



A comprehensive study on the sources and effects of railway noise

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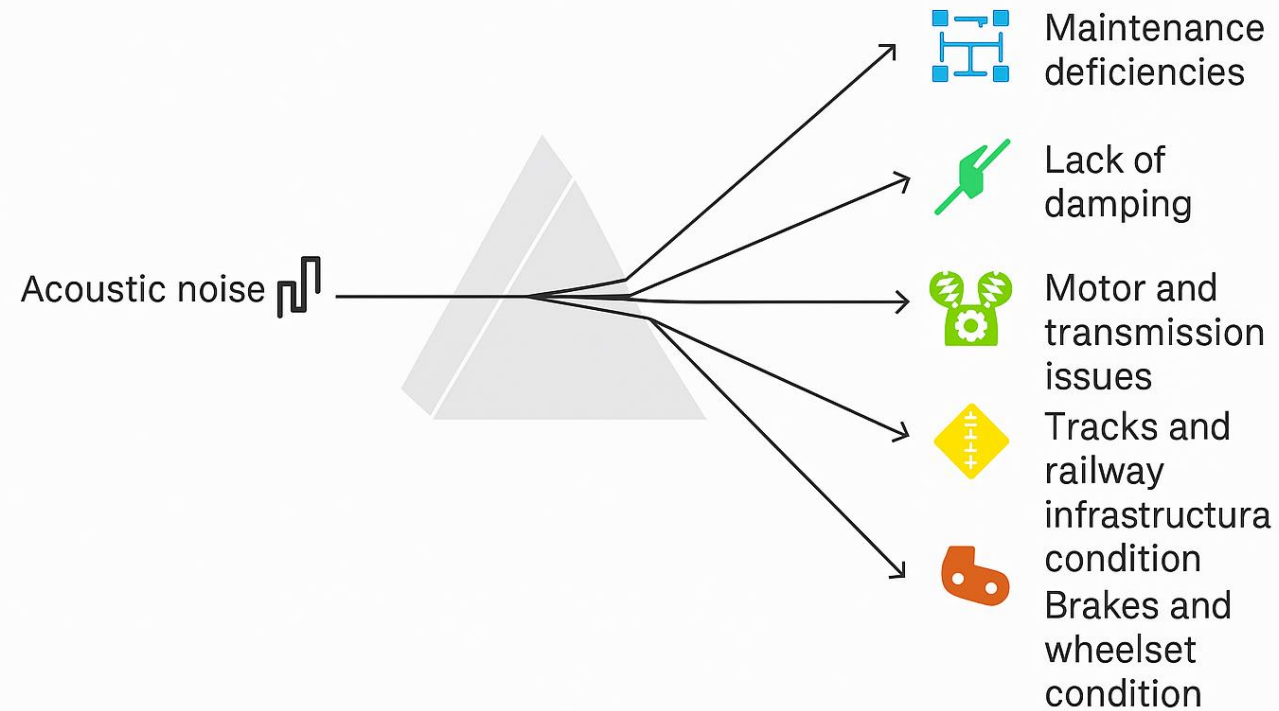
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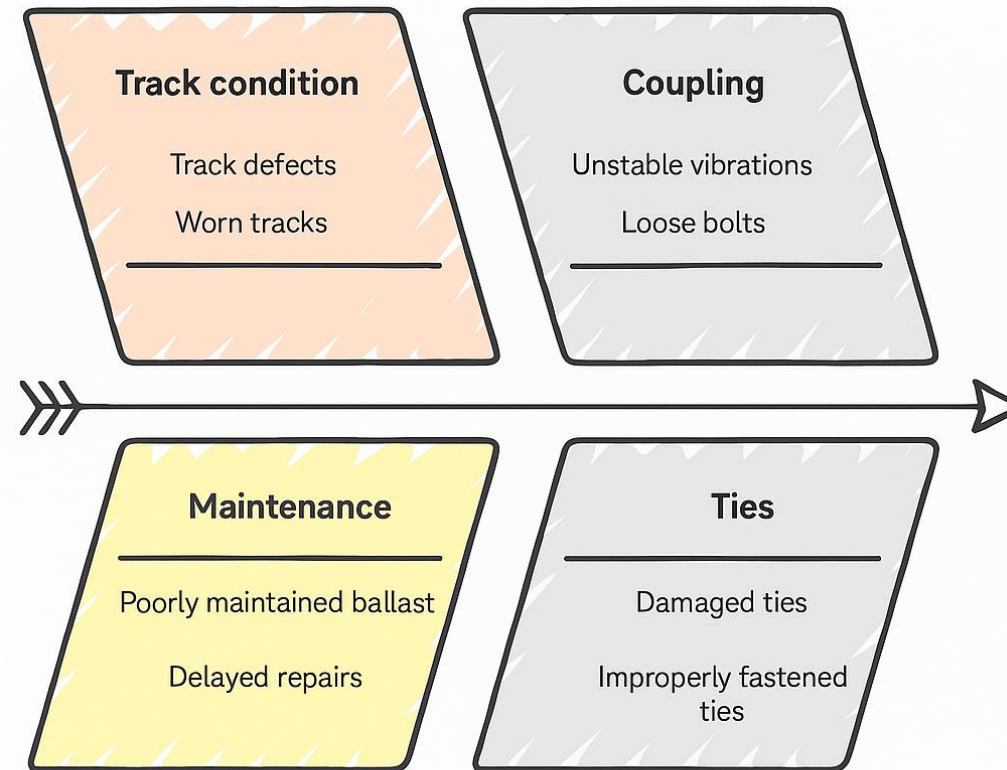
1. INTRODUCTION

