

# **A noise label for motor vehicles: towards quieter traffic**

Johan Sliggers

Ministry of Infrastructure and the Environment  
The Netherlands

GRB 61, Januari 2015

Presentation informal doc GRB-61-01

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# Introduction

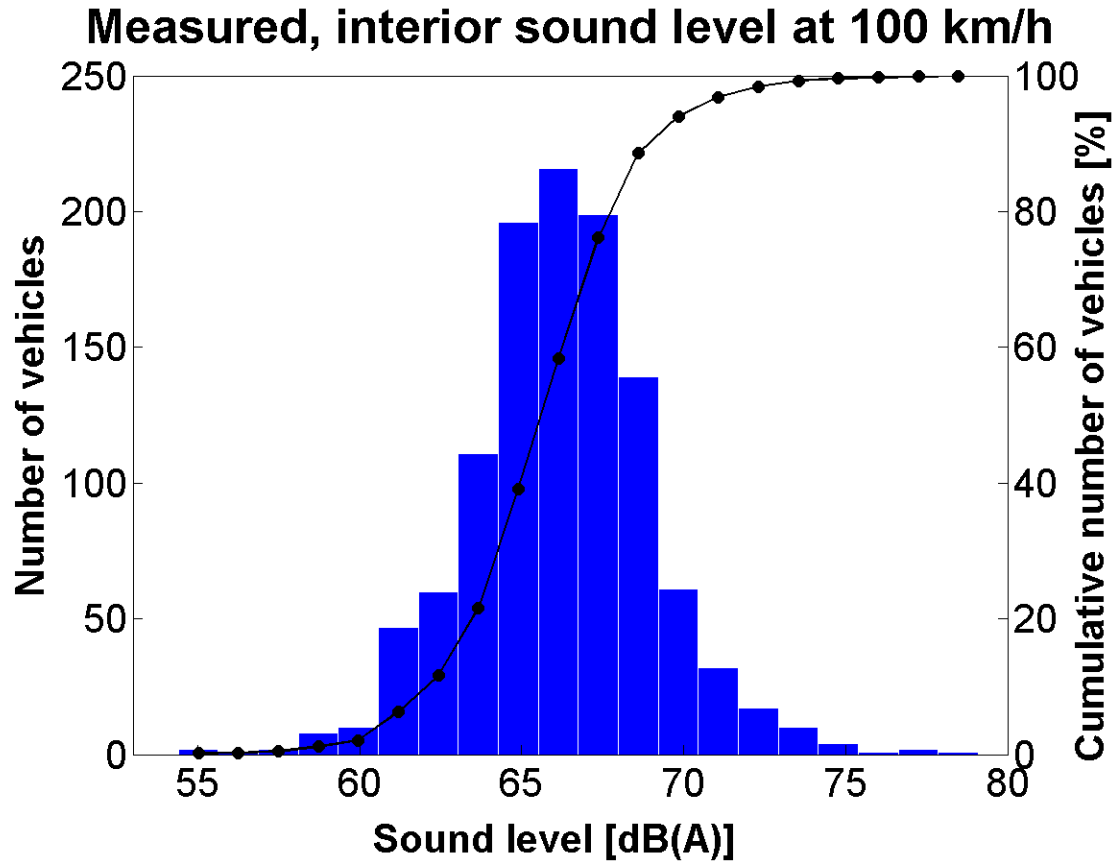
- Advantages
- Interior-external noise
- Discussion document

# Basic principles

- Interior-external noise
- Other vehicle categories
- Whole vehicle type approval
- Interior-external, equal weight
- KISS

