



Department  
for Environment  
Food & Rural Affairs

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## **Draft Noise Action Plan:**

### **Roads (Including Major Roads)**

**Environmental Noise (England) Regulations 2006,  
as amended**

**July 2013**

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## Executive summary

This Action Plan has been developed by the Department for Environment, Food and Rural Affairs (Defra) as the Competent Authority for preparing and adopting this Action Plan under the terms of the Environmental Noise (England) Regulations 2006, as amended ('the Regulations'). The Regulations implement the Environmental Noise Directive (END) in England.

The END requires, on a five year cycle:

- The determination, through noise mapping, of exposure to environmental noise from major sources of road, rail and aircraft noise and in urban areas (known as agglomerations).
- Provision of information to the public on environmental noise and its effects.
- Adoption of Action Plans, based upon the noise mapping results, which are designed to manage environmental noise and its effects, including noise reduction if necessary.
- Preservation of environmental noise quality where it is good, particularly in urban areas.

This Action Plan applies to noise from road sources that were covered by the second round of strategic noise mapping, undertaken during 2012. It accompanies two additional Action Plans, which are being published at the same time, covering the management of noise within agglomerations and from rail sources. Responsibility for preparing airport Noise Action Plans rests with the relevant airport operators.

In line with the Government's policy on noise, this Action Plan aims to promote good health and good quality of life (wellbeing) through the effective management of noise. It is intended that this Action Plan will assist the management of environmental noise in the context of Government policy on sustainable development<sup>1</sup>.

This Action Plan will be relevant to highways authorities, including the Highways Agency, local authorities including those with environmental, transport and planning responsibilities, and interested members of the public.

The END requires that Member States consult with the public about proposals for their Action Plans. This Action Plan will be subject to public consultation between July and October 2013.

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<sup>1</sup> Sustainable development means encouraging economic growth while protecting the environment and improving our quality of life - all without affecting the ability of future generations to do the same.

It has been estimated that the approximate number of people associated with the Important Areas (noise 'hotspots') identified through the process described in this Action Plan for the major roads outside agglomerations is just under 51,000. This is expected to correspond to about 1,130 Important Areas. The equivalent figures for Important Areas within agglomerations can be found in the Agglomerations Action Plan.

# Glossary and definition of acronyms, abbreviations and terms

A glossary of acoustical and technical terms is at **Appendix A**.

**Table 1: Glossary and definition of acronyms, abbreviations and terms**

Term	Definition
Agglomeration	An area having a population in excess of 100,000 persons and a population density equal to or greater than 500 people per km <sup>2</sup> and which is considered to be urbanised.
Competent Authority	Defra (Department of Environment, Food and Rural Affairs)
END	Environmental Noise Directive (Directive 2002/49/EC)
First Round Agglomeration	An agglomeration but having a population in excess of 250,000 persons.
HA	Highways Agency
Noise Action Plan Support Tool (NAPST)	An on line tool to enable information exchange between Defra and local highway authorities and local authorities. It also allows local highway authorities to set out the outcomes of their investigations of the Important Areas
NPSE	Noise Policy Statement for England
Regulations	The Environmental Noise (England) Regulations 2006, as amended
Round 1	The noise mapping which took place in 2007 and the subsequent Action Plans that were adopted in 2010
Round 2	The noise mapping which took place in 2012 and this Action Plan.
Round 3	The noise mapping that will take place in 2017 and the subsequent Action Plan revision

# Part A: General issues

## 1. Policy and legal context

1.1 This Action Plan has been developed by the Department for Environment, Food and Rural Affairs (Defra) as the Competent Authority for preparing and adopting this Action Plan under the terms of the Environmental Noise (England) Regulations 2006, as amended ('the Regulations'). The Regulations implement the Environmental Noise Directive (END) in England. Noise is a devolved matter and the END is implemented separately within the Devolved Administrations.

1.2 Noise is a natural consequence of a mature and vibrant society. Noise, however, can have major implications for quality of life (wellbeing), human health, economic prosperity and the natural environment.

1.3 The Government's policy on noise is set out in the Noise Policy Statement for England (NPSE). The NPSE's vision is to:

“Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.”

Its aims are to:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life.