Rail Noise and Detection of Vehicle Condition



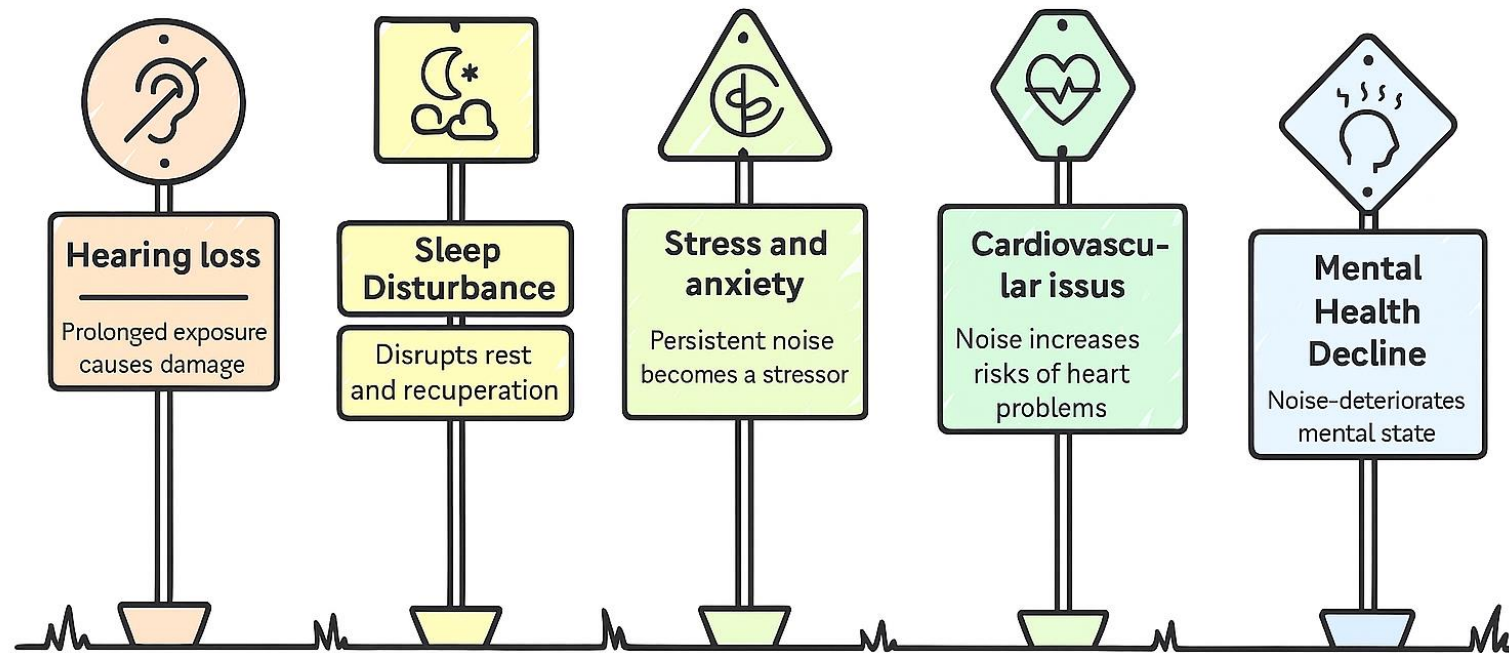
2. RELATIONSHIP BETWEEN ACOUSTIC NOISE AND RAILWAY TRACKS

