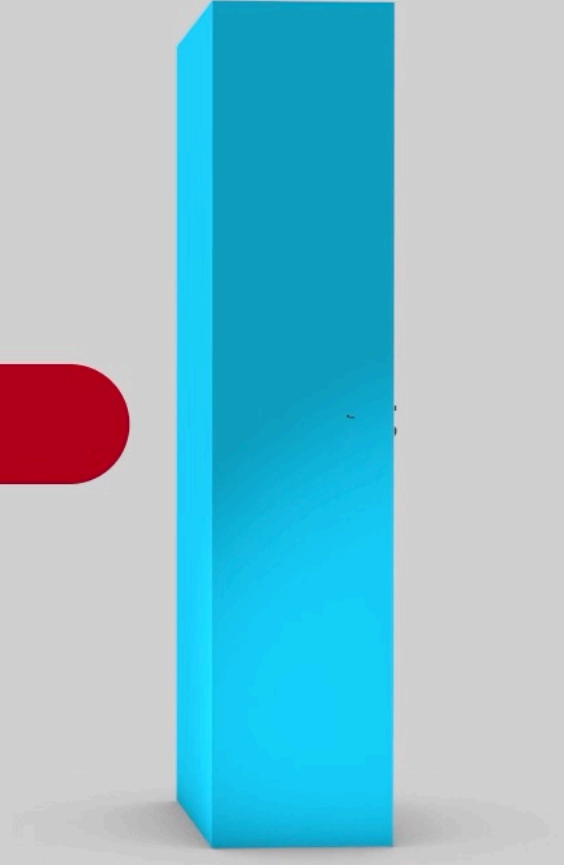


Noise Diffraction

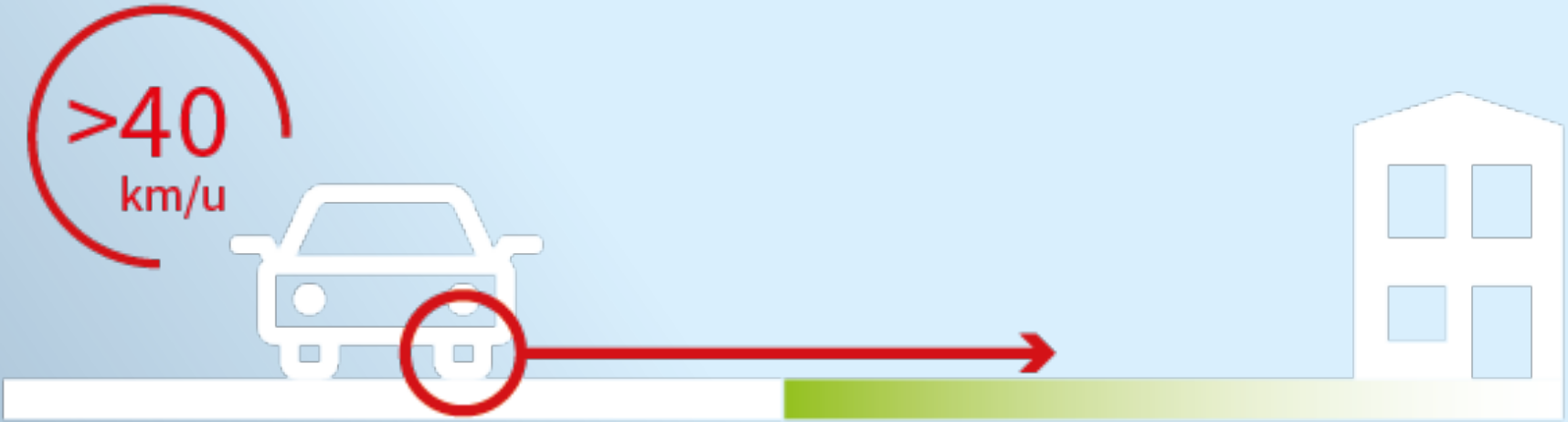
An innovative way for reducing traffic noise

