

Environmental Noise Directive
Action Plan Summary

Summary Of
Transportation Noise Action Plan

Prepared by the Transportation Working Group

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1 Introduction

This document represents the summary of the Transportation Noise Action Plan for Scotland and is submitted to the European Commission in accordance with Article 10.2 Annex VI 1.8 and 2.8 of Directive 2002/49/EC of the European Parliament and of the Council of 25 June 2002 relating to the assessment and management of environmental noise.

The format of the summary follows the requirements of Annex V of the Directive.

Noise mapping and noise action planning are new ventures for the Scottish Government and the approach we have taken is evolving. Action Planning is seen as a continuous process rather than an end point. The approach is multi disciplinary, involving many key partners, professions, and expertise. It is our intention to continue with this approach as we move to the implementation phase.

2 A Description of the Areas outwith the Agglomerations, including the Major Roads and Major Railways taken into account

For areas outwith the agglomerations of Edinburgh and Glasgow, round one of the Environmental Noise Directive requires places near major roads with more than six million vehicle passages a year, and places near major railways which have more than sixty thousand train passages per year, to be included in an Action Plan.

The noise mapping process has identified that sections of the following corridors, or parts of the following areas, are within round one of the Transportation Noise Action Planning Process.

Section	General Area	Main Routes	Approximate Length (km)
1	Oban	George Street, Dunollie Road	14
2	Fort William	A82	2
3	Inverness	A9, A96	24
4	Elgin	East Road, Alexandra Road A96	5
5	Alford	A96	<1km
6	Huntly	Parkhill Road	6
7	Aberdeen Area	A96, A90, Great Northern Road	84
8	A90 Corridor	A90, B966, A926	88
9	A9 and A90 Corridor (Dundee)	A90, A9, M90, A92	113
10	M90 and A92 Corridor	M90, A92, A915, A907, A921, B981, A90, A823	107
11	South East Edinburgh	A1, A701, A7	43
12	M8, M9, A80, M80 Corridor	M9, M8, M876, M80, A71, A9, A91	215
13	M74 Corridor	A74 (M), M74, A71	137
14	Dumfries	A701, A75, A76	7
15	M77 and A77 Corridor	A77, M77, A79, A70, A713	57
16	Saltcoats	A738, Kilwinning Road	1
17	West Glasgow (Lochwinoch)	A737, Belltrees Roads	14
18	M8 and A8 Corridor (West Glasgow)	Greenock Road, Ferry Road, M8, Glasgow Road	41
19	South Glasgow	A726, A725	54
Total		All Rail	120
Total		All Roads	1020
Total		Overall	1140

Please note the length of road (km) shown in the table above is approximate and is provided to give an

indication of the general scale of area noted. Similarly, road numbers and names have been assigned using the original input road traffic data, to give an indication of the roads being considered. Other smaller roads may also be included in the areas.

The Scottish Government works with others to deliver transport policy objectives, and responsibility for road and rail transportation in Scotland is split between a range of organisations including the Scottish Government, Transport Scotland (an agency of the Scottish Government), the Local Authorities, and the Regional Transport Partnerships.

The nature of the road and rail network outwith the agglomerations results in the areas under consideration consisting of parts of the major arterial routes leading to the cities and larger towns within Scotland. These routes consist of both trunk and local roads, and major railways.

Scotland's trunk road network covers about 3,500 kilometres of motorways and main roads, including 1,900 bridges and 3,700 other structures. Although it represents just over 6% of the total Scottish road network it carries 37% of all traffic and 62% of heavy goods vehicles, and is valued at around £12.5 billion.

Local authorities have a duty under the Roads (Scotland) Act 1984 to manage and maintain local roads in their area and duties under the Road Traffic Regulation Act 1984 to secure expeditious, convenient and safe movement of traffic. Approximately 94% of Scotland's roads, around 56,000km, including 11,000 bridges, are the responsibility of local authorities to manage and maintain.

The rail network in Scotland comprises 2,729 kilometres of railway, 23% of which is electrified. The rail network in the west of Scotland is the most heavily used commuter network in the UK outside London. In addition to this, Scotland's railways are further utilised by the transportation of freight, with over 13.99 million tonnes being moved in 2005/2006.

Whilst Transport Scotland are funders of the rail network, the infrastructure is owned by Network Rail, a not for profit organisation. Passenger trains are operated by First ScotRail under a franchise agreement specified and let by Transport Scotland.

Transport Scotland is supporting the reduction of overall carbon emissions by encouraging modal shift from road to rail transport, whilst considering any influence this shift may have on future rail noise.