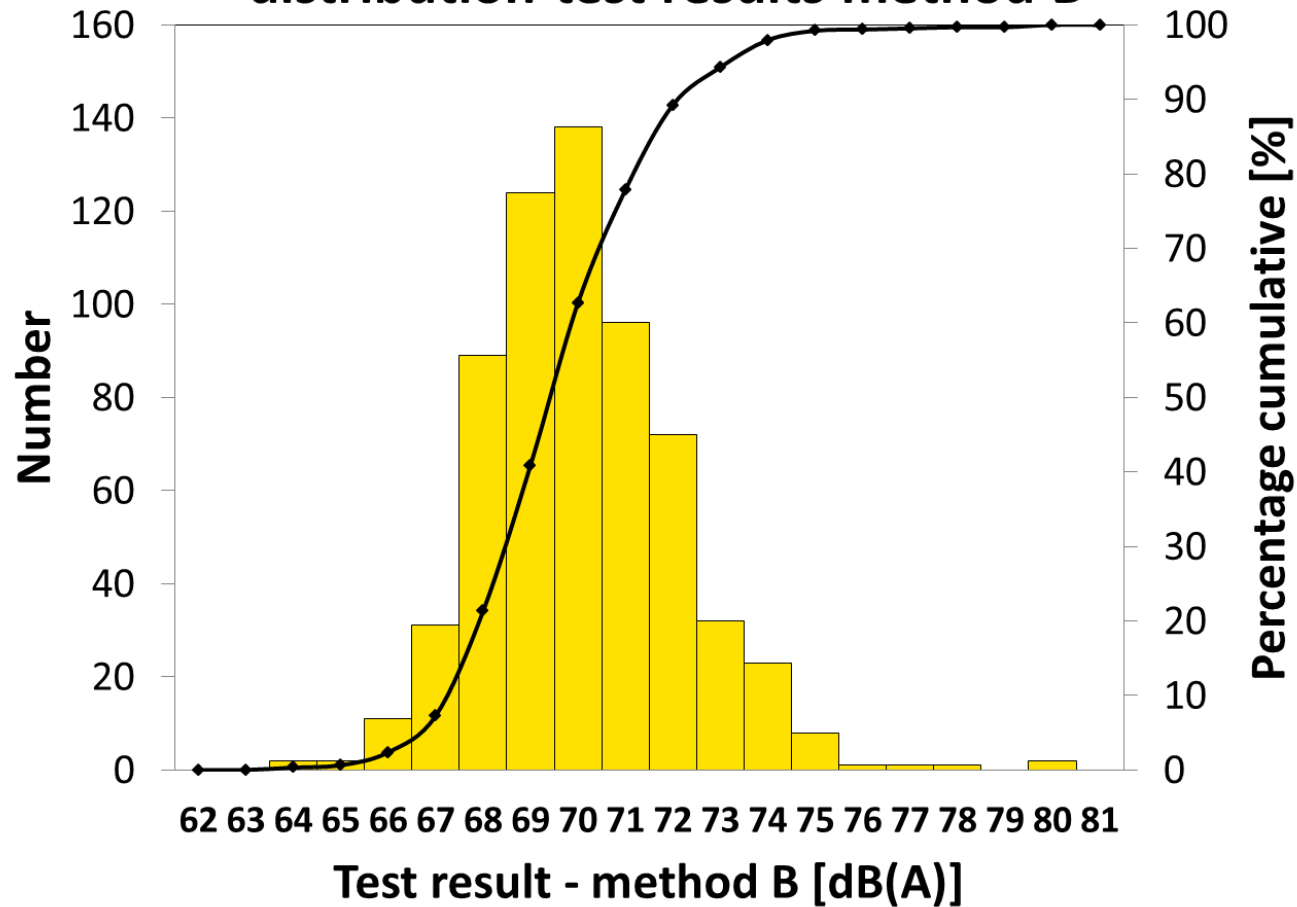
# A possible noise label for vehicles

- Points rating for private cars
  - Interior noise
  - Powertrain noise
  - Tyre noise



