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# DVS DIFFERENTIATION TASK FORCE PROGRESS

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# OBJECTIVES

- The options available for the direct vision regulation are:
  - **One size fits all:**
    - Urban focus: Set requirement at high visible volume, benefit in urban areas, disbenefit for long haul
    - Long haul focus: Set requirement at lower visible volume, reduced benefit in urban areas, disbenefit in long haul can be mostly avoided
  - **Differentiated approach:**
    - Aims to optimise approach by providing as high a benefit in urban areas as possible while still avoiding most of any disbenefit in other areas
- Aim of the Direct Vision task force:
  - To develop a proposal for differentiation of truck types into different categories of vision needs, based on the definitions in EU CO2 regulation as a starting point
  - To propose limit values for each category that represent substantial, meaningful and achievable improvements in pursuit of the objective to eliminate blind spots to the greatest extent possible

# CATEGORY A: RATIONALE

- Vehicles that regularly enter urban areas
- TF Proposal: Volume at least consistent with elimination of blind spots between direct and indirect vision and extending as far as possible into the mirror zone
- Justification:
  - Vast majority of relevant collisions occur in dense urban areas
  - Vehicles regularly entering these areas have high exposure to risk
  - Distribution vehicles need chassis height relative to axle mass but less cab floor height relative to chassis
  - Some larger and heavier duty vehicles (e.g. 4 axle rigids often used in construction) do have economic need to enter cities regularly and will require chassis height and increase constraint on cab floor height relative to chassis



## CATEGORY B: RATIONALE

- Vehicles that seldom enter urban areas
- TF Proposal: limit value < urban but still representing substantial improvement
- Justification:
  - Close proximity VRU collisions rare on Long-haul roads
  - In Long Haul
    - chassis height required in relation to axle mass (wheel size, suspension components)
    - Cab height relative to chassis needs to be high to allow package space for power, cooling, alternative power train, & driver living space
    - Result – tall vehicle requiring radical re-design to achieve substantial height reduction
    - First & last Mile plus trunk routes through villages and towns may still bring into occasional risk situations
  - Off-Road
    - The most extreme off road vehicles will almost never operate in dense urban areas
    - All-wheel drive considered the best indicator of ‘extreme’ off road use. Specifying AWD adds substantial cost and mass and always correlates with very high departure angle. It would only be specified if truly needed and it is not needed on urban construction or waste sites
    - Consideration is on-going as to whether a very small group of other N3G without AWD can be added to this group, criteria TBD



## CATEGORY B+: RATIONALE



- Off-road vehicles used in many operations (e.g. forestry or mining) where they do not enter urban areas but also some operations (construction/waste) where they do enter urban areas
- TF Proposal: Category B limit plus  $Z \text{ m}^3$ , ACEA propose  $Z = 1\text{m}^3$
- Justification:
  - Off-Road
    - Much use of N3G vehicles without AWD is in quarries, mining, forestry etc well away from urban areas
    - Usage in urban areas is variable but is significant in some places & likely to depend on economic factors such as proportion of waste coming from construction in cities
    - N3G need more chassis height than long haul (Load + approach, ramp and departure angle)
    - However, N3G don't need as much floor height relative to chassis for packaging and driver living space.
    - Net result – they can achieve better direct vision than long haul for the same cab design improvements

# TASK FORCE PROPOSAL FOR DIFFERENTIATION

Vision Category	Limit Principle	Vehicle type (descriptive)	Vecto Group
A	$Xm^3$	Urban & regional distribution rigids (N2, N3) [Regional Distribution Tractors (N2, N3)] Construction rigids (N2, N3)	0, 1, 2, 3, 4-UD, 4-RD, [5-RD], 9-RD, [10-RD], 11-S, 15-S, 16-S
B	$Ym^3 < X$	Long Haul Tractor units (N3) Long Haul Rigids (N3) Extreme off road (N3G-AWD) [Possibly + small specialist subset of N3G-50% driven TBD]	4-LH, 5-LH, 9-LH, 10-LH, 11-EMS, 15-EMS, 16-EMS, 17
B+	$Y+Zm^3$ ACEA Propose Z=1	Off road vehicles (N3G-50% driven) ) [Possibly - small specialist subset of N3G-50% driven TBD]	Subset of other Vecto groups

# INDIVIDUAL LIMIT VALUE PROPOSALS CONSIDERED

Legal limit based on volume (m<sup>3</sup>)

Category	ACEA/OICA (Applied whole zone) m <sup>3</sup>	VRU Proxi 15-09 Rev 1 (applied separately to each side) m <sup>3</sup>			
		Total	Passenger Side	Front	Drivers Side
A	8.5	11.4	4.8	2.2	4.4
B	6	8.2	3.7	1.8	2.7
B+	7	NA	NA	NA	NA

Illustration of meaning of volume using Average VRU Distance (m)

Category	ACEA/OICA (Applied whole zone) m	VRU Proxi 15-09 Rev 1 (applied separately to each side) m			
		Average distance	Passenger Side	Front	Drivers Side
A	2.0	1.6	2.5	1.7	0.6
B	2.4	1.94	3.0	1.9	0.93
B+	2.3	NA	NA	NA	NA

Note: VRU Proxi Chair also suggested an option of VRU distance 2.5m passenger side, 1.7m front and 1m drivers side in a combined approach, or less stringent requirements if a separated approach

## TASK FORCE COMPROMISE PROPOSAL UNDER DISCUSSION

Category	Whole Volume (m <sup>3</sup> )	Passenger side (m <sup>3</sup> )	Front (m <sup>3</sup> )	Drivers side (m <sup>3</sup> )	Total by side (m <sup>3</sup> )
A	[10]	[3.4]	[1.8]	[2.8]	[8]
B	[7]	[2.6]	[1.4]	[2.1]	[6]
B+	[8]	[3.0]	[1.6]	[2.5]	[7]

- Must demonstrate compliance with two separate sets of limit values
- Limit values themselves were an arbitrary, neutral ‘between the two’ proposal and will be subject to analysis by each party
- Strength: Ensures some minimum standard exists in each direction while still allowing industry limited discretion over how to meet the ‘whole volume’ target
- Weakness: Potential complexity at approval if a different variant is worst case depending on whether overall limit or limit to front, nearside, or drivers side considered.

# CONCLUSIONS & NEXT STEPS

- Broad agreement on:
  - Principles and rationale for differentiation in Long Haul, distribution & N3G
  - Definitions of categories
- Minor work needed on:
  - Confirming category in which Regional Distribution Tractor units will fall
  - Confirming whether special treatment needed for a small subset of specialist N3G is needed and, if so, the definition
- Substantial work needed on limit values
  - Some CPs have made it clear that the Industry proposal does not go far enough for them
  - Industry consider the 'modified Osaka' proposal not to be achievable
  - Further work to more objectively quantify what IS achievable is under way.
  - Initial findings to be separately presented today/tomorrow.