1.4 The NPSE provides the policy framework to assist the implementation of the END and the Regulations.

1.5 The END seeks to manage the impact of environmental noise through strategic noise mapping and the preparation and implementation of noise Action Plans. In particular the END requires, on a five year cycle:

- The determination, through noise mapping, of exposure to environmental noise from major sources of road, rail and aircraft noise and in urban areas (known as agglomerations).
- Provision of information to the public on environmental noise and its effects.
- Adoption of Action Plans, based upon the noise mapping results, which are designed to manage environmental noise and its effects, including noise reduction if necessary.

- Preservation of environmental noise quality where it is good, particularly in urban areas.

1.6 Under the terms of the END, Defra has completed the second round of strategic noise mapping, the results of which underpin this Action Plan.

1.7 This Action Plan is designed to address the management of environmental noise issues and effects.

1.8 Two complementary Action Plans are being published covering the management of noise within agglomerations and from railway sources<sup>2</sup>.

## **2. Scope of this Action Plan**

2.1 This Noise Action Plan is designed to address the management of noise issues and effects from roads (including Major Roads<sup>3</sup>) in England under the terms of the Regulations.

2.2 This Action Plan covers those roads that were included in the Round 2 noise mapping.

2.3 When identifying possible actions, account should be taken of the principles that already exist in current legislation and guidance.

2.4 This Action Plan replaces the previous Major Roads Noise Action Plan and the roads section of the twenty-three Agglomeration Plans previously adopted.

2.5 A glossary of acoustical and technical terms can be found at **Appendix A**.

## **3. Implementing this Action Plan**

3.1 The responsibility for the management of noise from road traffic sources lies with various authorities including the Department for Transport (DfT) and the highway authorities. The implementation of this Action Plan forms part of their existing responsibilities in this area.

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<sup>2</sup> The draft 'Noise Action Plan: Railways (Including Major Railways)' and 'Noise Action Plan: Agglomerations' can be viewed as part of this consultation.

<sup>3</sup> A major road is defined in the Environmental Noise (England) Regulations, Regulation 3(8) as a road which the Secretary of State regards as a trunk road, or a motorway that is not a trunk road, or a principal or classified road that has more than three million vehicle passages a year - and he considers to be regional, national or international.



## **4. Monitoring and review**

- 4.1 Defra will monitor the progress of this Action Plan through liaison with the relevant authorities and will provide periodic updates on progress as necessary. As required by the Regulations, this Action Plan will be reviewed at least once every five years<sup>4</sup>.

## **5. Financial information**

- 5.1 Defra undertook an informal evaluation to determine the likely costs of the proposals in this Action Plan. As this Action Plan describes a framework for the management of noise the process does not impose any additional material costs on the highway authorities or local authorities. Instead it enables the relevant highway authorities to target action to the worst affected areas and to develop proposals for assisting the management of noise as appropriate including taking account of budgetary and other considerations. Any specific action identified will be based on local decisions - taking into account costs and benefits.

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<sup>4</sup> Environmental Noise (England) Regulations 2006 (SI 2006/2238) Regulation 17(3)(b)

## Part B: Approach to managing road noise

### 6 Current approach to noise management

- 6.1 The management of the roads covered by this Action Plan rests with the relevant highway authority through the implementation of the Highways Act 1980 (as amended). This includes the Highways Agency (HA) which is responsible for motorways and other trunk<sup>5</sup> roads. The remaining roads are the responsibility of local highway authorities either as part of a County Council or as part of a Unitary Authority.
- 6.2 There are currently several approaches taken to control the impact of noise from road traffic, including:
- control of noise at source (including vehicle emission limit values);
  - planning controls – through the operation of the national, regional and local transport and land use planning system;
  - compensation and insulation - in the case of new or improved highway;
  - maintenance; and
  - specific initiatives including previously identified actions under the END.
- 6.3 Further information on the current approach can be found in **Appendix B**.

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<sup>5</sup> As defined in the Highways Act 1980

## Part C: Summary of noise mapping results

### 7. Summary of the results of the noise mapping, including an evaluation of the estimated number of people exposed to noise

7.1 The Regulations required that noise level information be determined in terms of several noise indicators<sup>6</sup> (see also **Appendix A**). These were:

- $L_{den}$
- $L_{day}$
- $L_{evening}$
- $L_{night}$
- $L_{A10,18h}$
- $L_{Aeq,16h}$

7.2 For the major roads covered by the Round 2 mapping, the estimated number of people<sup>7</sup> (rounded to the nearest thousand) located outside agglomerations and falling within various noise level bands<sup>8</sup> from the strategic mapping of **noise from those major roads alone** are shown in Tables 2 – 4 below:

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<sup>6</sup> The Environmental Noise (England) Regulations 2006 (SI 2006/2238) Regulation 4(2) and Schedule 3(2)

<sup>7</sup> The number of people has been determined by assigning population information from the 2011 census to residential building locations and has been rounded to the nearest 1,000

<sup>8</sup> The noise levels throughout this document refer to free-field levels at a height of 4m at the facades of dwellings.