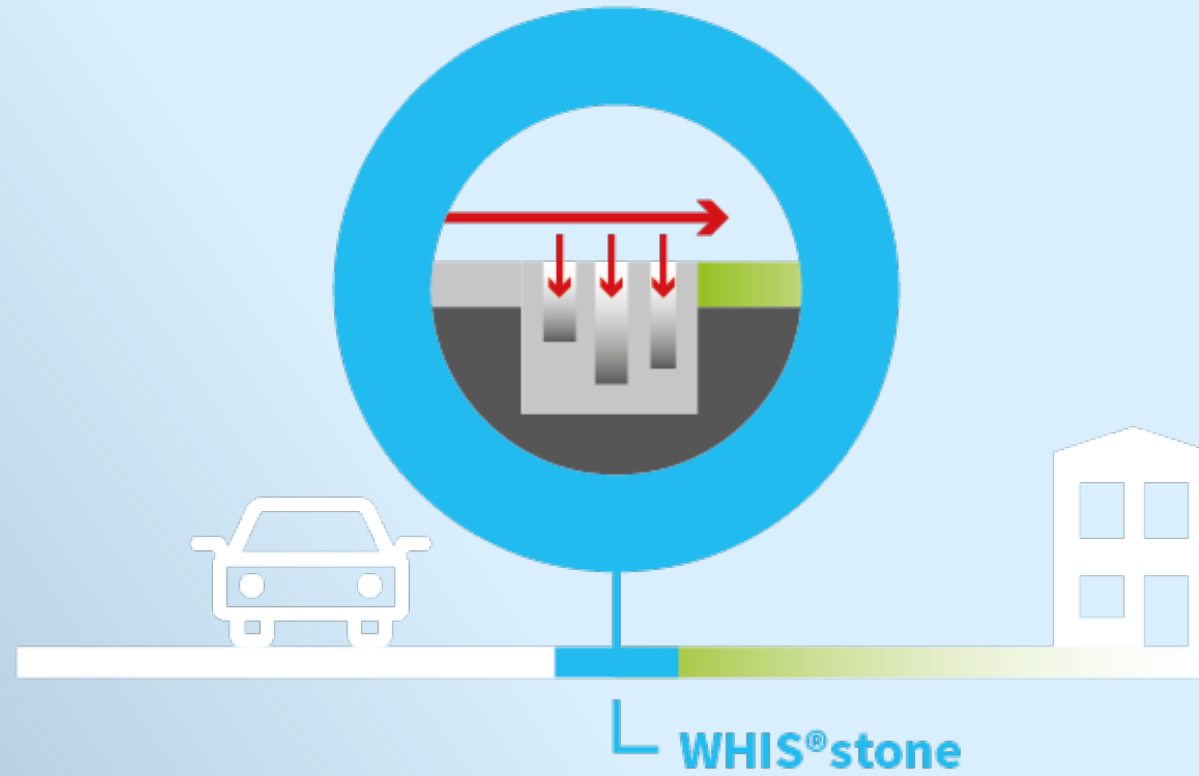


reducing
traffic
noise



Diffraction explained

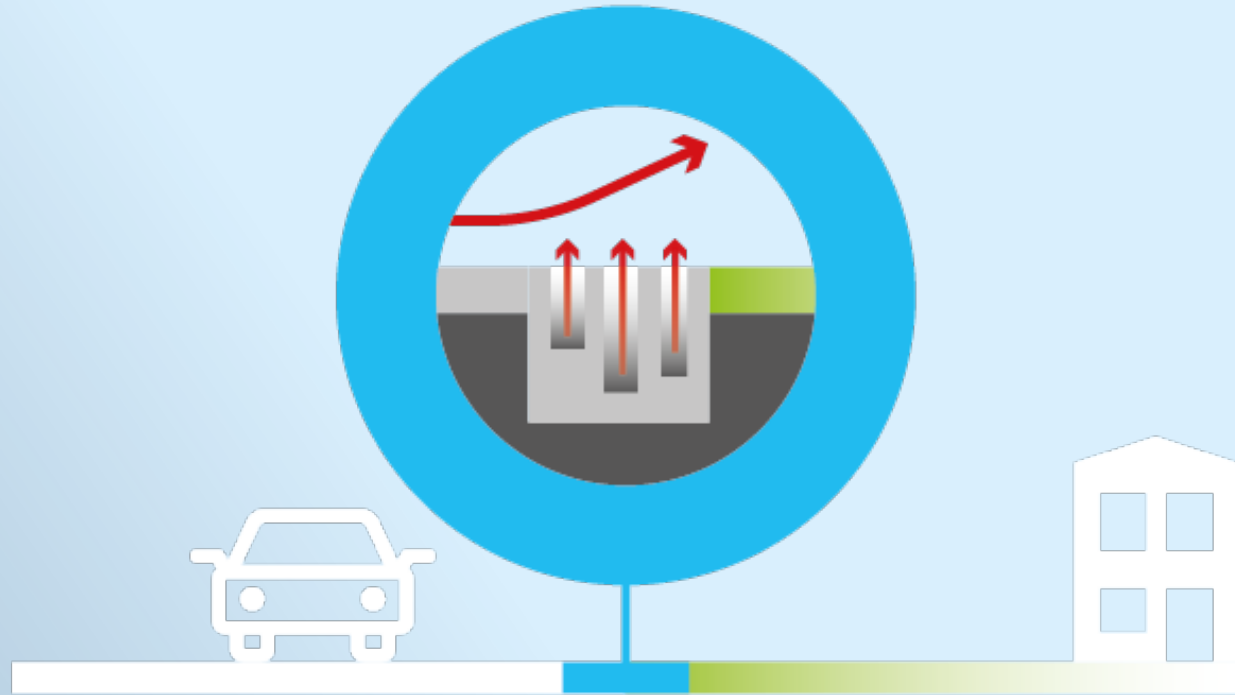


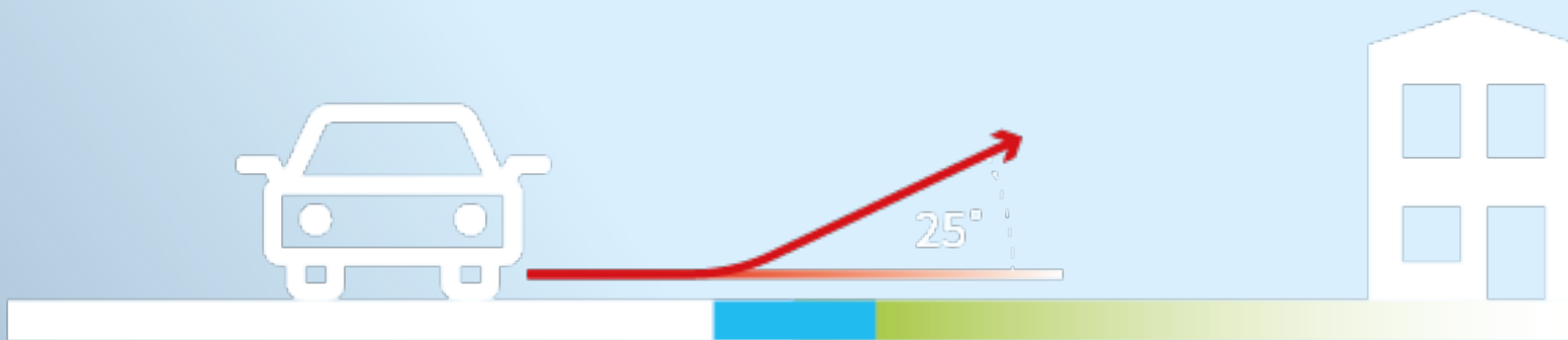


2/4



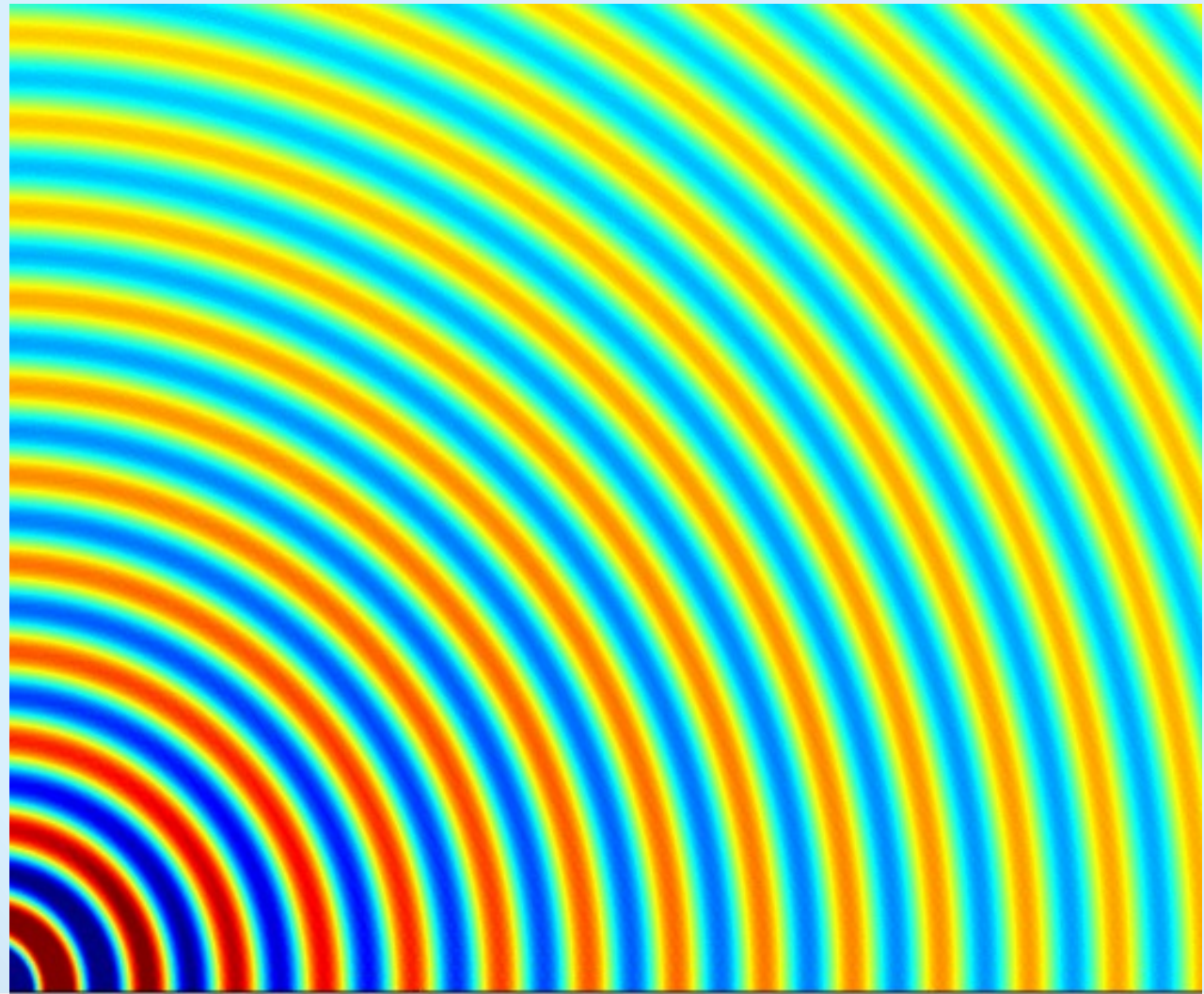
reducing
traffic
noise



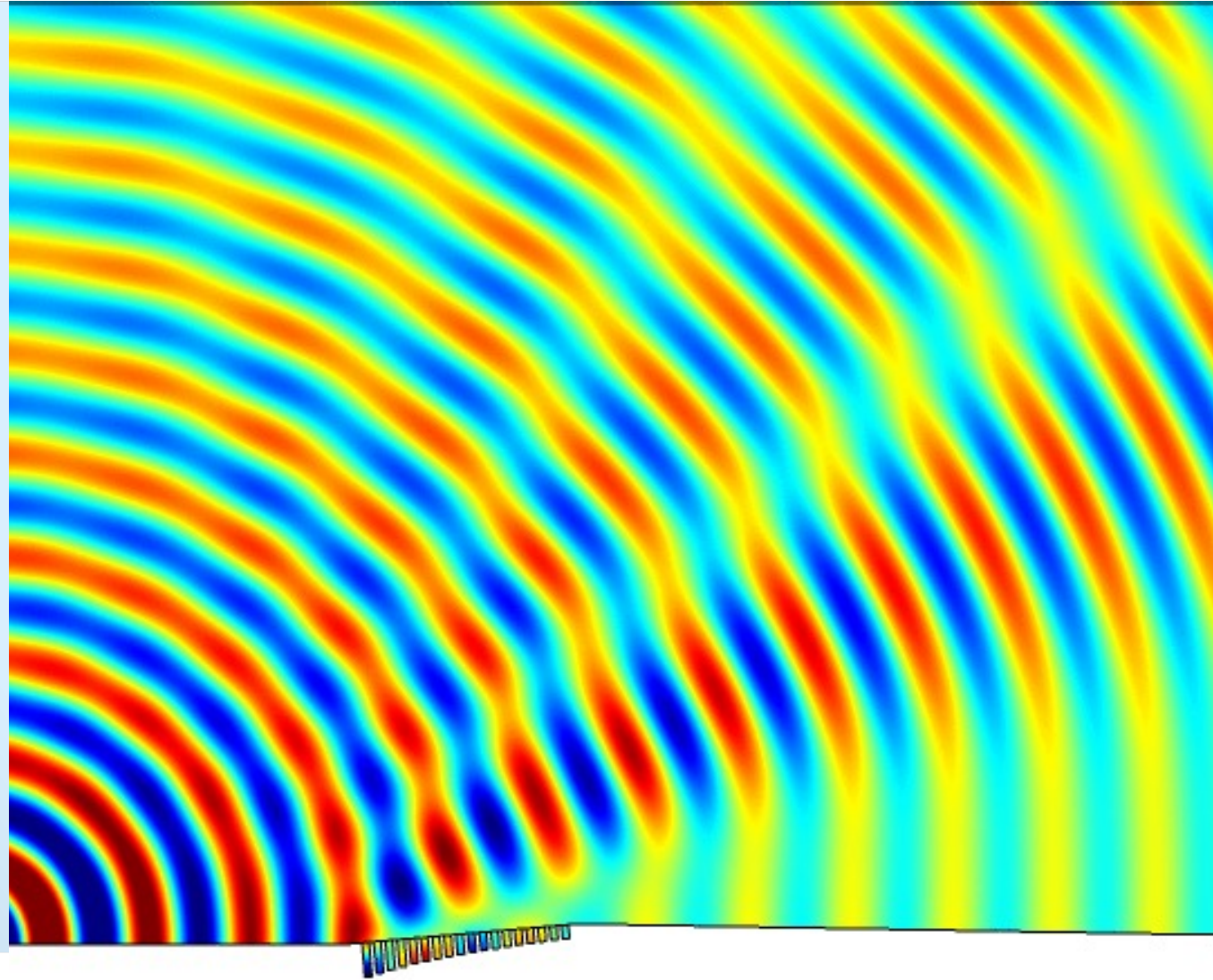


4/4

Noise



WHIS[®] stone effect