Analysis of Causes of Rail Noise



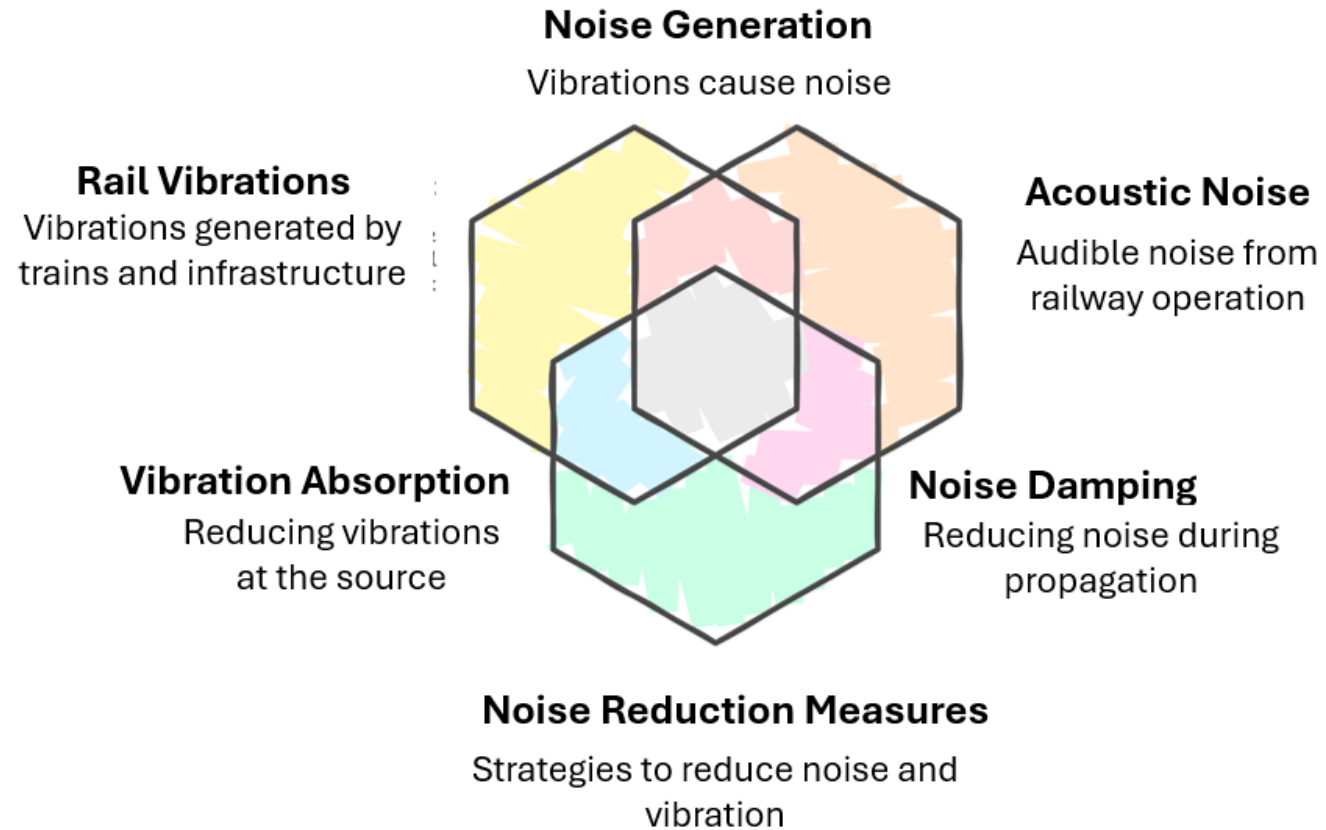
3. THE IMPACT OF RAIL TRAFIC NOISE ON HUMAN HEALTH

Rail Noise: Threat to Well-being