**Table 2: Estimated number of people above various noise levels due to noise from major roads outside agglomerations,  $L_{den}$**

Noise Level ( $L_{den}$ ) (dB)	Number of People
≥55	3,108,000
≥60	1,469,000
≥65	810,000
≥70	295,000
≥75	22,000

**Table 3: Estimated number of people above various noise levels due to noise from major roads outside agglomerations,  $L_{night}$**

Noise Level ( $L_{night}$ ) (dB)	Number of People
≥50	1,974,000
≥55	969,000
≥60	357,000
≥65	33,000
≥70	2,000

**Table 4: Estimated number of people above various noise levels due to noise from major roads outside agglomerations,  $L_{A10,18h}$**

Noise Level ( $L_{A10,18h}$ ) (dB)	Number of People
≥55	2,359,000
≥60	1,326,000
≥65	831,000
≥70	383,000
≥75	58,000

7.3 For results for roads inside agglomerations, please see the Noise Action Plan: Agglomerations, Appendix B.

## Part D: The Action Plan process

### 8. Identification of problems and situations that need to be investigated (Important Areas)

- 8.1 The Regulations require that this Action Plan should *“apply in particular to the most important areas as established by the strategic noise maps”*<sup>9</sup>.
- 8.2 To fulfil this requirement, attention has been focused on those most exposed to noise from roads covered by the Round 2 noise mapping carried out during 2012.
- 8.3 The calculation method<sup>10</sup> used for generating the strategic noise maps, produces results in terms of the  $L_{A10,18h}$  noise indicator. The results were adapted<sup>11</sup> to produce the other noise indicators shown in 7.1 above. Furthermore, this indicator is used as the main means of assessing the impact of road traffic noise in England and also as the basis for the criteria used to determine compensation under the Noise Insulation Regulations (see Appendix B9 and B10). Defra has decided, therefore, to use the  $L_{A10,18h}$  indicator as the basis for identifying Important Areas to be investigated for potential action. This is consistent with the approach used for Round 1.
- 8.4 In reviewing the method for identifying Important Areas it was decided to continue to follow the principles used for Round 1. This will continue to help to deliver the vision and aims of the Government’s Noise Policy.
- 8.5 It has, therefore, been decided that the Important Areas with respect to noise from major roads will be where the 1% of the population<sup>12</sup> that are affected by the highest noise levels from major roads are located according to the results of the strategic noise mapping<sup>13</sup>. This approach has been taken because the population at these locations is likely to be at the greatest risk of experiencing a significant adverse impact to health and quality of life as a result of their exposure to road traffic noise.

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<sup>9</sup> The Environmental Noise (England) Regulations (SI 2006/2238) Regulation 15 (1)(e)

<sup>10</sup> Calculation of Road Traffic Noise, 1988 HMSO ISBN 0 11 550847 3

<sup>11</sup> The Environmental Noise (England) Regulations (SI 2006/2238) Schedule 2(2)

<sup>12</sup> For major roads the total population is the number of people within the 50 dB  $L_{A10,18h}$  contour outside agglomerations according to the results of the strategic noise mapping and the 2011 census.

<sup>13</sup> At some locations, there may be an opportunity to investigate beyond the top 1% of the population but there is no requirement to investigate those dwellings where the  $L_{A10,18h}$  is below 65 dB according to the results of the strategic noise mapping.

- 8.6 For roads in agglomerations, the Important Areas will be where the top 1% of the population<sup>14</sup> that are affected by the highest noise levels are located according to the results of the strategic noise mapping<sup>15</sup>. This approach has been because the population at these locations is likely to be at the greatest risk of experiencing a significant adverse impact to health and quality of life as a result of their exposure to road traffic noise.
- 8.7 It has been estimated that the approximate number of people associated with the Important Areas identified through this process for the major roads outside agglomerations is just under 51,000. This is expected to correspond to about 1,130 Important Areas. The equivalent figures for Important Areas within agglomerations can be found in the Agglomerations Action Plan.
- 8.8 Supporting maps indicating the location of the Important Areas will be available on the Defra website once the final Action Plans are published.
- 8.9 As with Round 1, it is anticipated that the relevant highway authority will examine each Important Area having regard to any ongoing noise mitigation initiatives, schemes and plans.

