



P R E S E N T A T I O N O F



INTERNATIONAL ORGANIZATION OF MOTOR VEHICLE MANUFACTURERS

Informal document No. GRB-52-04
(52nd GRB, 06-08 September, agenda item 3.a)

Noise Emission of Moving Vehicles in Urban Areas

**Proposal for Change of the Wording in §2.2.2
for the Tyres to be Used for the Test**

ECE R51.02 Method B

52nd GRB

Geneva, 06-08 September 2010

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Conclusion

(Informal document No. GRB-51-20)

➤ **The new noise test method for HCV according to ISO 362-1:2007 is designed under the circumstance that tyre road noise can be neglected**

Because:

➤ **The tyre road noise contribution for HCV during driving in urban areas is of no importance according to all studies made**

➤ **The new noise test procedure for HCV according to ISO 362-1:2007 is rather sensitive to the choice of the tyres**

➤ **The new noise test method for HCV according to ISO 362-1:2007 addresses the most important noise sources during driving in urban areas by the WOT test**

Original Version ECE R51.02 Method B

2.2.2. The tyres to be used for the test shall be representative for the axle and shall be selected by the vehicle manufacturer and recorded in Annex 9. They shall correspond to one of the tyre sizes designated for the vehicle as original equipment. The tyre is or will be commercially available on the market at the same time as the vehicle 2/. The tyres shall be inflated to the pressure recommended by the vehicle manufacturer for the test mass of the vehicle. The tyres shall have a tread depth of at least 80 per cent of the full tread depth.

2/ The tyre contribution for overall sound emission being important, this Regulation has taken into account the tyre/road sound emission regulations. Snow tyres and special tyres according to UNECE Regulation No. 117 shall be excluded during type-approval- and COP-measurements on request of the manufacturer.

