

Road Traffic Noise 1996, Basic Noise Levels

SP Net info 55

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According to Road Traffic Noise – Nordic Prediction Method TemaNord 1996:525 (RTN96) the basic noise levels LAE and LAFmax depends on the speed and vehicle flow. In the Road properties window of SoundPLAN the basic emission levels can be keyed in directly if you happen to know the values. This is rarely the case so default ‘Calculated’ is activated, and the program will calculate the emission from the number of light and heavy vehicles and their speed (plus gradient and road surface correction).

In the final report on RTN96 the basic levels are defined for light vehicles travelling at speed between 30 km/h and 130 km/h. For heavy vehicles, the range is 30 km/h to 90 km/h, see Fig 1. It is not stated clearly in the report what to do, if the speed exceeds 130 km/h and 90 km/h respectively. For example, when dealing with heavy vehicles it is stated: ‘If needed, which is unlikely, it could probably be extended to speeds above 90 km/h’.

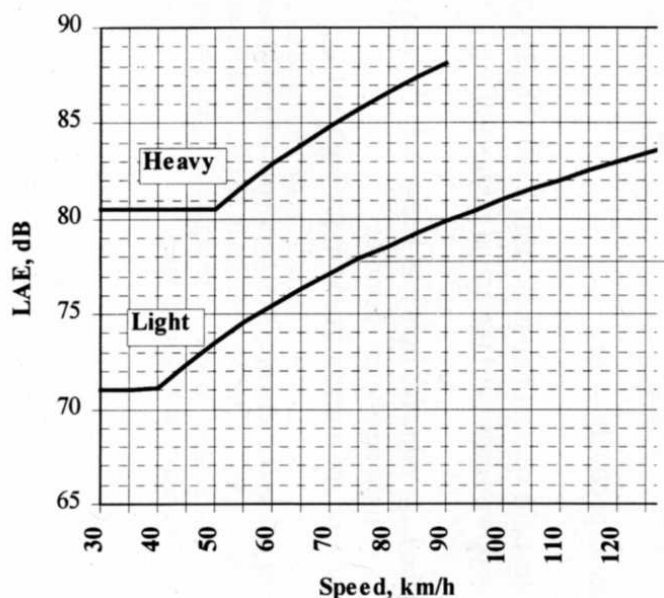


Fig 1 Basic noise expose level LAE vs speed

In 1996 when the report was written it was ‘unlikely’ to go beyond the stated speed range. In the first implementation of RTN1996 in SoundPLAN the producer stuck strictly to the algorithms and the charts in the document, meaning that if you keyed in a speed e. g. 100 km/h for heavy vehicles the basic level was automatically adjusted to the max level stated in the report (LAFmax5%,10m = 85,9 dB).

However, the traffic changes and soon it became relevant to deal with speeds beyond these limits. The producer of SoundPLAN has decided that the most sensible thing to do is to ‘extrapolate the curve’ beyond 130 km/h and 90 km/h respectively. This workaround was introduced with SoundPLAN 6.2.