



EUROCITIES statement on reducing rail freight noise

City authorities are committed to reducing harmful noise, the second most important environmental health problem in European cities¹. Although the largest source of noise in urban areas is road traffic, over twelve million people in Europe are exposed to railway noise above critical levels of 55dB during the day, with about nine million people exposed to over 50 dB at night².

Extended exposure to noise can lead to sleep disturbance, cardiovascular disease and cognitive impairment³. While noise barriers, low-noise tracks and speed restrictions are already used in many cities, we need quieter rolling stock to protect citizens from sleep disturbance and noise induced illness.

Reducing rail freight noise is important for citizens' health as well as ensuring their support for shifting goods transport from road to rail. Higher usage of rail transport for freight contributes to reducing CO₂, air pollutant emissions and fossil fuel dependence.

Ensuring cost effectiveness and competitiveness

The EU and its member states should continue to explore medium-term and long-term options for internalising the external costs of different transport modes, meaning that more polluting modes should be more expensive.

In the meantime, shifting freight from road to rail can only work if the rail sector can safeguard its competitive position in comparison to road transport. Transporting goods internationally by road can be more expensive but it is generally faster and more flexible. Using rail can be cheaper but is generally slower and less flexible⁴. This is mainly due to the lack of interoperability across countries as railway track gauges and signalling systems are not harmonised across Europe.

Stricter noise requirements for trains

New TSI (Technical Specifications for Interoperability) of trains should require composite braking blocks or disc brakes for both new and existing freight rolling stock. The noisiest types should be phased out altogether in addition to retrofitting older wagons.

¹ WHO & Joint Research Centre: Burden of disease from environmental noise. Quantification of healthy life years lost in Europe, 2011, <http://bit.ly/eEqWqy>, p.1

² European Parliament, Directorate-General for Internal Policies of the Union 2012: Reducing railway noise pollution, <http://bit.ly/11H9iTi>

³ WHO, pp. xv-xvii

⁴CE Delft: Potential of modal shift to rail transport, 2011, <http://bit.ly/195ajGS>, pp.23-27

Limiting low-noise requirements for wagons to parts of the railway network, such as densely populated areas or TEN-T⁵ lines, could make rail freight transport more complicated and slow it down further. Subsidies for lower-noise trains should only be envisaged through internalising external costs, where the funding for subsidies comes from taxing more polluting means of transport.

Silencing both rolling stock and infrastructure

For rail noise reduction to be cost effective and produce swift results, it should start with the greatest source of rail noise: rolling noise from rail freight wagons⁶. Modern rail vehicles are less noisy than old rolling stock⁷ but rail freight wagons remain in use for a long time. For existing wagons, replacing cast iron brake blocks with low-noise composite ones is a relatively quick and economical solution⁸. For new rolling stock, disc brakes can be an alternative to low-noise braking blocks.

The cast iron brakes that are currently used can damage the wheels of rail wagons. These corrugated wheels not only make more noise, but can damage tracks over time. Smoothing rails only makes sense if brakes and wheels are also improved. Badly-maintained, noisy trains with rough wheels can be charged more for using the rail networks through Noise Differentiated Access Charging (NDTAC). Introducing NDTAC throughout the EU would ensure a level playing field for transport and network operators, and avoid further complicating rail freight transport across the internal market.

If measures to make trains quieter are not sufficient, railway tracks could also be improved, in particular where large numbers of people are exposed to the remaining noise. For instance, old, non-welded tracks can be replaced with welded ones, and lower-noise ballast beds or track slabs can be installed.

Other measures, in particular passive noise reduction through noise barriers or other environmental mitigation should only be a last resort where improving wheels and tracks does not sufficiently reduce noise. Noise barriers only have a local impact and cost about €1,000 - 1,700 per metre. Retrofitting wagons with lower-noise composite tread brake blocks starts at €500 per wagon⁹ and will reduce noise wherever the wagon is used. Noise barriers also create visual barriers for residents, as they often have to be at least two metres high to be effective. They are not effective when mounted next to wide, multi-track railways.

Longer term transport infrastructure investments should include bypass freight rail routes that avoid urban areas with high population density. In some cases, other alternatives such as tunnels could be considered.

Research needs

Squeal from cornering remains hard to resolve with existing technology. It would be helpful to provide EU and national funding for further R&D on cost-effective squeal reduction techniques.

⁵ Trans-European Transport Network

⁶ European Parliament, p. 47

⁷ *idem*, p.47

⁸ *idem*, pp. 63-64

⁹ *Idem*, pp. 63-64