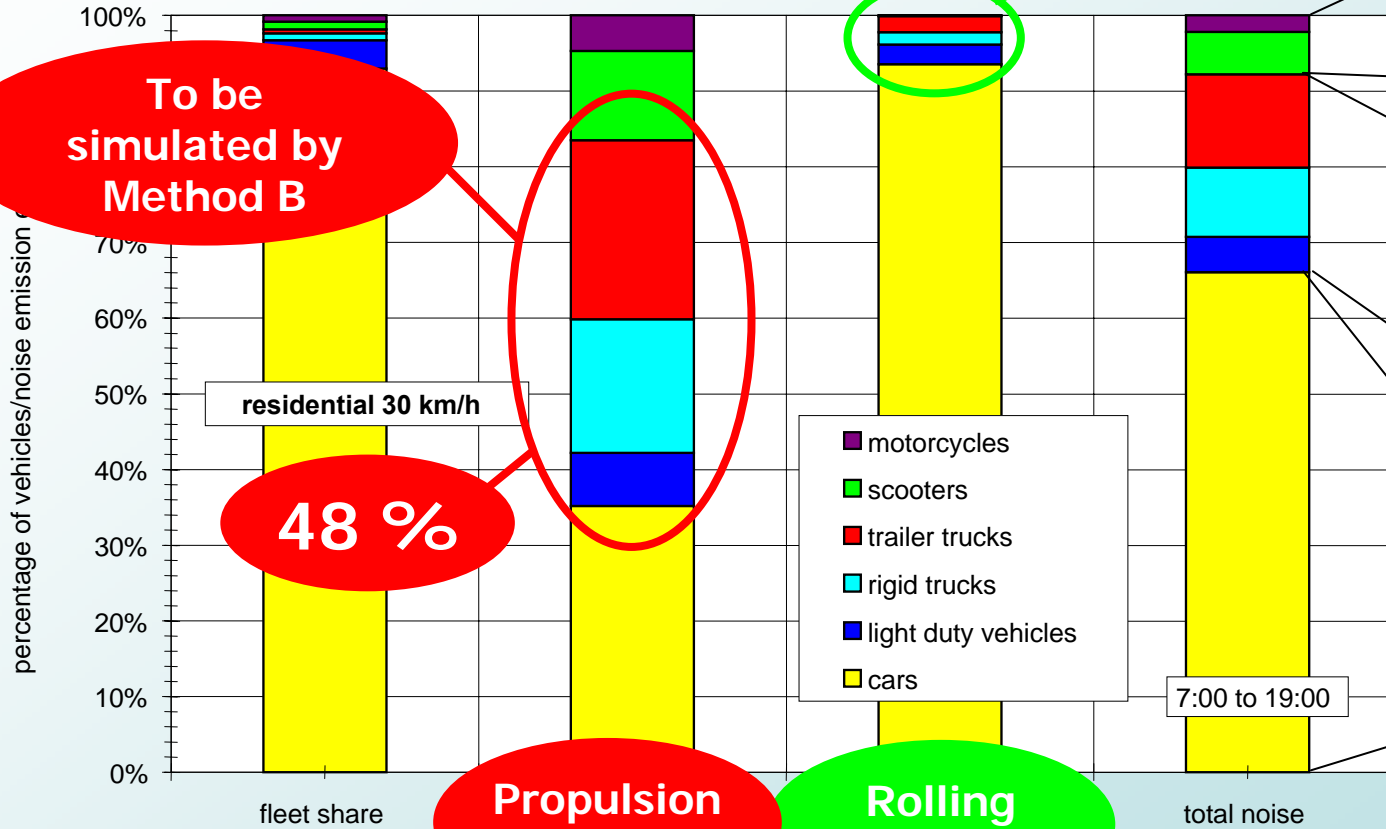
Proposal for a Change

2.2.2. The tyres to be used for the test shall be representative for the **vehicle** and shall be selected by the vehicle manufacturer and recorded in Annex 9. They shall correspond to one of the tyre sizes designated for the vehicle as original equipment. The tyre is or will be commercially available on the market at the same time as the vehicle 2/. The tyres shall be inflated to the pressure recommended by the vehicle manufacturer for the test mass of the vehicle. The tyres shall have a tread depth of at least 80 per cent of the full tread depth.