3 The Authority Responsible

The Scottish Government is the competent authority for END, and is responsible for drawing up the Action Plans. The Scottish Government has established a Steering Group and Working Group arrangement to develop and deliver the Action Plans.

In the development and preparation of this Action Plan, the Transportation Working Group, led by Transport Scotland, has worked with key partners and stakeholders involved in END. These are as follows.

- Association of Train Operating Companies (ATOC)

- English, Welsh, and Scottish Railway Ltd (EWS)
- First ScotRail
- Network Rail
- Regional Transport Partnerships
- Relevant Local Authorities outwith the Agglomerations
- Society of Chief Officers of Transportation in Scotland (SCOTS)
- Transport Scotland
- Trunk Road Operating Companies

In addition the Transportation Working group has developed strong working relationships with the Edinburgh, Glasgow and Airport working groups, and other stakeholders.

4 The Legal Context

The [Environmental Noise \(Scotland\) Regulations 2006](#) came into force on 5 October 2006 and applies to environmental noise to which humans are exposed. Noise from domestic activities or noise created by neighbours can be dealt with under the [Environmental Protection Act 1990](#) and the [Antisocial Behaviour etc \(Scotland\) Act 2004](#).

Part 5 of the [Antisocial Behaviour etc \(Scotland\) Act 2004](#) contains provisions in relation to noise nuisance and in particular gives local authorities additional powers to deal with noise nuisance and tackles the problems of night noise in dwellings. Noise exposure at work is governed by the [Control of Noise at Work Regulations 2005](#) and noise from construction sites is controlled by the Control of Pollution Act 1974. Further information on the legislation referred to here can be obtained from the [Noise Level Research Report](#) published by the Scottish Executive on 19 October 2004.

Noise from lawful use of existing roads and railways cannot be construed as noise nuisance in terms of the Environmental Protection Act. Noise from new roads can be controlled through the planning process and there is additional legislation in respect of potential compensation and insulation.

The [Draft Noise Management Guide](#), provides guidance on the creation and maintenance of Effective Noise Management Policies and Practice for Local Authorities and their Officers in Scotland.

The Land Compensation (Scotland) Act 1973 gives provision through the Noise Insulation (Scotland) Regulations 1975 (NISR), for a grant to be made or retrospective insulation work to be carried out as a result of any "Altered" roads as defined within the NISR.

Noise from new railways may be controlled by conditions attached as part of the Parliamentary Bill process. The railway equivalent of the NISR is the [Noise Insulation \(Railways and Other Guided Transport Systems\) Regulations 1996](#). However, the

provisions of the 1996 Regulations, which came into force under the Land Compensation Act 1973, do not apply to Scotland.

[Planning Advice Note 51: Planning, Environmental Protection and Regulation](#) supports the existing policy on the role of the planning system in relation to the environmental protection regimes. As part of the overall Action Plan process [Scottish Government Planning Advice Note 56 \(PAN 56\)](#) will be revised to align with the Action Planning Process.

An Environmental Impact Assessment is required for projects which are likely to have significant environmental effects. Noise emissions are one of the impacts which have to be considered in such assessments and, if relevant, measures to mitigate the effects should be proposed. The implementation of the mitigation measures are a matter for the consenting procedure and the responsible authority.

It is important the Transportation Noise Action Planning process takes into account the existing legislative and guidance framework that exists within Scotland.

5 Any Limit Values in place in Accordance with Article 5

There are no limit values at present.

6 A Summary of the Results of the Noise Mapping

All member states were required to produce strategic noise maps for major roads, rail, airports, and industry (including port area if appropriate) by the end of June 2007. The Scottish Government met this target and the data, as required under Article 10(2) of the Environmental Noise Directive (2002/49/EC), was submitted by the Scottish Government on the 19th December 2007 to the European Commission.

As part of the Action Plan an analysis of the population exposure with respect to noise from both individual and, where appropriate, combined noise sources covered by the Directive is presented below for the areas outwith the agglomerations of Edinburgh and Glasgow.

Total population outwith agglomerations of Edinburgh and Glasgow affected with noise levels as shown						
Noise Level	L _{den} (dB)			L _{night} (dB)		
	≥ 55	≥ 65	≥ 75	≥ 50	≥ 60	≥ 75
Roads	191,300	44,600	1,600	115,900	20,200	100
Rail	20,500	5,700	100	14,300	3,300	0
Population exposure for noise sources as mapped for the Environmental Noise Directive 2002/49/EC (END)						

7 An evaluation of the estimated number of people exposed to noise

In line with the aim of Article 1 of the Directive, a Prioritisation Matrix has been developed to implement a common approach to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise.