## **9. Noise reduction measures already in force and any projects in preparation**

- 9.1 For any particular location, there is a wide range of measures that can be implemented to provide improved management of the road traffic noise and/or noise reduction. Some of the possible measures are described below.

### **Source levels**

- 9.2 Over recent years, the use of low noise road surfaces has become increasingly widespread, particularly for new roads and when road surfaces need replacing.
- 9.3 Other techniques used include traffic management schemes, such as the re-routing of traffic away from sensitive receptors, restrictions on the type of traffic (e.g. heavy vehicles) that can use certain roads at certain times of day, the design and building of new roads to provide an alternative route away from noise sensitive premises, and the introduction of speed restrictions directly or as a consequence of congestion management schemes.

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<sup>14</sup> The total population is the number of people in the agglomeration within the 50 dB  $L_{A10,18h}$  contour from those roads in the agglomeration that were mapped according to the 2011 census. This is slightly different from the approach used in Round 1 where the total population was the total population in the agglomeration. This adjustment has been made to improve the consistency of the identification of Important Areas across the agglomerations.

<sup>15</sup> In some agglomerations, there may be an opportunity to investigate beyond the top 1% of the population but there is no requirement to investigate those dwellings where the  $L_{A10,18h}$  is below 65 dB according to the results of the strategic noise mapping.

## **Noise Barriers or other similar methods**

- 9.4 There is widespread use of barriers to limit the noise from roads – these include barriers alongside the roads themselves, landscaping and the built environment (with buildings being positioned to protect others from the source of noise).

## **Façade Insulation**

- 9.5 Securing an appropriate standard of internal acoustic conditions is often achieved by the careful design of the sound insulation provided by the building envelope. This can either occur at the design stage of a new structure or by improving the insulation of an existing building. Where necessary, alternative ventilation is provided so that windows can be kept closed but with ventilation still available.
- 9.6 For all these potential measures, the overall cost and benefit needs to be considered. Account should be taken of any accompanying benefits that might occur, for example on air quality.

## **Implementation of Round 1 Noise Action Plans**

- 9.7 Just over 3,000 Important Areas associated with major roads outside agglomerations were identified during the Round 1 noise action planning process. These were located throughout England and covered about 150 different highway authorities. They were associated with about 135,000 people. The relatively smaller number for Round 2 compared with Round 1 is due to the fact that many of the major roads that were outside agglomerations in Round 1 are now inside agglomerations for Round 2 (given the change in the agglomeration threshold set out in the END for Round 2).

## **10. The Implementation of this Action Plan**

- 10.1 Defra will liaise with, and provide information to, the relevant highway authorities about the Important Areas identified in Section 7 above.
- 10.2 Concurrently, the relevant local authorities will be provided with similar information. This information will go to the departments with primarily environmental health responsibilities, thereby enabling them to participate in the detailed identification of any noise management measures. The information will be provided through the Noise Action Plan Support Tool, devised and produced by Defra for the Round 1 action planning to provide cost-efficient information exchange.
- 10.3 As with Round 1, the relevant highway authorities will be asked to examine the Important Areas and form a view about what measures, if any, might be taken in order to assist with the implementation of the Government's policy on noise. If it is found that identified locations are affected by noise from sources that are the responsibility of more than one highway authority, the relevant highway authorities will liaise, as appropriate, so that any action identified is the most appropriate.
- 10.4 More details of the process are set out below:

- 10.5 For each Important Area the relevant highway authority will consider what, if any, actions might be taken.
- 10.6 If a certain length of highway is associated with several Important Areas, the relevant highway authority should consider measures that could address the noise issues at all the locations concurrently. This might include, for example, the development of a highway scheme to provide an alternative route.
- 10.7 The highway authority should also take account of any existing plans (e.g. any local transport plans or land-use plans) or any specific noise mitigation schemes that are already in preparation that may affect the Important Areas.
- 10.8 For each Important Area, the highway authority will identify proposed actions that will meet the vision and aims set out in the Government's policy on noise or state why, in their view, no further action can or needs to be taken in order to meet this objective.
- 10.9 In forming their view about possible action, the relevant highway authority should take account of any benefit that might also be achieved for any other noise sensitive premises either in the vicinity of the Important Area being investigated or elsewhere. Furthermore, consideration should be given to integrating noise management actions at an Important Area with the concurrent implementation of other environmental or related initiatives for example in managing air quality, or protecting any formally identified quiet areas.
- 10.10 It is expected that these deliberations will result in six general outcomes and actions:

A: It is possible to be able to implement an action and there are financial resources immediately available to do so.