Diffraction applied in 3 products



WHIS®stone

- 2,5 dB Reduction, comparable with a silent road surface
- Lifespan and effectiveness >30 years



WHIS®wall

- 9 dB Reduction, comparable to a 3 meter high noise barrier
- 1 meter high



WHIS®top

- *Extra* reduction of 5dB, comparable to adding an extra 2 meters
- Low en light weight add-on for all types of noise barriers

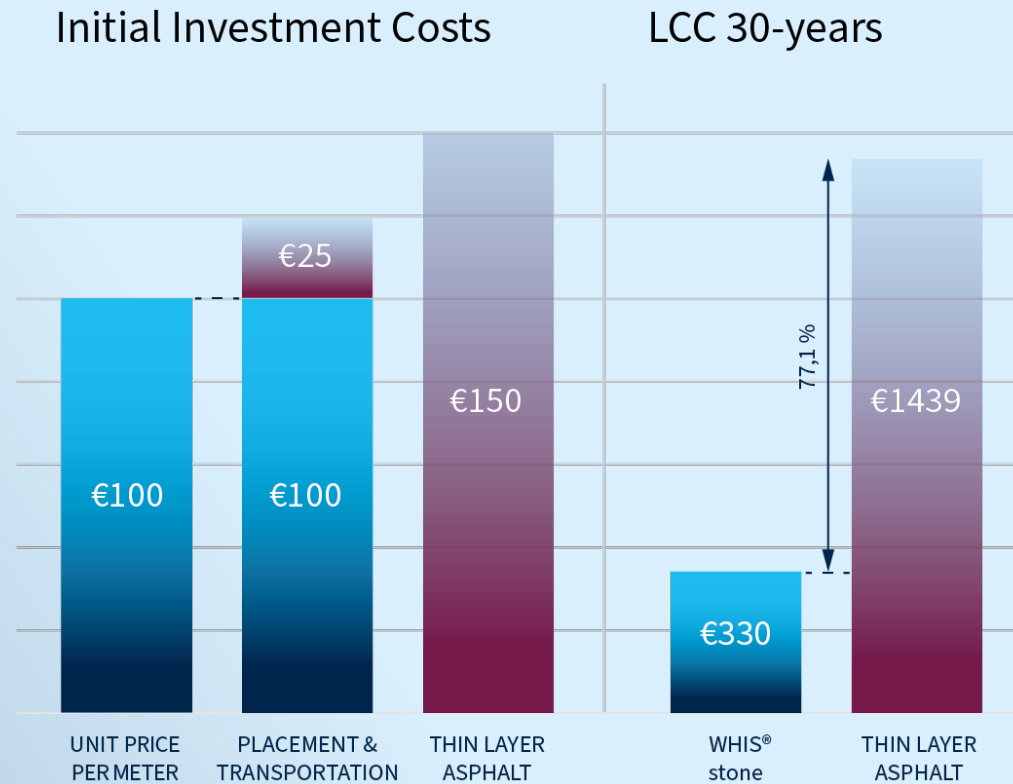


WHIS[®]stone

- Lifespan > 30 years
- Lasting noise reduction, no decrease in the performance
- Life cycle costs 70% lower
- Easy to install: 500 meters per day
- Little maintenance
- Safe for all traffic, including motorcyclists



