



GOVERNMENT OF GIBRALTAR

Ministry for the Environment



NOISE ACTION PLAN



In conjunction with:
Environmental Agency
37 Town Range
Gibraltar

1. INTRODUCTION

1.1 Purpose of Action Plan.

The objective of this Plan is to:-

- (a)** prevent and reduce environmental noise where necessary and particularly where exposure levels may result in harmful effects on human health; and
- (b)** Conserve environmental noise quality where this is already good.

This Plan addresses noise arising from Gibraltar's major roads where annual vehicle passages exceed three million. Strategic noise maps for Gibraltar's major roads have been made and may be viewed at <http://www.environmental-agency.gi>

Action Plans are based on the results of noise mapping. They will be reviewed and revised if necessary by the Competent Authority at least every five years after the date of their approval.

This noise action plan follows on from the first environmental noise action plan for Gibraltar's major roads (ref: GI_MRoad, January 2009). The content and actions included in this Plan cover the period 2013-2018.

The Plan identifies priority areas for noise management along with proposals, actions and suggested measures for treating these.

1.2 The Legal Context

1.2.1 European Law

Council Directive 2002/49/EC relates to the Assessment and Management of Environmental noise and is more commonly known as the Environmental Noise Directive (END). This Directive came into force in July 2002.

The END relates to noise from road, rail and air traffic as well as noise in agglomerations. It focuses on the impact of noise on individuals and complements other EU legislation, which set standards for noise emissions from specific sources.

The END provides for a common approach that is intended to avoid, prevent or reduce, on a prioritised basis, the harmful effects, including annoyance, due to exposure to environmental noise.

The Directive requires:-

- 1) The determination of the exposure to environmental noise through noise mapping.
- 2) Ensuring that information on environmental noise and its effects is made available to the public.
- 3) Adoption of Action Plans based upon the mapping results to prevent and reduce environmental noise where necessary and to preserve environmental noise quality where it is good.

The first round of the Directive, delivered in 2008/9, defined the noise sources as -

- Major roads with more than 6 million vehicles passages per year.
- Major railways with more than 60,000 train movements per year.
- Major airports with more than 50,000 movements per year.
- Agglomeration (large urban areas) with a population of more than 250,000 persons.

For this, the second round of the Directive, and for all subsequent rounds, noise sources are defined as -

- Major roads with more than 3 million vehicles passages per year.
- Major railways with more than 30,000 train movements per year.
- Major airports with more than 50,000 movements per year.

- Agglomeration (large urban areas) with a population of more than 100,000 persons.

1.2.2. **National Law**

The END was transposed into Gibraltar law as The Environmental (Assessment and Management of Noise) Regulations 2006. Major roads are the only potential source of noise that falls under END. Gibraltar's airport does not qualify as a major airport and Gibraltar does not have a railway system

The Gibraltar Regulations therefore only addresses major roads as this is the only criteria set out in the END that applies. As a result of this, the Regulations refer only to the strategic noise mapping and action planning for major roads as the thresholds set out in the END. They also apply to any other part or parts of Gibraltar as the Minister for the Environment may designate by notice in the Gibraltar Gazette. They do not apply to noise that is caused by the exposed person himself, noise from domestic activities, noise created by neighbours, noise at work places or noise inside means of transport, within military areas or noise caused by military activities.

The Environmental Agency is designated as the Competent Authority for the purposes of the Regulations.

The Competent Authority is responsible for:

1. Implementing these Regulations
2. Making, and where relevant, approving noise maps and action plans for major roads
3. Collecting noise maps and action plans

2. **Limit Values**

Gibraltar has no statutory noise limit values nor any guidance on how to set these values. The Gibraltar Government has, however, on recommendation from the Noise Core Steering Group, adopted 70dB_{L_{den}} as an indicator to identify priority areas.

3. Summary of Results of the Noise Mapping

The Gibraltar Government completed the noise mapping for major roads with more than 3 million vehicle movements per annum as required by the Regulations in 2012.

