

Informal document **GRB-54-15**
(54th GRB, 19-21 September 2011,
agenda item 3(b))

Kei-truck of N1



19-21 September 2011

JASIC

Summery

Background

- Kei trucks are unique vehicles in Japan. They are used mainly on agriculture or transportation of goods etc..
- There are not data in European database.

Key Point of Proposal

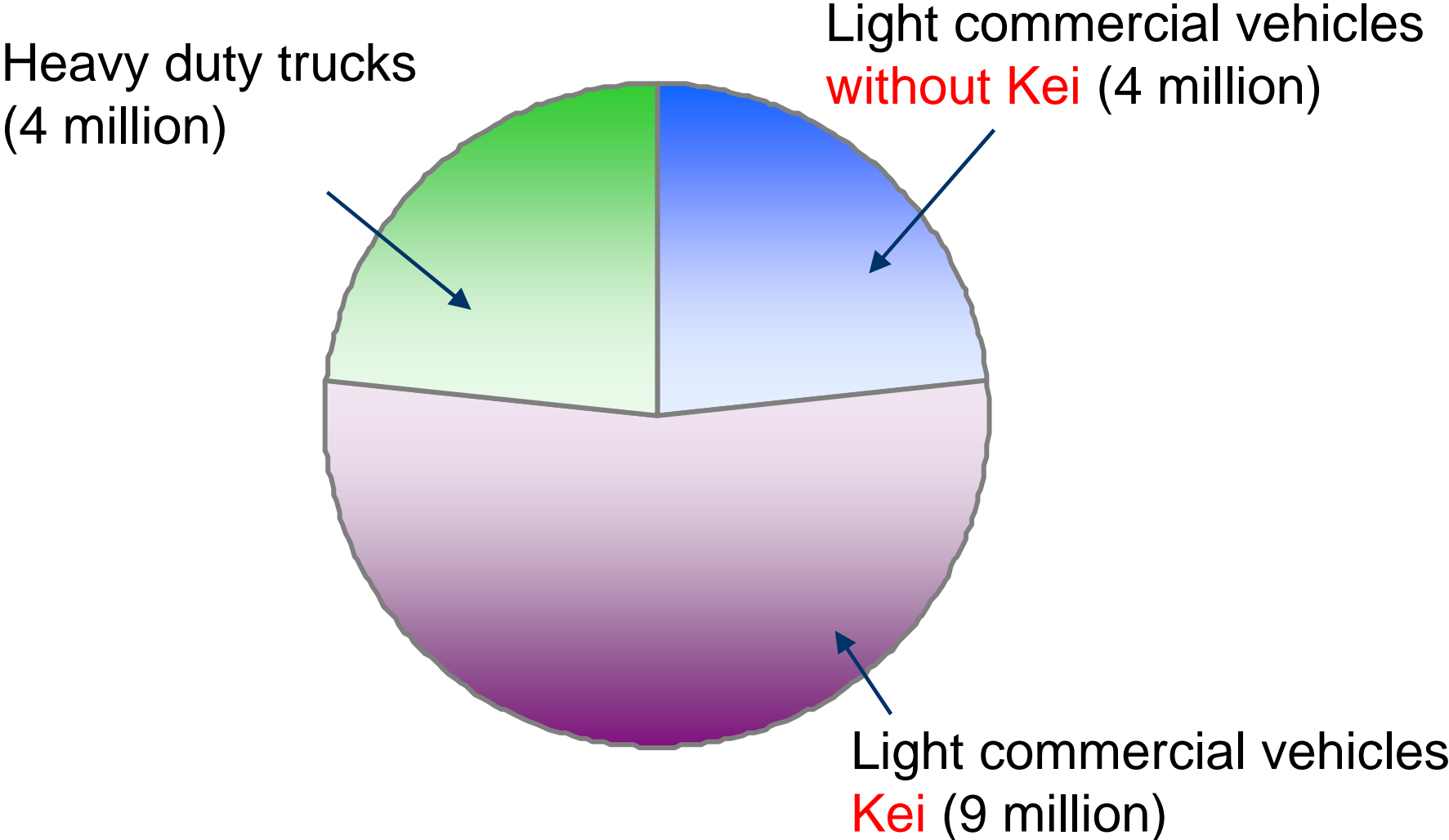
The vehicle structure and the vehicle sound level of Kei N1 are different from those of light N1. Therefore the sub category for Kei N1 should be defined within light N1. The proposed border is “PMR(GVM)<35”.