WHIS[®]stone - costs



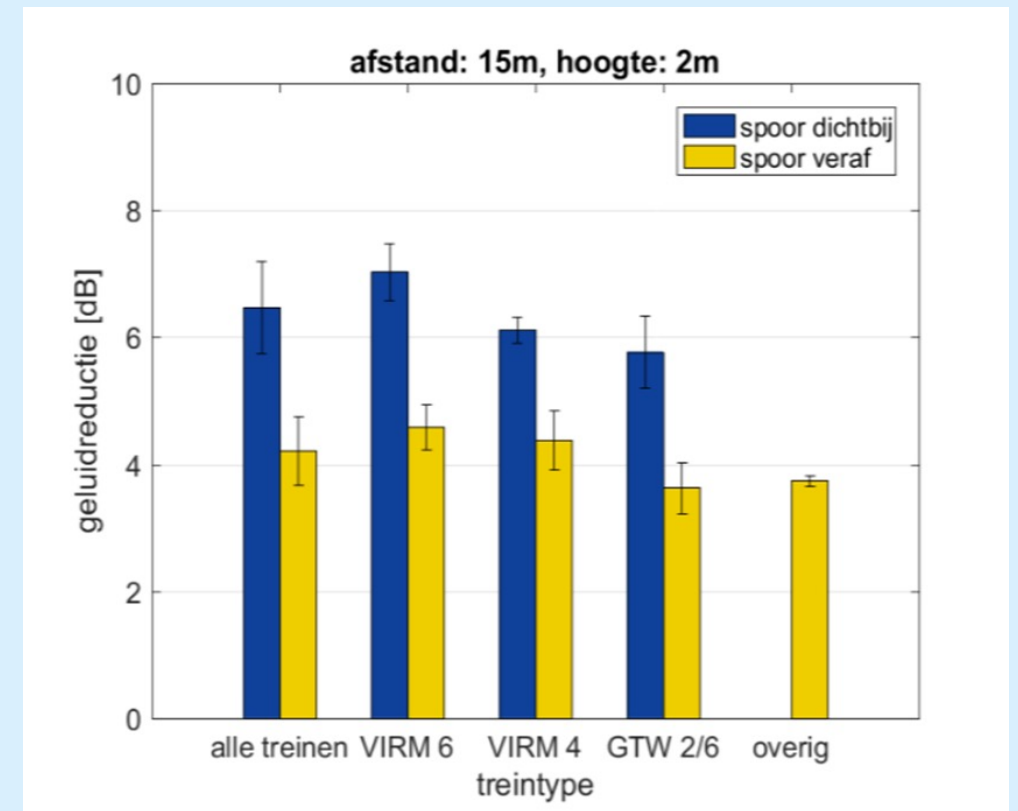
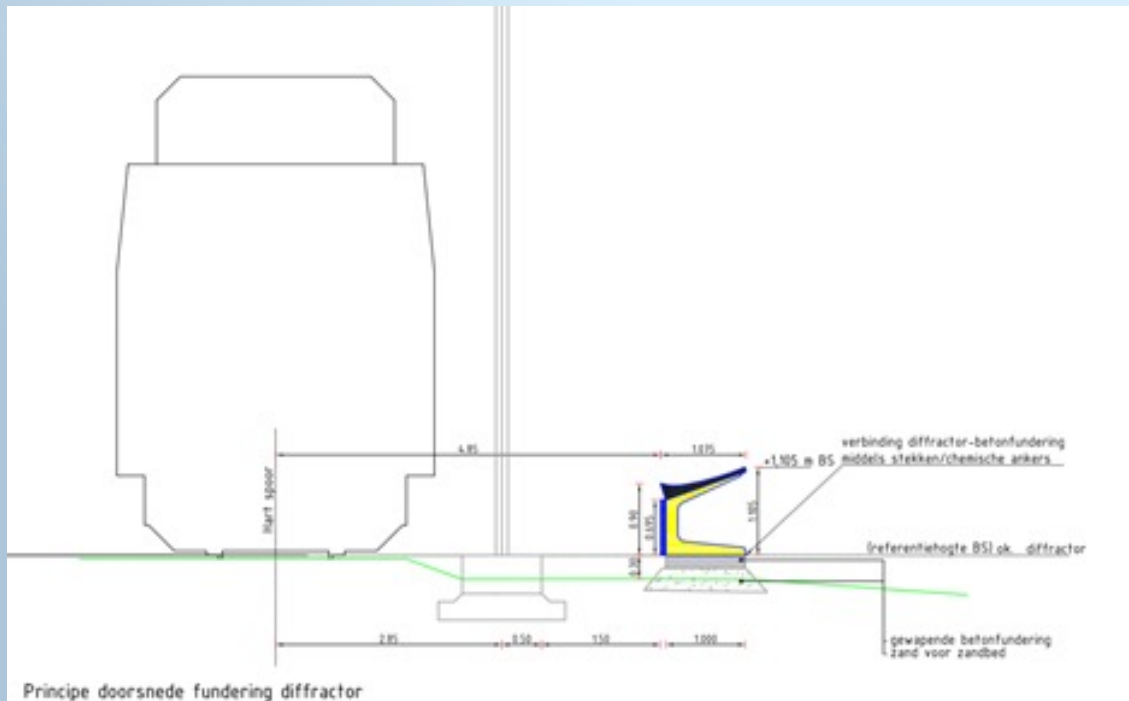
WHIS[®]wall

