6. Quality of the Acoustic Environment

A. Present situation including details on:

• Share of population exposed to noise values of L\text{den} (day-evening-night) above 55 dB(A);

• Share of population exposed to noise values of L\text{n} (night) above 45 dB(A);

Bristol is a successful and vibrant city attracting large numbers of people who work in and visit the centre and surrounding areas. Bristol City Council (BCC) is committed to securing a high quality of life and recognises the quality of the acoustic environment as a key factor. Therefore, it actively manages noise pollution sources and population exposure. The City's strategy focuses its attention primarily on traffic noise, which is by far the most significant source.

Population exposure to noise

Bristol City Council has pioneered the mapping of transport noise in UK cities, publishing a map of road and rail noise in 2007. Using that map BCC has calculated two population exposure statistics – L(day) >55 dB(A) and L(night) >45 dB(A) and this data is shown below.

<table>
<thead>
<tr>
<th></th>
<th>L(day) &gt;55 dB(A)</th>
<th>L(night) &gt;45 dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population below threshold</td>
<td>307,326</td>
<td>251,066</td>
</tr>
<tr>
<td>Population above threshold</td>
<td>62,454</td>
<td>118,714</td>
</tr>
<tr>
<td>Percentage above threshold</td>
<td>17%</td>
<td>32%</td>
</tr>
</tbody>
</table>

Table 1: Population exposure to environmental transport noise

The population exposure was assessed using a GIS method. This assigns population to buildings based on the relative area of the building and the population in the postcode unit in which the building is located. The centre of the building is taken as the point of the exposure and an interpolation of the L(day) and L(night) values in the surrounding 10m grid squares taken to provide an average value for noise exposure. Clearly there are uncertainties associated with this method but it provides a useful snapshot of noise exposure on which to base noise action planning.

Government has also produced statistics for population exposure to noise in UK urban areas. As a result of the boundaries of urban areas used by the Government, the data published on the UK noise maps for Bristol includes large areas of adjoining municipalities. The two data sets are not therefore comparable. Aircraft noise was not included in the noise mapping exercise of
2007 and therefore is not included in the population exposure analysis. The map below is from BCC’s noise mapping work from 2007, with traffic data from 2005:

Figure 1: Road and rail noise map Bristol 2005
Quiet areas

Bristol is one of the leading cities for environmental noise monitoring in the UK and building on its mapping work was commissioned by the UK Government to research and develop a model for identifying ‘Quiet Areas’ in urban settings.

Bristol citizens value green space for peace and quiet. BCC’s annual Quality of Life survey regularly shows that 20-25% of visits to parks and open spaces are for ‘peace and quiet’ or ‘to relax and think’.

The study demonstrates that UK local authorities can use existing guidance and incorporate local criteria to nominate quiet areas for designation under the environmental noise regulations. These areas can then be protected.

A list of potential quiet areas for nomination was identified by the city council and they have been recommended to Government for designation. The report is with Government for consideration and BCC is working with the UK Government to implement the quiet area policy in the city.

Relevant disadvantages or constraints resulting from historical and/or geographical factors

Bristol is the largest city in the South West of England. It is a successful port and has substantial industrial areas located around the port. There is very little heavy industry left in or near residential areas of the city.

Bristol is a vibrant multi-cultural city with a population of 428,000 residents. It is part of a wider sub-region of 1 million residents. In the last 10 years Bristol City's population has grown by 10% and the value of its economy has grown by 40%.

Most commerce is now high value engineering, office based or retail. The majority of noise pollution therefore comes from traffic. There is also some neighbourhood noise in residential areas, which generates the majority of complaints to the council.

The national motorway network, managed by the UK motorway authority – the Highways Agency - cuts across the city at Avonmouth (M5) and extends into the city centre (M32).
Citizens’ views on noise

Residents’ perception of noise is a significant factor in their quality of life and this is recognised in the strategies set out in Section B.

Bristol City Council actively engages citizens on noise issues – seeking their views to help improve the city’s noise environment.

BCC undertakes a statistically robust survey of citizens asking about noise, as part of its Quality of Life Survey. This allows data to be produced for the city as a whole and at neighbourhood level.

The most recent results are shown in Figure 2. Perception of high road noise levels correlates well with proximity to major roads. In 2005 some 49% of the population were concerned about noise. Since then the level dropped to 39% in 2009, but rose again in 2010 to 46%. This is likely due to sampling variance, as sources of noise have not changed appreciably. A question relating to traffic noise will be asked again in the 2012 survey.
Figure 2: Perception of road traffic noise from Quality of Life Survey 2010
Bristol City Council also monitors noise complaints and Figure 3 shows the noise sources that generate those complaints in the last financial year. There were a total of 4,280 complaints regarding noise in 2011 / 2012.

