

# Specification for research project

## Reducing the impact of noise on future residents of line-side developments

T1125

### 1 Background

Mixed traffic railways subject local soundscapes to numerous aural intrusions, notably those from train horns, engine idling, and public address systems. For the residents of line-side properties, this operational pulse may rise to nuisance with objectionable frequency, volume, timing, or secondary effects (for example, vibrations). As the prominent public face of the rail industry (and the perceived perpetrators), noise and other environmental complaints are often (mis)directed at Train Operating Companies (TOCs). Consequently, these franchised passenger operators endure the public relations cost of nuisance entombed in the built infrastructure.

Changes to railway operations – for example, increasing the frequency or varying the type of service – can adversely affect line-side communities. Correlating with recent timetable alterations (made to meet greater capacity needs on many urban routes), there has been a notable increase in nuisance complaints from longstanding line-side residents.

Under government instruction to enable new residential developments, Network Rail is disposing of assets at 13 line-side locations. Although a range of guidance exists to

mitigate railway-related noise nuisance (notably from CIRIA), there is little clarity as to how far previous developments have followed best practice, and scarce assurance that profit-driven developers will exercise scrupulous diligence in this area. Owing to the necessary haste of these sales, and in the absence of contractual obligation, industry is unable to ensure that developers fully consider the aural impact that current (and likely increasing) levels of rail traffic may inflict on line-side residents.

This research intends to map the existing processes related to railway-specific sound attenuation – prescribing therapy for any communicational shortcomings and remedy for any responsibility deficiencies identified. To do so, the project will review the history of line-side developments and assess the relative success of noise impact assessments undertaken during the planning phase. This learning will establish revised processes, tempered with experience, to inform the 13 line-side developments (each at differing stages of planning) and to positively contribute to the effective long-term management of railway-related noise.

Accordingly, the project team will both develop *and* deliver consultative advice in the execution of this research. Due to the likely benefit of iterative learning (that is, developing best process through a cycle of engagement, analysis, and review), the project requires a single, cohesive work package.

## 2 Work package objectives

Success at the end of the project will be:

- Greater understanding of the historic management of line-side development planning and pinch points in the process (and within the organisations involved).
- Evidence of positively influencing the noise mitigation planning during the current development of several of the 13 line-side sites.
- Effective and cost-effective means for developers, local authorities, and the rail industry to collectively safeguard residents of future (and current) line-side developments against noise nuisance generated by active railway operations.

The project aims to understand:

- The presence, extent, and success of noise impact assessments undertaken during previous line-side developments (including, the quality of the assessment, the use of noise mitigation guidance, the response of the local authority, and the nature of any compromise).
- The application of planning conditions during previous line-side developments (including, the parties involved and the role of permitted development).
- The most suitable means for the rail industry to influence the noise mitigation process during future developments.

## 3 Scope

In scope	Out of scope
<ul style="list-style-type: none"> <li>• Acoustic impact of railway operations</li> <li>• Noise impact assessment process</li> <li>• Previous developments and 13 ongoing line-side residential developments</li> <li>• Policy environment in England, Scotland, and Wales</li> </ul>	<ul style="list-style-type: none"> <li>• Visual impact of railway operations</li> <li>• Seismic impact of railway operations</li> <li>• Development of new noise attenuation techniques</li> <li>• Development of new guidance on noise mitigation</li> </ul>

## 4 Methodology

RSSB expects suppliers to explain the exact methodology that they are intend to use to successfully meet the project objectives and cover the scope. However, it is likely that the work will include:

- Desk research into UK policy environments surrounding line-side site development and available noise mitigation guidance.
- Case studies of the noise assessment process undertaken during past developments.
- Interviews with railway entities, line-side developers, local authorities, planning departments, and environmental health agencies.
- Analysis of the noise assessment process and its practical application.

## 5 Deliverables

All deliverables will use an RSSB template and be available to RSSB members via SPARK.

<b>Deliverable name</b>	<b>Type</b>	<b>Description</b>
Final report	Report and Executive summary presentation	<p>This report describes the background to the research, the methods used and the project findings. It details the optimal noise impact assessment process to help parties involved ensure the effective and ongoing attenuation of railway-specific noise nuisance. The report also identifies to what extent the project team influenced the planning of ongoing line-side developments. The presentation summarises this information in a manner fit for executive-level audiences.</p> <p>Additional technical outputs may support this report, as required.</p>
Case studies	Write-up and PowerPoint presentation	<p>These case studies and corresponding presentation summarise the learning from each of the previous developments assessed.</p>
(Draft) Research brief	Report	<p>A four-page document summarising the research, its findings, and the potential benefits generated.</p>

## 6 Stakeholders roles and responsibilities

	<b>General role in project</b>	<b>Specific role in acceptance of deliverables</b>
Industry and RSSB sponsor	<p>The Industry and RSSB sponsors act as a figurehead for the research, championing its importance and its outputs.</p> <p>Their key role is to provide steer to the research as it progresses and exert pressure on the industry to make use of its findings.</p>	Formally accepts deliverables
Project supporters	<p>The project supporters represent parts of industry complementary to the sponsor's organisation. They offer expertise for effective project delivery and support the implementation of findings led by the sponsor through networking, advice, and other support.</p>	Formally accepts deliverables
Project steering group	<p>The project steering group ensures the project delivers to industry needs.</p> <p>As such, it helps formulate specifications, assesses tenders, reviews draft and final outputs and other relevant tasks.</p>	Formally accepts deliverables
Delivery manager	<p>The delivery manager is responsible for the detailed project management including project schedules, cost reporting and other relevant project management tasks.</p> <p>The delivery manager leads the project in organising meetings, etc. and ensures timely and effective delivery towards project objectives.</p>	Facilitates technical review and acceptance processes, identifies, and monitors corrective actions where needed, including facilitating decision making
Technical expert	<p>Throughout the project, the technical expert ensures that the research accurately reflects technical aspects.</p> <p>Technical aspects can refer to specific issues around railway signalling, track engineering, safety relevant operations or any other specialist field.</p>	Reviews emerging outputs from technical perspective

## 7 Budget, timescales, and dependencies

RSSB expects the work to start in June 2017 and conclude by January 2018. However, these are indicative dates and RSSB will consider bids that cannot meet these expectations if the supplier includes a robust project plan and an explanation as to why they cannot meet the preferred start and end dates.

RSSB recognises the following dependency:

- Project planning timelines for each of the identified ongoing NR site developments.

## 8 Critical success factors and risk management

The following critical success factors define what RSSB consider to be the key outcomes at the end of this project:

- Identified improvements to the current planning process:
  - Make all parties involved more aware of their noise attenuation responsibilities, and the interrelation with other railway and non-railway actors.
  - Expedite the process for assessment of noise nuisance.
  - Identify effective and practicable mitigations to noise nuisance.
  - Reduce the long-term environmental impact of ongoing, and future, line-side developments on line-side residents.

The project risks identify potential threats to the supplier's successful delivery of the project. RSSB expects the supplier to identify risks, propose effective management and mitigation measures, and regularly review these risks as the project progresses. RSSB have identified the following initial risks:

- Parties are unwilling or unable to disclose the environmental assessments processes undertaken during previous and ongoing line-side projects.
- The case studies of previous developments do not support a single process, or series of contiguous processes, for effective noise assessment.
- The project team is unable to positively impact the noise assessment and mitigation at any of the 13 ongoing developments

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