- Up to 9 dB noise reduction
- Cost effective
- Maintains the view – just 1 meter high
- Easy to install
- Little maintenance



WHIS[®] wall rail

Pilot ProRail



Project Belgium

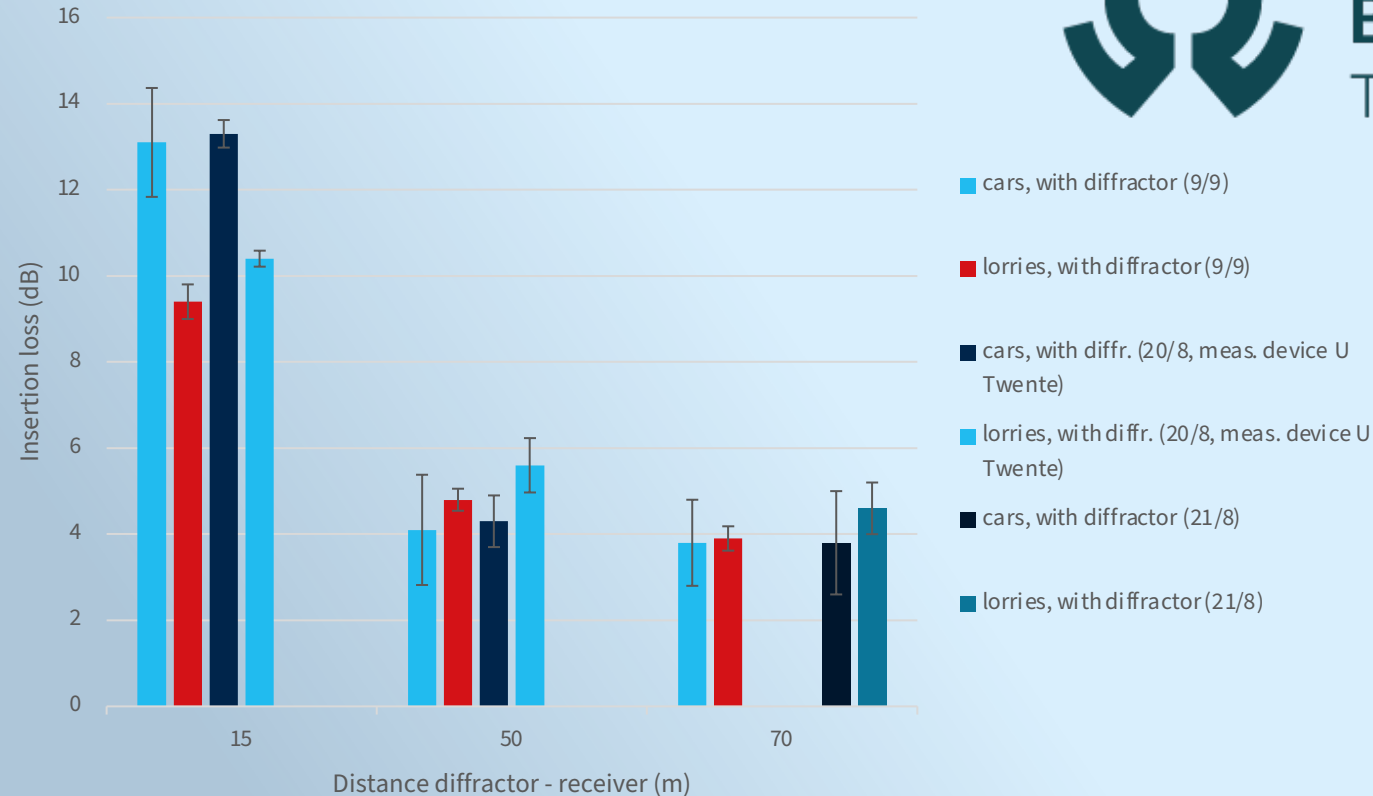


Vlaanderen
is wegen en verkeer

Lane along diffractor



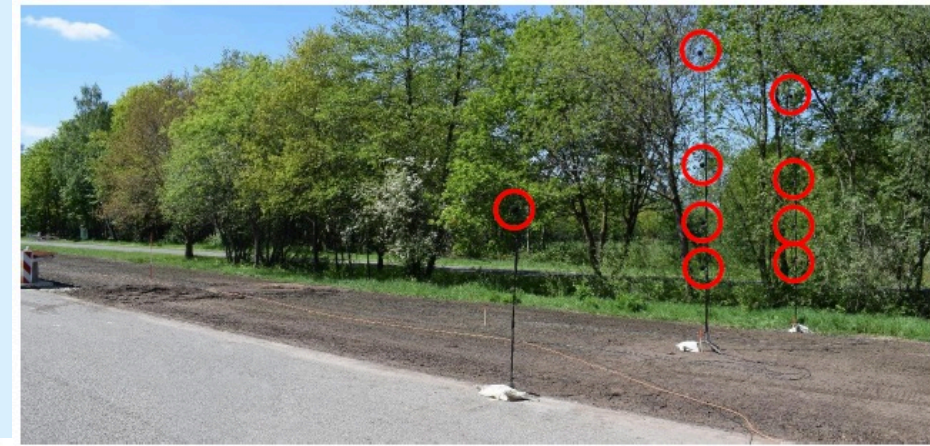
Belgian Road Research Centre
Together for sustainable roads



reducing
traffic
noise

Rijkswaterstaat – TNO – M+P

- Extensive testing at test facility



Project Deutsche Bahn

Initiative Lärmschutz-Erprobung neu und anwendungsorientiert (I-LENA):