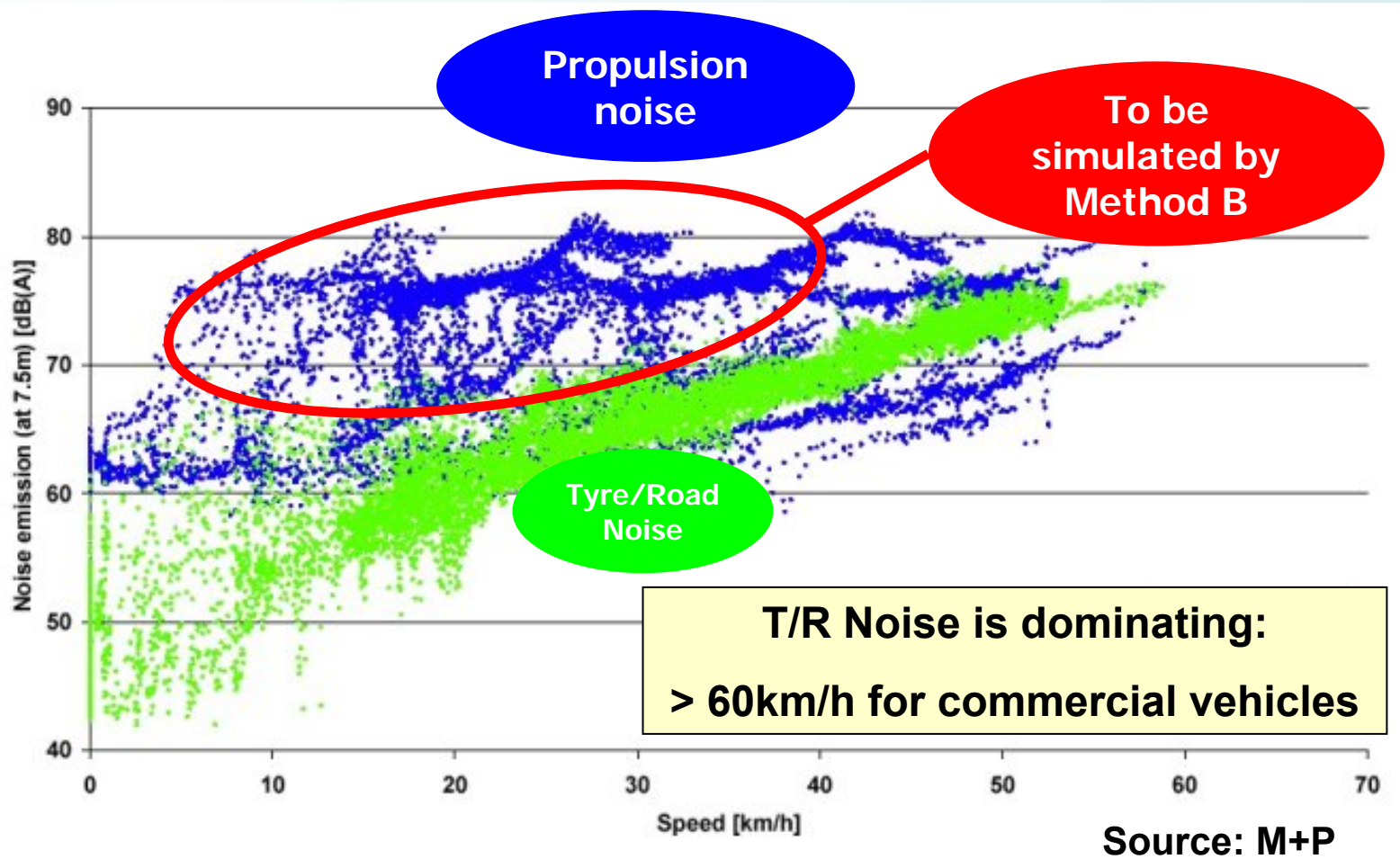
2/ The tyre contribution for overall sound emission being important, this Regulation has taken into account the tyre/road sound emission regulations. **Traction tyres, snow tyres and special use** tyres according to UNECE Regulation No. 117 **as amended by the 02 series of amendments (2010)** shall be excluded during type-approval- and COP-measurements on request of the manufacturer.

Noise Emission in Real Traffic (residential areas)

EU-Projekt WG8 Traffic Noise Calculation Study (TRL & RWTÜV 2004)