Specification for Kei car

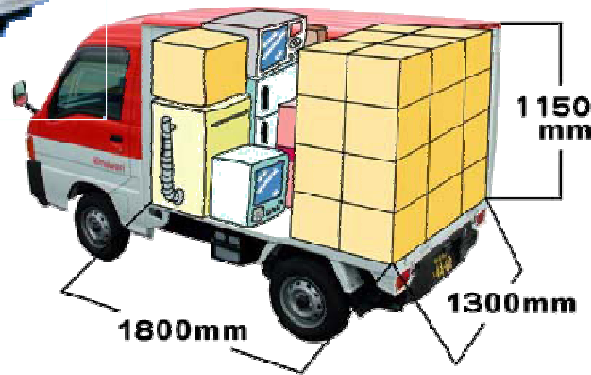
Limited specification

- Vehicle length: < 3.40 m
- Vehicle width: < 1.48 m
- Vehicle height: < 2.00 m
- Engine displacement: < 660 cc

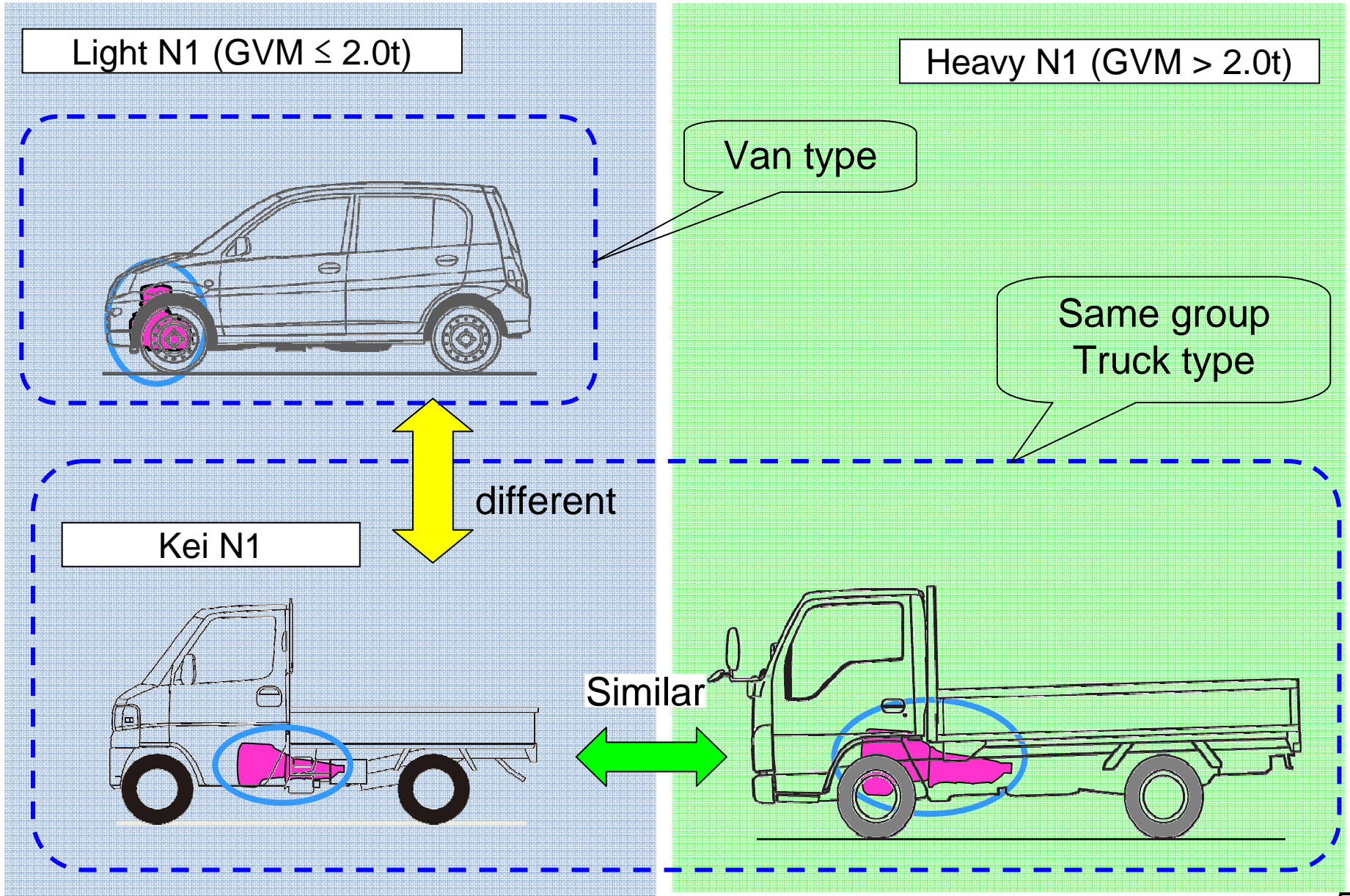
The number of vehicles owned for commercial vehicles in Japan