Figure 3: Noise complaints 2011-12

Word count for Indicator 6A = 811
B. Measures Implemented

In the UK the Environmental Noise Directive is enacted as the Environmental Noise Regulations (England) 2006, placing a duty on the UK National Government to map noise and produce action plans for major cities, railways, roads and airports. There are no specific duties on local authorities to manage noise, unlike elsewhere in Europe.

Despite this Bristol has been actively managing noise for over 10 years. It has managed noise through powers related to land use, pollution control and transport improvements (Table 2).

<table>
<thead>
<tr>
<th>Document name</th>
<th>Content</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol Local Plan 1997</td>
<td>Statutory land use planning policies for Bristol</td>
<td>Adopted 1997. Being superseded by LDF.</td>
</tr>
<tr>
<td>Local Development Framework</td>
<td>A Suite of Documents, below</td>
<td></td>
</tr>
<tr>
<td>Core Strategy 2011</td>
<td>Spatial strategy and strategic planning policies to 2026</td>
<td>Adopted in June 2011, replaces parts of Bristol Local Plan 1997</td>
</tr>
<tr>
<td>Site Allocations and Development</td>
<td>Detailed planning policies which identify sites for development /protection and guide development decisions</td>
<td>Has been consulted on. Publication version due 2013</td>
</tr>
<tr>
<td>Development Management Policies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint Local Transport Plan 2011-26</td>
<td>Plan for transport improvements across the City Region 2011 to 2026</td>
<td>Adopted 2011.</td>
</tr>
<tr>
<td>Noise Action Plan</td>
<td>Published by UK Government</td>
<td>Published March 2010</td>
</tr>
</tbody>
</table>

Table 2: Noise Action Plans
Bristol’s approach is based on the following key themes:

- All citizens are entitled to a healthy life not constrained by external noise.
- Land use planning powers are used to remove and control noise sources and to avoid creating new noise problems.
- Pollution control and licensing to protect residents from noise nuisance caused by neighbours and other sources.
- Transport planning and management powers to manage traffic noise.
- Parks and green spaces managed and improved to protect quiet areas.

As described in Section A, Bristol has developed an evidence base on noise issues to inform its approach, including:

- Collecting data on residents’ complaints about noise and its source
- Annually surveying the population to ask about noise problems
- Mapping road noise.

**Managing Noise through Land Use Planning**

Bristol’s Local Plan provided statutory mechanisms for land use decisions and for ensuring acceptable noise conditions for existing and new uses. Specifically:

- Policy M04 prevents ‘development which has an unacceptable impact … on the surrounding area by reason of noise …’
- Policy S08 restricts concentrations of late night food and drink businesses
- Noise control conditions for public entertainment businesses.

The recently adopted Core Strategy significantly strengthens planning controls – see below.

In the 2011/12 the Council’s noise specialists advised on 458 planning applications. Proposals were refused; amended or approved with legal conditions mitigate noise impacts.

**Managing noise caused by neighbours and other sources**

Bristol’s actions have focused on:

- Education and enforcement – promoting good management practices; responding to complaints and resolving, where necessary, using enforcement action including prosecution
- Proactive control of licensed premises – applying noise management conditions; monitoring compliance and taking enforcement action, including prosecution
- Providing specialist advice on planning applications - to manage noise in accordance with policies
- Using environmental conditions on permits to control noise from industrial or waste activities.
Bristol uses a wide range of interventions to tackle neighbour and neighbourhood noise and uses enforcement action where necessary to control noise problems. In 2011/12 BCC served 476 abatement notices from homes, alarms, entertainment venues and commercial and industrial plant.

Where abatement notices were not complied with enforcement action was taken, including prosecutions as well as direct action such as seizure of vehicles, machinery and equipment.

To help resolve complaints, BCC has protocols streamlining actions between its departments and works with partners including landlords, landowners, major infrastructure agencies, the Environment Agency and Police.

To protect residents’ quality of life Bristol provides a service to deal with night-time noise, operating until 3.30 a.m, securing evidence for formal action on night-time noise.

Bristol uses licensing powers to reduce the impact of entertainment businesses by imposing noise conditions. Where licence conditions are not met formal action is taken to resolve (figures above).

**Managing Transport Noise**

In Bristol management of traffic noise started in 2006 with participation in the EU funded project SILENCE. Bristol produced a noise map and scenario modelling to assess the impact of traffic management measures on noise.

To reduce transport noise Bristol has managed overall traffic levels, reduced congestion and undertaken specific noise reduction measures, including:

- Mapping traffic noise and surveying residents to build an evidence base.
- Reducing the speed limit on the motorway that brings traffic into the city centre. This is in the neighbourhood with the highest level of concern about traffic noise. (Figure 2) As recommended by SILENCE Study.
- Reducing the amount of traffic by improving public transport and new park and ride facilities.
- Working with the commercial bus operators to provide new, quieter buses
- Consultation with residents about new transport infrastructure and transport management projects.
- Increasing cycling as the UK’s leading ‘Cycling City’.
- Promoting and developing homes zones with local communities, reducing traffic speed and noise in residential areas.
- Commissioning a freight consolidation scheme serviced by a quiet electric shuttle-lorry – reducing HGV traffic.