**Action:** If it is clear that the proposed action will provide the expected benefit, then the highway authority will determine a timetable for implementation. Outcome A also covers work that may have started before the Round 2 mapping was carried out but not finished at the time of the mapping.

B: It is possible to be able to implement an action but there are no immediately available financial resources to do so.

**Action:** The highway authority will make arrangements to secure financial resources to carry out this work in the future. This might be achieved by either:

- securing new resources for this work; or
- re-prioritising existing budgets to enable the funds for the action to become available

Once the budget has been secured, the highway authority will determine a timetable for implementation.



C: It is not possible to implement any action because there is no scope for doing so or there is some overriding technical issue that prevents implementation.

**Action:** The highway authority will inform Defra and the relevant local authority that this is the case, appropriately justified.

D: It is not possible to implement any action because there would be large adverse non-acoustics effects that could not be accommodated by the proposed measure.

**Action:** The highway authority will inform Defra and the relevant local authority that this is the case, appropriately justified.

E: Nothing further needs to be done as the noise level at each dwelling in the Important Area is below 65 dB(A),  $L_{A10,18h}$ , ignoring the effect of reflection from the facade of the relevant dwelling.

**Action:** The highway authority will demonstrate to Defra and the relevant local authority that this is the case.

A/B: Both Outcomes A and B apply

## 11. Liaison with relevant local authorities

- 11.1 The relevant highway authority will liaise with the relevant local authorities as appropriate about progress and, in the end, the outcomes. This liaison should cover information about the proposed schedule of investigation, and proposed timing of any implementation of possible actions. The Noise Action Plan Support Tool provides a mechanism to assist with this liaison.
- 11.2 The relevant local authority may separately identify locations that have not currently been identified as Important Areas for possible further noise management actions and request that consideration be given by the relevant highway authority to including them in the action planning schedule.
- 11.3 Given that one of the obligations regarding Action Plans for agglomerations is the aim to protect formally identified quiet areas in agglomerations, a highway authority will need to consider whether any element of the proposed measures might conflict with any such quiet areas within an agglomeration or any other spaces valued for their quiet or relative quiet.

## 12. Liaison with the public

- 12.1 The relevant highway authority should, at the appropriate time, liaise with those members of the public who are likely to be most affected by any proposed new noise management proposal.

### **13. Reporting and Consultation**

- 13.1 Defra will liaise with the relevant highway authorities to prepare documentation setting out the results of these investigations, including the timetable for any proposed actions. Defra in conjunction with the relevant highway authorities will consult with the relevant local authorities and any other relevant stakeholders as appropriate on these results.
- 13.2 Defra will liaise with the relevant highway authorities and consider the responses to that consultation and with the highway authorities make any alterations to the proposals as they see fit.
- 13.3 Defra will liaise with the relevant highway authorities to finalise the documentation described above including appropriate information about the consultation.
- 13.4 The primary mechanism to be used for this aspect is the Noise Action Plan Support Tool.

### **14. Implementation and Monitoring**

- 14.1 The Regulations<sup>16</sup> states that any actions identified during this process are regarded as forming part of the policy of the relevant public authority, and hence need to be implemented as indicated.
- 14.2 Defra will monitor the progress of this Action Plan through liaison with the relevant authorities. Defra will provide periodic updates on progress, as required, to the relevant local authorities via the Noise Action Plan Support Tool.

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<sup>16</sup> The Environmental Noise (England) Regulations (SI 2006/2238), Regulation 21