A strategic population exposure assessment was carried out alongside the result of the mapping. The summary results of this mapping are set out below the L_{den} and L_{night} . The table has been configured so that both raw and rounded values are presented.

A comparison between the round one noise mapping results and round two mapping results is difficult as more roads have been modelled during round two. As a result of this, population exposure is much higher for round two than for round one.

3.1 Population Statistics – Population

L_{den}

L_{den}	raw data	rounded (hundreds)
Number exposed to 50-54dB	5008	50
Number exposed to 55-59dB	1861	19
Number exposed to 60-64dB	2278	23
Number exposed to 65-69dB	1237	12
Number exposed to 70-74dB	5816	58
Number exposed to >75dB	1715	17
Number exposed to >55dB	12907	129
Number exposed to >65dB	8768	88
Number exposed to >75dB	1715	17

L_{Night}

L_{night}	raw data	rounded (hundreds)
Number exposed to 45-49dB	4022	40
Number exposed to 50-54dB	2004	30
Number exposed to 55-59dB	1940	19
Number exposed to 60-64dB	4085	41
Number exposed to 65-69dB	3761	38
Number exposed to >70dB	0	0

3.2 Population Statistics – Dwellings

L_{den}	raw data	rounded (hundreds)
Number exposed to >55dB	4302	43
Number exposed to >65dB	2923	29
Number exposed to >75dB	572	6

3.3 Population Statistics – Further Studies and Validation

As recognised in the first round noise action plan, the population exposure presented overstates actual exposure. This is because the strategic noise mapping assumes all residential dwellings are located at 4m above the ground. In Gibraltar this assumption is not representative.

As part of a validation study commissioned by the Environmental Agency, a better estimate of the number of dwellings exposed to noise levels of more than 70 dB L_{den} has been undertaken using the second round noise mapping results.

This study identified that 185 residential dwellings are exposed to levels in excess of 70 dB L_{den}. Based on an average of 3 people per residential dwelling, this equates to around 555 people who are exposed to noise levels greater than 70 dB L_{den}. This is significantly lower than the 5816 people reported using the 4m above the ground criteria required by the Directive.

For future rounds of strategic noise mapping, the Environmental Agency will look to report noise exposure statistics that better reflect actual exposure in addition to the approach required by the Regulations and Directive. This will require the further development of a population dataset for Gibraltar. The recent census will significantly improve this dataset and work is underway to upload the information electronically.

4. Identification of potential problems and situations that may need to be improved

This Action Plan has been designed with a view to preventing and reducing environmental noise where necessary and particularly where exposure levels can induce harmful effects on human health as well as conserving environmental noise quality where it is good.

4.1 Prioritisation

The Plan will apply in particular to the most important areas established by the strategic noise maps. Attention will be focused on those areas where people are exposed to the highest levels of noise from major roads. The Gibraltar Government following recommendations from the Noise Core Steering Group has adopted the $70\text{dB}_{L_{\text{den}}}$ indicator to identify priority areas for noise mitigation measures.

The first round noise action plan set actions for the Gibraltar Government to take in the 5 years from January 2009. Two of these actions related to the investigation of priority areas through the verification of the accuracy of the noise modelling that underpins the strategic noise maps, and through field surveys.

A verification study commenced after the second round noise mapping in August 2013. The verification study concentrated on the population exposed to more than $70\text{ dB } L_{\text{den}}$ in accordance with the recommendation of the Noise Action Core Steering Group. Further analysis was undertaken to identify the population exposed to the highest noise levels in order to allow the

Government to take appropriate measures to reduce the noise exposure on a prioritised basis above the 70 dB L_{den} threshold.

The validation study has involved coincidental traffic counting and noise monitoring on sections of major road, along with field surveys. The field surveys have concentrated confirming the assumptions within the noise model and assessing whether noise-sensitive buildings have sensitive facades exposed to the major roads, and the condition of these facades.

4.2 **Priority Areas**

The validation study commissioned by the Environmental Agency has recommended the following priority areas for road traffic noise management.