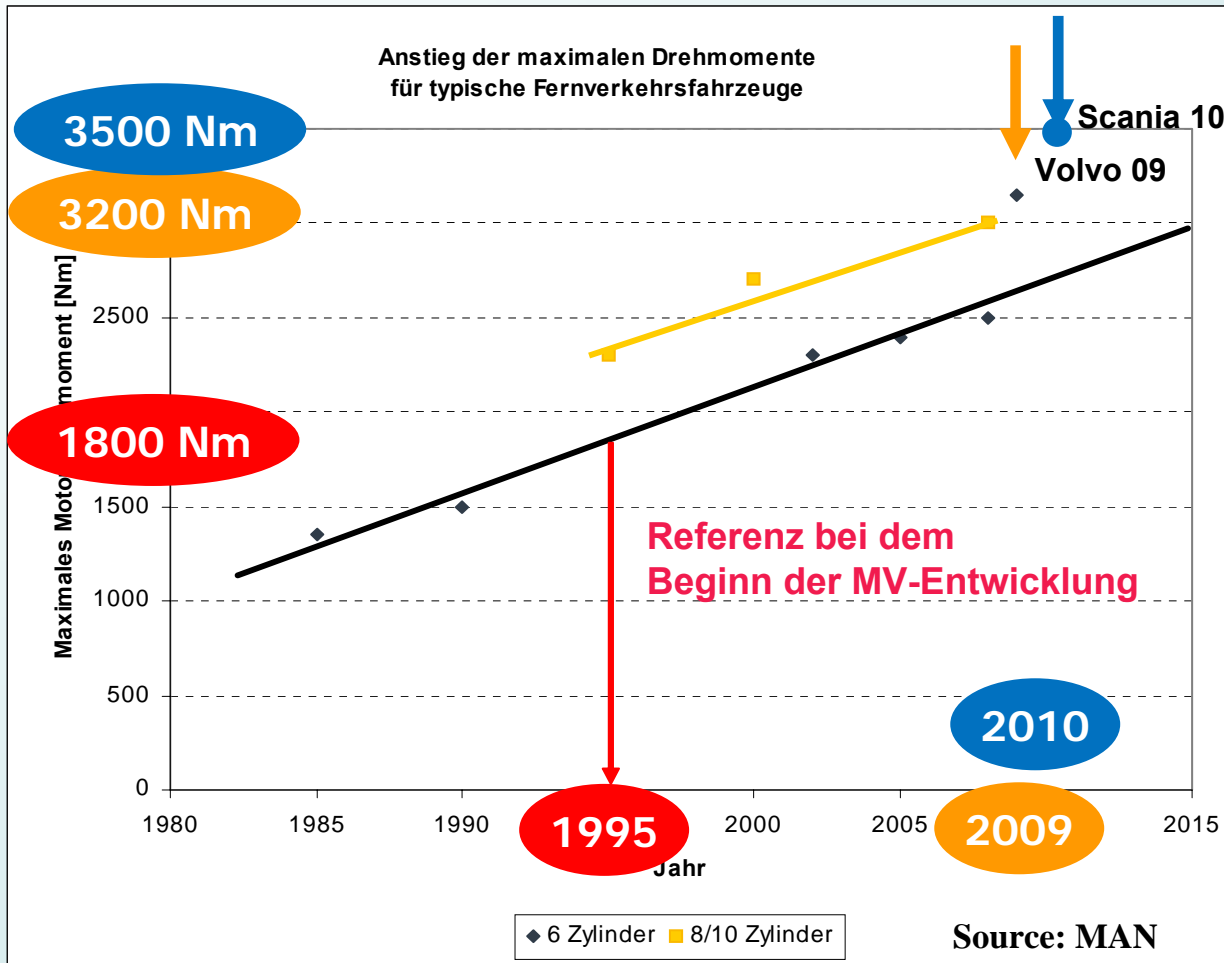


Noise Emission in Real Urban Traffic (0 km/h to 60 km/h)



