

1. Explanation of terms

This appendix defines all designations and sustainability features referred to in the AoS options report, along with any other technical terms that might be encountered. Where appropriate, supporting methodological information outlining how impacts were appraised is also provided.

Agricultural land (Grade 1 and 2) The quality of agricultural land in England and Wales is assessed according to a system devised by MAFF/DEFRA, revised and published in 1989 and known as the Agricultural Land Classification (ALC). This is the nationally applicable system used for land use planning and development control. The two top grades are as follows:

- Grade 1: excellent quality agricultural land - land with no or very minor limitations to agricultural use;
- Grade 2: very good agricultural land - land with minor limitations which affect crop yield, cultivations or harvesting.

Local authorities should take account of Agricultural Land Classification in order to make informed choices about future land use within the planning system.

Ancient woodlands Ancient woodland is land continuously wooded since AD1600 in England and Wales and which has never been cleared or replanted. Many ancient woodlands are designated for their scientific and conservation importance. The ancient woodland inventory records such woods over two hectares in England. Ancient woodlands do not enjoy their own statutory protection, although many are protected through designations such as SSSIs or other designations. See also BAP habitats.

Annoyance (noise) Annoyance is defined as the change in noise annoyance, which is a value calculated according to WebTAG criteria. It is the difference in the population who would potentially be annoyed by the predicted noise levels [from HS2], compared with those already experiencing annoyance as a result of existing rail noise. The AoS appraisal provides this figure in terms of the increase in numbers of people annoyed, together with an equivalent number of affected dwellings (assuming occupancy of 2.36 per dwelling). The figure is also represented as a number of people per kilometre of route section, where the route section length takes account of both total route corridor and any additional lengths of railway at junctions.

The predicted annoyance numbers are given context by taking account of any existing noise from major roads and motorways, which would give rise to higher existing ambient noise levels, and so potentially relatively lower changes in annoyance. This context reference is made in qualitative terms only. Further information on the noise appraisal is given in *Appendix 4: Noise appraisal method statement*.

AONB - Area of outstanding natural beauty	<p>AONBs have equivalent status to National Parks and are designated under the National Parks and Access to the Countryside Act 1949. The Countryside and Rights of Way Act 2000 added further regulation and protection.</p> <p>The single purpose of AONB designation is to conserve and enhance the natural beauty of the area. Where there is a Conservation Board, the Board has an additional purpose of increasing the understanding and enjoyment by the public of the special qualities of the area. A Board must also seek to foster the economic and social well-being of their local communities. If it appears to a Board that there is ever a conflict between these two purposes, it must give greater weight to the conservation and enhancement purpose.</p>
Aquifer	<p>An aquifer is a wet underground layer of water-bearing permeable rock or unconsolidated materials (gravel, sand, or silt) from which groundwater can be usefully extracted. Areas underlain by aquifers are represented in plan by information obtained from the Environment Agency, the British Geological Society or mapping of the chemical and quantitative status of groundwater carried out in accordance with the Water Framework Directive. Possible impacts on aquifers have been assessed where they are traversed by cut or tunnel.</p> <p>It is an Environment Agency and Water Framework Directive requirement to mitigate by design the impacts of any works which may influence the groundwater resource to the point where they are insignificant. All aquifer crossings will be subject to detailed ground investigation, geo-hydraulic modelling, groundwater flow and quality monitoring before, during and after construction, and bespoke design incorporating groundwater barriers and bypass routes where required. All monitoring, works and design will be carried out in close collaboration with the Environment Agency in order to ensure that the groundwater resource is not polluted or impeded in any way. (See also SPZ).</p>
BAP - Biodiversity action plans (habitats and species)	<p>A Biodiversity Action Plan (BAP) is an internationally recognized program addressing threatened species and habitats and is designed to protect and restore biological systems. The United Kingdom BAP covers terrestrial species, marine species and migratory birds. In August 2007, the new BAP (the original having been launched in 1997) identified 1,149 species and 65 habitats in the UK that need conservation and greater protection.</p> <p>UK BAP habitats are rare or threatened semi-natural habitats that are the subject of concerted action by many different organisations involved in wildlife conservation. The mapping of some habitats is incomplete and the data is being updated, with new habitats added as soon as the information becomes available.</p>