## Part E: Long Term Strategy

### 15. Long term strategy

- 15.1 The Round 1 Noise Action Plans set out the long term strategy regarding the management of road noise. This section provides an update on progress and details of further actions to be carried out over the next five years.
- 15.2 Defra has worked with DfT, HA and local highway authorities to establish a clear framework of responsibility so that noise from road traffic is managed in the context of the Government's policy on noise and such that the process is clearly understood by the public. Defra will continue to implement this framework including through
- the consultation on this Action Plan;
  - the dissemination of the results of the Round 2 mapping; and
  - monitoring the implementation of this Action Plan.
- 15.3 Defra recognises the need for a robust and reliable system of data collection, management and control to enable the strategic noise mapping to take fully into account all the input variables that affect the resulting noise levels generated. Consequently, Defra did liaise with relevant bodies to improve data quality and coverage for the Round 2 mapping, for example by including data (where available) on any mitigation measures already in place (i.e. low noise road surfaces).
- 15.4 It is expected that for Round 3 the European Commission will introduce a European wide common noise mapping methodology. Defra will continue to work closely with the European Commission so that the common method is robust, proportionate and provides an appropriate level of strategic results.
- 15.5 Defra continues to recognise that the strategic noise mapping provides no more than an indication of the night noise impact from road traffic. Defra will work with the relevant authorities to establish a mechanism that secures robust data regarding traffic flow and associated information that will support the common assessment method, including for the night period (23.00 – 07.00).
- 15.6 Defra has actively engaged, through colleagues in other Government departments, with the European Commission and other relevant organisations on initiatives that seek to reduce the noise from road traffic at source, for example on the new EU tyre labelling directive<sup>17</sup>. Defra will continue to engage on the development of measures that are designed in general to manage the impact of noise from road traffic.

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<sup>17</sup> [http://ec.europa.eu/energy/efficiency/tyres/labelling\\_en.htm](http://ec.europa.eu/energy/efficiency/tyres/labelling_en.htm)

- 15.7 Defra has been actively involved in the process that has updated the land use planning policy set out in the National Planning Policy Framework. This framework was published in 2012 and does recognise the impact that can be caused by noise. Defra has also been involved in developing additional guidance on noise which encourages future land use planning policies at a national, regional and local level to reflect the processes set out in this Action Plan.
- 15.8 Defra will continue to liaise with relevant national and local policy making bodies to encourage proper consideration of noise management issues in policy development.
- 15.9 Defra has worked closely with the Department of Health and Public Health England to have noise recognised as a wider determinate of health in the Public Health Outcomes Framework Indicators<sup>18</sup>. Defra will update the relevant part of the indicator with the results from the Round 2 mapping. Defra will continue to disseminate this information via the relevant authorities.
- 15.10 Defra will liaise with the Department for Transport and highway authorities to explore the possibility of setting up a robust and easily accessible monitoring system regarding complaints about road traffic noise issues.
- 15.11 Defra has worked closely with the Highways Agency and other relevant bodies regarding proposed revisions to Calculation of Road Traffic Noise. This liaison will continue as appropriate.
- 15.12 Defra will continue to encourage and support the development of low noise road surfaces, and research into improved building envelope sound insulation and related ventilation issues.
- 15.13 Defra will encourage all highway authorities to consider adopting the good practice that is promulgated by the HA in the assessment and management of road traffic noise.
- 15.14 Defra will keep under review the definition of Important Areas used in this Action Plan.
- 15.15 Defra will continue to develop, agree and disseminate good practice approaches and methodologies through the Interdepartmental Group on Costs and Benefits noise subject group (IGCB(N)) to support the policy appraisal of noise. Further information is available from <https://www.gov.uk/noise-pollution-economic-analysis>.
- 15.16 Defra will keep under review the issues raised in this Section and will report progress as part of the Round 3 action planning.

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<sup>18</sup> <http://www.phoutcomes.info/>

## Part F: Consultation

### 16. Informal consultation

16.1 During the development of this Action Plan, Defra held informal discussions with various bodies including:

- The Highways Agency;
- Transport for London;
- Relevant Government Departments ;
- Various individual local highway authorities and local authorities; and
- Relevant Stakeholders

### 17. Formal public consultation

17.2 To be completed when consultation completed and responses reviewed.

# Appendices

## Appendix A: Glossary of acoustic and technical terms

Term	Definition
Agglomeration	An area having a population in excess of 100,000 persons and a population density equal to or greater than 500 people per km <sup>2</sup> and which is considered to be urbanised
dB(A)	A measure of sound pressure level ("A" weighted) in decibels as specified in British Standard BS EN 61672-2:2003
L <sub>A10,18h</sub>	The noise level exceeded for 10% of the time averaged hourly over the period 0600 – 2400.
L <sub>Aeq,16h</sub>	The L <sub>Aeq</sub> over the period 0700 – 2300, local time (for strategic noise mapping this is an annual average)
L <sub>Aeq,T</sub>	The A-weighted equivalent continuous sound pressure level which is a notional continuous level that, at a given position and over the defined time period, T, contains the same sound energy as the actual fluctuating sound that occurred at the given position over the same time period, T
L <sub>day</sub>	The L <sub>Aeq</sub> over the period 0700 – 1900, local time (for strategic noise mapping this is an annual average)
L <sub>den</sub>	The L <sub>Aeq</sub> over the period 0000 – 2400, but with the evening values (1900 – 2300) weighted by the addition of 5 dB(A), and the night values (2300 – 0700) weighted by the addition of 10 dB(A).
L <sub>evening</sub>	The L <sub>Aeq</sub> over the period 1900 – 2300, local time (for strategic noise mapping this is an annual average)
L <sub>night</sub>	The L <sub>Aeq</sub> over the period 2300 – 0700, local time (for strategic noise mapping this is an annual average)