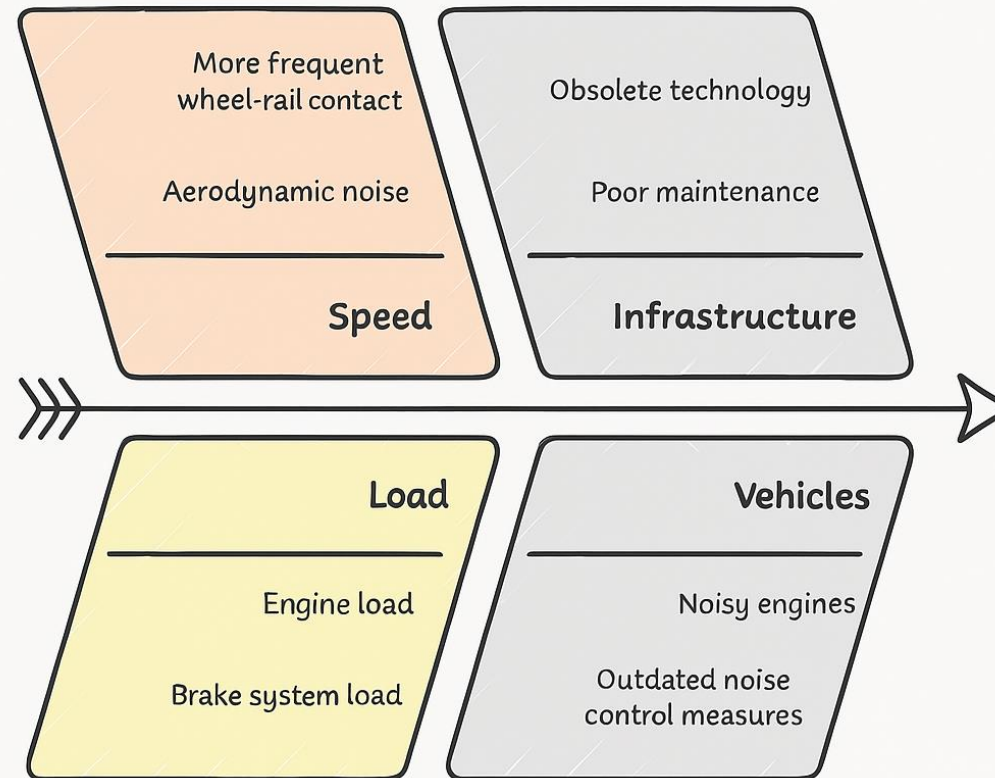
4. NOISE CAUSED BY VIBRATION

Relationship Between Rail Vibrations and Noise



5. THE EFFECT OF SPEED ON NOISE LEVELS