Bulk building materials	<p>The AoS options report records tonnages of bulk building materials, namely steel and concrete, by way of indicating the principal material resource requirements of the project. This information was also the basis for embedded carbon figures which were used during sifting stages, although these figures are not included in the AoS Options Report. The calculations do not take account of the high speed lines structural form and are purely a representation of potential bulk building materials.</p> <p>The tonnages have been calculated based on conversion factors taken from the Network Rail 2009 document, <i>Comparing environmental impact of conventional and high speed rail</i>. Calculations for concrete at stations have used a generic platform dimension (and assumed platform number), together with specific concourse dimensions. A concrete tonnage conversion has used the Bath University 2009 <i>Inventory of Carbon and Energy</i>. No steel volumes are determined for stations. No bulk materials have been calculated for depots.</p>
Conservation areas	<p>An area of special architectural or historic interest, designated under the Planning (Listed Buildings & Conservation Areas) Act 1990, whose character and appearance it is desirable to preserve and enhance. They do not have statutory protection, but local authorities will set rules on certain development in conservation areas.</p>
Country parks	<p>There are about 250 recognised Country Parks in England and Wales. Most were designated in the 1970s, under the Countryside Act 1968 with the support of the former Countryside Commission. In more recent times there has been no specific financial support for Country Parks directly, and fewer have been designated. Most are managed by local authorities, although other organisations and private individuals can also run them. There is nothing to stop anyone opening a site and calling it a Country Park, although they might not receive recognition from Natural England.</p>
Demolitions	<p>Counts have been made of the number of dwellings (residential properties) and community facilities directly affected by the route and station options. Demolition counts have involved overlaying earthwork plans onto base maps and counting address points directly affected by earthworks or within a buffer 10m from these.</p>
Depot	<p>Two types of depots would be required for HS2. Rolling stock maintenance depots would undertake rolling stock inspection, repair, cleaning, light maintenance, re-watering and replenishing of consumables. Infrastructure maintenance depots would provide a base for rail-based infrastructure maintenance activities, providing a central store and supply point for all engineering material (civils, track, signalling and OLE). They would also provide maintenance, servicing and stabling facilities for HS2 on-track plant and HS2 maintenance rescue and recovery locomotives, and would be capable of acting as an incident control centre.</p>

Disturbance	The AoS Options Report refers to dwellings being “at greater risk of disturbance from construction activity” in relation to health and wellbeing. This simple measure of dwellings within 100m of the route corridor is intended to indicate in very broad terms the number of people living close to the route who would be at greater risk of temporary impacts from noise, dust and light spillage during construction. These potential impacts would be determined far more accurately at later stages and as part of the EIA. In practice, strict control measures would be put in place to ensure that construction impacts are kept as low as possible.
ECML	East Coast Main Line. The main railway currently linking London and Scotland via Leeds, York and Newcastle.
Enterprise zones	A geographical area (agreed between the local enterprise partnership and Government) that has been designated for specific economic advantages. The aim is to attract investment, drive economic growth and employ local residents.
EU Diploma sites	The European Diploma is an award established by the Council of Europe for certain landscapes, reserves and protected national features. By awarding the European Diploma, the Council of Europe recognises that the area is of particular European interest for natural-heritage and that the area is properly protected. The Diploma can be awarded to national parks, nature reserves or natural areas, sites or features. The Peak District is an EU Diploma site.
Excavated Material	<p>Excavated material refers to the earth and other materials that are produced during ground excavations. Excavated material would be produced principally from tunnelling and construction of cuttings. New embankments would require the <i>addition</i> of material. For each route section estimated excavated material volumes are reported as either a <i>surplus</i> or a <i>deficit</i> volume, depending respectively on whether more or less material would be produced than would be used within the scheme.</p> <p>Excavated material volumes have been provided by HS2 Ltd. They derive from calculations of the volumes of assumed structures (embankments, cuttings and tunnel) at this stage of design. They do not take account of bulking factors (the increase in volume following excavation). Nor do they take account of any mitigation earthworks, such as noise bunds or landscaping, which would be introduced into later designs. It would be a general intention of HS2 Ltd to balance excavated material surplus and deficit volumes as far as possible to reduce the need for offsite disposal.</p>