The prioritisation has been developed to allow possible intervention locations to be identified based on scoring levels determined from, the number of people potentially affected, and the annoyance response to road, and railway, noise.

The derivation and detail of the Prioritisation Matrix is fully explained in Appendix 2 of the Transportation Noise Action Plan.

Following consultation with all END working groups, and after statistical analysis, consensus was reached to identify the top 3% of the road and railway network, as highlighted by the Prioritisation Matrix, as most relevant. The matrix will provide a focus for forthcoming action planning. The action plan itself will focus on the top 1%, of the aforementioned locations, and identifies these as Candidate Noise Management Areas (CNMA).

8 Identification of problems and situations that need to be improved

The CNMA to NMA review process, as part of the Action Plan, will, amongst other steps, seek to verify the findings of the noise model. This will involve checking, and updating where necessary, the data used in the Prioritisation Matrix. It will also involve a comparison of noise model assumptions regarding physical features with actual conditions on the ground (for example, presence of roadside noise barriers). The stages of the review process are as follows.

Stage	Item	Data to be reviewed
1	Review Model input data	Traffic flow Traffic composition Traffic Speed Surface type Gradient Topography
2	Identify Existing mitigation measures	Existing sound insulation Existing noise barriers Building orientation
CNMA to NMA Checking Process		

The assigning of Noise Management Areas and subsequent appraisal, planning, and implementation of mitigation measures in the NMAs form the core part of the Action Planning Process.

Criteria for consideration in developing the prioritisation of actions in NMAs may include the following.

- Identifying the noisiest locations that affect the most people.
- Identifying the location of nearby sensitive buildings.
- Achieving effective noise reduction for the affected population.
- Minimising whole life cost.
- Reviewing existing maintenance and improvement programmes to identify when and how interventions can be implemented.
- Minimising disruption.
- Identifying appropriate and balanced Value for Money criteria.

Technical Guidance, to assist the prioritisation process, will be agreed by the Steering Group,

A timetable and programme for a series of interventions, within the limits of available resources and alignment with planned maintenance, will be developed through the period of the first round Action Plan process (to 2012). The later stages of this planning period will also involve preparation for the second round of noise action planning required by the Directive.

These core processes will be supported, by other activities including participation in, and drawing on, research and development.

9 A record of the public consultations organised in accordance with Article 8 (7).

This Transportation Noise Action Plan is one of six plans in Scotland which have all been the subject of consultation under the Environmental Noise Directive. The Transportation Action Plan, the Glasgow and Edinburgh Agglomeration Plans, and the Plans for Edinburgh, Aberdeen and Glasgow Airports are also published on the Scottish Government website, and on the Scottish Noise mapping website. Consultations to date relating to the Directive are summarised in the table below.

Record of Main Consultation to Date	
2005	
16 November	Publication of research by consultants Hamilton and McGregor (now Faber Maunsell) to inform the strategic noise mapping process required under the terms of the Directive. This research identified where the process of data handling can be automated with minimal manual intervention
9 March to 1 June	A consultation , supported by a partial Regulatory Impact Assessment, sought views from all stakeholders with an interest in environmental noise issues on proposals to transpose and implement Directive 2002/49/EC on the assessment and management of environmental noise.
2006	
September	Series of workshops or brainstorming sessions held to inform Action Planning process.
2007	
24 August to	Consultation on Noise Action Planning Guidance, sought views from all

12 October	stakeholders on our approach to Noise Action planning and responses to this document were generally supportive. It is considered that the Action Plans follow the Guidance issued.
September 2008	Noise Conference held to Discuss noise maps and Action Planning process.
25 May to 21 July	Draft plans were the subject of a public consultation.
22 October to 19 December	The Draft plans were subject to a Strategic Environmental Assessment which also covered the airport plans. Responses to the consultation documents have been published on the Scottish Government website.

The above consultation exercises have been supported by press releases and media interviews by the Scottish Government, its partners and its consultants, to raise awareness of the issues.

In addition to the above, the Transportation Working Group has held a range of meetings with stakeholders and their partners to raise awareness and seek engagement in the process.

10 Any noise-reduction measures already in force and any projects in preparation.

The Scottish Government, and other organisations responsible for delivering transportation in Scotland, have developed a range of policy and strategy documents with direct or cross cutting impact on transportation noise. There is also a range of international initiatives providing direction to the strategy of noise reduction. It is important the Transportation Noise Action Plan is delivered in a joined up way that takes account of these other policies, to optimise outcomes.