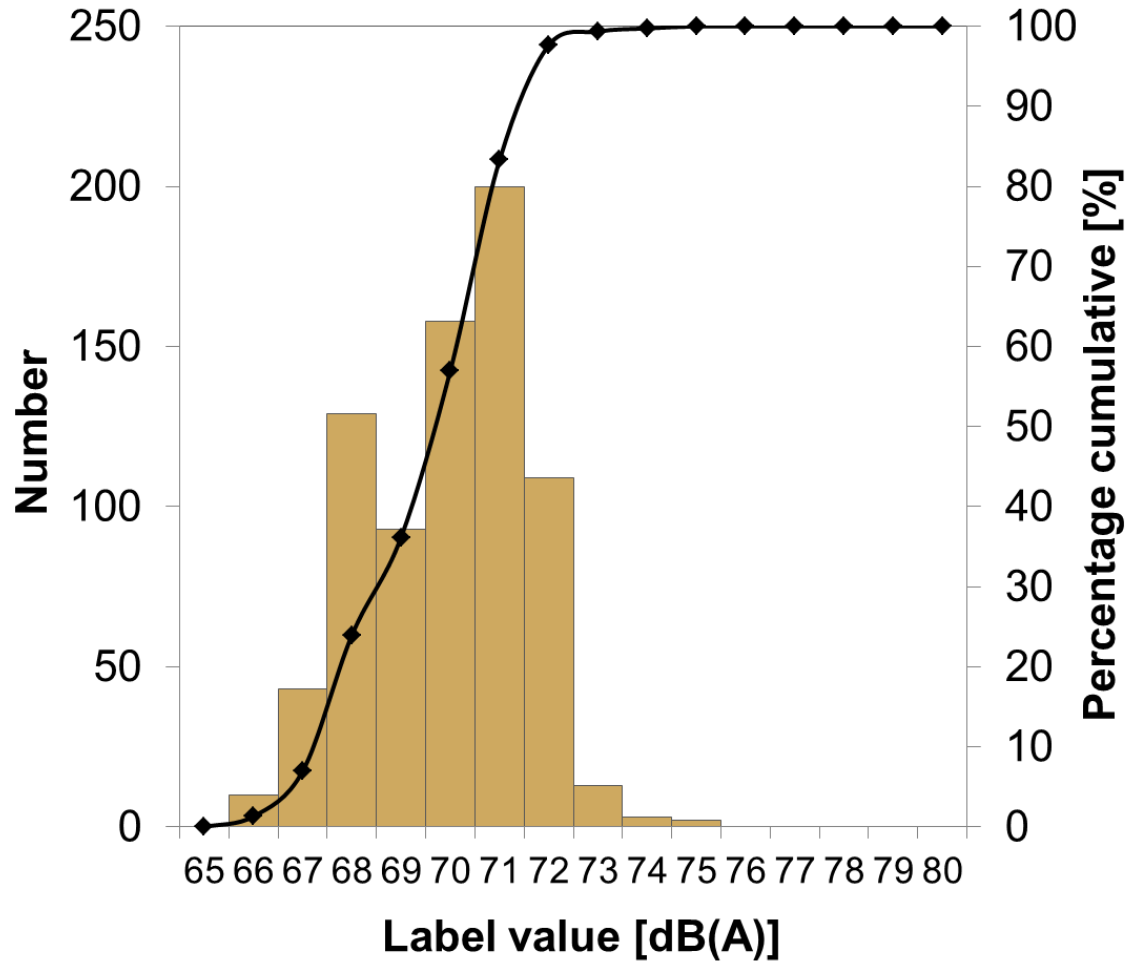
***Distribution of measured interior noise levels for passenger vehicles (category M1) at steady speed of 100 km/u***

## Vehicle category M1; distribution test results method B



*Distribution of test results for vehicles in category M1, as measured using the new method ('B') established by the Regulation on the sound level of motor vehicles*