Das BMVI startete im April 2016 eine neue Lärmschutz-Initiative unter dem Titel: „Initiative Lärmschutz-Erprobung neu und anwendungsorientiert (I-LENA)“. In Kooperation mit der DB AG werden Innovationen auf Teststrecken der DB AG in der Praxis erprobt. Diese Initiative gibt Entwicklern und Entwicklerinnen sowie Produzenten und Produzentinnen von Lärmschutzmaßnahmen an der Infrastruktur erstmals die Gelegenheit, Innovationen auf einer DB-Teststrecke in der Praxis für sie kostenfrei zu erproben. So können weitere und optimierte innovative Lärmschutzmaßnahmen für den Lärmschutz an Schienenwegen schneller anerkannt und in die Anwendung gebracht werden. Ziel von I-LENA ist es, Lärmschutz-Innovationen im Bereich Infrastruktur zu befördern und den Wettbewerb in diesem Bereich anzuregen. Aus dem Zukunftsinvestitionsprogramm stehen die Einrichtung der Techniken am Gleis, für die Messung sowie für deren Rückbau 5,7 Millionen Euro bereit, danach erfolgt die Finanzierung aus dem Lärmsanierungstitel. Die Initiative läuft bis zum Jahr 2020. Ausführliche Informationen sind unter: www.deutschebahn.com/laermschutz erhältlich.



BaST



reducing
traffic
noise

UK



Innovate UK

SBRI Government challenges.
Ideas from business.
Innovative solutions.



OFFICIAL



Certificate of Acceptance

PA05/07393

Manufacturer:
4Silence Ltd

Issue : 01
Valid From : 19-10-2021

WHIS®Wall Noise Reduction System

Product Description

The WHIS®wall noise barrier system consists of a low acoustic barrier that is built on shallow foundations and made of a reinforced concrete base unit in combination with a diffractor, which is made of Corten steel and mounted on top. The base is equipped with an absorber on the track side. The diffractor is a component which should diffract sound waves upwards due to its special design.

The advantage of this system is that it could enable the erection of lower acoustic barriers in areas where high barriers are not possible, whilst still offering good noise reduction.