Usage of Kei truck

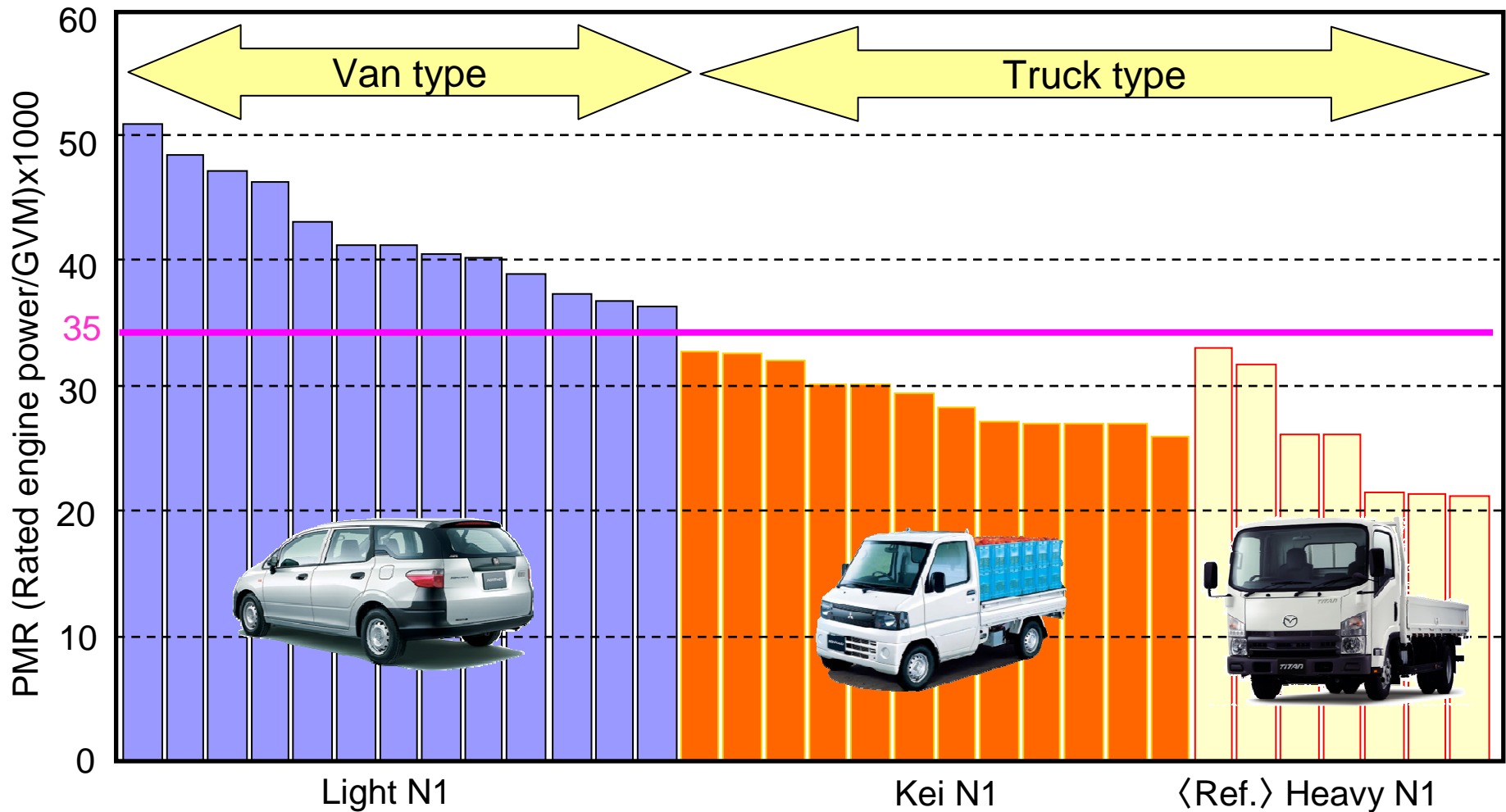


Difference between van and truck



Power to Mass(GVM) Ratio

Kei N1 should be separated from Light N1 by “PMR(GVM) ≤ 35 ”.



N1 exemption from ASEP




PMR(GVM) \leq 35 is used in the text in ASEP for R51

“6.2.3. Additional sound emission provisions
... intended especially for non-lockable transmissions with variable gear ratios (CVT).

Vehicle of category N1 are exempted from ASEP if one of the following conditions is fulfilled:

- The driver's R point is either forward of the front axle or longitudinally rearwards of the front axle transverse centre line by a maximum of 1100 mm.
- The engine capacity is not exceeding 660 cc and the power-to-mass ratio PMR calculated by using the maximum authorized vehicle mass is not exceeding 35.
- The payload is at least 850 kg and the power-to-mass ratio PMR calculated by using the maximum authorized vehicle mass is not exceeding 40.

Sub categories for N1

category		vehicles
GVM \leq 2.0t or GVM \leq 2.5t	PMR \leq 35 (\leq 660cc)	Kei N1 
	PMR $>$ 35	Light N1 
GVM $>$ 2.0t or GVM $>$ 2.5t	-	Heavy N1 

