

Assessment of road noise in Finland

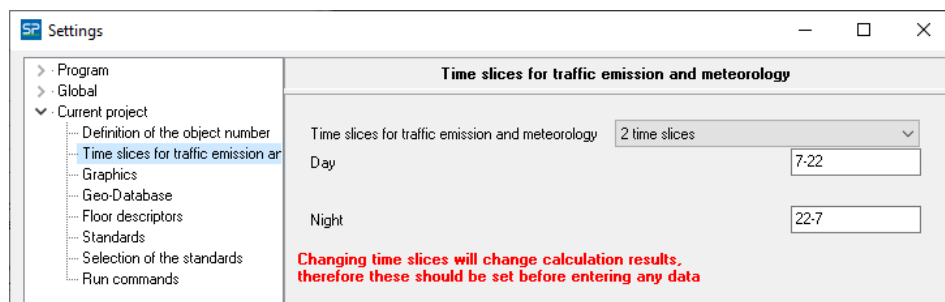
SP Net info 64

Uploaded: 29.09.2005
 Latest revision: 18.05.2020

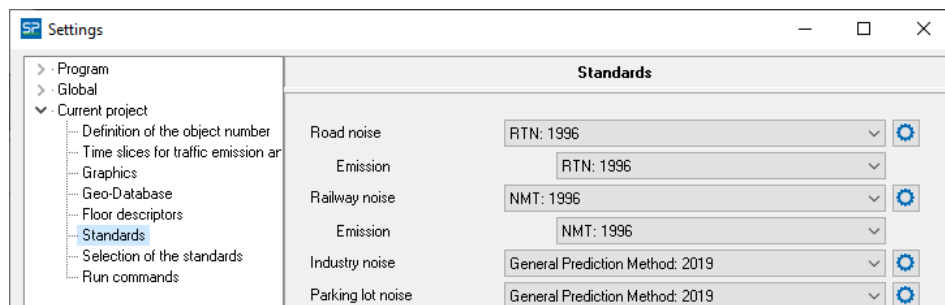
This Net info is mainly addressed to our Finnish customers. But it might be useful to anybody, who wants to learn more about how to use the road day histogram and how SoundPLAN assesses the calculation result.

In Finland road noise is expressed in terms of the day level $L_{Aeq(07-22)}$ and the night level $L_{Aeq(22-07)}$. Both values are 'straight' L_{eq} -levels without any penalties. Also, rail noise and industry use $L_{Aeq(07-22)} / L_{Aeq(22-07)}$ but this Net Info focuses on road noise.

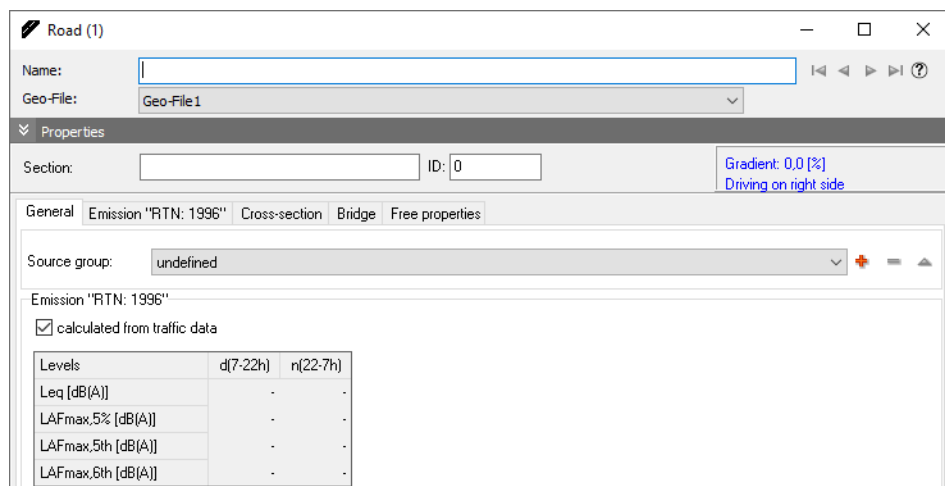
Start by defining 2 time slices like this:



