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Guidance

# Noise

Advises on how planning can manage potential noise impacts in new development.

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This guidance has been updated see previous version
(https://webarchive.nationalarchives.gov.uk/20190607100418/https://www.gov.uk/guidance/noise--2)

Where plans are being prepared under the transitional arrangements set out in Annex 1 to the revised National Planning Policy Framework (https://www.gov.uk/government/publications/national-planning-policy-framework--2), the policies in the previous version of the framework published in 2012 (http://webarchive.nationalarchives.gov.uk/20180608095821/https:/www.gov.uk/government/publications/national-planning-policy-framework--2) will continue to apply, as will any previous guidance which has been superseded since the new framework was published in July 2018. If you'd like an email alert when changes are made to planning guidance please subscribe (https://www.gov.uk/topic/planning-development/planning-officer-guidance/email-signup).

## Noise

## When is noise relevant to planning?

Noise needs to be considered when development may create additional noise, or would be sensitive to the prevailing acoustic environment (including any anticipated changes to that environment from activities that are permitted but not yet commenced). When preparing plans, or taking decisions about new development, there may also be opportunities to make improvements to the acoustic environment. Good acoustic design needs to be considered early in the planning process to ensure that the most appropriate and cost-effective solutions are identified from the outset.

Related policy: paragraph 170e (https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment#para170e), paragraph 180a (https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment#para180a), paragraph 180b (https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment#para180b), paragraph 182 (https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment#para182)

Paragraph: 001 Reference ID: 30-001-20190722

Revision date: 22 07 2019

## Can noise override other planning concerns?

It can, where justified, although it is important to look at noise in the context of the wider characteristics of a development proposal, its likely users and its surroundings, as these can have an important effect on whether noise is likely to pose a concern.

Paragraph: 002 Reference ID: 30-002-20190722

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## How can noise impacts be determined?

Plan-making and decision making need to take account of the acoustic environment and in doing so consider:

- whether or not a significant adverse effect is occurring or likely to occur;
- whether or not an adverse effect is occurring or likely to occur; and
- whether or not a good standard of amenity can be achieved.

In line with the Explanatory note of the noise policy statement for England (https://www.gov.uk/government/publications/noise-policy-statement-for-england), this would include identifying whether the overall effect of the noise exposure (including the impact during the construction phase wherever applicable) is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation. As noise is a complex technical issue, it may be appropriate to seek experienced specialist assistance when applying this policy.

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## What are the observed effect levels?

- Significant observed adverse effect level: This is the level of noise exposure above which significant adverse effects on health and quality of life occur.
- Lowest observed adverse effect level: this is the level of noise exposure above which adverse effects on health and quality of life can be detected.
- No observed effect level: this is the level of noise exposure below which no effect at all on health or quality of life can be detected.

Although the word ‘level’ is used here, this does not mean that the effects can only be defined in terms of a single value of noise exposure. In some circumstances adverse effects are defined in terms of a combination of more than one factor such as noise exposure, the number of occurrences of the noise in a given time period, the duration of the noise and the time of day the noise occurs.

See the noise policy statement for England (https://www.gov.uk/government/publications/noise-policy-statement-for-england) for further information.

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## How can it be established whether noise is likely to be a concern?

At the lowest extreme, when noise is not perceived to be present, there is by definition no effect. As the noise exposure increases, it will cross the ‘no observed effect’ level. However, the noise has no adverse effect so long as the exposure does not cause any change in behaviour, attitude or other physiological responses of those affected by it. The noise may slightly affect the acoustic character of an area but not to the extent there is a change in quality of life. If the noise exposure is at this level no specific measures are required to manage the acoustic environment.

As the exposure increases further, it crosses the ‘lowest observed adverse effect’ level boundary above which the noise starts to cause small changes in behaviour and attitude, for example, having to turn up the volume on the television or needing to speak more loudly to be heard. The noise therefore starts to have an adverse effect and consideration needs to be given to mitigating and minimising those effects (taking account of the economic and social benefits being derived from the activity causing the noise).

Increasing noise exposure will at some point cause the ‘significant observed adverse effect’ level boundary to be crossed. Above this level the noise causes a material change in behaviour such as keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present. If the exposure is predicted to be above this level the planning process should be used to avoid this effect occurring, for example through the choice of sites at the plan-making stage, or by use of appropriate mitigation such as by altering the design and layout. While such decisions must be made taking account of the economic and social benefit of the activity causing or affected by the noise, it is undesirable for such exposure to be caused.

At the highest extreme, noise exposure would cause extensive and sustained adverse changes in behaviour and / or health without an ability to mitigate the effect of the noise. The impacts on health and quality of life are such that regardless of the benefits of the activity causing the noise, this situation should be avoided.