## Appendix B:

### Current approach to road traffic noise management

#### Control of Noise at Source

- B1 Noise from individual vehicles is controlled under mandatory EU noise emission standards which apply to all new road vehicles. These have been implemented in regulations made under the Road Traffic Acts. These requirements must be met by all models before vehicles are permitted to enter into service. In addition, once in service, silencers and exhaust systems are required to be maintained in good condition and not altered so as to increase noise.
- B2 The Directive covering noise emissions from road vehicles is currently being reviewed, with proposals for new lower limits that would have to be implemented over the next 10 years or so.
- B3 Noise made by the contact of tyres with road surfaces when in motion is also controlled through an EU directive which since 2005 has mandated noise limits that all tyres fitted to newly manufactured vehicles have to meet. This directive has also been implemented in regulations made under the Road Traffic Acts. Since October 2011 all tyres placed on the market have had to meet noise limits. Further reductions in tyre noise limits will take effect from November 2016 under new legislation<sup>19</sup>. There is also a requirement for tyres to be labelled such that their relative noise emission is stated.

#### Planning controls

- B4 When proposing the construction of a new road, or an additional carriageway to an existing road, a noise impact assessment must be carried out. For large scale projects, an Environmental Impact Assessment is required by law, which would include a noise impact assessment. In addition, the Highways Agency requires a noise impact assessment to be undertaken if there is an expected increase of 1 dB  $L_{A10,18h}$  as a result of any works it carries out on its network, including maintenance. The process which tends to be followed is set out in the Design Manual for Roads and Bridges<sup>20</sup>. Mitigation such as optimising the route alignment and the use of noise barriers, either through landscaping or purpose built walls or fences, is included in the design to minimise any adverse noise impact. This process also has regard to the protection of tranquil areas in general through consideration of the impact on landscape.

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<sup>19</sup> Directive 2001/43/EC relating to tyres for motor vehicles and their trailers and to their fitting and Regulation (EC) No 661/2009 on the general safety of motor vehicles and their components.

<sup>20</sup> Design Manual for Roads and Bridges, Vol 11, Section 3, HD 213/11 (November 2011)



- B5 Once the basic data regarding the potential impact of the proposals has been obtained (including predicting the noise from the new network), an estimate of the likely numbers of people to be affected is made. In addition, through the Transport Appraisal Guidance<sup>21</sup>, the noise impact is monetised as a means of evaluating the overall merits of the proposal.
- B6 Through the operation of the land use planning system, a noise assessment would normally be carried out for any proposed residential development that may be affected by road traffic noise. The National Planning Policy Framework sets out the overall policy to be applied by local planning authorities in their plan making and decision taking roles. Those policies are consistent with the Government's policy on noise as set out in the NPSE. Guidance is available through relevant British Standards (e.g. British Standard 8233:1999<sup>22</sup> (BS8233)) about the type of mitigation that might be needed in order to achieve the internal noise levels within homes that comply with the policy. The approaches used to achieve these levels include designing appropriate façade insulation or optimising the proposed layout of the buildings.
- B7 BS 8233 also provides design advice for other various buildings in order to mitigate the effects of noise from road traffic.
- B8 Advice is also available regarding acoustics in schools, including target noise levels for the indoor and outdoor environment in order to secure an appropriate acoustic environment for teaching.

## **Compensation and insulation**

- B9 For new or improved highways, the Land Compensation Act 1973<sup>23</sup> allowed regulations to be promulgated to provide compensation for dwellings affected by increased noise. These regulations are the Noise Insulation Regulations 1975, as amended 1988<sup>24</sup>. If certain criteria are met, the highway authority must offer secondary glazing and alternative ventilation for habitable rooms of dwellings so affected.
- B10 In addition, Part 1 of the Land Compensation Act<sup>25</sup> provides for monetary compensation to those home owners affected by the new or improved highway recognising any loss in value of the home that has occurred by the opening of the new or improved highway. This assessment is purely subjective, carried out by surveyors, and claims have to be made within a certain time period.