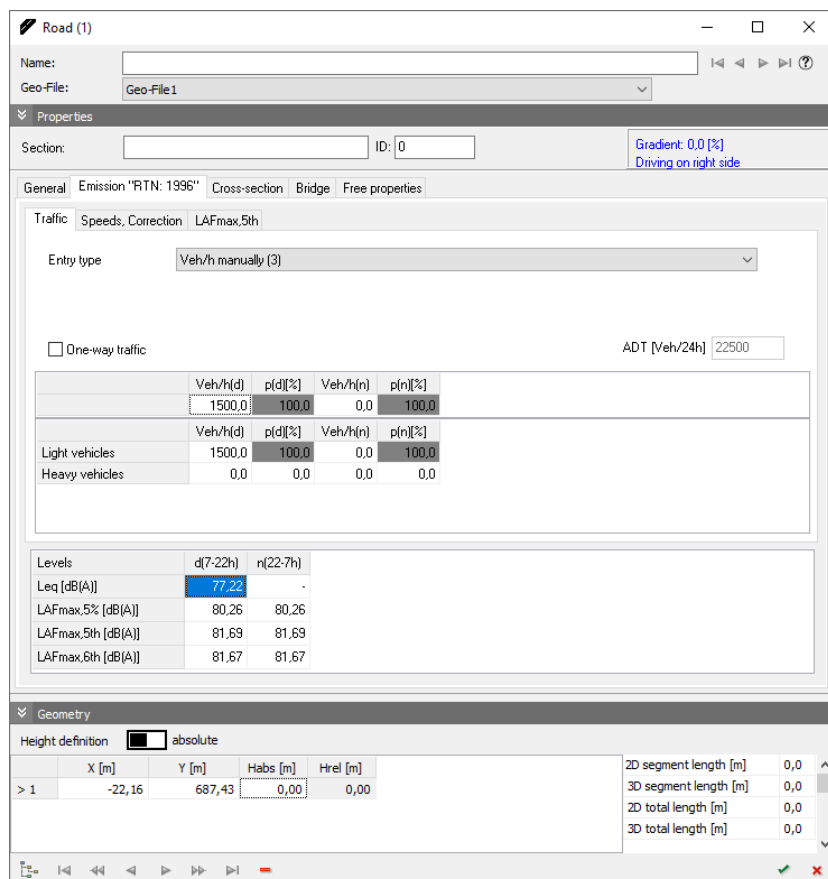
This will cause the emission calculation to be done for the day period and the night period respectively, if you at the same time select the emission definition like this (don't use RTN:1996(**)):



The Road Properties window will now look like this:



Traffic data are defined on the index card Emission “RTN: 1996”. The most convenient entry type to choose depends on the format of your traffic data. Maybe you know the hourly traffic for the two vehicle types and in that case ‘Veh/h manually (3)’ would be optimal. For example, 1500 Veh/h means 22.500 passages totally during the 15-hour day period, see screen shot below. You can read more about the entry types in Net Info 88.



Properties

Section: ID: Gradient: 0.0 [%]
Driving on right side

General Emission "RTN: 1996" Cross-section Bridge Free properties

Traffic Speeds, Correction LAFmax,5th

Entry type: Veh/h manually (3)

☐ One-way traffic ADT [Veh/24h] 22500

	Veh/h(d)	p(d) [%]	Veh/h(n)	p(n) [%]
	1500,0	100,0	0,0	100,0
Light vehicles	1500,0	100,0	0,0	100,0
Heavy vehicles	0,0	0,0	0,0	0,0

Levels	d(7-22h)	n(22-7h)
Leq [dB(A)]	77,22	-
LAFmax,5% [dB(A)]	80,26	80,26
LAFmax,5th [dB(A)]	81,69	81,69
LAFmax,6th [dB(A)]	81,67	81,67