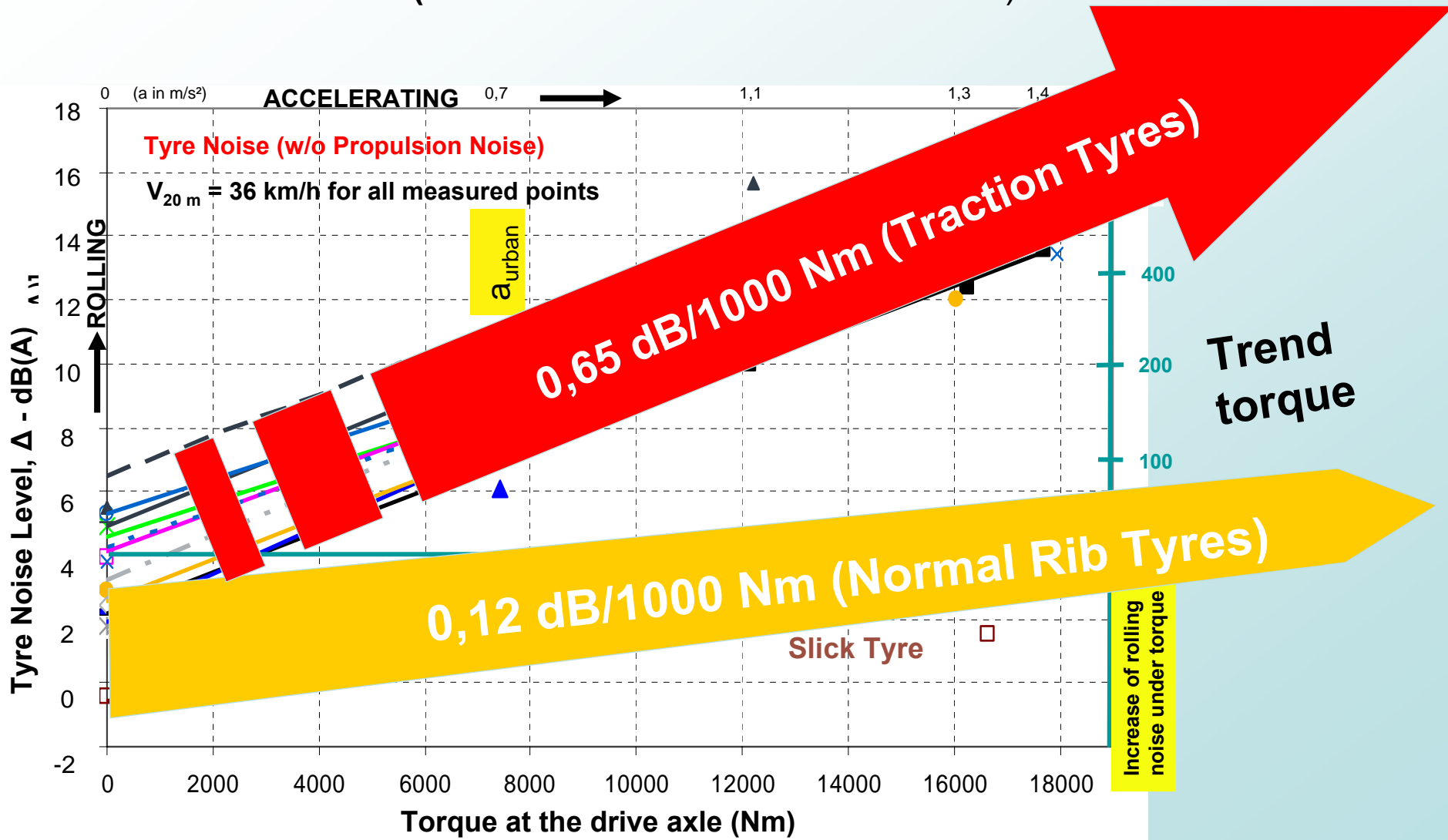
Change of Engine output (power, torque)

for typical long haulage trucks (1980 – 2010)