Sound level for Method B from the TNO report

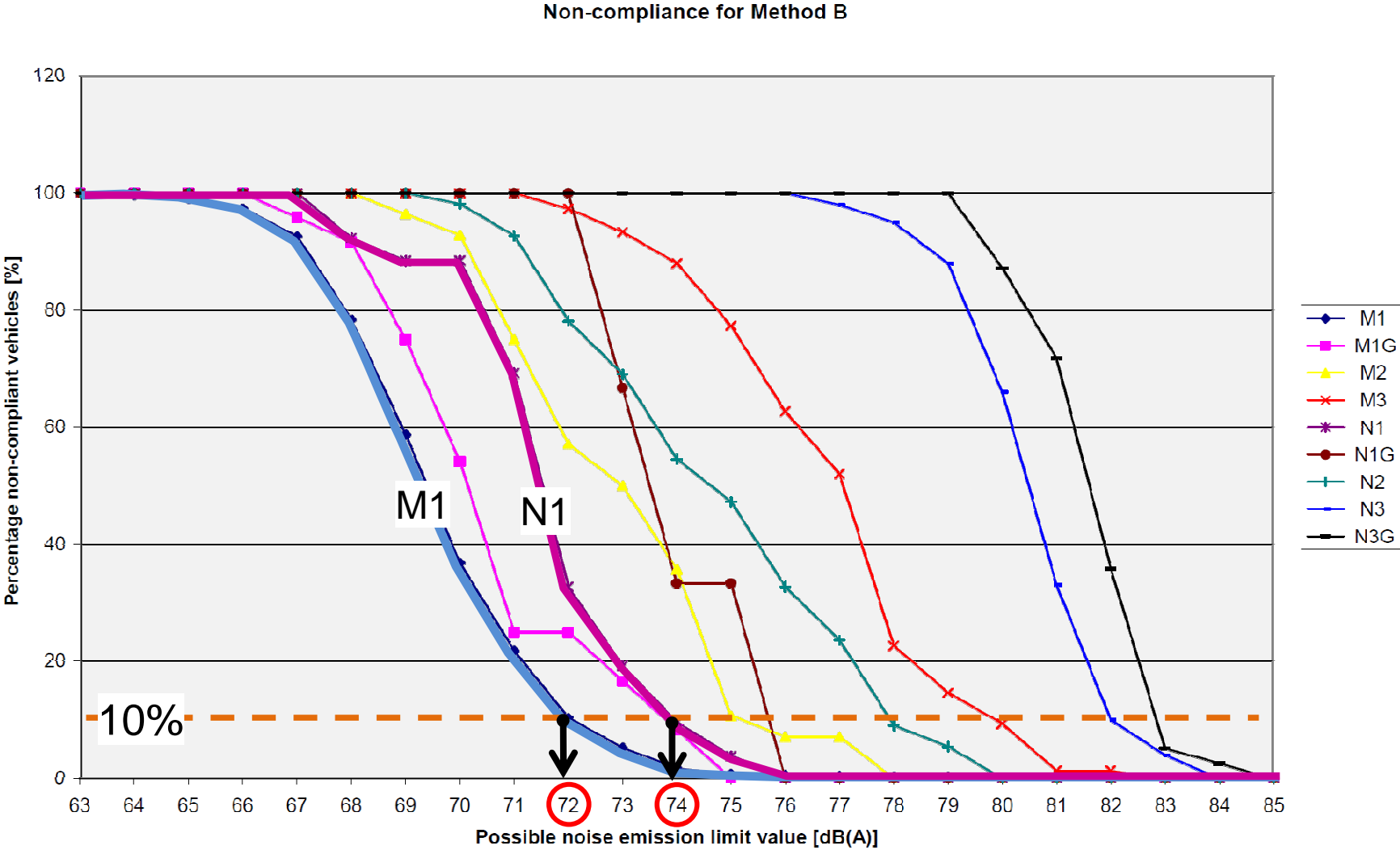
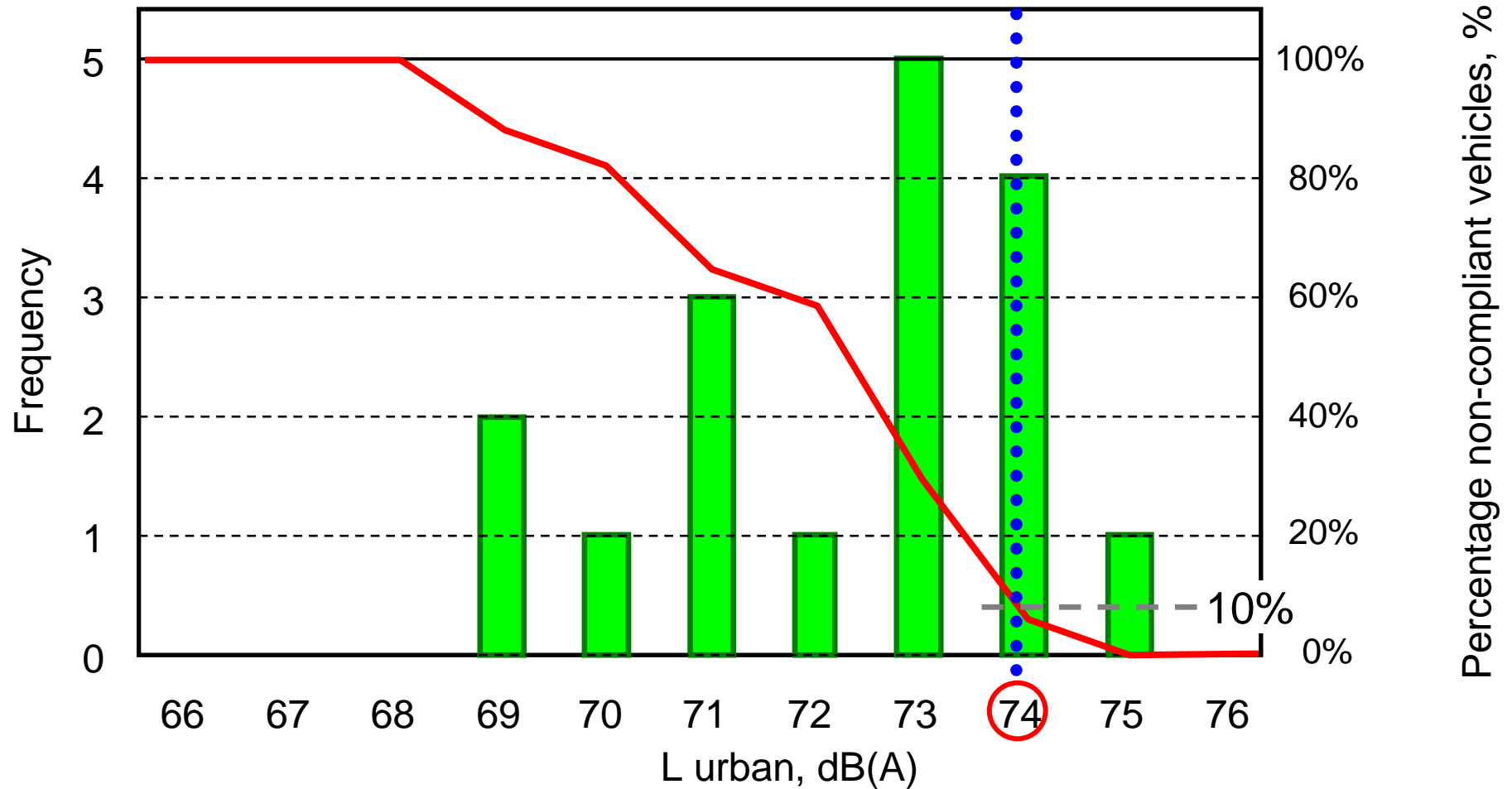