Flood risk areas	<p>Before considering development, land or property that lies within a Flood Risk Zone needs to be identified. The Environment Agency produces flood zone maps which indicate which areas are at high, medium or low risk of flooding. High to medium risk zones are as follows:</p> <ul style="list-style-type: none"> • Zone 3b. Functional flood plain, which are areas subject to frequent flooding and play an important part in flow routes and storage. • Zone 3a. High risk of flooding; area designated as having a 1 in 100 or greater chance of river flooding (>1%). • Zone 2. Medium risk of flooding; area designated as having between 1 in 100 and 1 in 1000 chance of river flooding (1% - 0.1%). <p>It is an Environment Agency requirement to mitigate by design the impacts of floodplain crossings to the point where they are insignificant. Floodplain crossings would be designed in accordance with the usual Environment Agency requirements for development within the floodplain. General principles include using a combination of earth embankment, clear-span viaduct and floodplain compensation earthworks. However, specific designs would rely on hydraulic modelling and historic data. Tracks levels would be set high enough to ensure that they do not flood even in extreme flood events, including an allowance for the effects of climate change. River channels and functional parts of the floodplain which are subject to frequent flooding and/or rapid flows, would be crossed by clear-span viaduct, where viaduct soffit levels would be set high enough to ensure the free passage of water even in extreme flood conditions. For wide floodplain crossings where flood flows are relatively tranquil and less frequent, there may be long sections of earth embankment, but with compensatory landscaping to retain the floodplain storage capacity.</p>
Green belt	<p>Green belt is designated in the UK for controlling urban growth and preventing the coalescence of main urban areas. A railway through green belt may create pockets of land that are susceptible to development infill and may conflict with the open and contiguous character for which a green belt is designated. Land included in the green belt must contribute to one or more of the five purposes of the green belt set out in the National Planning Policy Framework (NPPF section 9): to check the unrestricted sprawl of built-up areas, assist in safeguarding the countryside from encroachment, prevent neighbouring towns from merging into one another, preserve the setting and special character of historic towns and to assist in urban regeneration, by encouraging the recycling of derelict and other urban land. The NPPF states that there is a presumption against inappropriate development except in very special circumstances.</p>
Green tunnel	<p>A green tunnel provides an enclosure of the railway, where otherwise it would be in partial cutting or on the surface, with a box structure and a green (grassed or other vegetation) roof. Such an enclosure would normally be provided as mitigation for potential noise, visual or access impacts.</p>

Hazardous waste	<p>The full definition of hazardous waste is set out in the revised Waste Framework Directive (rWFD) (2008/98/EC). This provides a European-wide definition of hazardous waste and requires the correct management and regulation of such waste. Hazardous waste is defined as a waste possessing one or more of the 15 hazardous properties set out in Annex III of the rWFD, but which include being explosive, oxidizing, highly flammable, an irritant, carcinogenic, corrosive, infectious, toxic for reproduction, mutagenic, or ecotoxic. Further regulations are in place that set out how hazardous waste is to be managed in order to mitigate the potential risks it presents to human health and the environment.</p> <p>At this stage of the AoS it has not been feasible to determine the classification of the landfill facility (inert, non-hazardous or hazardous) or the nature of the constituent waste materials within the landfill site. More detailed design would seek to avoid or minimise the impacts on these sites.</p>
Historic battlefields	<p>The English Heritage Register of Historic Battlefields offers protection for 43 English battlefields and promotes a better understanding of their significance. The inclusion of a site on the register does not give any statutory protection but it is a material consideration when a local planning authority determines a planning application.</p>
Housing (support for)	<p>See <i>Jobs and houses</i>, below.</p>
HRA and HRA screening	<p>The Habitats Directive (enacted in the UK through the Conservation of Species and Habitats Regulations 2010) requires the ‘competent authority’ to assess the effects of development on Natura 2000 sites (see below). It requires an initial screening of impacts to determine if there would be a <i>likely significant adverse effect</i>, either alone or in combination with other projects and plans. Where a likely significant effect is concluded, the competent authority must then undertake an Appropriate Assessment (AA) to determine whether the impacts will adversely affect the site.</p> <p>The process of screening and, if necessary AA, is termed Habitats Regulations Assessment (HRA). Although it is the responsibility of the competent authority to undertake the HRA, it is expected that the proponent of any development will provide sufficient information to enable such an assessment to be undertaken. HRA screening has been undertaken by Temple-ERM as a parallel and supportive process to the AoS and its conclusions are reported within the AoS options report.</p>
Interchange station	<p>Interchange stations are located to provide interchange between HS2 and other modes of transport, including national rail, tram, highway and air. They provide onward access to distributed municipal centres, thereby serving a potentially larger catchment.</p>
Intermediate station	<p>Intermediate stations are stations located along the line of route intended to serve one or more major populations centres. They tend to be in or near to municipal centres, or at least are served by direct access from these municipal centres.</p>