Trial 20 mph areas have been introduced and BCC has modelled the noise impact – showing a small reduction in noise. Consultation with citizens on their perceptions of traffic noise shows significant improvement, with the percentage of citizens who rated their area as good rising from 30% to 50%, and fewer residents feeling that traffic noise was noisy/bad. 75% of residents in the trial areas supported the 20mph zones overall.
Word count for Indicator 6B = 795
C. Short and long term objectives for the future and proposed approach to achieve these

Bristol City Council has been in the forefront of efforts in the UK to map traffic noise, consult with residents, and identify quiet areas. The responsibility for strategic management of traffic noise under the END rests with the UK Government and BCC is working with the Government on noise action plans.

The UK Government has published a Noise Action Plan (NAP) for the city. This NAP provides a framework for addressing excessive environmental noise in the city. BCC is working with UK Government to identify “First Priority Locations” (noisy roads) and to provide information on possible interventions to reduce noise.

Resident perception of noise is a significant factor in our plans. Section A describes the Quality of Life Survey and this section describes how citizens are being involved in plans.

Bristol’s Noise Strategy

Bristol City Council will integrate central Government plans and local initiatives to form a single Noise Strategy, ensuring coordinated action. This will include all environmental noise sources that affect the citizens of Bristol. It will exclude noise within the workplace.

Land use planning

Bristol City Council has adopted new planning policy (2011) – the Local Development Framework Core Strategy. The plan will help create high quality developments and reduce the need to travel. It will also manage noise directly through Policy BCS23.

“Development should be sited and designed in a way as to avoid adversely impacting upon:

- Environmental amenity or biodiversity of the surrounding area by reason of fumes, dust, noise, vibration, smell, light or other forms of air, land, water pollution, or creating exposure to contaminated land

In locating and designing development, account should also be taken of:

- The impact of existing sources of noise or other pollution on the new development”

More specific control is being developed through the emerging Site Allocations and Development Management Policy document, see Table 2.
Neighbourhood noise

Bristol City Council is planning improvements to managing noise from neighbours and other local sources. This approach recognises that the noise issues vary across the city, as shown in Figure 4 below, and are often associated with other problems.

Figure 4: Mapping of noise complaints
Noise management will therefore be part of an integrated approach that will:

- Enhance the quality of life of Bristol’s citizens
- Empower people to take positive action for their own neighbourhoods
- Improve problem resolution and enforcement of neighbourhood issues
- Reduce crime
- Increase street and estate cleanliness
- Improve customer satisfaction with the council’s response to their issues.

The new approach to neighbourhood working will be based on proven and effective solutions to neighbourhood issues, which include:

- Community involvement – including ensuring that local people are part of the solution and developing agreements between the council and local people. The neighbourhood teams will work closely with the Neighbourhood Partnerships – comprising local elected councillors, residents and other stakeholders.
- Clear and targeted education and information available to ensure that everyone knows their responsibilities.
- Public services committed to dealing with issues quickly, at the root of the problem, and in a holistic way to prevent escalation.
- Robust enforcement action for ongoing issues.

The pilot ends in April 2013 and will be rolled out across the city thereafter.

**Transport noise**

The main mechanism for managing transport is the Joint Local Transport Plan 2011-2026. The overall thrust of the plan is to reduce traffic by offering more sustainable alternatives. This will contribute towards noise reduction.

Bristol City Council is planning to extend the 20 mph to all residential areas as recommended by the SILENCE Study. Figure 5 shows the Mayor and Vice Mayors announcing the plan. This will have a significant influence on the perception of noise, reducing annoyance from traffic noise where people live. The phased rollout plan is shown in Figure 6 and citizen consultation is taking place. The committed budget for this is £2.3m.
3. **Actions to extend, maintain or improve quality of urban quiet areas**

The designation of quiet areas is the responsibility of UK Government. BCC has identified potential quiet areas and recommended them to Government. Bristol will then work with the UK Government and adjoining municipalities to implement the quiet area policy in the city.
Please provide details on assigned budgets:

In addition to the figures given above and for transport related measures to reduce noise and other impacts (see also Indicator 2 Local transport) BCC spends £500,000 per annum on operational management of noise.

Word Count for Indicator 6C = 711
D. References

Most documents are available through the BCC web site:

http://www.bristol.gov.uk/page/noise-pollution

http://www.bristol.gov.uk/qualityoflife

Defra, 2011, Noise Action Plan (NAP) for Bristol.  
onplan/noiseaction-agglom-bristol.pdf

Bristol City Council, 2012. 20mph monitoring report.  
http://www.bristol.gov.uk/sites/default/files/documents/transport_and_streets/  
managing_roads_and_traffic_schemes/20mphMonitoringReport6_3_12.pdf

http://www.bristol.gov.uk/page/bristol-local-plan