### Tyre category C1; distribution noise label values



***Distribution of noise label values for category C1  
tyres sold in the Netherlands in 2013***



# *Points scores for the noise rating of passenger vehicles (category M1)*

Type of Noise	0 pnts	1 pnt	2 pnts	3 pnts	4 pnts	5 pnts
Interior	> 72-72 dB	71-70 dB	69-68 dB	67-66 dB	65-64 dB	<64 dB
Powertrain	72 dB	71-70 dB	69-68 dB	67-66 dB	65-64 dB	<64 dB
Tyre	74-73 dB	72-71 dB	70-69 dB	68-67 dB	66-65 dB	<65 dB

<b>Noise label</b>	<b>Points total</b>	<b>Description of quality</b>
A	14-15	Excellent
B	12-13	Good
C	10-11	Fair
D	8-9	Satisfactory
E	6-7	Moderate
F	4-5	Noisy
G	0-3	Extremely noisy

***Model for a possible noise label for passenger vehicles***

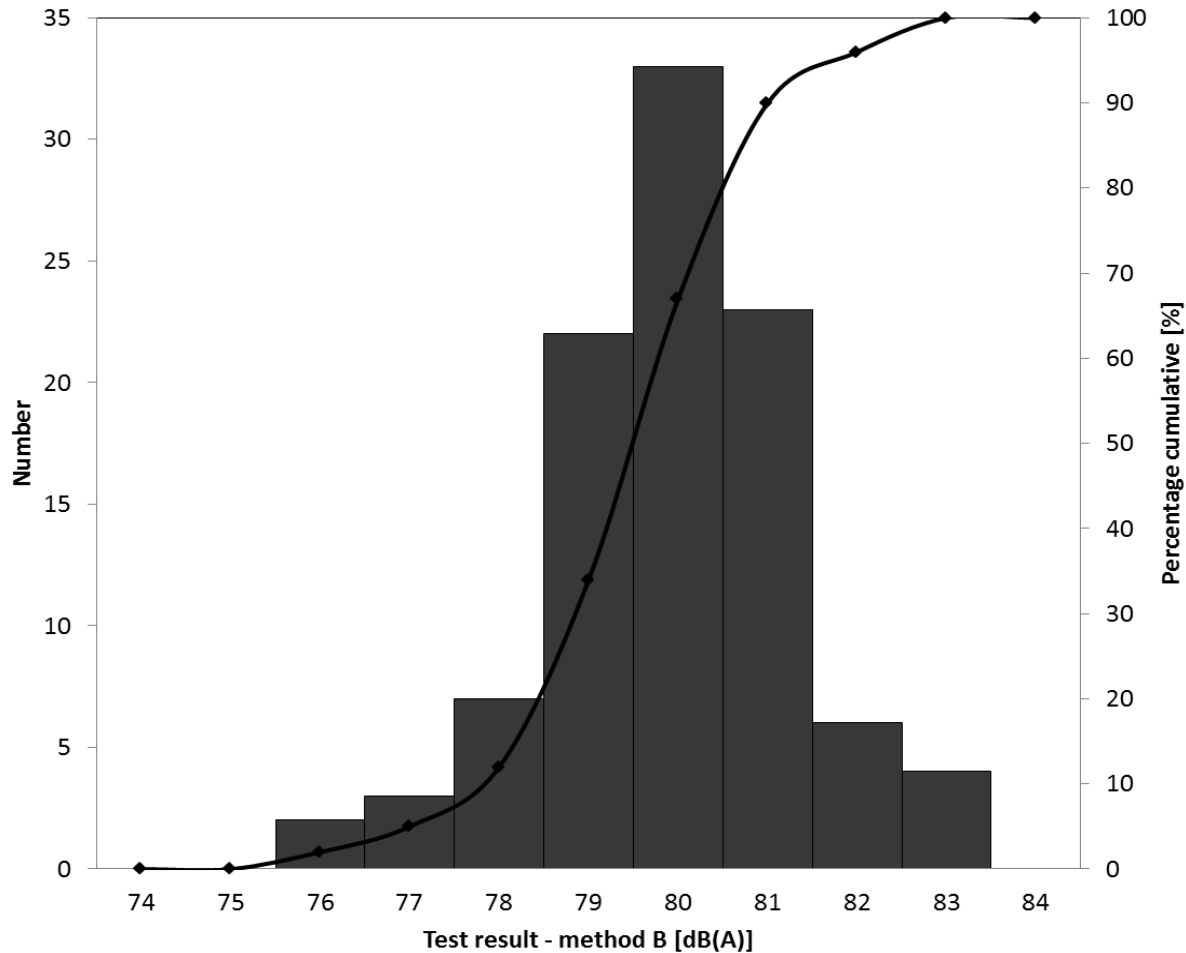
<b>Gurka S</b>	<b>Interior (69 dB)</b>	<b>Powertrain (68 dB)</b>	<b>Tyre (66 dB)</b>
<b>Label D</b> <b>Satisfac.</b> <b>8 pts</b>	Insufficient <sup>a</sup> 2 pts	Insufficient <sup>a</sup> 2 pts	Good <sup>a</sup> 4 pts
Remarks: In terms of noise emissions, this model is average for its type and class.	At 100 km/h, the interior noise level is 3 dB above the baseline <sup>b</sup> .	The engine and exhaust system produces 4 dB above the baseline <sup>b</sup> .	These tyres are quiet tyres, 4 dB lower than the baseline <sup>b</sup> .
<sup>a</sup> Score in each sub-category: 5 = Excellent; 4 = Good; 3 = Satisfactory; 2 = Insufficient; 1 = Bad <sup>b</sup> A difference of -3 dB represents a 50% reduction in the emission of acoustic energy.			