Isolation	<p>Areas of isolation have been defined as areas which may be enclosed by the proposed route and existing major infrastructure, such as motorways or existing railway. The properties identified within these areas do not consider those likely to be demolished.</p>
Jobs (displacement of)	<p>Jobs displaced at stations were calculated by assigning a ratio of jobs per square metre of floor space to commercial demolitions. The affected premises were identified through an onsite comprehensive land use survey to identify the nature and size of each property. The method used at this stage has only considered potential job displacement as a result of commercial demolitions due to the station footprint, and has not yet considered impacts of the four-track sections.</p>
Jobs and houses (support for)	<p>The impact of HS2 on development was assessed within a 1km radius of each station option. Development supported was assessed over a 20-30 year period for three scenarios:</p> <ul style="list-style-type: none"> • no high speed rail service; • with a high speed rail service: and • high speed rail in a less restrictive / more aspirational planning policy environment. <p>The analysis was principally concerned with determining relative differences between certain station options through an understanding of their potential for supporting local economic activity, rather than predicting absolute impacts. It provides a relative assessment of the net 'new' development which may be supported by HS2. The results of this analysis were presented to all key stakeholders at each potential station location.</p> <p>The potential quantum of development was calculated for each the three development scenarios. The additional floorspace (gross external area) and the associated type of use were determined. Uses were categorised as commercial development (including office, hotel, education, health and leisure) and residential development. This development potential was then converted into jobs and houses that could potentially be supported. The AoS options report shows the jobs and houses that could be supported for the 'with a high speed rail service' development scenario.</p>
Listed buildings (listed structures)	<p>A listed building is one that is 'of special architectural or historic interest' and has been included on a list kept by the Secretary of State. A listed building may not be demolished, extended or altered without special permission (listed building consent) from the local planning authority (who would typically consult English Heritage).</p> <p>Listed buildings are classified according to their importance and are given a grade depending on how important they are:</p> <ul style="list-style-type: none"> • Grade I: of outstanding architectural or historic interest. • Grade II*: particularly significant of more than local interest. • Grade II: of special architectural or historic interest.

Loop	<p>A track or tracks that diverge from the main line, with connections from and back to that main line, to provide a bypass from the main line. The loop might run directly parallel to the main line to provide access to platforms or sidings, or it might diverge a considerable distance from the main line to provide access to other railway facilities.</p>
Major and minor river crossings	<p>Major river crossings are defined in the AOS as those having catchment areas greater than 50km² at the point of the crossing. River crossings with a total catchment area of less than 50km² at the point of the crossing are defined as minor river crossings. A catchment area is the area of land drained by a river and all its tributaries at any one point. The limits of a given catchment areas are the heights of land (watersheds) separating it from neighbouring drainage systems. A river may be classified in the AoS Options Report as major or minor along different sections of its course according to the catchment area at that point.</p> <p>The AoS options report refers to the potential need for river diversions, where a 'diversion' is the normal Environment Agency terminology for any works where the centreline of the river is changed. Continuing scheme design would seek to avoid river diversions, or at least minimise their extent.</p>
Major development sites	<p>Major development sites were identified through separate studies undertaken by Arup and MSG. These considered the following development types:</p> <ul style="list-style-type: none"> • infrastructure proposals; • major public sector/ PFI schemes; • key new employment proposals; • major housing proposals; • local policy allocations; • live and extant planning applications; and • Nationally Significant Infrastructure Projects. <p>Where the final route options potentially affect any of the sites identified by the MSG and Arup studies, these are described in this report. The sites were identified from publically available documents that were current at the time of appraisal. No consultation with the developers or relevant planning authorities was undertaken as part of the appraisal.</p> <p>The AoS has identified only where there would be a potential conflict with these sites, and has not determined any specific potential impacts, on them and the planned proposed land uses within them.</p>