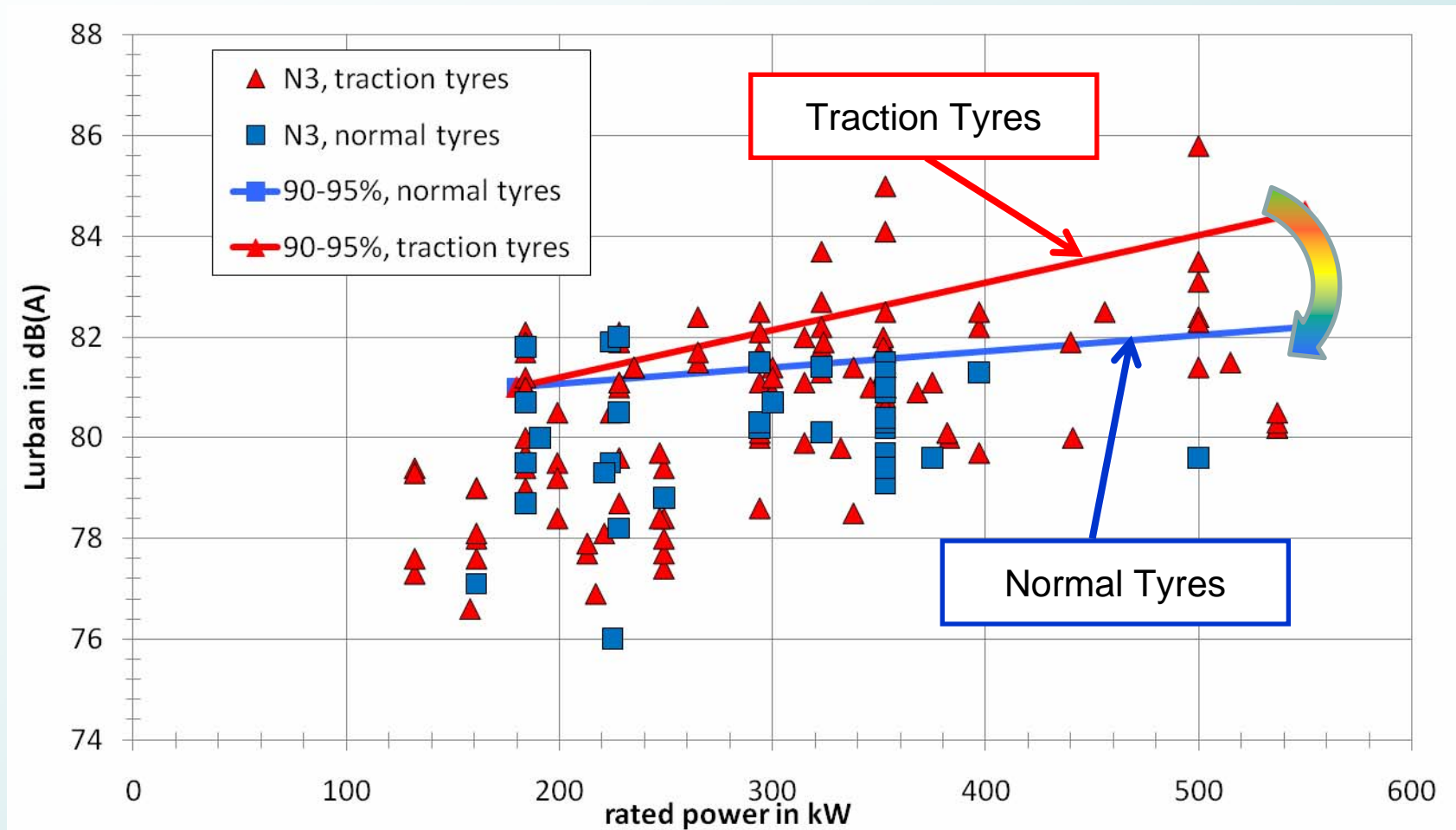
Influence of torque at 20 m

(Informal document No. GRB-51-20)