This table summarises the noise exposure hierarchy, based on the likely average response of those affected.

## Noise exposure hierarchy table (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/820957/noise_exposure_hierarchy.pdf)

PDF, 135KB, 1 page

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Paragraph: 005 Reference ID: 30-005-20190722

Revision date: 22 07 2019

## What factors influence whether noise could be a concern?

The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation.

These factors include:

- the source and absolute level of the noise together with the time of day it occurs. Some types and level of noise will cause a greater adverse effect at night than if they occurred during the day – this is because people tend to be more sensitive to noise at night as they are trying to sleep. The adverse effect can also be greater simply because there is less background noise at night;
- for a new noise making source, how the noise from it relates to the existing sound environment;
- for non-continuous sources of noise, the number of noise events, and the frequency and pattern of occurrence of the noise;
- the spectral content of the noise (i.e. whether or not the noise contains particular high or low frequency content) and the general character of the noise (i.e. whether or not the noise contains particular tonal characteristics or other particular features), and;
- the local arrangement of buildings, surfaces and green infrastructure, and the extent to which it reflects or absorbs noise.

More specific factors to consider when relevant include:

- the cumulative impacts of more than one source of noise;
- whether any adverse internal effects can be completely removed by closing windows and, in the case of new residential development, if the proposed mitigation relies on windows being kept closed most of the time (and the effect this may have on living conditions). In both cases a suitable alternative means of ventilation is likely to be necessary. Further information on ventilation can be found in the Building Regulations (https://www.gov.uk/government/publications/ventilation-approved-document-f).
- In cases where existing noise sensitive locations already experience high noise levels, a development that is expected to cause even a small increase in the overall noise level may result in a significant adverse effect occurring even though little to no change in behaviour would be likely to occur.
- Noise Action Plans (where these exist), and, in particular the Important Areas identified through the process associated with the Environmental Noise Directive and corresponding regulations should be taken into account. Defra's website has information on Noise Action Plans and Important Areas (https://www.gov.uk/government/publications/noise-action-plans-large-urban-areas-roads-and-railways). Local authority environmental health departments will also be able to provide information about Important Areas.

- the effect of noise on wildlife (http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=18136&FromSearch=Y&Publisher=1&SearchText=effects). Noise can adversely affect wildlife and ecosystems. Particular consideration needs to be given to the potential effects of noisy development on international, national and locally designated sites of importance for biodiversity;
- where external amenity spaces are an intrinsic part of the overall design, the acoustic environment of those spaces should be considered so that they can be enjoyed as intended.
- some commercial developments including restaurants, hot food takeaways, night clubs and public houses can have particular impacts, not least because activities are often at their peak in the evening and late at night. Local planning authorities will wish to bear in mind not only the noise that is generated within the premises but also the noise that may be made by customers in the vicinity.

When proposed developments could include activities that would be covered by the licensing regime, local planning authorities will need to consider whether the potential for adverse noise impacts will be addressed through licensing controls (including licence conditions (https://www.gov.uk/government/publications/explanatory-memorandum-revised-guidance-issued-under-s-182-of-licensing-act-2003)). Local planning authorities should not however presume that licence conditions will provide for noise management in all instances and should liaise with the licensing authority.

Paragraph: 006 Reference ID: 30-006-20190722

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## Can planning policies include noise standards?

Plans may include specific standards to apply to various forms of proposed development and locations in their area. Care should be taken, however, to avoid these being applied as rigid thresholds, as specific circumstances may justify some variation being allowed.

Paragraph: 007 Reference ID: 30-007-20190722

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## What factors are relevant if seeking to identify areas of tranquillity?

For an area to justify being protected for its tranquillity, it is likely to be relatively undisturbed by noise from human sources that undermine the intrinsic character of the area. It may, for example, provide a sense of peace and quiet or a positive soundscape where natural sounds such as birdsong or flowing water are more prominent than background noise, e.g. from transport.

Consideration may be given to how existing areas of tranquility could be further enhanced through specific improvements in soundscape, landscape design (e.g. through the provision of green infrastructure) and/or access.

Paragraph: 008 Reference ID: 30-008-20190722

Revision date: 22 07 2019

## How can the risk of conflict between new development and existing businesses or facilities be addressed?

Development proposed in the vicinity of existing businesses, community facilities or other activities may need to put suitable mitigation measures in place to avoid those activities having a significant adverse effect on residents or users of the proposed scheme.