National parks	<p>The national parks of England and Wales are areas of relatively undeveloped and scenic landscape that are designated under the National Parks and Access to the Countryside Act 1949. The two purposes of the National Park designation are to conserve and enhance the natural beauty, wildlife and cultural heritage of the area; and to promote public understanding and enjoyment of the areas special qualities by the public. In pursuing these purposes, a National Park authority shall seek to foster the economic and social well-being of their local communities. If there arises a conflict between the two purposes, relevant authorities shall give greater weight to the conservation and enhancement purpose. The Peak District is a national park.</p>
National Trust land	<p>The National Trust is the largest private society devoted to heritage preservation in the UK. The Trust's land holdings account for nearly 1.5% of the total land mass of England, Wales and Northern Ireland. A large proportion of this consists of the parks and agricultural estates attached to country houses, but there are also many countryside properties which were acquired specifically for their scenic or scientific value. This land is either owned or held in covenant by the Trust.</p> <p>The National Trust Acts grant the Trust the statutory power to declare land <i>inalienable</i>. This prevents the land from being sold or mortgaged against the Trust's wishes without special parliamentary procedure.</p>
Natura 2000 sites	<p>Natura 2000 site is the collective terms for special areas of conservation (both actual and candidate), special protection areas (both actual and potential), Ramsar sites and sites of community importance (not relevant here). These are defined elsewhere in Appendix 2. See also HRA and HRA screening.</p>
NNR - National nature reserves	<p>NNRs contain examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them. NNRs are declared by the statutory national conservation agencies (NE, SNH, CCW) under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981.</p>

Noise insulation regulations	<p>The Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996 (NIRR) apply to works on new, altered or additional railway systems in England and Wales. They address changes in levels of railway noise only. The regulations set the daytime criteria where there is a duty on the relevant authority to carry out insulation work on residential buildings as follows:</p> <ul style="list-style-type: none"> • The total rail noise level is greater than or equal to 68 dB $L_{Aeq,18hr}$ one metre from the building façade; • Noise from the [new] railway makes a contribution of at least 1 dB $L_{Aeq,18hr}$ to the total railway noise; • Noise from the [new] railway results in at least a 1dB $L_{Aeq,18hr}$ increase in total railway noise level; and • Only relevant to dwellings within 300m of the railway. <p>Further information on the noise appraisal is given in <i>Appendix 4: Noise appraisal method statement</i>.</p>
Open access land	<p>Under the Countryside and Rights of Way Act 2000 (CROW), the public can walk freely on mapped areas of mountain, moor, heath, downland and registered common land without having to stick to paths. The new rights came into effect across all of England on 31 October 2005.</p>
Planning consents (extant)	<p>Each station footprint and throat was assessed for conflict with commercial extant planning consents for developments of more than 5000m² or more than 100 housing units. Records were checked back three years (the statutory time limit for planning consent). Major infrastructure schemes (roads, canals etc) were also included.</p>
Promoted recreational routes	<p>Certain rights of way are given additional status, albeit informally so, by their designation as long distance paths or national trails. Long distance paths link individual footpath sections into a continuous recreational walking trail. They may not necessarily be very long, but they are actively publicised or promoted. For example, they may be ‘themed routes’ where they take inspiration from an historical or literary figure, or they may follow a feature of the landscape. There are in addition, 15 national trails in England and Wales, although none would be affected by the route sections.</p> <p>The AoS options report records impacts only on these routes, rather than on all rights of way. However, HS2 Ltd would seek to maintain <i>all</i> existing rights of way (not just promoted recreational routes) through the on-going design of the scheme. This would involve working with local people, local authorities and relevant organisations to determine the best way of maintaining rights of way.</p>
Protected characteristic groups	<p>Protected characteristic groups are groups of people listed under the Equality Act 2010 according to their having defined “protected characteristics”. Those being considered at this stage within the AoS Options Report are determined by, age (younger and older population), disability, race and religion or belief.</p>