Product Image



reducing
traffic
noise

Vallensbaek Project



VALLENSBÆK
KOMMUNE



SAFEROAD®



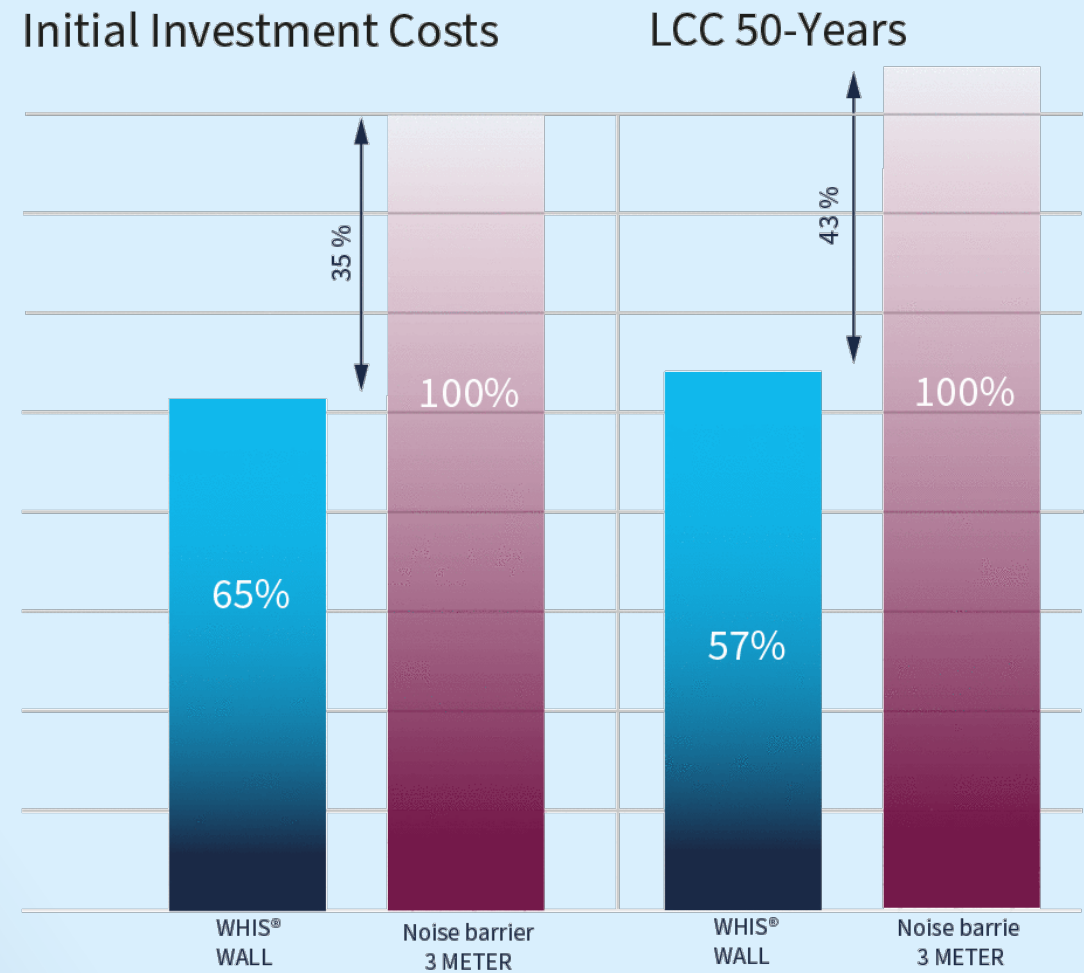
Vejdirektoratet



reducing
traffic
noise

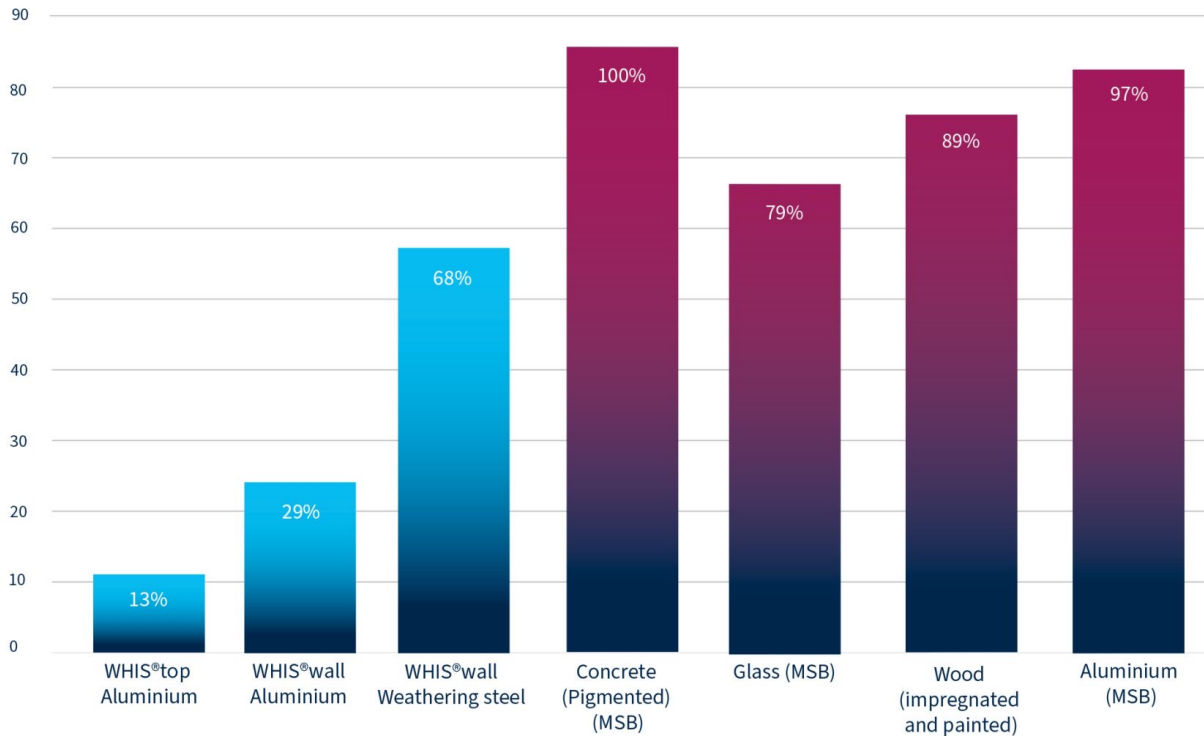


WHIS[®]wall Costs



Sustainability

1m WHIS®top/WHIS®wall vs 2.5m2 Modulair Sound Barrier



■ ECI



reducing traffic noise



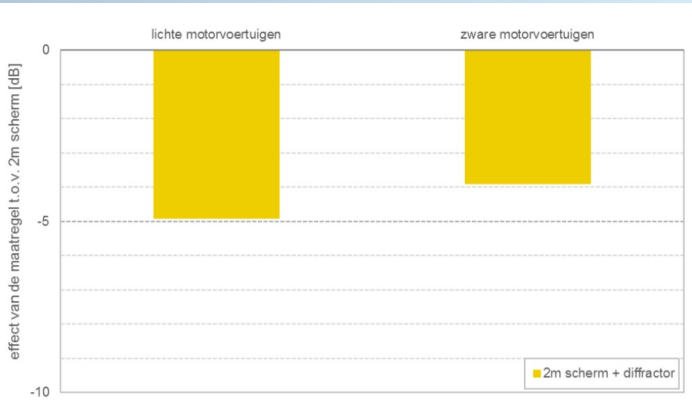
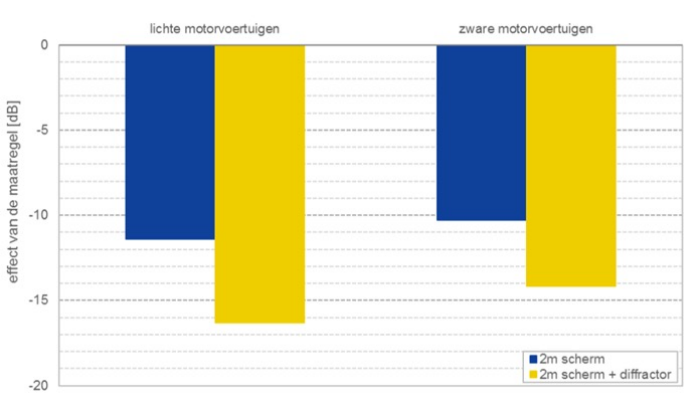
WHIS[®]top

- 5dB Extra noise reduction
- Fits on any type of (existing) noise barrier
- Light weight
- Adds no wind load



reducing
traffic
noise

Noise barrier 2m + WHIS[®]top



reducing
traffic
noise

WHIS[®] barrier

- Combines a road safety barrier with noise reduction
- Less spatial use
- Very cost effective



reducing
traffic
noise

Summary

- Every noise barrier at least 2 meter less high
- Significant cost reduction
- Maintains the view for residents and passengers
- Easy to install
- Little maintenance