proposal is based on a few basic vehicle characteristics and leverage on a similar division done in the EU CO2 Regulations.
• The following N3 vehicles are proposed in the Rural Direct Vision level
  • Tractors >16 t, and
  • Rigid >16 t, when
    • 4x2 >265 kW and sleeper cab
    • 6x2 and sleeper cab
    • 6x4, 8x2, 8x4 >370 kW and sleeper cab, and
  • All wheel drive vehicles, and
  • N3G
• All other N3 vehicles are proposed in the Urban Direct Vision level
Using the CO2 Regulation taxonomy:

<table>
<thead>
<tr>
<th>Vehicle group</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>(6)</th>
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<th>11</th>
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<th>(15)</th>
<th>16</th>
<th>(17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>All</td>
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<td>EMS</td>
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<td>All</td>
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</tr>
</tbody>
</table>

and N3G: Rural
The VRU-Proxi meeting endorsed the proposal.

Stakeholders asked for extra clarification on three parts of the proposal:

1. Is a division needed for tractors, between Urban and Rural groups (5-RD/LH, 10-RD/LH and 12-RD/LH) or can all tractors belong to Rural as proposed?
2. Is a power threshold at 265 kW for 6x2 rigids (9-LH) in Rural group needed, to sort the low-power vehicles to the Urban group instead of the Rural as proposed?
3. Is the EMS power threshold at 370 kW needed to sort heavier rigids (11-EMS, 15-EMS, 16-EMS) to the Rural group?

OICA has investigated those three areas further, using data from connected vehicles in an extended number of countries and concluded that the proposal is a good representation of reality and can be kept as proposed.

We welcome any other evidence if doubts still exist after this presentation.
Direct Vision Differentiation
Real Driving Data
DIRECT VISION – REAL DRIVING DATA

- Data from connected Scania vehicles manufactured in 2017 and later
- Positions from 2019, full year
- Connected vehicles that has produced frequent data (i.e. not all vehicles)
- UK, Germany, Netherlands, France, Sweden/Finland, Spain/Portugal, Australia
- Total time spent per position
- Filter possibility according to proposal on Urban and Rural
N.B. Narrowly defined vehicle groups with relatively small sales volumes cannot always be analysed or presented in heat maps due to privacy and competition regulations.

This set limitations on the analysis and presentation of the three further investigated areas.
Question 1: Is a division needed for tractors, between Urban and Rural groups (5-RD/LH, 10-RD/LH and 12-RD/LH) or can all tractors belong to Rural as proposed?

Sales volumes according to ACEA report on CO2 baseline estimations for Q3 and Q4 2019, indicate production:

- 4x2 tractor: 5-LH to 5-RD = 79 to 1
- 6x2 tractor: 10-LH to 10-RD = 97 to 1

Due to small relative sales volumes of RD tractors, comparison possibilities in heat maps are limited due to privacy and competition

The following heat maps from Spain/Portugal and from Australia are however acceptable and they show that our proposal is usable and do not introduce any risk volumes of vehicles
CLARIFICATION 1. TRACTORS RD/LH

All 4x2 and 6x2 Tractors, sleeper cab >265 kW, i.e. 5-LH and 10-LH

Heat maps almost identical → RD contribution negligible

All 4x2 and 6x2 Tractors, i.e. 5-LH, 5-RD, 10-LH and 10-RD
CLARIFICATION 1. TRACTORS RD/LH

Local traffic: RD
Highway traffic: LH

All 6x4 Tractors day cab, i.e. 12-RD
All 6x4 Tractors sleeper cab, i.e. 12-LH
CLARIFICATION 1. TRACTORS RD/LH

All 6x4 Tractors day cab, i.e. 12-RD

All 6x4 Tractors sleeper cab, i.e. 12-LH

Similar driving pattern → no RD/LH difference

Zoom in Melbourne
CLARIFICATION 2. 6X2 RIGID 265 KW

- **Question 2**: Is a power threshold at 265 kW for 6x2 rigids (9-LH) in Rural group needed, to sort the low-power vehicles to the Urban group instead of the Rural as proposed?
- In the CO2 regulations, there is no power threshold for 6x2 rigids (9-LH), since sales volumes are very small
- *Due to these small relative volumes, privacy and competition regulations limits our analysis possibilities*
- Following heat maps from UK are however acceptable and indicate that the proposed definitions are usable and do not introduce any risk volumes of vehicles
CLARIFICATION 2. 6X2 RIGID 265 KW

All 6x2 Rigid sleeper cab except <265 kW

All 6x2 Rigid sleeper cab, i.e. proposed group Rural (including <265 kW)

Heat maps almost identical
CLARIFICATION 2. 6X2 RIGID 265 KW

All 6x2 Rigid sleeper cab **except** <265 kW

All 6x2 Rigid sleeper cab, i.e. proposed group Rural (including <265 kW)

Heat maps almost identical → <265 kW contribution negligible

Zoom in London
**Question 3:** Is the EMS power threshold at 370 kW needed to sort heavier rigids (11-EMS, 15-EMS, 16-EMS) to the Rural group?

- *Not all groups and countries have been possible to compare in heat maps due to privacy and competition reasons*
- Following heat maps from Sweden/Finland are however acceptable and they make it evident that the proposed division is needed and do not introduce any risk volumes of vehicles
CLARIFICATION 3. EMS 370 KW

All 8x4 Rigids <370 kW or day cab, i.e. 16-non EMS

All 8x4 Rigids >370 kW sleeper cab, i.e. 16-EMS

Local traffic: non-EMS
Highway or Forest: EMS
CLARIFICATION 3. EMS 370 KW

All 8x4 Rigids <370 kW or day cab, i.e. 16-non EMS

All 8x4 Rigids >370 kW sleeper cab, i.e. 16-EMS
Direct Vision Differentiation
Conclusions on Follow-up
• Further analysis of the direct vision division of N3 vehicles has shown that the ACEA/OICA proposal from last VRU-Proxi meeting is valid
  • No division needed for tractors (5-RD/LH, 10-RD/LH and 12-RD/LH)
  • No 265 kW threshold needed for 6x2 rigids (9-LH)
  • The EMS 370 kW power threshold for heavier rigids (11-, 15-, 16-EMS/non-EMS) is evident, therefore needed

N.B. Other categories of vehicles than N3 should be considered separately