In these circumstances the applicant (or 'agent of change') will need to clearly identify the effects of existing businesses that may cause a nuisance (including noise, but also dust, odours, vibration and other sources of pollution) and the likelihood that they could have a significant adverse effect on new residents/users. In doing so, the agent of change will need to take into account not only the current actvities that may cause a nuisance, but also those activities that businesses or other facilities are permitted to carry out, even if they are not occurring at the time of the application being made.

The agent of change will also need to define clearly the mitigation being proposed to address any potential significant adverse effects that are identified. Adopting this approach may not prevent all complaints from the new residents/users about noise or other effects, but can help to achieve a satisfactory living or working environment, and help to mitigate the risk of a statutory nuisance being found if the new development is used as designed (for example, keeping windows closed and using alternative ventilation systems when the noise or other effects are occurring).

It can be helpful for developers to provide information to prospective purchasers or occupants about mitigation measures that have been put in place, to raise awareness and reduce the risk of post-purchase/occupancy complaints.

Paragraph: 009 Reference ID: 30-009-20190722

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## How can planning address the adverse effects of noise sources, including where the 'agent of change' needs to put mitigation in place?

This will depend on the type of development being considered the type of noise involved and the nature of the proposed location. In general, for developments that are likely to generate noise, there are 4 broad types of mitigation:

- engineering: reducing the noise generated at source and/or containing the noise generated;
- layout: where possible, optimising the distance between the source and noise-sensitive receptors and/or incorporating good design to minimise noise transmission through the use of screening by natural or purpose built barriers, or other buildings;
- using planning conditions/obligations to restrict activities allowed on the site at certain times and/or specifying permissible noise levels differentiating as appropriate between different times of day, such as evenings and late at night, and;
- mitigating the impact on areas likely to be affected by noise including through noise insulation when the impact is on a building.

For noise sensitive developments, mitigation measures can include avoiding noisy locations in the first place; designing the development to reduce the impact of noise from adjoining activities or the local environment; incorporating noise barriers; and optimising the sound insulation provided by the building envelope. It may also be possible to work with the owners/operators of existing businesses or other activities in the vicinity, to explore whether potential adverse effects could be mitigated at source. Where this is the case, it may be necessary to ensure that these source-control measures are in place prior to the occupation / operation of the new development. Where multiple development sites would benefit from such source control measures, developers are encouraged to work

collaboratively to spread this cost. Examples of source control measures could include increased sound proofing on a building (e.g. a music venue) or enclosing an outdoor activity (e.g. waste sorting) within a building to contain emissions.

Care should be taken when considering mitigation to ensure the envisaged measures do not make for an unsatisfactory development.

Paragraph: 010 Reference ID: 30-010-20190722

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## Are there further considerations relating to mitigating the impact of noise on residential developments?

Noise impacts may be partially offset if residents have access to one or more of:

- a relatively quiet facade (containing windows to habitable rooms) as part of their dwelling;
- a relatively quiet external amenity space for their sole use, (e.g. a garden or balcony). Although the existence of a garden or balcony is generally desirable, the intended benefits will be reduced if this area is exposed to noise levels that result in significant adverse effects;
- a relatively quiet, protected, nearby external amenity space for sole use by a limited group of residents as part of the amenity of their dwellings; and/or
- a relatively quiet, protected, external publically accessible amenity space (e.g. a public park or a local green space designated because of its tranquillity) that is nearby (e.g. within a 5 minute walking distance).

Paragraph: 011 Reference ID: 30-011-20190722

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## How can the potential impact of aviation activities on new development be addressed through the planning system?

The agent of change principle may apply in areas near to airports, or which experience low altitude overflight, where there is the potential for aviation activities to have a significant adverse effect on new noise-sensitive development (such as residential, hospitals and schools). This could include development in the immediate vicinity of an airport, or the final approach and departure routes of an operational runway, and locations that experience regular low altitude overflight by general aviation aircraft, where this activity could subject residents or occupiers to significant noise, air quality issues and/or vibration impacts. The need for and type of mitigation will depend on a variety of factors including the nature of the aviation activity, location and normal environmental conditions in that context. Local planning authorities could consider the use of planning conditions or obligations to require the provision of appropriate mitigation measures in the new development.

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## How can local authorities and airport operators mitigate the environmental impacts of airport expansion?

The management of environmental effects associated with the development of airports and airfields is considered in detail in the Aviation Policy Framework (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/153776/aviation-policy-framework.pdf). Planning authorities and airport operators are encouraged to work together to develop mitigation measures that are proportionate to the scale of the impact. Development that would increase air movements may require an Environmental Impact Assessment (where it meets the relevant threshold in Schedule 2 to The Town and Country Planning (Environmental Impact Assessment) Regulations 2017). It may be appropriate to consider, as part of any proposed mitigation strategy, how operational measures, siting and design of new taxiways, apron and runways, and ground-level noise attenuation measures could reduce noise impacts of expansion or increased utilisation to a minimum.