Figure 37 - Graphic presentation of the percentage of vehicles that would not satisfy a certain limit value, based on the results of test method B.

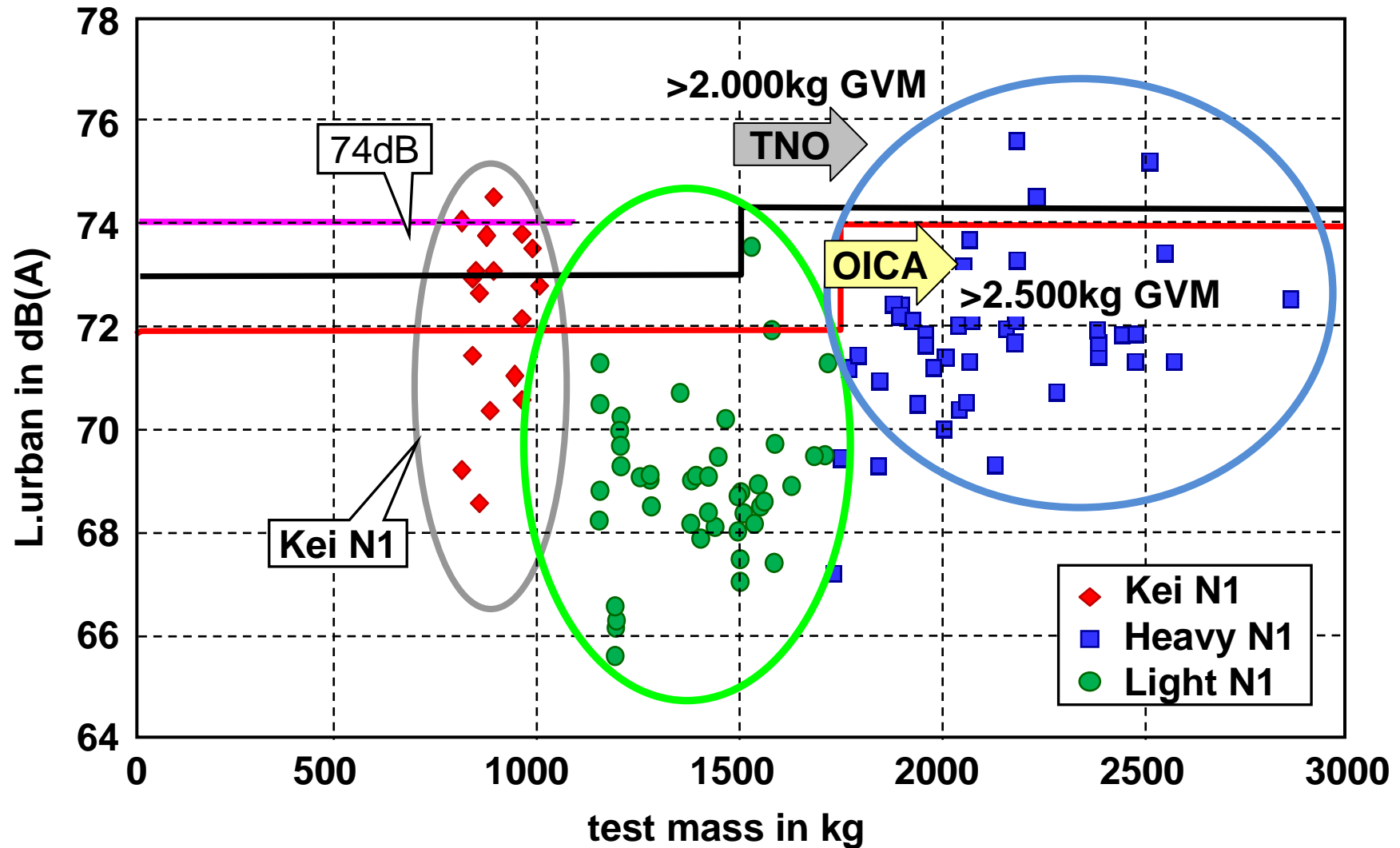
Distribution of Kei N1 sound level on Method B

10% cut off level is 74dB(A).



Sound level for Kei N1 on Method B

Sound level for Kei N1 on Method B is different from that of Light N1.



Conclusion

The vehicle structure and the vehicle sound level of Kei N1 are different from those of light N1.

Therefore,

- the sub category for Kei N1 should be defined within light N1. The proposed border is “PMR(GVM)<35”.
- The limit value of Kei N1 should be same as that of heavy N1 since the 10% cut off sound level for Kei N1 is 74 dB(A) and same sound level of heavy N1.