### **Model for a noise label for a fictitious car**

# Other vehicle categories (1)

- M2-N3
- Interior noise
- Powertrain noise

**Vehicle category N3; distribution test results method B  
without traction tyres**



**Distribution of test results for vehicles in categories N3,  
as measured using the new 'B' method of the  
Regulation on the sound level of motor vehicles<sup>1</sup>**

<b>Vehicle category</b>	<b>Regulation limits</b>	<b>0 pts</b>	<b>1 pt</b>	<b>2 pts</b>	<b>3 pts</b>	<b>4 pts</b>	<b>5 pts</b>
<b>M2</b>	69-72 dB	72 dB	71 dB	70 dB	69 dB	68 dB	<68 dB
<b>M3</b>	73-77 dB	77 dB	76 dB	75 dB	74 dB	73 dB	<73 dB
<b>N1</b>	69-71 dB	71 dB	70 dB	69 dB	68 dB	67 dB	<66 dB
<b>N2</b>	74-75 dB	75 dB	74 dB	73 dB	72 dB	71 dB	<71 dB
<b>N3</b>	76-79 dB	79 dB	78 dB	77 dB	76 dB	75 dB	<75 dB

***Emission limits for motor vehicles (phase 3) of the Regulation on the sound level of motor vehicles, and possible points scores for powertrain noise in vehicle categories M2-N3***

# Other categories (2)

- Tyre noise
- Distribution C2 and C3 and tyre limits

Type of tyre	Regulation limits	0 pts	1 pt	2 pts	3 pts	4 pts	5 pts
<b>C2</b>	72 and 73 dB	72-73 dB	71 dB	70 dB	69 dB	68 dB	<68 dB
<b>C3</b>	73 and 75 dB	73-75 dB	72 dB	71 dB	70 dB	69 dB	<69 dB

***Emission limits for tyre noise of the Regulation on general safety of motor vehicles and possible points scores to support a noise label for vehicles in categories M2-N3***



# Discussion/attention points

- Demand for vehicle noise labels
- Clean, Quiet and Economical
- Six labels!
- Dynamic scoring system
- Noise level
- Opportunities
- GreenNCAP
- Integrate later !!!!!