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## How can local communities have a say in decisions that could result in new noise arising from aviation?

The Civil Aviation Authority has produced guidance on the regulatory process for changing airspace design (https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=8127). The process is separate from the planning process, and gives local communities the opportunity to consider and comment on proposed changes that could affect them. Local communities also have a statutory right to contribute their views at each step in the planning process, including where development of an airport or airfield is proposed within an emerging plan or a planning application is submitted to a local authority. Depending on their nature and scale, applications for airport expansion may be determined through the Nationally Significant Infrastructure Projects regime. Where airport expansion is considered through the planning system, it will be important for decisions to consider any additional or new impacts from that expansion, and not to revisit the underlying principle of aviation use (where the latter has already been established). As part of this process, applicants are required to engage and consult with local communities, local authorities and others from the outset. Further information on this process (https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/).

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## What other information is available to assist in the management of noise?

The management of the noise associated with particular development types is considered in the following documents:

- Mineral extraction – National planning practice guidance for minerals (https://www.gov.uk/guidance/minerals);
- Aircraft noise – Aviation policy framework (https://www.gov.uk/government/publications/aviation-policy-framework);
- Wind turbines – National planning practice guidance for renewable and low carbon energy (https://www.gov.uk/guidance/renewable-and-low-carbon-energy) including ETSU R 97 (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49869/ETSU_Full_copy__Searchable_.pdf);

- The National policy statements for energy, renewable energy, ports, hazardous waste and waste water (https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/national-policy-statements/).
- The Noise Action Plans for Roads, Railways and Agglomerations (https://www.gov.uk/government/publications/noise-action-plans-large-urban-areas-roads-and-railways); and
- Use of Planning Conditions – Planning Practice Guidance on Use of Planning Conditions (https://www.gov.uk/guidance/use-of-planning-conditions).

The following documents published by other organisations may be of assistance:

- BS 8233:2014 (https://www.thenbs.com/PublicationIndex/Documents/Details?DocId=306010)– Guidance on sound insulation and noise reduction for buildings (British Standards Institute 2014);
- Guidelines for Environmental Noise Impact Assessment (https://www.iema.net/event-reports/2016/01/07/Launch-Webinar-IEMA-Guidelines-for-Environmental-Noise-Impact-Assesment-2014/) (Institute of Environmental Management and Assessment, 2014);
- ProPG: Planning & Noise – Professional Practice Guidance on Planning & Noise- New Residential Development (https://www.ioa.org.uk/sites/default/files/14720%20ProPG%20Main%20Document.pdf) (Association of Noise Consultants, Institute of Acoustics and Chartered Institute of Environmental Health, May 2017).

Some of these documents contain numerical criteria. These values are not to be regarded as fixed thresholds and as outcomes that have to be achieved in every circumstance.

Paragraph: 015 Reference ID: 30-015-20190722

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## Does this Guidance apply to developments that fall under the Permitted Development Regime?

The principles of this guidance can be used to assist in fulfilling the ‘prior approval’ requirements with regard to noise management found in Regulations such as the Town and Country Planning (General Permitted Development) (England) Order 2015 (SI 2015/596) as amended.

Paragraph: 016 Reference ID: 30-016-20190722

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## How will local authorities assess whether noise has become a statutory nuisance?

Noise can constitute a statutory nuisance and is subject to the provisions of the Environmental Protection Act 1990 (http://www.legislation.gov.uk/ukpga/1990/43/contents) and other relevant law. This includes noise affecting balconies and gardens.

When assessing whether a statutory nuisance exists, local authorities will consider a number of relevant factors, including the noise level, its duration, how often it occurs, the time of day or night that it occurs and the ‘character of the locality’. The factors influencing the ‘character of the locality’

may include long-established sources of noise in the vicinity – for example, church bells, industrial premises, music venues, public houses or airfields, and whether they are constant or intermittent.

Local authorities have a duty to take such steps as are reasonably practicable to investigate a statutory nuisance complaint. It is a matter for them whether they take further formal action to remedy a statutory nuisance.

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## Related content

- Noise policy statement for England (https://www.gov.uk/government/publications/noise-policy-statement-for-england)
- Noise management (https://www.gov.uk/government/collections/noise-management)
- Regulations: noise emissions from outdoor equipment (https://www.gov.uk/guidance/noise)
- Light pollution (https://www.gov.uk/guidance/light-pollution)
- Revised guidance issued under section 182 of Licensing Act 2003 (https://www.gov.uk/government/publications/explanatory-memorandum-revised-guidance-issued-under-s-182-of-licensing-act-2003)

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