- PA1 – Rosia Road between the junctions of Scud Hill Road and the 7th Rosia Battery
- PA2 – Line Wall Road between Cooperage Lane and John Mackintosh Square
- PA3 – Devils Tower Road

The locations of the priority areas are presented in Figure 1.

The validation study found that three of the schools, namely Westside, Bishop Fitzgerald and Governors Meadow, identified in the first round noise action plan as priority areas are below the 70 dB L_{den} threshold. Notre Dame School was however found to have facades exposed to levels of more than 70 dB L_{den} and is therefore confirmed as a priority area for further investigation.

The validation study also identified several other locations where there is evidence of the 70 dB L_{den} threshold being exceeded however prioritisation has been given to the areas outlined above due to the level and population exposed to road traffic noise in these areas.

This will be kept under review throughout successive rounds of noise mapping, along with other potential priority areas.

The priority areas will be subjected to an investigation of measures to reduce road traffic noise exposure in these areas. These investigations will be undertaken using a cost-benefit analysis and with respect to other Government policies and strategies.



Fig1

4.3 **Night Noise**

The Noise Action Core Steering Group has not recommended the adoption of a limit value for night noise. It is expected that any potential action taken to reduce noise exposure during daytime hours will also have an effect in the reduction of noise at night. The L_{den} indicator adopted by the Noise Action Core Steering Group considers night noise as part of its derivation, along with daytime and evening noise levels.

5. **Consultation Process**

As part of the consultation process, the noise maps were made available to the public through the Environmental Agency website <http://www.environmental-agency.gi>. These maps were accompanied by a document explaining the requirements of the European Noise Directive and inviting the public to participate in the development of the Noise Action Plan. Guidance was provided in relation to the matters concerning noise that would need to be considered.

The maps and document were available on the Environmental Agency website as from the 24th April 2013 for a period of five weeks. The general public were informed of the consultation process, and invited to contribute through the local media.

A record of submissions during the consultation process can be found in Appendix B.

The Action Plan which was adopted was made available on the Environmental Agency website <http://www.environmental-agency.gi> on the 10th January 2014 for the information of the general public.

6. Noise reduction measures already in force and any projects in preparation

6.1 Managing Road Noise

The impact of noise from road traffic can be controlled in the following ways:-

- Planning Controls – traffic and land use
- Control of noise at source
- Mitigation and insulation
- Setting limit values
- Maintenance of roads
- Traffic Management

6.1.2 Planning Controls

The Government will require all new major roads to undergo a noise impact assessment as part of a more general Environmental Impact Assessment. This noise impact assessment will include possible mitigation measures such as the use of noise barriers and landscaping.

One of the measures to minimize tourist traffic that was indicated in the last Noise Action Plan was the provision of a park and ride facility close to the frontier

Although most of the infrastructure, including a new multi-storey car-park, has been provided for this proposed park and ride facility, the scheme has not yet been implemented and is awaiting the outcome of the study into the Gibraltar Sustainable Traffic, Transport and Parking Plan presently being undertaken by Government.

Dudley Ward Tunnel, located on the eastern side of Gibraltar reopened in 2010 and provides an alternative route to the south of Gibraltar, thereby reducing traffic along Winston Churchill Avenue and Queensway, the two roads classified under the legislation in the first round of noise mapping.

Bishop Caruana Road has been completed and this now reduces traffic along part of Queensway. Works to the new access road to the frontier have also commenced.

6.1.3 **Control of noise at source**

In the first noise action plan, low noise road surfaces were proposed as a potential measure to reduce road traffic noise at source.

The Government's Technical Services Department examined the feasibility of using low noise road surfaces, but the associated issues with maintenance and durability, along with the low speed limits imposed on these roads do not make this option cost effective.

6.1.4. **Mitigation and insulation**

The very close proximity of properties to these major roads make it almost impossible to consider the erection of barriers as a means of reducing noise. However, wherever there is the physical space, consideration will be given to their use.

Noise insulating measures such as double glazing and sound attenuated ventilation can help reduce internal noise levels from road traffic noise.