Ramsar site	Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities.
Registered parks and gardens	<p>Parks and gardens are listed within the Register of Parks and Gardens of special historic interest in England, which was established and is maintained by English Heritage. There are currently close to 1,450 sites on the register split into three bands according to their significance. Inclusion on the Register brings no additional statutory protection, but local authorities are required by central government to make provision for the protection of the historic environment in their policies and their allocation of resources. Registration is a material consideration in planning terms so, following an application for development which would affect a registered park or garden, local planning authorities must, when determining whether or not to grant permission, take into account the historic interest of the site.</p> <ul style="list-style-type: none"> • Grade I: of outstanding landscape and historic interest. • Grade II*: particularly significant landscape and historic interest. • Grade II: of special landscape and historic interest.
Relatively high deprivation	The English Indices of Deprivation 2010 is the Government's official measure of deprivation. It is applied to small areas known as lower layer super output areas (LSOAs), which are homogenous small areas of relatively even size, typically around 1,500 people. The Indices of Multiple Deprivation (IMD) amalgamates 37 different indicators covering aspects of deprivation including income, employment, health and disability, education, skills and training, barriers to housing and services, living environment and crime. The IMD for each LSOA identifies its relative level of deprivation in comparison to all other LSOAs in England. For the AoS, areas in the lowest 20% of LSOAs for all indicators identified by IMD are determined as areas of relatively high deprivation. During the option development work the 2007 data was relied upon. The Social and Distribution Impact study was carried out in 2011/2012, allowing use of the more recent 2010 data.
Scheduled monuments	Defined in the Ancient Monuments and Archaeological Areas Act 1979 and (in England only) through the National Heritage Act 1983 as a protected archaeological site or historic building of national importance. The Department of Culture, Media and Sport are responsible for identifying and scheduling (registering) new sites, as well as ensuring that scheduled sites are protected. Scheduled Monument Consent is required from the Secretary of State prior to any work affecting a monument taking place. English Heritage (EH) would advise in these matters.

SAC - special area of conservation	SACs are designated under Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the EU “Habitats Directive”) as areas identified as best representing the range and variety of habitats and (non-bird) species listed in Annexes I and II to the Directive within the European Union. SACs in terrestrial areas and marine waters within British Fishery limits (up to 200 nautical miles) are designated under the Conservation of Species and Habitats Regulations 2010. With SPAs (see below) they form the Natura 2000 network.
Severance	Severance occurs when settlements are divided as a result of the proposed line of route. The properties either side of the route section in the settlement are reported with the exception of those considered likely to be demolished.
SPA - special protection area	SPAs are classified by the UK Government under Directive 79/409/EEC on the conservation of wild birds (the EU “Birds Directive”). SPAs are areas of the most important habitat for rare (listed on Annex I in the Directive) and migratory birds within the European Union. SPAs in terrestrial areas and marine waters within British Fishery limits (up to 200 nautical miles) are designated under the Wildlife and Countryside Act 1981 but governed by the Conservation of Species and Habitats Regulations 2010. With SACs (see above) they form the Natura 2000 network.
Spur	A track or tracks that diverge from the main line at one location, without onward reconnection, to provide access to other railway facilities at the end of the spur, often at some distance from the point of divergence.
SPZ - source protection zones	<p>Groundwater sources (or abstractions) such as wells, boreholes and springs used for public drinking water supply, are protected through mapping of groundwater Source Protection Zones (SPZ). These zones show the plan area of the underlying aquifer (see <i>aquifers</i>) which contributes to the supply of groundwater for drinking water. The zones help to identify the risk of contamination from any activities that might cause pollution in the area and the risk of affecting the supply from any activities which might impede or obstruct the flow of groundwater. The closer the activity to the point of abstraction, the greater the risk. For large public groundwater supplies, the areas of land from which water flows is also mapped, and activities that might cause pollution are carefully controlled. The EA has defined SPZs for 2,000 groundwater sources. SPZs are mapped showing different zones which indicate the increasing vulnerability of the groundwater source to contamination.</p> <ul style="list-style-type: none"> • SPZ1 – inner zone, which defines an area with less than a 50-day travel time to the point of abstraction (minimum of 50m). • SPZ2 – outer zone, which defines an area with less than a 400-day travel time to the point of abstraction (minimum of 250m or 500m depending on the size of the abstraction). • SPZ3 – total catchment, which is defined as the whole aquifer recharge area where the ratio of groundwater abstraction to aquifer recharge is > 0.75.