Causes of Railway Noise Emissions



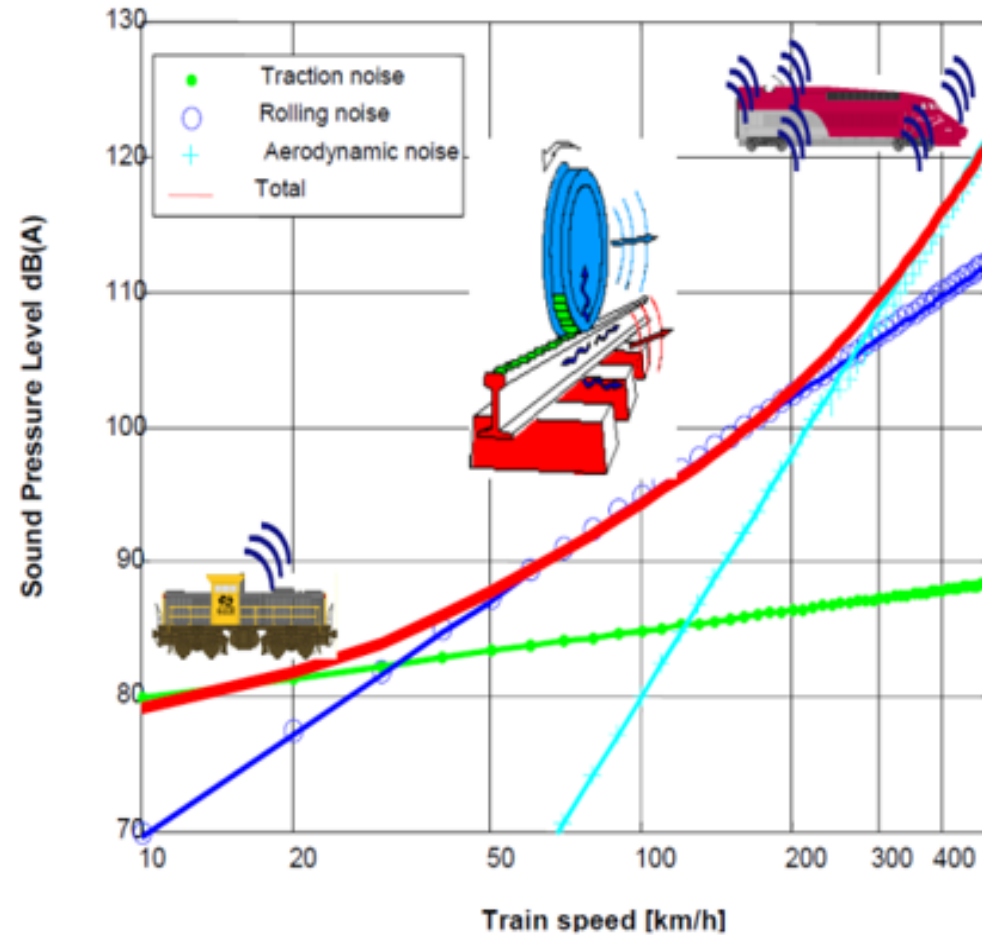
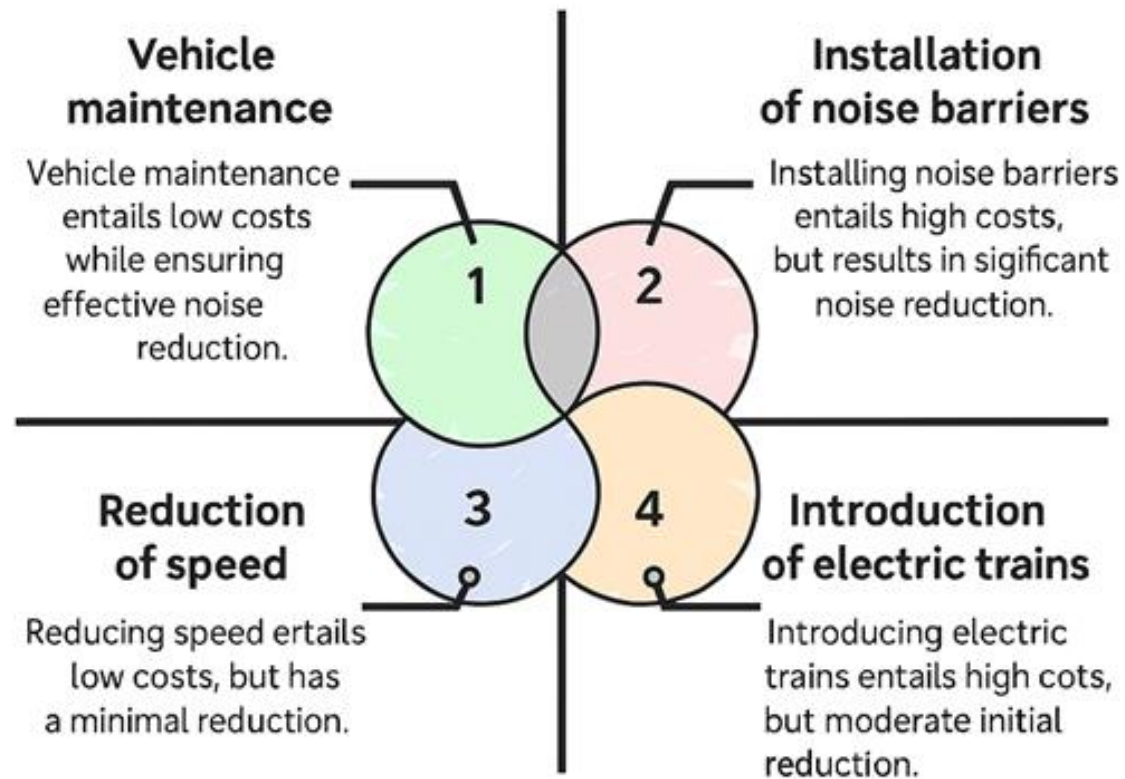


Figure 1 Noise sources as a function of speed [4]

