(JAPAN) QUESTIONS & ANSWERS/COMMENTS ON THE EC/EMISIA STUDY ON SOUND LEVEL LIMITS OF M- AND N-CATEGORY VEHICLES	**VEHICLE CATEGORY** **ROAD SURFACE** **PREDICTION MODEL** **TRAFFIC FLOW / CONDITION** **CROSS-MATRIX** **VEHICLE FLEET**

MAIN MESSAGES FROM THE PRESENTATION(S)

- It is important to understand assumptions of traffic conditions on each study for defining a traffic scenario impacting the noise in real life.
- Asking questions and comments to the EMISIA study[1] in order to clarify the assumption or background for traffic noise simulation.
- Findings
  - There are several differences for the conditions of traffic noise calculation among studies.
  - Need consideration below to define a scenario.
    - Reference surface
    - Vehicle categories
    - Vehicle sound model
    - Road type
    - Share of traffic volume for each vehicle category
    - Story for noise reduction in power train/tyre
    - etc.
  - Keep N2 separated by 135kW as a sub-category for sound limit.
- Next steps & goals:
  - Crossmatrix group will make traffic scenario with consideration above.

SUMMARY

- We understood detail conditions for simulation.
  - Road surface data are used by the Netherland database. Reference surface is dense asphalt concrete.
  - Modified CNOSSOS (Common NOise aSSessment MethOdS in Europe – Environmental Noise Directive 2002/49/EC (END)) model was used. Vehicle sound model and correction factor on acceleration phase were used by the Netherland standard.
    wetten.nl - Regeling - Reken- en meetvoorschrift geluid 2012 - BWBR0031722 (overheid.nl)
  - 8 road types are considered. (residential street, main road, arterial road, motorway etc.)
  - 3 category vehicles (light, medium-heavy, and heavy vehicle)

- The EMISIA study[1] proposed the subcategory of N2 separated by 150kW. But GRBP had long discussion in the past when developing the UN Regulation No.51 03, and at that time the conclusion was to have a categorization for the N2 vehicles at 135kW → Taskforce TF-VS agreed to keep 135kW.

ADDITIONAL POINTS FROM DISCUSSIONS IN THE UN TF-VS

- Road traffic noise were calculated on three studies. Their study used difference traffic scenario in main road in each country.

Day % (Night%)

Vehicle	EMISIA	Japan	ATEEL
Light (C1)	93.1% (89.6%)	78.6~89.7% (35.6~53.2%)	M1,N1 96.1% (97.9%)
Mid-heavy (C2)	3.4% (4.2%)	19.5~29.6% (44.8~63.6%)	M2,N2 2.9% (0.8%)
Heavy (C3)	3.5% (6.2%)		M3,N3 1.2% (1.3%)

Category(ies) of vehicle: M & N

REFERENCES
- TFVS-10-06 (Japan): Questions to Study on sound level limits of M-and N-category vehicles on TFVS-09-06 (Crossmatrix subgroup) - Status 1st work package crossmatrix and TFVS-07-11 (EC/EMISIA): Study on sound level limits of M- and N-category vehicles ➔ [1] full report, https://op.europa.eu/en/publication-detail/-/publication/d23a63bc-8310-11ec-8c40-01aa75ed71a1/language-en - TFVS-10-07 (Japan): Comment for the N2 category threshold - TFVS-11-03 (EC Consortium): Answer to TFVS-10-06 - TFVS-07-03 & TFVS-07-04 (OICA/ATEEL): report & presentation of the OICA/ATEEL study