At a national level Transport Scotland look to influence technology choices when railway rolling stock replacements are being considered, encouraging increasing use of electric passenger rolling stock and haulage of freight by electrical locomotives where it is both cost effective and feasible. This assists in delivering lower noise emissions as well as better air quality.

At a European level, [Council Directive 96/48/EC on the interoperability of the trans-European high speed rail system](#) and conventional rolling stock (2001/16/EC) specify maximum noise emission from trains. Implementation of these EU TSIs will lead to overall reductions in railway noise impact as the train fleet is renewed.

A significant proportion of the UK rail freight wagon fleet is fitted with disc brakes or tread brakes made of composite (reins based) materials, rather than cast iron tread brakes. This leads to much smoother wheel running surfaces and a subjective halving of volume. The latest diesel freight locomotives are fitted with composite tread brakes and efficient engine silencing.

In relation to reducing noise from track, rail roughness is routinely measured. The industry is evaluating the benefits of moving to a targeted rail grinding strategy.

Advanced noise control technology, in the form of tuned absorbers on rails is also being developed. The industry will follow the development of tuned absorbers on rails for potential future application.

The UK rail industry is at the forefront of international railway noise and research and maintains close involvement with European developments such as Silent Freight and Silent Track.

At a UK research level the Construction Industry Research and Information Association (CIRIA) are currently taking forward a [Noise and Vibration Issues in Urban Development](#) project. This project will aim to provide practical advice on noise and vibration issues for those involved in undertaking developments next to infrastructure. It will look at how to address these issues and derive practical solutions.

The Department for Transport (DfT) is leading on reserved transport matters for the UK. They are committed to a transport system which balances the needs of the economy, the environment, and society. They have conducted research on the [Assessment of the existing and proposed tyre noise limits](#) and an [Examination of Vehicle Noise Test Procedures](#), two areas where a reduction in transport noise could be achieved.

The above measures, and others, are identified in further detail in Section 6 of the Transportation Noise Action Plan and will also be reported separately to the European Commission.

11 Actions which the competent authorities intend to take in the next five years, including any measures to preserve quiet areas.

A timetable and programme for a series of interventions, within the limits of available resources and alignment with planned maintenance, will be developed through the period of the first round Action Plan process (to 2012). The later stages of this planning period will also involve preparation for the second round of noise action planning required by the Environmental Noise Directive.

The interventions will be supported by the following core elements,

- 1 Assessment of Candidate Noise Management Areas (CNMA) and Identification of Noise Management Areas (NMA).
- 2 Develop Cost Benefit Analysis Tools.
- 3 Application of Cost Benefit Analysis tools and evaluation of potential mitigation measures.

The format for the delivery of these supporting activities could include specific events such as seminars, combined with ongoing engagement with industry and non-governmental organisations, as opportunities arise, throughout the five years of the Action Plan.

12 Long-term strategy.

An important aspect of delivering the Transportation Noise Action Plan will involve education and sharing of knowledge across the various organisations and professions involved in the process. Research will also have a significant role to play

in achieving the objectives of this Action Plan. The gathering of existing relevant research, and commissioning new research where appropriate, will ensure future actions are rooted in a robust evidence base.

Over the life of the plan, it is likely that data used in the noise model will be refined as progress is made towards the development of the second round mapping required by the Environmental Noise Directive.

These processes will help identify and appraise technical and design related measures, to reduce noise on transport networks, which could be considered and deployed in future.

13 Financial information (if available): budgets, cost-effectiveness assessment, cost-benefit assessment.

As part of assessing and identifying potential noise reduction measures in NMAs, it will be necessary to develop criteria to determine whether practical and cost effective noise mitigation measures can be implemented. In this way the available resources can be allocated to permit such measures to be implemented where benefit is justified and where the noise reduction potential is greatest.

14 Estimates in terms of the reduction of the number of people affected (annoyed, sleep, disturbed, or other).

There are a number of strategic policies that have the potential to affect the transportation network, and consequently the whole population within the action plan. However, an initial analysis of the total number of Candidate Noise Management Areas, indicates 8,500 people in total are affected by road noise and 366 people in total are affected by railway noise in the CNMAs.

15 Provisions envisaged for evaluating the implementation and the results of the action plan.

The Action Plan will be reviewed and reported upon yearly to monitor progress, effectiveness, and areas for improvement.