The Government is replacing all windows in Government estates, along Winston Churchill Avenue and Devils Tower Road, with double glazed windows. Energy efficiency legislation also requires all new buildings to be provided with double glazed windows.

6.1.5. **Setting limit values**

There are no formal noise limit values in Gibraltar with regards to the roads covered by this Action Plan. This said, on the advice of the Noise Action Core Steering Group a 70dB_{L_{den}} indicator has been adopted to prioritise areas along major roads.

6.1.6. **Traffic Management and Transport Strategy**

Traffic management can be an effective tool for reducing noise levels. It is difficult for vehicles to travel at high speeds on the major roads because of their relatively short lengths. Traffic calming measures such as the provision of roundabouts are used and the revision of existing speed limits will be considered where appropriate.

The Royal Gibraltar Police will continue to enforce the provisions of the Traffic Act 2005 and the Vehicle (Construction, Equipment and Maintenance) Regulations as it relates to speed limit and noise arising from vehicle exhausts.

Gibraltar is currently preparing a Sustainable Transport Strategy. This strategy includes measures which may lead to improvements in the noise emissions from Gibraltar's roads. These measures include increased use of public transport to reduce vehicle movements.

7. Actions which the Gibraltar Government intend to take in the next 5 years

The implementation of the actions identified in this section of the Action Plan will commence as soon as the Plan is adopted by Her Majesty's Government of Gibraltar and will be an evolving process.

Actions that will be undertaken have been broken down into the following categories:

- Technical Actions; and
- Priority Areas

6.1.5. Technical Actions

The following technical actions will be undertaken in the period covered by this Plan.

Technical Actions	
Action	Rationale

<p>Prepare a comprehensive population dataset to improve the accuracy of the noise exposure data that is reported.</p>	<p>The population dataset used for the first and second rounds of mapping was based on assumptions. An accurate and fully captured population dataset is necessary to improve the noise mapping and action planning process. This will be carried out using the new electronic population census presently being prepared.</p>
<p>Review the implications of any new assessment methods proposed by the European Commission</p>	<p>The third round of strategic noise mapping in 2017 may be undertaken using a 'common' assessment method. Any change in assessment method may result in changes to the noise levels. The implications of this need to be established.</p>

6.1.5. Priority Areas

An investigation of the cost-effectiveness of potential noise reducing and mitigation measures will be investigated in each of the priority areas. The potential measures to be investigated in each of the priority areas are outlined in the table below.

Priority Areas	
Priority Areas	Potential Measures to be Investigated
PA1 Rosia Road PA2 Line Wall Road PA3 Devils Tower Road Notre Dame School	<ul style="list-style-type: none">• Promoting public transport usage• Transport policy initiatives• Controlling noise at source from vehicles by means of enforcement• Driver behaviour awareness – i.e. smooth driving, keeping music to an acceptable level and limiting the use of horns• Introduction of specific initiatives such as car pools• Increasing awareness of noise insulation measures such as double glazing and sound attenuated ventilation• Noise barriers• Changes and enforcement of the speed limit

7. Long Term Strategy

The Government of Gibraltar will continue to manage and reduce environmental noise in a cost-effective manner, under direction from The Noise Core Steering Group.

The progress and work of The Noise Core Steering Group will continue, and will take into consideration developments in European and local policy. This will include for example, the monitoring of any future revision of the road traffic assessment methodologies, the development of quiet road surfaces and research into improved building sound insulation.

Vehicle counting around Gibraltar will continue to be undertaken to in order to assist with the development of future Action Plans.

APPENDIX A

NOISE CORE STEERING GROUP

The Noise Core Steering Group was chaired by the Minister for the Environment and was composed of representatives from:-

- 1) Ministry for the Environment
- 2) The Chief Technical Officer
- 3) Environmental Agency
- 4) Technical Services Department (Highways)
- 5) Town Planning Department
- 6) Legislation Support Unit.

APPENDIX B

RECORD OF SUBMISSIONS DURING THE CONSULTATION PROCESS