Comparison: Traction Tyres vs Normal Tyres

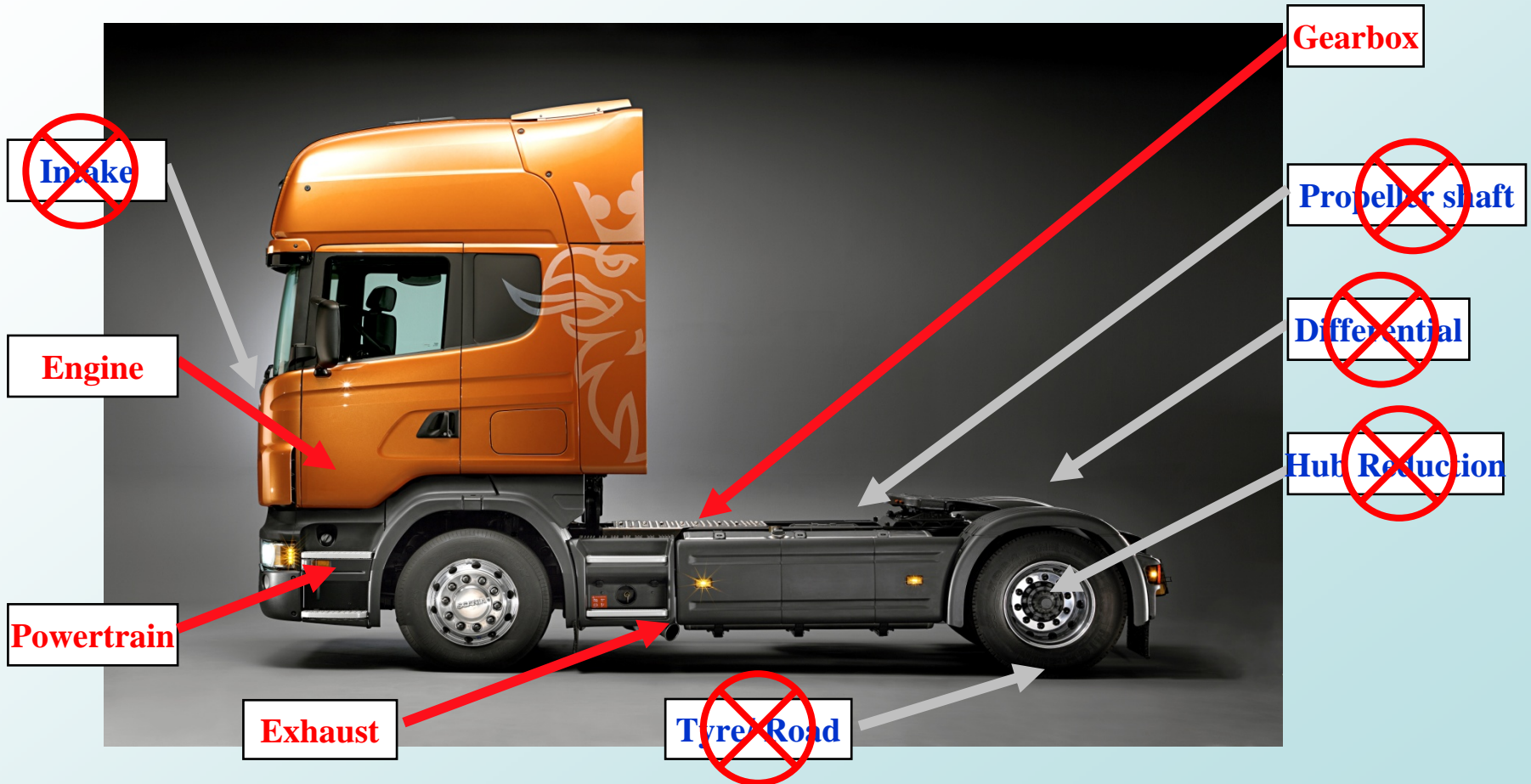
Analysis: 90% to 95% range of frequency distribution



Source: ACEA, Data delivered to EC monitoring data base during monitoring period 2007-2010

Noise Emission of HCV in Urban Areas

Most important noise sources
simulated by Method B



Proposal for a Change

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REFERENCES

- **Investigations on Improving the Method of Noise Measurement for Powered Vehicles (Report Number 10506067 by order of the Germany Federal Environmental Agency, August 1999, Steven, H.)**

- **EU-Project WG8 Traffic Noise Calculation Study (TRL & RWTÜV 2004)**

- **Investigation on Noise Emission of Vehicles in Road Traffic (TÜV Nord 2005)**

- **Informal document No. GRB-51-20 (OICA 2010)**