



Government of Gibraltar

Ministry for the Environment

Directive 2002/49/EC Environmental Noise Action Plan

Ref: GI_MRoad
January 2009



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 two major roads (Winston Churchill Avenue and Queensway) in Gibraltar where annual vehicle passages exceed six million. Strategic noise maps for these two roads have been made and may be viewed at <http://www.environmental-agency.gi>

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

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 and 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.

Noise sources are defined 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.

1.2.2. **National Law**

The END was transposed into Gibraltar law as The Environmental (Assessment and Management of Noise) Regulations 2006. Since we do not have any railways, or a major airport as defined in the Directive and do not have a population of more than 250,000 persons, the only source that would affect Gibraltar is the major road criteria.

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 exceeding the 6 million vehicle passages per annum threshold 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 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 the Competent Authority for the purposes of the Regulations and for preparing the Action Plan.

2. Limit Values

Gibraltar has neither statutory noise limit values nor any guidance on how to set these values. The Gibraltar Government has, however, on recommendation from the Noise Action 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 as required by the Regulations in 2008.

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 present.

3.1 Population Statistics – Population

<u>L_{den}</u>		
L _{den}	raw data	rounded (hundreds)
Number exposed to 55-59dB	1902.57	19
Number exposed to 60-64dB	653.79	7
Number exposed to 65-69dB	2039.13	20
Number exposed to 70-74dB	110.06	11
Number exposed to >75dB	0.11	0
Number exposed to >55dB	5701.67	57
Number exposed to >65dB	3149.84	31
Number exposed to >75dB	0.11	0

L_{Night}

L_{night}	raw data	rounded (hundreds)
Number exposed to 50-54dB	439.15	4
Number exposed to 55-59dB	1596.81	16
Number exposed to 60-64dB	1349.73	13
Number exposed to 65-69dB	480.54	5
Number exposed to >70dB	0	0

Population Statistics – Dwellings

L_{den}	raw data	rounded (hundreds)
Number exposed to >55dB	1900.56	19
Number exposed to >65dB	1049.94	10
Number exposed to >75dB	0.04	0

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 and to 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 these two major roads. The Gibraltar Government following recommendations from the Noise Action Core Steering Group has adopted the 70dB_{L_{den}} indicator to identify priority areas for noise mitigation measures.

Priority will also be given to noise sensitive locations listed below that abut these major roads.

Queensway		
Name of Location	L_{den} Contour Band	Limit exceedence
Bishop Fitzgerald Middle School	70 to 74	Yes
Governor's Meadow First School	70 to 74	Yes
Westside Comprehensive School	70 to 74	Yes

Winston Churchill Avenue		
Name of Location	L_{den} Contour Band	Limit exceedence
Notre Dame First School	70 to 74	Yes

These priority areas will be subjected to further investigation, if need be with the use of field surveys and where noise levels are confirmed to exceed the 70dBL_{den} indicator, the Government will take appropriate measures to reduce the noise exposure on a prioritised basis.

4.2 **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.

5. **Consultation Process**

The consultation involved making the noise maps available to the public at the Environmental Agency website <http://www.environmental-agency.gi>. This map was 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 as to the matters concerning noise that would be taken into account.

The map and document were available on the Environmental Agency website as from the 28th November 2008 and the general public were advised of this through the local media.

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

The Action Plan adopted was made available on the Environmental Agency website <http://www.environmental-agency.gi> on the 8th January 2009 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 may be controlled in the following manners discussed below:-

- 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 any possible mitigation measures such as the use of noise barriers and landscaping.

A new park and ride facility for 1400 cars is being constructed close to the frontier with Spain. This will result in a noticeable decrease in traffic along certain sections of these two roads, as visitors to Gibraltar will be encouraged to use this facility.

This should lead to a corresponding reduction in noise. Government is currently studying the provision of a free public bus service for the community. Other current projects include the re-opening of an alternative route (Dudley Ward Tunnel) that will result in a reduction of traffic along both major roads. The re-opening of Dudley Ward tunnel will provide an alternative route to the south of Gibraltar, thereby reducing traffic numbers on both Winston Churchill Avenue and Queensway.

The Government is also looking into the construction of new roads in order to minimize the volume of traffic along the two major roads.

6.1.3 **Control of noise at source**

The Government is committed to studying the use of low noise road surfaces.

Research in the U.S. and Europe shows that a Stone Matrix Asphalt (SMA) or Open-Graded Friction Course (OGFC) mix will reduce highway noise by 3 to 5 dB(A). To the average person, this reduction is the same as doubling the distance between the source of the noise and their location.

There are problems of maintenance and durability associated with the use of these products and this will influence the choice of product, most of which are proprietary products. Issues that will be considered during product selection include:

- The noise reducing effect of the open porous surface layers
- The projected life-span of the material, assessed at different levels of maintenance.
- The cost related to the drainage system for these surfaces which are considered to be relatively high compared to other surfaces.
- The required frequency and method of cleaning of the open porous surface layer so as to maintain the noise reducing effect to as close as possible to that of the product when initially laid. This factor can potentially result in a considerable hidden cost.

The Government will therefore undertake a detailed cost benefit analysis before proceeding with the use of such surfaces.

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 exists the physical space, consideration will be given to their use.

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. Nevertheless 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. **Maintenance of roads**

When a length of major road requires a replacement road surface the Government will carry out a cost benefit analysis of the laying of low noise road surfaces.

6.1.7. **Traffic Management**

The use of traffic management can be an effective tool for reducing noise levels. It is extremely unlikely for vehicles to travel at high speeds on these two major roads because of their relatively short lengths. Traffic calming measures such as the provision of roundabouts 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.

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 start as soon as the Plan is adopted by the Gibraltar Government and will be an ongoing process.

Further detailed investigation of the priority areas will commence. This process is necessary to verify the accuracy of the noise modelling.

This will involve field surveys and checking the noise model assumptions regarding physical features such as retaining walls, cuttings, and parapet walls.

Possible noise mitigation actions at these priority areas will then be considered.

The modelling identified that potentially 1100 persons could be exposed to levels in excess of the 70dB_{L_{den}} indicator. Further investigations and analysis will be carried out to confirm/verify this.

The progress of this Action Plan will be monitored during the intervening five year period.

8. Long Term Strategy

The Government of Gibraltar will monitor closely any future revision of calculation of road traffic noise, the development of quiet road surfaces and research into improved building sound insulation.

Vehicle counting will continue around Gibraltar to identify other roads which could qualify for inclusion in any future Action Plans.

APPENDIX A

NOISE ACTION CORE STEERING GROUP

The Noise Action 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