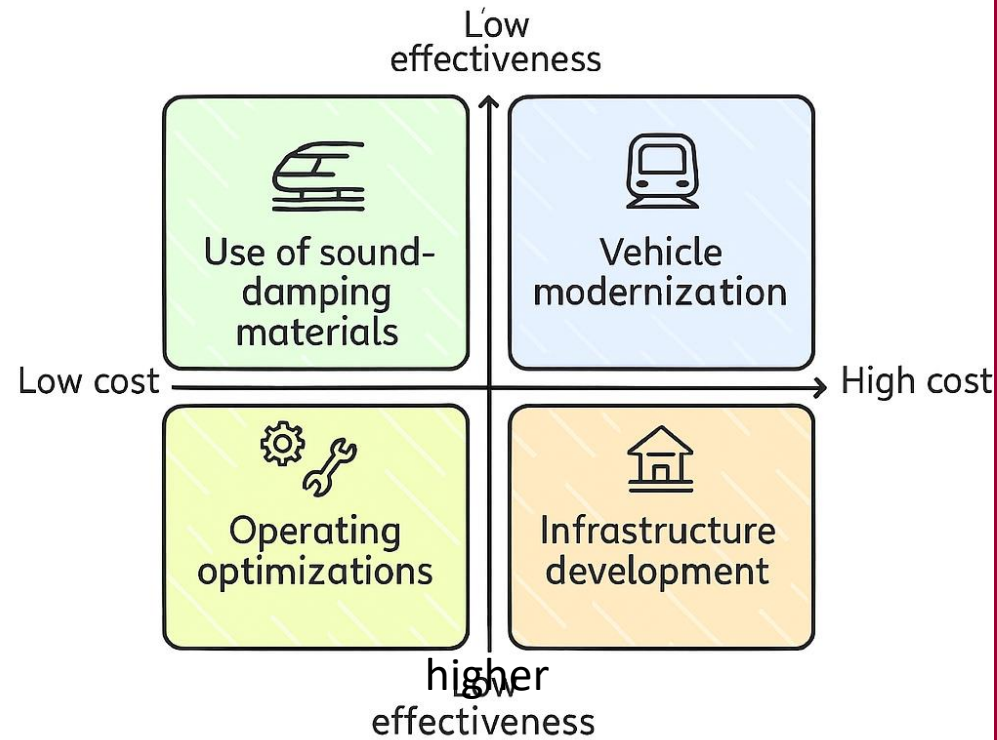
6. POSSIBILITIES FOR REDUCING NOISE POLLUTION FROM RAIL TRANSPORT

Rail Noise Reduction Strategies



7. NOISE REDUCTION COSTS

Cost and Effectivenesses of Railway Noise Reduction Solutions



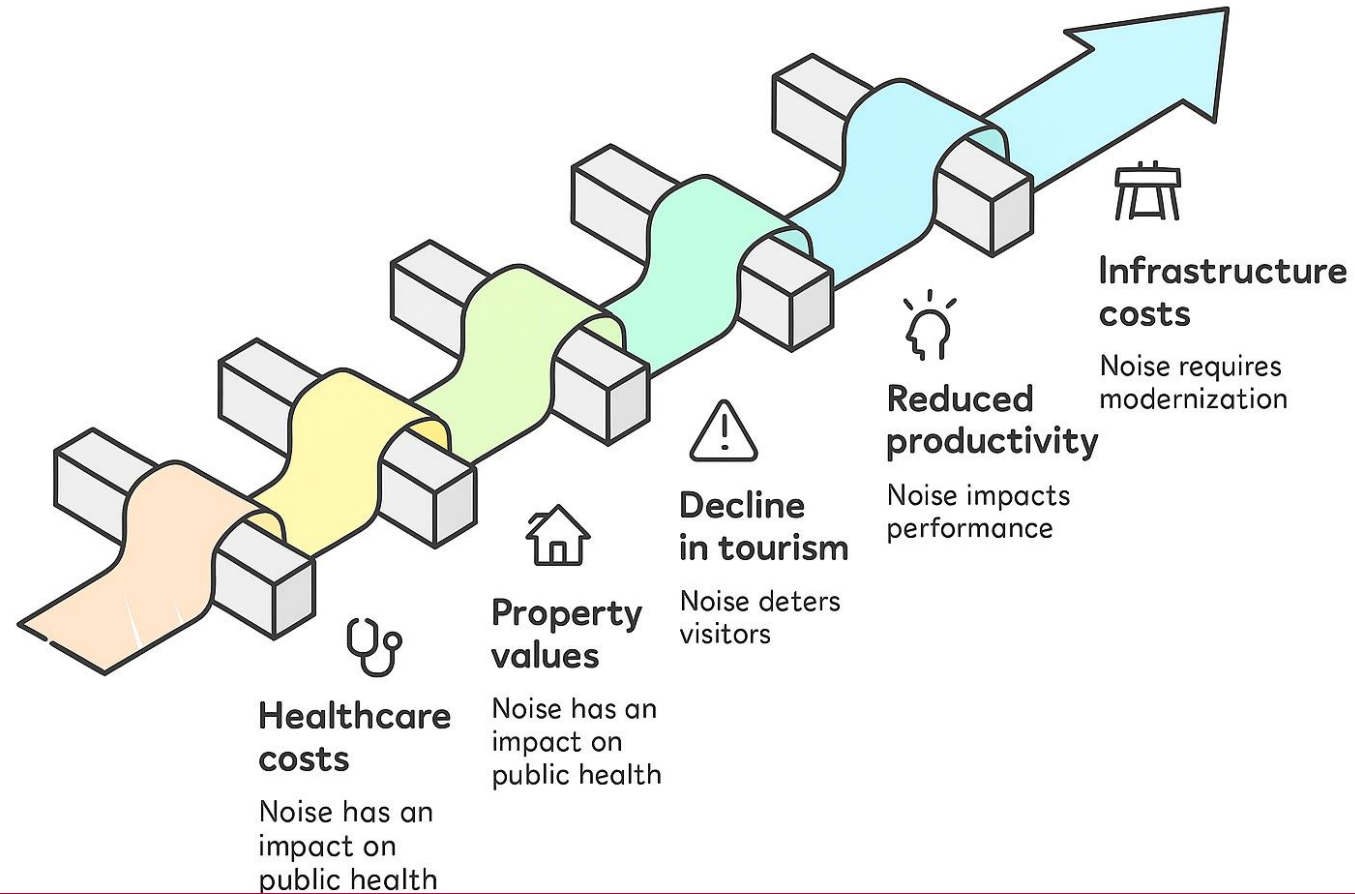
8. COMPARISON OF RAILWAYS AND ROADS IN TERMS OF NOISE EMISSION

Comparison of railway and road traffic noise

	 Railway traffic	 Road traffic
Noise sources	Wheels, axles, motor, brake noises	Engine, wheels, brake noises
Noise intensity	Generally higher, periodic, longer duration	Variable, depends on traffic flow