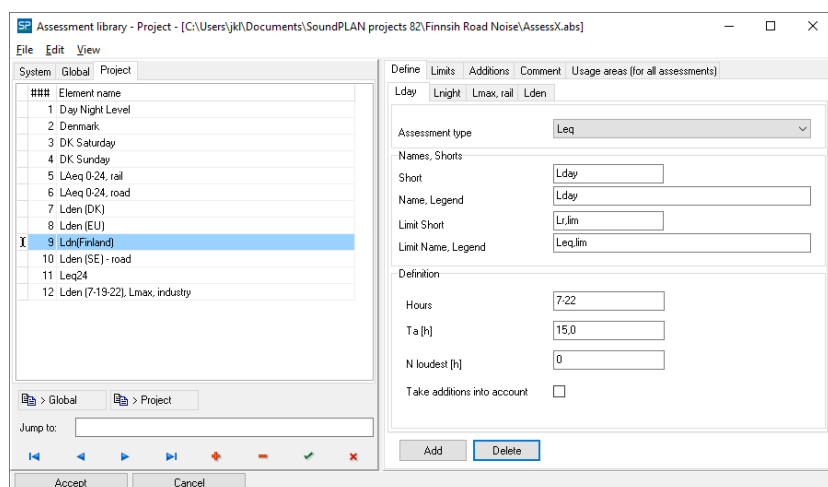
Geometry

Height definition: ☒ absolute

	X [m]	Y [m]	Habs [m]	Hrel [m]
> 1	-22,16	687,43	0,00	0,00

2D segment length [m] 0,0
3D segment length [m] 0,0
2D total length [m] 0,0
3D total length [m] 0,0

Finally define a new assessment record like this (don't tick 'take penalties into account', otherwise set all penalties to 0 dB):



Assessment library - Project - [C:\Users\jkl\Documents\SoundPLAN projects\82\Finnsih Road Noise\AssessX.abs]

File Edit View

System Global Project

Define Limits Additions Comment Usage areas (for all assessments)

Lday Lnight Lmax, rail Lden

Assessment type: Leq

Names, Shorts:

Short: Lday

Name, Legend: Lday

Limit Short: Lr,lim

Limit Name, Legend: Leq,lim

Definition:

Hours: 7-22

Ta [h]: 15,0

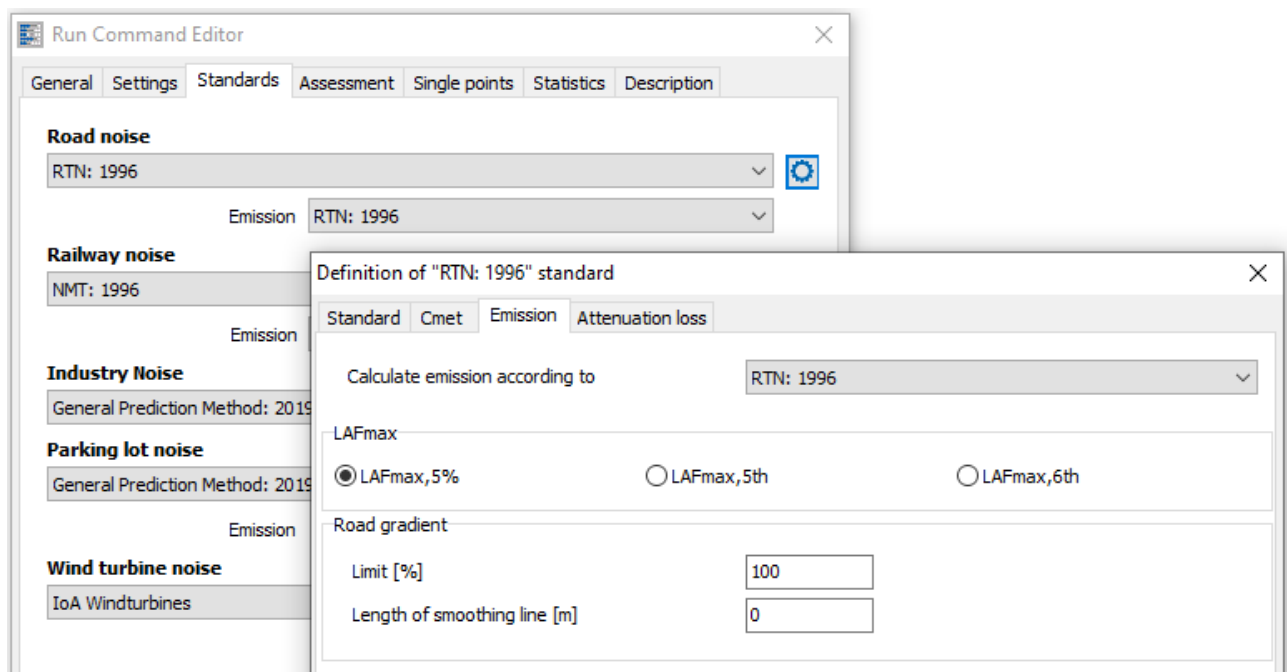
N loudest [h]: 0

Take additions into account: ☐

Add Delete

Accept Cancel

If you exceptionally want to calculate Lmax road also, you should remember in the standard settings for RTN96 to specify which Lmax you want to calculate, e. g. LAFmax,5% like shown below.



Now SoundPLAN is ready to return both L_{eq} and L_{max} for the day and the night in a single calculation.