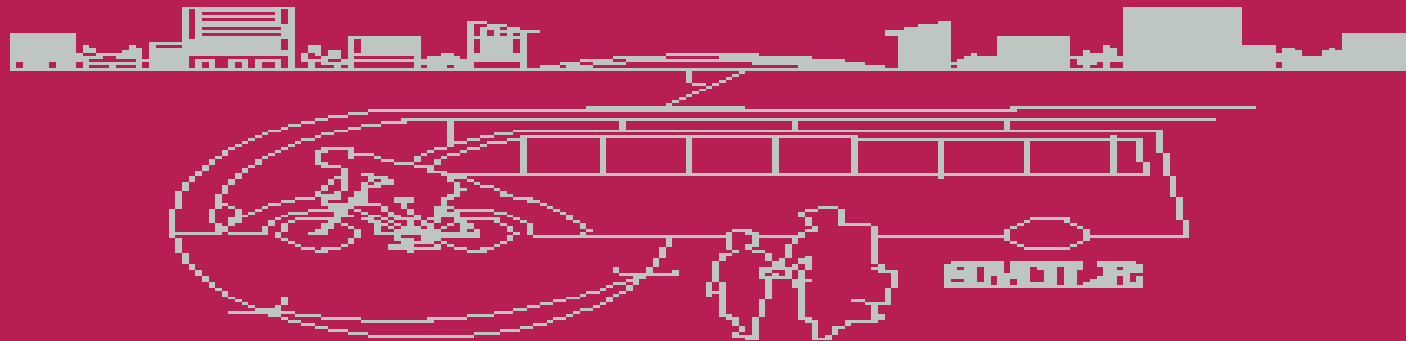
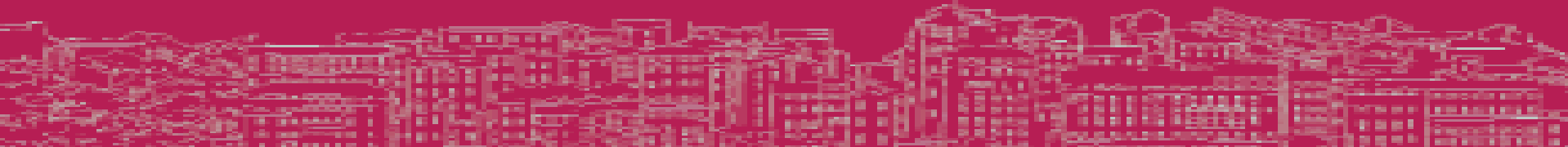


Guidelines for noise abatement planning principles for road traffic at local authority level



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Brief outline of the guideline's principle: Change of road surface

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Proposed road surface correction scheme

EUROPEAN COMMISSION - DG Environment

Guidelines on the revised interim computation methods for industrial noise, aircraft noise, road traffic noise and railway noise, and related emission data (2003/613/EC)

Road Surface Categories	Noise Level Correction		
	≤ 60 km/h	61-80 km/h	> 80 km/h
Porous Surface*	- 1 dB	- 2 dB	- 3 dB
Smooth asphalt (concrete or mastic)	0 dB		
(*) Porous surfaces decrease the high frequency components and thereby accentuate the effect of low frequency components in the road traffic sound spectrum Cement Concrete and Corrugated asphalt	+ 2 dB		
Smooth texture Paving Stones	+ 3 dB		
Rough texture Paving Stones	+ 6 dB		



Wölfel Meßsysteme - Software GmbH & Co - LABEIN S.L. - LÄRMKONTOR GmbH

Adaptation and revision of the interim noise computation methods for the purpose of strategic noise mapping (AR-INTERIM-CM)

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Implementation of road surface conception

Who should be involved in this step?	local transport companies	public transport authorities	urban planning	highways department	road traffic authority	civil engineering	environmental conservation	traffic planning
Scale			1	2	3	4	5	
How great is resistance to implementation of this step?	low							high
What costs are involved for this step?	low							high
What is the cost-benefit relationship for this step?	un-favourable	 (in case of cobble-stones)						favourable



Remarks: Open porous surface layers in urban areas

- **Noise-reducing effect** of open-porous surface layers lasts **only short time**.
- **Costs** of the partial quite complex **drainage systems** often **extremely high**.
- **Cleaning costs** up to 1 €/m² per cleaning course **are very high**.
- Problems with **flow of "dangerous" liquids** after accidents (for instance with tank trucks) into road surface and drains.
- **After opening roads** (roads works) only at very high expenditure the **transverse drainage** of the open-porous surface layer could be kept.

Germany: **No open porous asphalt roads with $v < 70$ km/h in urban areas! *)**

*) German Working Group "Noise reducing road surfaces in urban areas", 1992