Distance ad propagation	Spreads further depends on infrastructure	More limited propagation, near roads
The effects of noise pollution	Negative health and environmental effects	Negative health and environmental effects
Permitted noise level	Varies by country	No specified data

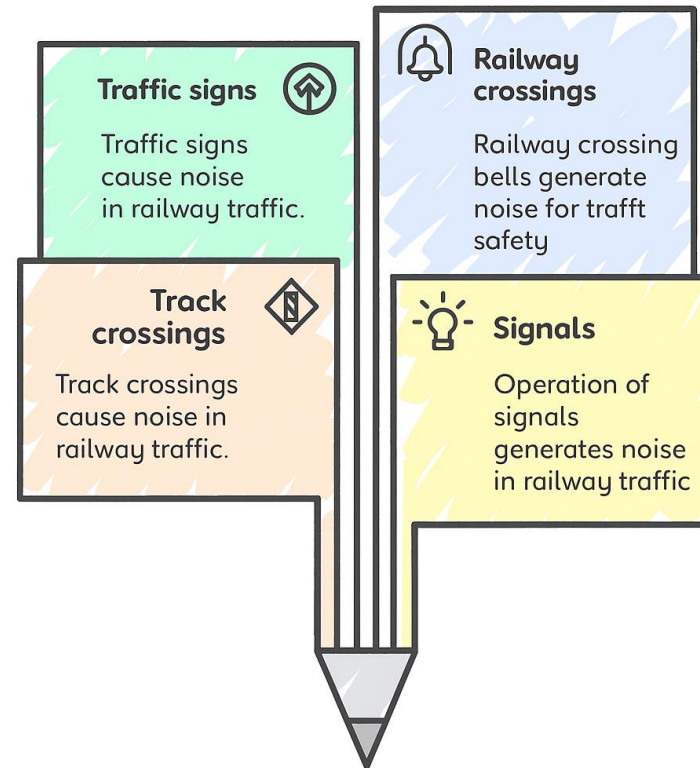
9. THE ECONOMIC IMPACTS OF TRAFFIC NOISE

Economic effects of traffic noise



10. SUMMARY

Sources of railway noise





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Thank you for your
kind attention

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