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<sup>21</sup> Department for Transport, Transport Analysis Guidance, Unit 3.3.2 Noise Sub-Objective (November 2006)

<sup>22</sup> BS8233:1999, Sound insulation and noise reduction in buildings – Code of Practice. This BS is currently being revised.

<sup>23</sup> 1973, c.26

<sup>24</sup> SI 1975/1763 as amended by The Noise Insulation (Amendment) Regulations 1988 (SI 1988/2000).

<sup>25</sup> 1973 c.26

## **Maintenance**

- B11 It is the Highways Agency's current policy that when a length of highway requires a replacement road surface (due to wear and tear) the opportunity is often taken to lay a low noise road surface, one that assists in reducing the noise generated by the tyre/road interface. Other highway authorities adopt a similar policy to varying extents.

## **Specific Initiatives**

- B12 From time to time a highway authority will undertake a specific noise abatement initiative. Since the introduction of the Environmental Noise Directive and the adoption of the Noise Action Plans in 2010, such initiatives are increasingly associated with the implementation of those plans (See below).

## **Limit values**

- B13 There are no relevant formal noise limit values in force in England with regard to environmental noise levels from roads. However, the Noise Insulation Regulations 1975 (as amended in 1988)<sup>26</sup> define a threshold level as part of the eligibility criteria.

## **General policy**

- B14 The Department for Transport published the sustainable transport strategy – “Delivering a Sustainable Transport System” in November 2008<sup>27</sup> which sets clear goals to take full account of transport's wider impact on climate change, health, quality of life and the natural environment.

## **Noise Action Plans**

- B15 The implementation of the Environmental Noise Directive resulted in the generation of Noise Action Plans for Round 1. Two types of plan related to road traffic noise: the plan for Major Roads, and the plans for the first round agglomerations. As required by the Directive and the corresponding regulations, Important Areas were defined. These were where the 1% of the population are located that are affected by the highest noise levels from those roads mapped in each agglomeration and from the major roads according to the results of the first round of strategic noise mapping. This approach was taken because the population at those locations are likely to be at the greatest risk of experiencing a significant adverse impact to health and quality of life as a result of their exposure to road traffic noise.

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<sup>26</sup> SI 1975/1763 as amended by The Noise Insulation (Amendment) Regulations 1988 (SI 1988/2000).

<sup>27</sup> Department for Transport, 'Delivering a Sustainable Transport System', 2008.

- B16 Across England, just over 8,000 locations were identified covering all road traffic sources. Through the use of an integrated, password protected computer-based tool, information about these locations was provided to the relevant highway authorities and the relevant local authorities in whose area the Important Areas were located.
- B17 Each highway authority was asked to investigate each of their Important Areas and form a view about what measures, if any, might be taken at those locations in order to assist the management of environmental noise in the context of Government policy on sustainable development (Stage 1 of the process).
- B18 Having completed that initial investigation, the relevant highway authority was asked to liaise with the relevant local authority about the decision they reached (Stage 2). Following that liaison, the highway authority would finalise its decision and implement it (Stage 3).
- B19 Six possible outcomes were available. These were:

These were:

- A: It is possible to be able to implement an action and there are financial resources immediately available to do so.
- B: It is possible to be able to implement an action but there are no immediately available financial resources to do so.
- C: It is not possible to implement any action because there is no scope for doing so or there is some overriding technical issue that prevents implementation.
- D: It is not possible to implement any action because there would be large adverse non-acoustics effects that could not be accommodated by the proposed measure.
- E: Nothing further needs to be done as the noise level at each dwelling in the Important Area is below 65 dB(A),  $L_{A10,18h}$ , ignoring the effect of reflection from the facade of the relevant dwelling.

A/B: Both Outcomes A and B apply.

The adopted first round Noise Action Plans included just four of these outcomes (A, B, C & D). As the Action Plan implementation was taken forward, feedback from highway authorities indicated a desire to have two more outcomes (E and A/B). These outcomes were subsequently included and have been used in the implementation process.

- B20 At the time of adoption of this plan, about 180 locations had reached Stage 3, just under 2,700 had reached Stage 2 and about 40 had reached Stage 1.