SSSI - sites of special scientific interest	<p>Identified by Natural England under section 28 of the Wildlife & Countryside Act 1981 as requiring protection from damaging development on account of its flora, fauna, geological and/or physiological features. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000.</p> <p>The SSSI series has developed since 1949 as the national suite of sites providing statutory protection for the best examples of the UK's flora, fauna, geological or physiographical features. These sites are also used to underpin other national and international nature conservation designations (see below). Most SSSIs are privately-owned or managed; others are owned or managed by public bodies or non-government organisations.</p>
Super output areas and indices of multiple deprivation	<p>The English Indices of Deprivation 2010 (ID 2010) are the Government's official measure of multiple deprivation at small area level. The Index of Multiple Deprivation 2010 (IMD 2010), which forms part of the ID 2010, is based on the small area geography known as Lower Super Output Areas (LSOAs). LSOAs have between 1000 and 3000 people living in them with an average population of 1500 people. In most cases, these are smaller than wards, thus allowing the identification of small pockets of deprivation.</p> <p>There are 32,482 LSOAs in England. The LSOA ranked 1 by the IMD 2007 is the most deprived and that ranked 32,482 is the least deprived. The measures used in the AoS refer to those LSOAs containing respectively the 20% and 50% most deprived LSOAs. The IMD brings together 37 different indicators which cover specific aspects or dimensions of deprivation: income, employment, health and disability, education, skills and training, barriers to housing and services, living environment and crime. These are weighted and combined to create the overall IMD 2007.</p> <p>Identification of areas of high deprivation is a proxy for those areas considered relatively more sensitive to further adverse impacts associated with HS2. Equally, there are potential benefits where HS2 offers regeneration opportunity from which people in deprived areas might benefit.</p>
Tranquillity	<p>Tranquillity is a complex concept that can be summarised as 'getting away from it all'. Factors affecting tranquillity include closeness to roads and buildings, how noisy and crowded a place is, and whether it offers views of open countryside. The Campaign to Protect Rural England (CPRE) has produced regional tranquillity maps based on 44 such factors. The AoS has recorded intersection of areas recorded on the CPRE map as amongst the 20% most tranquil.</p>
UDP	<p>Unitary development plans are development plan prepared by a metropolitan district and some unitary local authorities that contain policies equivalent to those in both a structure plan and a local plan. By virtue of specific transitional provisions, these plans will continue to operate for a time after the commencement of the new development plan system.</p>

Vibration (and ground-borne noise)	The appraisal sheets record the number of dwellings located over tunnel sections as an indication of numbers at risk of vibration impacts. These are not recorded in the AoS Options report as experience from HS1 and other high speed railways shows that potentially significant effects from vibration and ground-borne noise in properties over tunnels can be avoided. HS2 Ltd is committed to ensuring that no significant effects occur over tunnels.
WCML	West Coast Main Line. The main railway currently linking London and Scotland via Birmingham, Manchester, Liverpool and Crewe.
World heritage sites	World Heritage Sites are designated to meet the UK's commitments under the 1972 World Heritage Convention concerning the Protection of the World Cultural and Natural Heritage. These sites are designated for their globally important cultural or natural interest and require appropriate management and protection measures. Sites are nominated and confirmed for inclusion on the list maintained by the international World Heritage Programme administered by the UNESCO World Heritage Committee, composed of 21 State Parties (countries) which are elected by the General Assembly of States Parties for a fixed term.